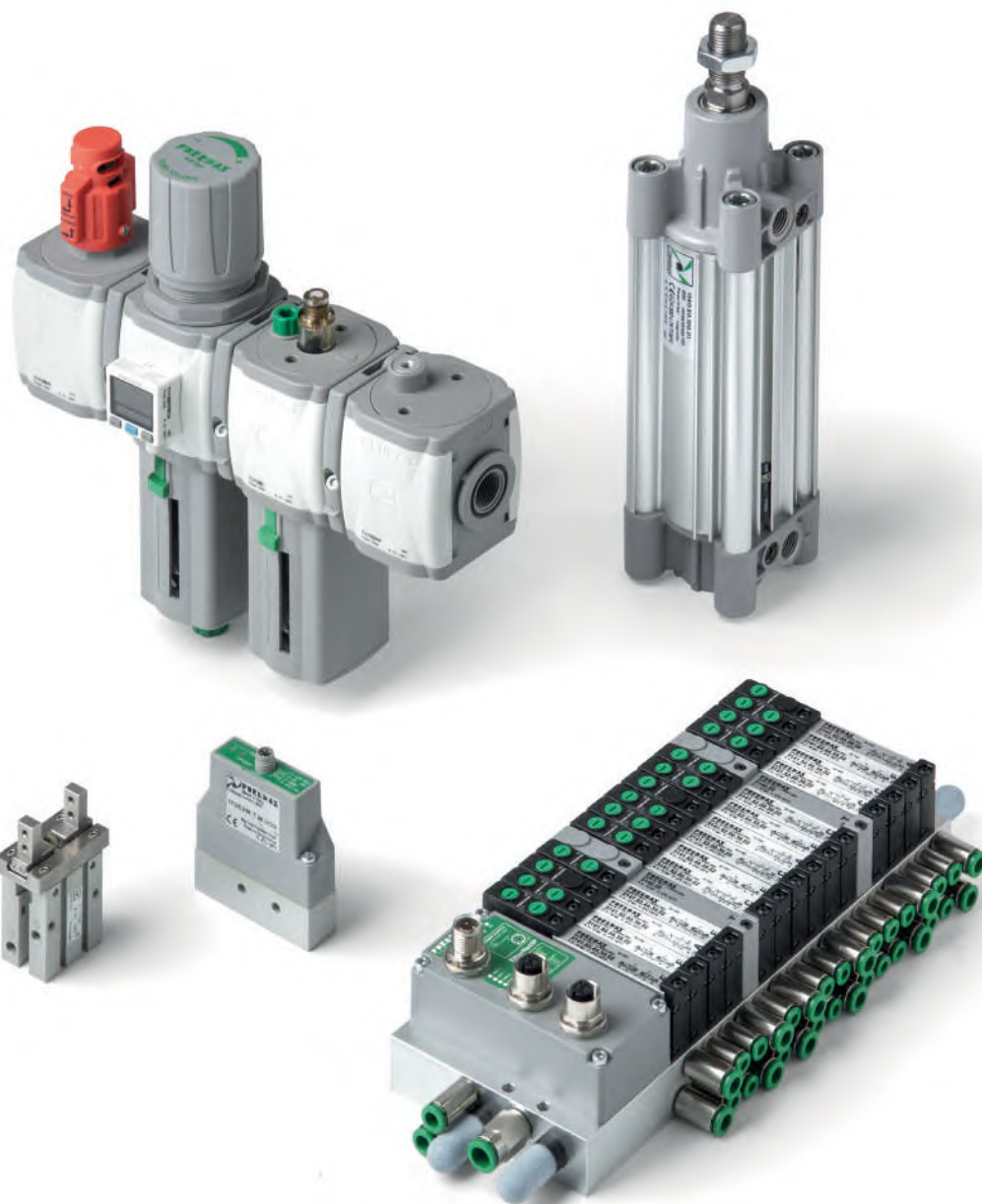




PNEUMAX



GENERAL CATALOGUE **2021**
SOLUTIONS FOR PNEUMATIC AUTOMATION

General catalogue

Solutions for pneumatic automation

This catalogue includes
the product range manufactured by
Pneumax Industrial Automation Business Unit:
air service units and
pneumatic components
for air distribution and motion control.

Further documentation is available on our website www.pneumaxspa.com
with reference to **Vacuum Technology, Fittings, Electric Actuation**
and general catalogues which include the product range offered
by **Automotive and Process Automation Business Units.**



General index

Solutions for pneumatic automation

Introduction

About Pneumax

12

Section 01

Air distribution

Valves and solenoid valves



Spool valves and solenoid valves

Single and manifold versions, mechanical and manual or pneumatic command

Series 104	1.1	Series 800	1.68	Series 2100 Line-Flat-Base	1.123
Series 105	1.12	Series 888	1.77	Series 2400 Line-Flat-VDMA	1.139
Series 200	1.21	Series 400	1.90	Series 2600 Line-Flat-VDMA	1.162
Series T200	1.54	Series T400	1.109		



Direct operated solenoid valves

Pilot valves, high flow rate performance 2/2 ways and 3/2 ways, version miniaturized available as well

Series 300	1.178	Series CNOMO	1.201	UL solenoid coils	1.206
Solenoid coils	1.193	Series S	1.204		
Series M (mechanical)	1.196	300-UL solenoid coils	1.206		



Poppet valves and solenoid valves

3/2 & 2/2 valves and solenoid valves for compressed air and vacuum, with aluminium and technopolymer body. 2/2 pad valves, shutter seating inclined solenoid valves for fluids

Series 700	1.208	Series T771	1.241	Series PVF	1.282
Series N776	1.221	Series PVA	1.249		
Series T772-773	1.226	Series F300	1.253		



“Namur” valves and solenoid valves

Namur valves and solenoid valves according to standard ISO 5599/1 available in 3 sizes with M12 5/2, 5/3 connectors, aluminium and technopolymer body

Series 514/N	1.283	Series 514	1.290	Series 515	1.297
Series T514	1.285				



ISO 5599/1 valves and solenoid valves

Valves and solenoid valves according to standard ISO 5599/1 available in 3 sizes with M12 5/2, 5/3 connectors, aluminium and technopolymer body

Series 1000	1.303	Series 1000-M12	1.320
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Accessories



Pneumatic circuit accessories

Flow control valves, quick exhaust valves, selectors, silencers, unidirectional valves, manifolds, blocking valves, economizers, gang mounting manifolds, spray valves

Series 600	1.327
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Complementary valves

Pressure switches, impulse generators, timers, two hands safety valve, oscillator valve, signal amplifier, progressive start up valve, high-low pressure device

Series 900	1.341
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Blocking valves

Unidirectional and bidirectional blocking valves, aluminium and technopolymer versions, with G1/8" - G1/4" - G3/8" - G1/2" connections

Series 50-T50	1.349
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Function fittings

Miniaturized logic function with technopolymer body:
RFU, RP, VB, VSR, VS-or, VS-and, IP, AP, RP+IP, VB+RFU, VB+VSR

Series 55-TecnoFUN	1.354
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Miniaturised pressure regulators

Brass versions rod G1/8" & with technopolymer body and integrated gauge version

Series 1750 - 1760	1.369
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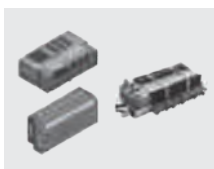


Compact fittings for lubrication

Nichel plated brass compact fittings, with straight male adaptor

Series Mini-RAP	1.371
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Valves and solenoid valve manifolds



Wide range of multipolar & serial system, available with main fieldbus protocol

Series 2700 - ISO15407-2	1.373	Series 2200 Optyma-Sc	1.448	Series 2500 Optyma-T	1.486
Series 2300 Enova	1.400	Series 2500 Optyma-F	1.455	Series 3000	1.520
Series 2200 Optyma-S	1.421				

Section 02 Air treatment



Air service units

Wide range of components for compressed air treatment, available in aluminium, technopolymer and steel, in several sizes with connections from 1/8" to 1" and flow rates up to 8000 NI/m

Series AIRPLUS	2.1	Series 1700	2.88	Series 1700 Steel line	2.159
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Proportional technology

The proportional pressure regulators are available in 3 sizes, standard, CANopen® and IO-Link, or miniaturized versions

1700 standard	2.172	1700 miniaturized	2.188
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Measuring devices

Digital pressure switches and pressure gauges, panel mounting or manifold versions

Pressure switches Series DS	2.204	Pressure gauges Series DS	2.206
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Pressure booster

3 sizes aluminium pressure boosters available or technopolymer with 2:1 compression ratio

Series 1700	2.208	Series P+	2.213
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Section 03 Pneumatic actuation

Cylinders with piston rod according to standard



ISO 6432 Microbore cylinders

Versions available: with threaded end caps, rolled end caps, aluminium, stainless steel and technopolymer versions

Series 1200 Threaded end caps cylinders	3.1	Series 1200 Rolled end caps (MIR-INOX)	3.8	Series 1200 Steel line	3.12
Series 1200 Rolled end caps (MIR)	3.4	Series 1200 TECNO-MIR	3.10		



CNOMO-CETOP-ISO cylinders

Cylinders manufactured according to standards CNOMO, CETOP and ISO: standard versions, through rod versions, tandem push with common rod, tandem push with independent rods or opposed tandem with common rod

Series 1303-1304-1305-1306-1307	3.30
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ISO 15552 cylinders

Cylinders according to ISO 15552 with bores from Ø32 to Ø200 mm and strokes up to 1250 mm. Available versions: ECOPLUS with aluminium or technopolymer end plates, ECOLIGHT optimized in weight and dimensions, Steel line completely in stainless steel, round tube versions tie rod (Ø250-Ø320 mm)

Series 1319-1320-1321	3.40	Series Ecoplus	3.46	Series 1315 Round tube	3.68
Series 1348-1349-1350	3.43	Series Ecolight	3.50	Series Inox Steel line	3.71



ISO 15552 Hydro-pneumatic speed control cylinders

ISO 15552 Hydro-pneumatic speed control cylinders with internal hydraulic circuit for movement control

Series 1450-1463	3.81
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ISO 21287 Compact cylinders

Compact cylinders according to standard ISO with integrated slots suitable for sensors mounting without adaptors. Bores from Ø20 to Ø100 mm. Versions with end stroke adjustable pneumatic cushioning are also available according to ISO 21287

Series Ecompact **3.87**

Cylinders with Piston rod not according to standard



Threaded body microbore cylinders

Special performance microbore cylinders with hexagonal or round body and either completely threaded or threaded with a plain rod ending

Series 1200 **3.103**

Special performance (1213-1273)



Non rotating cylinders

Non rotating cylinders twin rod version, available with bores from Ø32 to Ø100 and strokes up to 500 mm

Series **3.105**

1325-1326-1345-1347



Flat cylinders

ECOFLAT cylinders available with sizes from 25 to 63 mm and strokes up to 300 mm. Profiled tube has two "T" slots to host sensors 1580._, MRS._, MHS._. without adaptors. Two additional connections are also available on rear cover for cylinder feeding

Series ECOFLAT **3.108**



Hydraulic speed control cylinders

Hydraulic speed control cylinders outward/inward control, and lateral or in-line tank. Available with SKIP valve (accelerating device) and blocking valve (STOP)

Series 1400 **3.115**



Short stroke & compact cylinders

Short stroke & compact cylinders with bores from Ø20 to Ø100 mm, available in single and double acting versions, tandem and through rod with magnetic piston versions. The Europe version is compliant with the ISO or UNITOP standard (depending on bores), while the Europe-S versions have connections and rods according to the ISO 15552 standard

Series 1500 **3.127** Europe **3.136** Ecompact-S **3.144**



Multimount cylinders

Multimount cylinders available with bores from Ø10 to Ø25 mm, with strokes up to 50 mm and with magnetic piston versions

Series 6500 **3.149**



Guided compact cylinders

These cylinders are available in sizes Ø32 to Ø63 mm, and comprise a single compact cylinder with integral guide rods. The rod guide is available in two styles: self-lubricating bronze bushes and bearing bushes

Series 6100-6101-6110 **3.152**



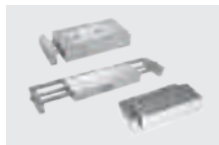
Slide cylinders

Slide cylinders manufactured with bores from Ø8 to Ø25 mm, with strokes up to 150 mm. Available with simple and double regulation end stroke and also with front and rear shock absorber

Series 6600 **3.168**

Section 03

Pneumatic actuation / **Cylinders with piston rod not according to standard (following)**



Slide units

Twin-rod linear guide units with bores from Ø10 to Ø32 mm, and with control unit with bronze bush versions, with control unit with bearing bush versions. Are also available the through twin-rod slide units and the compact slide units

Series 6200	3.178	Series 6210	3.184	Series 6700	3.189
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Rodless cylinders



Mechanically coupled

Mechanically coupled cylinders with bore from Ø16 to Ø63 mm, and strokes up to 6000 mm, available also with linear control unit

Series 1605	3.196	Series 1600 Ø16 mm	3.207
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Cable driven

Cable driven cylinders with cable linear translation system

Series 1601	3.212
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Rotary actuators



Rack & pinion rotary actuators

Double or single rack & pinion rotary actuators

Series 1330	3.213	Series 6400	3.217	Series 6411	3.221
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Vane type rotary actuators

Vane type rotary actuators with the shaft that runs into ball bearings, available with sizes from Ø10 to Ø100 mm

Series 6420	3.225
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Handling



Pneumatic grippers

Pneumatic grippers with 2 fingers angular opening (-10° to +30°), wide opening 180° or 3 parallel fingers

Series 6301	3.236	Series 6303	3.242	Series 6311	3.248
Series 6302	3.239	Series 6310	3.245	Series 6312	3.251

Magnetic sensors



Standard series

Magnetic sensors with Reed type or Hall effect

Series SA	3.254
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Miniaturized series

Miniaturized series with Reed and Hall style versions, available with rectangular, square, square section CURS approved, and round section versions

Series SR	3.263	Series SQ	3.265	Series ST	3.266
Series SU CURS	3.264				

Accessories and fixing devices



Piston rod lock

Piston rod lock for cylinders with bores from da Ø12 to Ø125 mm

Series 1260 - 1320	3.269
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Linear guides

Linear control units Series 1200 (Ø20-25 mm) and Series 1320 (da Ø32 a Ø80 mm)

Series 1260 - 1320	3.271
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Shock absorbers

Shock absorbers with M8x1 - M10x1 - M14x1,5 - M20x1,5 - M27x1,5 threads

Series 6900	3.273
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Appendix



Pneumatic symbols	A.1
Dimensioning	A.4
Unit of measure, conversion tables	A.13
Alphanumeric index	A.17



Technologies and competence since 1976

The excellence of Made in Italy in the world for over 40 years



Founded in 1976, **PNEUMAX S.p.A.** is now one of the major international producers of components and systems for automation, leader of the Group of the same name made up of 25 sales and production companies that employ 730 collaborators throughout the world. Continuous investments in research and development have allowed **Pneumax** to broaden its offer of standard products and customised solutions implementing not only the consolidated pneumatic technology but also electrical actuation and fluid control components.

The aim to offer increasingly specialised services and applicative competences has led to the creation of 3 dedicated Business Units, respectively industrial automation, process automation and automotive.



AUTOMOTIVE



**INDUSTRIAL
AUTOMATION**



**PROCESS
AUTOMATION**

Think Global Act Local

The certainty of a partner
always by your side

Pneumax target has always been to provide a complete service both in the pre-sales and after-sales service phases all over the world. The Pneumax network reflects corporate values and vision and at the same time enhance the peculiarities of the different markets and sectors in which it operates. Constant investments aimed at strengthening structures, technologies and skills make Pneumax a real technological partner. Human competence and smart technology represent the essential combination for the creation of quality products.



An international network

Through a network comprised of branches and exclusive distributors, Pneumax operates in over 50 countries around the world, to support its customers throughout every stage of the supply process, from applicative pre-sales analysis to after-sales assistance.

- ▶ Headquarters
- Branches
- Distributors





Pneumax Business Attitude

An operational model that stems from the capacity to combine sectorial, technological and applicative competences through the collaboration of customers with our industry Business Specialists and with Product Specialists focused on products and technologies, the most effective solutions are created considering the **TCO** (Total Cost of Ownership) relative to the product's entire life cycle.

BUSINESS SPECIALISTS

Dedicated competences

- Sectors and Applications

PRODUCT SPECIALISTS

Specific knowledge

- Products and Technologies

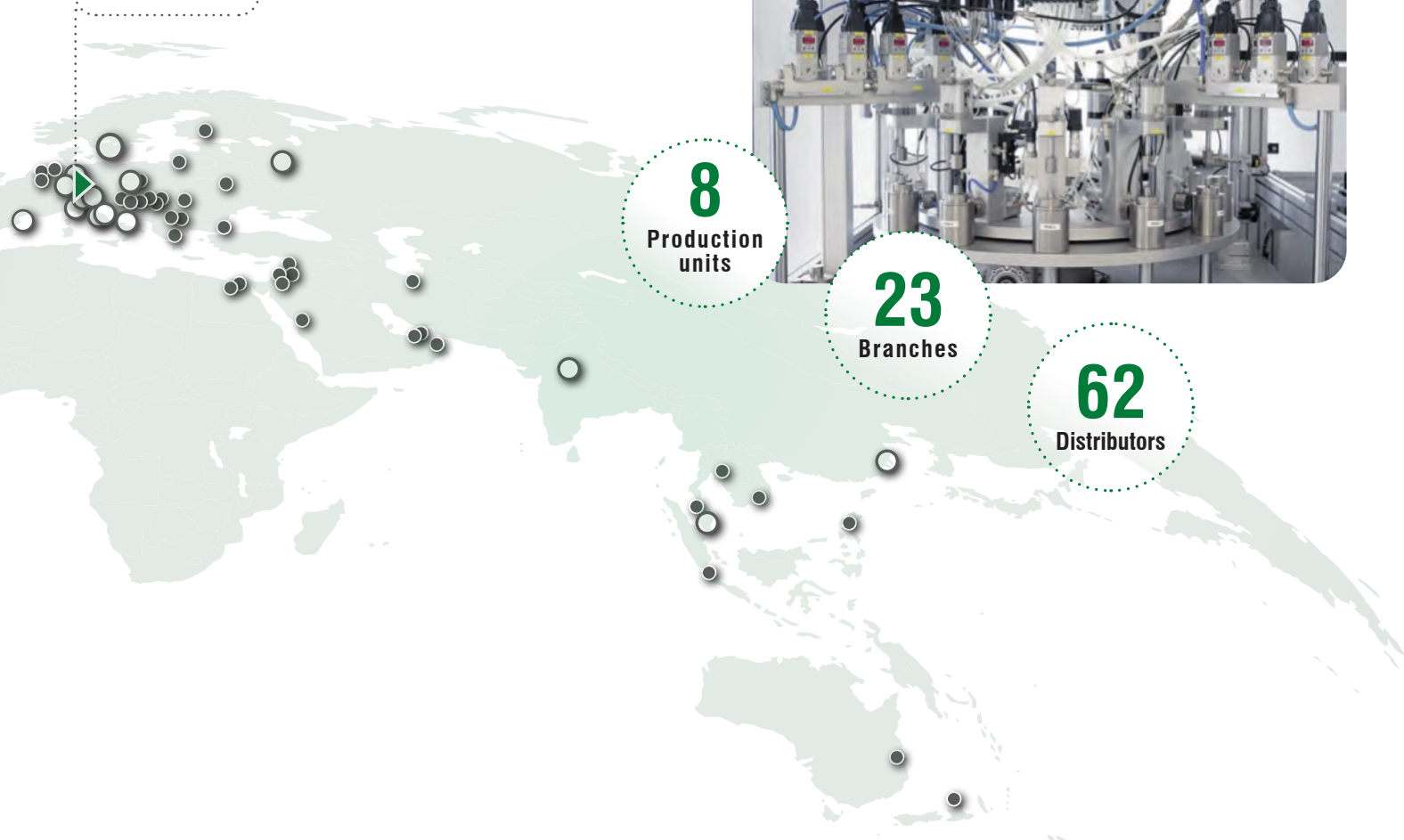


SALES ENGINEERS

Worldwide Presence

- Relationship management

PNEUMAX
Headquarters



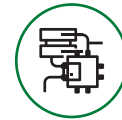
Products and Technologies

The value of the solution

Pneumax's technological offer includes various technologies, from pneumatic actuation to electrical actuation, to components for the control of liquid and gaseous fluids, to offer the best solution in every applicative context.



**Pneumatic
technology**



**Electric
actuation**



**Fluid
control**

Special Solutions Services and Products

The supply of custom solutions has always been Pneumax's flagship service. Experience, competence, organisation and use of the most advanced production technologies are at the base of the capacity to offer customised products and services designed and created to fulfill the needs of every single customer.

- **Mechatronic Solutions**
- **Integrated cabinets and systems**
- **Special Processing**
- **Custom Treatments**
- **Special Materials**
- **Customised testing procedures**





Industrial automation

The Business Unit that produces components and systems for industrial automation represents the core of Pneumax Spa. Founded to create pneumatic components, the company has constantly invested to broaden the offer of products and technologies, implementing not only the consolidated pneumatic actuation but also electrical actuation and fluid control components.



Process automation

The desire to develop the range of products suitable for use in "process" related sectors that require dedicated materials like stainless steel or special performance such as working pressure in Oil & Gas, has led Pneumax to create a Business Unit dedicated entirely to process automation.



Automotive

The Pneumax Automotive division offers a complete range of products dedicated to the production lines of the industry, with a special focus on Body in White applications. In fact Pneumax's offer includes clamping units, pin packages, grippers, power pivots and complete multi axes positioning systems.



Total Quality Management

The highest quality of products and processes guaranteed throughout the supply chain



At Pneumax, Total Quality is an “operating style” constantly nurtured by ongoing training at all levels and an awareness of shared “knowledge” as a corporate asset essential to the company’s success. Choosing to operate under a **Total Quality System** means implementing management methods and tools that involve all staff and enable **constant monitoring of process efficiency and product quality**, starting from the raw materials and the components necessary to make them and continuing through processing and assembly. Pneumax’s manufacturing operations are concentrated at the Lurano production facilities in the province of Bergamo while fittings are manufactured by Titan Engineering, a Pneumax Group Company located in San Marino. To ensure the greatest reliability for our customers, the best suppliers are selected, often right on-site, and mechanical processing is carried out in-house by Supermeccanica another company belonging to the Pneumax Group.

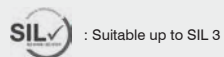
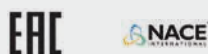
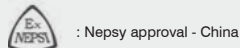
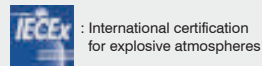
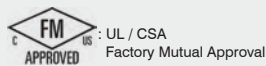




System and Product Certifications

- SIL certificates of compliance with **IEC 61508** standards
- **UL**
Product in compliance with US standards
- **EAC**
Certificate of conformity for the free circulation of products in the Euro-Asian Economic Community
- **ISO 45001:2018**
Health and safety management system
- **CSA**
Product in compliance with Canadian standards
- Compliance with Machinery Directive **2006/42/CE**
- **ISO 14001**
Environmental management systems
- **ISO 9001**
Quality management system
- Compliance with **ATEX 2014/34/UE** directive
- Well Tried Components **EN ISO 13849**, suitable for application in safety circuits

Product Certifications:



Section 01












Air distribution

Valves, solenoid valves and devices for compressed air distribution and control

Valves and solenoid valves

Spool valves and solenoid valves

Single and manifold versions, mechanical and manual or pneumatic command

	Series 104	1.1		Series 400	1.90
	Series 105	1.12		Series T400	1.109
	Series 200	1.21		Series 2100 Line-Flat-Base	1.123
	Series T200	1.54		Series 2400 Line-Flat-VDMA	1.139
	Series 800	1.68		Series 2600 Line-Flat-VDMA	1.162
	Series 888	1.77			

Direct operated solenoid valves

Pilot valves, high flow rate performance 2/2 ways and 3/2 ways, miniaturized version available as well

	Series 300	1.178		Series S	1.204
	Solenoid coils	1.193		300-UL solenoid coils	1.206
	Series M (Mechanical)	1.196		UL solenoid coils	1.206
	Series CNOMO	1.201			



Poppet valves and solenoid valves

3/2 & 2/2 valves and solenoid valves for compressed air and vacuum, with aluminium and technopolymer body. 2/2 pad valves, shutter seating, angle seated solenoid valves for fluids

	Series 700	1.208
	Series N776	1.221
	Series T772-773	1.226
	Series T771	1.241

	Series PVA	1.249
	Series F300	1.253
	Series PVF	1.282

“Namur” valves and solenoid valves

Namur valves and solenoid valves according to standard ISO 5599/1 available in 3 sizes with M12 5/2, 5/3 connectors, aluminium and technopolymer body

	Series 514/N	1.283
	Series T514	1.285

	Series 514	1.290
	Series 515	1.297

ISO 5599/1 valves and solenoid valves

Valves and solenoid valves according to standard ISO 5599/1 available in 3 sizes with M12 5/2, 5/3 connectors, aluminium and technopolymer body

	Series 1000	1.303
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	Series 1000-M12	1.320
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Accessories

Pneumatic circuit accessories

Flow control valves, quick exhaust valves, selectors, silencers, unidirectional valves, manifolds, blocking valves, economizers, gang mounting manifolds, spray valves

	Series 600	1.327
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Complementary valves

Pressure switches, impulse generators, timers, two hands safety valve, oscillator valve, signal amplifier, progressive start up valve, high-low pressure device

	Series 900	1.341
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Blocking valves

Unidirectional and bidirectional blocking valves, aluminium and technopolymer versions, with G1/8" - G1/4" - G3/8" - G1/2" connections

	Series 50-T50	1.349
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Function fittings

Miniaturized logic function with technopolymer body: RFU, RP, VB, VSR, VS-or, VS-and, IP, AP, RP+IP, VB+RFU, VB+VSR

	Series 55-TecnoFUN	1.354
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Accessories (following)

Miniaturised pressure regulators

Brass versions rod G1/8" with technopolymer body and integrated gauge version



Series 1750 - 1760

1.369

Compact fittings for lubrication

Nichel plated brass compact fittings, with straight male adaptor



Series Mini-RAP

1.371

Valves and solenoid valve manifolds

Wide range of multipole & serial systems, available with main fieldbus protocols



Series 2700 - ISO15407-2

1.373



Series 2500 Optyma-F

1.455



Series 2300 Enova

1.400



Series 2500 Optyma-T

1.486



Series 2200 Optyma-S

1.421



Series 3000

1.520



Series 2200 Optyma-Sc

1.448

Series 104

General

The micro valves 104 series are a cost effective solution with reduced overall dimensions, easy to install and manage. Their main characteristic is the possibility to choose between the version with lateral or rear pneumatic connections realized with quick fitting for Ø4mm tube included.

The valves are available with 2 or 3 ways versions, normally closed or open, 5 ways and 5 ways 3 positions open centres and pressured centres.

The 5 ways version is made with two 3 ways valves placed side by side with common inlet.

The operators available for this valve are push button (different versions), selector (key, short and long lever), lever (lever roller or level unidirectional) and pneumatic.

It is also possible to combine the 2 and 3 ways valves with electrical switches, normally closed or open.

Construction characteristics

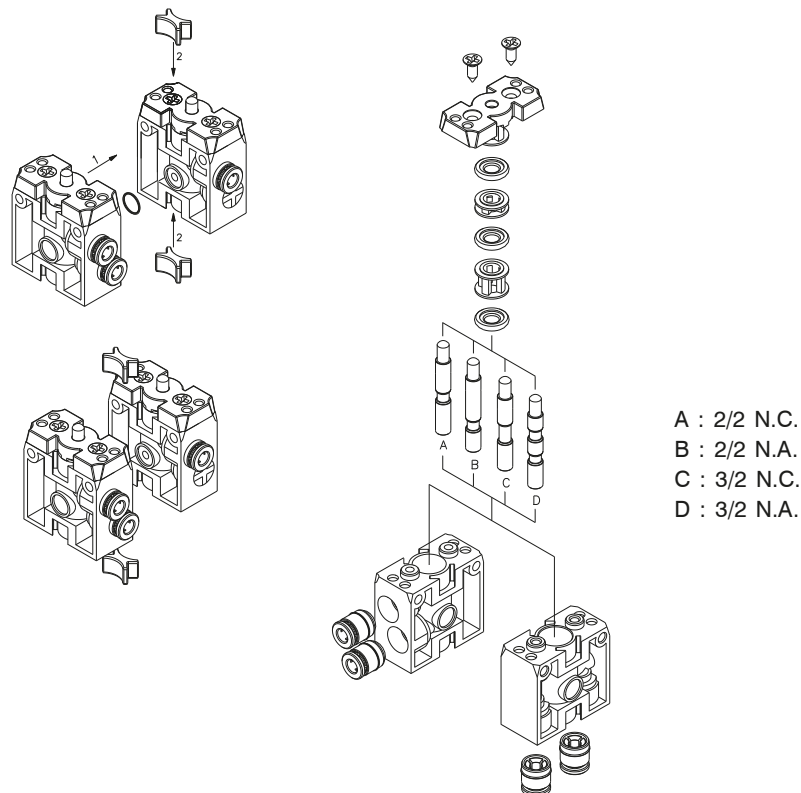
Body and cover	Technopolymer
Operators	Plastic material for buttons and switches
Seals	NBR
Spacer	Technopolymer
Spools	Steel
Springs	Spring steel
Pistons	Aluminium (for pneumatic command version)

Use and maintenance

This valves have an average life of 15 million cycles depending on the application and air quality.

Filtered and lubricated air using specified lubricants will reduce the wear of the seals and ensures long and trouble free operation. Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature.

ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).





1
AIR DISTRIBUTION

Tappet - Spring

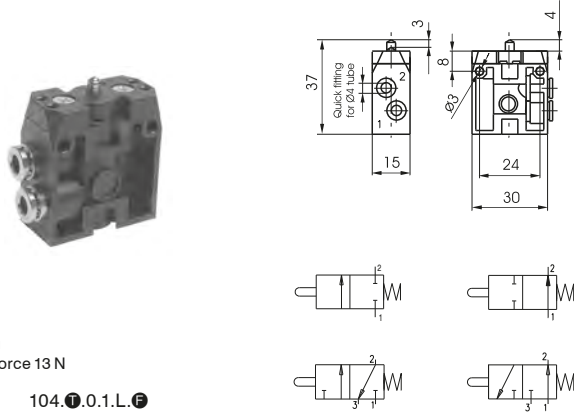
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Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

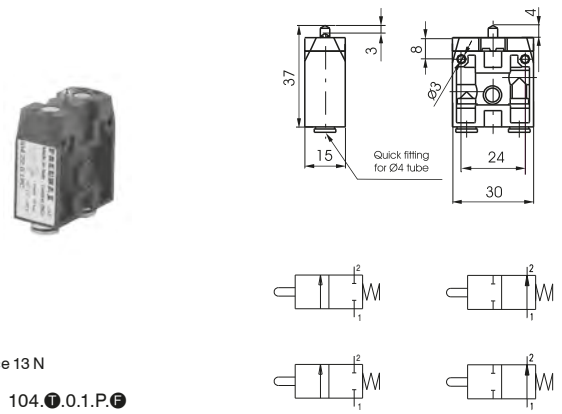
TYPE	FUNCTION
● 22 = 2 ways	● A = Normally Open
● 32 = 3 ways	● C = Normally Closed
CONNECTION TYPE	
● L = Lateral	
● P = Rear	

2/2 - 3/2 - Lateral connections



Weight 20 g
Operating force 13 N
104.●.0.1.L.●

2/2 - 3/2 - Rear connections



Weight 20 g
Operating force 13 N
104.●.0.1.P.●

Push button - Spring

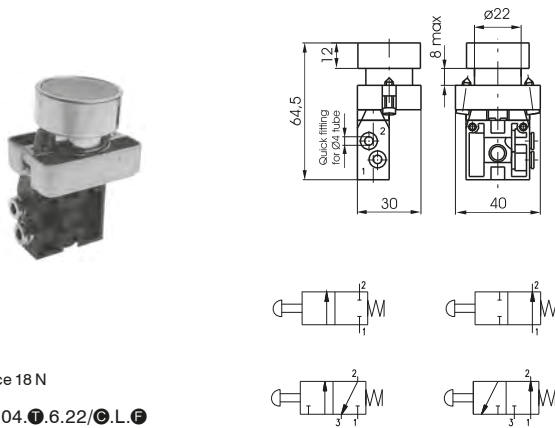
Coding: 104.●.6.22/●.●.●.●

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

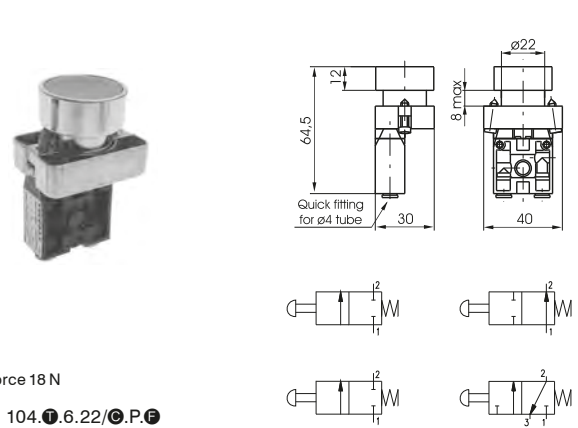
TYPE	CONNECTION TYPE
● 22 = 2 ways	● L = Lateral
● 32 = 3 ways	● P = Rear
● 52 = 5 ways	FUNCTION (only for 2 or 3 ways)
BUTTON COLOR	● A = Normally Open
● 1 = Red	● C = Normally Closed
● 2 = Black	
● 3 = Green	
● 4 = Yellow	

2/2 - 3/2 - Lateral connections



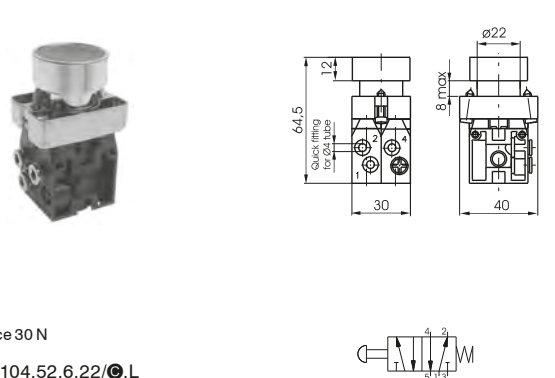
Weight 50 g
Operating force 18 N
104.●.6.22/●.L.●

2/2 - 3/2 - Rear connections



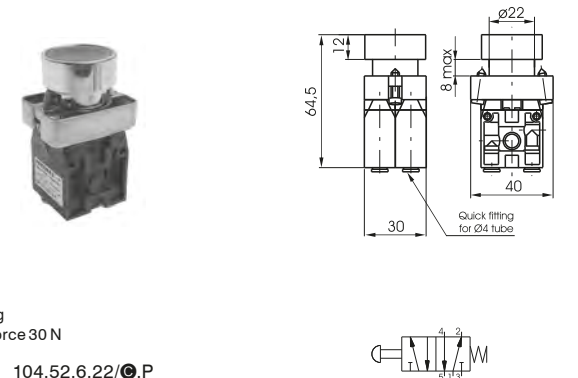
Weight 50 g
Operating force 18 N
104.●.6.22/●.P.●

5/2 - Lateral connections



Weight 105 g
Operating force 30 N
104.52.6.22/●.L

5/2 - Rear connections



Weight 105 g
Operating force 30 N
104.52.6.22/●.P

Push button 2 positions (step - step)

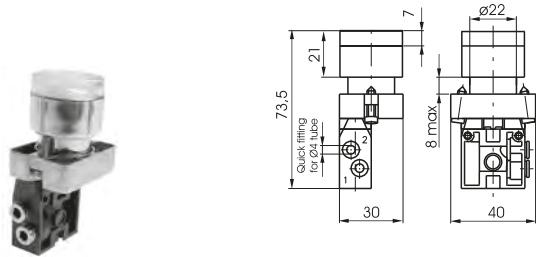
Coding: 104. **T**.6.31. **W**. **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (Nl/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

T	TYPE
	22 = 2 ways
	32 = 3 ways
W	CONNECTION TYPE
	L = Lateral
	P = Rear

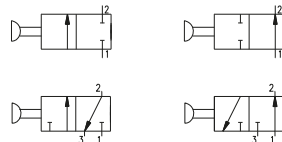
F	FUNCTION (only for 2/2 and 3/2 ways)
	A = Normally Open
	C = Normally Closed

2/2 - 3/2 - Lateral connections

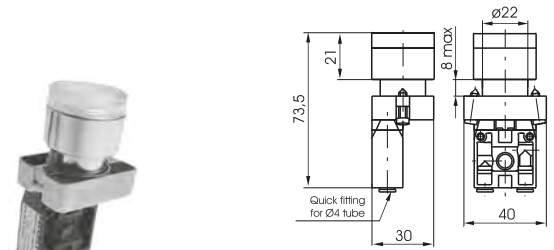


Weight 60 g
Operating force 18 N

104. **T**.6.31. **L**. **F**

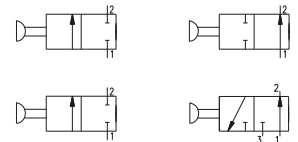


2/2 - 3/2 - Rear connections

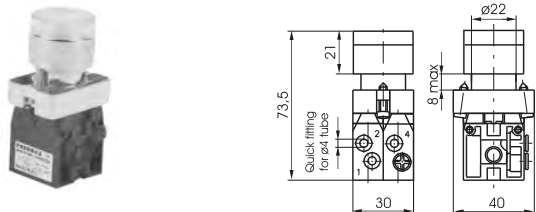


Weight 60 g
Operating force 18 N

104. **T**.6.31. **P**. **F**

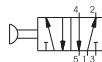


5/2 - Lateral connections

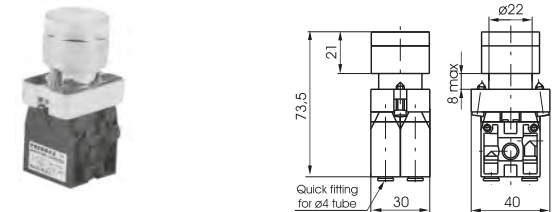


Weight 110 g
Operating force 30 N

104.52.6.31.L

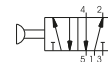


5/2 - Rear connections



Weight 110 g
Operating force 30 N

104.52.6.31.P





Raised Push button - Spring

Coding: 104. **T**.6.23/**C.W.F**

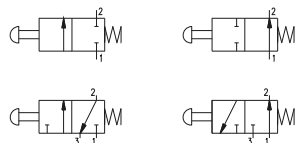
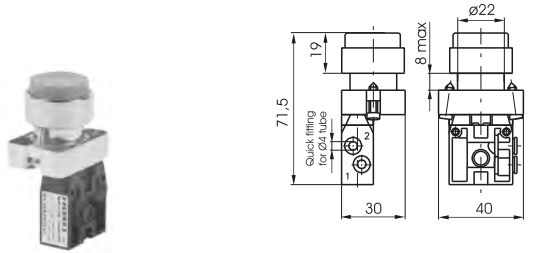
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	90
Orifice size (mm)	2.5
Working ports size	$\varnothing 4$ tube

T	TYPE	W	CONNECTION TYPE	
	22 = 2 ways		L = Lateral	
	32 = 3 ways		P = Rear	
C	52 = 5 ways	F	FUNCTION (only for 2 or 3 ways)	
	BUTTON COLOR		A = Normally Open	
	1 = Red		C = Normally Closed	
	2 = Black			
	3 = Green			
	4 = Yellow			

1
AIR DISTRIBUTION

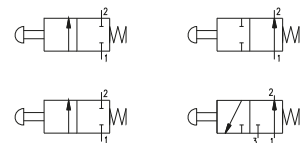
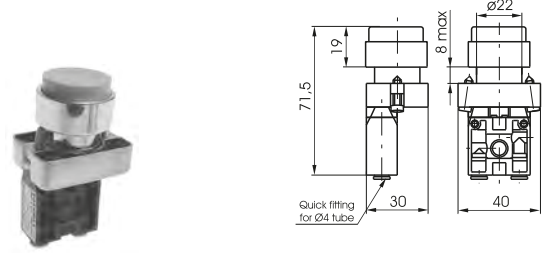
2/2 - 3/2 - Lateral connections



Weight 50 g
Operating force 18 N

104. **T**.6.23/**C.L.F**

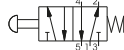
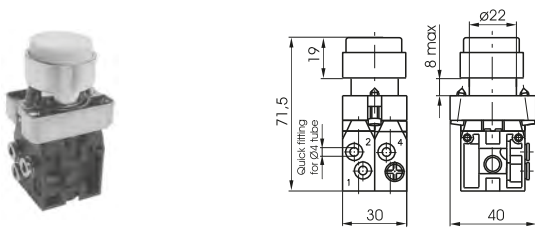
2/2 - 3/2 - Rear connections



Weight 50 g
Operating force 18 N

104. **T**.6.23/**C.P.F**

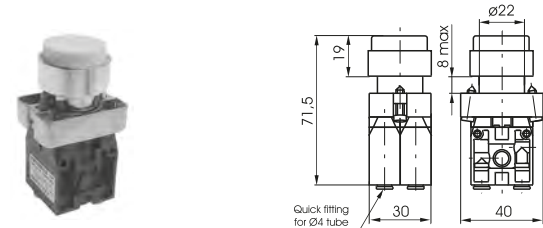
5/2 - Lateral connections



Weight 105 g
Operating force 30 N

104.52.6.23/**C.L**

5/2 - Rear connections



Weight 105 g
Operating force 30 N

104.52.6.23/**C.P**

Palm button 2 position

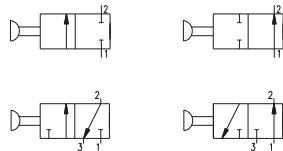
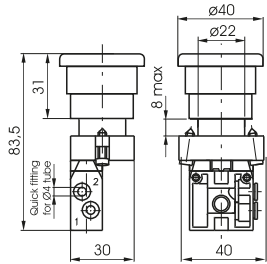
Coding: 104. **T**.6.25. **W**. **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (l/min)	90
Orifice size (mm)	2.5
Working ports size	$\varnothing 4$ tube

T	TYPE
	22 = 2 ways
	32 = 3 ways
	52 = 5 ways
W	CONNECTION TYPE
	L = Lateral
	P = Rear

F	FUNCTION (only for 2/2 and 3/2 ways)
	A = Normally Open
	C = Normally Closed

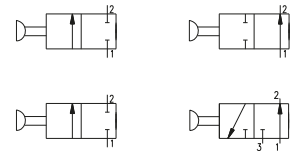
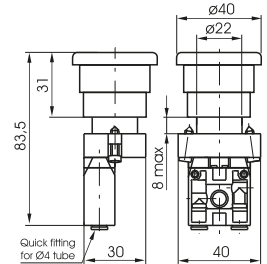
2/2 - 3/2 - Lateral connections



Weight 65 g
Operating force 19 N
Emergency - Rotate to unlock

104. **T**.6.25. **L**. **F**

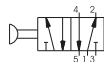
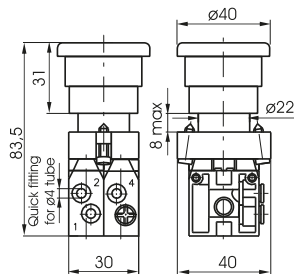
2/2 - 3/2 - Rear connections



Weight 65 g
Operating force 19 N
Emergency - Rotate to unlock

104. **T**.6.25. **P**. **F**

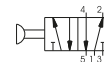
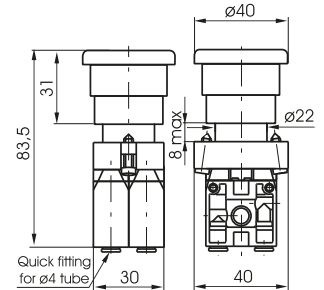
5/2 - Lateral connections



Weight 120 g
Operating force 32 N
Emergency - Rotate to unlock

104.52.6.25. **L**

5/2 - Rear connections



Weight 120 g
Operating force 32 N
Emergency - Rotate to unlock

104.52.6.25. **P**

1

AIR DISTRIBUTION



Switch - short lever

Coding: 104. **T**. **F** 1.6.30. **S**. **W**. **F**2

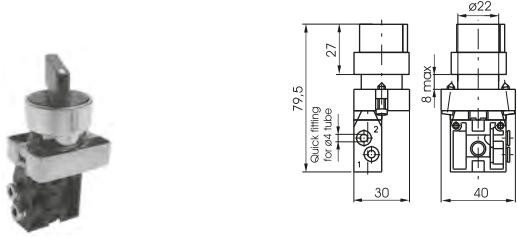
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

T	TYPE	S	SWITCH POSITION (only for 2/2 and 3/2 ways)
	22 = 2 ways		0 = 3 pos. instable
	32 = 3 ways		1 = 3 pos. stable
	52 = 5 ways		
F 1	FUNCTION (only for 5/3 ways)	W	CONNECTION TYPE
	32 = Open centres		L = Lateral
	33 = Pressured centres		P = Rear
		F 2	FUNCTION (only for 2/2 or 3/2 ways)
			A = Normally Open
			C = Normally Closed

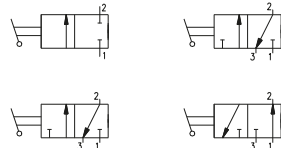
AIR DISTRIBUTION

2/2 - 3/2 - Lateral connections

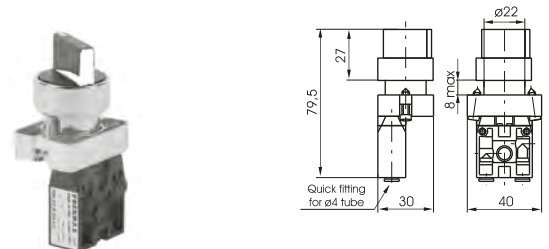


Weight 65 g
Switch 2 positions stable

104. **T**. **F**. 6.30. **L**. **F**

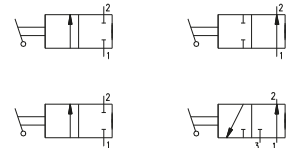


2/2 - 3/2 - Rear connections

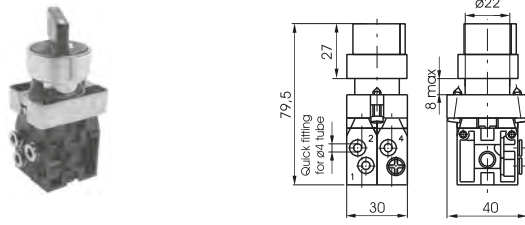


Weight 65 g
Switch 2 positions stable

104. **T**. 6.30. **P**. **F**

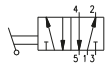


5/2 - Lateral connections

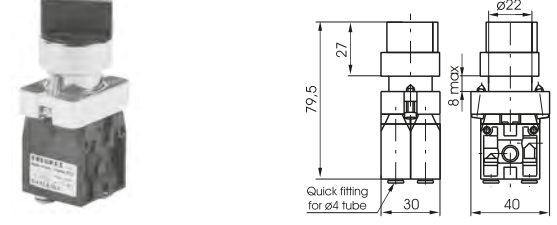


Weight 120 g
Switch 2 positions stable

104.52.6.30.L

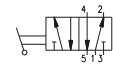


5/2 - Rear connections

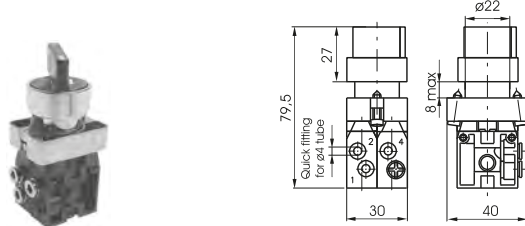


Weight 120 g
Switch 2 positions stable

104.52.6.30.P

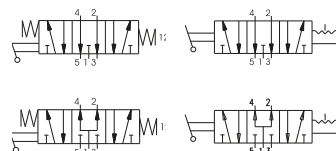


5/3 - Lateral connections

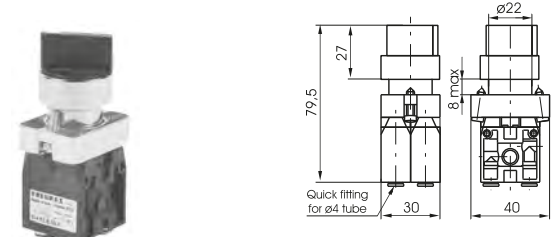


Weight 120 g

104.53. **F**. 6.30. **S**. **L**

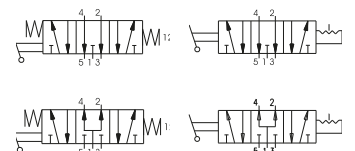


5/3 - Rear connections



Weight 120 g

104.53. **F**. 6.30. **S**. **P**



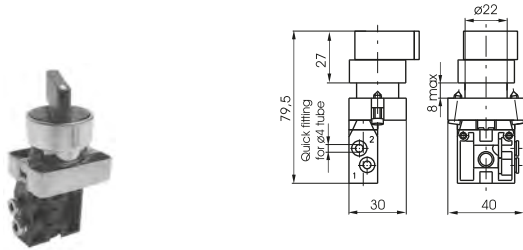
Switch - long lever

Coding: 104. **T**. **F**1.6.27. **S**. **W**. **F**2

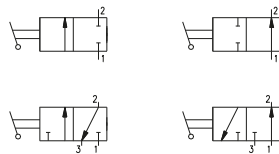
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (Nl/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

T	TYPE	S	SWITCH POSITION (only for 2/2 and 3/2 ways)
	22 = 2 ways		0 = 3 pos. instable
	32 = 3 ways		1 = 3 pos. stable
	52 = 5 ways		CONNECTION TYPE
53 = 5 ways	W		L = Lateral
F 1	FUNCTION (only for 5/3 ways)	P = Rear	FUNCTION (only for 2/2 or 3/2 ways)
	32 = Open centres	F 2	A = Normally Open
	33 = Pressured centres		C = Normally Closed

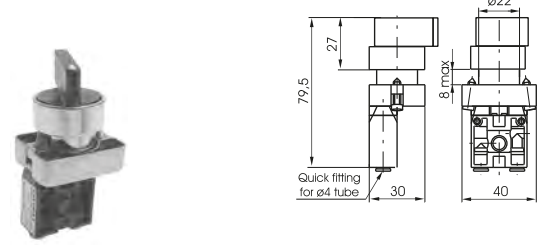
2/2 - 3/2 - Lateral connections



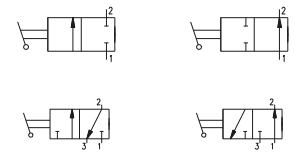
Weight 65 g
Switch 2 positions stable
104. **T**.6.27.L. **F**



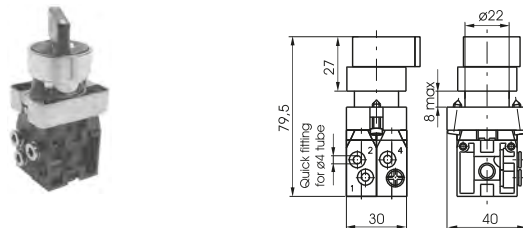
2/2 - 3/2 - Rear connections



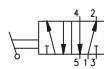
Weight 65 g
Switch 2 positions stable
104. **T**.6.27.P. **F**



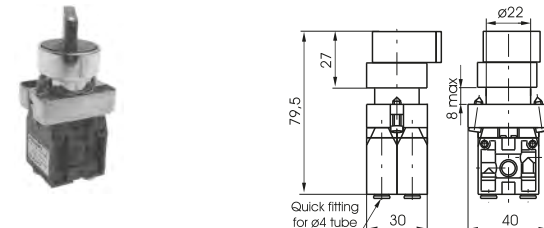
5/2 - Lateral connections



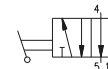
Weight 120 g
Switch 2 positions stable
104.52.6.27.L



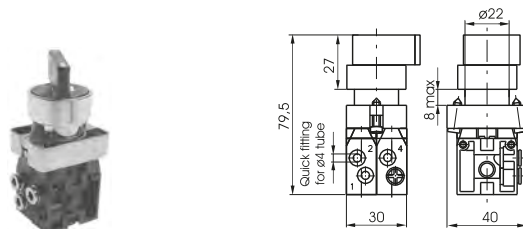
5/2 - Rear connections



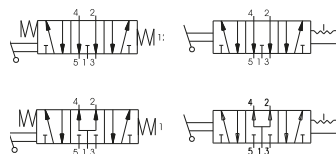
Weight 120 g
Switch 2 positions stable
104.52.6.27.P



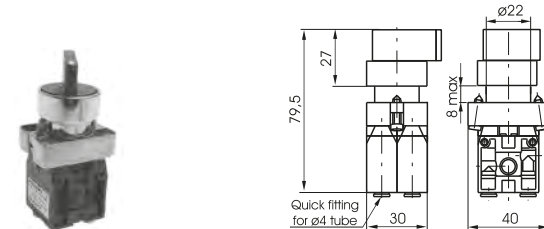
5/3 - Lateral connections



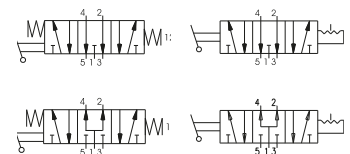
Weight 120 g
104.53. **F**.6.27. **S**.L



5/3 - Rear connections



Weight 120 g
104.53. **F**.6.27. **S**.P



Key switch

Coding: 104. **T**. **F** 1.6.28. **S**. **W**. **F** 2

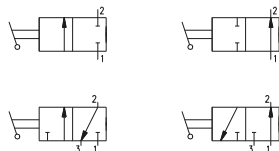
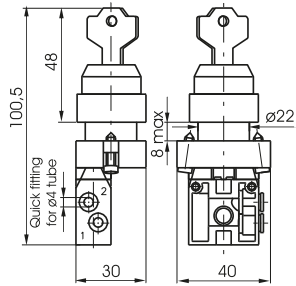
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

T	TYPE	SWITCH POSITION (only for 2/2 and 3/2 ways)	
	22 = 2 ways	0 = 3 pos. instable	
	32 = 3 ways	1 = 3 pos. stable	
F 1	52 = 5 ways	CONNECTION TYPE	
	53 = 5 ways		L = Lateral
	FUNCTION 1 (only for 5/3 ways)		P = Rear
F 2	32 = Open centres	FUNCTION 2 (only for 2/2 or 3/2 ways)	
	33 = Pressured centres	A = Normally Open	
		C = Normally Closed	

AIR DISTRIBUTION

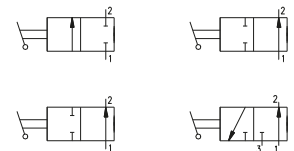
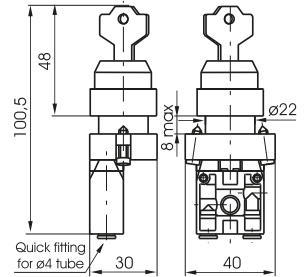
2/2 - 3/2 - Lateral connections



Weight 100 g
Switch 2 positions stable

104. **T**. 6.28. **L**. **F**

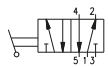
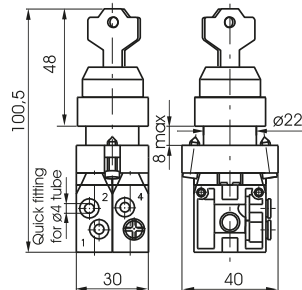
2/2 - 3/2 - Rear connections



Weight 100 g
Switch 2 positions stable

104. **T**. 6.28. **P**. **F**

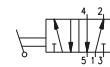
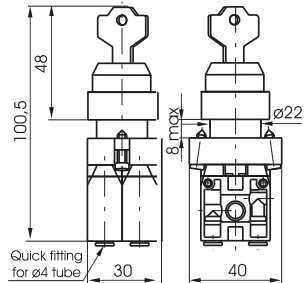
5/2 - Lateral connections



Weight 155 g
Switch 2 positions stable

104.52.6.28.L

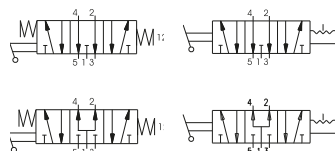
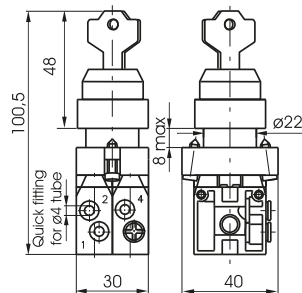
5/2 - Rear connections



Weight 155 g
Switch 2 positions stable

104.52.6.28.P

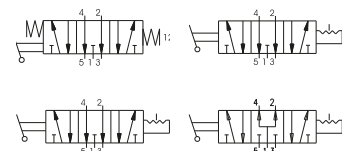
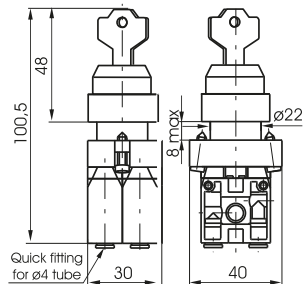
5/3 - Lateral connections



Weight 155 g

104.53. **F**. 6.28. **S**. **L**

5/3 - Rear connections



Weight 155 g

104.53. **F**. 6.28. **S**. **P**

Lever roller - Spring

Coding: 104. **T**.2.1. **W**. **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

T	TYPE
	22 = 2 ways 32 = 3 ways
W	CONNECTION TYPE
	L = Lateral
	P = Rear

F	FUNCTION
	A = Normally Open
	C = Normally Closed

2/2 - 3/2 - Lateral connections

Weight 31 g
Operating force 9 N

104. **T**.2.1.L. **F**

2/2 - 3/2 - Rear connections

Weight 31 g
Operating force 9 N

104. **T**.2.1.P. **F**

Lever roller ball bearing - Spring

Coding: 104. **T**.2.1/1. **W**. **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

T	TYPE
	22 = 2 ways 32 = 3 ways
W	CONNECTION TYPE
	L = Lateral
	P = Rear

F	FUNCTION
	A = Normally Open
	C = Normally Closed

2/2 - 3/2 - Lateral connections

Weight 46 g
Operating force 9 N

104. **T**.2.1/1.L. **F**

2/2 - 3/2 - Rear connections

Weight 46 g
Operating force 9 N

104. **T**.2.1/1.P. **F**

Lever unidirectional - Spring

Coding: 104. **T**.3.1. **W**. **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube

T	TYPE
	22 = 2 ways 32 = 3 ways
W	CONNECTION TYPE
	L = Lateral
	P = Rear

F	FUNCTION
	A = Normally Open
	C = Normally Closed

2/2 - 3/2 - Lateral connections

Weight 31 g
Operating force 9 N

104. **T**.3.1.L. **F**

2/2 - 3/2 - Rear connections

Weight 31 g
Operating force 9 N

104. **T**.3.1.P. **F**

1
AIR DISTRIBUTION

▶ Complete lever roller operator

Coding: 104.2.1



▶ Complete lever unidirectional

Coding: 104.3.1



▶ Push button

Coding: 104.6.22/ⓐ



BUTTON COLOR	
ⓐ	1 = Red
	2 = Black
	3 = Green
	4 = Yellow

▶ Push button 2 positions

Coding: 104.6.31

(step - step)



▶ Switch - short lever

Coding: 104.6.30.Ⓢ



SWITCH POSITION (only for 3 position)	
Ⓢ	0 = 3 pos. instable
	1 = 3 pos. stable

Switch 2 positions stable 104.6.30

Switch 3 positions 104.6.30.Ⓢ

▶ Key switch

Coding: 104.6.28.Ⓢ



SWITCH POSITION (only for 3 position)	
Ⓢ	0 = 3 pos. instable
	1 = 3 pos. stable

Switch 2 positions stable 104.6.28

Switch 3 positions 104.6.28.Ⓢ

▶ Contact electric element

Coding: 104.Ⓕ



FUNCTION	
Ⓕ	NO = Normally Open
	NC = Normally Closed

▶ Push button protection cover

Coding: 104.02



▶ Complete lever roller ball bearing operator

Coding: 104.2.1/1



▶ Fixing plate

Coding: 104.00



▶ Raised Push button

Coding: 104.6.23/ⓐ



BUTTON COLOR	
ⓐ	1 = Red
	2 = Black
	3 = Green
	4 = Yellow

▶ Palm button 2 position

Coding: 104.6.25

Emergency - Rotate to unlock



▶ Switch - long lever

Coding: 104.6.27.Ⓢ



SWITCH POSITION (only for 3 position)	
Ⓢ	0 = 3 pos. instable
	1 = 3 pos. stable

Switch 2 positions stable 104.6.27

Switch 3 positions 104.6.27.Ⓢ

▶ Joystick selector switch

Coding: 104.6.39.Ⓢ



▶ Complete Pneumatic Operator

Coding: 104.11



Pneumatic - Spring

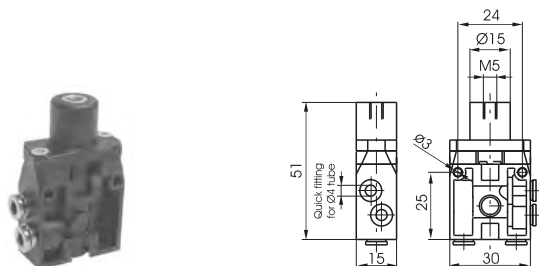
Coding: 104. **T**.11.1. **W**. **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	90
Orifice size (mm)	2.5
Working ports size	ø4 tube
Pilot ports size	M5

T	TYPE
	22 = 2 ways 32 = 3 ways
W	CONNECTION TYPE
	L = Lateral
	P = Rear

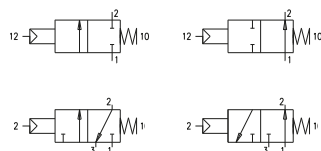
F	FUNCTION
	A = Normally Open
	C = Normally Closed

2/2 - 3/2 - Lateral connections

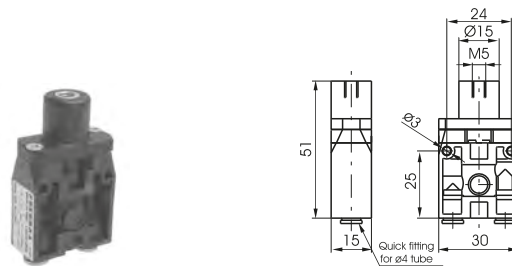


Weight 25 g
Minimum piloting pressure 2,5 bar

104.22.11.1.L. **F**

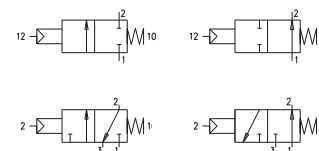


2/2 - 3/2 - Rear connections



Weight 25 g
Minimum piloting pressure 2,5 bar

104.32.11.1.P. **F**



1

AIR DISTRIBUTION



Series 105

General

The series 105 consist of a broad range of miniature valves and valves with various type of actuation.
 The connections are M5 for this series
 Due to their special construction with a balanced spool, these valves can be used interchangeably as 3 ways or 5 ways.
 The 3 ways can be used normally closed or normally open and the 5 ways can be fed through the exhausts 3 and 5 with different pressures according to the need.
 The spool, as it is moving, isolates the connections without being affected by the inlet pressure.

Construction characteristics

	M5
Body	Aluminium
Operators	Nickel plated brass Stainless steel for roller levers and button levers; Zinc plated steel for side levers; Plastic material for handles, buttons and switches Aluminium (for pneumatic command version)
Seals	NBR
Spacer	Technopolymer
Spools	Steel
Springs	Spring steel
Pistons	Aluminium (for pneumatic command version)

Use and maintenance

This valves have an average life of 15 million cycles depending on the application and air quality.
 Filtered and lubricated air using specified lubricants will reduce the wear of the seals and ensures long and trouble free operation.
 Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature.
 The exhaust port of the distributor has to be protected in a dusty and dirty environment.
 Repair kits including the spool complete with seals are available for overhauling the valves.
 However, although this is a simple operation it should be carried out by a competent person.

ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).

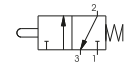
1
AIR DISTRIBUTION

Tappet panel - Spring

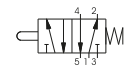
Coding: 105.1.0.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE	
32 = 3 ways	
52 = 5 ways	



105.32.0.1

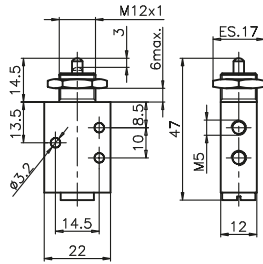


105.52.0.1

3 ways



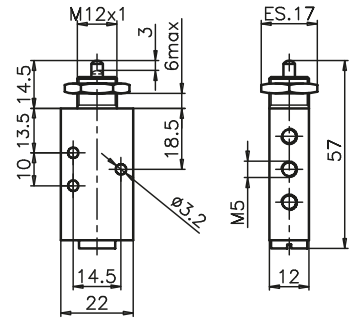
Weight 70 g
Operating force 14 N



5 ways



Weight 87 g
Operating force 14 N

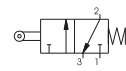


Lever roller - Spring

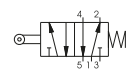
Coding: 105.1.2.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE	
32 = 3 ways	
52 = 5 ways	



105.32.2.1

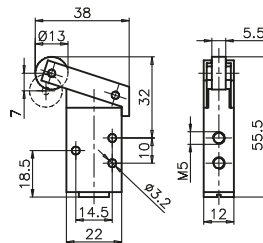


105.52.2.1

3 ways



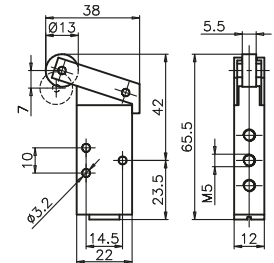
Weight 85 g
Operating force 6 N



5 ways



Weight 102 g
Operating force 6 N

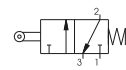


Lever roller ball bearing - Spring

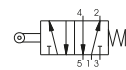
Coding: 105.1.2.1/1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE	
32 = 3 ways	
52 = 5 ways	



105.32.2.1/1

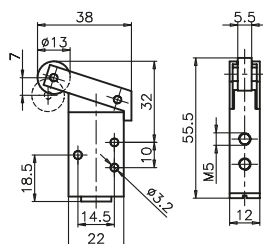


105.52.2.1/1

3 ways



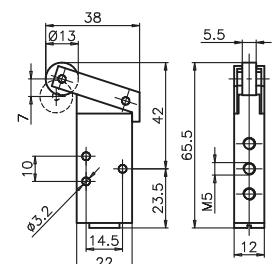
Weight 100 g
Operating force 6 N



5 ways



Weight 177 g
Operating force 6 N



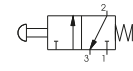
Lever button - Spring

Coding: 105.1.2.6/C

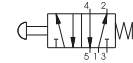
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE	32 = 3 ways 52 = 5 ways
BUTTON COLOR	1 = Red 2 = Black 3 = Green

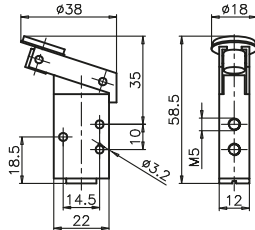


105.32.2.6/C



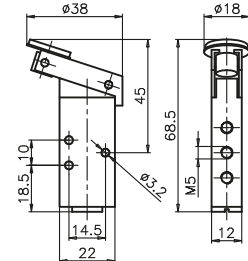
105.52.2.6/C

3 ways



Weight 85 g
Operating force 6 N

5 ways



Weight 102 g
Operating force 6 N

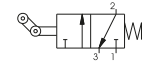
Lever unidirectional - Spring

Coding: 105.1.3.1

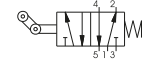
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE	32 = 3 ways 52 = 5 ways
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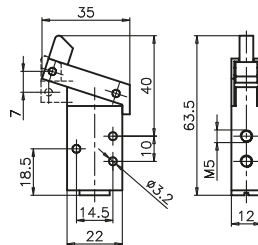


105.32.3.1



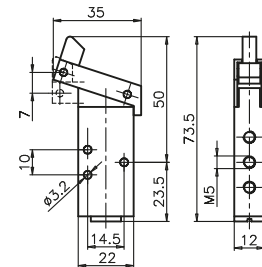
105.52.3.1

3 ways



Weight 85 g
Operating force 6 N

5 ways



Weight 102 g
Operating force 6 N

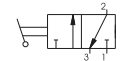
Lever panel Ø22 - 2 positions

Coding: 105.1.4/C

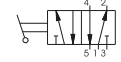
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE	32 = 3 ways 52 = 5 ways
LEVER COLOR	1 = Red 2 = Black 3 = Green

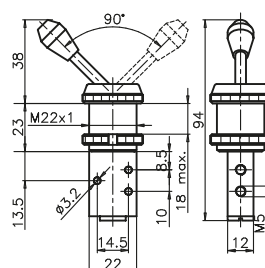


105.32.4/C



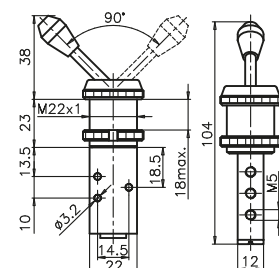
105.52.4/C

3 ways



Weight 125 g

5 ways



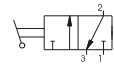
Weight 142 g

Lever panel Ø30 - 2 positions

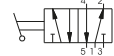
Coding: 105.1.5/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

T	TYPE
	32 = 3 ways 52 = 5 ways
C	LEVER COLOR
	1 = Red 2 = Black 3 = Green

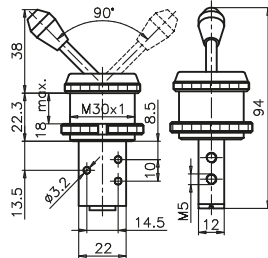


105.32.5/C



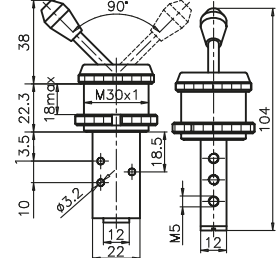
105.52.5/C

3 ways



Weight 165 g

5 ways



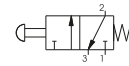
Weight 182 g

Push button Ø30 - Spring

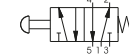
Coding: 105.1.6.1/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

T	TYPE
	32 = 3 ways 52 = 5 ways
C	BUTTON COLOR
	1 = Red 2 = Black 3 = Green

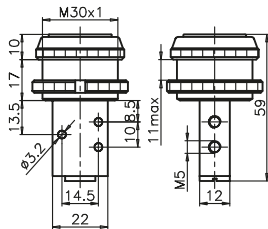


105.32.6.1/C



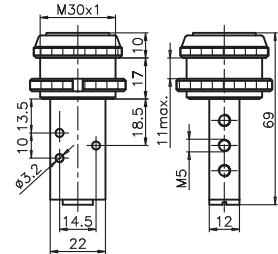
105.52.6.1/C

3 ways



Weight 123 g
Operating force 14 N

5 ways



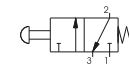
Weight 140 g
Operating force 14 N

Push button Ø22 - Spring

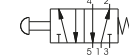
Coding: 105.1.6.2/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

T	TYPE
	32 = 3 ways 52 = 5 ways
C	BUTTON COLOR
	1 = Red 2 = Black 3 = Green

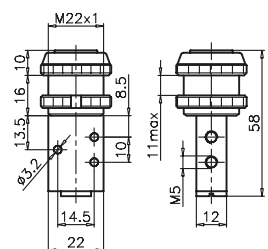


105.32.6.2/C



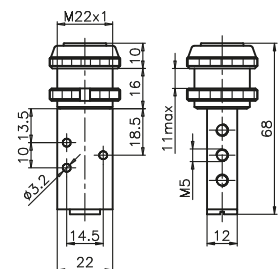
105.52.6.2/C

3 ways



Weight 102 g
Operating force 14 N

5 ways



Weight 119 g
Operating force 14 N

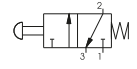
Push button - Spring

Coding: 105.1.6.22/©

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE	32 = 3 ways 52 = 5 ways
BUTTON COLOR	1 = Red 2 = Black 3 = Green 4 = Yellow

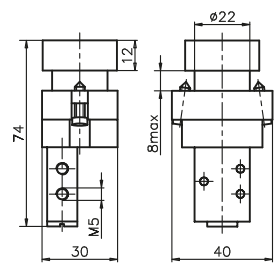


105.32.6.22/©



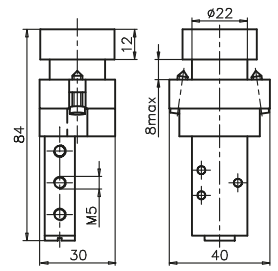
105.52.6.22/©

3 ways



Weight 165 g
Operating force 14 N

5 ways



Weight 182 g
Operating force 14 N

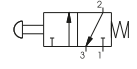
Raised Push button - Spring

Coding: 105.1.6.23/©

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE	32 = 3 ways 52 = 5 ways
BUTTON COLOR	1 = Red 2 = Black 3 = Green 4 = Yellow

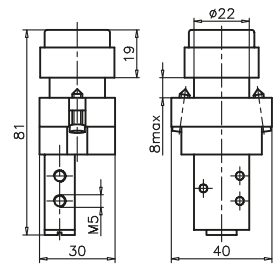


105.32.6.23/©



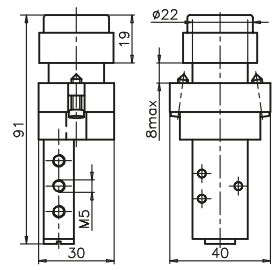
105.52.6.23/©

3 ways



Weight 170 g
Operating force 14 N

5 ways



Weight 187 g
Operating force 14 N

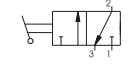
Switch 2 positions

Coding: 105.1.6.27

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE	32 = 3 ways 52 = 5 ways
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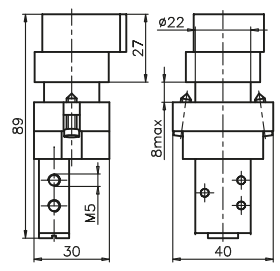


105.32.6.27



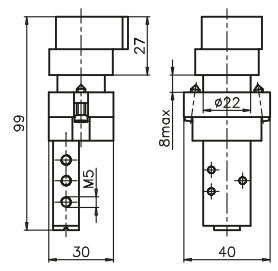
105.52.6.27

3 ways



Weight 185 g

5 ways



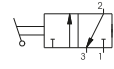
Weight 202 g

Key switch 2 positions

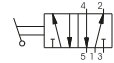
Coding: 105.1.6.28

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE
32 = 3 ways
52 = 5 ways



105.32.6.28

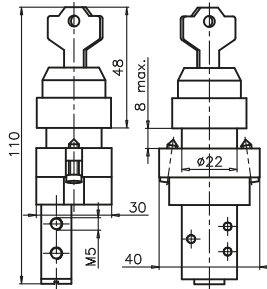


105.52.6.28

3 ways



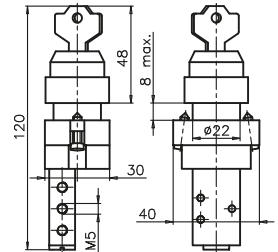
Weight 215 g



5 ways



Weight 232 g

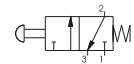


Palm pushbutton Ø30 - Spring

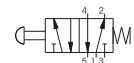
Coding: 105.1.7.1/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE
32 = 3 ways
52 = 5 ways
BUTTON COLOR
1 = Red
2 = Black
3 = Green



105.32.7.1/C

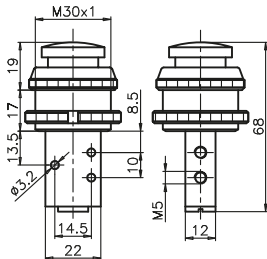


105.52.7.1/C

3 ways



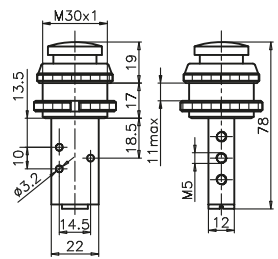
Weight 126 g
Operating force 14 N



5 ways



Weight 143 g
Operating force 14 N

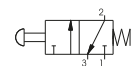


Palm pushbutton Ø22 - Spring

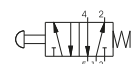
Coding: 105.1.7.2/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE
32 = 3 ways
52 = 5 ways
BUTTON COLOR
1 = Red
2 = Black
3 = Green



105.32.7.2/C

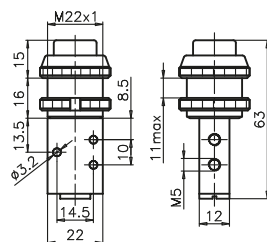


105.52.7.2/C

3 ways



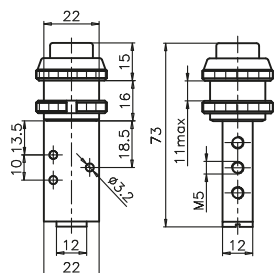
Weight 103 g
Operating force 14 N



5 ways



Weight 120 g
Operating force 14 N



Push button

Coding: 105.1.8.1/C

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE	
1	32 = 3 ways 52 = 5 ways
BUTTON COLOR	
1	= Red
2	= Black
3	= Green

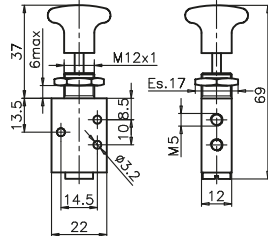


105.32.8.1/C



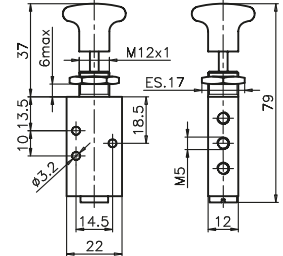
105.52.8.1/C

3 ways



Weight 75 g
Operating force 14 N

5 ways



Weight 92 g
Operating force 14 N

Push button 2 positions

Coding: 105.1.8/C

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE	
1	32 = 3 ways 52 = 5 ways
BUTTON COLOR	
1	= Red
2	= Black
3	= Green

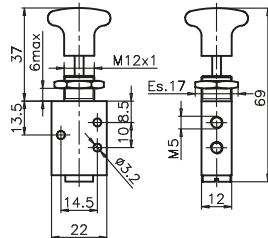


105.32.8/C



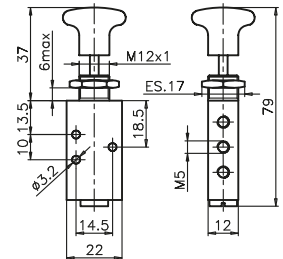
105.52.8/C

3 ways



Weight 75 g
Operating force 14 N

5 ways



Weight 92 g
Operating force 14 N

Whisker - Spring

Coding: 105.1.9.1

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5

TYPE	
1	32 = 3 ways 52 = 5 ways

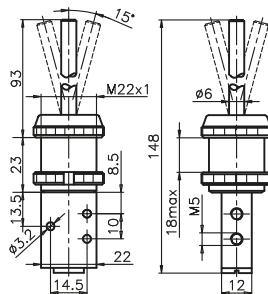


105.32.9.1



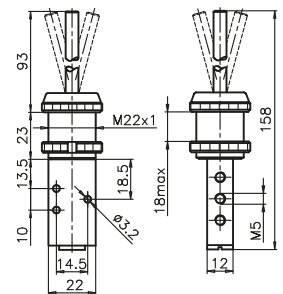
105.52.9.1

3 ways



Weight 136 g

5 ways



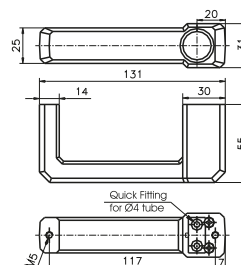
Weight 153 g

Handle with valve

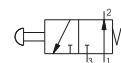
Coding: 105.T.6.A.F

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (Nl/min)	120
Orifice size (mm)	2.5
Working ports size	M5 - Quick Fitting for Ø4 tube

T	TYPE	F	FUNCTION (only for 3 ways)
	32 = 3 ways		A = Normally Open
A	52 = 5 ways	F	C = Normally Closed
	FEEDING		
	40 = Left feeding		40D = Right feeding

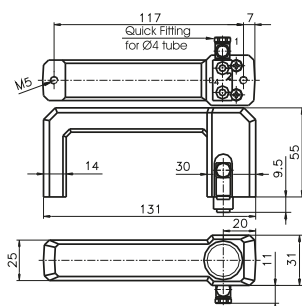


Weight 165 g
Operating force 14 N

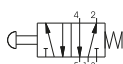


105.32.6.40.Ⓢ

Left feeding

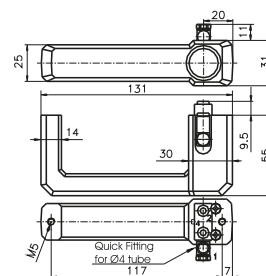


Weight 190 g
Operating force 14 N

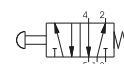


105.52.6.40

Right feeding



Weight 190 g
Operating force 14 N



105.52.6.40.Ⓢ



AIR DISTRIBUTION 1

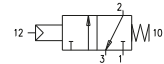
Pneumatic - Spring

Coding: 105.11.1

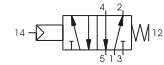
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5
Pilot ports size	M5

TYPE	
32 = 3 ways	
52 = 5 ways	

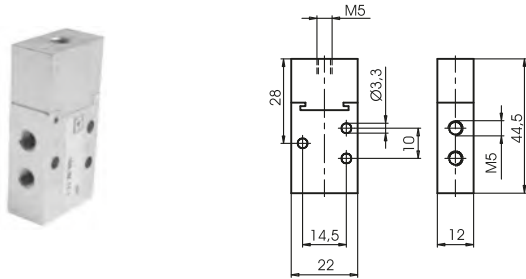


105.32.11.1



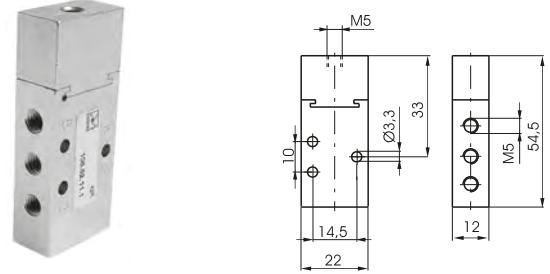
105.52.11.1

3 ways



Weight 90 g
Minimum piloting pressure 2,5 bar

5 ways



Weight 100 g
Minimum piloting pressure 2,5 bar

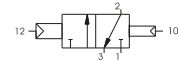
Pneumatic - Differential external

Coding: 105.11.12

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5
Pilot ports size	M5

TYPE	
32 = 3 ways	
52 = 5 ways	

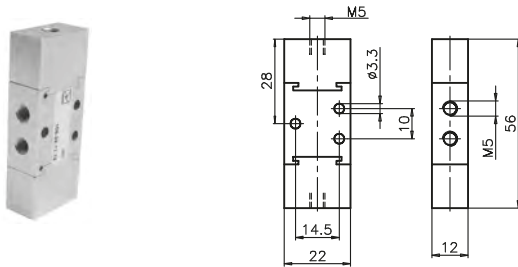


105.32.11.12



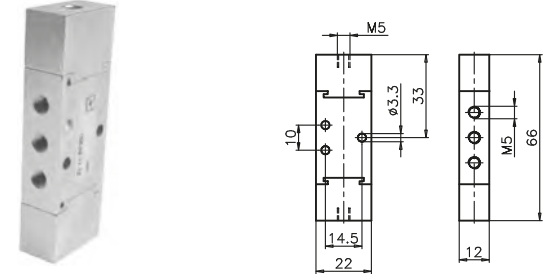
105.52.11.12

3 ways



Weight 110 g
Minimum piloting pressure 2,5 bar

5 ways



Weight 120 g
Minimum piloting pressure 2,5 bar

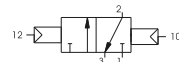
Pneumatic - Pneumatic

Coding: 105.11.11

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	120
Orifice size (mm)	2.5
Working ports size	M5
Pilot ports size	M5

TYPE	
32 = 3 ways	
52 = 5 ways	

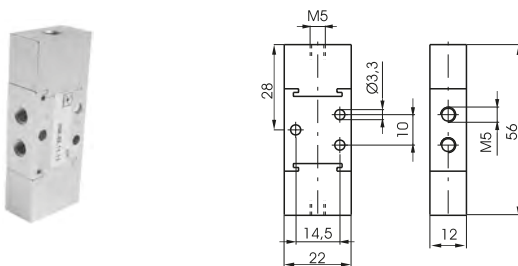


105.32.11.11



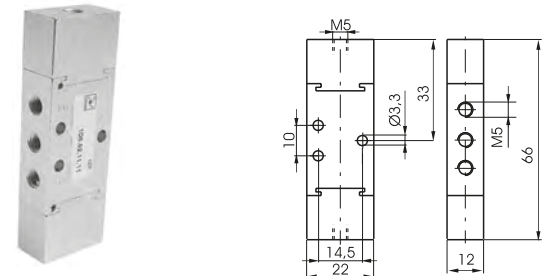
105.52.11.11

3 ways



Weight 110 g
Minimum piloting pressure 2,5 bar

5 ways



Weight 120 g
Minimum piloting pressure 2,5 bar



Series 200

General

The series 200 consist of a broad range of valves with various type of actuation.

The connections for this series are from G 1/8" to G 1".

Due to their special construction with a balanced spool, these valves can be used interchangeably as 3 ways or 5 ways.

The 3 ways can be used normally closed or normally open and the 5 ways can be fed through the exhausts 3 and 5 with different pressures according to the need.

The spool, as it is moving, isolates the connections without being affected by the inlet pressure.

Construction characteristics

	G 1/8" - G 1/4" - G 1/2" - G 1"
Body	Aluminium
Operators	Aluminium Technopolymer
Seals	NBR PUR for 212/2
Spacer	Technopolymer Aluminium for G1" (211)
Spools	Steel Aluminium, for 212/2
Springs	Spring steel
Pistons	Technopolymer, for 228 pneumatic command valves Aluminium, for 224, 212, 212/2 e 211 pneumatic command valves

Use and maintenance

This valves have an average life of 15 million cycles depending on the application and air quality.

Filtered and lubricated air using specified lubricants will reduce the wear of the seals and ensures long and trouble free operation.

Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature.

The exhaust port of the distributor has to be protected in a dusty and dirty environment.

Repair kits including the spool complete with seals are available for overhauling the valves.

However, although this is a simple operation it should be carried out by a competent person.

ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).



Tappet - Spring

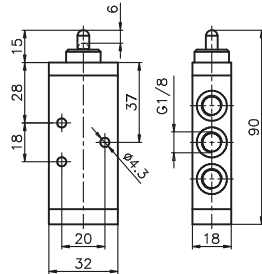
Coding: 228. **T**.0.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
T	32 = 3 ways
	52 = 5 ways

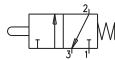
AIR DISTRIBUTION

3 ways

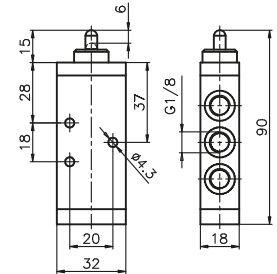


Weight 85 g
Operating force 33 N

228.32.0.1



5 ways



Weight 105 g
Operating force 33 N

228.52.0.1



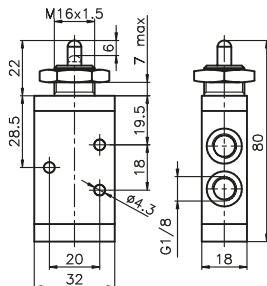
Tappet panel - Spring

Coding: 228. **T**.1.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

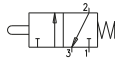
TYPE	
T	32 = 3 ways
	52 = 5 ways

3 ways

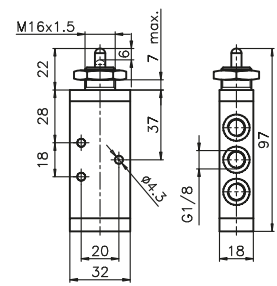


Weight 102 g
Operating force 33 N

228.32.1.1



5 ways



Weight 122 g
Operating force 33 N

228.52.1.1



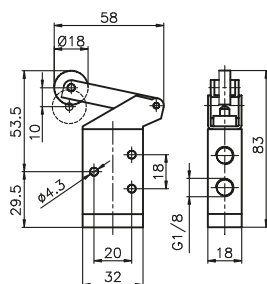
Lever roller - Spring

Coding: 228. **T**.2. **V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

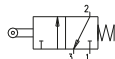
TYPE	
T	32 = 3 ways
	52 = 5 ways
VERSION	
V	1 = Plastic roller
	1/2 = Metal roller

3 ways

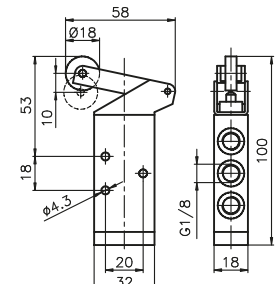


Weight 115 g
Operating force 15 N

228.32.2. **V**



5 ways



Weight 135 g
Operating force 15 N

228.52.2. **V**

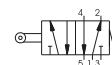
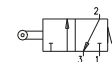


Lever roller ball bearing - Spring

Coding: 228.●.2.1/1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
● 32	= 3 ways
● 52	= 5 ways

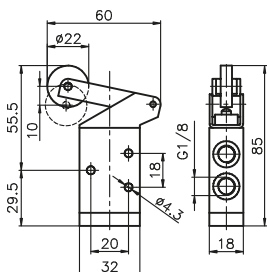


3 ways



Weight 130 g
Operating force 15 N

228.32.2.1/1

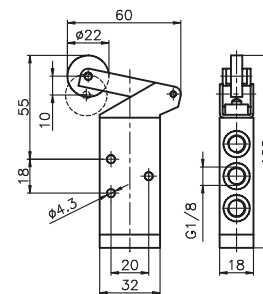


5 ways



Weight 150 g
Operating force 15 N

228.52.2.1/1

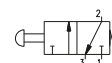


Lever button - Spring

Coding: 228.●.2.6/●

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
● 32	= 3 ways
● 52	= 5 ways
BUTTON COLOR	
● 1	= Red
● 2	= Black
● 3	= Green

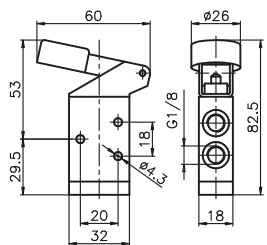


3 ways



Weight 120 g
Operating force 15 N

228.32.2.6/●

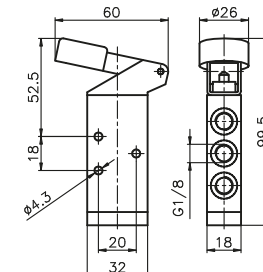


5 ways



Weight 120 g
Operating force 15 N

228.52.2.6/●

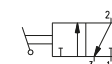


Switch lateral 2 positions

Coding: 228.●.27

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
● 32	= 3 ways
● 52	= 5 ways

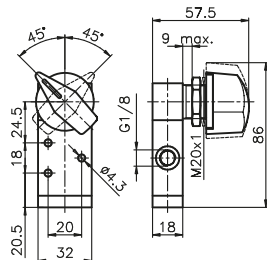


3 ways



Weight 190 g

228.32.27

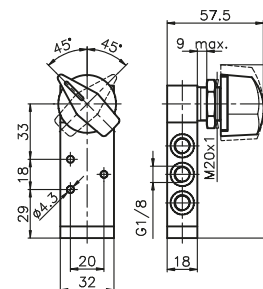


5 ways



Weight 210 g

228.52.27



1 AIR DISTRIBUTION

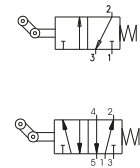
Lever roller unidirectional - Spring

Coding: 228.●.3.●

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
●	32 = 3 ways
	52 = 5 ways
VERSION	
●	1 = Plastic roller
	1/2 = Metal roller

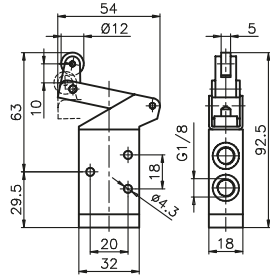


3 ways



Weight 110 g

228.32.3.●

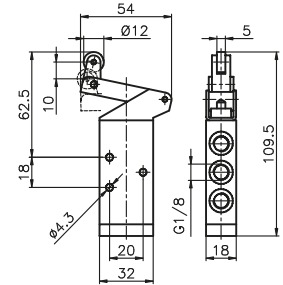


5 ways



Weight 130 g

228.52.3.●



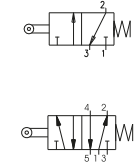
Lever roller lateral bidirectional - Spring

Coding: 228.●.4.1

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
●	32 = 3 ways
	52 = 5 ways

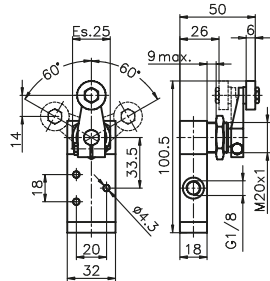


3 ways



Weight 180 g

228.32.4.1

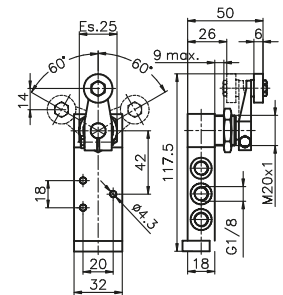


5 ways



Weight 200 g

228.52.4.1



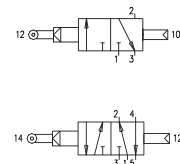
Lever sensitive - differential

Coding: 228.●.4.13

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
●	32 = 3 ways
	52 = 5 ways
Minimum rotation angle 11°	

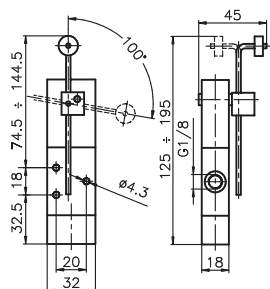


3 ways



Weight 200 g
Minimum rotation angle 11°
Minimum working pressure 2,5 bar

228.32.4.13

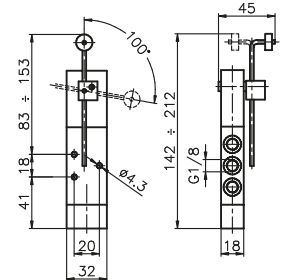


5 ways



Weight 220 g
Minimum rotation angle 11°
Minimum working pressure 2,5 bar

228.52.4.13

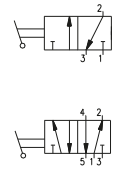


Lever panel Ø30 - 2 positions

Coding: 228.1.5/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

T	TYPE
	32 = 3 ways 52 = 5 ways
C	LEVER COLOR
	1 = Red 2 = Black 3 = Green

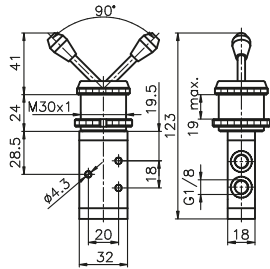


3 ways



Weight 198 g

228.32.5/C

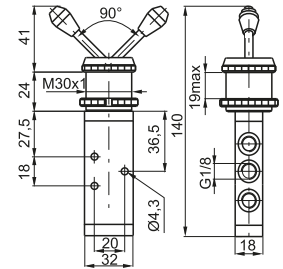


5 ways



Weight 218 g

228.52.5/C

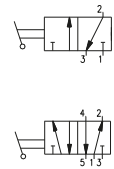


Frontal lever - 2 positions

Coding: 228.1.55/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

T	TYPE
	32 = 3 ways 52 = 5 ways
C	LEVER COLOR
	1 = Red 2 = Black 3 = Green

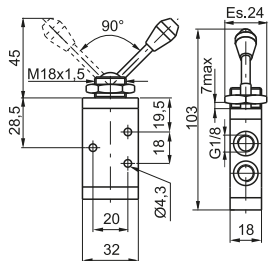


3 ways



Weight 115 g

228.32.55/C

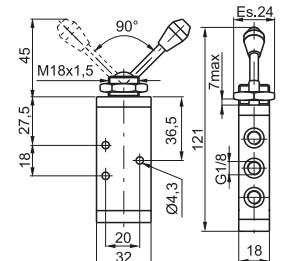


5 ways



Weight 135 g

228.52.55/C

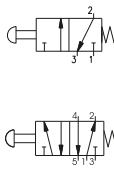


Push button Ø 30 - spring

Coding: 228.1.6.1/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

T	TYPE
	32 = 3 ways 52 = 5 ways
C	BUTTON COLOR
	1 = Red 2 = Black 3 = Green

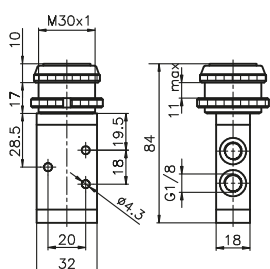


3 ways



Weight 155 g
Operating force 33 N

228.32.6.1/C

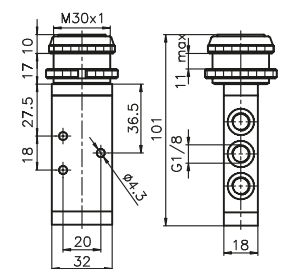


5 ways



Weight 175 g
Operating force 33 N

228.52.6.1/C



AIR DISTRIBUTION

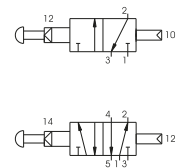
Sensitive push button Ø30 - differential

Coding: 228.1.6.13/C

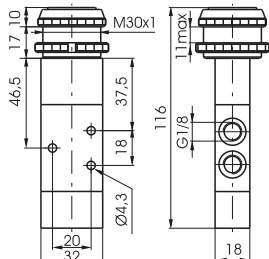
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
1	32 = 3 ways
	52 = 5 ways
BUTTON COLOR	
1	= Red
2	= Black
3	= Green



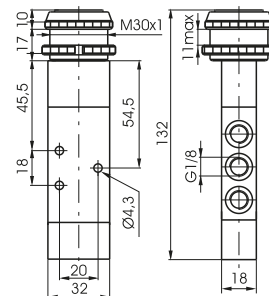
3 ways



Weight 197 g
Operating force 18,5 N (at 6 bar)

228.32.6.13/C

5 ways



Weight 217 g
Operating force 18,5 N (at 6 bar)

228.52.6.13/C

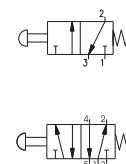
Push button - Spring

Coding: 228.1.6.22/C

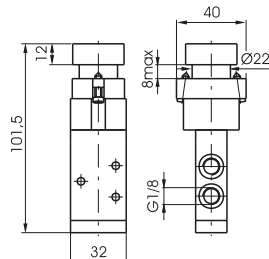
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
1	32 = 3 ways
	52 = 5 ways
BUTTON COLOR	
1	= Red
2	= Black
3	= Green
4	= Yellow



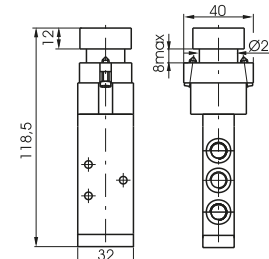
3 ways



Weight 225 g
Operating force 33 N

228.32.6.22/C

5 ways



Weight 245 g
Operating force 33 N

228.52.6.22/C

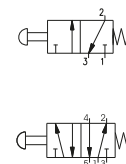
Raised push button Ø22 - Spring

Coding: 228.1.6.23/C

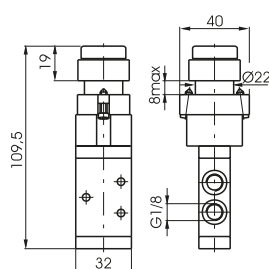
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
1	32 = 3 ways
	52 = 5 ways
BUTTON COLOR	
1	= Red
2	= Black
3	= Green
4	= Yellow



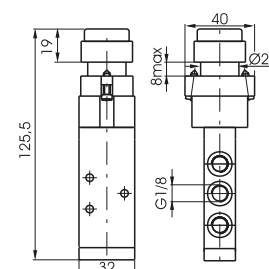
3 ways



Weight 230 g
Operating force 33 N

228.32.6.23/C

5 ways



Weight 250 g
Operating force 33 N

228.52.6.23/C

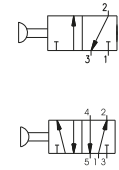
Push button Ø22 - 2 positions

Coding: 228.1.6.25

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
32	= 3 ways
52	= 5 ways

Emergency - Rotate to unlock

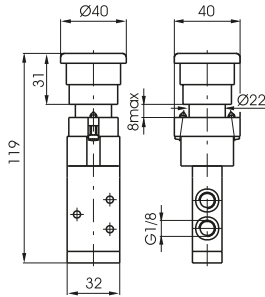


3 ways



Weight 235 g
Operating force 33 N

228.32.6.25

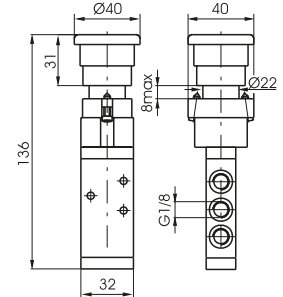


5 ways



Weight 235 g
Operating force 33 N

228.52.6.25

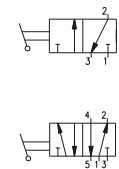


Switch 2 positions

Coding: 228.1.6.27

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
32	= 3 ways
52	= 5 ways

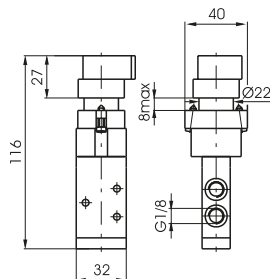


3 ways



Weight 230 g

228.32.6.27

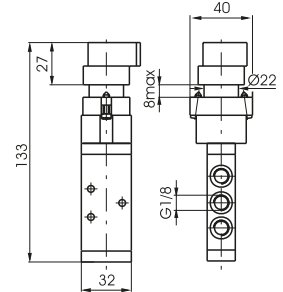


5 ways



Weight 250 g

228.52.6.27

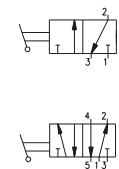


Key switch 2 positions

Coding: 228.1.6.28

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
32	= 3 ways
52	= 5 ways

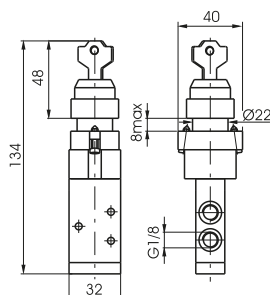


3 ways



Weight 230 g

228.32.6.28

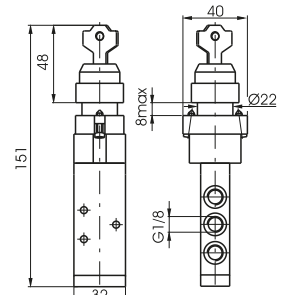


5 ways



Weight 250 g

228.52.6.28



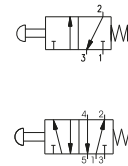
Palm push button Ø30 2 positions

Coding: 228.1.7.1/C

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	32 = 3 ways 52 = 5 ways
BUTTON COLOR	1 = Red 2 = Black 3 = Green



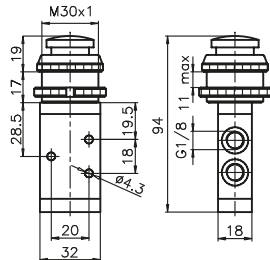
AIR DISTRIBUTION

3 ways



Weight 148 g

228.32.7.1/C

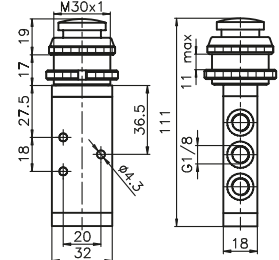


5 ways



Weight 168 g

228.52.7.1/C



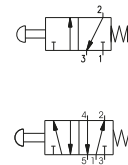
Push button - Spring

Coding: 228.1.8.1/C

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	32 = 3 ways 52 = 5 ways
BUTTON COLOR	1 = Red 2 = Black 3 = Green

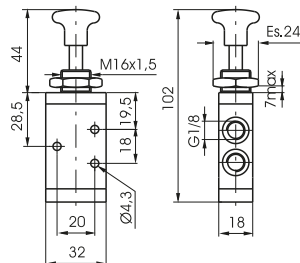


3 ways



Weight 120 g

228.32.8.1/C

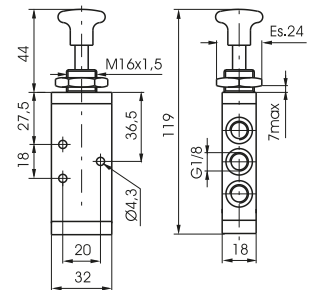


5 ways



Weight 140 g

228.52.8.1/C



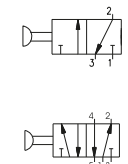
Push button 2 positions

Coding: 228.1.8/C

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	32 = 3 ways 52 = 5 ways
BUTTON COLOR	1 = Red 2 = Black 3 = Green

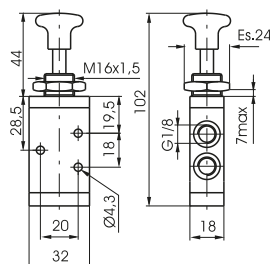


3 ways



Weight 120 g

228.32.8/C

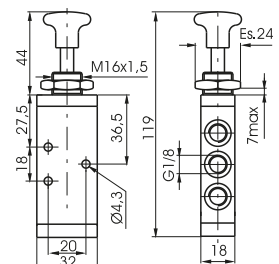


5 ways



Weight 140 g

228.52.8/C

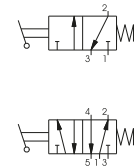


Lever lateral - Spring

Coding: 228.1.9.1/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

T	TYPE
	32 = 3 ways 52 = 5 ways
C	LEVER COLOR
	1 = Red 2 = Black 3 = Green

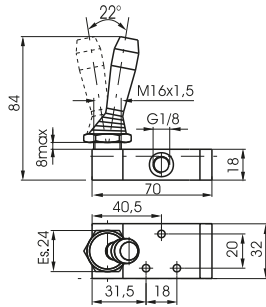


3 ways



Weight 140 g

228.32.9.1/C

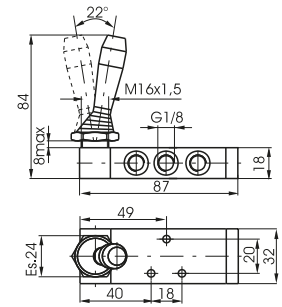


5 ways



Weight 160 g

228.52.9.1/C

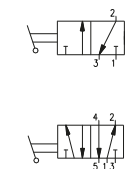


Lever lateral 2 positions

Coding: 228.1.9/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

T	TYPE
	32 = 3 ways 52 = 5 ways
C	LEVER COLOR
	1 = Red 2 = Black 3 = Green

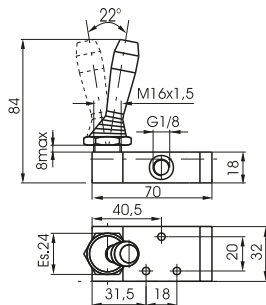


3 ways



Weight 140 g

228.32.9/C

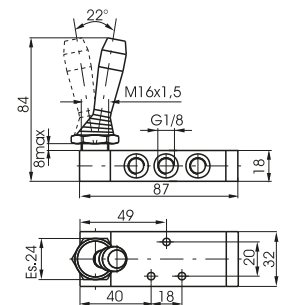


5 ways



Weight 160 g

228.52.9/C

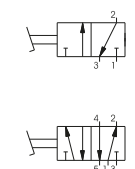


Pedal aluminium 2 positions

Coding: 228.1.10

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

T	TYPE
	32 = 3 ways 52 = 5 ways

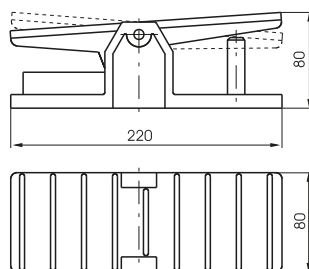


3 ways



Weight 790 g

228.32.10

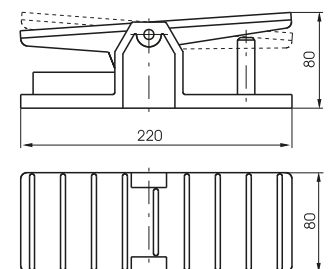


5 ways



Weight 810 g

228.52.10



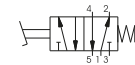
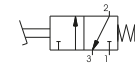
Pedal aluminium - Spring

Coding: 228.10.1

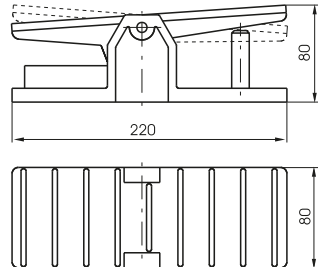
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	



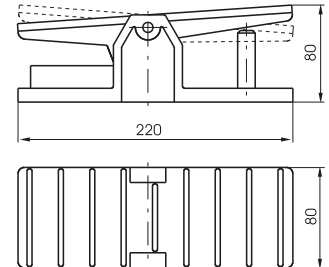
3 ways



Weight 790 g

228.32.10.1

5 ways



Weight 810 g

228.52.10.1

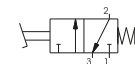
Pedal protected - Spring

Coding: 228.10.10.1

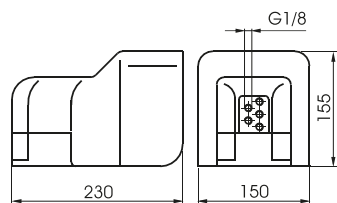
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	
VERSION	
1/1 = Standard version	
2/1 = without safety device	



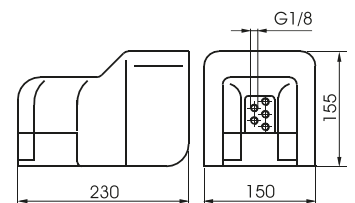
3 ways



Weight 1120 g

228.32.10.10.1

5 ways



Weight 1120 g

228.52.10.10.1

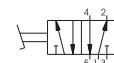
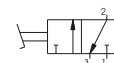
Pedal protected 2 positions

Coding: 228.10.10/1

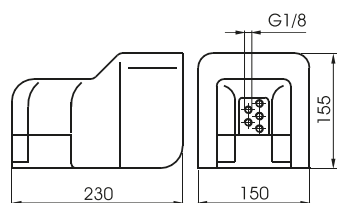
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	



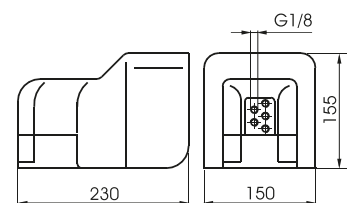
3 ways



Weight 1120 g

228.32.10/1

5 ways



Weight 1120 g

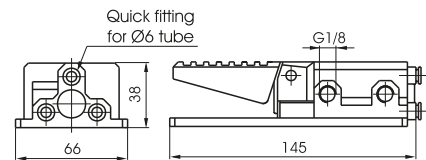
228.52.10/1

Pedal plastic miniaturized - Spring

Coding: 228.52.10.F

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

FUNCTION	
F	1P = Standard version
	1PX = Stainless steel spool



Weight 230 g

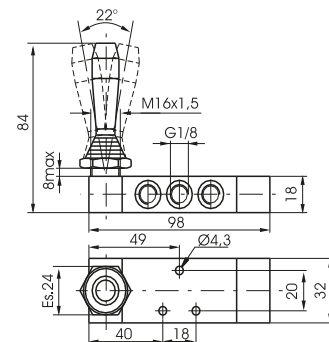
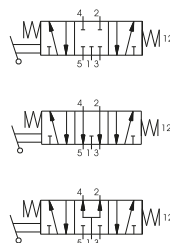


Lever lateral spring centre 3 positions

Coding: 228.53.F.9.1/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
LEVER COLOR	
C	1 = Red
	2 = Black
	3 = Green



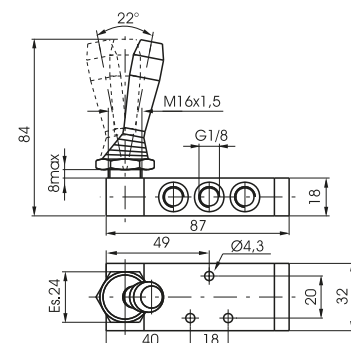
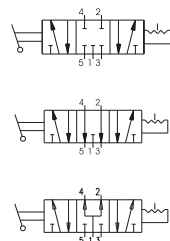
Weight 190 g

Lever lateral 3 positions detent

Coding: 228.53.F.9/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
LEVER COLOR	
C	1 = Red
	2 = Black
	3 = Green



Weight 160 g



1
AIR DISTRIBUTION

Lever central (spring 3 pos.) Operator, Levar, Spole in Technopolymer

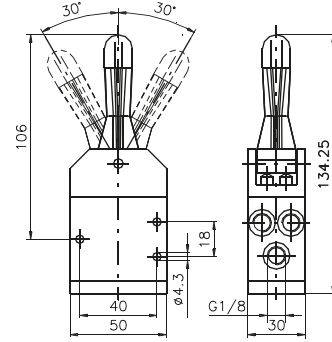
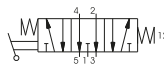
Coding: 228.53.32.99P/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	410
Orifice size (mm)	6
Working ports size	G1/8"

LEVER COLOR	
1	= Red
2	= Black



Weight 140 g



Lever central (spring 3 pos.) Levar in Technopolymer

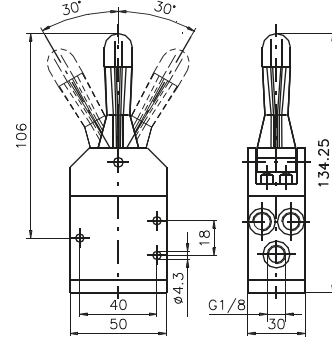
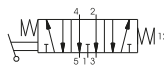
Coding: 228.53.32.99/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	410
Orifice size (mm)	6
Working ports size	G1/8"

LEVER COLOR	
1	= Red
2	= Black



Weight 140 g



Lever central Metal (spring 3 pos.) One position stable

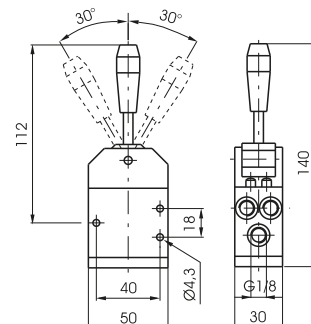
Coding: 228.53.32.99/C.S

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	410
Orifice size (mm)	6
Working ports size	G1/8"

LEVER COLOR	
1	= Red
2	= Black



Weight 140 g



Lever central Metal

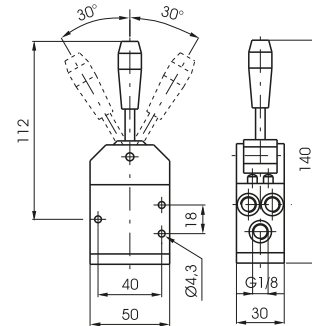
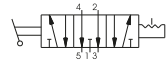
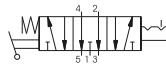
Coding: 228.53.32.99.F/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	410
Orifice size (mm)	6
Working ports size	G1/8"

F	FUNCTION
	2 = 2 Stable positions
	3 = 3 pos. stable
C	LEVER COLOR
	1 = Red 2 = Black



Weight 140 g



1
AIR DISTRIBUTION

Pedal - Spring 3 positions

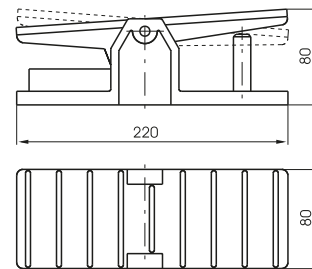
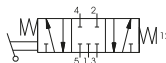
Coding: 228.53.F.10.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	410
Orifice size (mm)	6
Working ports size	G1/8"

F	FUNCTION
	31 = Closed centres
	32 = Open centres



Weight 810 g



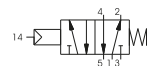
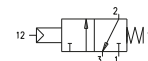
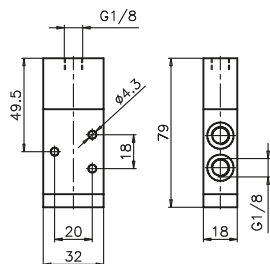
Pneumatic - Spring

Coding: 228.11.1

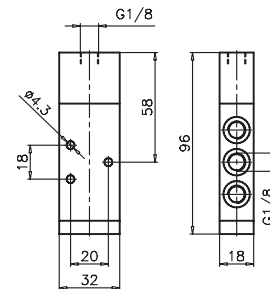
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"
Pilot ports size	G1/8"

TYPE
① 32 = 3 ways
52 = 5 ways


3 ways

 Weight 110 g
 Minimum piloting pressure 2,5 bar

228.32.11.1

5 ways

 Weight 130 g
 Minimum piloting pressure 2,5 bar

228.52.11.1

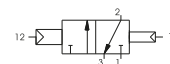
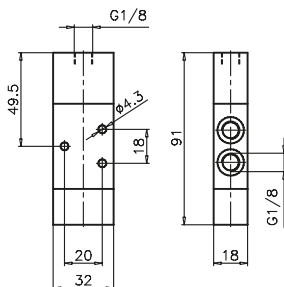
Pneumatic - Differential external

Coding: 228.11.12

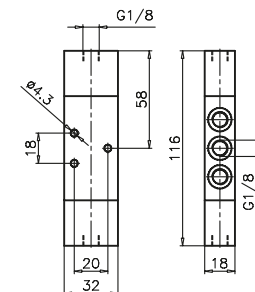
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"
Pilot ports size	G1/8"

TYPE
① 32 = 3 ways
52 = 5 ways


3 ways

 Weight 140 g
 Minimum piloting pressure 2,5 bar

228.32.11.12

5 ways

 Weight 160 g
 Minimum piloting pressure 2,5 bar

228.52.11.12

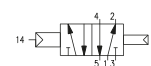
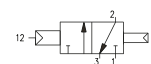
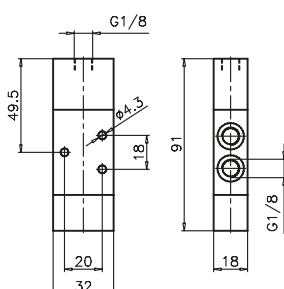
Pneumatic - Differential self aligned

Coding: 228.11.12/1

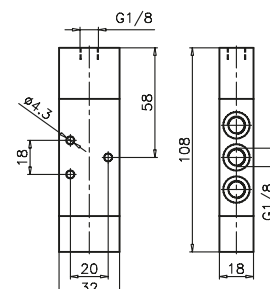
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"
Pilot ports size	G1/8"

TYPE
① 32 = 3 ways
52 = 5 ways


3 ways

 Weight 130 g
 Minimum piloting pressure 2,5 bar

228.32.11.12/1

5 ways

 Weight 150 g
 Minimum piloting pressure 2,5 bar

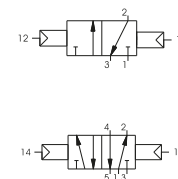
228.52.11.12/1

Pneumatic - Pneumatic

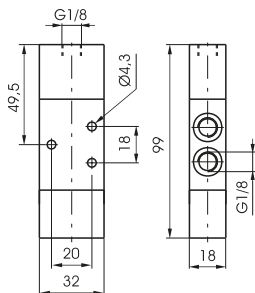
Coding: 228.1.11.11

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"
Pilot ports size	G1/8"

TYPE	
32	= 3 ways
52	= 5 ways



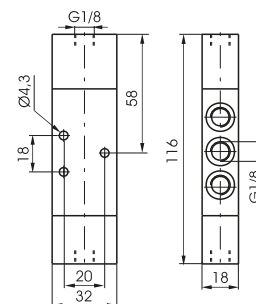
3 ways



Weight 140 g
Minimum piloting pressure 2 bar

228.32.11.11

5 ways



Weight 160 g
Minimum piloting pressure 2 bar

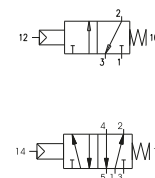
228.52.11.11

Amplified pneumatic - Spring

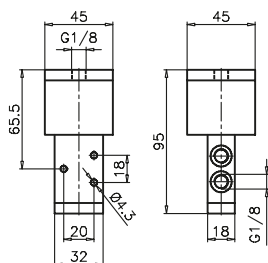
Coding: 228.1.13.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"
Pilot ports size	G1/8"

TYPE	
32	= 3 ways
52	= 5 ways



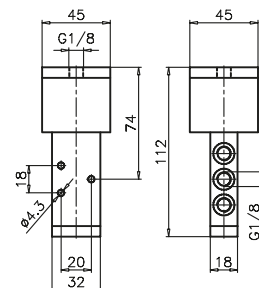
3 ways



Weight 260 g
Minimum piloting pressure 0,5 bar

228.32.13.1

5 ways



Weight 290 g
Minimum piloting pressure 0,5 bar

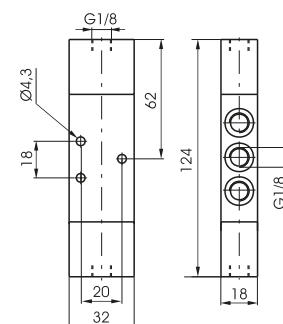
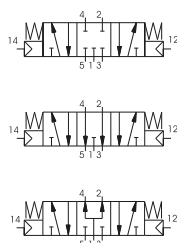
228.52.13.1

Pneumatic - Pneumatic 5 ways 3 connections

Coding: 228.53.F.11.11

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	410
Orifice size (mm)	6
Working ports size	G1/8"
Pilot ports size	G1/8"

FUNCTION	
31	= Closed centres
32	= Open centres
33	= Pressured centres



Weight 180 g
Minimum piloting pressure 3 bar

228.53.F.11.11

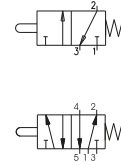
Tappet panel - Spring

Coding: 224.1.1

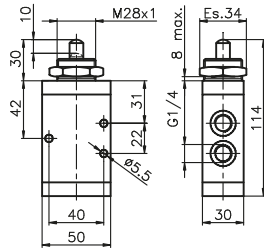
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"

TYPE	
① 32 = 3 ways	
52 = 5 ways	



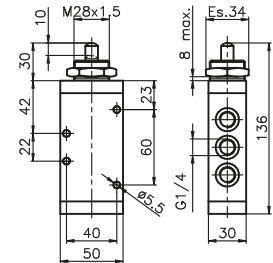
3 ways



Weight 370 g
Operating force 71,5 N

224.32.1.1

5 ways



Weight 455 g
Operating force 71,5 N

224.52.1.1

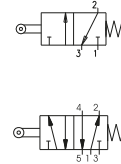
Lever roller - Spring

Coding: 224.2.1

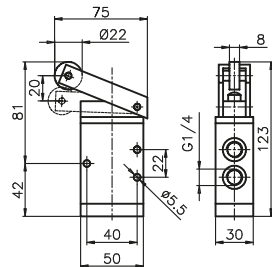
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"

TYPE	
① 32 = 3 ways	
52 = 5 ways	



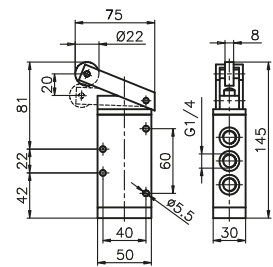
3 ways



Weight 510 g
Operating force 35 N

224.32.2.1

5 ways



Weight 595 g
Operating force 35 N

224.52.2.1

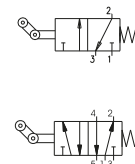
Lever roller unidirectional - Spring

Coding: 224.3.1

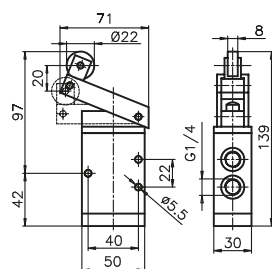
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"

TYPE	
① 32 = 3 ways	
52 = 5 ways	



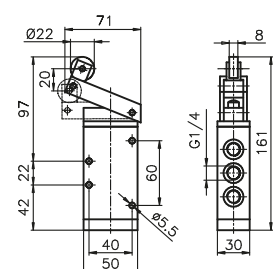
3 ways



Weight 525 g
Operating force 35 N

224.32.3.1

5 ways



Weight 610 g
Operating force 35 N

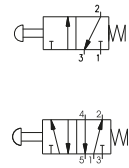
224.52.3.1

Push button - Spring

Coding: 224.1.8.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"

TYPE	
32	= 3 ways
52	= 5 ways

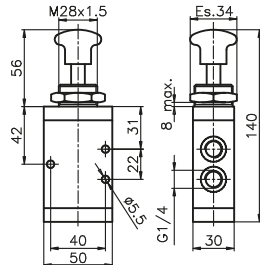


3 ways



Weight 395 g
Operating force 71,5 N

224.32.8.1

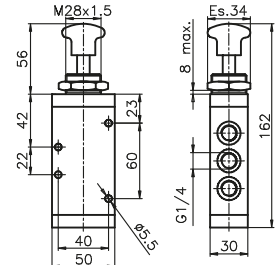


5 ways



Weight 480 g
Operating force 71,5 N

224.52.8.1

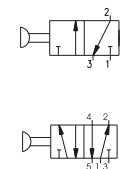


Push button 2 positions

Coding: 224.1.8

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"

TYPE	
32	= 3 ways
52	= 5 ways

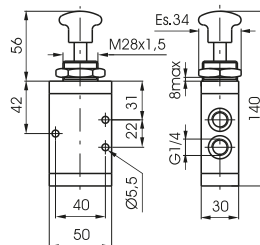


3 ways



Weight 385 g
Operating force 13 N

224.32.8

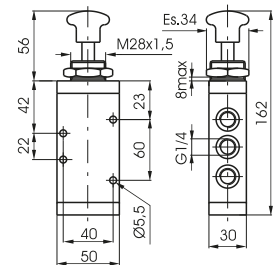


5 ways



Weight 470 g
Operating force 13 N

224.52.8

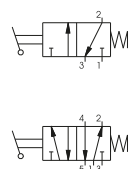


Lever lateral - Spring

Coding: 224.1.9.1/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"

TYPE	
32	= 3 ways
52	= 5 ways
LEVER COLOR	
1	= Red
2	= Black
3	= Green

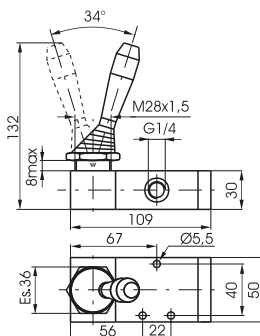


3 ways



Weight 520 g

224.32.9.1/C

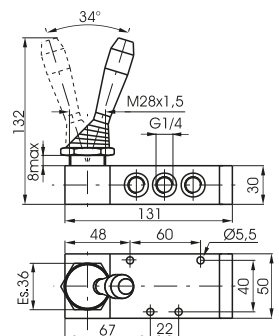


5 ways



Weight 605 g

224.52.9.1/C



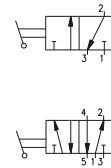
Lever lateral 2 positions

Coding: 224.●.9/●

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"

TYPE	32 = 3 ways 52 = 5 ways
LEVER COLOR	1 = Red 2 = Black 3 = Green



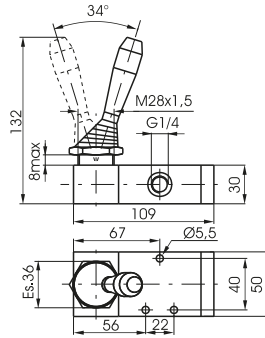
AIR DISTRIBUTION

3 ways



Weight 510 g

224.32.9/●

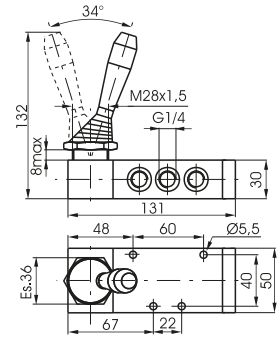


5 ways



Weight 595 g

224.52.9/●



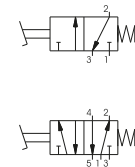
Pedal aluminium - Spring

Coding: 224.●.10.1

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"

TYPE	32 = 3 ways 52 = 5 ways
------	----------------------------

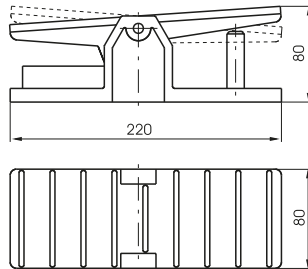


3 ways



Weight 1070 g

224.32.10.1

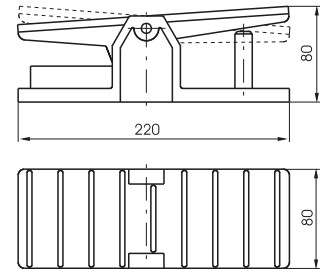


5 ways



Weight 1155 g

224.52.10.1



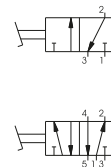
Pedal aluminium 2 positions

Coding: 224.●.10

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"

TYPE	32 = 3 ways 52 = 5 ways
------	----------------------------

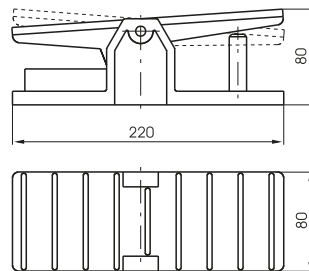


3 ways



Weight 1060 g

224.32.10

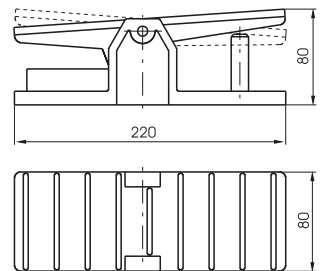


5 ways



Weight 1145 g

224.52.10



Lateral Lever spring - 3 positions

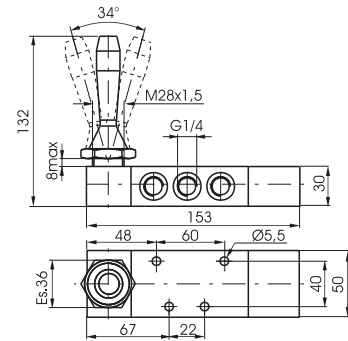
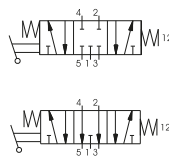
Coding: 224.53.F.9.1/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1280
Orifice size (mm)	8
Working ports size	G1/4"

F	FUNCTION
	31 = Closed centres 32 = Open centres
C	LEVER COLOR
	1 = Red 2 = Black 3 = Green



Weight 745 g



Lever lateral 3 positions detent

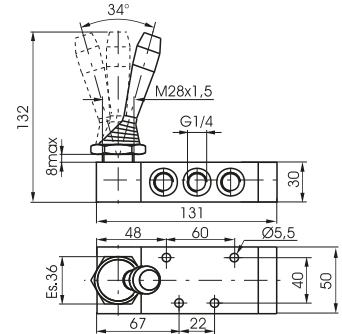
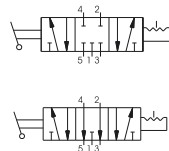
Coding: 224.53.F.9/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1280
Orifice size (mm)	8
Working ports size	G1/4"

F	FUNCTION
	31 = Closed centres 32 = Open centres
C	LEVER COLOR
	1 = Red 2 = Black 3 = Green



Weight 605 g



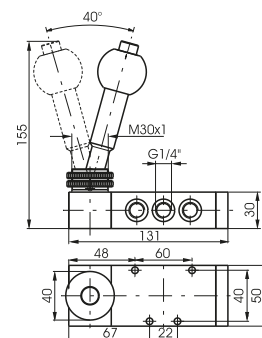
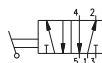
Lever lateral with locking device - 2 positions

Coding: 224.52.9.2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1020
Orifice size (mm)	8
Working ports size	G1/4"



Weight 825 g



1
AIR DISTRIBUTION

Lever lateral with locking device - Spring 3 positions

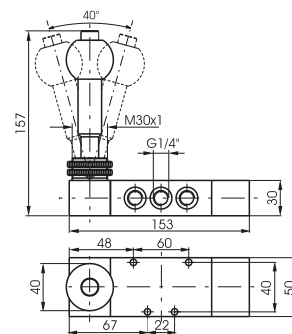
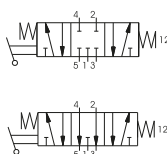
Coding: 224.53.F.9.2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1020
Orifice size (mm)	8
Working ports size	G1/4"

FUNCTION	
F	31 = Closed centres
	32 = Open centres



Weight 965 g



Pedal - Spring 3 positions

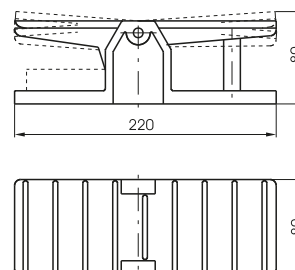
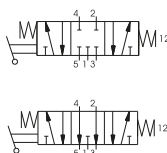
Coding: 224.53.F.10.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1280
Orifice size (mm)	8
Working ports size	G1/4"

FUNCTION	
F	31 = Closed centres
	32 = Open centres



Weight 1285 g



Pedal 3 positions

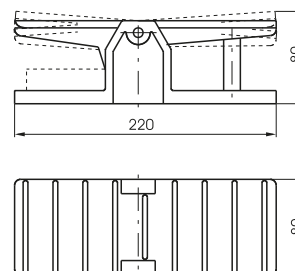
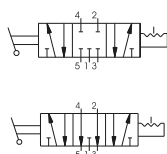
Coding: 224.53.F.10

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1280
Orifice size (mm)	8
Working ports size	G1/4"

FUNCTION	
F	31 = Closed centres
	32 = Open centres



Weight 1145 g

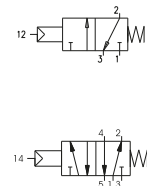


Pneumatic - Spring

Coding: 224.11.1

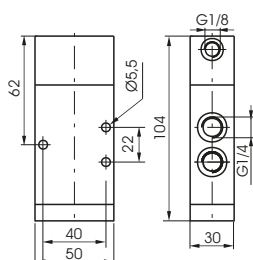
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"
Pilot ports size	G1/8"

TYPE	
32	= 3 ways
52	= 5 ways



Weight 370 g
Minimum piloting pressure 2,5 bar

224.32.11.1

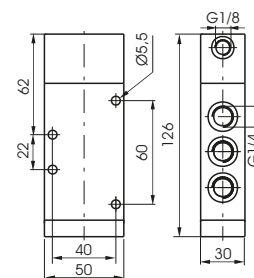


5 ways



Weight 450 g
Minimum piloting pressure 2,5 bar

224.52.11.1

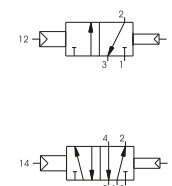


Pneumatic - Differential external

Coding: 224.11.12

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	11
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"
Pilot ports size	G1/8"

TYPE	
32	= 3 ways
52	= 5 ways

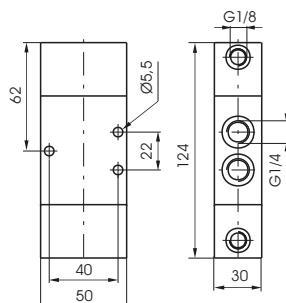


3 ways



Weight 480 g
Minimum piloting pressure 2,5 bar

224.32.11.12

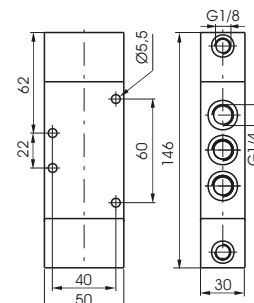


5 ways



Weight 550 g
Minimum piloting pressure 2,5 bar

224.52.11.12

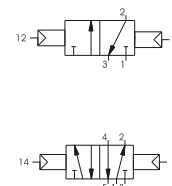


Pneumatic - Pneumatic

Coding: 224.11.11

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	12
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"
Pilot ports size	G1/8"

TYPE	
32	= 3 ways
52	= 5 ways

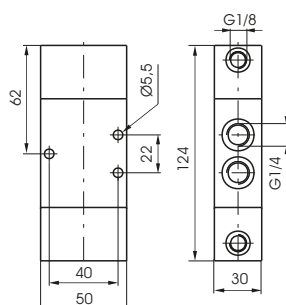


3 ways



Weight 470 g
Minimum piloting pressure 2 bar

224.32.11.11

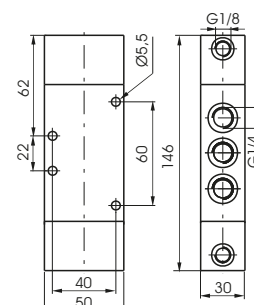


5 ways



Weight 540 g
Minimum piloting pressure 2 bar

224.52.11.11





Pneumatic - Pneumatic 5 ways 3 connections

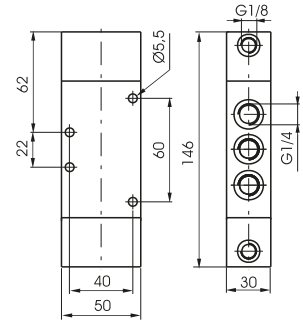
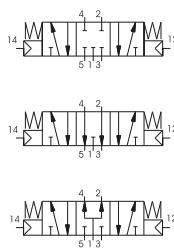
Coding: 224.53.F.11.11

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	13
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1280
Orifice size (mm)	8
Working ports size	G1/4"
Pilot ports size	G1/8"

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres

1
AIR DISTRIBUTION



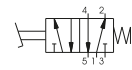
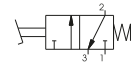
Weight 550 g
 Minimum piloting pressure 3 bar

Pedal protected 2 positions

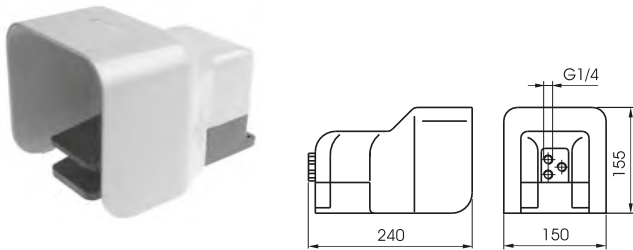
Coding: 214. **T**.10/1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"

T	TYPE
	32 = 3 ways
	52 = 5 ways



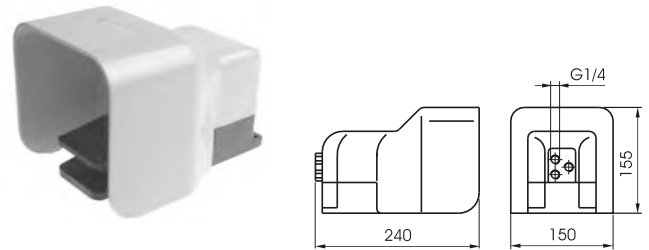
3 ways



Weight 1730 g

214.32.10. **V**

5 ways



Weight 1730 g

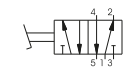
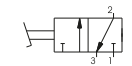
214.52.10. **V**

Pedal protected - Spring

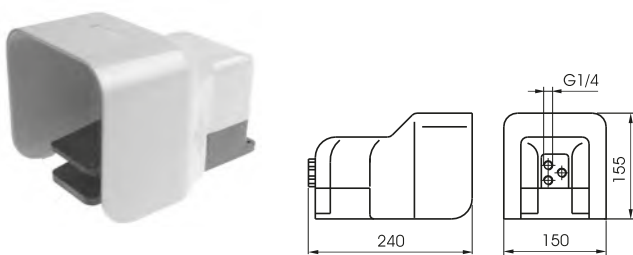
Coding: 214. **T**.10. **V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1360
Orifice size (mm)	8
Working ports size	G1/4"

T	TYPE
	32 = 3 ways
	52 = 5 ways
V	VERSION
	1/1 = Standard version
	2/1 = without safety device



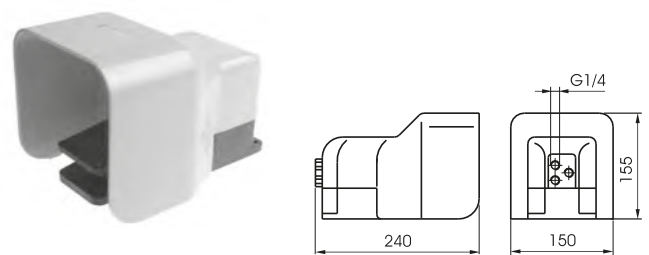
3 ways



Weight 1730 g

214.32.10/1

5 ways



Weight 1730 g

214.52.10/1

1
AIR DISTRIBUTION

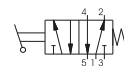
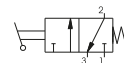
Lever lateral - Spring

Coding: 212. **T**.9.1

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	3500
Orifice size (mm)	15
Working ports size	G1/2"

TYPE
T 32 = 3 ways
52 = 5 ways

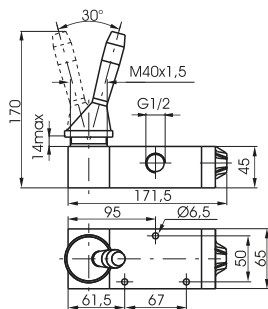


3 ways



Weight 1480 g

212.32.9.1

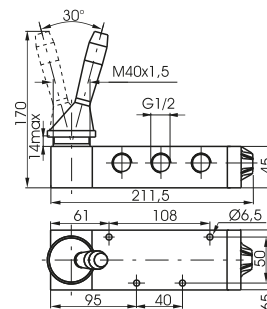


5 ways



Weight 1765 g

212.52.9.1



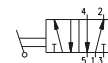
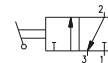
Lever lateral 2 positions

Coding: 212. **T**.9

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	3500
Orifice size (mm)	15
Working ports size	G1/2"

TYPE
T 32 = 3 ways
52 = 5 ways

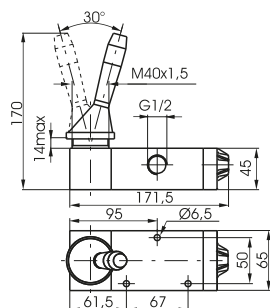


3 ways



Weight 1460 g

212.32.9

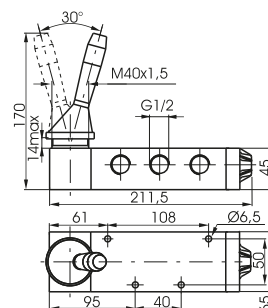


5 ways



Weight 1745 g

212.52.9



Lever lateral spring centre 3 positions

Coding: 212.53. **F**.9.1

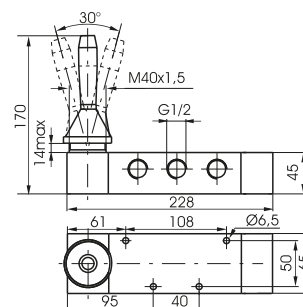
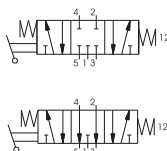
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	3000
Orifice size (mm)	15
Working ports size	G1/2"

FUNCTION
F 31 = Closed centres
32 = Open centres



Weight 2100 g



AIR DISTRIBUTION

Lever lateral 3 positions detent

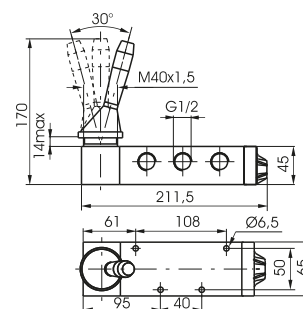
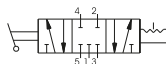
Coding: 212.53.ⓕ.9

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (Nl/min)	3000
Orifice size (mm)	15
Working ports size	G1/2"

FUNCTION	
ⓕ	31 = Closed centres
	32 = Open centres



Weight 1765 g



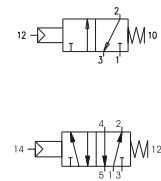
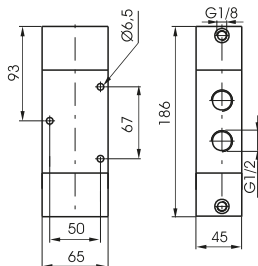
Pneumatic - Spring

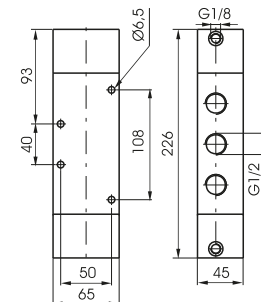
Coding: 212.11.1

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	3500
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	


3 ways

 Weight 1110 g
 Minimum piloting pressure 2,5 bar

212.32.11.1
5 ways

 Weight 1390 g
 Minimum piloting pressure 2,5 bar

212.52.11.1

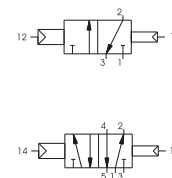
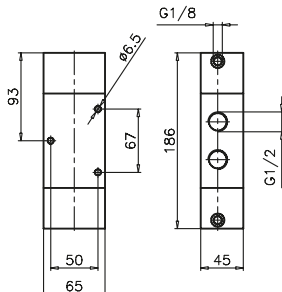
Pneumatic - Differential external

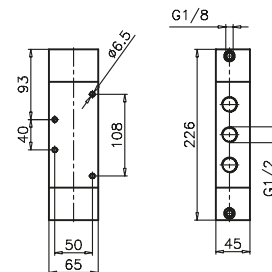
Coding: 212.11.12

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	3500
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	


3 ways

 Weight 1380 g
 Minimum piloting pressure 2,5 bar

212.32.11.12
5 ways

 Weight 1660 g
 Minimum piloting pressure 2,5 bar

212.52.11.12

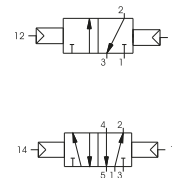
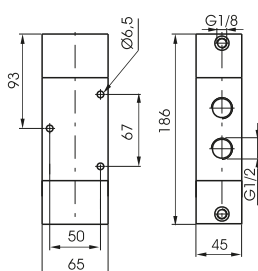
Pneumatic - Pneumatic

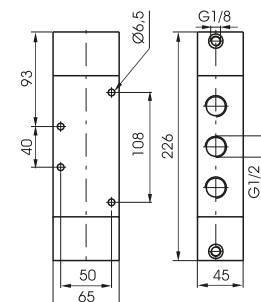
Coding: 212.11.11

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	3500
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	


3 ways

 Weight 1350 g
 Minimum piloting pressure 2 bar

212.32.11.11
5 ways

 Weight 1630 g
 Minimum piloting pressure 2 bar

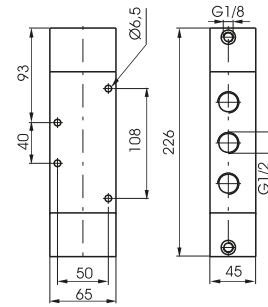
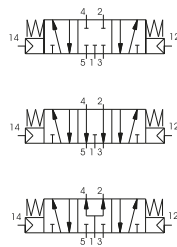
212.52.11.11

Pneumatic - Pneumatic 5 ways 3 connections

Coding: 212.53.Ⓕ.11.11

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (Nl/min)	3000
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

FUNCTION	
Ⓕ1	= Closed centres
Ⓕ2	= Open centres
Ⓕ3	= Pressured centres



Weight 1650 g
Minimum piloting pressure 3 bar

1
AIR DISTRIBUTION

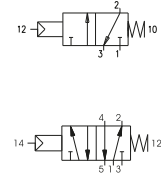
Pneumatic - Differential external

Coding: 212/2.11.1

Operational characteristics

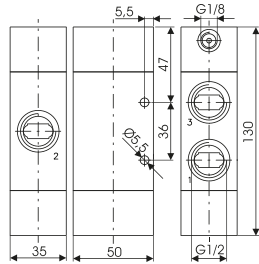
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

TYPE	
32 = 3 ways	
52 = 5 ways	



AIR DISTRIBUTION

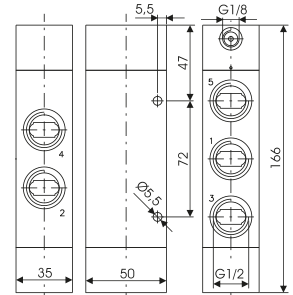
3 ways



Weight 524 g
Minimum piloting pressure 2,5 bar

212/2.32.11.1

5 ways



Weight 644 g
Minimum piloting pressure 2,5 bar

212/2.52.11.1

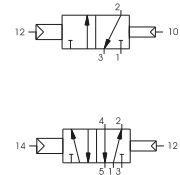
Pneumatic - Differential self aligned

Coding: 212/2.11.12

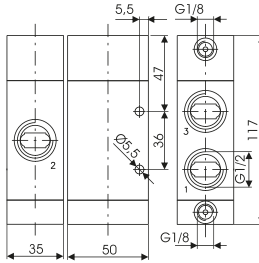
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

TYPE	
32 = 3 ways	
52 = 5 ways	



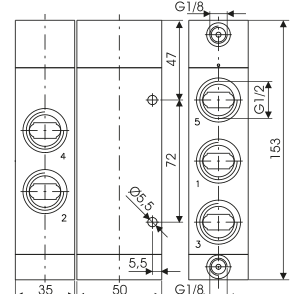
3 ways



Weight 464 g
Minimum piloting pressure 2,5 bar

212/2.32.11.12

5 ways



Weight 586 g
Minimum piloting pressure 2,5 bar

212/2.52.11.12

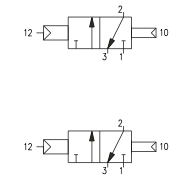
Pneumatic - Pneumatic

Coding: 212/2.11.12.F

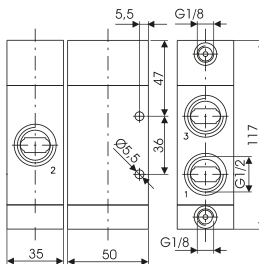
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

TYPE	
32 = 3 ways	
52 = 5 ways	
FUNCTION	
1.C = Normally closed	
1.A = Normally open	
1 = Self-feeding	



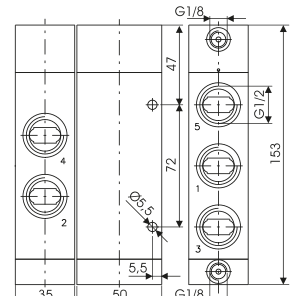
3 ways



Weight 466 g
Minimum piloting pressure 2,5 bar

212/2.32.11.12/F

5 ways



Weight 588 g
Minimum piloting pressure 2,5 bar

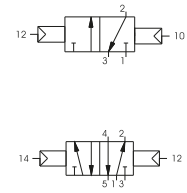
212/2.52.11.12/F

Amplified pneumatic - Spring

Coding: 212/2.11.11

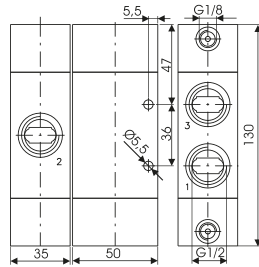
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

TYPE	
32	= 3 ways
52	= 5 ways



Weight 518 g
Minimum piloting pressure 2,5 bar

212/2.32.11.11

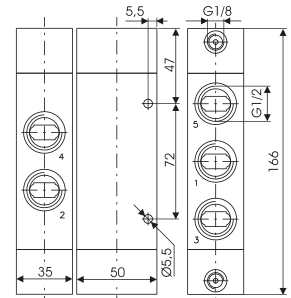


5 ways



Weight 640 g
Minimum piloting pressure 2,5 bar

212/2.52.11.11



1

AIR DISTRIBUTION

Pneumatic - Pneumatic 5 ways 3 connections

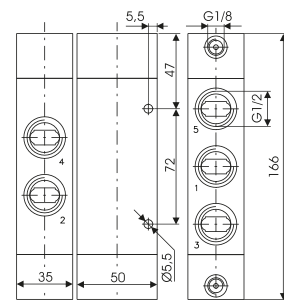
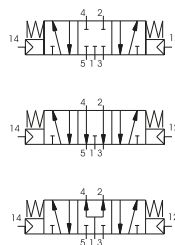
Coding: 212/2.53.11.11

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	3300
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

FUNCTION	
31	= Closed centres
32	= Open centres
33	= Pressured centres



Weight 684 g
Minimum piloting pressure 3 bar



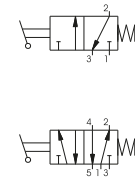
Lever lateral - Spring

Coding: 211.1.9.1

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	6500
Orifice size (mm)	20
Working ports size	G1"

TYPE
① 32 = 3 ways
52 = 5 ways

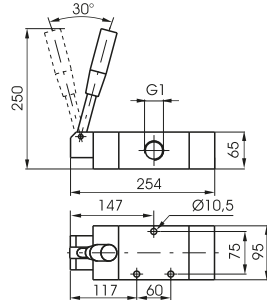


3 ways



Weight 4300 g

211.32.9.1

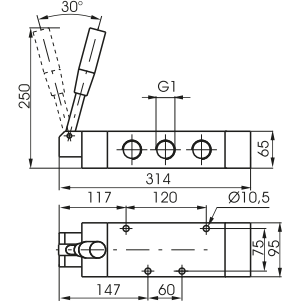


5 ways



Weight 4900 g

211.52.9.1



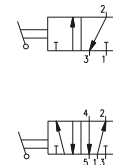
Lever lateral 2 positions

Coding: 211.1.9

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	6500
Orifice size (mm)	20
Working ports size	G1"

TYPE
① 32 = 3 ways
52 = 5 ways

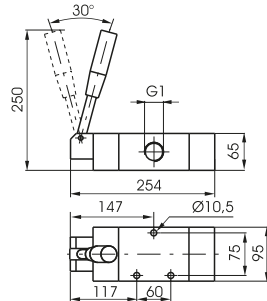


3 ways



Weight 4300 g

211.32.9

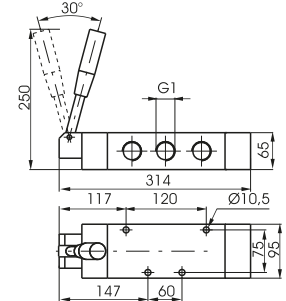


5 ways



Weight 4900 g

211.52.9



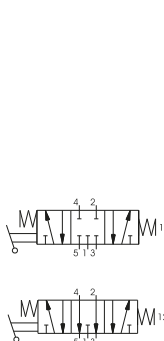
Lever lateral spring centre 3 positions

Coding: 211.53.1.9.1

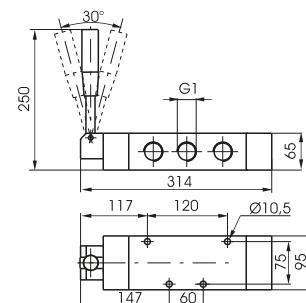
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	6500
Orifice size (mm)	20
Working ports size	G1"

FUNCTION
② 31 = Closed centres
32 = Open centres



Weight 5000 g

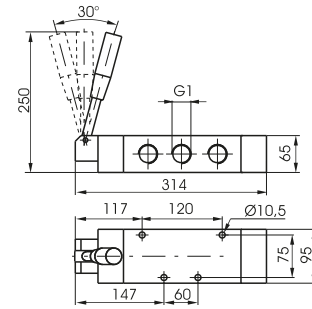
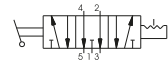
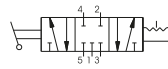


Lever lateral 3 positions detent

Coding: 211.53.F.9

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (l/min)	6500
Orifice size (mm)	20
Working ports size	G1"

FUNCTION	
F	31 = Closed centres
	32 = Open centres



Weight 5000 g

1
AIR DISTRIBUTION



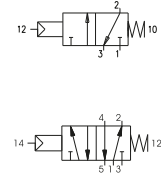
Pneumatic - Spring

Coding: 211.1.11.1

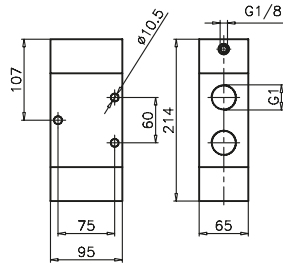
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	6500
Orifice size (mm)	20
Working ports size	G1"
Pilot ports size	G1/8"

TYPE	
32 = 3 ways	
52 = 5 ways	



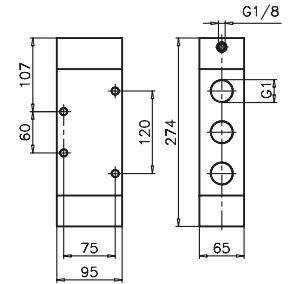
3 ways



Weight 3330 g
Minimum piloting pressure 2,5 bar

211.32.11.1

5 ways



Weight 4200 g
Minimum piloting pressure 2,5 bar

211.52.11.1

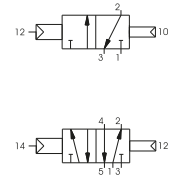
Pneumatic - Differential external

Coding: 211.1.11.12

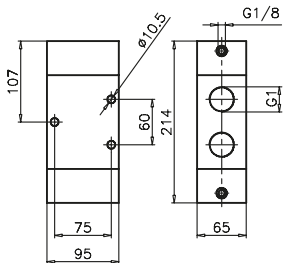
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	6500
Orifice size (mm)	20
Working ports size	G1"
Pilot ports size	G1/8"

TYPE	
32 = 3 ways	
52 = 5 ways	



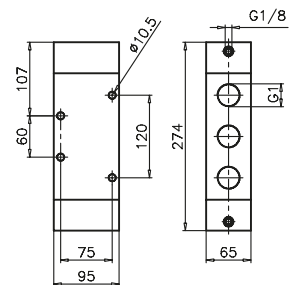
3 ways



Weight 3330 g
Minimum piloting pressure 2,5 bar

211.32.11.12

5 ways



Weight 4200 g
Minimum piloting pressure 2,5 bar

211.52.11.12

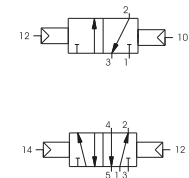
Pneumatic - Pneumatic

Coding: 211.1.11.11

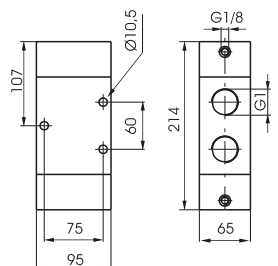
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	6500
Orifice size (mm)	20
Working ports size	G1"
Pilot ports size	G1/8"

TYPE	
32 = 3 ways	
52 = 5 ways	



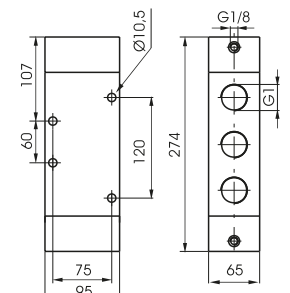
3 ways



Weight 3330 g
Minimum piloting pressure 2 bar

211.32.11.11

5 ways



Weight 4200 g
Minimum piloting pressure 2 bar

211.52.11.11

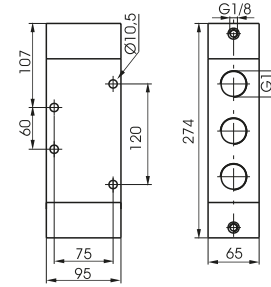
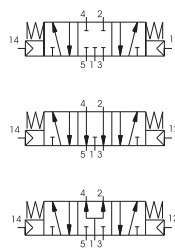
1 AIR DISTRIBUTION

Pneumatic - Pneumatic 5 ways 3 connections

Coding: 211.53.F.11.11

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (l/min)	6500
Orifice size (mm)	20
Working ports size	G1"
Pilot ports size	G1/8"

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres



Weight 4200 g
Minimum piloting pressure 3 bar

1
AIR DISTRIBUTION



Series T200

General

The **T200** series, consist of a broad range of valves with various type of actuation. The connections for this series are from G 1/8" to G 1/4". The main components constituting the valves of the Tecno228 series are manufactured with high performance technopolymer. The use of technopolymer has resulted in a light weight product which can be offered to the market at very interesting prices. The **T228** series, is manufactured with 1/8" connections, 3 and 5 ways function, mechanical or pneumatically operated, monostable spring or pneumatic return, bistable and in 5 ways 3 positions version with closed, open and pressured centres. This series is completely interchangeable with the standard 228 series (with aluminium body). The **T224** valves and solenoid valves series, are manufactured with 1/4" connections. Depending on version and actuation (manual, pneumatic, or electrical), and self aligning (pneu - elect, spring) 3/2, 5/2 and 5/3 ways function, (monostable), (bistable). The gang mounted solenoid valves are available with the traditional manifold obtained from bored square bar of series 600 and with the extruded aluminium base allowing a unic inlet port conveying the exhausts. The base is also prearranged to be fixed on DIN 46277/3 guide.

Maximum fitting torque

Thread	Maximum torque (Nm)
G 1/8"	4
G1/4"	9

Construction characteristics

	G 1/8" (T228) and G 1/4" (T224)
Body	Technopolymer
Operators	Technopolymer
Seals	NBR
Spacer	Technopolymer
Spools	Technopolymer Stainless steel only for the versions Push button-Spring and Lever lateral
Springs	Spring steel
Pistons	Technopolymer

Use and maintenance

This valves have an average life of 15 million cycles depending on the application and air quality. Filtered and lubricated air using specified lubricants will reduce the wear of the seals and ensures long and trouble free operation. Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature. The exhaust port of the distributor has to be protected in a dusty and dirty environment. Repair kits including the spool complete with seals are available for overhauling the valves. However, although this is a simple operation it should be carried out by a competent person.

ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).

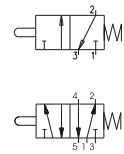
Tappet - Spring

Coding: T228.1.0.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
32	= 3 ways
52	= 5 ways

Operating force 33 N

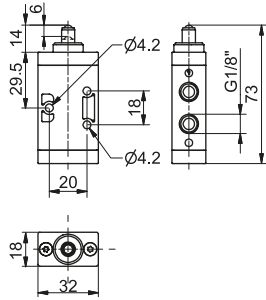


3 ways



Weight 60 g

T228.32.0.1

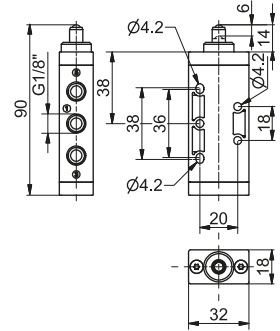


5 ways



Weight 72 g

T228.52.0.1



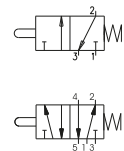
Tappet panel - Spring

Coding: T228.1.1.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
32	= 3 ways
52	= 5 ways

Operating force 33 N

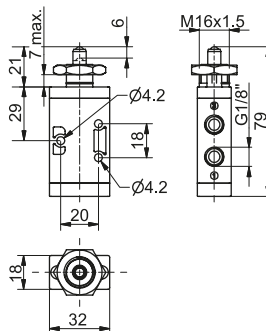


3 ways



Weight 77 g

T228.32.1.1

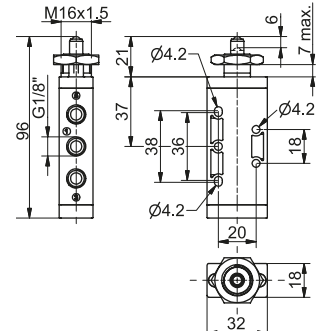


5 ways



Weight 90 g

T228.52.1.1



Lever roller

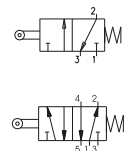
Coding: T228.2.2.V

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
32	= 3 ways
52	= 5 ways

VERSION	
1	= Plastic roller
1/1	= ball bearing
1/2	= Metal roller

Operating force 15 N

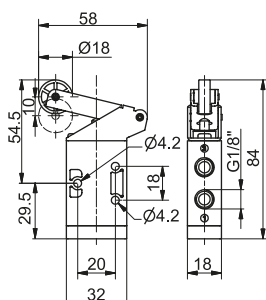


3 ways



Weight 90 g

T228.32.2.V

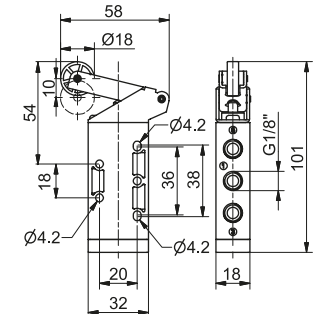


5 ways



Weight 102 g

T228.52.2.V



Lever roller ball bearing - Spring

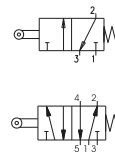
Coding: T228.1.2.1/1

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

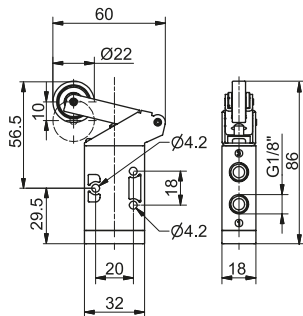
TYPE	
1	32 = 3 ways 52 = 5 ways

Operating force 15 N


3 ways

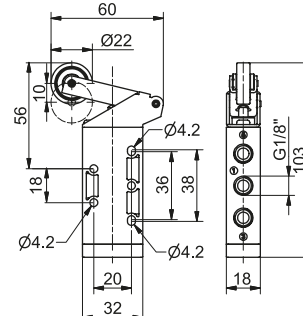

Weight 105 g

T228.32.2.1/1


5 ways


Weight 117 g

T228.52.2.1/1



Lever button - Spring

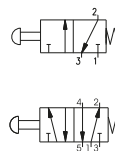
Coding: T228.1.2.6/C

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

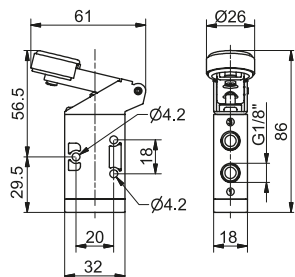
TYPE	
1	32 = 3 ways 52 = 5 ways
LEVER COLOR	
1	Red
2	Black
3	Green

Operating force 15 N


3 ways

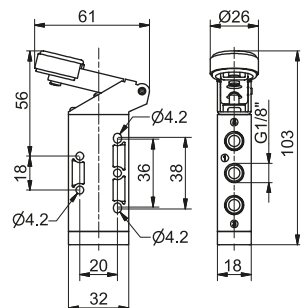

Weight 95 g

T228.32.2.6/C


5 ways


Weight 87 g

T228.52.2.6/C



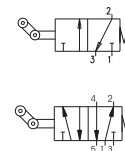
Lever roller unidirectional - Spring

Coding: T228.1.3.V

Operational characteristics

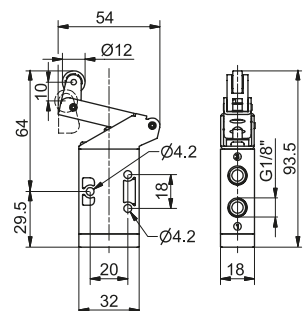
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	
1	32 = 3 ways 52 = 5 ways
VERSION	
1	Plastic roller
1/2	Metal roller


3 ways

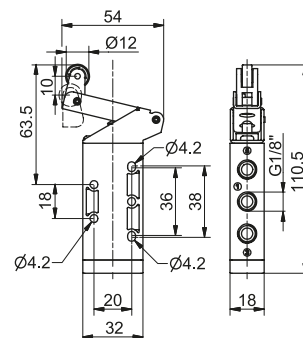

Weight 85 g

T228.32.3.V


5 ways


Weight 97 g

T228.52.3.V

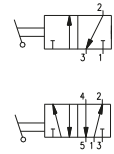


Lever panel Ø30 - 2 positions

Coding: T228.1.5/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

T	TYPE
	32 = 3 ways 52 = 5 ways
C	LEVER COLOR
	1 = Red 2 = Black 3 = Green

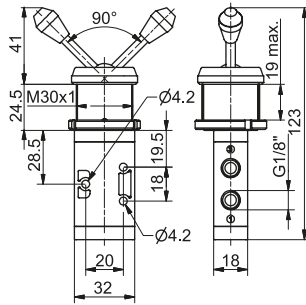


3 ways



Weight 168 g

T228.32.5/C

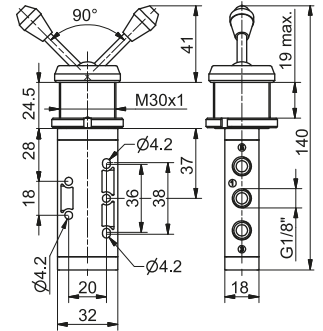


5 ways



Weight 180 g

T228.52.5/C

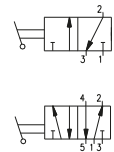


Lever lateral 2 positions

Coding: T228.1.55/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

T	TYPE
	32 = 3 ways 52 = 5 ways
C	LEVER COLOR
	1 = Red 2 = Black 3 = Green

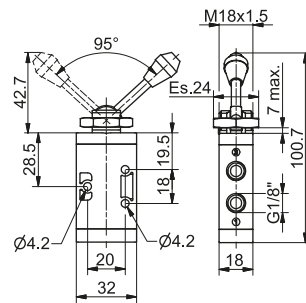


3 ways



Weight 84 g

T228.32.55/C

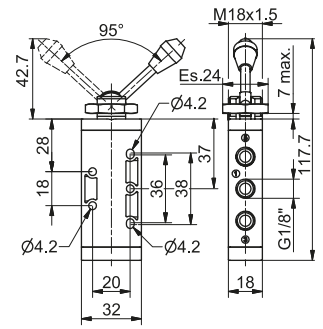


5 ways



Weight 96 g

T228.52.55/C



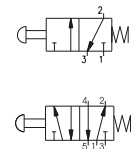
Push button Ø 30 - spring

Coding: T228.1.6.1/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

T	TYPE
	32 = 3 ways 52 = 5 ways
C	BUTTON COLOR
	1 = Red 2 = Black 3 = Green

Operating force 33 N

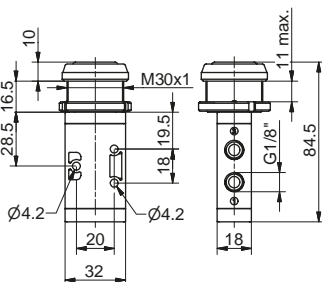


3 ways



Weight 125 g

T228.32.6.1/C

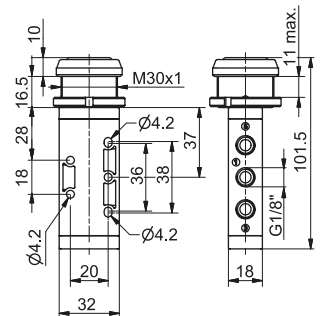


5 ways



Weight 137 g

T228.52.6.1/C





Push button - Spring

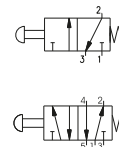
Coding: T228.1.6.22/C

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

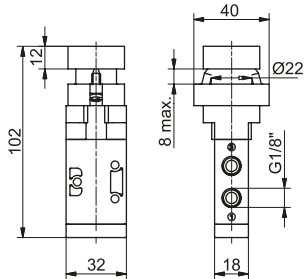
TYPE	32 = 3 ways 52 = 5 ways
BUTTON COLOR	1 = Red 2 = Black 3 = Green 4 = Yellow

Operating force 33 N



AIR DISTRIBUTION

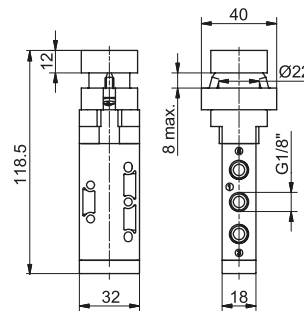
3 ways



Weight 200 g

T228.32.6.22/C

5 ways



Weight 212 g

T228.52.6.22/C

Raised push button Ø22 - Spring

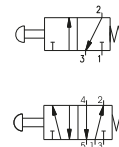
Coding: T228.1.6.23/C

Operational characteristics

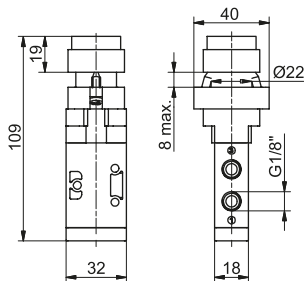
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	32 = 3 ways 52 = 5 ways
BUTTON COLOR	1 = Red 2 = Black 3 = Green 4 = Yellow

Operating force 33 N



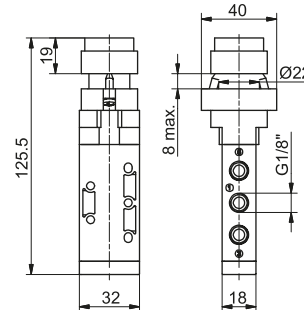
3 ways



Weight 205 g

T228.32.6.23/C

5 ways



Weight 217 g

T228.52.6.23/C

Push button Ø22 - 2 positions

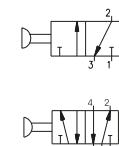
Coding: T228.1.6.25

Operational characteristics

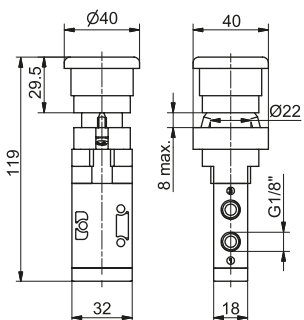
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	32 = 3 ways 52 = 5 ways
------	----------------------------

Operating force 33 N



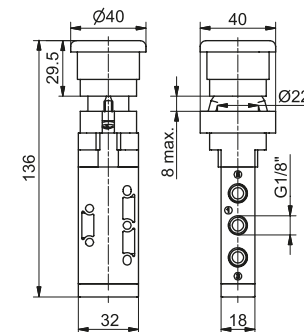
3 ways



Weight 210 g

T228.32.6.25

5 ways



Weight 202 g

T228.52.6.25

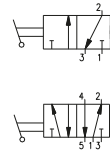
Switch 2 positions

Coding: T228.1.6.27

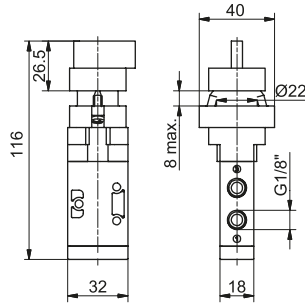
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

T	TYPE
	32 = 3 ways
	52 = 5 ways

Operating force 33 N



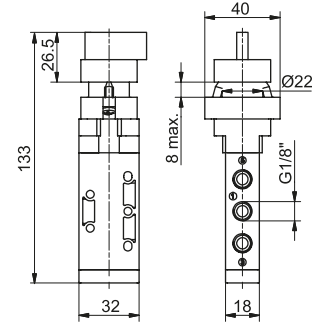
3 ways



Weight 205 g

T228.32.6.27

5 ways



Weight 217 g

T228.52.6.27

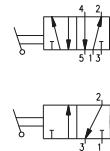
Key switch 2 positions

Coding: T228.1.6.28

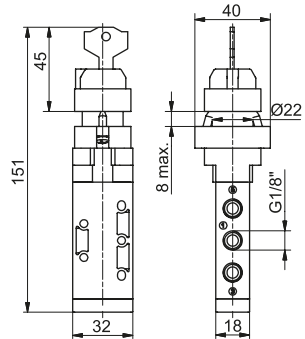
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

T	TYPE
	32 = 3 ways
	52 = 5 ways

Operating force 33 N



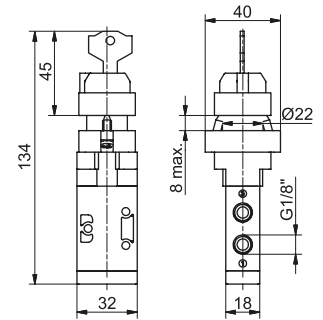
5 ways



Weight 217 g

T228.52.6.28

3 ways



Weight 205 g

T228.32.6.28

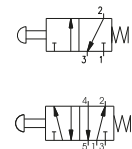
Palm push button Ø30 2 positions

Coding: T228.1.7.1/C

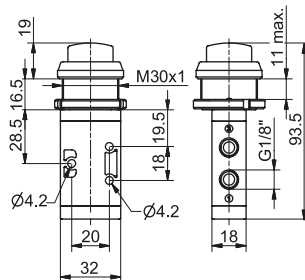
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

T	TYPE
	32 = 3 ways
	52 = 5 ways
C	BUTTON COLOR
	1 = Red
	2 = Black
	3 = Green

Operating force 33 N



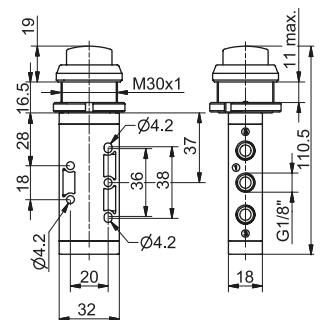
3 ways



Weight 118 g

T228.32.7.1/C

5 ways



Weight 130 g

T228.52.7.1/C

Push button - Spring

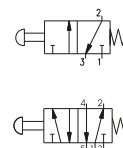
Coding: T228.1.8.1/C

Operational characteristics

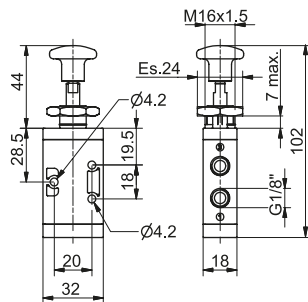
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	32 = 3 ways 52 = 5 ways
BUTTON COLOR	1 = Red 2 = Black 3 = Green

Operating force 33 N



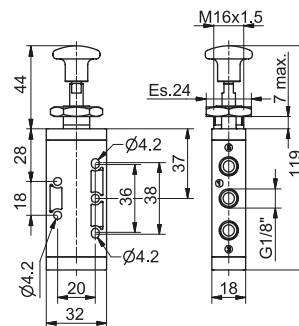
3 ways



Weight 95 g

T228.32.8.1/C

5 ways



Weight 107 g

T228.52.8.1/C

Push button 2 positions

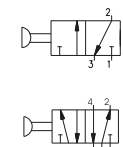
Coding: T228.1.8/C

Operational characteristics

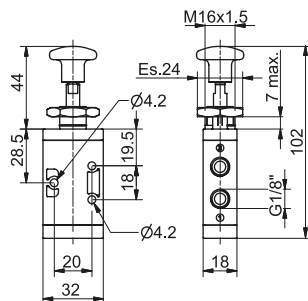
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	32 = 3 ways 52 = 5 ways
BUTTON COLOR	1 = Red 2 = Black 3 = Green

Operating force 10 N



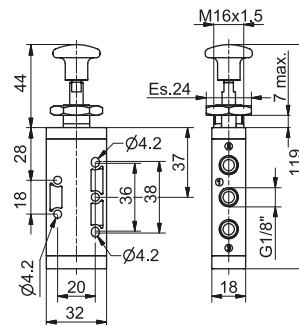
3 ways



Weight 95 g

T228.32.8/C

5 ways



Weight 107 g

T228.52.8/C

Lever lateral - Spring

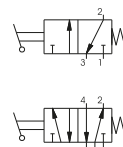
Coding: T228.1.9.1/C

Operational characteristics

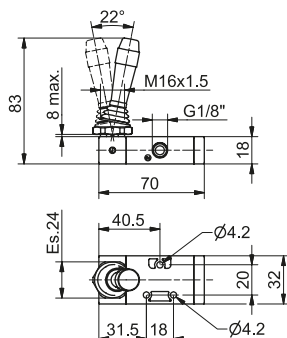
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

TYPE	32 = 3 ways 52 = 5 ways
LEVER COLOR	1 = Red 2 = Black 3 = Green

Operating force 33 N



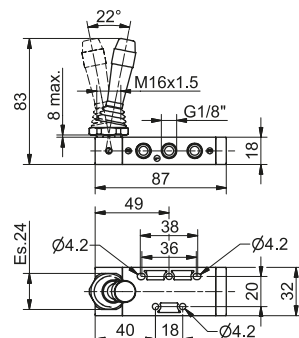
3 ways



Weight 100 g

T228.32.9.1/C

5 ways



Weight 110 g

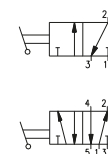
T228.52.9.1/C

Lever lateral 2 positions

Coding: T228.1.9/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"

T	TYPE
	32 = 3 ways
	52 = 5 ways
	LEVER COLOR
C	1 = Red
	2 = Black
	3 = Green

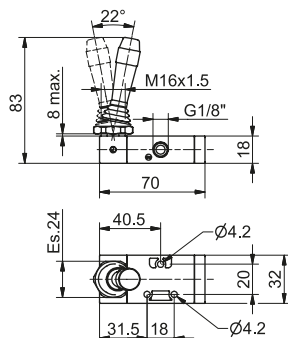


3 ways



Weight 100 g

T228.32.9/C

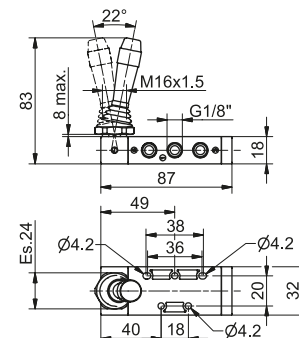


5 ways



Weight 110 g

T228.52.9/C



Lever lateral - Spring 3 positions

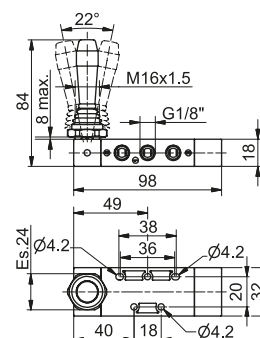
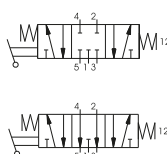
Coding: T228.53.F.9.1.C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	410
Orifice size (mm)	6
Working ports size	G1/8"

F	FUNCTION
	31 = Closed centres
	32 = Open centres
	LEVER COLOR
C	1 = Red
	2 = Black
	3 = Green



Weight 140 g



Lever lateral - Spring 3 positions detent

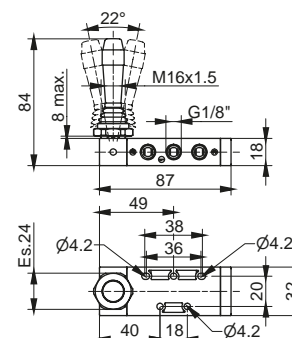
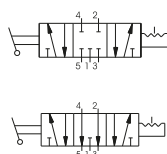
Coding: T228.53.F.9/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	410
Orifice size (mm)	6
Working ports size	G1/8"

F	FUNCTION
	31 = Closed centres
	32 = Open centres
	LEVER COLOR
C	1 = Red
	2 = Black
	3 = Green



Weight 110 g



Pneumatic - Spring

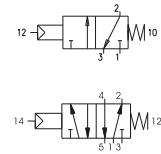
Coding: T228.1.11.1

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"
Pilot ports size	G1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	

Minimum piloting pressure 2,5 bar



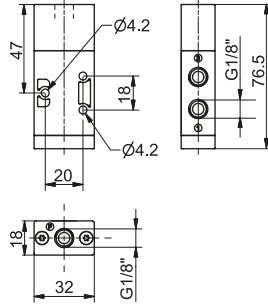
AIR DISTRIBUTION

3 ways



Weight 65 g

T228.32.11.1

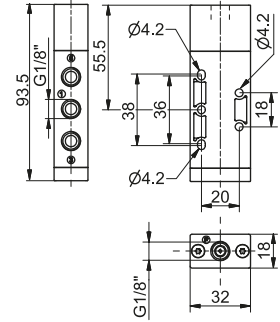


5 ways



Weight 78 g

T228.52.11.1



Pneumatic - Differential external

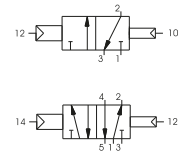
Coding: T228.1.11.12

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"
Pilot ports size	G1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	

Minimum piloting pressure 2,5 bar

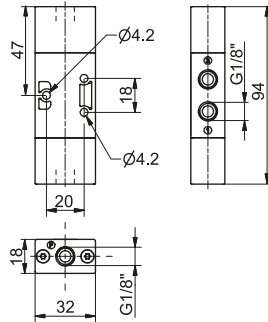


3 ways



Weight 74 g

T228.32.11.12

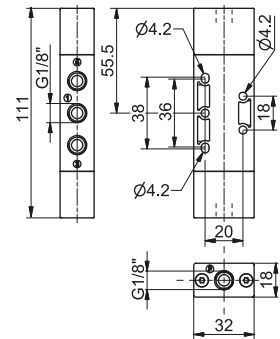


5 ways



Weight 86 g

T228.52.11.12



Pneumatic - Differential self aligned

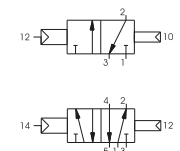
Coding: T228.1.11.12/1

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G1/8"
Pilot ports size	G1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	

Minimum piloting pressure 2,5 bar

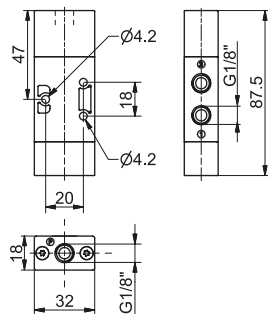


3 ways



Weight 70 g

T228.32.11.12/1

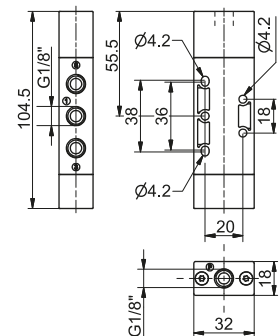


5 ways



Weight 82 g

T228.52.11.12/1



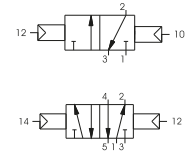
Pneumatic - Pneumatic

Coding: T228.1.11.11

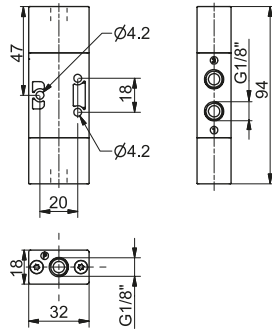
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	620
Orifice size (mm)	6
Working ports size	G1/8"
Pilot ports size	G1/8"

TYPE	
32	= 3 ways
52	= 5 ways

Minimum piloting pressure 2 bar



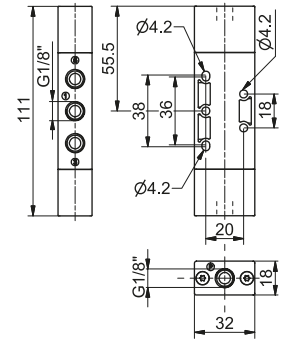
3 ways



Weight 77 g

T228.32.11.11

5 ways



Weight 90 g

T228.52.11.11

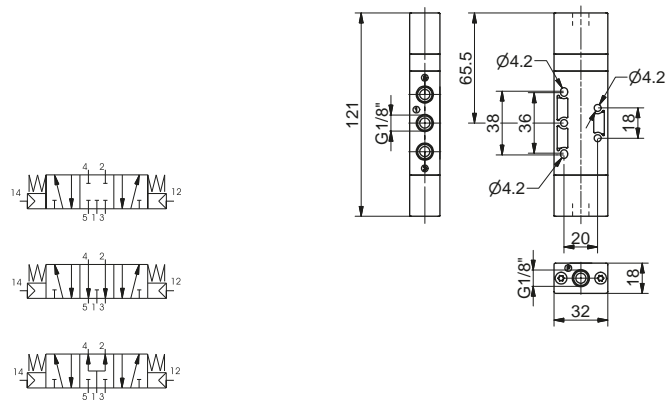
Pneumatic - Pneumatic 3 positions

Coding: T228.53.1.11.11

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	410
Orifice size (mm)	6
Working ports size	G1/8"
Pilot ports size	G1/8"

FUNCTION	
31	= Closed centres
32	= Open centres
33	= Pressured centres

Minimum piloting pressure 3 bar



Weight 110 g

1
AIR DISTRIBUTION

Push button - Spring

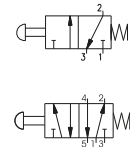
Coding: T224.1.8.1

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1050
Orifice size (mm)	8.5
Working ports size	G1/4"

TYPE	Operating force 50 N
1 32 = 3 ways	
52 = 5 ways	

Operating force 50 N

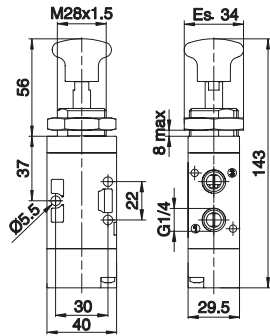


3 ways



Weight 170 g

T224.32.8.1

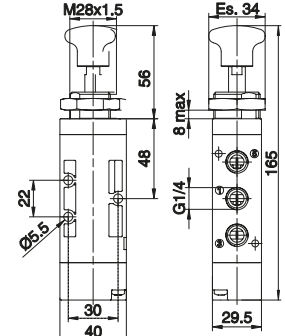


5 ways



Weight 200 g

T224.52.8.1



Push button 2 positions

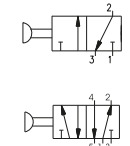
Coding: T224.1.8

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1050
Orifice size (mm)	8.5
Working ports size	G1/4"

TYPE	Operating force 13 N
1 32 = 3 ways	
52 = 5 ways	

Operating force 13 N

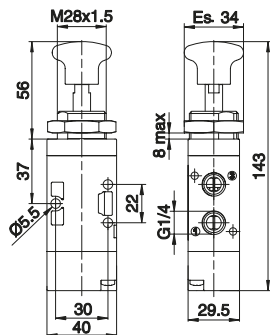


3 ways



Weight 170 g

T224.32.8

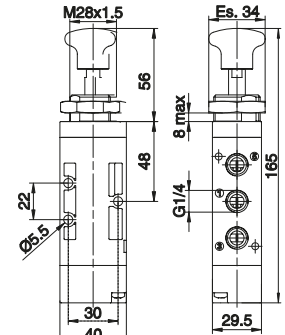


5 ways



Weight 200 g

T224.52.8



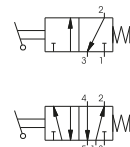
Lever lateral - Spring

Coding: T224.1.9.1/C

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1050
Orifice size (mm)	8.5
Working ports size	G1/4"

TYPE	
1 32 = 3 ways	
52 = 5 ways	
LEVER COLOR	
1 = Red	
2 = Black	
3 = Green	

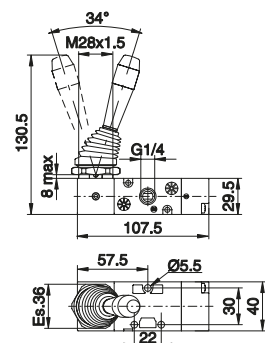


3 ways



Weight 220 g

T224.32.9.1/C

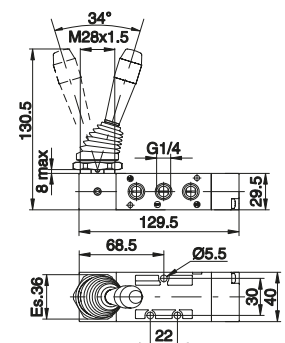


5 ways



Weight 250 g

T224.52.9.1/C

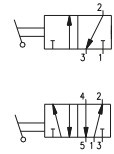


Lever lateral 2 positions

Coding: T224.1.9/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1050
Orifice size (mm)	8.5
Working ports size	G1/4"

T	TYPE
	32 = 3 ways 52 = 5 ways
C	LEVER COLOR
	1 = Red 2 = Black 3 = Green

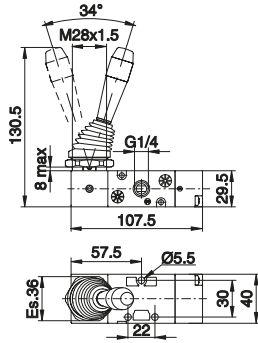


3 ways



Weight 220 g

T224.32.9/C

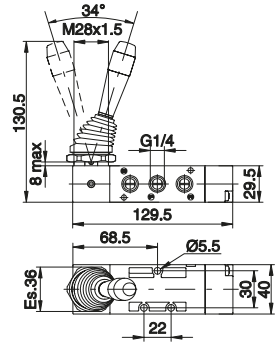


5 ways



Weight 250 g

T224.52.9/C



Lever lateral 3 positions

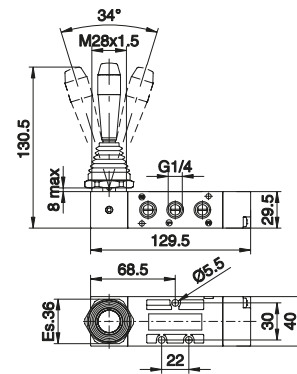
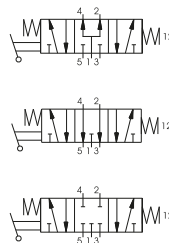
Coding: T224.53.F9.1/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900
Orifice size (mm)	8.5
Working ports size	G1/4"

F	FUNCTION
	31 = Closed centres 32 = Open centres 33 = Pressured centres
	LEVER COLOR
C	1 = Red 2 = Black 3 = Green



Weight 270 g



Lateral lever - 3 positions detent

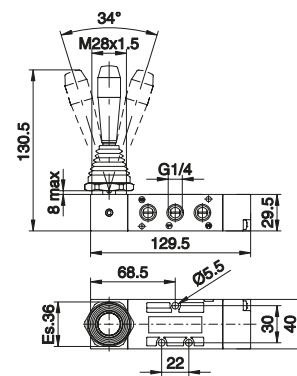
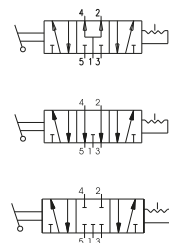
Coding: T224.53.F9.1/C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900
Orifice size (mm)	8.5
Working ports size	G1/4"

F	FUNCTION
	31 = Closed centres 32 = Open centres 33 = Pressured centres
	LEVER COLOR
C	1 = Red 2 = Black 3 = Green



Weight 270 g



Pneumatic - Spring

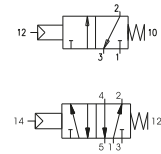
Coding: T224.1.11.1

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1050
Orifice size (mm)	8.5
Working ports size	G1/4"
Pilot ports size	G1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	

Minimum piloting pressure 2,5 bar



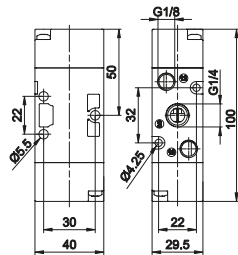
AIR DISTRIBUTION

3 ways



Weight 110 g

T224.32.11.1

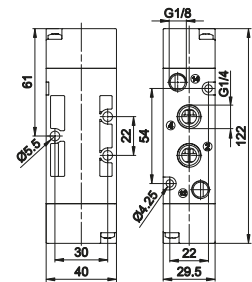


5 ways



Weight 140 g

T224.52.11.1



Pneumatic - Differential external

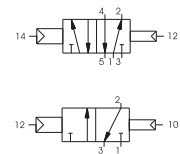
Coding: T224.1.11.12

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1050
Orifice size (mm)	8.5
Working ports size	G1/4"
Pilot ports size	G1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	

Minimum piloting pressure 2 bar

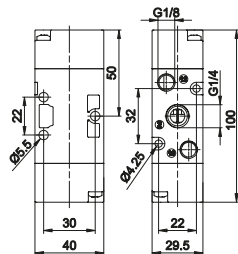


3 ways



Weight 110 g

T224.32.11.12

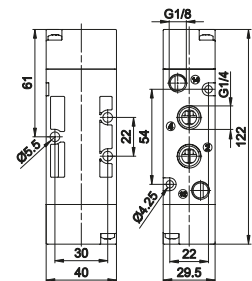


5 ways



Weight 140 g

T224.52.11.12



Pneumatic - Pneumatic

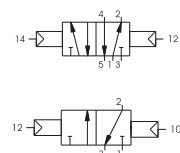
Coding: T224.1.11.11

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1050
Orifice size (mm)	8.5
Working ports size	G1/4"
Pilot ports size	G1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	

Minimum piloting pressure 2 bar

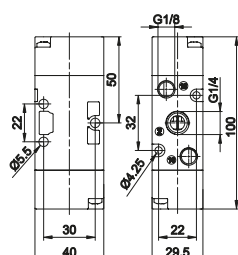


3 ways



Weight 110 g

T224.32.11.11

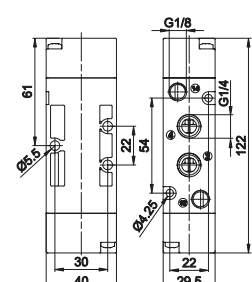


5 ways



Weight 140 g

T224.52.11.11

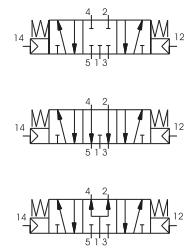
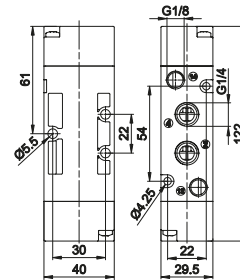


Pneumatic - Pneumatic 5 ways 3 connections

Coding: T224.53.F.11.11

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (l/min)	900
Orifice size (mm)	8.5
Working ports size	G1/4"
Pilot ports size	G1/8"

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres



Weight 160 g
Minimum piloting pressure 3 bar

1
AIR DISTRIBUTION



Series 800

General

The trend towards the miniaturization of components has been consolidated. The use of new technologies makes it possible to manufacture components with high flow rates but extremely compact sizes.

Electric piloting is by means of low-absorption miniature solenoids which are easily connected to the electronic control systems of machines (PLC).

Another object of study have been manifolds and multiple bases for ganged assembly of valves or solenoid valves with option for having outlets 2 and 4 either on the valve body or on the base through threaded holes or integrated quick connections provided.

Versions 3/2 and 5/2 are fitted with pneumatic and electropneumatic controls with resetting by mechanically or pneumatically operated spring, or by pneumatic or electropneumatic operation on the bistable versions.

The basic difference between this type of distributors and the others we produce, based on the spool system, lies in the fact that the seals rest on the spool and are dynamic, instead of being locked into the spool the valve body by means of spacers. By this means a compact size is obtained and the distributors can be slotted into bases and manifolds by means of two screws.

Construction characteristics

Body	Aluminium
Operators	Aluminium
Seals	HNBR
Spools	Aluminium
Springs	Stainless steel
Pistons	Aluminium

Use and maintenance

These valves have an average life of 15 million cycles depending on the application and air quality.

Filtered and lubricated air using specified lubricants will reduce the wear of the seals and ensures long and trouble free operation.

Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature.

The exhaust port of the distributor has to be protected in a dusty and dirty environment.

Repair kits including the spool complete with seals are available for overhauling the valves.

However, although this is a simple operation it should be carried out by a competent person.

ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).

How to order the solenoid valves

Example:

805.52.0.1.01 Solenoid valves with miniature solenoid 12 V D.C.

List of codes for tensions:

01 = miniature solenoid 12 VDC


02 = miniature solenoid 24 VDC

05 = miniature solenoid 24 VAC

06 = miniature solenoid 110 VAC

07 = miniature solenoid 220 VAC

The electropilot utilized is a 15 mm 3/2 N.C. miniature solenoid with faston and 1.1 mm orifice

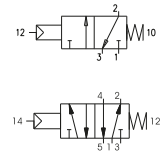
Miniature solenoid homologated are available c  US (see series 300)

Pneumatic - Spring

Coding: 805.1.11.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	160
Orifice size (mm)	2.5
Working ports size	M5
Pilot ports size	M5

TYPE	
32	= 3 ways
52	= 5 ways

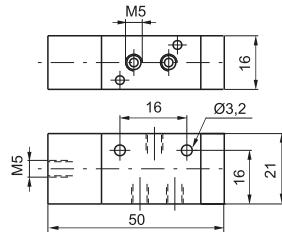


3 ways



Weight 45 g
Minimum piloting pressure 2 bar

805.32.11.1

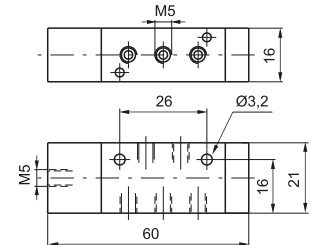


5 ways



Weight 50 g
Minimum piloting pressure 2 bar

805.52.11.1

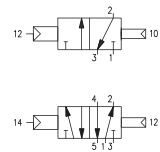


Pneumatic - Differential

Coding: 805.1.11.12

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	160
Orifice size (mm)	2.5
Working ports size	M5
Pilot ports size	M5

TYPE	
32	= 3 ways
52	= 5 ways

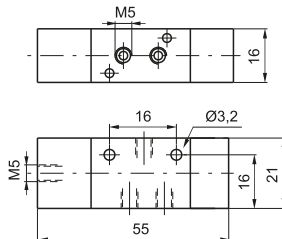


3 ways



Weight 50 g
Minimum piloting pressure 2 bar

805.32.11.12

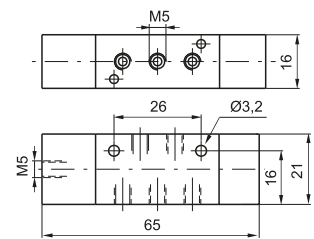


5 ways



Weight 55 g
Minimum piloting pressure 2 bar

805.52.11.12

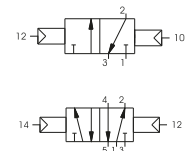


Pneumatic - Pneumatic

Coding: 805.1.11.11

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	160
Orifice size (mm)	2.5
Working ports size	M5
Pilot ports size	M5

TYPE	
32	= 3 ways
52	= 5 ways

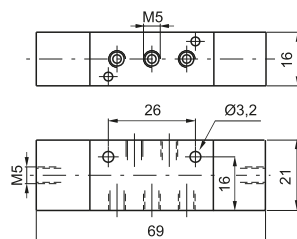


3 ways



Weight 55 g
Minimum piloting pressure 1,5 bar

805.32.11.11

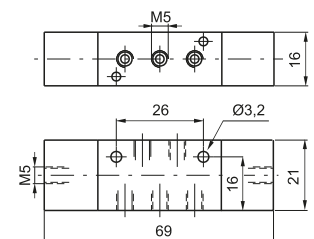


5 ways 2 connections



Weight 60 g
Minimum piloting pressure 1,5 bar

805.52.11.11





AIR DISTRIBUTION

Solenoid - Spring

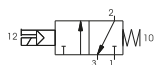
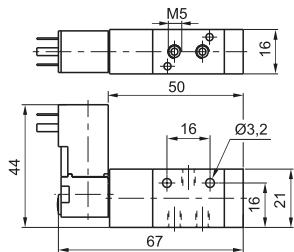
Coding: 805.●.0.1.●

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	160
Orifice size (mm)	2.5
Working ports size	M5

TYPE		VOLTAGE	
●	32 = 3 ways	●	01 = 12V D.C.
	52 = 5 ways		02 = 24V D.C.
			05 = 24V A.C.
			06 = 110V A.C.
			07 = 230V A.C.

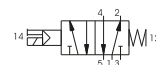
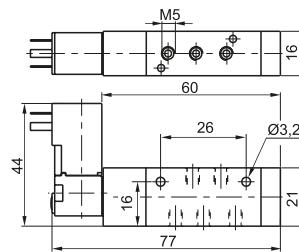
3 ways



Weight 80 g
Minimum working pressure 2 bar

805.32.0.1.●

5 ways



Weight 85 g
Minimum working pressure 2 bar

805.52.0.1.●

Solenoid - Differential

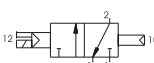
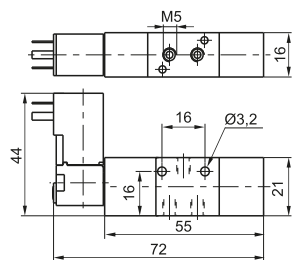
Coding: 805.●.0.12.●

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	160
Orifice size (mm)	2.5
Working ports size	M5

TYPE		VOLTAGE	
●	32 = 3 ways	●	01 = 12V D.C.
	52 = 5 ways		02 = 24V D.C.
			05 = 24V A.C.
			06 = 110V A.C.
			07 = 230V A.C.

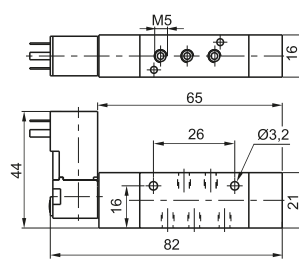
3 ways



Weight 85 g
Minimum working pressure 2 bar

805.32.0.12.●

5 ways



Weight 90 g
Minimum working pressure 2 bar

805.52.0.12.●

Solenoid - Solenoid

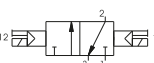
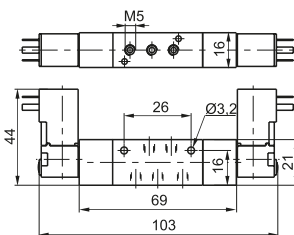
Coding: 805.●.0.0.●

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	160
Orifice size (mm)	2.5
Working ports size	M5

TYPE		VOLTAGE	
●	32 = 3 ways	●	01 = 12V D.C.
	52 = 5 ways		02 = 24V D.C.
			05 = 24V A.C.
			06 = 110V A.C.
			07 = 230V A.C.

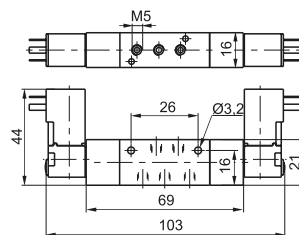
3 ways



Weight 120 g
Minimum working pressure 1,5 bar

805.32.0.0.●

5 ways



Weight 125 g
Minimum working pressure 1,5 bar

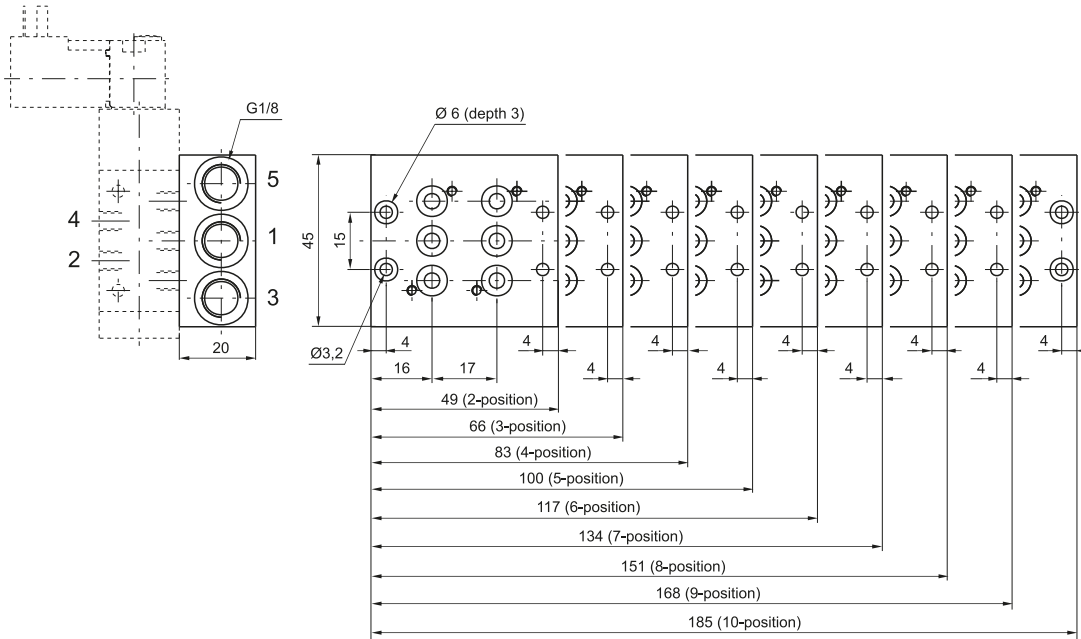
805.52.0.0.●

Collectors

Coding: 805.N



N. POSITIONS
02 = 2 positions (weight 95 g)
03 = 3 positions (weight 130 g)
04 = 4 positions (weight 160 g)
05 = 5 positions (weight 190 g)
06 = 6 positions (weight 225 g)
07 = 7 positions (weight 260 g)
08 = 8 positions (weight 290 g)
09 = 9 positions (weight 325 g)
10 = 10 positions (weight 365 g)

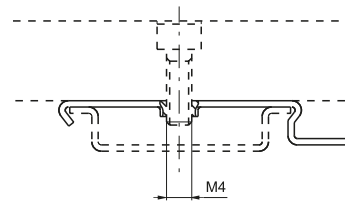


1

AIR DISTRIBUTION

Clip

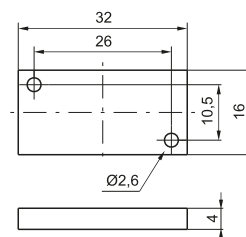
Coding: 800.00



weight 5 g
(for mounting the distributors groups on guide DIN 46277/3)

Closing plate

Coding: 805.00



weight 15 g

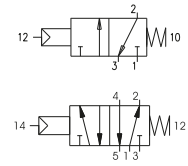
Pneumatic - Spring

Coding: 808.11.1

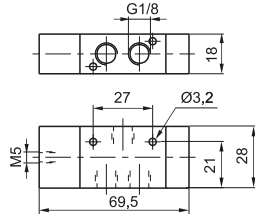
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	520
Orifice size (mm)	4
Working ports size	G1/8"
Pilot ports size	M5

TYPE
① 32 = 3 ways
52 = 5 ways



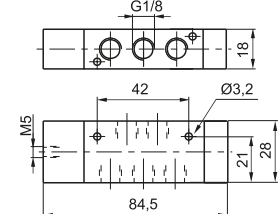
Pneumatic - Spring



Weight 95 g
Minimum piloting pressure 2 bar

808.32.11.1

Pneumatic - Spring



Weight 100 g
Minimum piloting pressure 2 bar

808.52.11.1

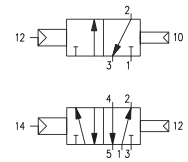
Pneumatic - Differential

Coding: 808.11.12

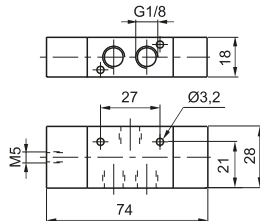
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	520
Orifice size (mm)	4
Working ports size	G1/8"
Pilot ports size	M5

TYPE
① 32 = 3 ways
52 = 5 ways



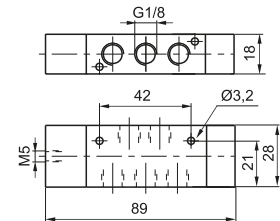
Pneumatic - Differential external



Weight 105 g
Minimum piloting pressure 2 bar

808.32.11.12

Pneumatic - Differential external



Weight 110 g
Minimum piloting pressure 2 bar

808.52.11.12

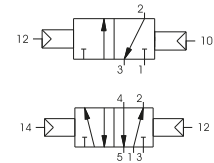
Pneumatic - Pneumatic

Coding: 808.11.11

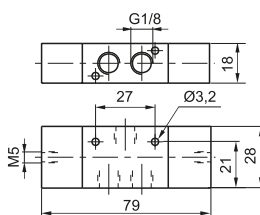
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	520
Orifice size (mm)	4
Working ports size	G1/8"
Pilot ports size	M5

TYPE
① 32 = 3 ways
52 = 5 ways



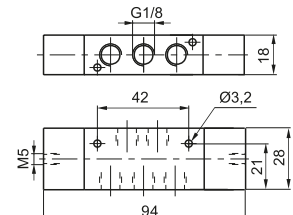
Pneumatic-pneumatic



Weight 115 g
Minimum piloting pressure 1,5 bar

808.32.11.11

Pneumatic-pneumatic



Weight 120 g
Minimum piloting pressure 1,5 bar

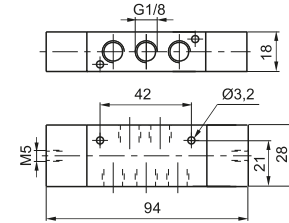
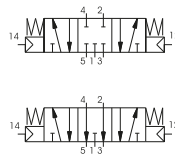
808.52.11.11

Pneumatic - Pneumatic

Coding: 808.53.1.11.11

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	520
Orifice size (mm)	4
Working ports size	G 1/8"
Pilot ports size	M5

TYPE	
1	31 = Closed centres
2	32 = Open centres



Weight 125 g
Minimum piloting pressure 3 bar

1
AIR DISTRIBUTION

Solenoid - Spring

Coding: 808.ⓧ.0.1.ⓧ

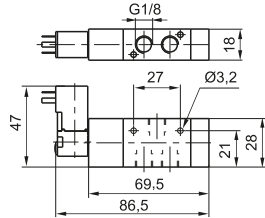
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	520
Orifice size (mm)	4
Working ports size	G 1/8"

TYPE	VOLTAGE
ⓧ 32 = 3 ways	01 = 12V D.C.
52 = 5 ways	02 = 24V D.C.
	05 = 24V A.C.
	06 = 110V A.C.
	07 = 230V A.C.

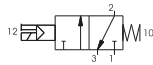
AIR DISTRIBUTION 1

3 ways

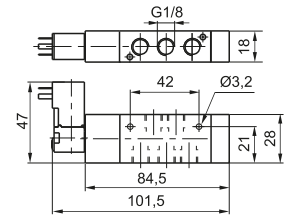


Weight 130 g
Minimum working pressure 2 bar

808.32.0.1.ⓧ

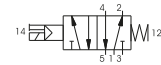


5 ways



Weight 135 g
Minimum working pressure 2 bar

808.52.0.1.ⓧ



Solenoid - Differential

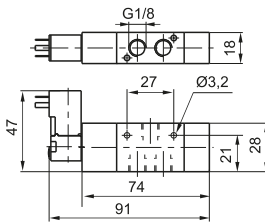
Coding: 808.ⓧ.0.12.ⓧ

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	520
Orifice size (mm)	4
Working ports size	G 1/8"

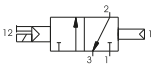
TYPE	VOLTAGE
ⓧ 32 = 3 ways	01 = 12V D.C.
52 = 5 ways	02 = 24V D.C.
	05 = 24V A.C.
	06 = 110V A.C.
	07 = 230V A.C.

3 ways

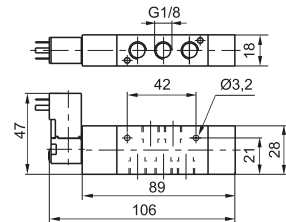


Weight 140 g
Minimum working pressure 2 bar

808.32.0.12.ⓧ

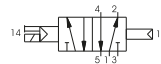


5 ways



Weight 145 g
Minimum working pressure 2 bar

808.52.0.12.ⓧ



Solenoid - Solenoid

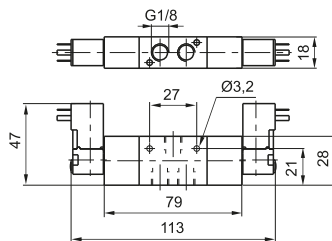
Coding: 808.ⓧ.0.0.ⓧ

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	520
Orifice size (mm)	4
Working ports size	G 1/8"

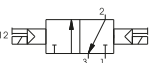
TYPE	VOLTAGE
ⓧ 32 = 3 ways	01 = 12V D.C.
52 = 5 ways	02 = 24V D.C.
	05 = 24V A.C.
	06 = 110V A.C.
	07 = 230V A.C.

3 ways

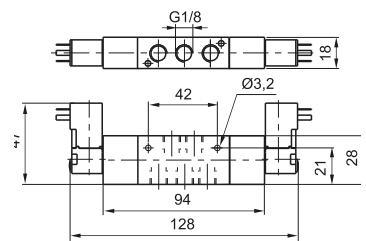


Weight 185 g
Minimum working pressure 1,5 bar

808.32.0.0.ⓧ



5 ways



Weight 190 g
Minimum working pressure 1,5 bar

808.52.0.0.ⓧ



Solenoid - Solenoid 5 ways 3 connections

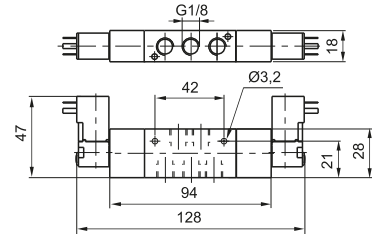
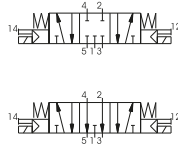
Coding: 808.53.①.0.0.②

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	520
Orifice size (mm)	4
Working ports size	G 1/8"

TYPE		VOLTAGE	
①	31 = Closed centres	②	01 = 12V D.C.
	32 = Open centres		02 = 24V D.C.
			05 = 24V A.C.
			06 = 110V A.C.
			07 = 230 V A.C.



Weight 190 g
Minimum working pressure 3 bar



1
AIR DISTRIBUTION



Collectors

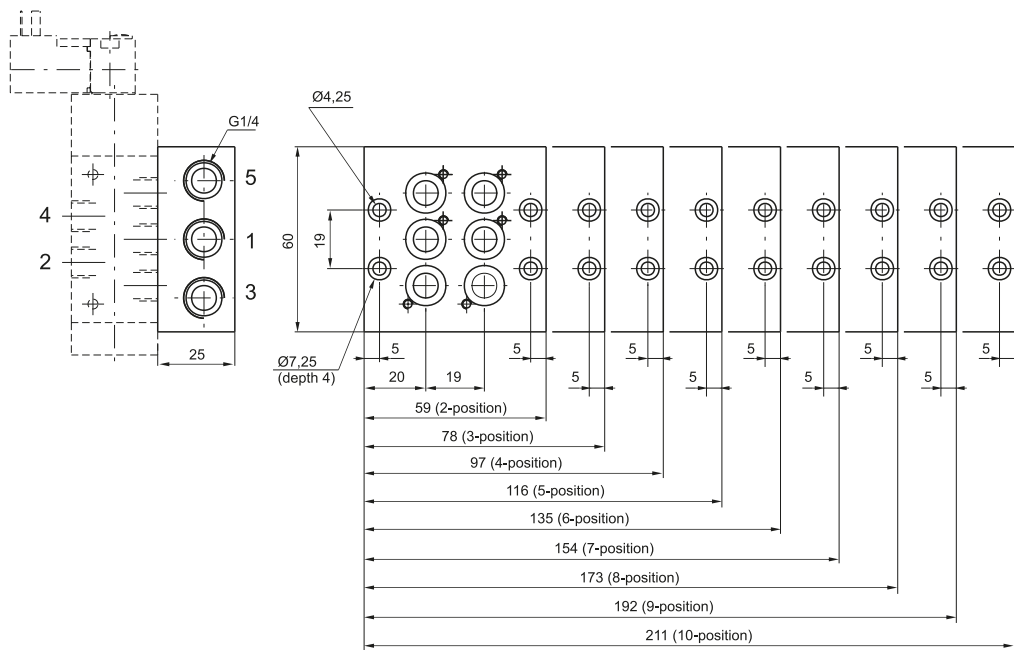
Coding: 808.N



N. POSITIONS	
02	= 2 positions (weight 180 g)
03	= 3 positions (weight 245 g)
04	= 4 positions (weight 310 g)
05	= 5 positions (weight 375 g)
06	= 6 positions (weight 440 g)
07	= 7 positions (weight 500 g)
08	= 8 positions (weight 560 g)
09	= 9 positions (weight 620 g)
10	= 10 positions (weight 680 g)

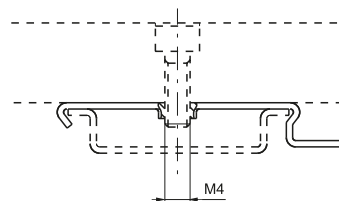
1

AIR DISTRIBUTION



Clip

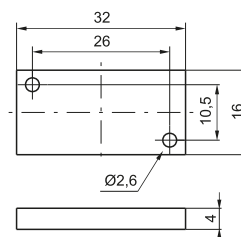
Coding: 800.00



weight 5 g
(for mounting the distributors groups on guide DIN 46277/3)

Closing plate

Coding: 808.00



Weight 65 g



Series 888

General

Competitively priced, good performance and versatility combined with a compact design are the main characteristics of this new series of valves.

The aluminium valve body and spool/seal arrangement optimize both the flow rate and the valve switching time.

This series of valves are available with G1/8" and G1/4" ports in 3/2, 5/2 and 5/3 versions.

Monostable or bistable versions are available and include an integrated technopolymer solenoid operator with 9mm stem and built in manual override.

Solenoid valves series 888 are available in point-to-point and serial configurations.

For serial system specifications, see Optyma-F series.

The valves can be supplied with or without the solenoid coil, however, if the solenoid coil is required please refer to the following table:

Voltages		Coil Code	Voltage Code
Direct current DC	12V (3,5W)	MF4	F04
	24V (3,5W)	MF5	F05
Alternating current AC 50 - 60 Hz	24V (3,7W)	MF56	F56
	110V (3,7W)	MF57	F57
	230V (3,7W)	MF58	F58

Connectors Coding		
Voltages		Kit 100 pieces
DC/AC	24V	888.11.01L-K
Alternating current AC 50 - 60 Hz	110V	888.11.02L-K
	230V	888.11.03L-K

Construction characteristics

Body	Aluminium
Operators	Technopolymer Aluminium for spring bottom plates
Seals	NBR
Spools	Aluminium
Springs	Spring steel
Pistons	Technopolymer

Use and maintenance

These valves have an average life of 15 million cycles

depending on the application and air quality, filtered and lubricated air using specified lubricants will dramatically reduce the wear of the seals and ensures long and trouble free operation.

Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature.

The exhaust ports 3 and 5 must be protected against the possible ingress of dirt or debris.

Repair kits including the spool complete with seals are available for overhauling the valves; however, although this is a simple operation it should be carried out by a competent person.

1
AIR DISTRIBUTION

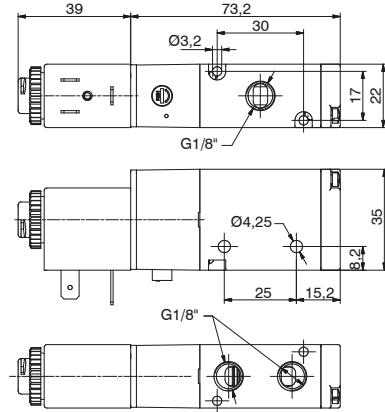
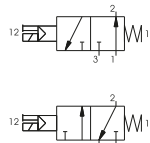
Solenoid - Spring - 3/2 (Self-feeding)

Coding: 8880.32.ⓕ.39.Ⓥ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	790
Orifice size (mm)	5.8
Working ports size	G 1/8"

FUNCTION	
ⓕ	A = Normally Open
	C = Normally Closed

VOLTAGE	
F04	= 12 VDC
F05	= 24 VDC
Ⓥ F56	= 24 V (50-60 Hz)
F57	= 110 V (50-60 Hz)
F58	= 230 V (50-60 Hz)
F00	= Without coil



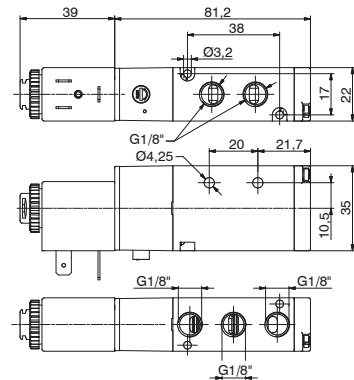
Weight 210 g
Minimum working pressure 2 bar

Solenoid - Spring - 5/2 (Self-feeding)

Coding: 8880.52.00.39.Ⓥ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	790
Orifice size (mm)	5.8
Working ports size	G 1/8"

VOLTAGE	
F04	= 12 VDC
F05	= 24 VDC
Ⓥ F56	= 24 V (50-60 Hz)
F57	= 110 V (50-60 Hz)
F58	= 230 V (50-60 Hz)
F00	= Without coil



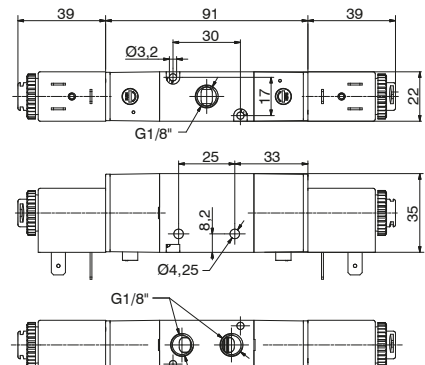
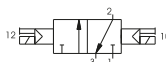
Weight 220 g
Minimum working pressure 2 bar

Solenoid - Solenoid - 3/2

Coding: 8880.32.00.35.Ⓥ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	790
Orifice size (mm)	5.8
Working ports size	G 1/8"

VOLTAGE	
F04	= 12 VDC
F05	= 24 VDC
Ⓥ F56	= 24 V (50-60 Hz)
F57	= 110 V (50-60 Hz)
F58	= 230 V (50-60 Hz)
F00	= Without coil



Weight 310 g
Minimum working pressure 2 bar

Solenoid - Solenoid - 5 ways 2 connections

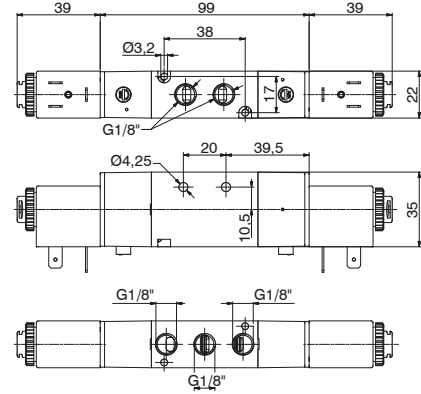
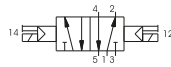
Coding: 8880.52.00.35. **V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	790
Orifice size (mm)	5.8
Working ports size	G 1/8"

VOLTAGE	
F04	= 12 VDC
F05	= 24 VDC
F56	= 24 V (50-60 Hz)
F57	= 110 V (50-60 Hz)
F58	= 230 V (50-60 Hz)
F00	= Without coil



Weight 320 g
Minimum working pressure 2 bar



Solenoid - Solenoid - 5 ways 3 connections

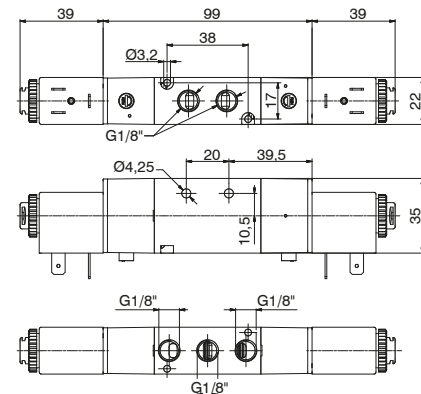
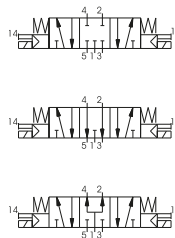
Coding: 8880.53. **F**.35. **V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	440
Orifice size (mm)	5.8
Working ports size	G 1/8"

FUNCTION		VOLTAGE	
F	31 = Closed centres	F04	= 12 VDC
	32 = Open centres	F05	= 24 VDC
	33 = Pressured centres	F56	= 24 V (50-60 Hz)
		F57	= 110 V (50-60 Hz)
		F58	= 230 V (50-60 Hz)
		F00	= Without coil



Weight 330 g
Minimum working pressure 2,5 bar



Solenoid - Spring - 3/2 (External-feeding)

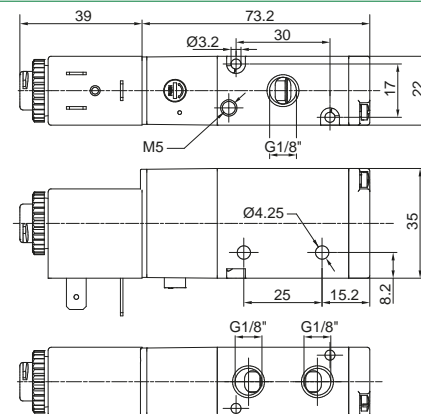
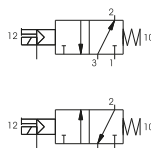
Coding: 8880E.32. **F**.39. **V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	790
Orifice size (mm)	5.8
Working ports size	G 1/8"

FUNCTION		VOLTAGE	
F	A = 3/2 Normally Open	F04	= 12 VDC
	C = 3/2 Normally Closed	F05	= 24 VDC
		F56	= 24 V (50-60 Hz)
		F57	= 110 V (50-60 Hz)
		F58	= 230 V (50-60 Hz)
		F00	= Without coil



Weight 210 g
Minimum working pressure 2 bar



Solenoid - Spring - 5/2 (External-feeding)

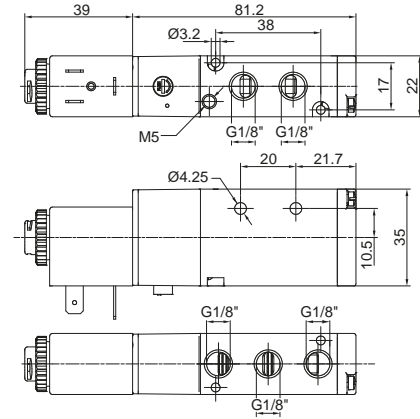
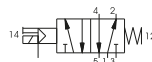
Coding: 8880E.52.00.39.

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	790
Orifice size (mm)	5.8
Working ports size	G 1/8"

VOLTAGE	
F04	= 12 VDC
F05	= 24 VDC
F56	= 24 V (50-60 Hz)
F57	= 110 V (50-60 Hz)
F58	= 230 V (50-60 Hz)
F00	= Without coil



Weight 220 g
Minimum working pressure 2 bar

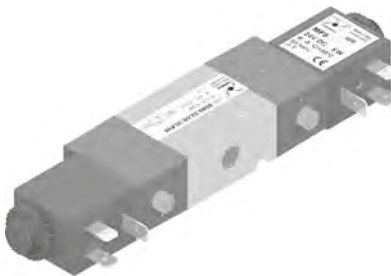


Solenoid - Solenoid - 3/2 (External-feeding)

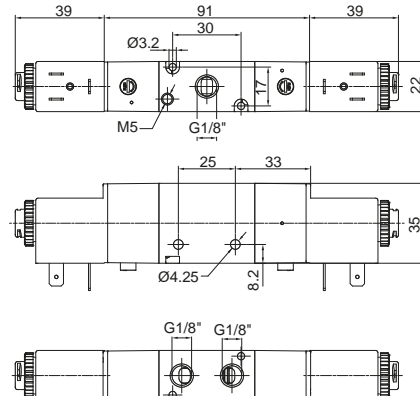
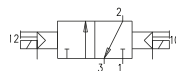
Coding: 8880E.32.00.35.

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	790
Orifice size (mm)	5.8
Working ports size	G 1/8"

VOLTAGE	
F04	= 12 VDC
F05	= 24 VDC
F56	= 24 V (50-60 Hz)
F57	= 110 V (50-60 Hz)
F58	= 230 V (50-60 Hz)
F00	= Without coil



Weight 310 g
Minimum working pressure 2 bar



Solenoid - Solenoid - 5/2 (External-feeding)

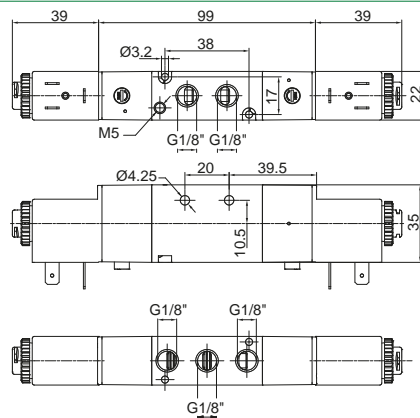
Coding: 8880E.52.00.35.

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	790
Orifice size (mm)	5.8
Working ports size	G 1/8"

VOLTAGE	
F04	= 12 VDC
F05	= 24 VDC
F56	= 24 V (50-60 Hz)
F57	= 110 V (50-60 Hz)
F58	= 230 V (50-60 Hz)
F00	= Without coil



Weight 320 g
Minimum working pressure 2 bar

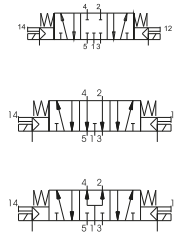


Solenoid - Solenoid - 5/3 connections (External-feeding)

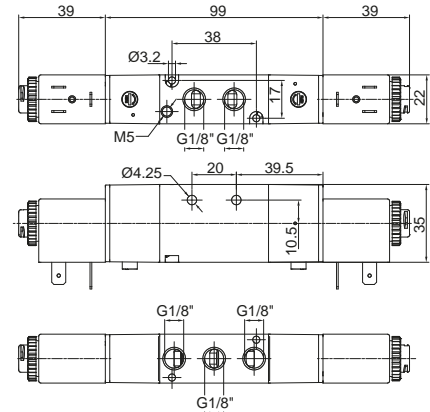
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	440
Orifice size (mm)	5.8
Working ports size	G 1/8"

Coding: 8880E.53.ⓕ.35.Ⓥ

FUNCTION	VOLTAGE
ⓕ 31 = Closed centres	F04 = 12 VDC
32 = Open centres	F05 = 24 VDC
33 = Pressured centres	Ⓥ F56 = 24 V (50-60 Hz)
	F57 = 110 V (50-60 Hz)
	F58 = 230 V (50-60 Hz)
	F00 = Without coil



Weight 330 g
Minimum working pressure 2,5 bar

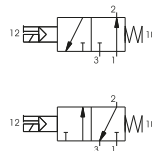


Solenoid - Spring - 3/2 (Self-feeding)

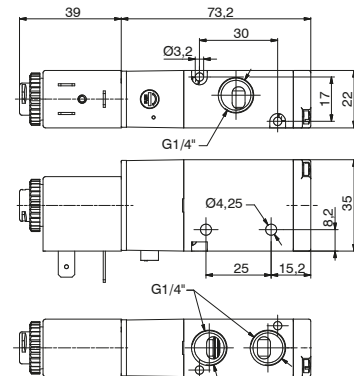
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	890
Orifice size (mm)	6.5
Working ports size	G 1/4"

Coding: 8884.32.ⓕ.39.Ⓥ

FUNCTION	VOLTAGE
ⓕ A = 3/2 Normally Open	F04 = 12 VDC
C = 3/2 Normally Closed	F05 = 24 VDC
	Ⓥ F56 = 24 V (50-60 Hz)
	F57 = 110 V (50-60 Hz)
	F58 = 230 V (50-60 Hz)
	F00 = Without coil



Weight 210 g
Minimum working pressure 2 bar

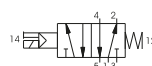


Solenoid - Spring - 5/2 (Self-feeding)

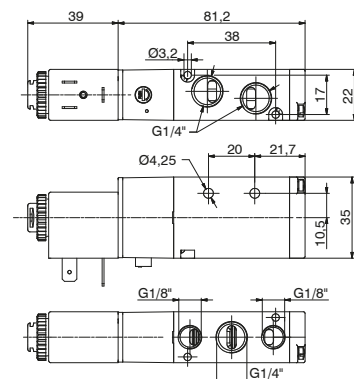
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	890
Orifice size (mm)	6.5
Working ports size	G 1/4"

Coding: 8884.52.00.39.Ⓥ

VOLTAGE
F04 = 12 VDC
F05 = 24 VDC
Ⓥ F56 = 24 V (50-60 Hz)
F57 = 110 V (50-60 Hz)
F58 = 230 V (50-60 Hz)
F00 = Without coil



Weight 220 g
Minimum working pressure 2 bar



Solenoid - Solenoid - 3/2

Coding: 8884.32.00.35.

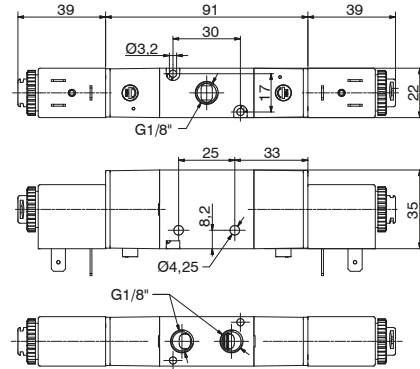
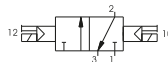
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	890
Orifice size (mm)	6.5
Working ports size	G 1/4"

VOLTAGE	
F04	= 12 VDC
F05	= 24 VDC
F56	= 24 V (50-60 Hz)
F57	= 110 V (50-60 Hz)
F58	= 230 V (50-60 Hz)
F00	= Without coil



Weight 310 g
Minimum working pressure 2 bar



Solenoid - Solenoid - 5/2

Coding: 8884.52.00.35.

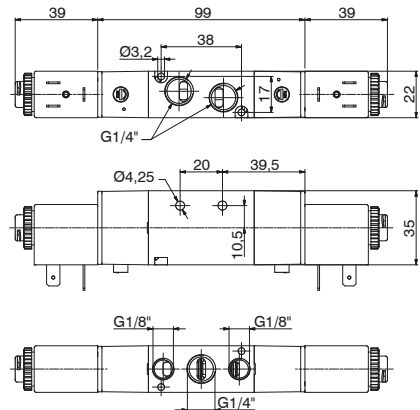
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6.5
Working ports size	G 1/4"

VOLTAGE	
F04	= 12 VDC
F05	= 24 VDC
F56	= 24 V (50-60 Hz)
F57	= 110 V (50-60 Hz)
F58	= 230 V (50-60 Hz)
F00	= Without coil



Weight 320 g
Minimum working pressure 2 bar



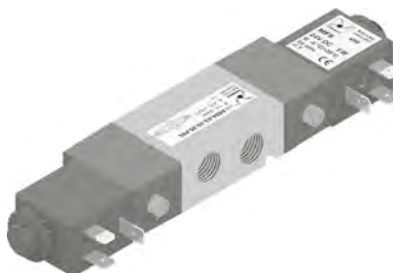
Solenoid - Solenoid - 5/3

Coding: 8884.53. .35.

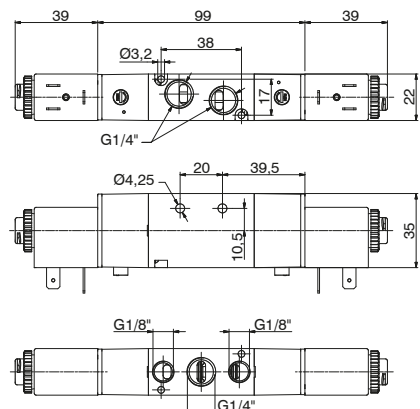
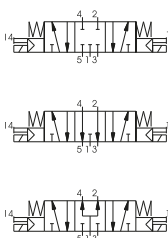
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6.5
Working ports size	G 1/4"

FUNCTION		VOLTAGE	
31	= Closed centres	F04	= 12 VDC
32	= Open centres	F05	= 24 VDC
33	= Pressured centres	F56	= 24 V (50-60 Hz)
		F57	= 110 V (50-60 Hz)
		F58	= 230 V (50-60 Hz)
		F00	= Without coil



Weight 330 g
Minimum working pressure 2,5 bar

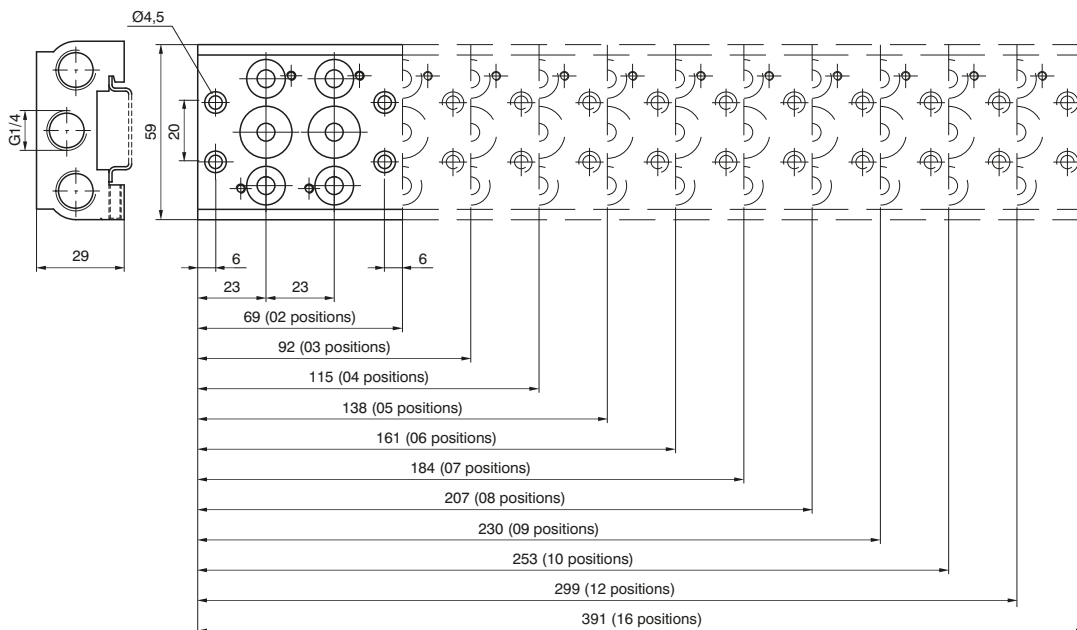


Manifold (Valves 5/2 - 5/3)

Coding: 888.P



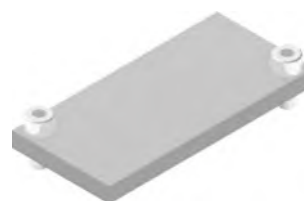
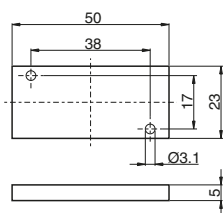
CONNECTION TYPE	
02	= nr. 2 positions (270 g)
03	= nr. 3 positions (335 g)
04	= nr. 4 positions (400 g)
05	= nr. 5 positions (465 g)
06	= nr. 6 positions (530 g)
P 07	= nr. 7 positions (595 g)
08	= nr. 8 positions (660 g)
09	= nr. 9 positions (725 g)
10	= nr. 10 positions (790 g)
12	= nr. 12 positions (920 g)
16	= nr. 16 positions (1180 g)



weight 5 g
(for mounting the distributors groups on guide DIN 46277/3)

Closing plate

Coding: 888.00



Weight 18 g
Closing plate supplied complete with 2 fixing screws to the manifold and 2 fixing screws to the multi-polar base



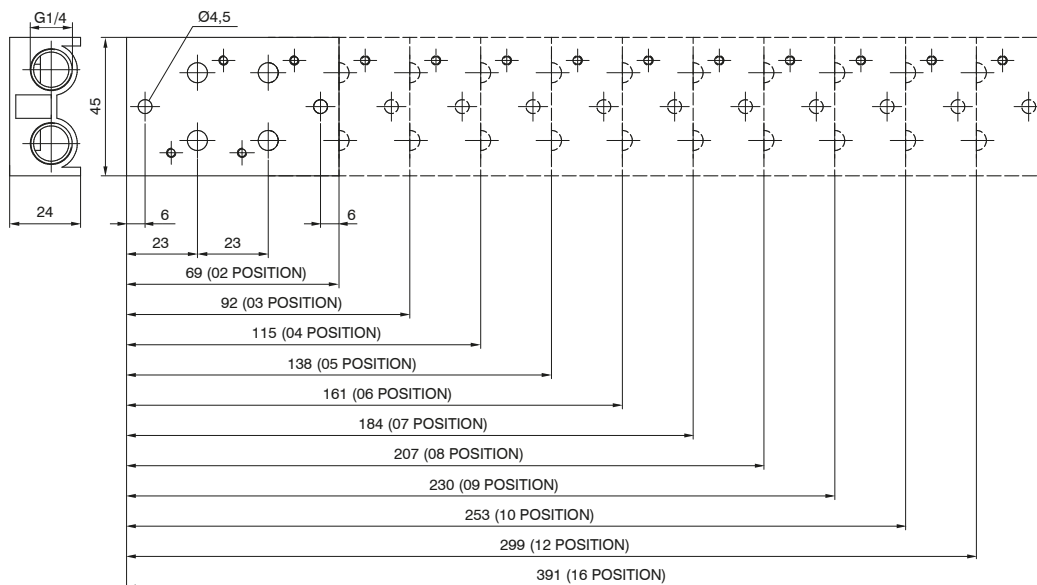
▶ Manifold (Valves 3/2)

Coding: 8883.Ⓟ



CONNECTION TYPE	
02	= nr. 2 positions (270 g)
03	= nr. 3 positions (335 g)
04	= nr. 4 positions (400 g)
05	= nr. 5 positions (465 g)
Ⓟ 06	= nr. 6 positions (530 g)
07	= nr. 7 positions (595 g)
08	= nr. 8 positions (660 g)
09	= nr. 9 positions (725 g)
10	= nr. 10 positions (790 g)
12	= nr. 12 positions (920 g)
16	= nr. 16 positions (1180 g)

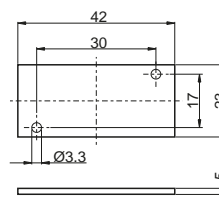
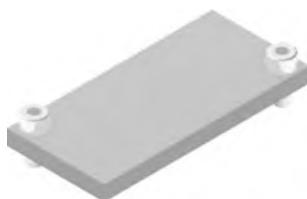
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weight 5 g
(for mounting the distributors groups on guide DIN 46277/3)

▶ Closing plate

Coding: 8883.00



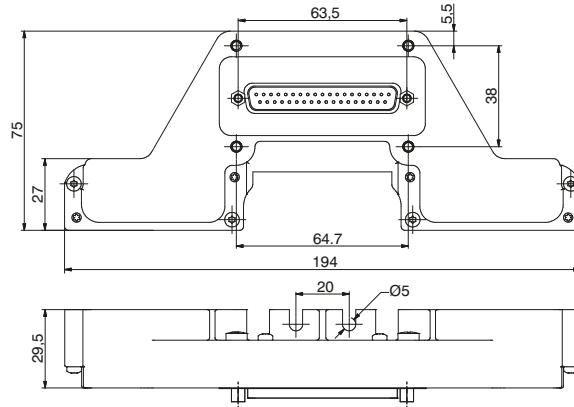
Weight 10 g
Closing plate supplied complete with 2 fixing screws to the manifold

Endplate, 37 Poles IP65

Coding: 888M.37.10



Weight 186 g
The IP65 protection is obtained by IP65 Pneumax cable.
Code complete with assembled endplate and 4 manifold fixing screws, previously mounted on the Manifold.

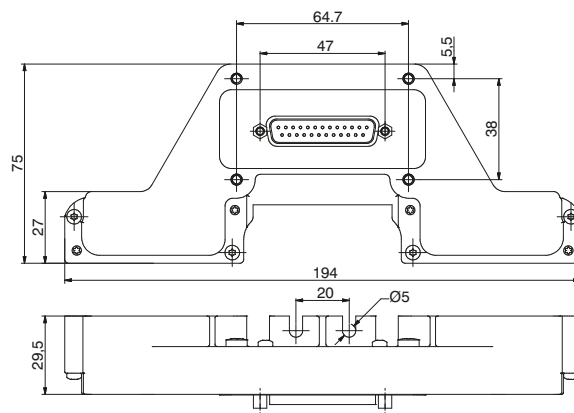


Endplate, 25 Poles IP65

Coding: 888M.25.10



Weight 181 g
The IP65 protection is obtained by IP65 Pneumax cable.
Code complete with assembled endplate and 4 manifold fixing screws, previously mounted on the Manifold.

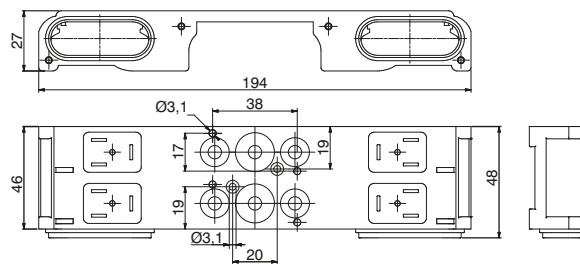


Modular base, 2 positions IP65

Coding: 888M.02.BM

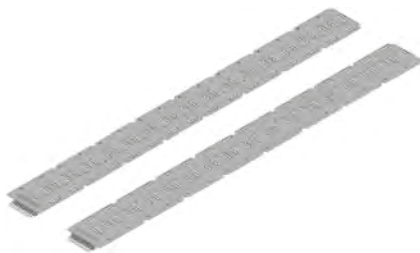


Weight 220 g
Complete with seals and fixing screws
Usable only for 5/2 and 5/3 Distributors

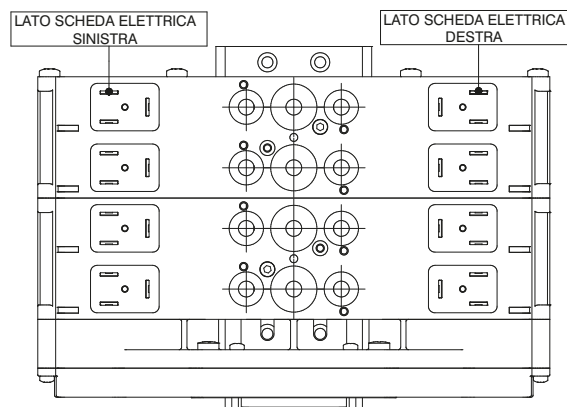


Left and Right Power board PNP 24 VDC

Coding: 888M.**P**.**T**



weight 5 g
(for mounting the distributors groups on guide DIN 46277/3)



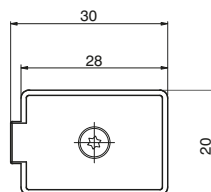
POSITIONS	
	04 = nr. 4 positions (11,2 g)
P	08 = nr. 8 positions (22,4 g)
	12 = nr. 12 positions (33,6 g)
	16 = nr. 16 positions (44,8 g)
TYPE	
T	00 = Left
	01 = Right

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► Closing plate

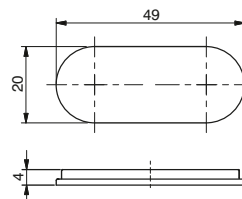
Coding: 888M.22.PC



Weight 3 g
Closing plate supplied complete with 1 Seal and fixing screw with O ring
Maximum fixing torque for fittings: 0,35Nm

► Multipolar base plug

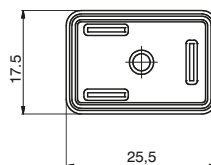
Coding: 888M.T



Weight 2,6 g
Complete with: Nr. 1 Plug, Nr. 2 Fixing screws

► Seals

Coding: 888M.22.G



Weight 0,52 g

► In line cable complete with connector IP40

Coding: 2400.**T**.**L**.00



	CONNECTORS
T	25 = 25 poles 37 = 37 poles
	CABLE LENGTH
L	03 = 3 meters 05 = 5 meters 10 = 10 meters

► Cable complete with connector, 25 Poles IP65

Coding: 2300.25.**L**.**C**



	CABLE LENGTH
L	03 = 3 meters 05 = 5 meters 10 = 10 meters
	CONNECTOR
C	10 = In line 90 = 90° Angle

► Cable complete with connector, 37 Poles IP65

Coding: 2400.37.**L**.**C**

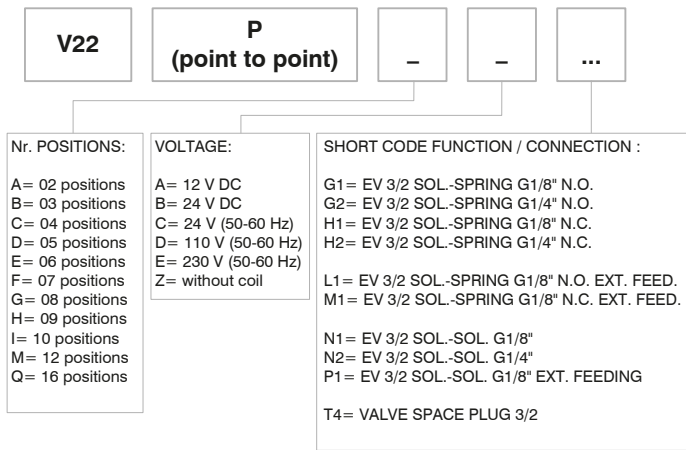


	CABLE LENGTH
L	03 = 3 meters 05 = 5 meters 10 = 10 meters
	CONNECTOR
C	10 = In line 90 = 90° Angle

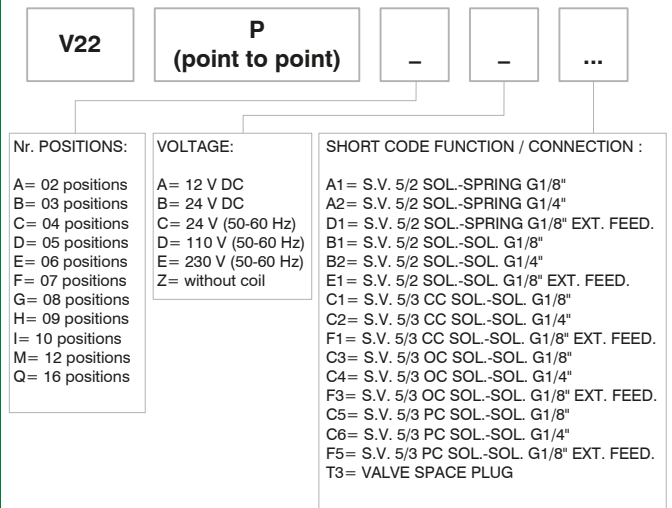


Manifold layout Configuration Point to Point

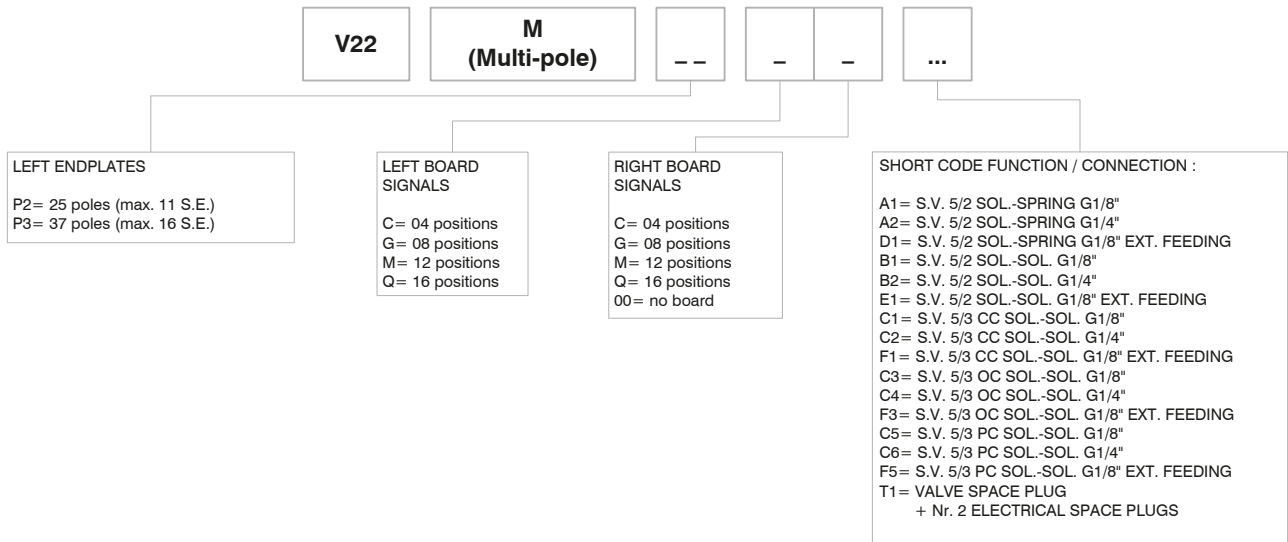
3/2 valves



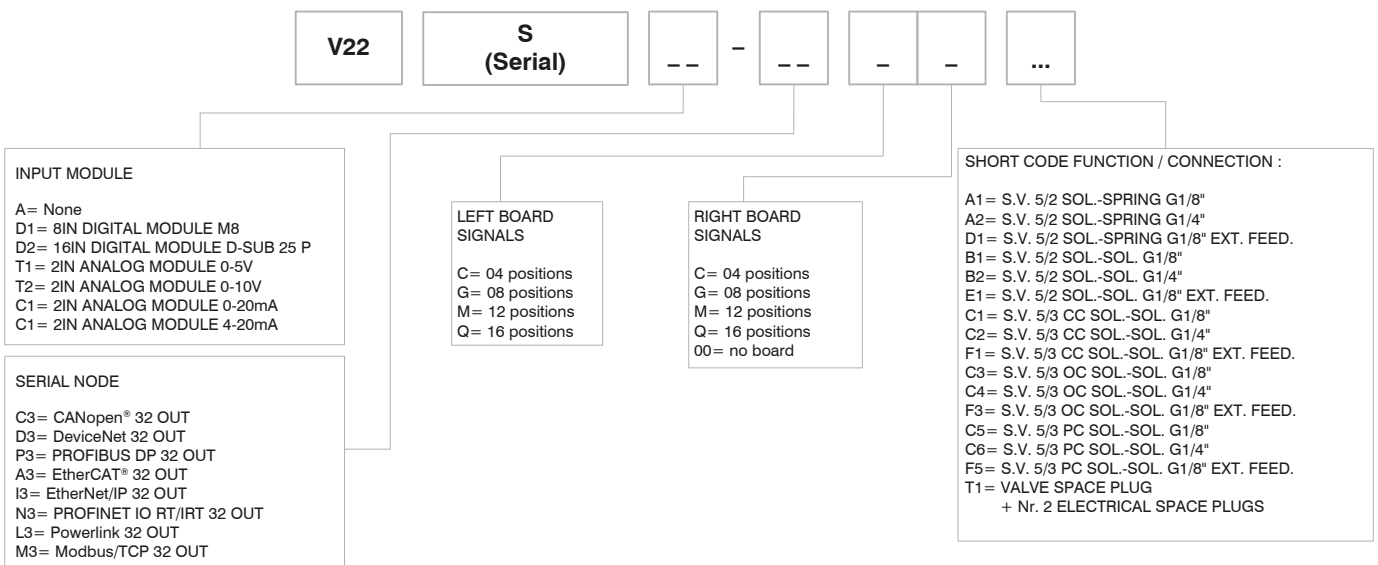
5/2 valves



Manifold layout Configuration Multi-pole



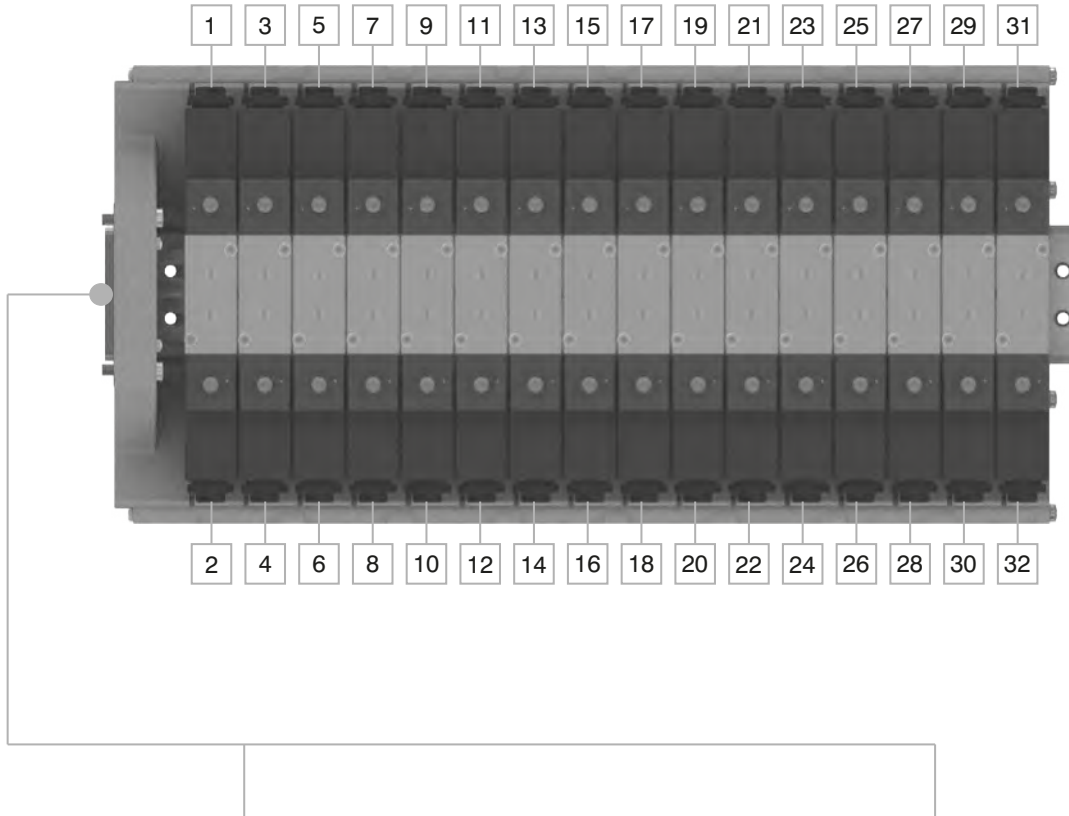
Serial manifold layout (for the serial system node, see the Optyma-F Series)



NOTE:

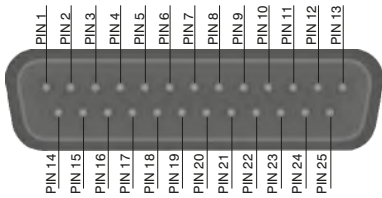
When constructing the configuration, please consider that the maximum number of valves that can be mounted on the manifold is 16, regardless of the valve type. Any valve position presents two electrical connections: in case of use of monostable valves(A1-A2) it will be necessary to assemble a plug to protect the unused electrical connection.

The correspondence between the electrical signal and its location on the manifold is showed in the following diagrams.



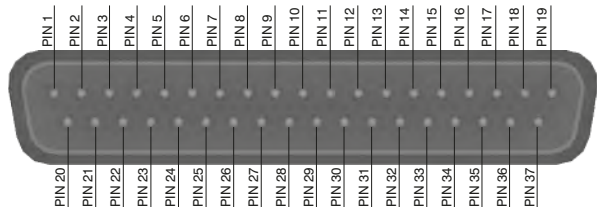
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Connector 25 Poles from 1 to 11
Positions E.V. Bistable / Monostable



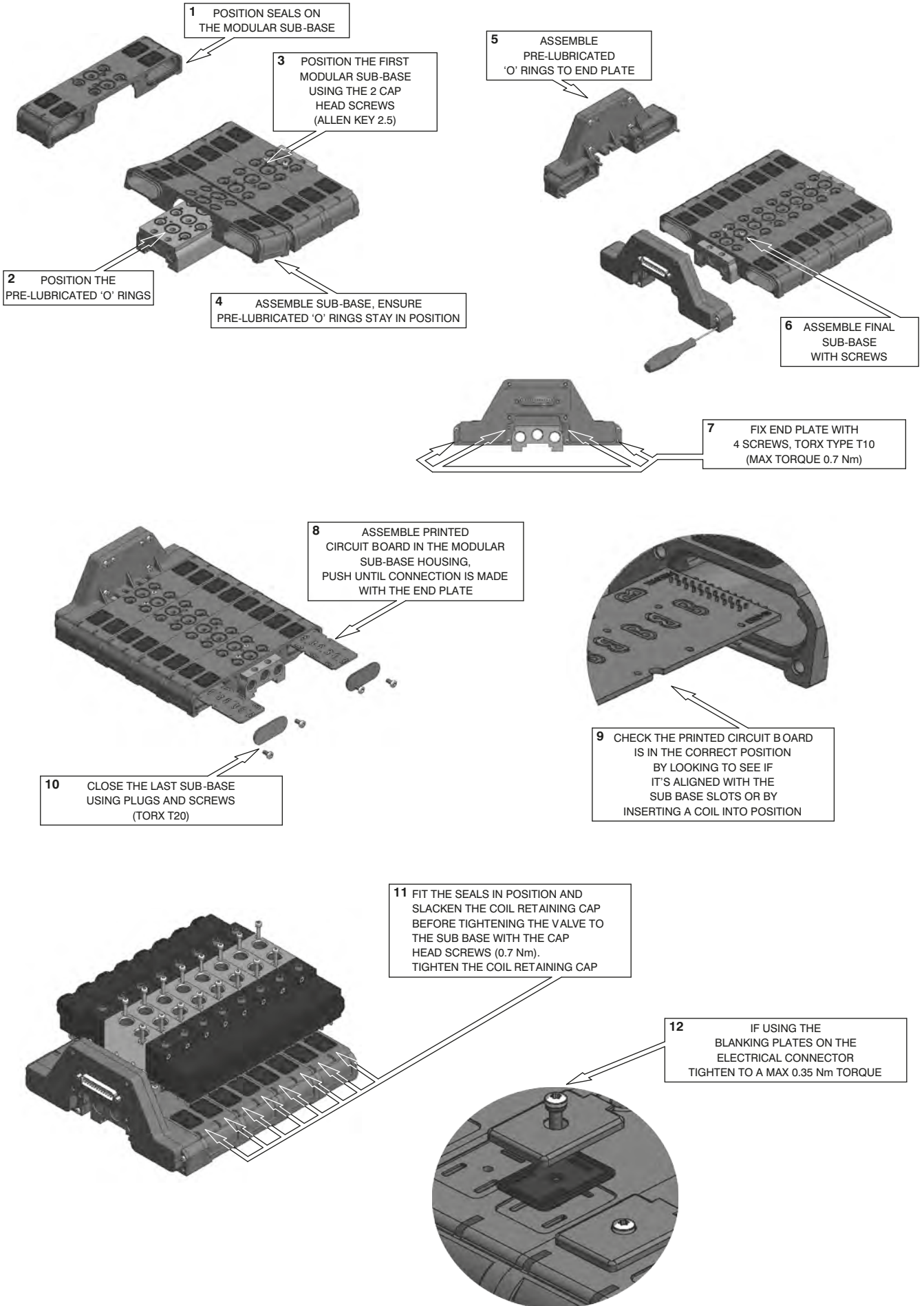
1 - 22 = SIGNALS
23 - 24 = GND
25 = NC

Connector 37 Poles from 1 to 16
Positions E.V. Bistable / Monostable



1 - 32 = SIGNALS
33 - 35 = GND
36 - 37 = NC

Assembly sequence



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Series 400

General

These are 2 stage valves actuated electro-pneumatically. A serie 300 directly operated solenoid valve actuates pneumatically the principal power distributor.

This integrated system allows configurations of systems requiring very little space.

The pilot air is normally taken from the inlet port (autofeed) and the only actuating signal is electric.

The range of the solenoid valves, as far as dimensions and mechanical construction, is similar to series 200.

We have therefore solenoid valves G 1/8", G 1/4", G 1/2" and G 1" with identical pneumatic characteristics that are, however, actuated electrically.

They have a balanced spool, insensitive to presence or absence of pressure. They are constructed in 3 and 5 way with 1 solenoid (monostable) or 2 solenoids (bistable) and also 5 ways 3 positions with closed centres, open centres and pressured centres.

It should be noted that the autofeed of the electric pilot requires always inlet through port 1 and if a 3 ways normally open configuration is desired, it is necessary to switch the operators.

Solenoid valves G 1/8" and G 1/4" can be equipped with microsolenoids as well as standard solenoids and they can be mounted in line or in 90 degrees on valves.

Please note that while the microsolenoid can be mounted in any direction, standard solenoid requires mounting as indicated in the photographs and diagrams.

The order codes pertain only to the solenoid valve with mechanical actuator "M2" or solenoid "S*" already assembled.

M2 coils are not included and have to be ordered separately (see Series 300).

Coils for M2 and solenoids "S" homologated are available in 24V DC (see Series 300).

Construction characteristics

Body	Aluminium
Operators	Aluminium Technopolymer for spring bottom plate G 1/8", G1/4", G 1/2" and aluminium for G 1"
Seals	NBR Polyurethane compound for oil free applications (G 1/8", G 1/4" and G 1/2")
Spacer	Technopolymer (aluminium for G1")
Spools	Steel
Springs	Stainless steel or spring steel

Use and maintenance

These valves have an average life of 15 million cycles depending on the application and air quality.

Filtered and lubricated air using specified lubricants will reduce the wear of the seals and ensures long and trouble free operation.

Please ensure that the valve is being used according with the manufacturer's specification, such as air pressure and temperature.

The exhaust port of the distributor has to be protected in a dusty and dirty environment.

Repair kits including the spool complete with seals are available for overhauling the valves.

However, although this is a simple operation it should be carried out by a competent person.

ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).

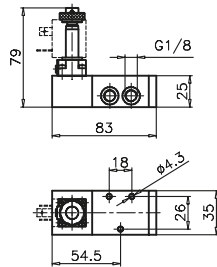
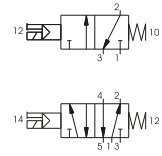
1 AIR DISTRIBUTION

Solenoid - Spring

Coding: 468.●.0.1.M2

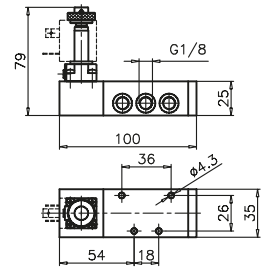
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G 1/8"

TYPE	
●	32 = 3 ways
●	52 = 5 ways



Weight 240 g
Minimum working pressure 2,5 bar

468.32.0.1.M2



Weight 240 g
Minimum working pressure 2,5 bar

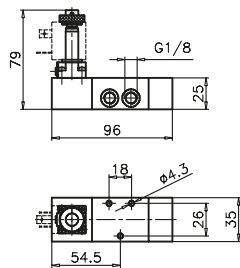
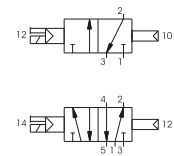
468.52.0.1.M2

Solenoid - Differential

Coding: 468.●.0.12.M2

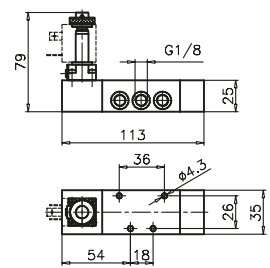
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G 1/8"

TYPE	
●	32 = 3 ways
●	52 = 5 ways



Weight 280 g
Minimum working pressure 2,5 bar

468.32.0.12.M2



Weight 320 g
Minimum working pressure 2,5 bar

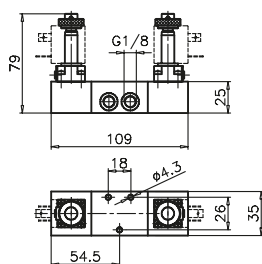
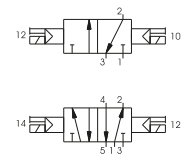
468.52.0.12.M2

Solenoid - Solenoid

Coding: 468.●.0.0.M2

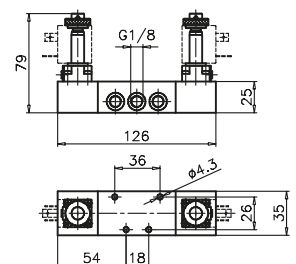
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G 1/8"

TYPE	
●	32 = 3 ways
●	52 = 5 ways



Weight 370 g
Minimum working pressure 2 bar

468.32.0.0.M2



Weight 410 g
Minimum working pressure 2 bar

468.52.0.0.M2

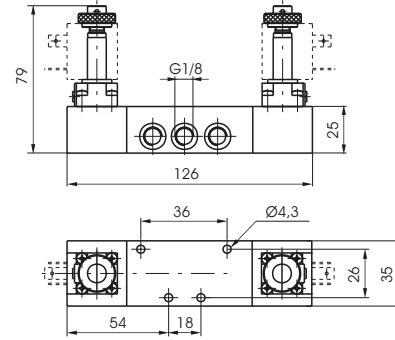
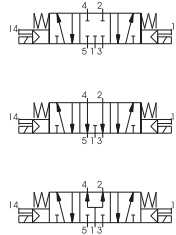
Solenoid - Solenoid 5 ways 3 connections

Coding: 468.53.F.0.0.M2

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	410
Orifice size (mm)	6
Working ports size	G 1/8"

FUNCTION
31 = Closed centres
32 = Open centres
33 = Pressured centres



Weight 420 g
Minimum working pressure 3 bar

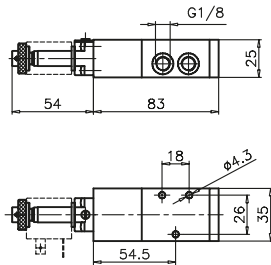
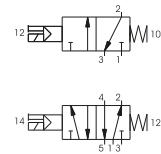
Solenoid - Spring

Coding: 468/1.T.0.1.M2

Operational characteristics

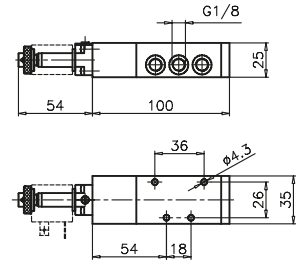
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G 1/8"

TYPE
32 = 3 ways
52 = 5 ways



Weight 240 g
Minimum working pressure 2,5 bar

468/1.32.0.1.M2



Weight 280 g
Minimum working pressure 2,5 bar

468/1.52.0.1.M2

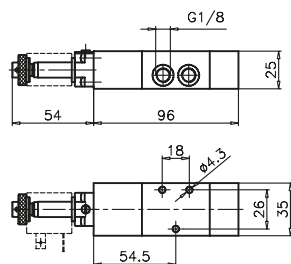
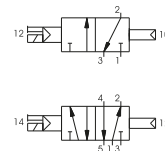
Solenoid - Differential

Coding: 468/1.T.0.12.M2

Operational characteristics

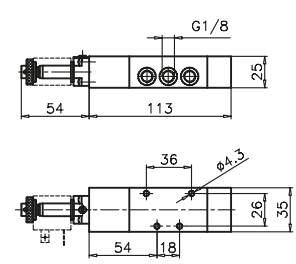
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G 1/8"

TYPE
32 = 3 ways
52 = 5 ways



Weight 280 g
Minimum working pressure 2,5 bar

468/1.32.0.12.M2



Weight 320 g
Minimum working pressure 2,5 bar

468/1.52.0.12.M2

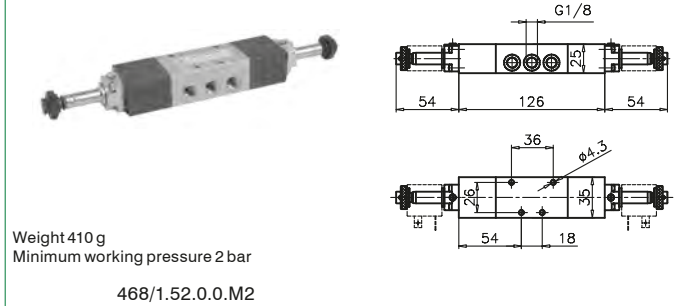
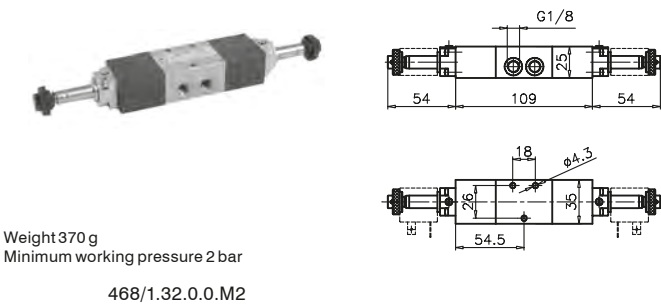
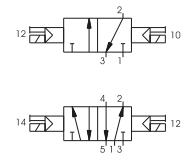
1 AIR DISTRIBUTION

Solenoid - Solenoid

Coding: 468/1.1.0.0.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G 1/8"

TYPE	
32	= 3 ways
52	= 5 ways

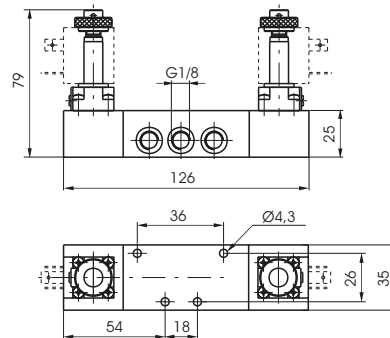


Solenoid - Solenoid 5 ways 3 connections

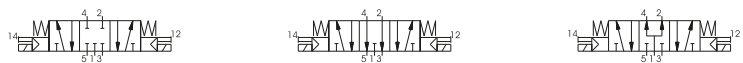
Coding: 468/1.53.0.0.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	410
Orifice size (mm)	6
Working ports size	G 1/8"

FUNCTION	
31	= Closed centres
32	= Open centres
33	= Pressured centres



Weight 420 g
Minimum working pressure 3 bar



1
AIR DISTRIBUTION

Solenoid - Spring

Coding: 488.0.0.1.S

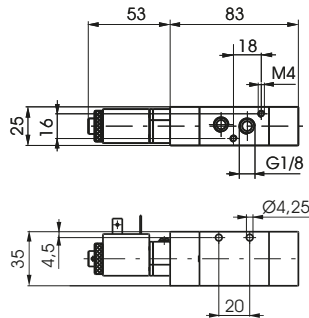
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	620
Orifice size (mm)	6
Working ports size	G 1/8"
Response time according to ISO 12238, activation time (ms)	20,3 (3 ways) 22,5 (5 ways)
Response time according to ISO 12238, deactivation time (ms)	44,5 (3 ways) 47,0 (5 ways)

TYPE	32 = 3 ways 52 = 5 ways
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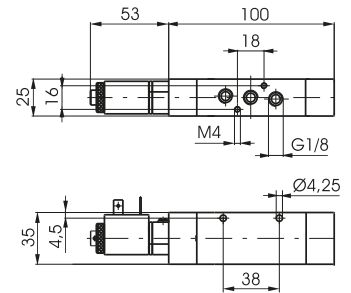
SOLENOID	M11 = 24V D.C. (rating power 3,8W) M56 = 24V 50/60Hz (starting power 9VA, rating power 6VA) M57 = 110 V 50/60Hz (starting power 9 A, rating power 6 A) M58 = 230V 50/60Hz (starting power 9VA, rating power 6VA)
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Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



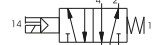
Weight 220 g
Minimum working pressure 2,5 bar

488.32.0.1.S



Weight 260 g
Minimum working pressure 2,5 bar

488.52.0.1.S



Solenoid - Differential

Coding: 488.0.0.12.S

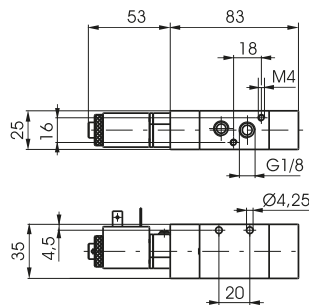
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	620
Orifice size (mm)	6
Working ports size	G 1/8"
Response time according to ISO 12238, activation time (ms)	28,0 (3 ways) 28,3 (5 ways)
Response time according to ISO 12238, deactivation time (ms)	34,5 (3 ways) 35,5 (5 ways)

TYPE	32 = 3 ways 52 = 5 ways
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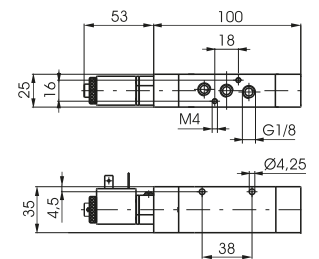
SOLENOID	M11 = 24V D.C. (rating power 3,8W) M56 = 24V 50/60Hz (starting power 9VA, rating power 6VA) M57 = 110 V 50/60Hz (starting power 9 A, rating power 6 A) M58 = 230V 50/60Hz (starting power 9VA, rating power 6VA)
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Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 220 g
Minimum working pressure 2,5 bar

488.32.0.12.S



Weight 260 g
Minimum working pressure 2,5 bar

488.52.0.12.S



Solenoid - Solenoid

Coding: 488.0.0.0.S

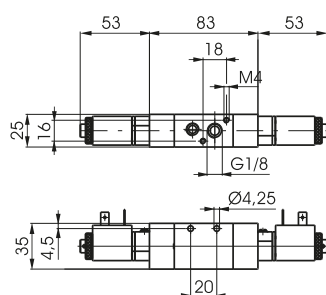
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	410
Orifice size (mm)	6
Working ports size	G 1/8"
Response time according to ISO 12238, activation time (ms)	19,0 (3 ways) 18,2 (5 ways)
Response time according to ISO 12238, deactivation time (ms)	21,1 (3 ways) 18,5 (5 ways)

TYPE	32 = 3 ways 52 = 5 ways
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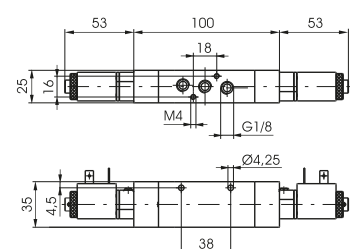
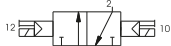
SOLENOID	M11 = 24V D.C. (rating power 3,8W) M56 = 24V 50/60Hz (starting power 9VA, rating power 6VA) M57 = 110 V 50/60Hz (starting power 9 A, rating power 6 A) M58 = 230V 50/60Hz (starting power 9VA, rating power 6VA)
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Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 320 g
Minimum working pressure 2 bar

488.32.0.0.S



Weight 360 g
Minimum working pressure 2 bar

488.52.0.0.S



Solenoid - Solenoid 5 ways 3 connections

Coding: 488.53.ⓕ.0.0.Ⓢ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (l/min)	410
Orifice size (mm)	6
Working ports size	G 1/8"
Response time according to ISO 12238, activation time (ms)	23,0 (closed centres) 21,5 (open centres) 18,9 (pressured centres)
Response time according to ISO 12238, deactivation time (ms)	41,0 (closed centres) 38,0 (open centres) 40,2 (pressured centres)

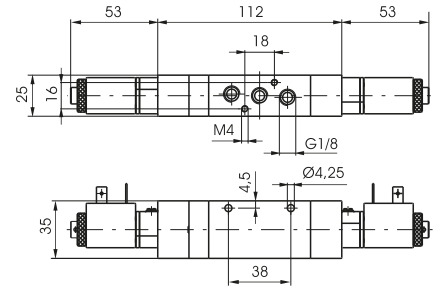
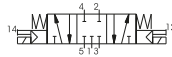
FUNCTION		SOLENOID	
ⓕ	31 = Closed centres	M11 =	24V D.C. (rating power 3,8W)
	32 = Open centres	M56 =	24V 50/60Hz (starting power 9VA, rating power 6VA)
	33 = Pressured centres	M57 =	110 V 50/60Hz (starting power 9 A, rating power 6 A)
Ⓢ		M58 =	230V 50/60Hz (starting power 9VA, rating power 6VA)

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



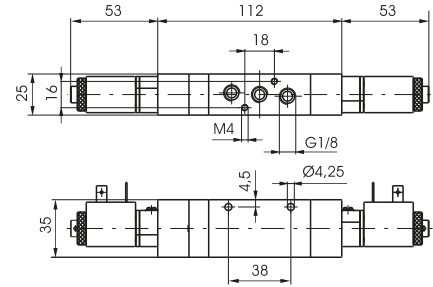
Weight 400 g
Minimum working pressure 3 bar

488.53.31.0.0.Ⓢ



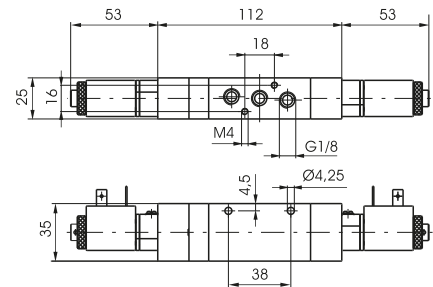
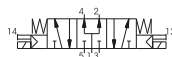
Weight 400 g
Minimum working pressure 3 bar

488.53.32.0.0.Ⓢ



Weight 400 g
Minimum working pressure 3 bar

488.53.33.0.0.Ⓢ



1
AIR DISTRIBUTION

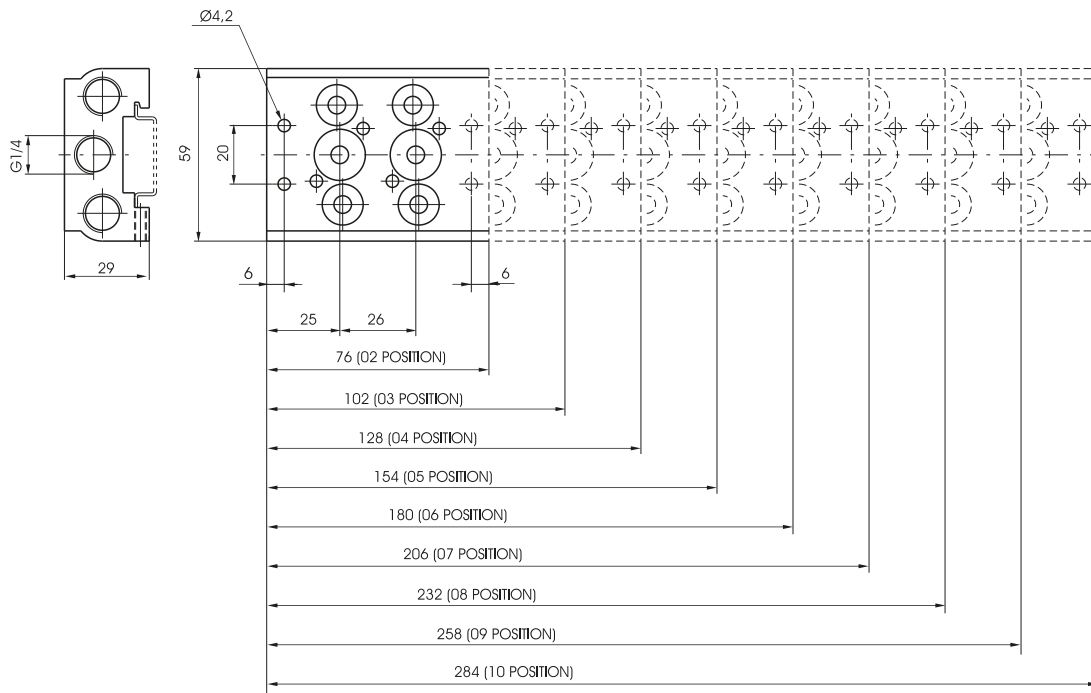


Collectors

Coding: 488.P



N. POSITIONS	
02	= 2 positions (220 g)
03	= 3 positions (290 g)
04	= 4 positions (360 g)
05	= 5 positions (430 g)
06	= 6 positions (500 g)
07	= 7 positions (570 g)
08	= 8 positions (640 g)
09	= 9 positions (710 g)
10	= 10 positions (780 g)

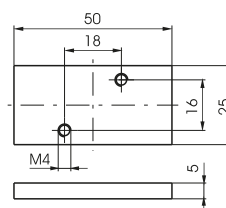


AIR DISTRIBUTION

1

Closing plate

Coding: 488.00



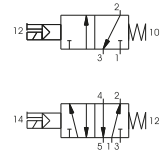
Weight 25 g

Solenoid - Spring

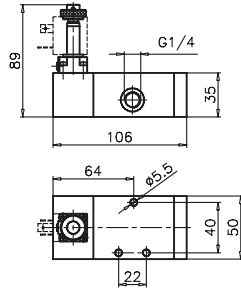
Coding: 464.Ⓜ.0.1.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G 1/4"

TYPE	
Ⓜ	32 = 3 ways
	52 = 5 ways



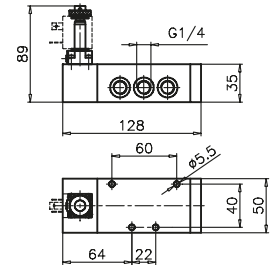
3 ways



Weight 530 g
Minimum working pressure 2,5 bar

464.32.0.1.M2

5 ways



Weight 625 g
Minimum working pressure 2,5 bar

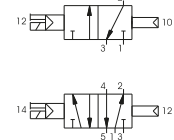
464.52.0.1.M2

Solenoid - Differential

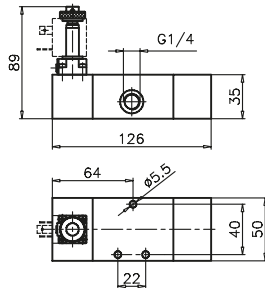
Coding: 464.Ⓜ.0.12.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G 1/4"

TYPE	
Ⓜ	32 = 3 ways
	52 = 5 ways



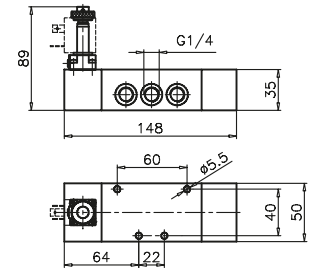
3 ways



Weight 650 g
Minimum working pressure 2,5 bar

464.32.0.12.M2

5 ways



Weight 740 g
Minimum working pressure 2,5 bar

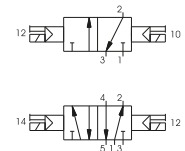
464.52.0.12.M2

Solenoid - Solenoid

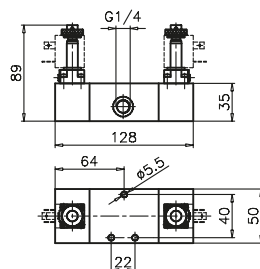
Coding: 464.Ⓜ.0.0.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G 1/4"

TYPE	
Ⓜ	32 = 3 ways
	52 = 5 ways



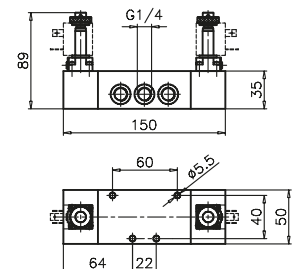
3 ways



Weight 730 g
Minimum working pressure 2 bar

464.32.0.0.M2

5 ways 2 connections



Weight 820 g
Minimum working pressure 2 bar

464.52.0.0.M2

Solenoid - Solenoid 5 ways 3 connections

Coding: 464.53.F.0.0.M2

Operational characteristics

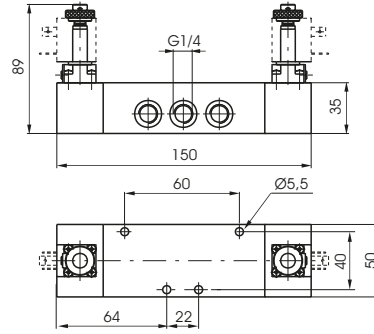
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	1280
Orifice size (mm)	8
Working ports size	G 1/4"

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres

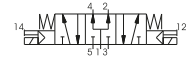
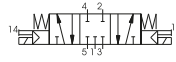
1

AIR DISTRIBUTION

5 ways 3 connections



Weight 820 g
Minimum working pressure 3 bar

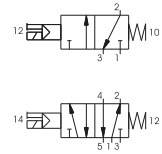


Solenoid - Spring

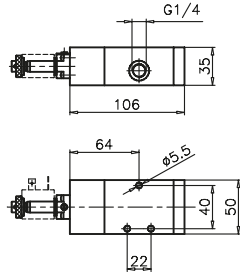
Coding: 464/1.1.0.1.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G 1/4"

TYPE	
32 = 3 ways	
52 = 5 ways	



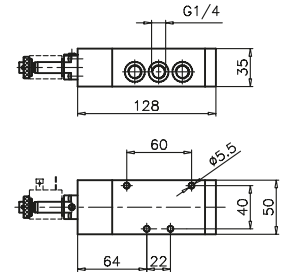
3 ways



Weight 530 g
Minimum working pressure 2,5 bar

464/1.32.0.1.M2

5 ways



Weight 625 g
Minimum working pressure 2,5 bar

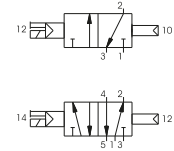
464/1.52.0.1.M2

Solenoid - Differential

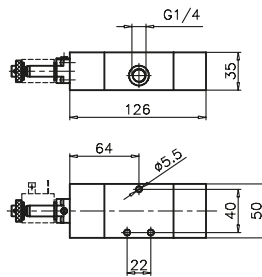
Coding: 464/1.1.0.12.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G 1/4"

TYPE	
32 = 3 ways	
52 = 5 ways	



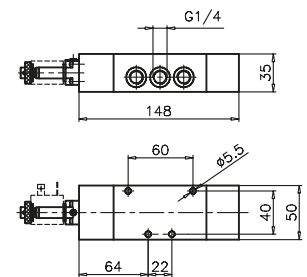
3 ways



Weight 650 g
Minimum working pressure 2,5 bar

464/1.32.0.12.M2

5 ways



Weight 740 g
Minimum working pressure 2,5 bar

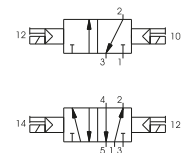
464/1.52.0.12.M2

Solenoid - Solenoid

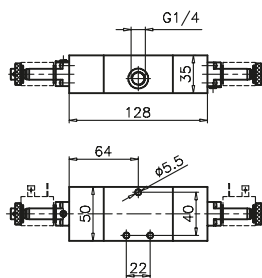
Coding: 464/1.1.0.0.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1360
Orifice size (mm)	8
Working ports size	G 1/4"

TYPE	
32 = 3 ways	
52 = 5 ways	



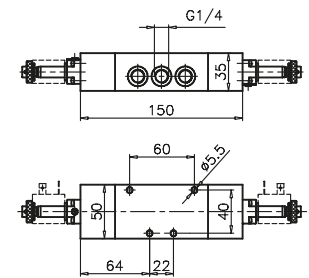
3 ways



Weight 730 g
Minimum working pressure 2 bar

464/1.32.0.0.M2

5 ways 2 connections



Weight 820 g
Minimum working pressure 2 bar

464/1.52.0.0.M2



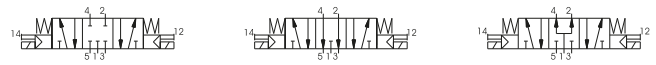
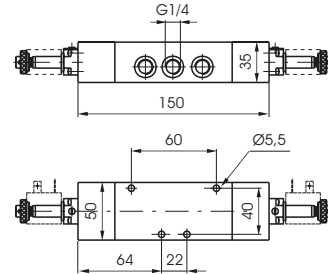
Solenoid - Solenoid 5 ways 3 connections

Coding: 464/1.53.F.0.0.M2

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1280
Orifice size (mm)	8
Working ports size	G 1/4"

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres



Weight 820 g
Minimum working pressure 3 bar

1 AIR DISTRIBUTION

Solenoid - Spring

Coding: 452.Ⓡ.0.1.M2

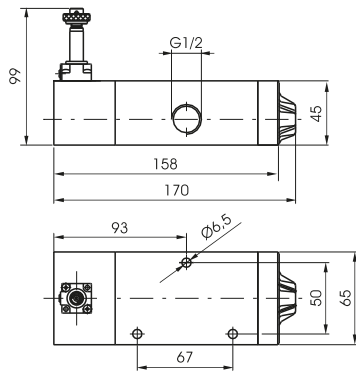
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3500
Orifice size (mm)	15
Working ports size	G 1/2"

TYPE	
Ⓡ 32 = 3 ways	
52 = 5 ways	



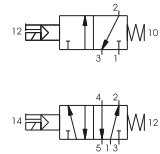
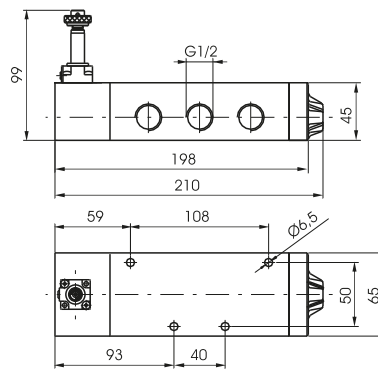
Weight 1152 g
Minimum working pressure 2,5 bar

452.32.0.1.M2



Weight 1422 g
Minimum working pressure 2,5 bar

452.52.0.1.M2



Solenoid - Differential

Coding: 452.Ⓡ.0.12.M2

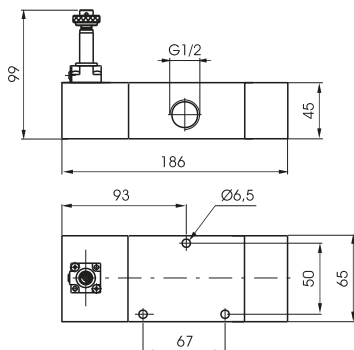
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3500
Orifice size (mm)	15
Working ports size	G 1/2"

TYPE	
Ⓡ 32 = 3 ways	
52 = 5 ways	



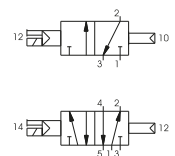
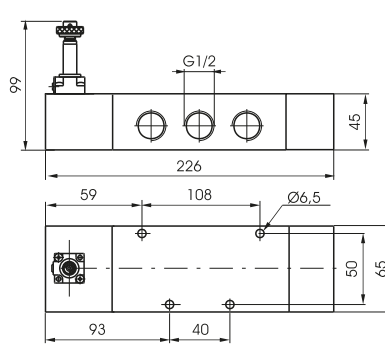
Weight 1422 g
Minimum working pressure 2,5 bar

452.32.0.12.M2



Weight 1692 g
Minimum working pressure 2 bar

452.52.0.12.M2



Solenoid - Solenoid

Coding: 452.0.0.M2

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3500
Orifice size (mm)	15
Working ports size	G 1/2"

TYPE
32 = 3 ways
52 = 5 ways



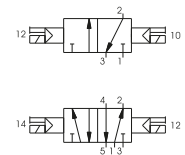
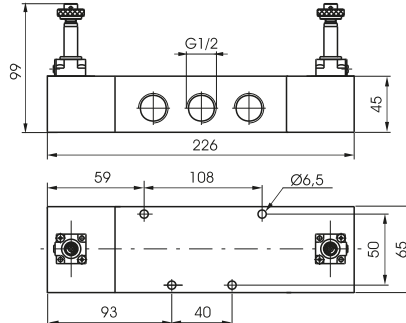
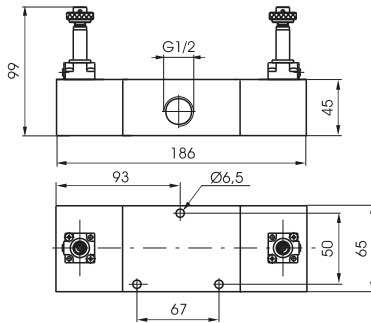
Weight 1474 g
Minimum working pressure 2 bar

452.32.0.0.M2



Weight 1744 g
Minimum working pressure 2 bar

452.52.0.0.M2



Solenoid - Solenoid 5 ways 3 connections

Coding: 452.53.0.0.M2

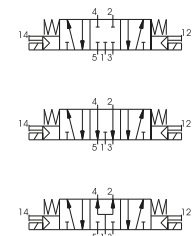
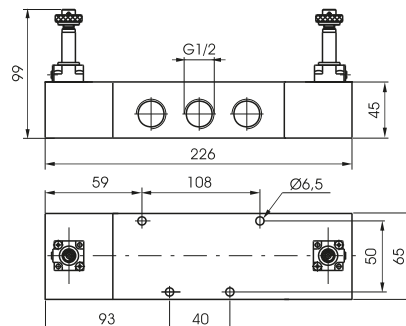
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3500
Orifice size (mm)	15
Working ports size	G 1/2"

FUNCTION
31 = Closed centres
32 = Open centres
33 = Pressured centres



Weight 1744 g
Minimum working pressure 3 bar



AIR DISTRIBUTION

1

Solenoid - Spring

Coding: 452/1.①.0.1.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3500
Orifice size (mm)	15
Working ports size	G 1/2"

TYPE	
① 32 = 3 ways	
52 = 5 ways	



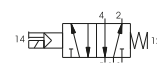
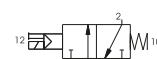
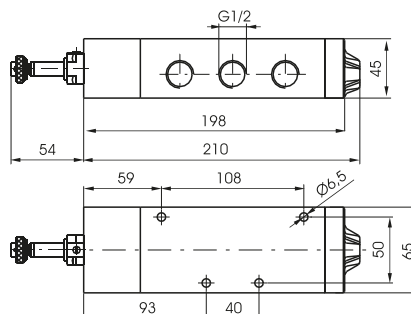
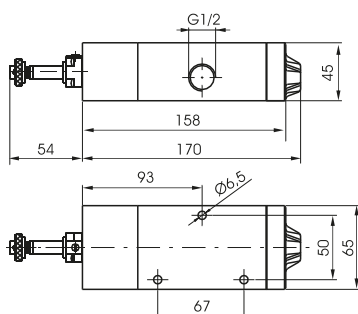
Weight 1330 g
Minimum working pressure 2,5 bar

452/1.32.0.1.M2



Weight 1600 g
Minimum working pressure 2,5 bar

452/1.52.0.1.M2



Solenoid - Differential

Coding: 452/1.①.0.12.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3500
Orifice size (mm)	15
Working ports size	G 1/2"

TYPE	
① 32 = 3 ways	
52 = 5 ways	



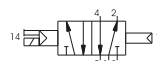
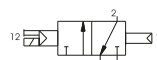
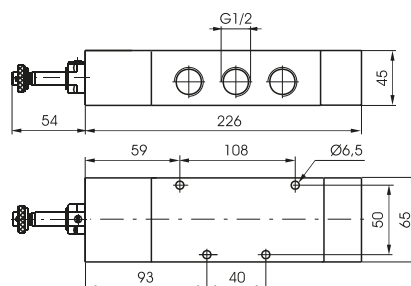
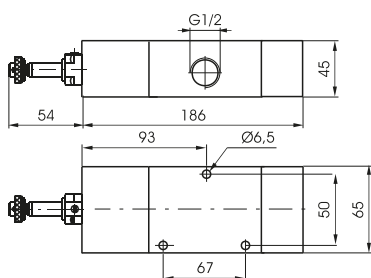
Weight 1600 g
Minimum working pressure 2,5 bar

452/1.32.0.12.M2



Weight 1870 g
Minimum working pressure 2 bar

452/1.52.0.12.M2





Coding: 452/1.0.0.M2

Solenoid - Solenoid

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3500
Orifice size (mm)	15
Working ports size	G 1/2"

TYPE	
T	32 = 3 ways
	52 = 5 ways

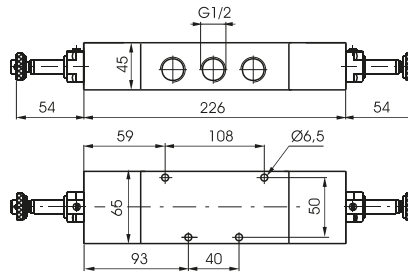
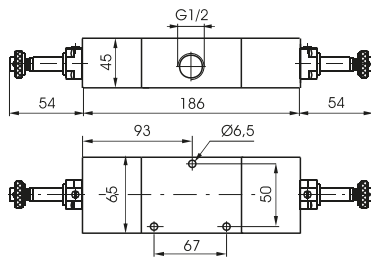


Weight 1830 g
Minimum working pressure 2 bar

452/1.32.0.0.M2

Weight 2100 g
Minimum working pressure 2 bar

452/1.52.0.0.M2



Solenoid - Solenoid 5 ways 3 connections

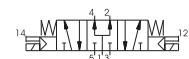
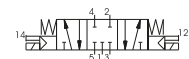
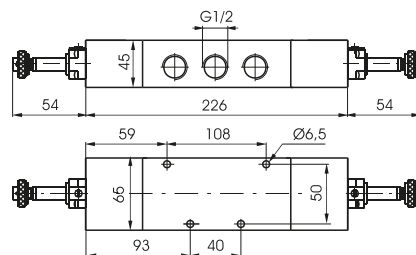
Coding: 452/1.53.0.0.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3500
Orifice size (mm)	15
Working ports size	G 1/2"

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres



Weight 2100 g
Minimum working pressure 3 bar



1 AIR DISTRIBUTION

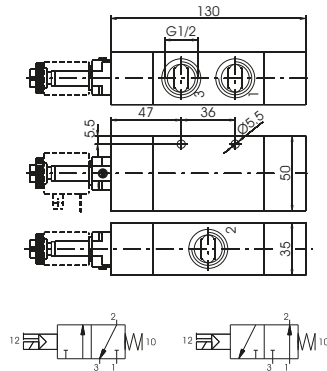
Solenoid - Spring

Coding: 412/2.1.0.1.F.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Orifice size (mm)	15
Working ports size	G 1/2"

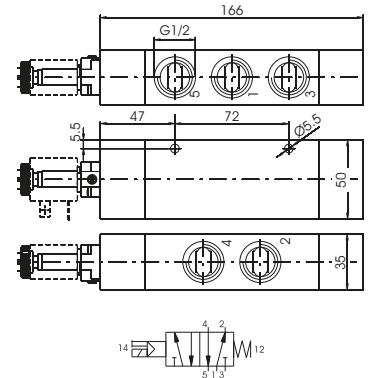
TYPE	
T	32 = 3 ways 52 = 5 ways
FUNCTION (only for 3 ways)	
F	C = Normally Closed A = Normally Open

3 ways



Weight 578 g
Minimum working pressure 2,5 bar
412/2.32.0.1.F.M2

5 ways



Weight 700 g
Minimum working pressure 2,5 bar
412/2.52.0.1.F.M2

1
AIR DISTRIBUTION

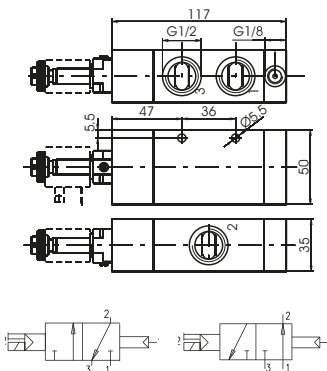
Solenoid - Differential external

Coding: 412/2.1.0.12.F.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Orifice size (mm)	15
Working ports size	G 1/2"

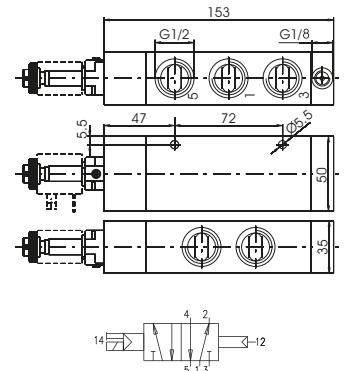
TYPE	
T	32 = 3 ways 52 = 5 ways
FUNCTION (only for 3 ways)	
F	C = Normally Closed A = Normally Open

3 ways



Weight 522 g
Minimum working pressure 2,5 bar
412/2.32.0.12.F.M2

5 ways



Weight 644 g
Minimum working pressure 2,5 bar
412/2.52.0.12.F.M2

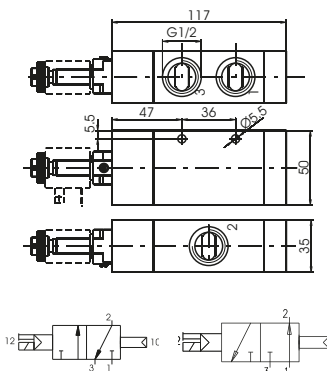
Pneumatic - Differential self aligned

Coding: 412/2.1.0.12/1.F.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Orifice size (mm)	15
Working ports size	G 1/2"

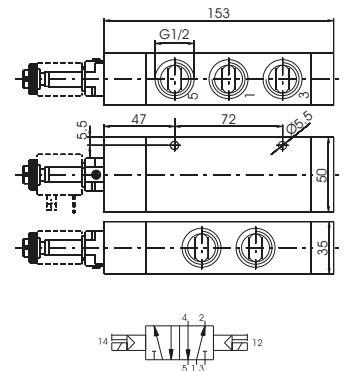
TYPE	
T	32 = 3 ways 52 = 5 ways
FUNCTION (only for 3 ways)	
F	C = Normally Closed A = Normally Open

3 ways



Weight 526 g
Minimum working pressure 2,5 bar
412/2.32.0.12/1.F.M2

5 ways



Weight 648 g
Minimum working pressure 2,5 bar
412/2.52.0.12/1.F.M2

Solenoid - Solenoid

Coding: 412/2.Ⓡ.0.0.M2

Operational characteristics

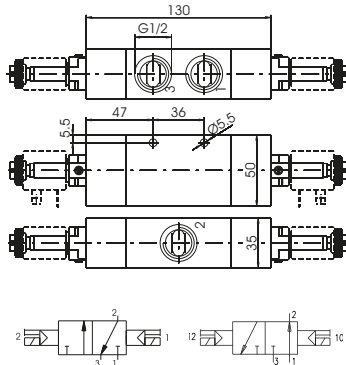
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	3600
Orifice size (mm)	15
Working ports size	G 1/2"

TYPE
Ⓡ = 3 ways
Ⓜ = 5 ways

AIR DISTRIBUTION

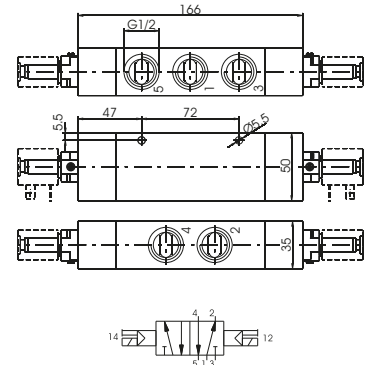
1

3 ways



Weight 612 g
Minimum working pressure 2 bar
412/2.32.0.0.M2

5 ways 2 connections



Weight 732 g
Minimum working pressure 2 bar
412/2.52.0.0.M2

Solenoid - Solenoid 5 ways 3 connections

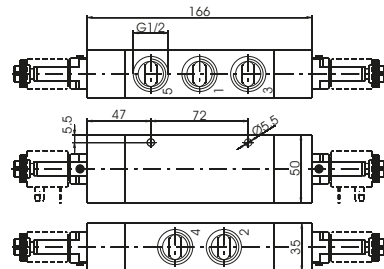
Coding: 412/2.53.Ⓡ.0.0.M2

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	3300
Orifice size (mm)	15
Working ports size	G 1/2"

FUNCTION
Ⓡ = Closed centres
Ⓜ = Open centres
Ⓢ = Pressured centres

5 ways 3 connections



Weight 794 g
Minimum working pressure 3 bar



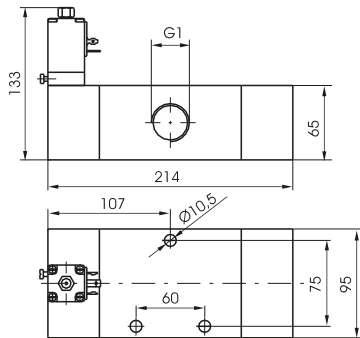
Solenoid - Spring

Coding: 411. **T**.0.1. **S**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	6500
Orifice size (mm)	20
Working ports size	G 1"

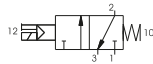
T	TYPE 32 = 3 ways 52 = 5 ways
S	SOLENOID SEE SOLENOID VALVES "S" TYPE, SERIES 300

3 ways

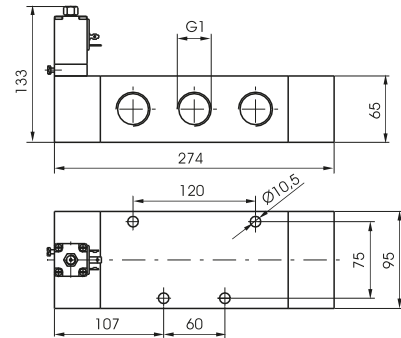


Weight 3400 g
Minimum working pressure 2,5 bar

411.32.0.1. **S**

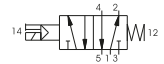


5 ways



Weight 4300 g
Minimum working pressure 2,5 bar

411.52.0.1. **S**



1
AIR DISTRIBUTION

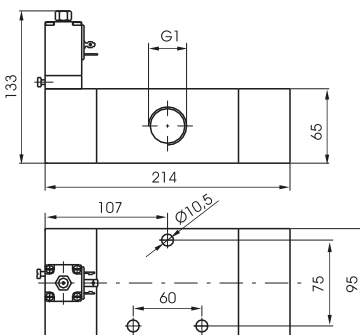
Solenoid - Differential

Coding: 411. **T**.0.12. **S**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	6500
Orifice size (mm)	20
Working ports size	G 1"

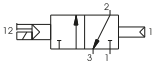
T	TYPE 32 = 3 ways 52 = 5 ways
S	SOLENOID SEE SOLENOID VALVES "S" TYPE, SERIES 300

3 ways

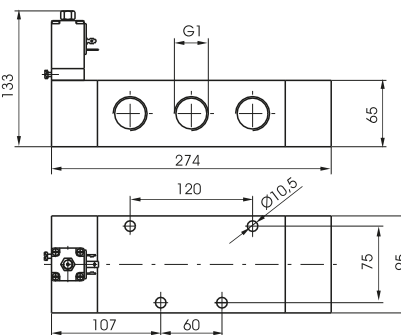


Weight 3400 g
Minimum working pressure 2,5 bar

411.32.0.12. **S**

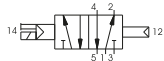


5 ways



Weight 4300 g
Minimum working pressure 2,5 bar

411.52.0.12. **S**



Solenoid - Solenoid

Coding: 411.1.0.0.S

Operational characteristics

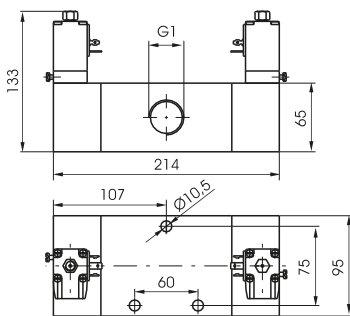
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	6500
Orifice size (mm)	20
Working ports size	G1"

TYPE	
1	32 = 3 ways
	52 = 5 ways
SOLENOID	
S	SEE SOLENOID VALVES "S" TYPE, SERIES 300

AIR DISTRIBUTION

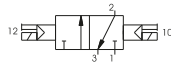
1

3 ways

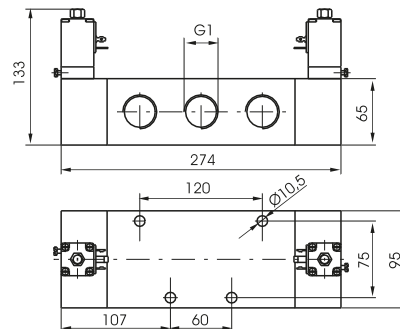


Weight 3700 g
Minimum working pressure 2 bar

411.32.0.0.S

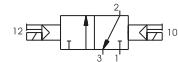


5 ways 2 connections



Weight 4600 g
Minimum working pressure 2 bar

411.52.0.0.S



Solenoid - Solenoid 5 ways 3 connections

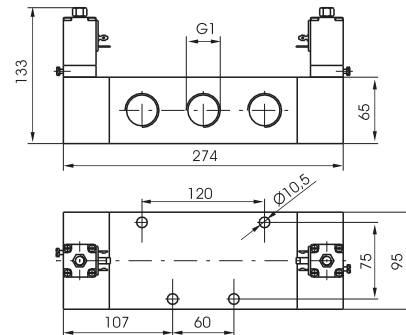
Coding: 411.53.F.0.0.S

Operational characteristics

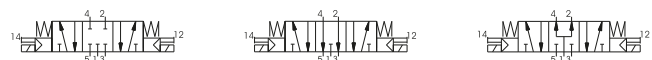
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	6500
Orifice size (mm)	20
Working ports size	G1"

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
SOLENOID	
S	SEE SOLENOID VALVES "S" TYPE, SERIES 300

5 ways 3 connections



Weight 4700 g
Minimum working pressure 3 bar





Series T400

General

The Series **T400** involves a wide range of valves and solenoid valves, with several type of acting, with connections from **G1/8" (T488)** and **G1/4" (T424)**, are manufactured with high performance technopolymer.

The use of technopolymer has resulted in a light weight product which can be offered to the market at very interesting prices.

The gang mounted solenoid valves are available with the traditional manifold obtained from bored square bar of series 600 and with the extruded aluminium base allowing a unic inlet port conveying the exhausts. The base is also prearranged to be fixed on DIN 46277/3 guide.

The Valves and Solenoid valves **G1/8" (T488)** are: 5 ways function, pneumatically operated, single solenoid (monostable) mechanical or pneumatic spring return, spring or pneumatic return, with 2 coils (bistable) and in 5 ways 3 positions version with closed, open and pressured centres.

The solenoid valves are supplied complete with coil (see Series 300) so that the tension has to be added to the solenoid valve code:

- M9** = Coil 24 V D.C. (rating power 2 watt)
- M11** = Coil 24 V D.C. (rating power 3.8 watt)
- M56** = Coil 24 V 50/60 HZ (starting power 9 VA, rating power 6 VA)
- M57** = Coil 110 V 50/60 HZ (starting power 9 VA, rating power 6 VA)
- M58** = Coil 220 V 50/60 HZ (starting power 9 VA, rating power 6 VA)

The Solenoid valves series **G1/4" (T424)**, are manufactured, depending on version and actuation (manual, pneumatic, or electrical), and self aligning (pneumatic - electric or spring) 3/2, 5/2 and 5/3 ways function, (monostable), (bistable).

The solenoid valves are supplied complete with coil so that the tension has to be added to the solenoid valve code.

- B04** = coil 12V D.C.
- B05** = coil 24V D.C.
- B09** = coil 24V (2W) D.C.
- B56** = coil 24V 50/60 Hz A.C.
- B57** = coil 110V 50/60 Hz A.C.
- B58** = coil 220V 50/60 Hz A.C.

1
AIR DISTRIBUTION

Construction characteristics

Body	Technopolymer
Spacer	Technopolymer
Spacers	NBR
Piston seals	NBR
Springs	AISI 302 stainless steel
Operators	Technopolymer
Pistons	Technopolymer
Spools	Nickel - plated steel / Technopolymer

Maximum fitting torque

Thread	Maximum torque (Nm)
G 1/8"	4
G1/4"	9

Use and maintenance

This valves have an average life of 15 million cycles depending on the application and air quality.

Filtered and lubricated air using specified lubricants will reduce the wear of the seals and ensures long and trouble free operation.

Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature.

The exhaust port of the distributor has to be protected in a dusty and dirty environment.

Repair kits including the spool complete with seals are available for overhauling the valves.

However, although this is a simple operation it should be carried out by a competent person.

ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).

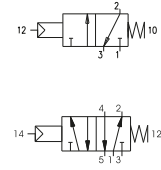
Pneumatic - Spring

Coding: T488.1.11.1

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G 1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	



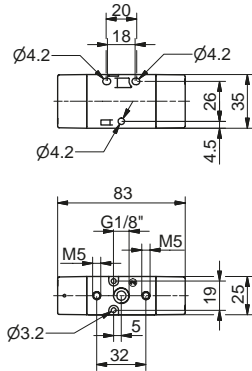
AIR DISTRIBUTION 1

3 ways



Weight 75 g
Minimum working pressure 2,5 bar

T488.32.11.1

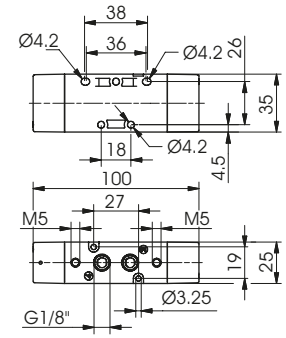


5 ways



Weight 75 g
Minimum working pressure 2,5 bar

T488.52.11.1



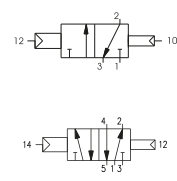
Pneumatic - Differential (External)

Coding: T488.1.11.12

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G 1/8"

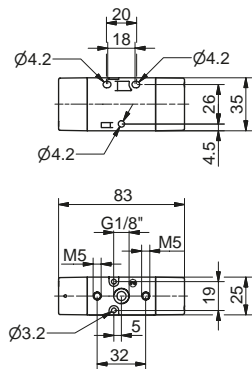
TYPE	
① 32 = 3 ways	
52 = 5 ways	



3 ways



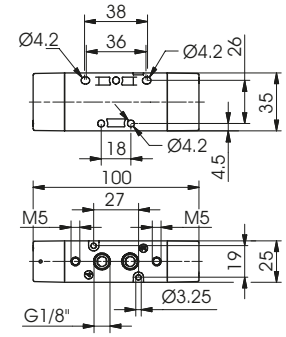
T488.32.11.12



5 ways



T488.52.11.12



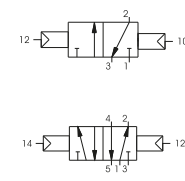
Pneumatic - Pneumatic

Coding: T488.1.11.11

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G 1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	

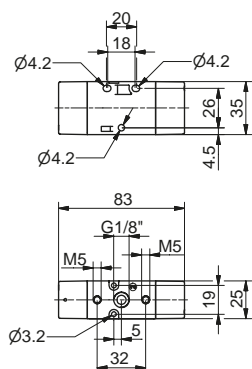


3 ways



Minimum working pressure 2 bar (for Pneumatic-Pneumatic version)

T488.32.11.11

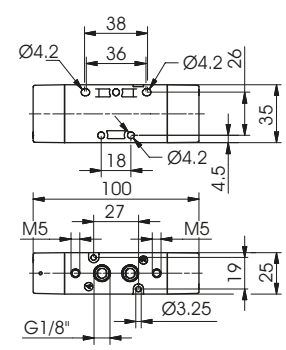


5 ways



Minimum working pressure 2 bar (for Pneumatic-Pneumatic version)

T488.52.11.11

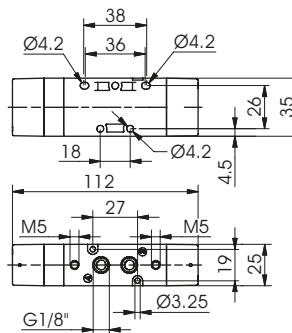


Pneumatic - Pneumatic 5 ways 3 connections

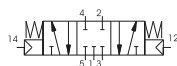
Coding: T488.53.F.11.11

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	410
Orifice size (mm)	6
Working ports size	G 1/8"

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres



Weight 140 g
Minimum working pressure 3 bar (for Pneumatic-Pneumatic version)



1
AIR DISTRIBUTION

Solenoid - Spring (Self-feeding)

Coding: T488.Ⓡ.0.1.Ⓟ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G 1/8"
Response time according to ISO 12238, activation time (ms)	23,4 (3 ways) 22,8 (5 ways)
Response time according to ISO 12238, deactivation time (ms)	41,0 (3 ways) 44,5 (5 ways)

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

TYPE	
Ⓡ	32 = 3 ways
	52 = 5 ways
VOLTAGE	
M9	= Solenoid - Spring (Self-feeding)
M11	= 24V D.C. (rating power 3,8W)
Ⓟ	M56 = 24V 50/60Hz (starting power 9VA, rating power 6VA)
	M57 = 110V 50/60Hz (starting power 9VA, rating power 6VA)
	M58 = 230V 50/60Hz (starting power 9VA, rating power 6VA)

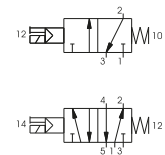
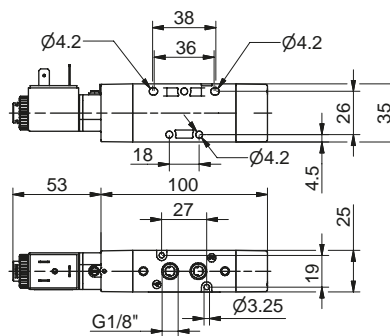
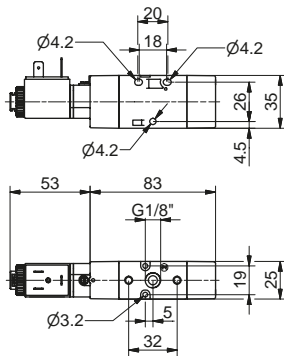


Weight 160 g
Minimum working pressure 2,5 bar

Weight 190 g
Minimum working pressure 2,5 bar

T488.32.0.1.Ⓟ

T488.52.0.1.Ⓟ



Solenoid - Spring (External-feeding)

Coding: T488.Ⓡ.0.1.E.Ⓟ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G 1/8"
Response time according to ISO 12238, activation time (ms)	23,4 (3 ways) 22,8 (5 ways)
Response time according to ISO 12238, deactivation time (ms)	41,0 (3 ways) 44,5 (5 ways)

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

TYPE	
Ⓡ	32 = 3 ways
	52 = 5 ways
VOLTAGE	
M9	= Solenoid - Spring (Self-feeding)
M11	= 24V D.C. (rating power 3,8W)
Ⓟ	M56 = 24V 50/60Hz (starting power 9VA, rating power 6VA)
	M57 = 110V 50/60Hz (starting power 9VA, rating power 6VA)
	M58 = 230V 50/60Hz (starting power 9VA, rating power 6VA)

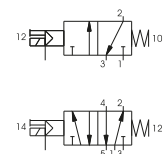
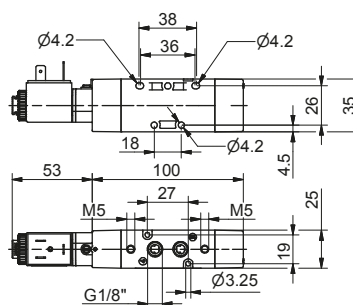
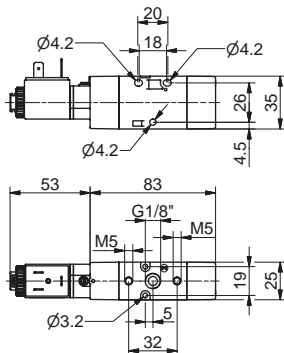


Weight 160 g
Minimum working pressure 2,5 bar

Weight 190 g
Minimum working pressure 2,5 bar

T488.32.0.1.E.Ⓟ

T488.52.0.1.E.Ⓟ



Solenoid - Differential (Self-feeding)

Coding: T488.0.12.V

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G 1/8"
Response time according to ISO 12238, activation time (ms)	31,1 (3 ways) 27,9 (5 ways)
Response time according to ISO 12238, deactivation time (ms)	35,0 (3 ways) 34,5 (5 ways)

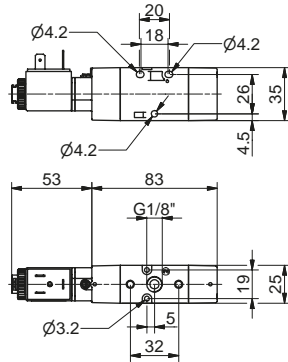
Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

TYPE	
① 32 = 3 ways	
52 = 5 ways	
VOLTAGE	
M9 = Solenoid - Spring (Self-feeding)	
M11 = 24V D.C. (rating power 3,8W)	
⑤ M56 = 24V 50/60Hz (starting power 9VA, rating power 6VA)	
M57 = 110 V 50/60Hz (starting power 9VA, rating power 6VA)	
M58 = 230V 50/60Hz (starting power 9VA, rating power 6VA)	



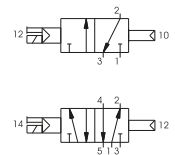
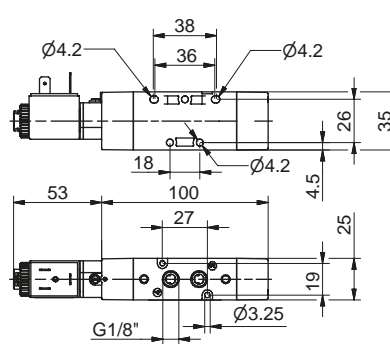
Weight 160 g
Minimum working pressure 2,5 bar

T488.32.0.12.V



Weight 190 g
Minimum working pressure 2,5 bar

T488.52.0.12.V



Solenoid - Differential (External-feeding)

Coding: T488.0.12E.V

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G 1/8"
Response time according to ISO 12238, activation time (ms)	31,1 (3 ways) 27,9 (5 ways)
Response time according to ISO 12238, deactivation time (ms)	35,0 (3 ways) 34,5 (5 ways)

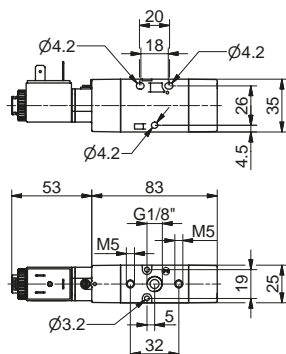
Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

TYPE	
① 32 = 3 ways	
52 = 5 ways	
VOLTAGE	
M9 = Solenoid - Spring (Self-feeding)	
M11 = 24V D.C. (rating power 3,8W)	
⑤ M56 = 24V 50/60Hz (starting power 9VA, rating power 6VA)	
M57 = 110 V 50/60Hz (starting power 9VA, rating power 6VA)	
M58 = 230V 50/60Hz (starting power 9VA, rating power 6VA)	



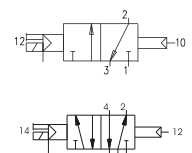
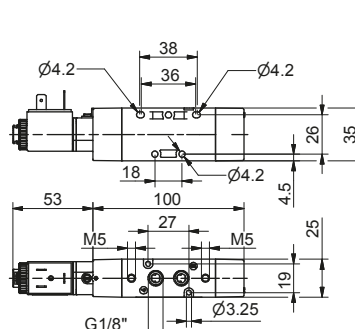
Weight 160 g
Minimum working pressure 2,5 bar

T488.32.0.12E.V



Weight 190 g
Minimum working pressure 2,5 bar

T488.52.0.12E.V



Solenoid - Solenoid (Self-feeding)

Coding: T488.Ⓡ.0.0.Ⓥ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G 1/8"
Response time according to ISO 12238, activation time (ms)	18,8 (3 ways) 18,0 (5 ways)
Response time according to ISO 12238, deactivation time (ms)	18,0 (3 ways) 19,1 (5 ways)

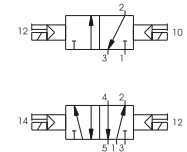
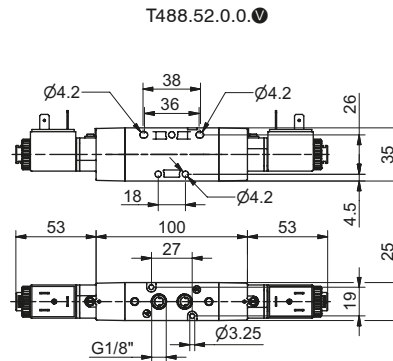
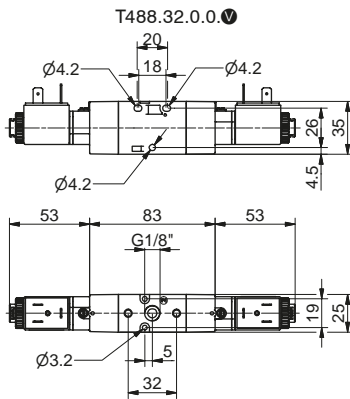
Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

TYPE	
Ⓡ	32 = 3 ways
	52 = 5 ways
VOLTAGE	
M9	= Solenoid - Spring (Self-feeding)
M11	= 24V D.C. (rating power 3,8W)
Ⓥ	M56 = 24V 50/60Hz (starting power 9VA, rating power 6VA)
	M57 = 110V 50/60Hz (starting power 9VA, rating power 6VA)
	M58 = 230V 50/60Hz (starting power 9VA, rating power 6VA)



Weight 250 g
Minimum working pressure 2 bar

Weight 290 g
Minimum working pressure 2 bar



Solenoid - Solenoid (External-feeding)

Coding: T488.Ⓡ.0.0.E.Ⓥ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	620
Orifice size (mm)	6
Working ports size	G 1/8"
Response time according to ISO 12238, activation time (ms)	18,8 (3 ways) 18,0 (5 ways)
Response time according to ISO 12238, deactivation time (ms)	18,0 (3 ways) 19,1 (5 ways)

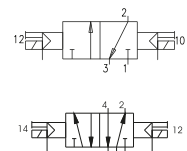
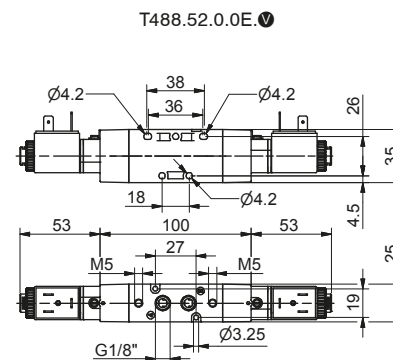
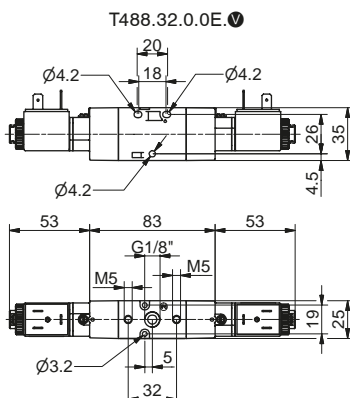
Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

TYPE	
Ⓡ	32 = 3 ways
	52 = 5 ways
VOLTAGE	
M9	= Solenoid - Spring (Self-feeding)
M11	= 24V D.C. (rating power 3,8W)
Ⓥ	M56 = 24V 50/60Hz (starting power 9VA, rating power 6VA)
	M57 = 110V 50/60Hz (starting power 9VA, rating power 6VA)
	M58 = 230V 50/60Hz (starting power 9VA, rating power 6VA)



Weight 250 g
Minimum working pressure 2 bar

Weight 290 g
Minimum working pressure 2 bar



Solenoid - Solenoid 5 ways 3 connections (Self-feeding)

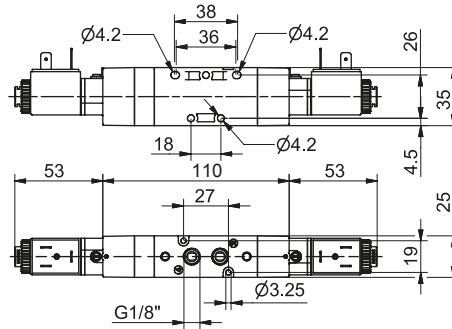
Coding: T488.53.F.0.0.V

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	410
Orifice size (mm)	6
Working ports size	G 1/8"
Response time according to ISO 12238, activation time (ms)	21,3 (closed centres) 21,5 (open centres) 19,5 (pressured centres)
Response time according to ISO 12238, deactivation time (ms)	37,0 (closed centres) 34,5 (open centres) 37,3 (pressured centres)

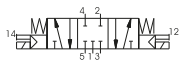
Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

FUNCTION	
F	31 = Closed centres 32 = Open centres 33 = Pressured centres
VOLTAGE	
M9	= Solenoid - Spring (Self-feeding)
M11	= 24V D.C. (rating power 3,8W)
V	M56 = 24V 50/60Hz (starting power 9VA, rating power 6VA)
	M57 = 110 V 50/60Hz (starting power 9VA, rating power 6VA)
	M58 = 230V 50/60Hz (starting power 9VA, rating power 6VA)

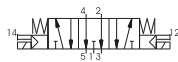
Minimum working pressure 3 bar
Weight 330 g



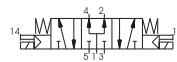
T488.53.31.0.0.V



T488.53.32.0.0.V



T488.53.33.0.0.V



Solenoid - Solenoid 5/3 (External-feeding)

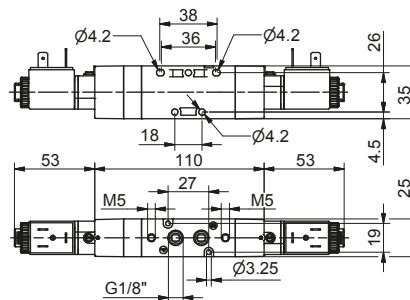
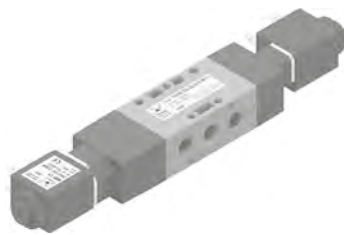
Coding: T488.53.F.0.E.V

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	410
Orifice size (mm)	6
Working ports size	G 1/8"
Response time according to ISO 12238, activation time (ms)	21,3 (closed centres) 21,5 (open centres) 19,5 (pressured centres)
Response time according to ISO 12238, deactivation time (ms)	37,0 (closed centres) 34,5 (open centres) 37,3 (pressured centres)

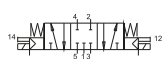
Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

FUNCTION	
F	31 = Closed centres 32 = Open centres 33 = Pressured centres
VOLTAGE	
M9	= Solenoid - Spring (Self-feeding)
M11	= 24V D.C. (rating power 3,8W)
V	M56 = 24V 50/60Hz (starting power 9VA, rating power 6VA)
	M57 = 110 V 50/60Hz (starting power 9VA, rating power 6VA)
	M58 = 230V 50/60Hz (starting power 9VA, rating power 6VA)

Minimum working pressure 3 bar
Weight 330 g



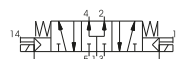
T488.53.31.0.0.E.V



T488.53.32.0.0.E.V



T488.53.33.0.0.E.V



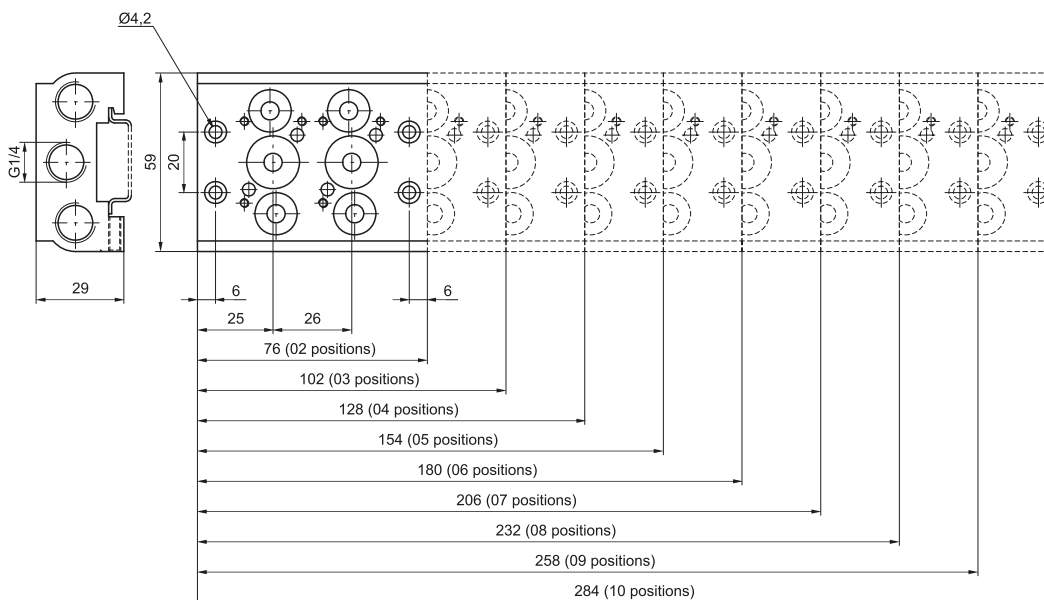


Collectors

Coding: T488.Ⓟ

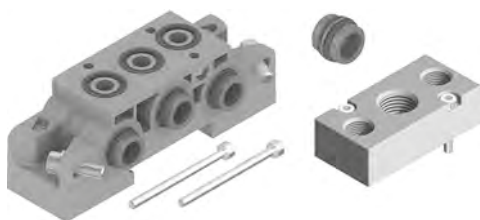


N. POSITIONS
02 = 2 positions (220 g)
03 = 3 positions (290 g)
04 = 4 positions (360 g)
Ⓟ 05 = 5 positions (430 g)
06 = 6 positions (500 g)
07 = 7 positions (570 g)
08 = 8 positions (640 g)
09 = 9 positions (710 g)
10 = 10 positions (780 g)



Modular base

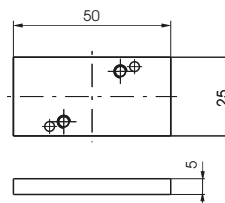
Coding: T488.Ⓜ



TYPE
01 = Single complete base
01K = Complete modular bases (batches of 20 pieces)
30K = Hollow bush, complete with O-rings (Nr. 50 pieces)
31K = Blank bush, complete with O-rings (Nr. 50 pieces)
Ⓜ 32K = Intermediate air intake with screw (Nr. 5 pieces)
33 = Screw to suite solenoid valves (Nr. 50 pieces)
34 = Screw for joining bases (Nr. 50 pieces)
35 = Washer for screw for joining bases (Nr. 50 pieces)
36 = OR (50 pz)

Closing plate

Coding: T488.00



weight 25

AIR DISTRIBUTION

Solenoid - Spring (Self-feeding)

Coding: T424.①.0.1.⑤

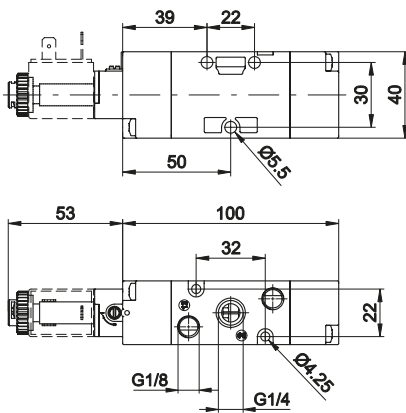
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1050
Orifice size (mm)	8.5
Working ports size	G 1/4"

TYPE	
① 32 = 3 ways	
52 = 5 ways	
VOLTAGE	
B04 = 12 V DC	
B05 = 24 V DC	
⑤ B09 = 24 V DC (2 W)	
B56 = 24 V 50-60 Hz	
B57 = 110 V 50-60 Hz	
B58 = 230 V 50-60 Hz	



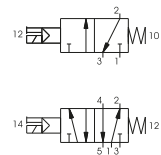
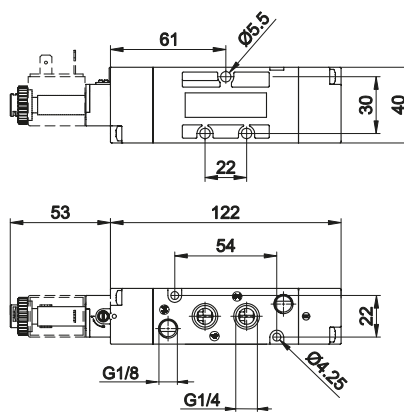
Weight 205 g
Minimum piloting pressure 2,5 bar

T424.32.0.1.⑤



Weight 235 g
Minimum piloting pressure 2,5 bar

T424.52.0.1.⑤



Solenoid - Spring (External-feeding)

Coding: T424.①.0.1.E.⑤

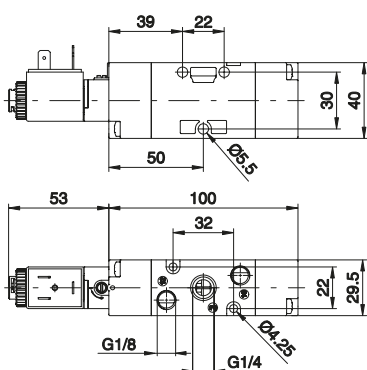
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1050
Orifice size (mm)	8.5
Working ports size	G 1/4"
Pilot ports size	G 1/8"

TYPE	
① 32 = 3 ways	
52 = 5 ways	
VOLTAGE	
B04 = 12 V DC	
B05 = 24 V DC	
⑤ B09 = 24 V DC (2 W)	
B56 = 24 V 50-60 Hz	
B57 = 110 V 50-60 Hz	
B58 = 230 V 50-60 Hz	



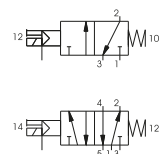
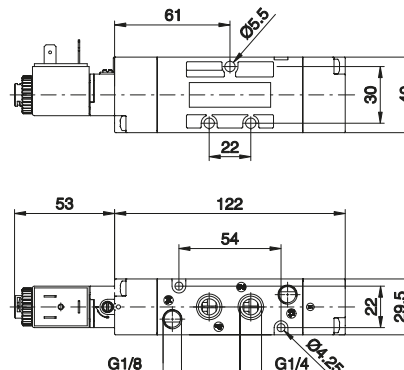
Weight 205 g
Minimum piloting pressure 2,5 bar

T424.32.0.1.E.⑤



Weight 235 g
Minimum piloting pressure 2,5 bar

T424.52.0.1.E.⑤



Solenoid - Differential (Self-feeding)

Coding: T424.Ⓡ.0.12.Ⓟ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1050
Orifice size (mm)	8.5
Working ports size	G 1/4"

TYPE	
Ⓡ	32 = 3 ways
	52 = 5 ways
VOLTAGE	
	B04 = 12 V DC
	B05 = 24 V DC
Ⓟ	B09 = 24 V DC (2 W)
	B56 = 24 V 50-60 Hz
	B57 = 110 V 50-60 Hz
	B58 = 230 V 50-60 Hz

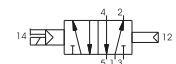
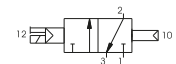
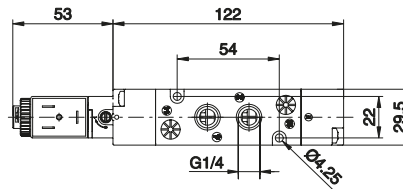
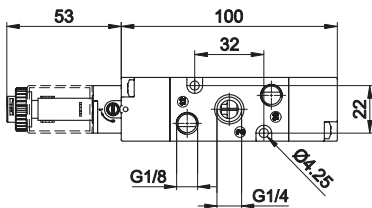
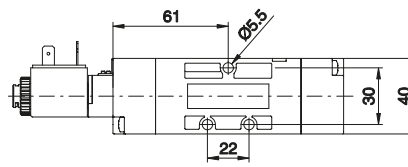
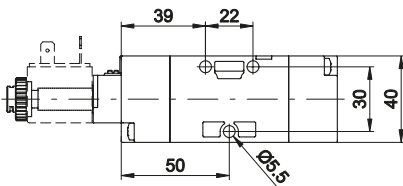


Weight 205 g
Minimum piloting pressure 2 bar

Weight 235 g
Minimum piloting pressure 2 bar

T424.32.0.12.Ⓟ

T424.52.0.12.Ⓟ



Solenoid - Differential (External-feeding)

Coding: T424.Ⓡ.0.12.E.Ⓟ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1050
Orifice size (mm)	8.5
Working ports size	G 1/4"
Pilot ports size	G 1/8"

TYPE	
Ⓡ	32 = 3 ways
	52 = 5 ways
VOLTAGE	
	B04 = 12 V DC
	B05 = 24 V DC
Ⓟ	B09 = 24 V DC (2 W)
	B56 = 24 V 50-60 Hz
	B57 = 110 V 50-60 Hz
	B58 = 230 V 50-60 Hz

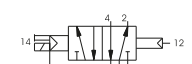
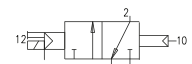
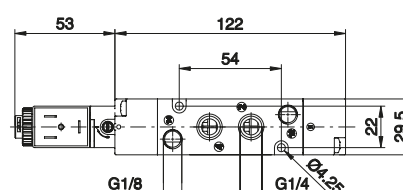
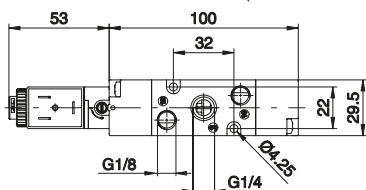
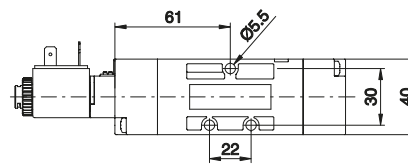
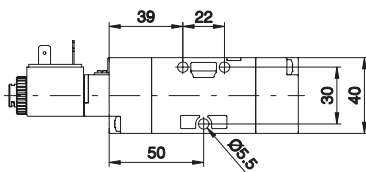


Weight 205 g
Minimum piloting pressure 2 bar

Weight 235 g
Minimum piloting pressure 2 bar

T424.32.0.12.E.Ⓟ

T424.52.0.12.E.Ⓟ



Solenoid - Solenoid (Self-feeding)

Coding: T424.1.0.0.0.0

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1050
Orifice size (mm)	8.5
Working ports size	G 1/4"

TYPE	
1 32 = 3 ways	
52 = 5 ways	
VOLTAGE	
B04 = 12 V DC	
B05 = 24 V DC	
09 B09 = 24 V DC (2 W)	
B56 = 24 V 50-60 Hz	
B57 = 110 V 50-60 Hz	
B58 = 230 V 50-60 Hz	



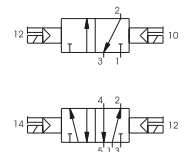
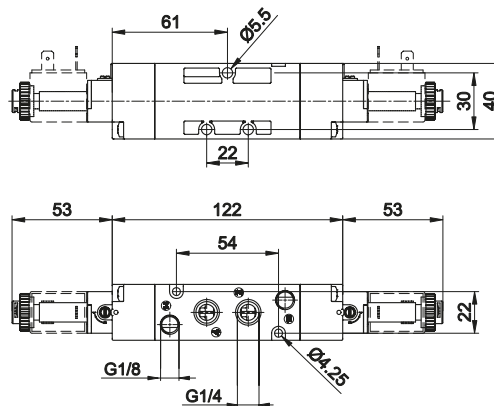
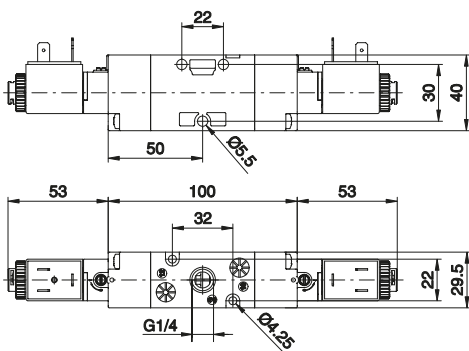
Weight 240 g
Minimum piloting pressure 2 bar

T424.32.0.0.0.0



Weight 270 g
Minimum piloting pressure 2 bar

T424.52.0.0.0.0



Solenoid - Solenoid (External-feeding)

Coding: T424.1.0.0.0.E.0

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1050
Orifice size (mm)	8.5
Working ports size	G 1/4"
Pilot ports size	G 1/8"

TYPE	
1 32 = 3 ways	
52 = 5 ways	
VOLTAGE	
B04 = 12 V DC	
B05 = 24 V DC	
09 B09 = 24 V DC (2 W)	
B56 = 24 V 50-60 Hz	
B57 = 110 V 50-60 Hz	
B58 = 230 V 50-60 Hz	



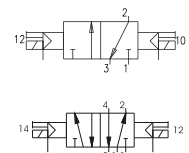
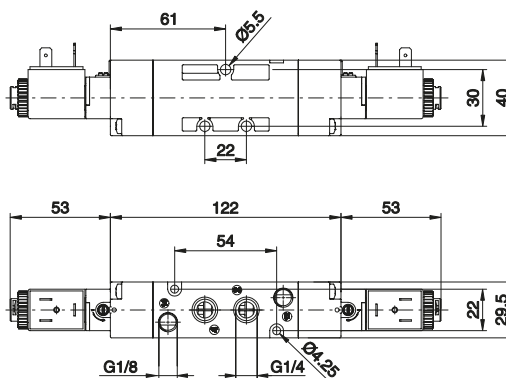
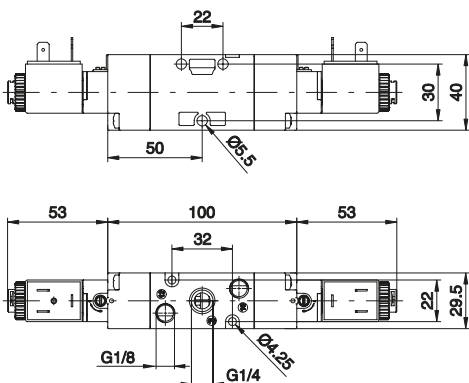
Weight 240 g
Minimum piloting pressure 2 bar

T424.32.0.0.0.E.0



Weight 270 g
Minimum piloting pressure 2 bar

T424.52.0.0.0.E.0

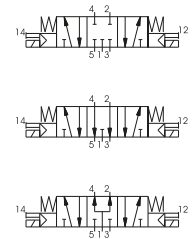
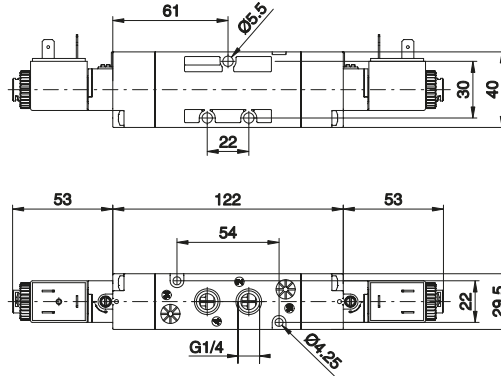
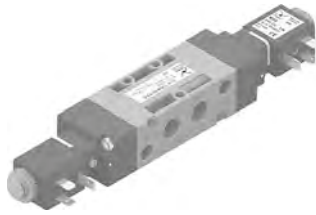


Solenoid - Solenoid (Self-feeding)

Coding: T424.53.ⓕ.0.0.Ⓥ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900
Orifice size (mm)	8.5
Working ports size	G 1/4"

FUNCTION	
ⓕ	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
VOLTAGE	
	B04 = 12 V DC
	B05 = 24 V DC
Ⓥ	B09 = 24 V DC (2 W)
	B56 = 24 V 50-60 Hz
	B57 = 110 V 50-60 Hz
	B58 = 230 V 50-60 Hz



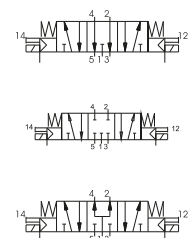
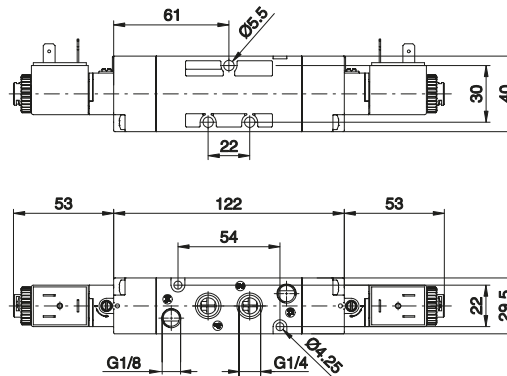
Weight 295 g
Minimum piloting pressure 3 bar

Solenoid - Solenoid (External-feeding)

Coding: T424.53.ⓕ.0.0.E.Ⓥ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900
Orifice size (mm)	8.5
Working ports size	G 1/4"
Pilot ports size	G 1/8"

FUNCTION	
ⓕ	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
VOLTAGE	
	B04 = 12 V DC
	B05 = 24 V DC
Ⓥ	B09 = 24 V DC (2 W)
	B56 = 24 V 50-60 Hz
	B57 = 110 V 50-60 Hz
	B58 = 230 V 50-60 Hz



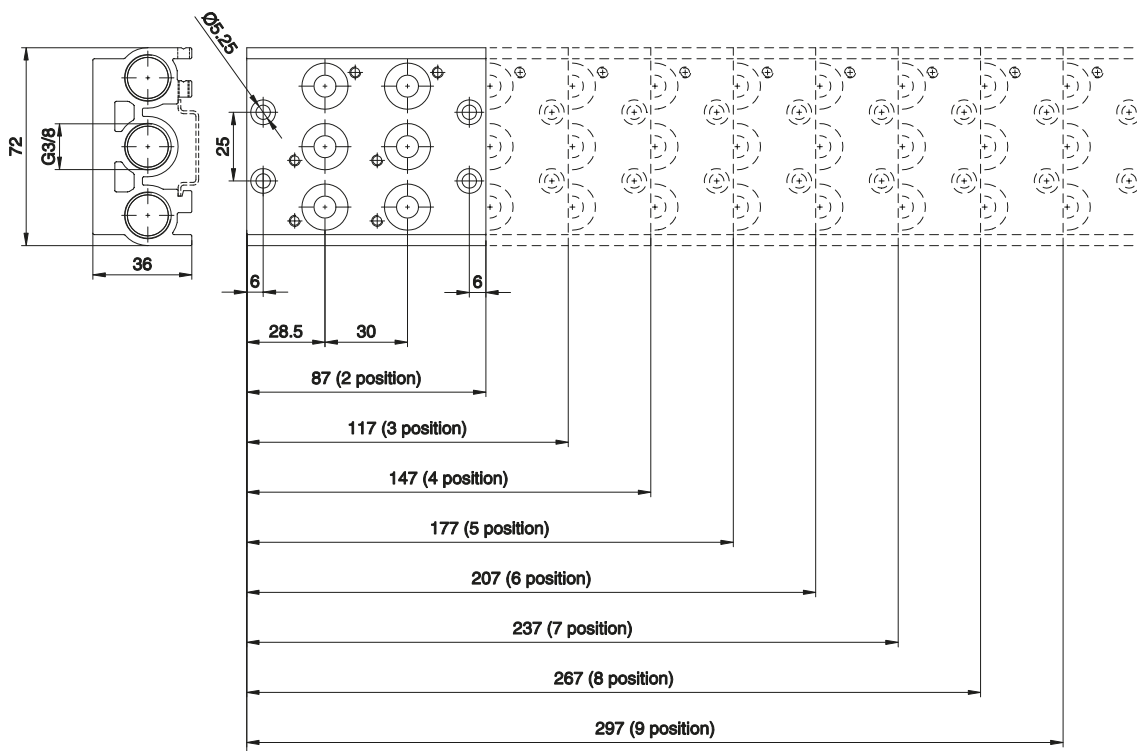
Weight 295 g
Minimum piloting pressure 3 bar

Collectors



Coding: T424.**N**

N. POSITIONS	
02	= 2 positions (weight 350 g)
03	= 3 positions (weight 420 g)
04	= 4 positions (weight 560 g)
05	= 5 positions (weight 670 g)
06	= 6 positions (weight 770 g)
07	= 7 positions (weight 880 g)
08	= 8 positions (weight 980 g)
09	= 9 positions (weight 1090 g)
10	= 10 positions (weight 1200 g)



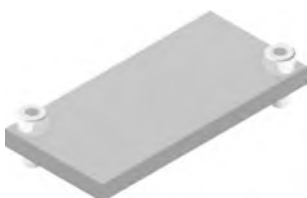
Modular collectors



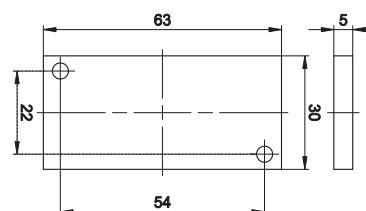
Coding: T424.**T**

TYPE	
01	= Single complete base
01K	= Complete modular bases (batches of 15 pieces)
30K	= Hollow bush, complete with O-rings (Nr. 50 pieces)
31K	= Blank bush, complete with O-rings (Nr. 50 pieces)
32K	= Intermediate air intake with screw (Nr. 5 pieces)
33	= Screw to suite solenoid valves (Nr. 50 pieces)
34	= Screw for joining bases (Nr. 50 pieces)
35	= Washer for screw for joining bases (Nr. 50 pieces)
36	= OR (50 pz)

Closing plate



Coding: T424.00



Weight 25 g



Series 2100 - 2400 - 2600

General

The 2000 series solenoid valves have been developed to meet requirements for electronically controlled pneumatic systems and / or serial control systems already used in all manufacturing sectors. They have been designed to be easily assembled into groups or manifolds and include integral electrical connection (2100 and 2400), to facilitate simple and speedy integration into a control system. The series comprises a range of products classified according to type, size and performance. There are three main sizes, 10mm., 18 mm. and 26 mm., with each size further divided into 3 types "LINE", "FLAT" and "VDMA" or "BASE". The 10mm. and 18 mm. 24 VDC range of valves includes a range of accessories for the production of manifolded valve assemblies with integral electrical connections. Modules are available in two or four station variants for flexibility and are supplied to IP40 or alternatively IP65 environmental protection.

Construction characteristics

	Series 2100	Series 2400	Series 2600
Central body	Extruded aluminium bar with chemical nickel treatment and PTFE (polytetrafluorethylene)	Extruded aluminium bar with chemical nickel treatment and PTFE (polytetrafluorethylene)	Extruded aluminium bar with chemical nickel treatment and PTFE (polytetrafluorethylene)
Connection plates	Technopolymer	Zincalloy	Die-cast aluminium
Piston seals	Oil resistant nitrile rubber - NBR	Oil resistant nitrile rubber - NBR	Oil resistant nitrile rubber - NBR
Spool seals	Oil resistant nitrile rubber - HNBR	Oil resistant nitrile rubber - HNBR	Oil resistant nitrile rubber - HNBR
Springs	AISI 302 stainless steel	AISI 302 stainless steel	AISI 302 stainless steel
Operators	Technopolymer	Technopolymer	Technopolymer
Pistons	Aluminium 2011	Technopolymer	Technopolymer
Spools	Aluminium 2011	Aluminium 2011	Aluminium 2011

Use and maintenance

The average life of the valve exceeds 50.000.000 cycles when used under optimum conditions. Adequate lubrication reduces seals wear, just as proper filtering of supply air prevents the build-up of dirt that can cause malfunction. Ensure the valve is used within our recommended criteria for pressure and temperature. In dirty or dusty environments, the exhaust ports should be protected. A seal kit including the spool is available for overhauling the valve. This operation does not require a skilled worker, although a particular care should be taken when reassembling the valve.

1 AIR DISTRIBUTION



Series 2100

General

This solenoid valves series has been developed to meet requirements for electronically controlled pneumatic systems and / or serial control systems already used in all manufacturing sectors.
They have been designed to be easily assembled into groups or manifolds and include integral electrical connection to facilitate simple and speedy integration into a control system.
The 2100 series comprises a range of products classified according to the body size of 10mm divided into 3 types "LINE", "FLAT" and "BASE".
The 10mm. and 18 mm. 24 VDC range of valves includes a range of accessories for the production of manifolded valve assemblies with integral electrical connections.
Modules are available in two or four station variants for flexibility and are supplied to IP40 or alternatively IP65 environmental protection.

Construction characteristics

Central body	Extruded aluminium bar with chemical nickel treatment and PTFE (polytetrafluorethylene)
Connection plates	Technopolymer
Operators	Technopolymer
Spool seals	Oil resistant nitrile rubber - HNBR
Spools	Aluminium 2011
Springs	AISI 302 stainless steel
Pistons	Aluminium 2011
Piston seals	Oil resistant nitrile rubber - NBR

Ordering codes for miniature solenoid valves

The 10 mm. miniature solenoid valve with 0,7 mm. orifice has been selected for piloting this series of valves (see Series 300).
This results in low response times and reduced power consumption.
The valve can be supplied with the coil upward or downward depending on the application.

Codes are as follows:

Coil upward code

01 = miniature sol. 12 VDC 90°conn. with led
21 = miniature sol. 12 VDC line conn. with led
02 = miniature sol. 24 VDC 90°conn. with led
22 = miniature sol. 24 VDC line conn. with led

Coil downward code

11 = miniature sol. 12 VDC 90° conn. with led
31 = miniature sol. 12 VDC line conn. with led
12 = miniature sol. 24 VDC 90°conn. with led
32 = miniature sol. 24 VDC line conn. with led
91 = miniature sol. 12 VDC for integral electrical connections
92 = miniature sol. 24 VDC for integral electrical connections

Miniature solenoid  homologated are available (see Series 300).

Use and maintenance

The average life of the solenoid valve exceeds 50.000.000 cycles when used under optimum conditions.
Adequate lubrication reduces seals wear, just as proper filtering of supply air prevents the build-up of dirt that can cause malfunction.
Ensure the valve is used within our recommended criteria for pressure and temperature.
In dirty or dusty environments, the exhaust ports should be protected.
A seal kit including the spool is available for overhauling the valve. This operation does not require a skilled worker, although a particular care should be taken when reassembling the valve.



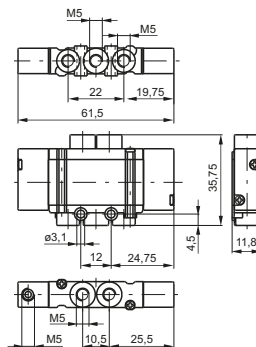
1
AIR DISTRIBUTION

Pneumatic - Spring

Coding: 2115.52.00.19

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



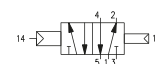
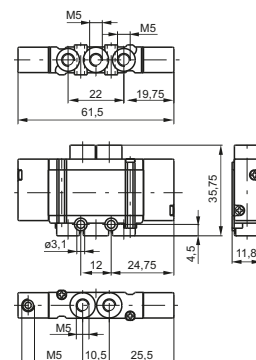
Weight 30 g
Minimum piloting pressure 2 bar

Pneumatic - Differential

Coding: 2115.52.00.16

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



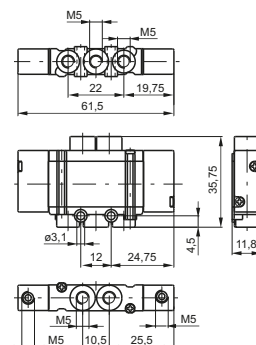
Weight 28 g
Minimum piloting pressure 2 bar

Pneumatic - Pneumatic

Coding: 2115.52.00.18

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



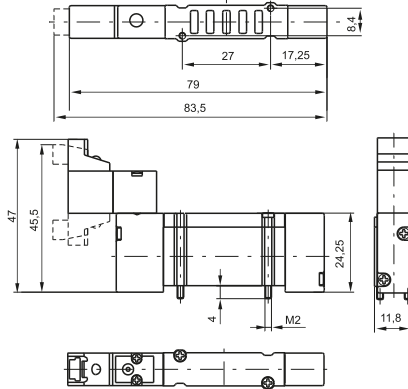
Weight 30 g
Minimum piloting pressure 2 bar

Solenoid - Spring

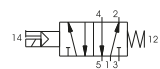
Coding: 2115.52.00.39. **T**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5

VOLTAGE	
01	= 12 VDC 90° conn. with led
21	= 12 VDC line conn. with led
02	= 24 VDC 90° conn. with led
22	= 24 VDC line conn. with led
11	= 12 VDC 90° conn. with led downward
31	= 12 VDC line conn. with led downward
12	= 24 VDC 90° conn. with led downward
32	= 24 VDC line conn. with led downward



Weight 42 g
Minimum piloting pressure 2 bar

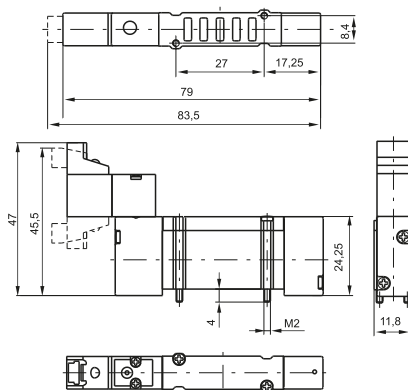


Solenoid - Differential

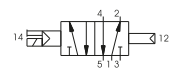
Coding: 2115.52.00.36. **T**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5

VOLTAGE	
01	= 12 VDC 90° conn. with led
21	= 12 VDC line conn. with led
02	= 24 VDC 90° conn. with led
22	= 24 VDC line conn. with led
11	= 12 VDC 90° conn. with led downward
31	= 12 VDC line conn. with led downward
12	= 24 VDC 90° conn. with led downward
32	= 24 VDC line conn. with led downward



Weight 42 g
Minimum piloting pressure 2 bar

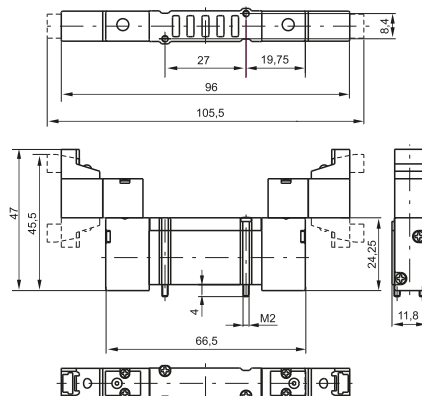


Solenoid - Solenoid

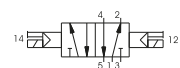
Coding: 2115.52.00.35. **T**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5

VOLTAGE	
01	= 12 VDC 90° conn. with led
21	= 12 VDC line conn. with led
02	= 24 VDC 90° conn. with led
22	= 24 VDC line conn. with led
11	= 12 VDC 90° conn. with led downward
31	= 12 VDC line conn. with led downward
12	= 24 VDC 90° conn. with led downward
32	= 24 VDC line conn. with led downward



Weight 52 g
Minimum piloting pressure 2 bar



1
AIR DISTRIBUTION



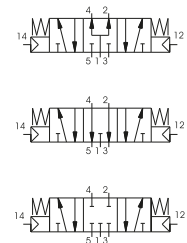
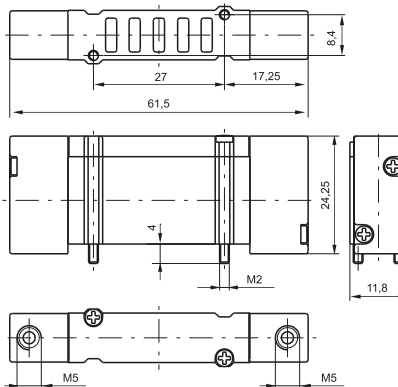
Spool valves and solenoid valves Series 2100 - Size10mm LINE

Pneumatic - Pneumatic

Coding: 2115.53. **F**.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	180 (Pressured centres) 130 (Closed centres) 140 (Open centres)
Orifice size (mm)	2.5
Working ports size	M5

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres



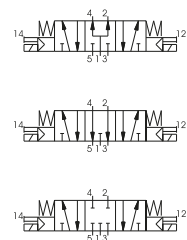
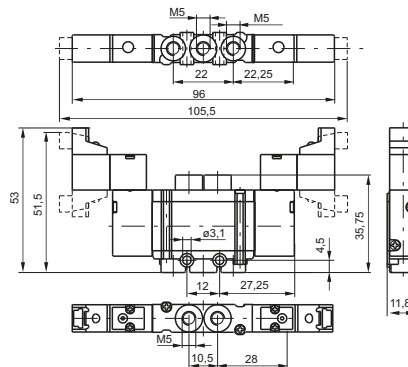
Weight 32 g
Minimum piloting pressure 2,5 bar

Coding: 2115.53. **F**.35. **T**

Solenoid - Solenoid

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	180 (Pressured centres) 130 (Closed centres) 140 (Open centres)
Orifice size (mm)	2.5
Working ports size	M5

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
VOLTAGE	
01	12 VDC 90° conn. with led
21	12 VDC line conn. with led
02	24 VDC 90° conn. with led
22	24 VDC line conn. with led
11	12 VDC 90° conn. with led downward
T	31 = 12 VDC line conn. with led downward
	12 = 24 VDC 90° conn. with led downward
	32 = 24 VDC line conn. with led downward



Weight 54 g
Minimum piloting pressure 2,5 bar

AIR DISTRIBUTION

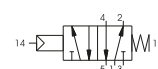
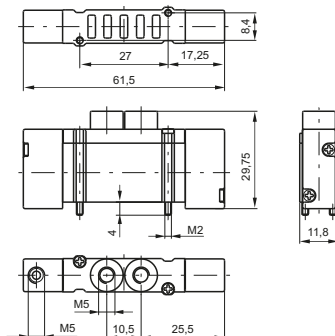
Pneumatic - Spring

Coding: 2135.52.00.19

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



Weight 32 g
Minimum piloting pressure 2 bar



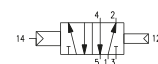
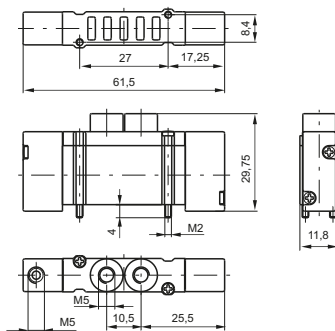
Pneumatic - Differential

Coding: 2135.52.00.16

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



Weight 30 g
Minimum piloting pressure 2 bar



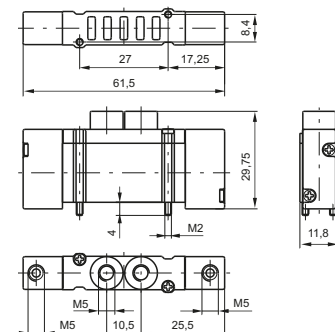
Pneumatic - Pneumatic

Coding: 2135.52.00.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



Weight 32 g
Minimum piloting pressure 2 bar



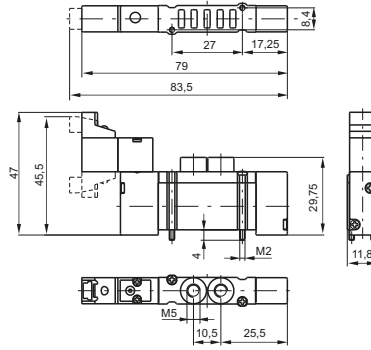


AIR DISTRIBUTION

Solenoid - Spring

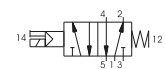
Coding: 2135.52.00.39.

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



Weight 38 g
Minimum piloting pressure 2 bar

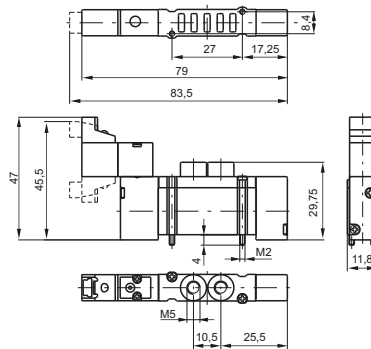
VOLTAGE
01 = 12 VDC 90° conn. with led
21 = 12 VDC line conn. with led
02 = 24 VDC 90° conn. with led
22 = 24 VDC line conn. with led
11 = 12 VDC 90° conn. with led downward
31 = 12 VDC line conn. with led downward
12 = 24 VDC 90° conn. with led downward
32 = 24 VDC line conn. with led downward
91 = 12 VDC for integral electrical connections downward
92 = 24 VDC for integral electrical connections downward



Solenoid - Differential

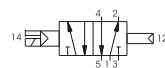
Coding: 2135.52.00.36.

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



Weight 38 g
Minimum piloting pressure 2 bar

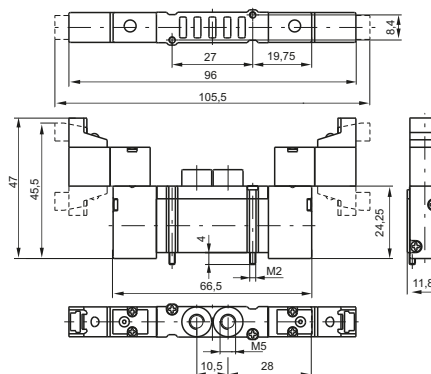
VOLTAGE
01 = 12 VDC 90° conn. with led
21 = 12 VDC line conn. with led
02 = 24 VDC 90° conn. with led
22 = 24 VDC line conn. with led
11 = 12 VDC 90° conn. with led downward
31 = 12 VDC line conn. with led downward
12 = 24 VDC 90° conn. with led downward
32 = 24 VDC line conn. with led downward
91 = 12 VDC for integral electrical connections downward
92 = 24 VDC for integral electrical connections downward



Solenoid - Solenoid

Coding: 2135.52.00.35.

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



Weight 50 g
Minimum piloting pressure 1,5 bar

VOLTAGE
01 = 12 VDC 90° conn. with led
21 = 12 VDC line conn. with led
02 = 24 VDC 90° conn. with led
22 = 24 VDC line conn. with led
11 = 12 VDC 90° conn. with led downward
31 = 12 VDC line conn. with led downward
12 = 24 VDC 90° conn. with led downward
32 = 24 VDC line conn. with led downward
91 = 12 VDC for integral electrical connections downward
92 = 24 VDC for integral electrical connections downward

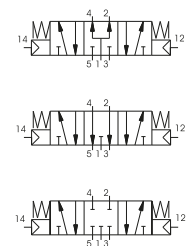
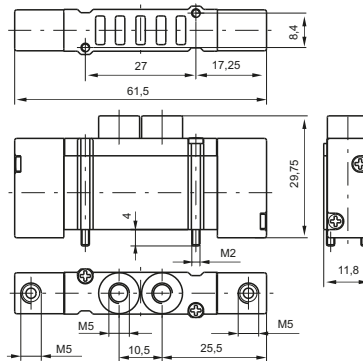


Pneumatic - Pneumatic

Coding: 2135.53.F.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	180 (Pressured centres) 130 (Closed centres) 140 (Open centres)
Orifice size (mm)	2.5
Working ports size	M5

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres



Weight 28 g
Minimum piloting pressure 2 bar

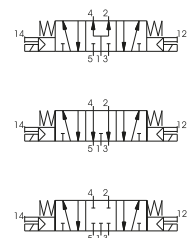
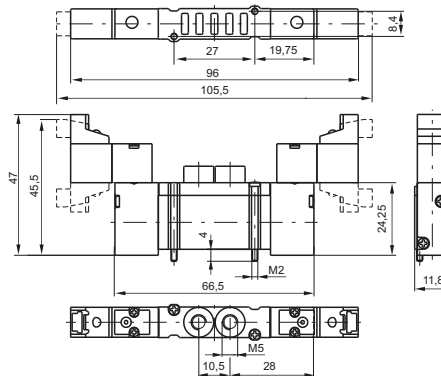
1
AIR DISTRIBUTION

Solenoid - Solenoid

Coding: 2135.53.F.35.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	180 (Pressured centres) 130 (Closed centres) 140 (Open centres)
Orifice size (mm)	2.5
Working ports size	M5

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
VOLTAGE	
01	= 12 VDC 90° conn. with led
21	= 12 VDC line conn. with led
02	= 24 VDC 90° conn. with led
22	= 24 VDC line conn. with led
11	= 12 VDC 90° conn. with led downward
31	= 12 VDC line conn. with led downward
T	12 = 24 VDC 90° conn. with led downward
	32 = 24 VDC line conn. with led downward
	91 = 12 VDC for integral electrical connections downward
	92 = 24 VDC for integral electrical connections downward



Weight 52 g
Minimum piloting pressure 2,5 bar



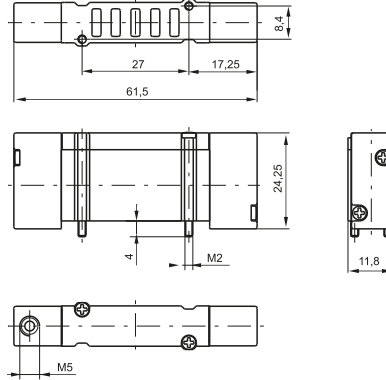
Spool valves and solenoid valves Series 2100 - Size 10mm BASE

Pneumatic - Spring

Coding: 2141.52.00.19

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



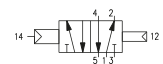
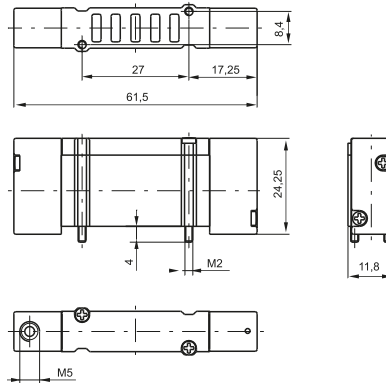
Weight 24 g
Minimum piloting pressure 2 bar

Pneumatic - Differential

Coding: 2141.52.00.16

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



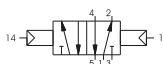
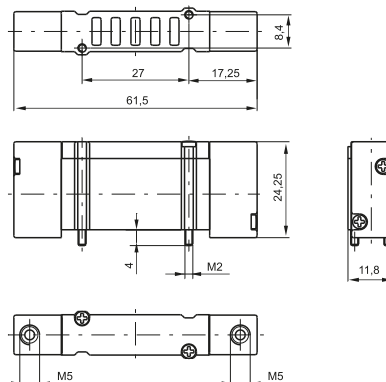
Weight 22 g
Minimum piloting pressure 2 bar

Pneumatic - Pneumatic

Coding: 2141.52.00.18

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



Weight 26 g
Minimum piloting pressure 1,5 bar

1
AIR DISTRIBUTION

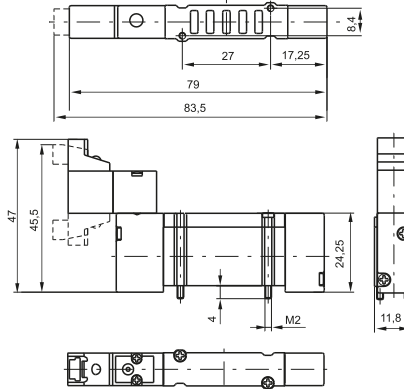
Solenoid - Spring

Coding: 2141.52.00.39. **T**

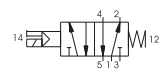
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



Weight 38 g
Minimum piloting pressure 2 bar



VOLTAGE	
01	12 VDC 90° conn. with led
21	12 VDC line conn. with led
02	24 VDC 90° conn. with led
22	24 VDC line conn. with led
11	12 VDC 90° conn. with led downward
31	12 VDC line conn. with led downward
12	24 VDC 90° conn. with led downward
32	24 VDC line conn. with led downward
91	12 VDC for integral electrical connections downward
92	24 VDC for integral electrical connections downward



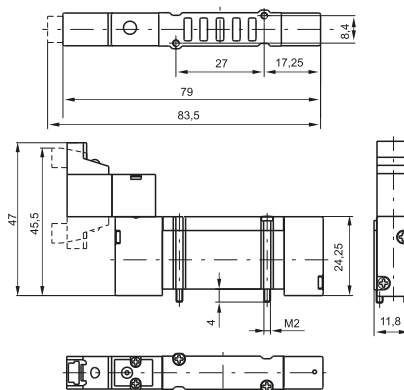
Solenoid - Differential

Coding: 2141.52.00.36. **T**

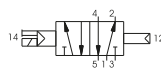
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



Weight 38 g
Minimum piloting pressure 2 bar



VOLTAGE	
01	12 VDC 90° conn. with led
21	12 VDC line conn. with led
02	24 VDC 90° conn. with led
22	24 VDC line conn. with led
11	12 VDC 90° conn. with led downward
31	12 VDC line conn. with led downward
12	24 VDC 90° conn. with led downward
32	24 VDC line conn. with led downward
91	12 VDC for integral electrical connections downward
92	24 VDC for integral electrical connections downward



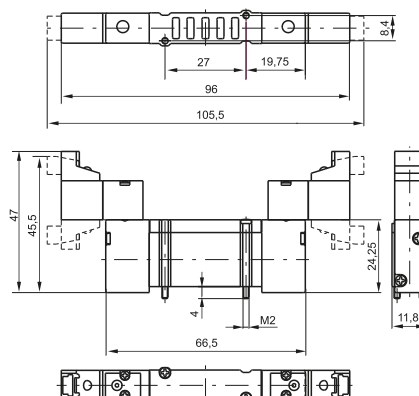
Solenoid - Solenoid

Coding: 2141.52.00.35. **T**

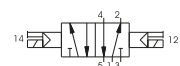
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



Weight 48 g
Minimum piloting pressure 1,5 bar



VOLTAGE	
01	12 VDC 90° conn. with led
21	12 VDC line conn. with led
02	24 VDC 90° conn. with led
22	24 VDC line conn. with led
11	12 VDC 90° conn. with led downward
31	12 VDC line conn. with led downward
12	24 VDC 90° conn. with led downward
32	24 VDC line conn. with led downward
91	12 VDC for integral electrical connections downward
92	24 VDC for integral electrical connections downward





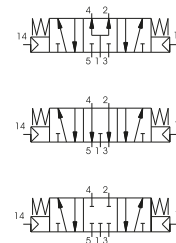
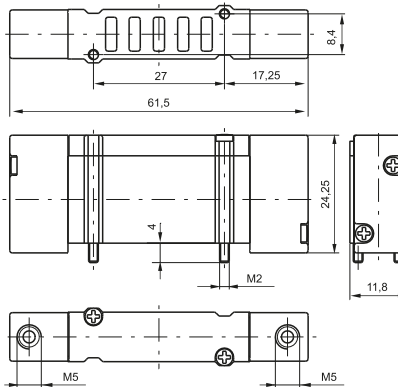
Spool valves and solenoid valves Series 2100 - Size 10mm BASE

Pneumatic - Pneumatic

Coding: 2141.53.F.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	180 (Pressured centres) 130 (Closed centres) 140 (Open centres)
Orifice size (mm)	2.5
Working ports size	M5

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres



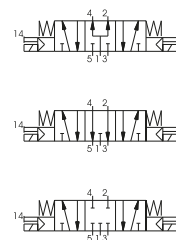
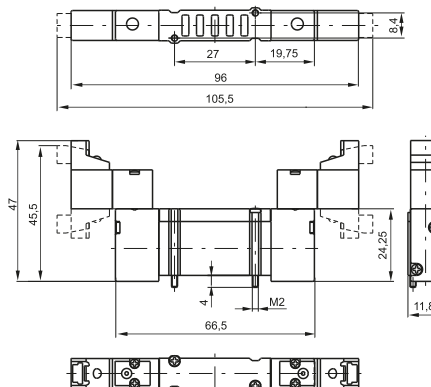
Weight 28 g
Minimum working pressure 2 bar

Solenoid - Solenoid

Coding: 2141.53.F.35.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	180 (Pressured centres) 130 (Closed centres) 140 (Open centres)
Orifice size (mm)	2.5
Working ports size	M5

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
VOLTAGE	
	01 = 12 VDC 90° conn. with led
	21 = 12 VDC line conn. with led
	02 = 24 VDC 90° conn. with led
	22 = 24 VDC line conn. with led
	11 = 12 VDC 90° conn. with led downward
	31 = 12 VDC line conn. with led downward
T	12 = 24 VDC 90° conn. with led downward
	32 = 24 VDC line conn. with led downward
	91 = 12 VDC for integral electrical connections downward
	92 = 24 VDC for integral electrical connections downward



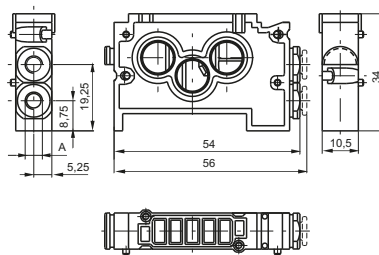
Weight 52 g
Minimum piloting pressure 2,5 bar

1
AIR DISTRIBUTION

► Modular base for "BASE" version



Weight 22 g



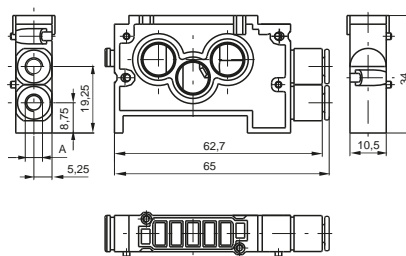
Coding: 214[✓].01

VARIANTS	
0	= modular BASE without cartridges
4	= modular base c/w with 4mm tube cartridges
[✓] 5	= modular base c/w with M5 cartridges
7	= modular base c/w with M7x1 cartridges

► Modular BASE c/w with 6mm tube cartridges



Weight 22 g

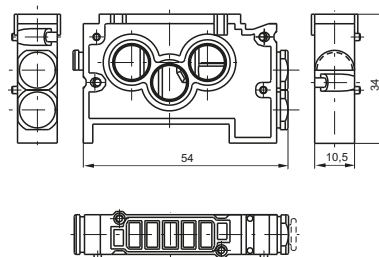


Coding: 2146.01

► Modular base for "FLAT" version



Weight 28 g



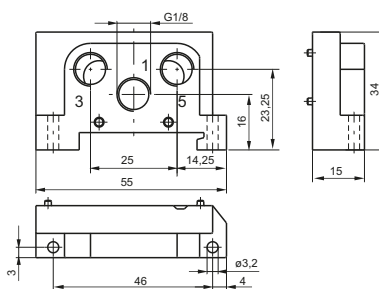
Coding: 2130.01

► Inlet base



Weight 18 g

2140.02



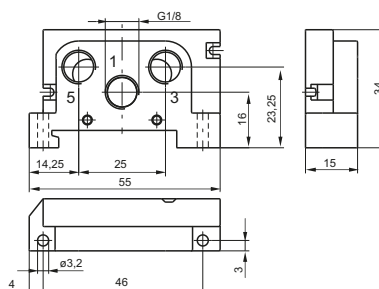
Coding: 2140.[✓]

VARIANTS	
[✓] 02	= Right
03	= Left



Weight 18 g

2140.03



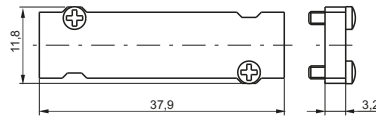
1 AIR DISTRIBUTION

1

AIR DISTRIBUTION

► Closing plate

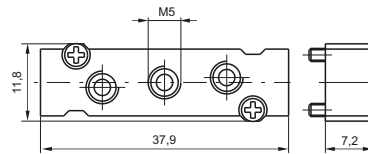
Coding: 2130.00



Weight 7 g

► Intermediate air intake

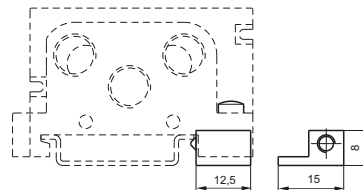
Coding: 2130.10



Weight 12 g
to be assembled instead of a valve

► DIN rail adapter

Coding: 2130.16



Weight 6 g

► Modular base cartridge

Coding: 2100.▼



VARIANTS	
031M	= Ø4 tube cartridge
033M	= M5 cartridges
034M	= M7x1 cartridges
035M	= Blank base
036M	= Ø4 tube cartridge

Weight 5 g

► Diaphragm plug

Coding: 2130.17

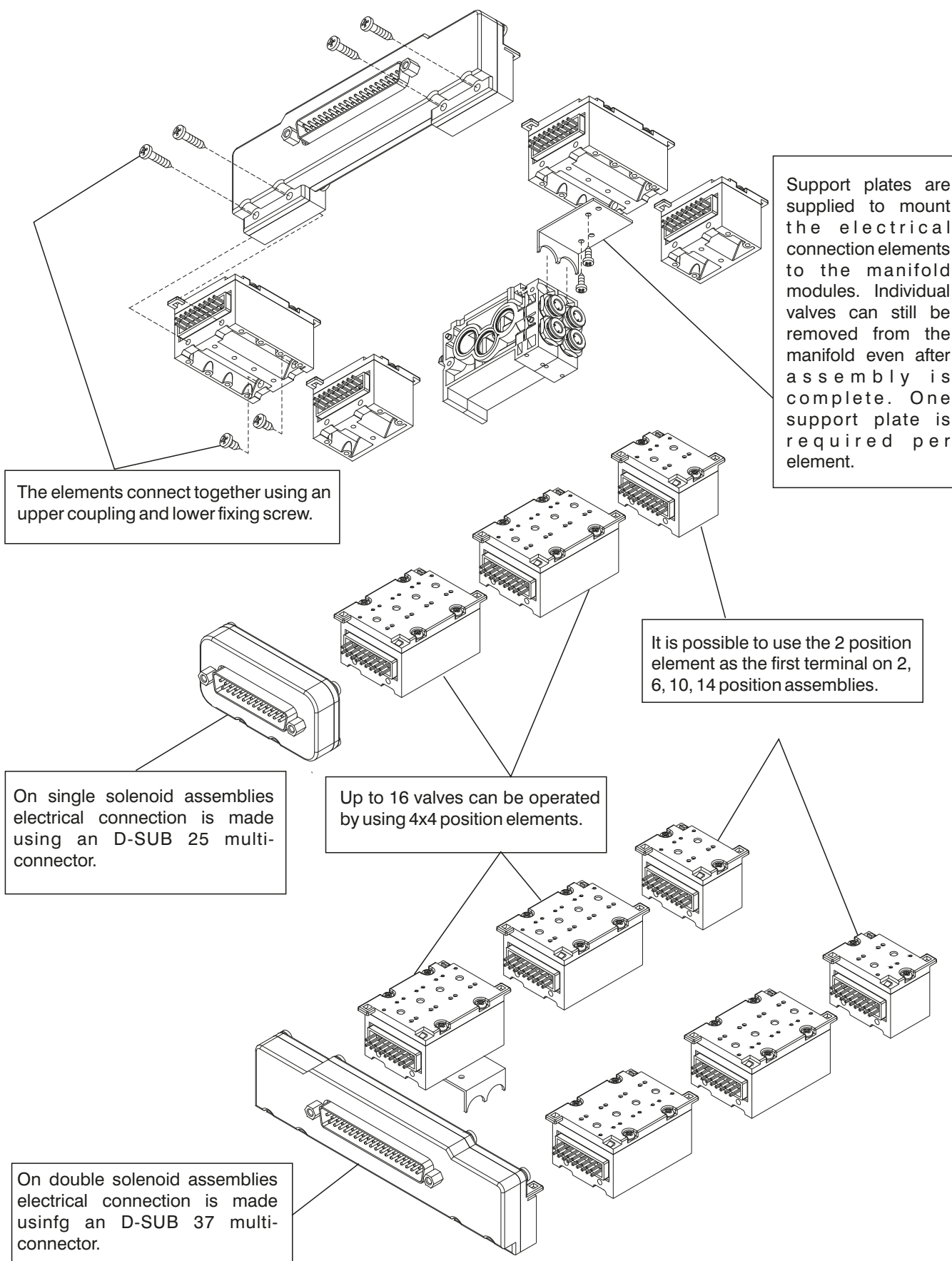


Weight 6 g



The integral electrical design for the series 2400 valve is extremely flexible, allowing the production of pre-wired solenoid valve manifolds, the configuration of which can be determined at the point of assembly. The 24 VDC, 12 VDC (equivalent PNP) modules are available with 2 or 4 positions. The system assembled is designed for an IP40 - IP65 protection.

Coil type 91 or 92 is required for the multipin electrical connection (see valve ordering codes).



▶ **Module for connections**

Coding: 2100.**P.T**



Weight 35 g

2100.02.**T**



Weight 20 g

2100.04.**T**

	POSITIONS
P	04 = 4 positions
	02 = 2 positions
	TYPE
	00 = Left IP40-PNP
	02 = Left IP40-PNP with protection diode
	10 = Left IP65-PNP
T	12 = Left IP65-PNP with protection diode
	01 = Right IP40-PNP
	03 = Right IP40-PNP with protection diode
	11 = Right IP65-PNP
	13 = Right IP65-PNP with protection diode

▶ **Front connector**

Coding: 2100.**P.10**



Weight 120 g

The IP65 protection is obtained by IP65 Pneumax cable

2100.37.10



Weight 40 g

The IP65 protection is obtained by IP65 Pneumax cable

2100.25.10

	POLES
P	37 = 37 poles
	25 = 25 poles

▶ **Plug**

Coding: 2100.00



Weight 4 g

▶ **FLAT support plate**

Coding: 2130.50



Weight 5 g



In line cable complete with connector IP40



Coding: 2400.**T**.**L**.00

	CONNECTORS
T	25 = 25 poles 37 = 37 poles
	CABLE LENGTH
L	03 = 3 meters 05 = 5 meters 10 = 10 meters

Cable complete with connector, 25 Poles IP65



Coding: 2300.25.**L**.**C**

	CABLE LENGTH
L	03 = 3 meters 05 = 5 meters 10 = 10 meters
	CONNECTOR
C	10 = In line 90 = 90° Angle

Cable complete with connector, 37 Poles IP65



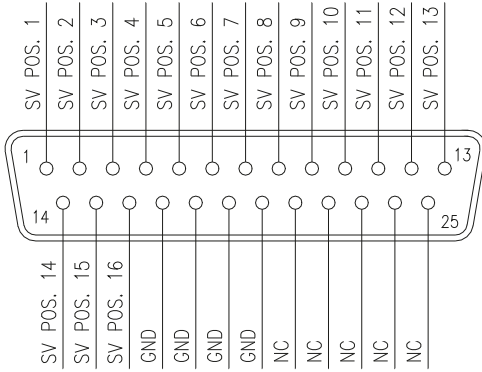
Coding: 2400.37.**L**.**C**

	CABLE LENGTH
L	03 = 3 meters 05 = 5 meters 10 = 10 meters
	CONNECTOR
C	10 = In line 90 = 90° Angle

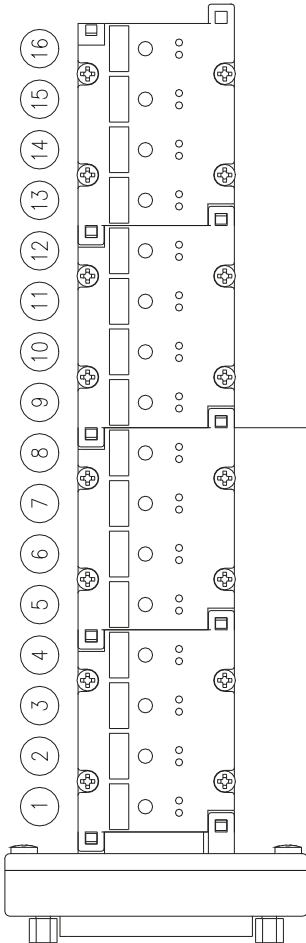
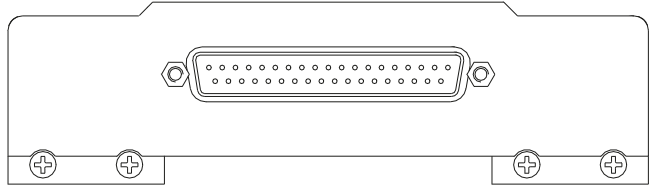
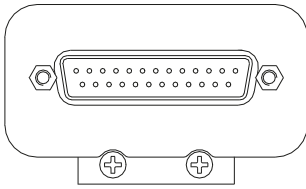
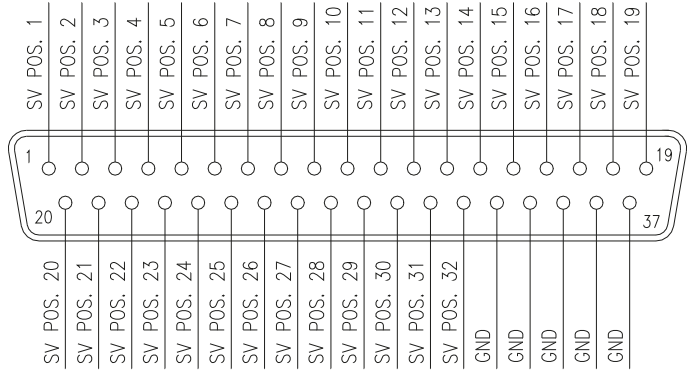
1

AIR DISTRIBUTION

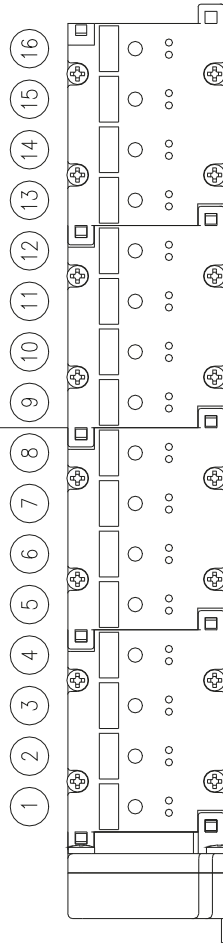
**SUB-D 25 CONTACTS
CONNECTOR**



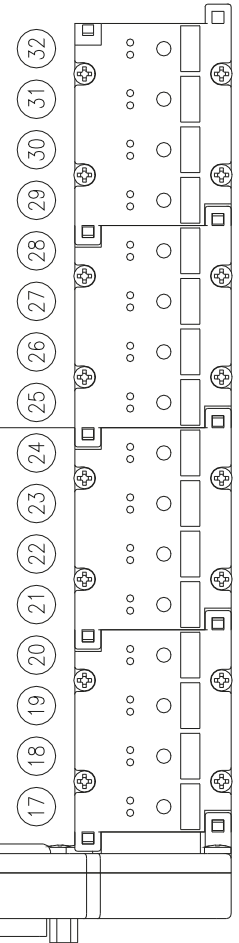
**SUB-D 37 CONTACTS
CONNECTOR**



Left modules



Right modules





Series 2400

General

This solenoid valves series has been developed to meet requirements for electronically controlled pneumatic systems and / or serial control systems already used in all manufacturing sectors.
They have been designed to be easily assembled into groups or manifolds and include integral electrical connection to facilitate simple and speedy integration into a control system.
The 2400 series comprises a range of products classified according to the body size of 18mm divided into 3 types "LINE", "FLAT" and "VDMA".
The 10mm. and 18 mm. 24 VDC range of valves includes a range of accessories for the production of manifolded valve assemblies with integral electrical connections.
Modules are available in two or four station variants for flexibility and are supplied to IP40 or alternatively IP65 environmental protection.

Construction characteristics

Central body	Extruded aluminium bar with chemical nickel treatment and PTFE (polytetrafluorethylene)
Connection plates	Zincalloy
Operators	Technopolymer
Spool seals	Oil resistant nitrile rubber - HNBR
Spools	Aluminium 2011
Springs	AISI 302 stainless steel
Pistons	Technopolymer
Piston seals	Oil resistant nitrile rubber - NBR

Use and maintenance

The average life of the solenoid valve exceeds 50.000.000 cycles when used under optimum conditions.
Adequate lubrication reduces seals wear, just as proper filtering of supply air prevents the build-up of dirt that can cause malfunction.
Ensure the valve is used within our recommended criteria for pressure and temperature.
In dirty or dusty environments, the exhaust ports should be protected.
A seal kit including the spool is available for overhauling the valve. This operation does not require a skilled worker, although a particular care should be taken when reassembling the valve.

Ordering codes for miniature solenoid valves

The 15 mm. miniature solenoid valve with 1,1 mm. orifice has been selected for piloting this series of valves (see Series 300).
This results in low response times and reduced power consumption.
The valve can be supplied with the coil upward or downward (multipolar connections) depending on the application.


Codes are as follows:

Coil upward code

- 01 = miniature solenoid 12 VDC
- 02 = miniature solenoid 24 VDC
- 05 = miniature solenoid 24 VAC
- 06 = miniature solenoid 110 VAC
- 07 = miniature sol. 230 VAC
- 08 = miniature sol. 24 VDC 1W
- 09 = miniature sol. 24 VDC Earth faston

Coil downward code

- 11 = miniature solenoid 12 VDC
- 12 = miniature solenoid 24 VDC
- 15 = miniature solenoid 24 VAC
- 16 = miniature solenoid 110 VAC
- 17 = miniature sol. 230 VAC
- 18 = miniature sol. 24 VDC 1W Downward
- 19 = miniature sol. 24 VDC Earth faston Downward

	Well-tried component	<ul style="list-style-type: none"> - The product is a well-tried product for a safety-related application according to ISO 13849-1. - The relevant basic and well-tried safety principles according ISO 13849-2 for this product are fulfilled. - The suitability of the product for a precise application must be verified and confirmed by the user.
B_{10d}	50.000.000	

Miniature solenoid valves  homologated are available (see Series 300).



Spool valves and solenoid valves Series 2400 - Size 18mm LINE

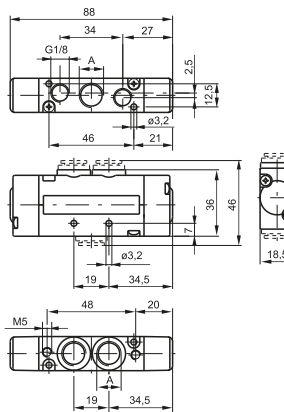
1
AIR DISTRIBUTION

Pneumatic - Spring

Coding: 241A.52.00.19

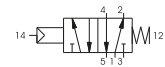
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	800
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8



Weight 155 g

For dimension "A" see ordering code

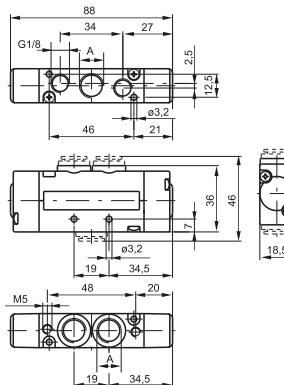


Pneumatic - Differential

Coding: 241A.52.00.16

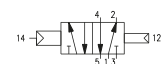
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	800
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8



Weight 155 g

For dimension "A" see ordering code

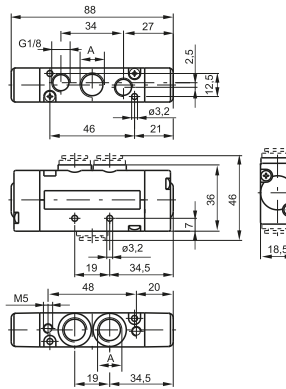


Pneumatic - Differential (External)

Coding: 241 **A**.52.00.17

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	800
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8



Weight 155 g

For dimension "A" see ordering code



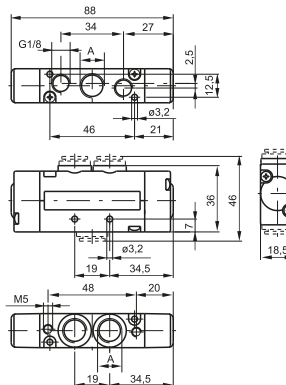
1
AIR DISTRIBUTION

Pneumatic - Pneumatic

Coding: 241 **A**.52.00.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	1.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	800
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8



Weight 155 g

For dimension "A" see ordering code





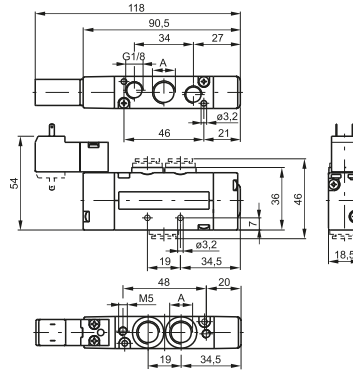
Spool valves and solenoid valves Series 2400 - Size 18mm LINE

Solenoid-Spring / Differential

Coding: 241A.52.00.V.T

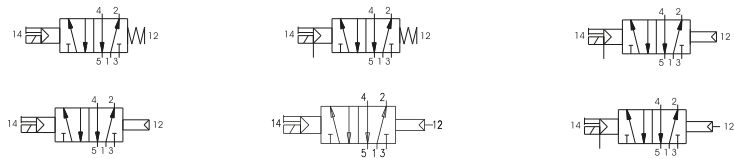
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	800
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8
VERSION	
39	= Solenoid - Spring
29	= Solenoid external-Spring
36	= Solenoid-Differential
37	= Solenoid-Differential external
26	= Solenoid external-Differential
27	= Solenoid external-Differential external
VOLTAGE	
01	= 12V DC
02	= 24V DC
05	= 24V AC
06	= 110V AC
07	= 230 V AC
08	= 24V DC 1W
09	= 24V DC downward
11	= 12V DC downward
12	= 24V DC downward
15	= 24V AC downward
16	= 110V AC downward
17	= 230 V AC downward
18	= 24V DC 1W downward
19	= 24V DC Earth faston downward



For dimension "A" see ordering code

Weight 195 g

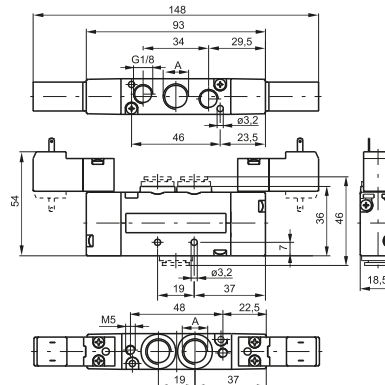


Solenoid - Solenoid

Coding: 241A.52.00.V.T

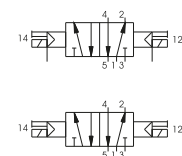
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	1.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	800
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8
VERSION	
35	= Solenoid-Solenoid
24	= Solenoid external-Solenoid external
VOLTAGE	
01	= 12V DC
02	= 24V DC
05	= 24V AC
06	= 110V AC
07	= 230 V AC
08	= 24V DC 1W
09	= 24V DC downward
11	= 12V DC downward
12	= 24V DC downward
15	= 24V AC downward
16	= 110V AC downward
17	= 230 V AC downward
18	= 24V DC 1W downward
19	= 24V DC Earth faston downward



For dimension "A" see ordering code

Weight 225 g



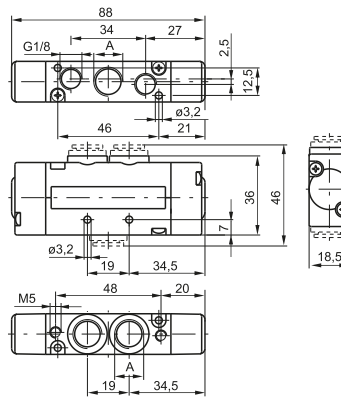
AIR DISTRIBUTION

Pneumatic-Pneumatic 5/3

Coding: 241 **A**.53.**F**.18

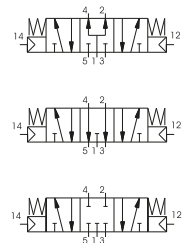
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	3
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	650
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8
CONNECTOR	
10	= In line
90	= 90° Angle



Weight 165 g

For dimension "A" see ordering code



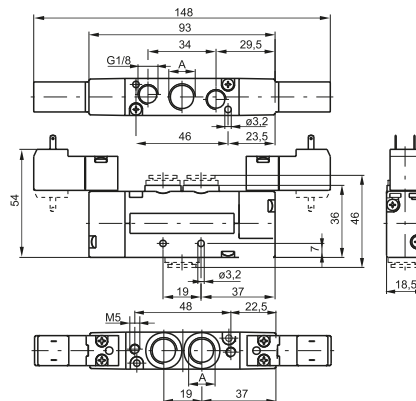
1
AIR DISTRIBUTION

Solenoid - Solenoid

Coding: 241 **A**.53.**F**.**V**.**T**

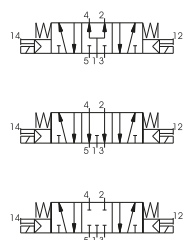
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	3
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	650
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8
FUNCTION	
31	= Closed centres
32	= Open centres
33	= Pressured centres
VERSION	
24	= Solenoid external-Solenoid external
35	= Solenoid-Solenoid
VOLTAGE	
01	= 12V DC
02	= 24V DC
05	= 24V AC
06	= 110V AC
07	= 230 V AC
08	= 24V DC 1W
09	= 24V DC downward
11	= 12V DC downward
12	= 24V DC downward
15	= 24V AC downward
16	= 110V AC downward
17	= 230 V AC downward
18	= 24V DC 1W downward
19	= 24V DC Earth faston downward



Weight 235 g

For dimension "A" see ordering code





Spool valves and solenoid valves Series 2400 - Size 18mm LINE

1 AIR DISTRIBUTION

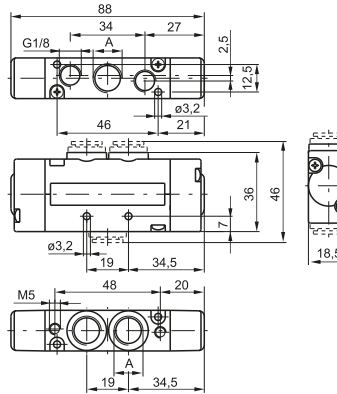
Pneumatic-Pneumatic 2 x 3/2

Coding: 241 **A**. 62. **F**. 18

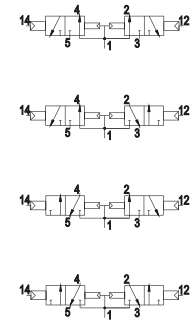
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	$\geq 1,5 + (0,2 \times \text{Inlet pressure})$
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	450
Orifice size (mm)	7

Example: if inlet pressure is set at 5bar then pilot pressure must be at least $Pp = 1,5 + (0,2 \times 5) = 2,5 \text{ bar}$

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube $\varnothing 6$
8	= Quick fitting tube $\varnothing 8$
FUNCTION	
44	= 2 Coils 3/2 NC
45	= 1 Coil 3/2 NC (14) + 1 Coil 3/2
F NO (12)	
55	= 2 Coils 3/2 NO
54	= 1 Coil 3/2 NO (14) + 1 Coil 3/2 NC (12)



For dimension "A" see ordering code



Weight 170 g

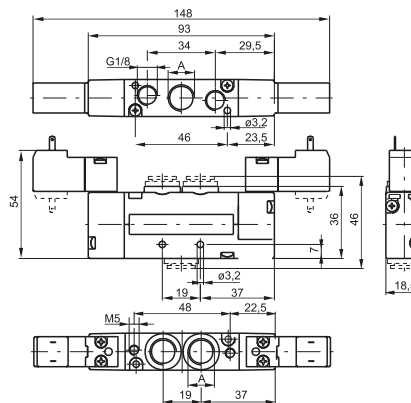
Solenoid - Solenoid 2 x 3/2

Coding: 241 **A**. 62. **F**. 35. **T**

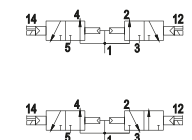
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	$\geq 1,5 + (0,2 \times \text{Inlet pressure})$
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	450
Orifice size (mm)	7

Example: if inlet pressure is set at 5bar then pilot pressure must be at least $Pp = 1,5 + (0,2 \times 5) = 2,5 \text{ bar}$

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube $\varnothing 6$
8	= Quick fitting tube $\varnothing 8$
FUNCTION	
44	= 2 Coils 3/2 NC
45	= 1 Coil 3/2 NC (14) + 1 Coil 3/2
F NO (12)	
55	= 2 Coils 3/2 NO
54	= 1 Coil 3/2 NO (14) + 1 Coil 3/2 NC (12)
VOLTAGE	
01	= 12V DC
02	= 24V DC
05	= 24V AC
06	= 110V AC
07	= 230 V AC
08	= 24V DC 1 Watt
T 09	= 24V DC downward
11	= 12V DC downward
12	= 24V DC downward
15	= 24V AC downward
16	= 110V AC downward
17	= 230 V AC downward
18	= 24V DC 1 Watt downward
19	= 24V DC Earth faston downward



For dimension "A" see ordering code



Weight 250 g



Pneumatic - Spring

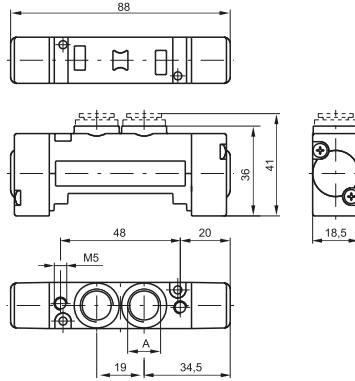
Coding: 243 **A**.52.00.19

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	800
Orifice size (mm)	7
Pilot ports size	M5

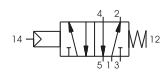
WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8



Weight 105 g



For dimension "A" see ordering code



Pneumatic - Differential

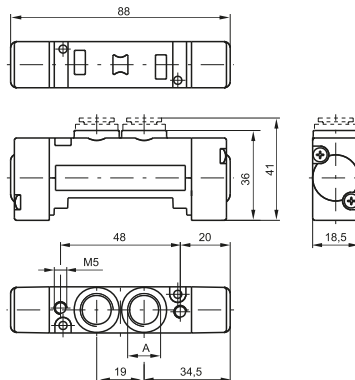
Coding: 243 **A**.52.00.16

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	800
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8



Weight 105 g



For dimension "A" see ordering code



Pneumatic - Differential (External)

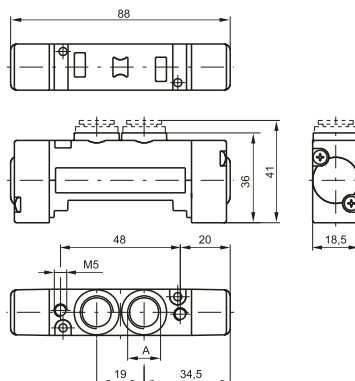
Coding: 243 **A**.52.00.17

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	800
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8



Weight 105 g



For dimension "A" see ordering code





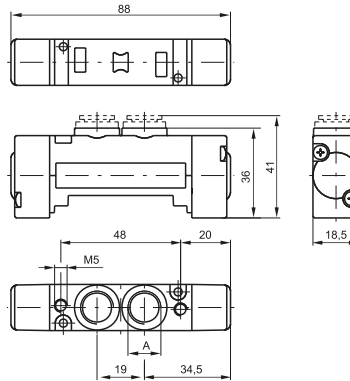
Spool valves and solenoid valves
Series 2400 - Size 18mm FLAT

Pneumatic - Pneumatic

Coding: 243^A.52.00.18

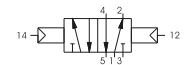
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	1,5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	800
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8



Weight 105 g

For dimension "A" see ordering code

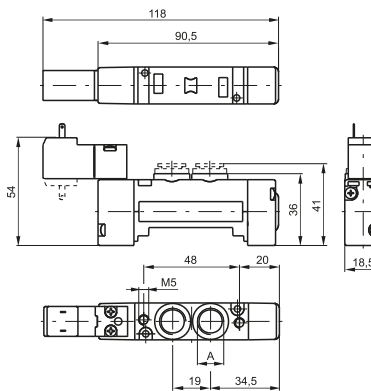


Solenoid-Spring / Differential

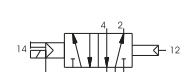
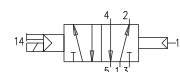
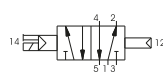
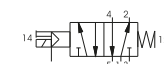
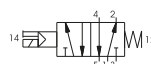
Coding: 243^A.52.00.^V.^T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	800
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8
VERSION	
39	= Solenoid - Spring
29	= Solenoid external-Spring
36	= Solenoid-Differential
37	= Solenoid-Differential external
26	= Solenoid external-Differential
27	= Solenoid external-Differential external
VOLTAGE	
01	= 12V DC
02	= 24V DC
05	= 24V AC
06	= 110V AC
07	= 230 V AC
08	= 24V DC 1W
09	= 24V DC downward
11	= 12V DC downward
12	= 24V DC downward
15	= 24V AC downward
16	= 110V AC downward
17	= 230 V AC downward
18	= 24V DC 1W downward
19	= 24V DC Earth faston downward



For dimension "A" see ordering code



Weight 140 g

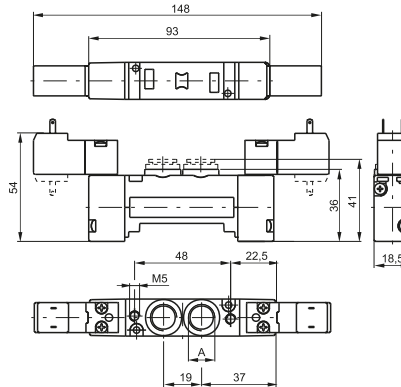
AIR DISTRIBUTION

Solenoid - Solenoid

Coding: 243 **A**.52.00. **V**. **T**

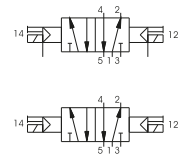
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	1.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	800
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8
VERSION	
35	= Solenoid-Solenoid
24	= Solenoid external-Solenoid external
VOLTAGE	
01	= 12V DC
02	= 24V DC
05	= 24V AC
06	= 110V AC
07	= 230 V AC
08	= 24V DC 1W
09	= 24V DC downward
11	= 12V DC downward
12	= 24V DC downward
15	= 24V AC downward
16	= 110V AC downward
17	= 230 V AC downward
18	= 24V DC 1W downward
19	= 24V DC Earth faston downward



Weight 175 g

For dimension "A" see ordering code



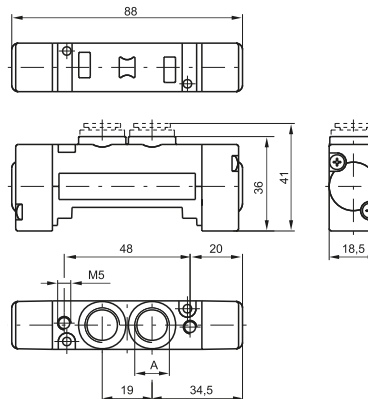
1
AIR DISTRIBUTION

Pneumatic - Pneumatic 5 ways 3 connections

Coding: 243 **A**.53. **F**.18

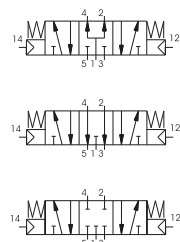
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	3
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	650
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8
FUNCTION	
31	= Closed centres
32	= Open centres
33	= Pressured centres



Weight 115 g

For dimension "A" see ordering code





Spool valves and solenoid valves Series 2400 - Size 18mm FLAT

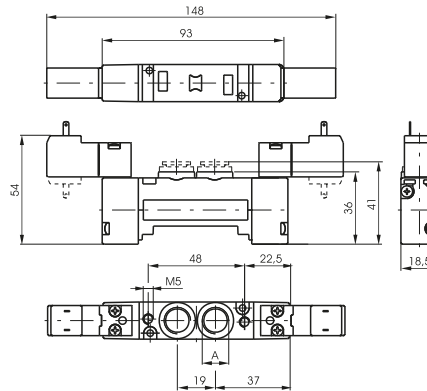
1
AIR DISTRIBUTION

Solenoid - Solenoid 5/3

Coding: 243A.53.F.V.T

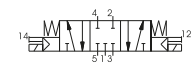
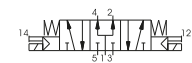
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	3
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	650
Orifice size (mm)	7
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8
FUNCTION	
31	= Closed centres
32	= Open centres
33	= Pressured centres
VERSION	
24	= Solenoid external-Solenoid external
35	= Solenoid-Solenoid
VOLTAGE	
01	= 12V DC
02	= 24V DC
05	= 24V AC
06	= 110V AC
07	= 230 V AC
08	= 24V DC 1W
09	= 24V DC downward
11	= 12V DC downward
12	= 24V DC downward
15	= 24V AC downward
16	= 110V AC downward
17	= 230 V AC downward
18	= 24V DC 1W downward
19	= 24V DC Earth faston downward



Weight 185 g

For dimension "A" see ordering code



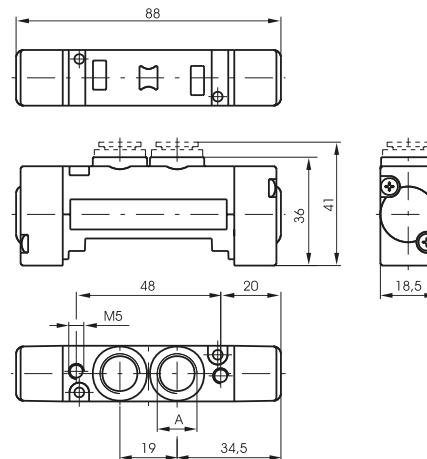
Pneumatic-Pneumatic 2 x 3/2

Coding: 243A.62.F.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	≥ 1,5 + (0,2 x Inlet pressure)
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	450
Orifice size (mm)	7

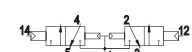
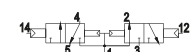
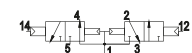
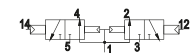
WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8
FUNCTION	
44	= 2 Coils 3/2 NC
45	= 1 Coil 3/2 NC (14) + 1 Coil 3/2 NO (12)
55	= 2 Coils 3/2 NO
54	= 1 Coil 3/2 NO (14) + 1 Coil 3/2 NC (12)

Example: if inlet pressure is set at 5bar then pilot pressure must be at least $P_p = 1,5 + (0,2 * 5) = 2,5$ bar



Weight 110 g

For dimension "A" see ordering code





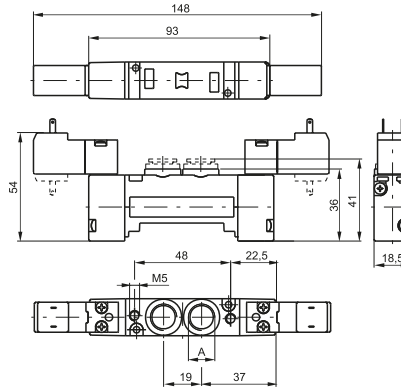
Solenoid - Solenoid 2 x 3/2

Coding: 243 **A**.62. **F**.35. **T**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	$\geq 1,5 + (0,2 \times \text{Inlet pressure})$
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p = 1$ (l/min)	450
Orifice size (mm)	7

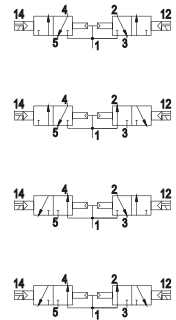
Example: if inlet pressure is set at 5bar then pilot pressure must be at least $P_p = 1,5 + (0,2 \times 5) = 2,5 \text{ bar}$

WORKING PORTS SIZE	
1	= G1/4"
5	= G1/8"
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8
FUNCTION	
44	= 2 Coils 3/2 NC
45	= 1 Coil 3/2 NC (14) + 1 Coil 3/2 NO (12)
55	= 2 Coils 3/2 NO
54	= 1 Coil 3/2 NO (14) + 1 Coil 3/2 NC (12)
VOLTAGE	
01	= 12V DC
02	= 24V DC
05	= 24V AC
06	= 110V AC
07	= 230 V AC
08	= 24V DC 1 Watt
09	= 24V DC downward
11	= 12V DC downward
12	= 24V DC downward
15	= 24V AC downward
16	= 110V AC downward
17	= 230 V AC downward
18	= 24V DC 1 Watt downward
19	= 24V DC Earth faston downward



Weight 190 g

For dimension 'A' see ordering code

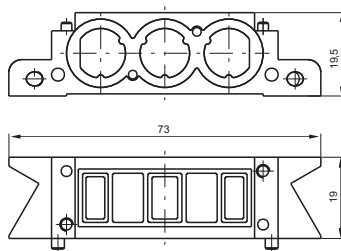


1
AIR DISTRIBUTION

► Modular base



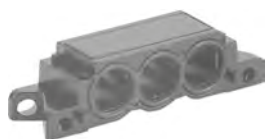
Weight 85 g



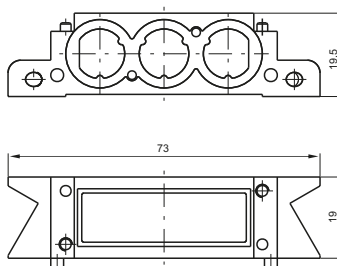
Coding: 2430.▼

VERSION	
01	Modular base
▼ 06	Supply and exhaust closed
07	Supply closed
08	Exhaust closed

► Blank base



Weight 85 g

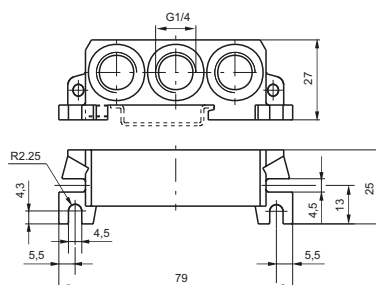


Coding: 2430.05

► Inlet base

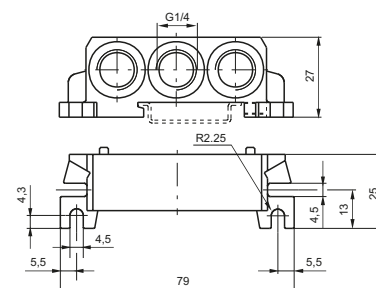


Coding: 2430.▼



VERSION	
▼ 02	Right
03	Left

Weight 120 g



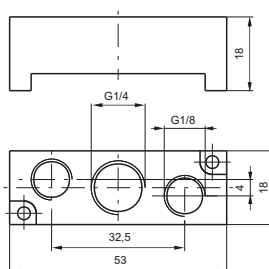
Weight 125 g

► Intermediate air intake



Weight 30 g
to be assembled instead of a valve

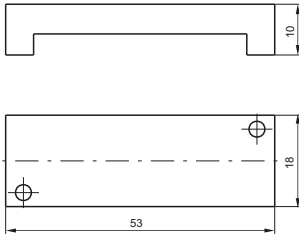
Coding: 2430.10





▶ Closing plate

Coding: 2430.00



Weight 20 g

▶ Diaphragm plug

Coding: 2430.17



Weight 5 g



1
AIR DISTRIBUTION

Pneumatic - Spring

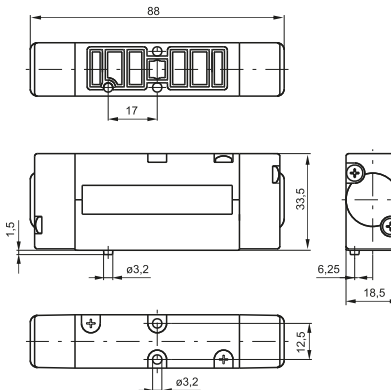
Coding: 2445.52.00.19

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Pressure range (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	550
Orifice size (mm)	5



Weight 155 g



Pneumatic - Differential

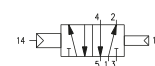
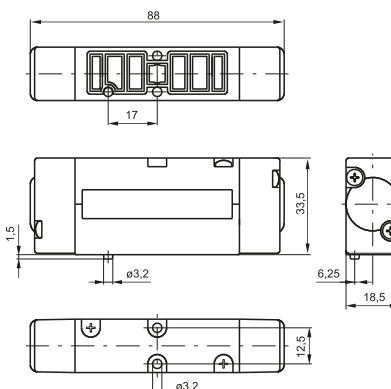
Coding: 2445.52.00.16

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	550
Orifice size (mm)	5



Weight 155 g



Pneumatic - Differential (External)

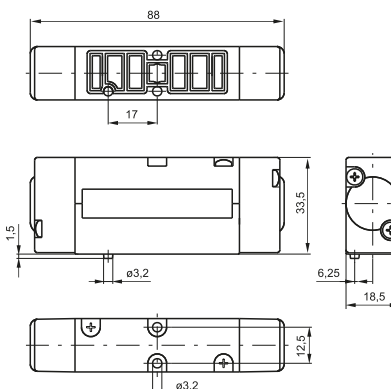
Coding: 2445.52.00.17

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	550
Orifice size (mm)	5



Weight 155 g



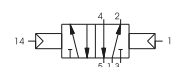
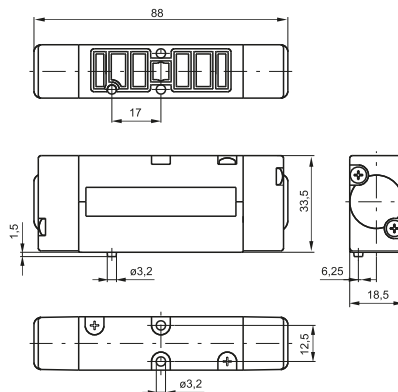
Pneumatic - Pneumatic

Coding: 2445.52.00.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	1.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	550
Orifice size (mm)	5



Weight 155 g



1
AIR DISTRIBUTION

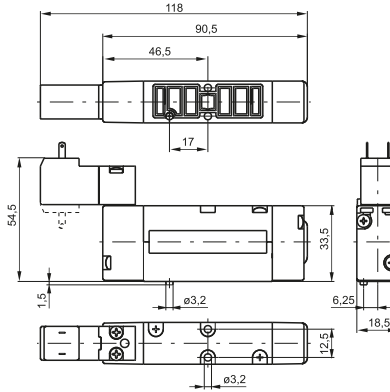


AIR DISTRIBUTION 1

Solenoid-Spring / Differential

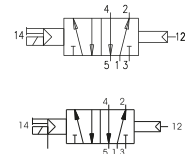
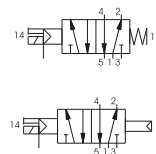
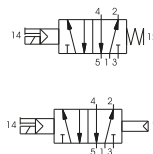
Coding: 244C.52.00.V.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	550
Orifice size (mm)	5



C	TYPE ELECTROPILOT EXHAUST
	1 = on base (only for self feeding valves)
	5 = on pilot (for all version)
V	VERSION
	39 = Solenoid - Spring
	29 = Solenoid external-Spring
	36 = Solenoid-Differential
	37 = Solenoid-Differential external
T	VOLTAGE
	01 = 12V DC
	02 = 24V DC
	05 = 24V AC
	06 = 110V AC
	07 = 230 V AC
	08 = 24V DC 1W
	09 = 24V DC downward
	11 = 12V DC downward
	12 = 24V DC downward
15 = 24V AC downward	
16 = 110V AC downward	
17 = 230 V AC downward	
18 = 24V DC 1W downward	
19 = 24V DC Earth faston downward	

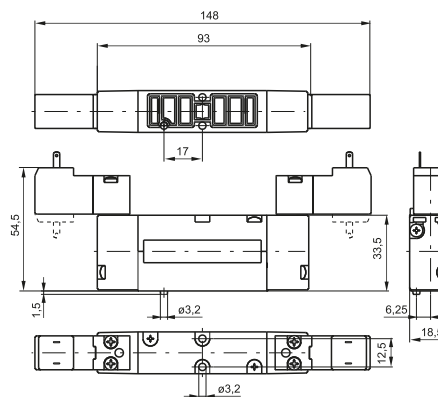
Weight 190 g



Solenoid - Solenoid

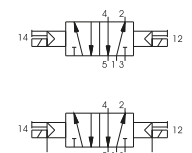
Coding: 244C.52.00.V.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	1.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	550
Orifice size (mm)	5



C	TYPE ELECTROPILOT EXHAUST
	1 = on base (only for self feeding valves)
	5 = on pilot (for all version)
V	VERSION
	24 = Solenoid external-Solenoid external
	35 = Solenoid-Solenoid
T	VOLTAGE
	01 = 12V DC
	02 = 24V DC
	05 = 24V AC
	06 = 110V AC
	07 = 230 V AC
	08 = 24V DC 1W
	09 = 24V DC downward
	11 = 12V DC downward
	12 = 24V DC downward
15 = 24V AC downward	
16 = 110V AC downward	
17 = 230 V AC downward	
18 = 24V DC 1W downward	
19 = 24V DC Earth faston downward	

Weight 225 g

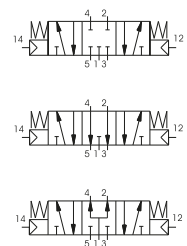
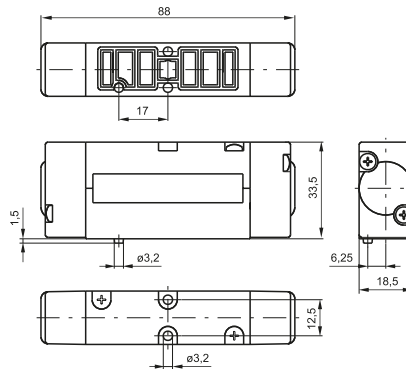


Pneumatic - Pneumatic 5 ways 3 connections

Coding: 244 **C**.53. **F**.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	3
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	550
Orifice size (mm)	5

C	TYPE ELECTROPILOT EXHAUST 1 = on base (only for self feeding valves) 5 = on pilot (for all version)
F	FUNCTION 31 = Closed centres 32 = Open centres 33 = Pressured centres



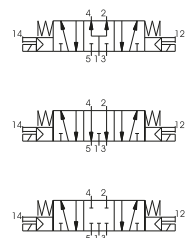
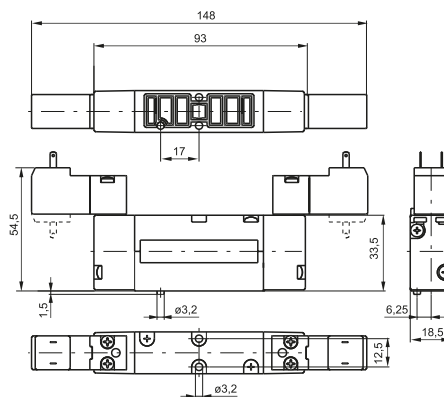
Weight 165 g

Solenoid - Solenoid 5 ways 3 connections

Coding: 244 **C**.53. **F**.**V**.**T**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	3
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	550
Orifice size (mm)	5

C	TYPE ELECTROPILOT EXHAUST 1 = on base (only for self feeding valves) 5 = on pilot (for all version)
F	FUNCTION 31 = Closed centres 32 = Open centres 33 = Pressured centres
V	VERSION 24 = Solenoid external-Solenoid external 35 = Solenoid-Solenoid
T	VOLTAGE 01 = 12V DC 02 = 24V DC 05 = 24V AC 06 = 110V AC 07 = 230 V AC 08 = 24V DC 1W 09 = 24V DC downward 11 = 12V DC downward 12 = 24V DC downward 15 = 24V AC downward 16 = 110V AC downward 17 = 230 V AC downward 18 = 24V DC 1W downward 19 = 24V DC Earth faston downward



Weight 235 g

1
AIR DISTRIBUTION



Spool valves and solenoid valves Series 2400 - Size 18mm VDMA

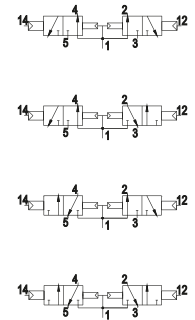
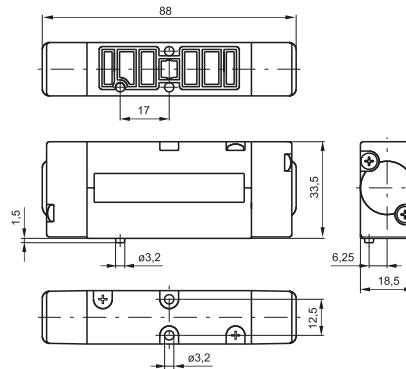
Pneumatic-Pneumatic 2 x 3/2

Coding: 2445.62.Ⓕ.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	$\geq 1,5 + (0,2 \times \text{Inlet pressure})$
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	450
Orifice size (mm)	5

FUNCTION	
44	= 2 Coils 3/2 NC
45	= 1 Coil 3/2 NC (14) + 1 Coil 3/2 NO (12)
55	= 2 Coils 3/2 NO
54	= 1 Coil 3/2 NO (14) + 1 Coil 3/2 NC (12)

Example: if inlet pressure is set at 5bar then pilot pressure must be at least $P_p = 1,5 + (0,2 \times 5) = 2,5 \text{ bar}$



Weight 170 g

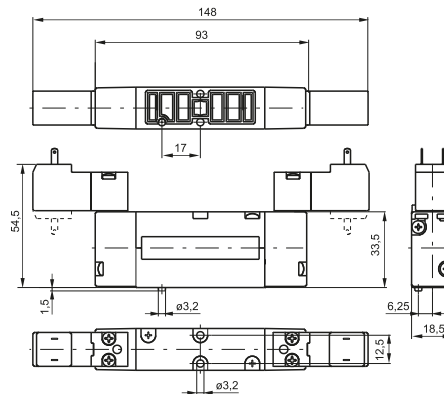
Solenoid - Solenoid 2 x 3/2

Coding: 2445.62.Ⓕ.35.Ⓘ

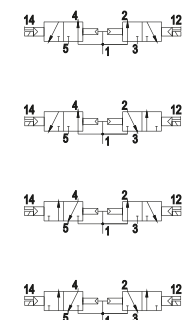
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	$\geq 1,5 + (0,2 \times \text{Inlet pressure})$
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	450
Orifice size (mm)	5

FUNCTION	
44	= 2 Coils 3/2 NC
45	= 1 Coil 3/2 NC (14) + 1 Coil 3/2 NO (12)
55	= 2 Coils 3/2 NO
54	= 1 Coil 3/2 NO (14) + 1 Coil 3/2 NC (12)

Example: if inlet pressure is set at 5bar then pilot pressure must be at least $P_p = 1,5 + (0,2 \times 5) = 2,5 \text{ bar}$

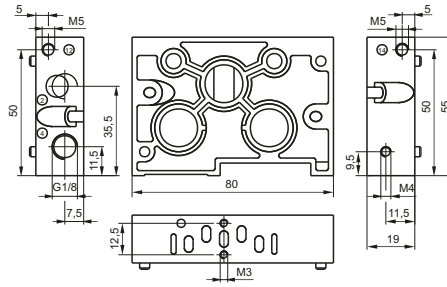


VOLTAGE	
01	= 12V DC
02	= 24V DC
05	= 24V AC
06	= 110V AC
07	= 230 V AC
08	= 24V DC 1 Watt
09	= 24V DC downward
11	= 12V DC downward
12	= 24V DC downward
15	= 24V AC downward
16	= 110V AC downward
17	= 230 V AC downward
18	= 24V DC 1 Watt downward
19	= 24V DC Earth faston downward



Weight 250 g

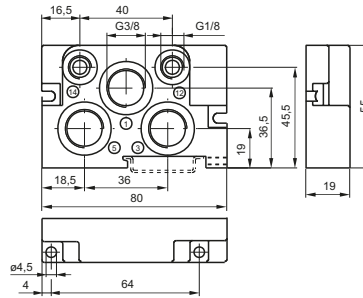
Modular base



Coding: 2440.0

VERSION	
01	Modular base
06	Supply and exhaust closed
07	Supply closed
08	Exhaust closed

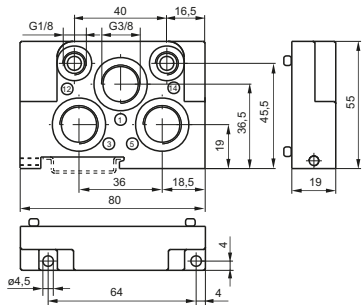
Inlet base



Coding: 2440.0

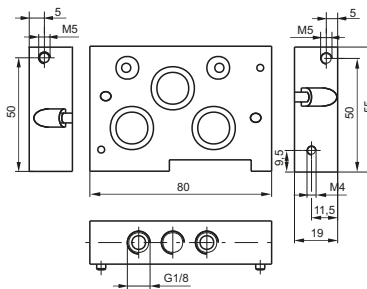
VERSION	
02	Right
03	Left

Weight 110 g



Weight 110 g

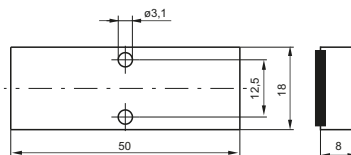
Intermediate air intake



Coding: 2440.10

Weight 185 g

Closing plate



Coding: 2440.00

Weight 25 g

Diaphragm plug



Coding: 2440.17

1
AIR DISTRIBUTION

The integral electrical design for the series 2400 valve is extremely flexible, allowing the production of pre-wired solenoid valve manifolds, the configuration of which can be determined at the point of assembly. The 24 VDC, 12 VDC (equivalent PNP) and 24 VAC* modules are available with 2 or 4 positions. The system assembled is designed for an IP40 protection. IP65 is available on request.

* Attention : If the working tension is 24 VAC DO NOT using modules with protection diode

1
AIR DISTRIBUTION

Support plates are supplied to mount the electrical connection elements to the manifold modules. Individual valves can still be removed from the manifold even after assembly is complete. One support plate is required per element.

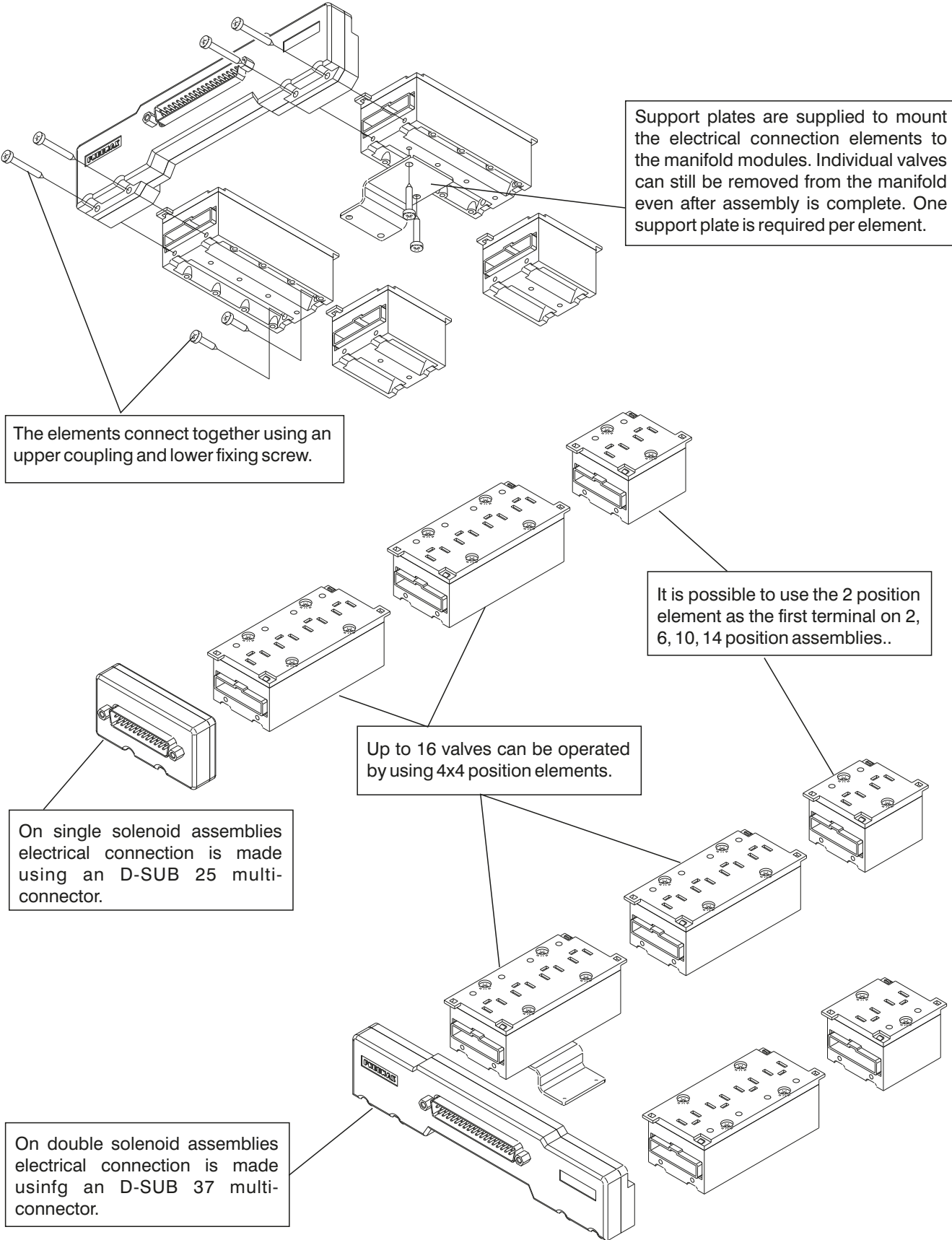
The elements connect together using an upper coupling and lower fixing screw.

It is possible to use the 2 position element as the first terminal on 2, 6, 10, 14 position assemblies..

Up to 16 valves can be operated by using 4x4 position elements.

On single solenoid assemblies electrical connection is made using an D-SUB 25 multi-connector.

On double solenoid assemblies electrical connection is made using an D-SUB 37 multi-connector.



Module for connections



Weight 30 g
* only for VDC

2400.02.Ⓜ



Weight 50 g
* only for VDC

2400.04.Ⓜ

Coding: 2400.Ⓜ.Ⓜ.Ⓜ

	POSITIONS
Ⓜ	04 = 4 positions
	02 = 2 positions
	TYPE
	00 = Left IP40-PNP
	02 = Left IP40-PNP with protection diode
	10 = Left IP65-PNP
	12 = Left IP65-PNP with protection diode
Ⓜ	01 = Right IP40-PNP
	03 = Right IP40-PNP with protection diode
	11 = Right IP65-PNP
	13 = Right IP65-PNP with protection diode

Front connector IP65



Weight 120 g
The IP65 protection is obtained by IP65 Pneumax cable

2400.37.10



Weight 40 g
The IP65 protection is obtained by IP65 Pneumax cable

2400.25.10

Coding: 2400.Ⓜ.10

	POLES
Ⓜ	37 = 37 poles
	25 = 25 poles

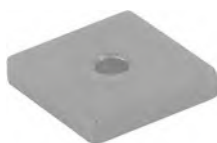
Plug



Coding: 2400.00

Weight 5 g

Closing plate electrical positions



Coding: 2400.15.00

Weight 2 g

VDMA support plate



Coding: 2440.50

Weight 20 g

FLAT support plate



Coding: 2430.50

Weight 20 g

1
AIR DISTRIBUTION



1
AIR DISTRIBUTION

▶ 4 positions box with 25 contacts connector

Coding: 2400.04.25



Weight 65 g

▶ 15mm male connector with 2 metres cable

Coding: 2400.15.02



Weight 98 g

▶ In line cable complete with connector IP40

Coding: 2400.**T**.**L**.00



	CONNECTORS
T	25 = 25 poles
	37 = 37 poles
	CABLE LENGTH
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters

2400.**T**.**L**.00

▶ Cable complete with connector, 25 Poles IP65

Coding: 2300.25.**L**.**C**



	CABLE LENGTH
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
	FUNCTION
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres

▶ Cable complete with connector, 37 Poles IP65

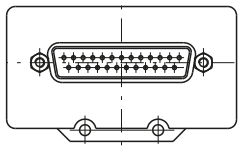
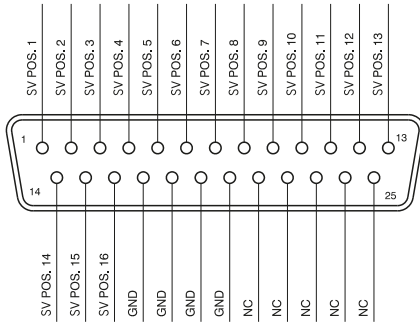
Coding: 2400.37.**L**.**C**



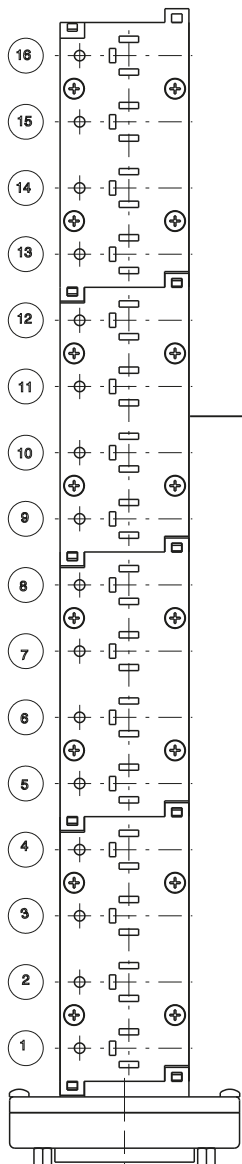
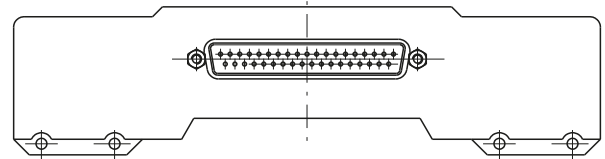
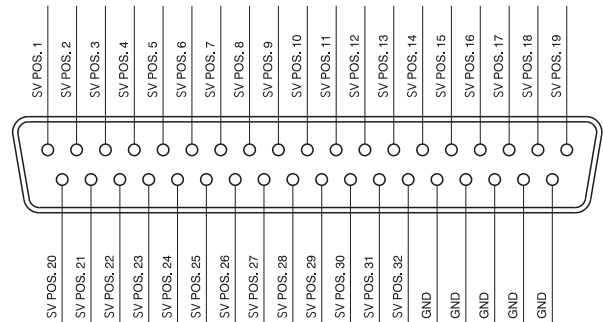
	CABLE LENGTH
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
	FUNCTION
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres



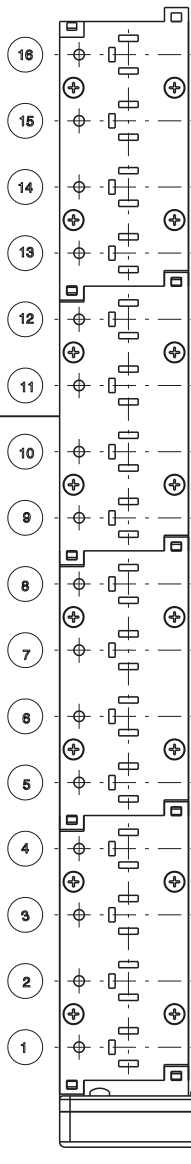
SUB-D 25 CONTACTS CONNECTOR



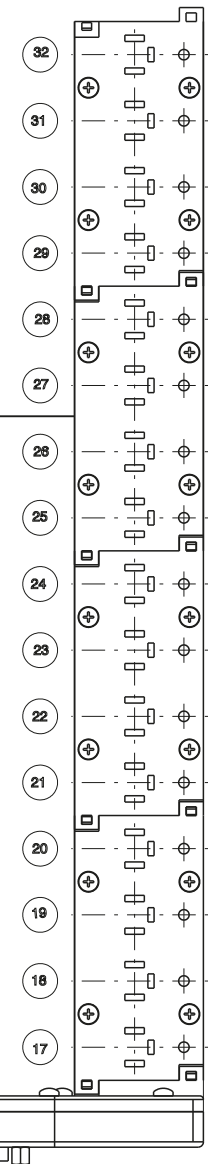
SUB-D 37 CONTACTS CONNECTOR



Left modules



Right modules



1
AIR DISTRIBUTION



Series 2600

General

They have been designed to be easily assembled into groups or manifolds.
The 2600 series comprises a range of products classified according to the body size of 26mm divided into 3 types "LINE", "FLAT" and "VDMA".
Is not included the integral electrical connection

1
AIR DISTRIBUTION

Construction characteristics

Central body	Extruded aluminium bar with chemical nickel treatment and PTFE (polytetrafluorethylene)
Connection plates	Die-cast aluminium
Operators	Technopolymer
Spool seals	Oil resistant nitrile rubber - HNBR
Spools	Aluminium 2011
Springs	AISI 302 stainless steel
Pistons	Technopolymer
Piston seals	Oil resistant nitrile rubber - NBR

Ordering codes for miniature solenoid valves

The 15 mm. miniature solenoid valve with 1,1 mm. orifice has been selected for piloting this series of valves (see Series 300). This results in low response times and reduced power consumption.
The valve can be supplied with the coil upward or downward (multipolar connections) depending on the application.
Codes are as follows:

Coil upward code

- 01 = miniature solenoid 12 VDC
- 02 = miniature solenoid 24 VDC
- 05 = miniature solenoid 24 VAC
- 06 = miniature solenoid 110 VAC
- 07 = miniature sol. 230 VAC
- 08 = miniature sol. 24 VDC 1W
- 09 = miniature sol. 24 VDC Earth faston

Coil downward code

- 11 = miniature solenoid 12 VDC
- 12 = miniature solenoid 24 VDC
- 15 = miniature solenoid 24 VAC
- 16 = miniature solenoid 110 VAC
- 17 = miniature sol. 230 VAC
- 18 = miniature sol. 24 VDC 1W Downward
- 19 = miniature sol. 24 VDC Earth faston Downward

Miniature solenoid c  homologated are available (see Series 300).

Use and maintenance

The average life of the solenoid valve exceeds 50.000.000 cycles when used under optimum conditions.
Adequate lubrication reduces seals wear, just as proper filtering of supply air prevents the build-up of dirt that can cause malfunction.
Ensure the valve is used within our recommended criteria for pressure and temperature.
In dirty or dusty environments, the exhaust ports should be protected.
A seal kit including the spool is available for overhauling the valve. This operation does not require a skilled worker, although a particular care should be taken when reassembling the valve.

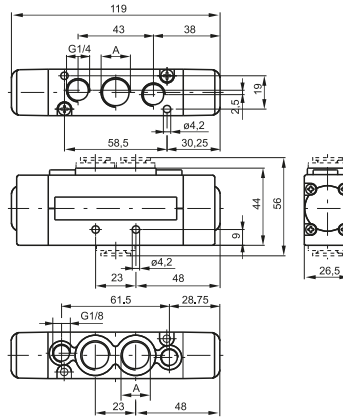


Pneumatic - Spring

Coding: 261 **A**.52.00.19

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1500
Orifice size (mm)	9
Pilot ports size	G1/8"

WORKING PORTS SIZE	
A	1 = G3/8"
	5 = G1/4"
	8 = Quick fitting tube $\varnothing 10$



Weight 235 g
Minimum piloting pressure 2 bar

For dimension "A" see ordering code



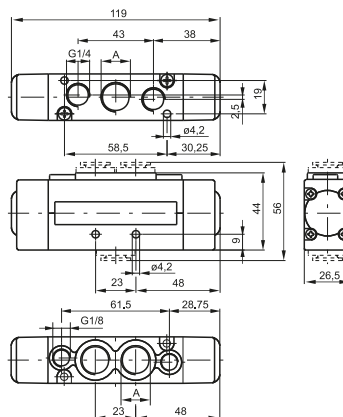
1
AIR DISTRIBUTION

Pneumatic - Differential

Coding: 261 **A**.52.00.16

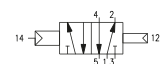
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1500
Orifice size (mm)	9
Pilot ports size	G1/8"

WORKING PORTS SIZE	
A	1 = G3/8"
	5 = G1/4"
	8 = Quick fitting tube $\varnothing 10$



Weight 235 g
Minimum piloting pressure 2 bar

For dimension "A" see ordering code



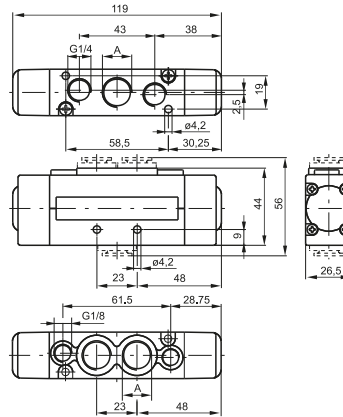


Pneumatic - Differential (External)

Coding: 261A.52.00.17

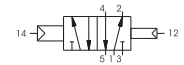
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1500
Orifice size (mm)	9
Pilot ports size	G1/8"

WORKING PORTS SIZE
1 = G3/8"
5 = G1/4"
8 = Quick fitting tube Ø10



Weight 235 g
Minimum piloting pressure 2 bar

For dimension "A" see ordering code

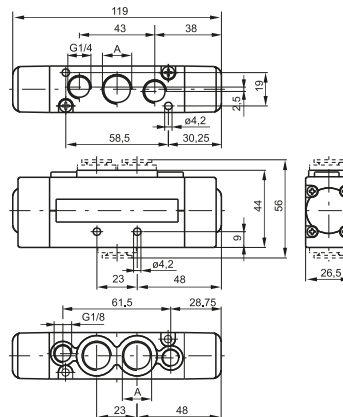


Pneumatic - Pneumatic

Coding: 261A.52.00.18

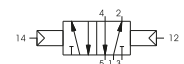
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1500
Orifice size (mm)	9
Pilot ports size	G1/8"

WORKING PORTS SIZE
1 = G3/8"
5 = G1/4"
8 = Quick fitting tube Ø10



Weight 235 g
Minimum piloting pressure 1,5 bar

For dimension "A" see ordering code

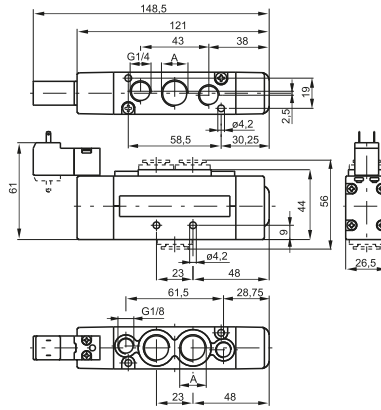


Solenoid-Spring/Differential

Coding: 261 A.52.00. V. T

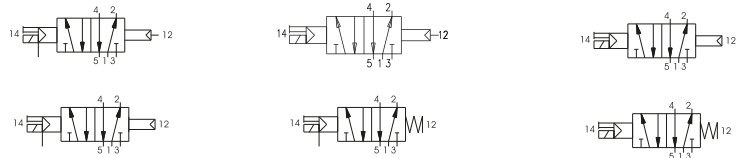
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1500
Orifice size (mm)	9

WORKING PORTS SIZE	
A	1 = G3/8"
	5 = G1/4"
	8 = Quick fitting tube $\varnothing 10$
VERSION	
	39 = Solenoid - Spring
	29 = Solenoid external-Spring
	36 = Solenoid-Differential
V	37 = Solenoid-Differential external
	26 = Solenoid external-Differential
	27 = Solenoid external-Differential external
VOLTAGE	
	01 = 12V DC
	02 = 24V DC
	05 = 24V AC
	06 = 110V AC
	07 = 230V AC
	08 = 24V DC 1W
T	09 = 24V DC downward
	11 = 12V DC downward
	12 = 24V DC downward
	15 = 24V AC downward
	16 = 110V AC downward
	17 = 230V AC downward
	18 = 24V DC 1W downward
	19 = 24V DC Earth faston downward



For dimension "A" see ordering code

Weight 275 g
Minimum piloting pressure 2 bar



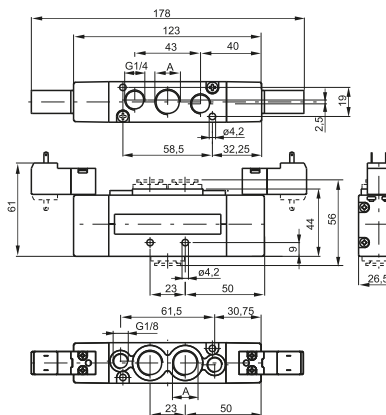
1
AIR DISTRIBUTION

Solenoid - Solenoid

Coding: 261 A.52.00. V. T

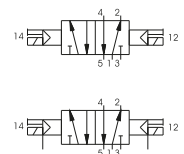
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1500
Orifice size (mm)	9

WORKING PORTS SIZE	
A	1 = G3/8"
	5 = G1/4"
	8 = Quick fitting tube $\varnothing 10$
VERSION	
V	35 = Solenoid-Solenoid
	24 = Solenoid external-Solenoid external
VOLTAGE	
	01 = 12V DC
	02 = 24V DC
	05 = 24V AC
	06 = 110V AC
	07 = 230V AC
	08 = 24V DC 1W
T	09 = 24V DC downward
	11 = 12V DC downward
	12 = 24V DC downward
	15 = 24V AC downward
	16 = 110V AC downward
	17 = 230V AC downward
	18 = 24V DC 1W downward
	19 = 24V DC Earth faston downward



For dimension "A" see ordering code

Weight 295 g
Minimum piloting pressure 1,5 bar



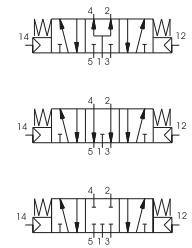
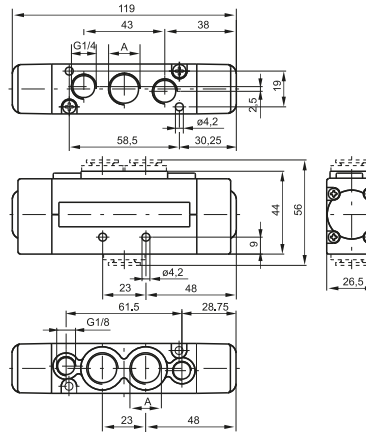


Pneumatic - Pneumatic 5 ways 3 connections

Coding: 261A.53.F.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1350
Orifice size (mm)	9
Pilot ports size	M5

WORKING PORTS SIZE	
A	1 = G3/8"
	5 = G1/4"
	8 = Quick fitting tube Ø10
FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres



Weight 245 g
 Minimum piloting pressure 3 bar

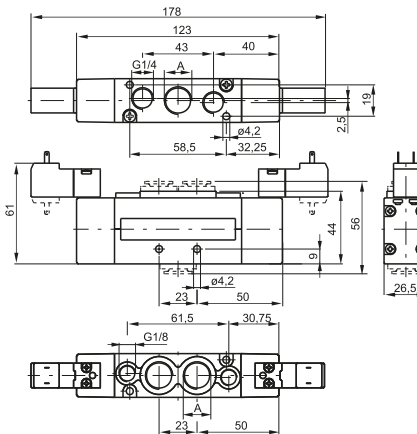
For dimension "A" see ordering code

Solenoid - Solenoid 5 ways 3 connections

Coding: 261A.53.F.V.T

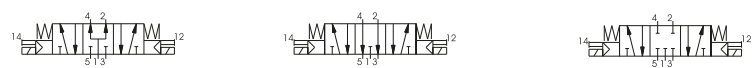
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1350
Orifice size (mm)	9

WORKING PORTS SIZE	
A	1 = G3/8"
	5 = G1/4"
	8 = Quick fitting tube Ø10
FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
VERSION	
V	24 = Solenoid external-Solenoid external
	35 = Solenoid-Solenoid
VOLTAGE	
T	01 = 12V DC
	02 = 24V DC
	05 = 24V AC
	06 = 110V AC
	07 = 230 V AC
	08 = 24V DC 1W
	09 = 24V DC downward
	11 = 12V DC downward
	12 = 24V DC downward
	15 = 24V AC downward
	16 = 110V AC downward
	17 = 230 V AC downward
	18 = 24V DC 1W downward
	19 = 24V DC Earth faston downward



Weight 245 g
 Minimum piloting pressure 3 bar

For dimension "A" see ordering code



Pneumatic - Spring

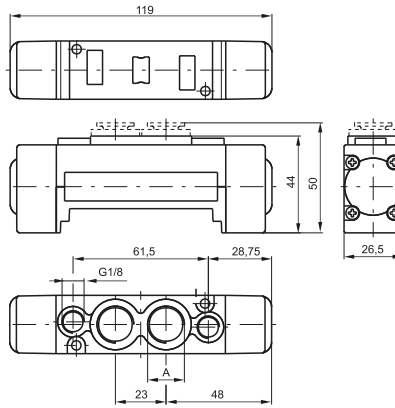
Coding: 263 **A**.52.00.19

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1500
Orifice size (mm)	9
Pilot ports size	M5

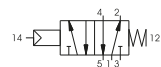
WORKING PORTS SIZE	
A	1 = G3/8"
	5 = G1/4"
	8 = Quick fitting tube $\varnothing 10$



Weight 185 g
Minimum piloting pressure 2 bar



For dimension "A" see ordering code



Pneumatic - Differential

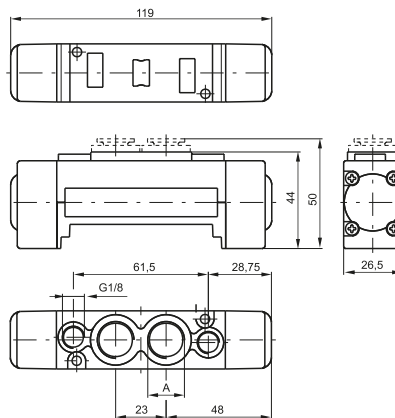
Coding: 263 **A**.52.00.16

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1500
Orifice size (mm)	9
Pilot ports size	M5

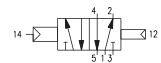
WORKING PORTS SIZE	
A	1 = G3/8"
	5 = G1/4"
	8 = Quick fitting tube $\varnothing 10$



Weight 185 g
Minimum piloting pressure 2 bar



For dimension "A" see ordering code



Pneumatic - Differential (External)

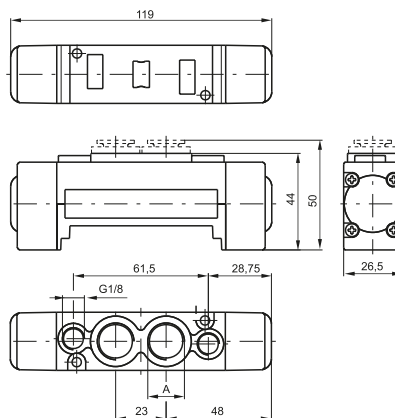
Coding: 263 **A**.52.00.17

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1500
Orifice size (mm)	9
Pilot ports size	M5

WORKING PORTS SIZE	
A	1 = G3/8"
	5 = G1/4"
	8 = Quick fitting tube $\varnothing 10$



Weight 185 g
Minimum piloting pressure 2 bar



For dimension "A" see ordering code





Spool valves and solenoid valves
Series 2600 - Size 26mm FLAT

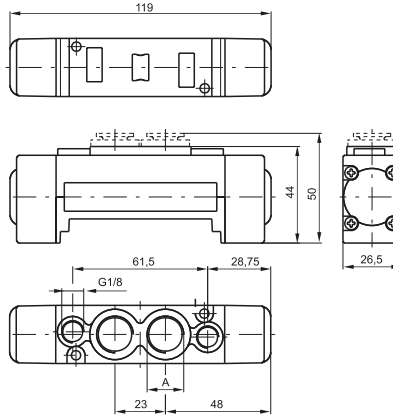
Pneumatic - Pneumatic

Coding: 263A.52.00.18

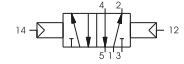
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1500
Orifice size (mm)	9
Pilot ports size	M5

WORKING PORTS SIZE	
1	= G3/8"
5	= G1/4"
8	= Quick fitting tube Ø10



For dimension "A" see ordering code



Weight 185 g
 Minimum piloting pressure 1,5 bar

AIR DISTRIBUTION

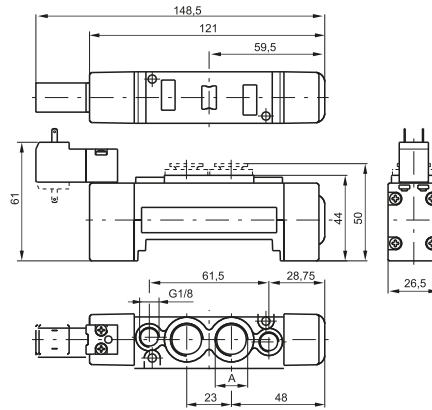
1

Solenoid-Spring / Differential

Coding: 263A.52.00.V.T

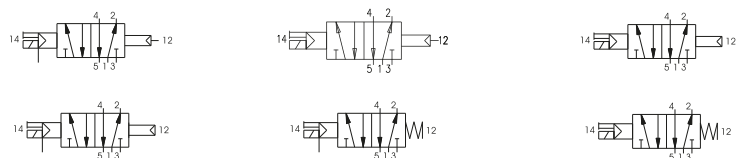
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1500
Orifice size (mm)	9

WORKING PORTS SIZE	
A	1 = G3/8"
	5 = G1/4"
	8 = Quick fitting tube Ø10
VERSION	
	39 = Solenoid - Spring
	29 = Solenoid external-Spring
	36 = Solenoid-Differential
V	37 = Solenoid-Differential external
	26 = Solenoid external-Differential
	27 = Solenoid external-Differential external
VOLTAGE	
	01 = 12V DC
	02 = 24V DC
	05 = 24V AC
	06 = 110V AC
	07 = 230 V AC
	08 = 24V DC 1W
T	09 = 24V DC downward
	11 = 12V DC downward
	12 = 24V DC downward
	15 = 24V AC downward
	16 = 110V AC downward
	17 = 230 V AC downward
	18 = 24V DC 1W downward
	19 = 24V DC Earth faston downward



For dimension "A" see ordering code

Weight 220 g
Minimum piloting pressure 2 bar



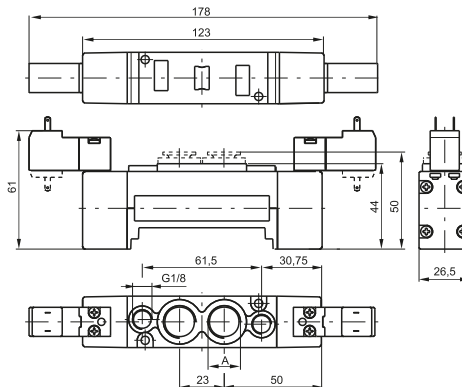
1
AIR DISTRIBUTION

Solenoid - Solenoid

Coding: 263A.52.00.V.T

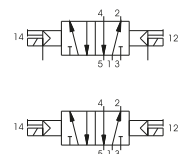
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1500
Orifice size (mm)	9

WORKING PORTS SIZE	
A	1 = G3/8"
	5 = G1/4"
	8 = Quick fitting tube Ø10
VERSION	
V	35 = Solenoid-Solenoid
	24 = Solenoid external-Solenoid external
VOLTAGE	
	01 = 12V DC
	02 = 24V DC
	05 = 24V AC
	06 = 110V AC
	07 = 230 V AC
	08 = 24V DC 1W
T	09 = 24V DC downward
	11 = 12V DC downward
	12 = 24V DC downward
	15 = 24V AC downward
	16 = 110V AC downward
	17 = 230 V AC downward
	18 = 24V DC 1W downward
	19 = 24V DC Earth faston downward



For dimension "A" see ordering code

Weight 250 g
Minimum piloting pressure 1,5 bar





Spool valves and solenoid valves Series 2600 - Size 26mm FLAT

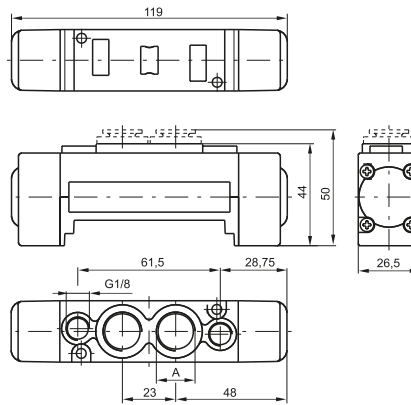
AIR DISTRIBUTION

Pneumatic - Pneumatic 5 ways 3 connections

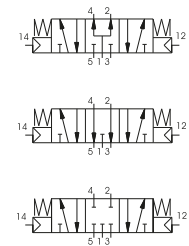
Coding: 263A.53.F.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1350
Orifice size (mm)	9
Pilot ports size	M5

A	WORKING PORTS SIZE
	1 = G3/8"
	5 = G1/4"
F	FUNCTION
	31 = Closed centres
	32 = Open centres
	33 = Pressured centres



For dimension "A" see ordering code



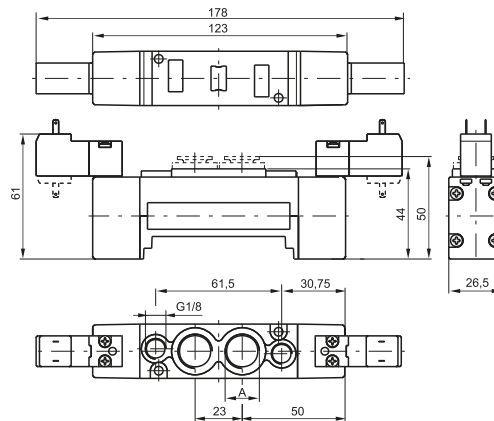
Weight 195 g
Minimum piloting pressure 3 bar

Solenoid - Solenoid 5 ways 3 connections

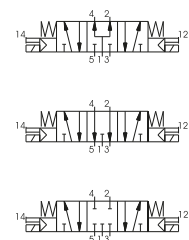
Coding: 263A.53.F.V.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1350
Orifice size (mm)	9

A	WORKING PORTS SIZE
	1 = G3/8"
	5 = G1/4"
F	FUNCTION
	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
V	VERSION
	24 = Solenoid external-Solenoid external
	35 = Solenoid-Solenoid
T	VOLTAGE
	01 = 12V DC
	02 = 24V DC
	05 = 24V AC
	06 = 110V AC
	07 = 230 V AC
	08 = 24V DC 1W
	09 = 24V DC downward
	11 = 12V DC downward
	12 = 24V DC downward
	15 = 24V AC downward
16 = 110V AC downward	
17 = 230 V AC downward	
18 = 24V DC 1W downward	
19 = 24V DC Earth faston downward	

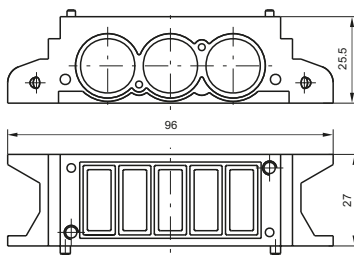


For dimension "A" see ordering code



Weight 270 g
Minimum piloting pressure 3 bar

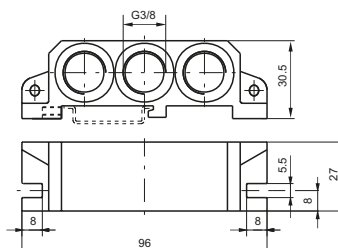
▶ **Modular base**



Coding: 2630.01

Weight 80 g

▶ **Inlet base**

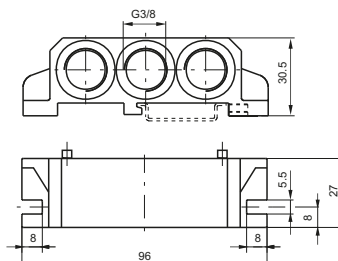


Coding: 2630.02

Weight 80 g

2630.02

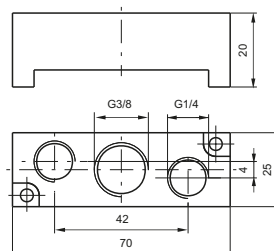
VERSION	
02	Right
03	Left



Weight 100 g

2630.03

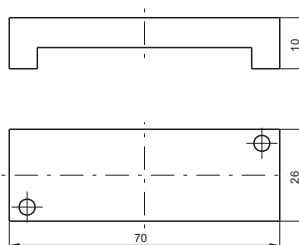
▶ **Intermediate air intake**



Coding: 2630.10

Weight 60 g
to be assembled instead of a valve

▶ **Closing plate**



Coding: 2630.00

Weight 20 g

▶ **Diaphragm plug**



Coding: 2630.17

Weight 5 g

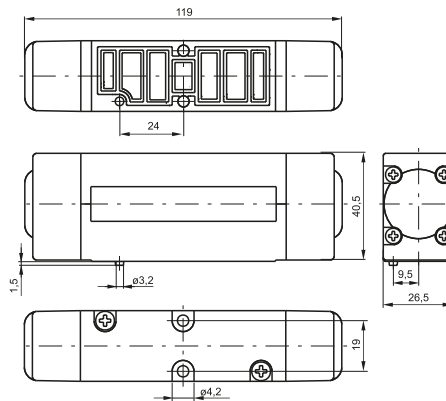


Pneumatic - Spring

Coding: 2645.52.00.19

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1100
Orifice size (mm)	7.5



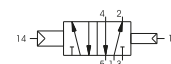
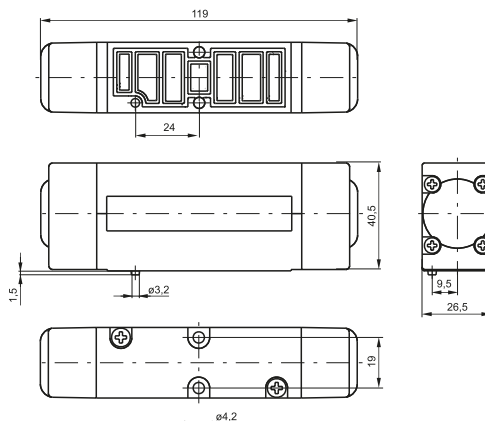
Weight 235 g
Minimum piloting pressure 2 bar

Pneumatic - Differential

Coding: 2645.52.00.16

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1100
Orifice size (mm)	7.5



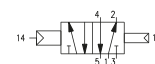
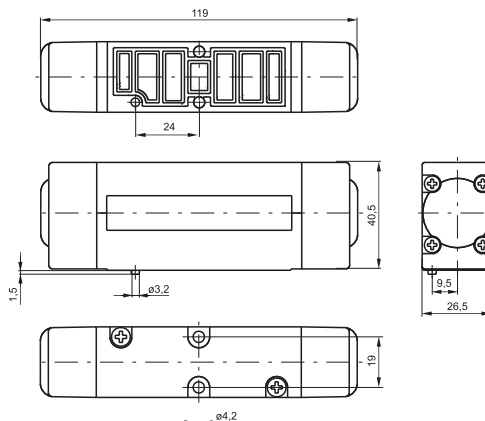
Weight 235 g
Minimum piloting pressure 2 bar

Pneumatic - Differential (External)

Coding: 2645.52.00.17

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1100
Orifice size (mm)	7.5



Weight 235 g
Minimum piloting pressure 2 bar

AIR DISTRIBUTION

1

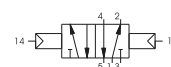
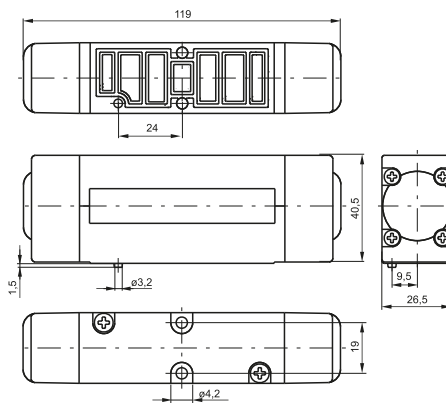
Pneumatic - Pneumatic

Coding: 2645.52.00.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ± +50
Flow rate at 6 bar with $\Delta p=1$ (l/min)	1100
Orifice size (mm)	7.5



Weight 255 g
Minimum piloting pressure 1,5 bar



1
AIR DISTRIBUTION

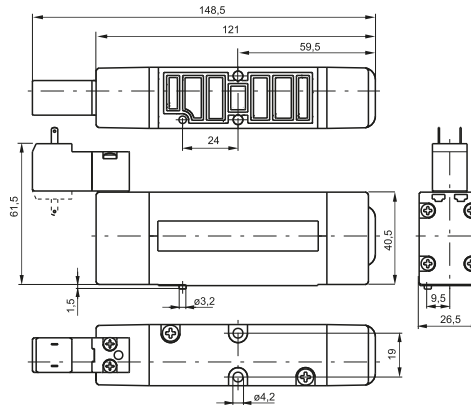


AIR DISTRIBUTION

Solenoid-Spring / Differential

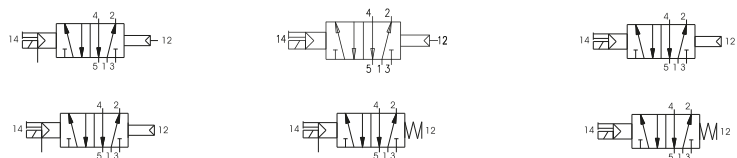
Coding: 264^C.52.00.^V.^T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	7.5



C	TYPE ELECTROPILOT EXHAUST
	1 = on base (only for self feeding valves) 5 = on pilot (for all version)
V	VERSION
	39 = Solenoid - Spring
	29 = Solenoid external-Spring
	36 = Solenoid-Differential
	37 = Solenoid-Differential external
T	VOLTAGE
	01 = 12V DC
	02 = 24V DC
	05 = 24V AC
	06 = 110V AC
T	07 = 230 V AC
	08 = 24V DC 1W
	09 = 24V DC downward
	11 = 12V DC downward
	12 = 24V DC downward
	15 = 24V AC downward
	16 = 110V AC downward
	17 = 230 V AC downward
	18 = 24V DC 1W downward
	19 = 24V DC Earth faston downward

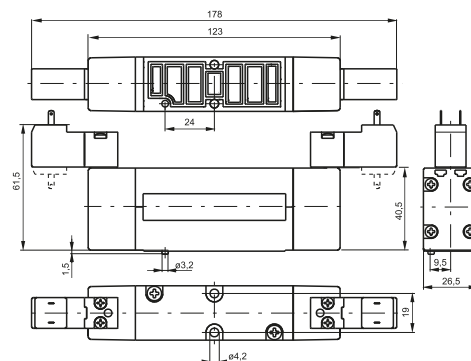
Weight 270 g
 Minimum piloting pressure 2 bar



Solenoid - Solenoid

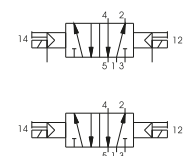
Coding: 264^C.52.00.^V.^T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	7.5



C	TYPE ELECTROPILOT EXHAUST
	1 = on base (only for self feeding valves) 5 = on pilot (for all version)
V	VERSION
	24 = Solenoid external-Solenoid external
	35 = Solenoid-Solenoid
T	VOLTAGE
	01 = 12V DC
	02 = 24V DC
	05 = 24V AC
	06 = 110V AC
	07 = 230 V AC
	08 = 24V DC 1W
	09 = 24V DC downward
	11 = 12V DC downward
	12 = 24V DC downward
	15 = 24V AC downward
	16 = 110V AC downward
	17 = 230 V AC downward
	18 = 24V DC 1W downward
19 = 24V DC Earth faston downward	

Weight 305 g
 Minimum piloting pressure 1,5 bar

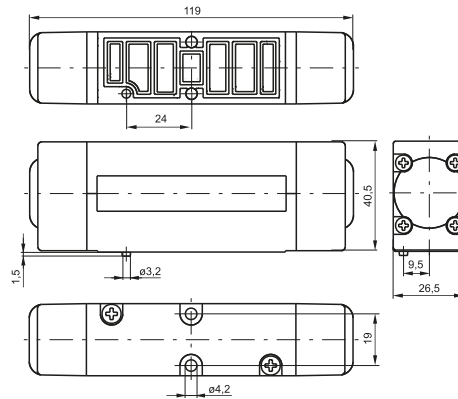


Pneumatic - Pneumatic 5 ways 3 connections

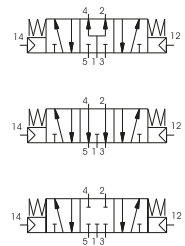
Coding: 264 **C**.53.**F**.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1000
Orifice size (mm)	7.5

C	TYPE ELECTROPILOT EXHAUST 1 = on base (only for self feeding valves) 5 = on pilot (for all version)
F	FUNCTION 31 = Closed centres 32 = Open centres 33 = Pressured centres



Weight 245 g
Minimum piloting pressure 3 bar

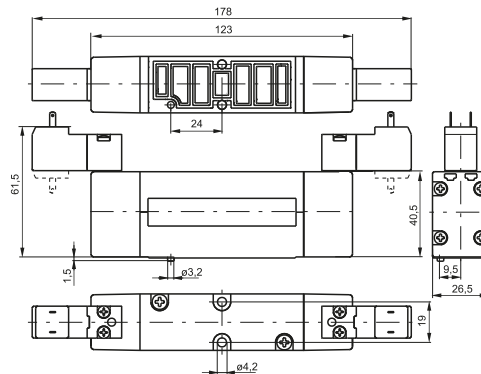


Solenoid - Solenoid 5 ways 3 connections

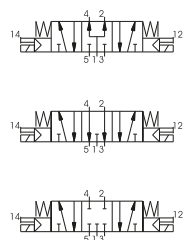
Coding: 264 **C**.53.**F**.**V**.**T**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1000
Orifice size (mm)	5

C	TYPE ELECTROPILOT EXHAUST 1 = on base (only for self feeding valves) 5 = on pilot (for all version)
F	FUNCTION 31 = Closed centres 32 = Open centres 33 = Pressured centres
V	VERSION 24 = Solenoid external-Solenoid external 35 = Solenoid-Solenoid
T	VOLTAGE 01 = 12V DC 02 = 24V DC 05 = 24V AC 06 = 110V AC 07 = 230 V AC 08 = 24V DC 1W 09 = 24V DC downward 11 = 12V DC downward 12 = 24V DC downward 15 = 24V AC downward 16 = 110V AC downward 17 = 230 V AC downward 18 = 24V DC 1W downward 19 = 24V DC Earth faston downward



Weight 315 g
Minimum piloting pressure 3 bar

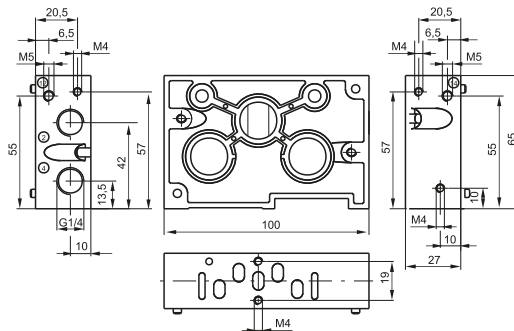


1
AIR DISTRIBUTION

1

AIR DISTRIBUTION

Modular base

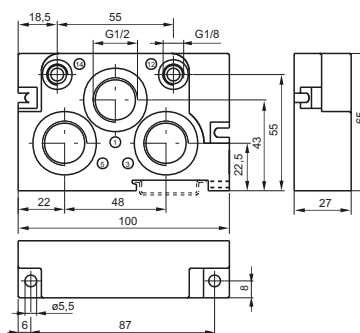


Coding: 2640.▼

VERSION
▼ 01 = Standard base
11 = Base for single separate inlet

Weight 220 g

Inlet base

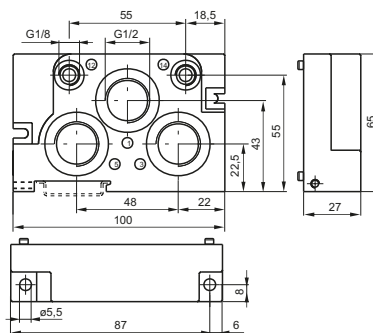


Coding: 2640.▼

VERSION
▼ 02 = Right
03 = Left

Weight 200 g

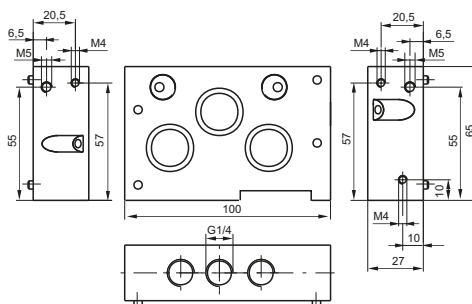
2640.02



Weight 200 g

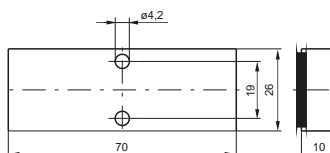
2640.03

Intermediate air intake



Coding: 2640.10

Closing plate



Coding: 2640.00

Weight 50 g



▶ Diaphragm plug

Coding: 2640.17



Weight 10 g




Series 300

General

The direct operated solenoid valve is the interface between pneumatic and electronic. In fact, it is actuated by an electrical signal and in turn gives a pneumatic signal directly available for small users or for actuating bigger pneumatic distributors.

A wide range of valves are needed for satisfying various applications. For this need we have available miniature components with very low volume and electrical impute as well as solenoid valves with large flow rate and power for heavy duty operations. These solenoid valves are usually 3/2, normally closed or normally open, but there are available the 2/2, closed or open, for vacuum and others.

Note that the direct operated valves can only be used with bases, individual or multiple with M5 or G 1/8" thread or with connections.

Some PNEUMAX solenoid valves are  homologated valid for USA and Canada (file n. VAIU2.E206325, VAIU8.E206325). For more details, refer to the coding, in the following pages.

The 10mm and 15mm solenoid valves are certified by UL in compliance with both Canadian and USA safety requirements as recognized component and included in the **UL file E206325** and bear the "UL Recognized Component" marking.

The 10mm and 15mm solenoid valves, since they are devices for "class 2 circuits", according with UL standard UL 429/CSA C22.2 N°139, are not considered dangerous for electric shock or fire and thus a **UL certification is not required for cables and connectors.**

Some solenoid valves, since they are devices for "class 2 circuits", according with UL standard UL 429/CSA C22.2 N°139, are not considered dangerous for electric shock or fire and thus a **UL certification is not required for cables and connectors.**

Use and maintenance

Maintenance is normally not required for these components therefore the spare parts list is not provided.

Their construction complexity and low cost do not make repair economically viable. It's easier and more economic to replace the complete valve in case of malfunction.

For proper lubrication use only hydraulic oil class H such as Castrol type MAGNA GC 32.

General

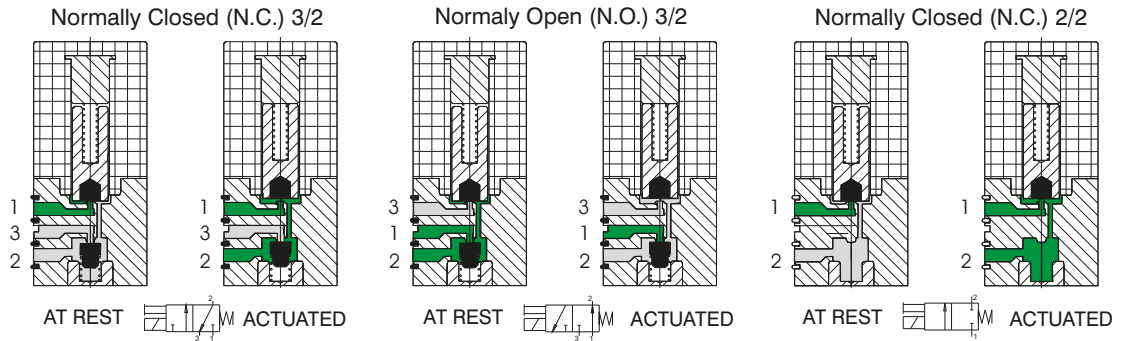
This series of directly operated valves is characterized by its reduced dimensions. They are designed to be mounted individually or on manifold. The high operating speed and high flow rate in consideration of the reduced dimensions, in combination with the high compatibility of the material used to manufacture them ensure a high variety of possible application fields.

All valves have manual override as standard and are available in 3/2 configuration N.O. and N.C. as well as 2/2 N.C. both 12 or 24 V DC or AC. Electrical connection can be via co moulded cables or via connector, in this configuration a LED indicates the coil status. Ensure that the fixing screws are tightened with 0.15Nm maximum.

The 10mm Speed-up version are built in accordance to the ISO 15218-2003 standard with a flow rate of 24NI/min. The coil integrates a dedicated circuit board which enables to contain the power consumption to 0.35W in case of the high flow rate version and to 0.1W in case of the standard flow rate version.

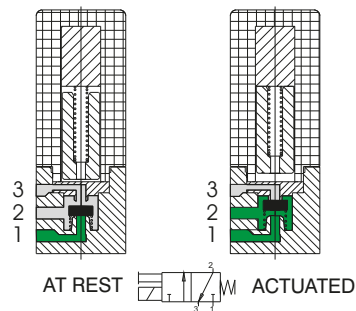
Functional schematics for standard version

- 1 = SUPPLY PORT
- 2 = OUTLET PORT
- 3 = EXHAUST PORT



Functional schematics for Speed-up version

- 1 = SUPPLY PORT
- 2 = OUTLET PORT
- 3 = EXHAUST PORT



Normally Closed (N.C.) 3/2

1

AIR DISTRIBUTION



Construction characteristics:

Electrical part:

Miniature solenoid consisting of a coil made of copper wire of different diameters depending on voltage, isolated according to "F" class standard, with injection-moulded nylon-glass application. All parts forming the cladding, the electrical connections and the pole pieces are protected against corrosion.

Mechanical part:

Stainless steel 430F armatures FPM poppets body in thermoplastic material and manual override and plug in nickel plated brass. Valves must be mounted on single or multiple manifold to be used.

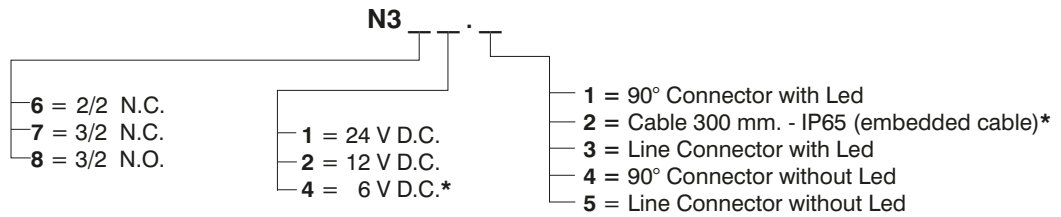
1
AIR DISTRIBUTION

Technical characteristics		Standard Version	Speed-Up Version
Pneumatic:	Working pressure	0 - 7 bar	
	Nominal diameter	0,7 mm	1,1 mm
	Temperature	-5° - +50°C	
	Maximun flow rate at 6 bar with Δp 1 bar	14 NI/min	24 NI/min
	Exhaust flow	22 NI/min	29 NI/min
	Max number of cycles per minute	2.700	
	Life	50 million	
Electric:	Voltages	12 - 24 Volt D.C.	
	Power	1,3 Watt	0,35 Watt ⁽¹⁾
	Voltage tollerance	-5% - +10%	
	Response time when energized *	8 ms	
	Response time when de-energized *	10 ms	
	Copper wire isolation class	F (155°C)	
	Protection degree	IP65 (with cables) IP40 (with connectors) IP00 (with Faston)	

(*) "Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power - Directional control valves - Measurement of shifting time"

(1) = consumption wrapping in opening phase 3, 5W (10 ms), consumption wrapping in maintenance phase 0.35 W.

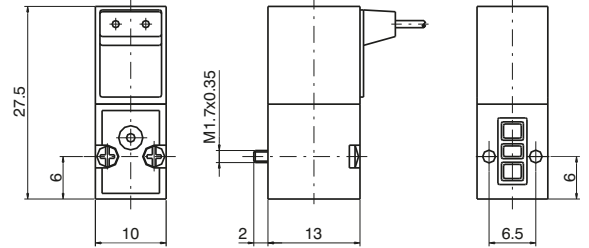
10 mm Standard miniature solenoid ordering codes



* = The CE Directive does not apply to these versions

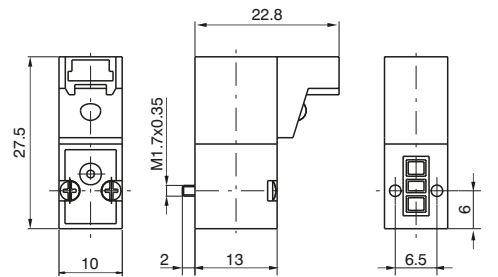
Miniature solenoid valve with cable

Weight 12 gr.



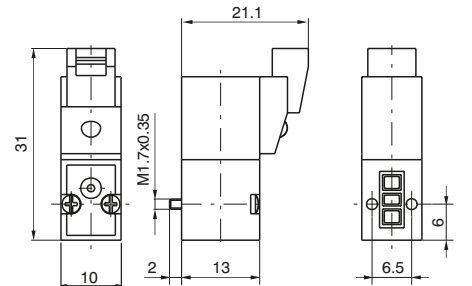
Miniature solenoid valve with 90° connector

Weight 12 gr.



Miniature solenoid valve with line connector

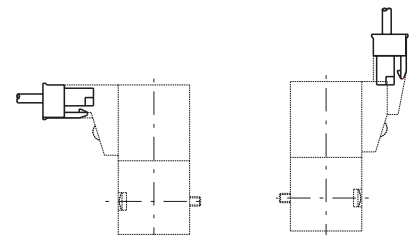
Weight 12 gr.



Connector

Ordering codes

- 371 .
 - 300 : Cable L = 300 mm
 - 600 : Cable L = 600 mm
 - 1000 : Cable L = 1000 mm

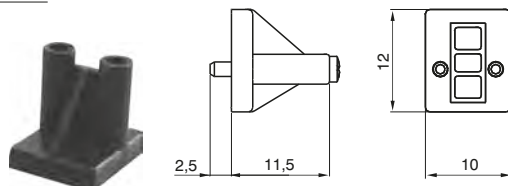


Weight 3 gr.

Closing plate

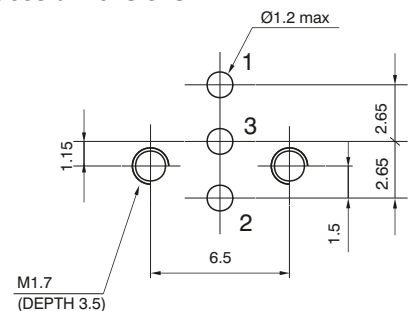
Ordering codes

395.00



Weight 5 gr.

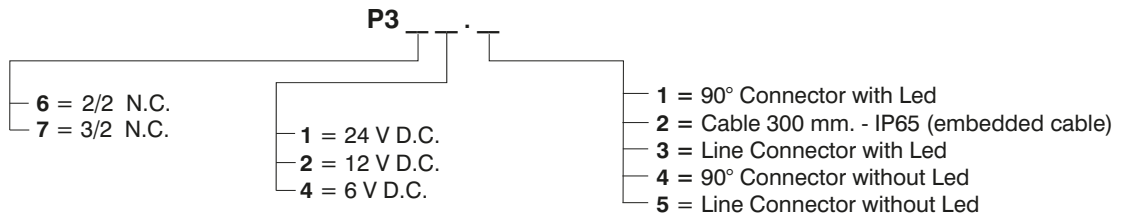
Interfaces dimensions



1
AIR DISTRIBUTION

10 mm - ISO 15218-2003 miniature solenoid ordering codes

The versions are not contemplated by the CE Directive

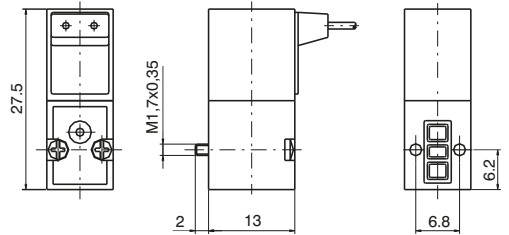


1 AIR DISTRIBUTION

Miniature solenoid valve with cable



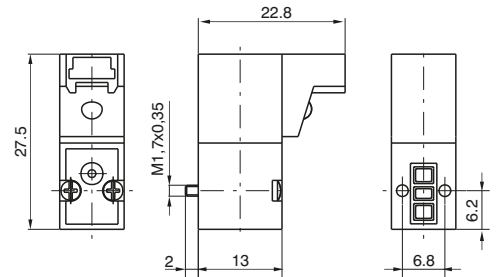
Weight 12 gr.



Miniature solenoid valve with 90° connector



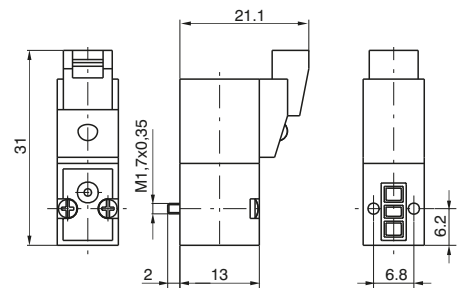
Weight 12 gr.



Miniature solenoid valve with line connector



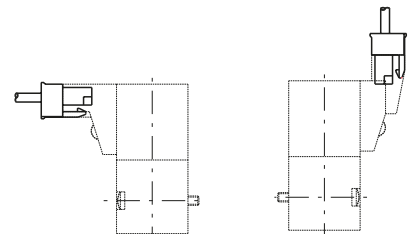
Weight 12 gr.



Connector

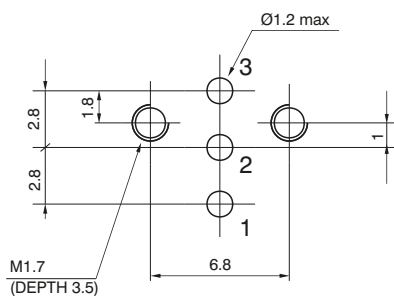
Ordering codes

- 371 .**
- 300 : Cable L = 300 mm
 - 600 : Cable L = 600 mm
 - 1000 : Cable L = 1000 mm



Weight 3 gr.

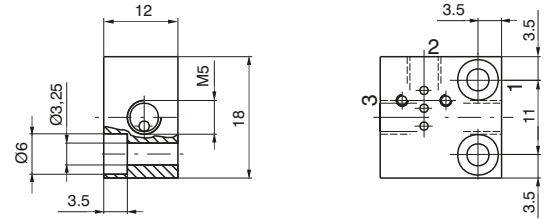
Interfaces dimensions 10 mm - ISO 15218



**Standard version
Individual base**

Ordering code

395.01



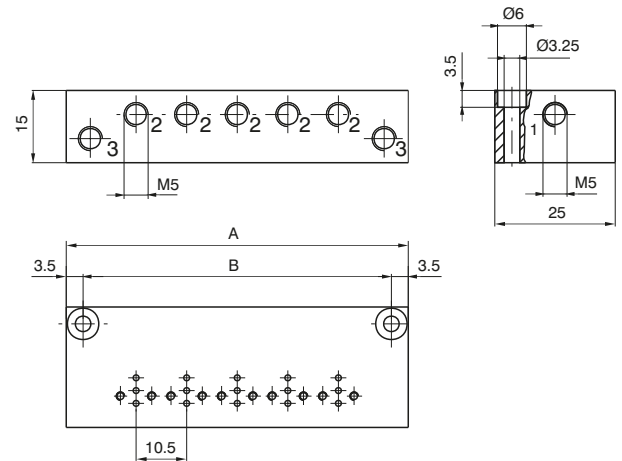
Weight 10 gr.

**Standard version
multiple bases**

Ordering code

395 .

N° Places

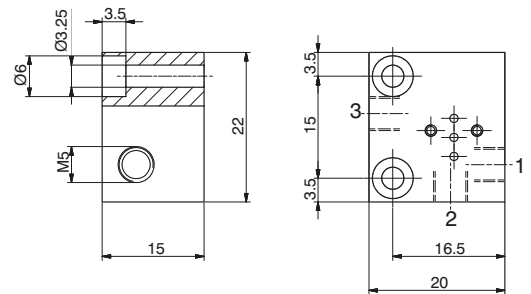


N° Places	02	03	04	05	06	07	08	09	10
A	39.5	50	60.5	71	81.5	92	102.5	113	123.5
B	32.5	43	53.5	64	74.5	85	95.5	106	116.5
Weight (gr.)	43	54	65	76	87	98	109	120	131

**Individual base for
ISO 15218-2003 version**

Ordering code

P395.01



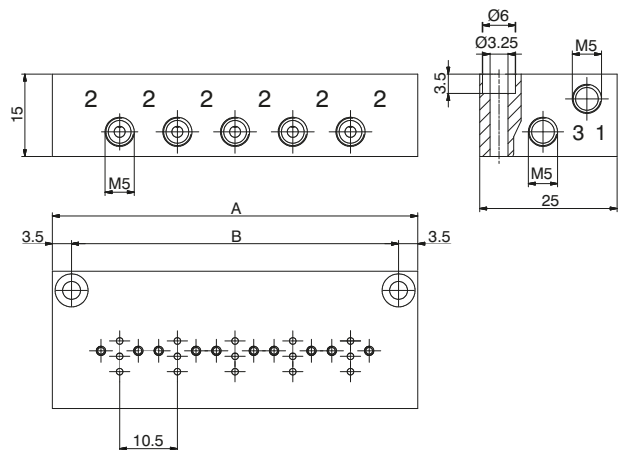
Weight 10 gr.

**Multiple base for
ISO 15218-2003 version**

Ordering code

P395 .

N° Places



N° Places	02	03	04	05	06	07	08	09	10
A	35	45.5	56	66.5	77	87.5	98	108.5	119
B	28	38.5	49	59.5	70	80.5	91	101.5	112
Weight (gr.)	43	54	65	76	87	98	109	120	131

General

This direct operated solenoid valve has minimum overall dimensions (15 mm wide). Its construction method is same as 10 mm valve, of course.

It is suitable to be single or gang mounted or as electro-operator for larger air flow distributors.

Can be utilized with compressed air and other fluids compatible with material used to build the solenoid valve.

The available versions, all equipped with manual override, are 3 ways, normally closed and normally open with DC and AC 50/60 Hz.

It's possible to install the N.O. valve on N.C. interface by using the registered reverse system included in the valve body.

The electrical connection is made with cables (300 mm.), FASTON or with connector.

This type of miniature solenoid valve is interchangeable with most of the same products available on the market.

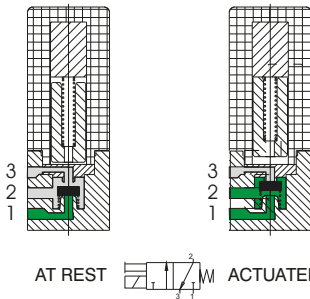
Coil can also be positioned at 180° to get the electrical connection located on the opposite side than override.

Make sure that the fastening screws are tightened with maximum torque of 0,75 Nm.

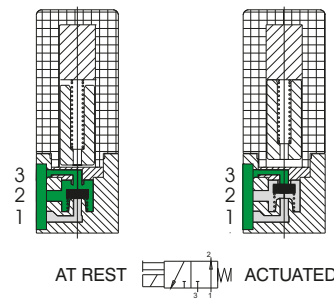
Functional schematics

- 1 = SUPPLY PORT
- 2 = OUTLET PORT
- 3 = EXHAUST PORT

Normally Closed (N.C.) 3/2



Normally Open (N.O.) 3/2



Construction characteristics

Electrical part

Miniature solenoid consisting of a coil made of copper wire of different diameters depending on voltage, isolated according to "F" class standard, with injection-moulded nylon-glass application. All parts forming the cladding, the electrical connections and the pole pieces are protected against corrosion.

Mechanical part

AISI 430F cores, AISI 302 return springs, FPM poppets, thermoplastic polyester body.

Technical characteristics

Pneumatics

Nominal diameter	0.8	1,1 mm	1,5 mm (only D.C.)
Maximum flow rate at 6 bar with Δp 1 bar	20 NI/min	30 NI/min	50 NI/min
Working pressure for N.C.	0 - 10 bar		0 - 7 bar
Working pressure for N.O.	/	0 - 8 bar	0 - 5 bar
Temperature	-5° +50°C		
Life expectancy	50 million cycles (with standard working conditions)		

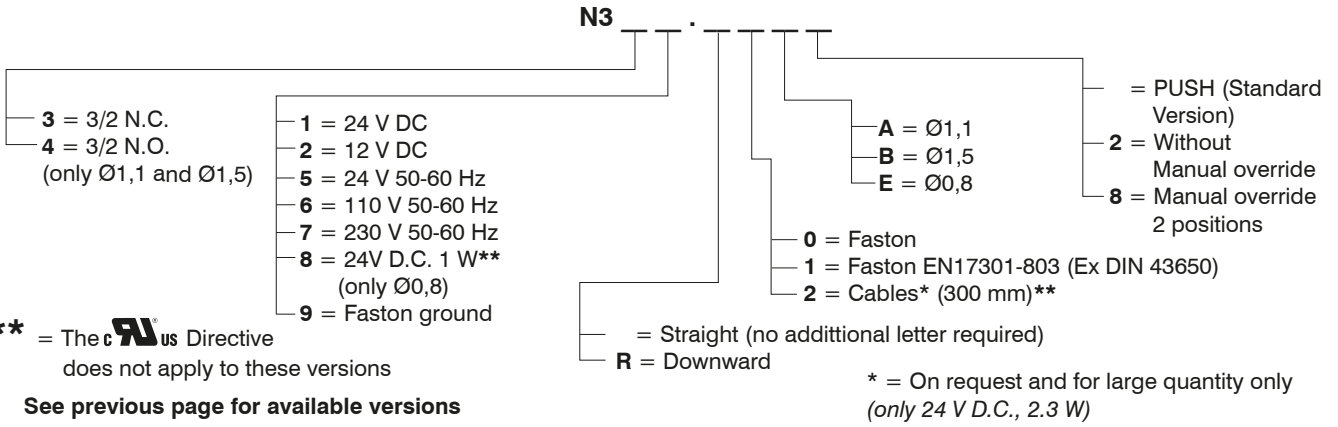
Electrical

Voltage D.C.	24 V DC	12-24 V DC	
Voltage A.C.	/	24-110-230 Volt 50/60 Hz	/
Power consumption D.C.	1 Watt	2,3 Watt	
Power consumption A.C.	/	2,8 VA (at starting) 2,5 VA (at speed)	/
Voltage tolerance	-5% - +10%		
Response time *	10-12 ms		
Isolating class	F (155°C)		
Protection degree	IP65 (with cables) IP40 (with connectors) IP00 (with faston)		

(*) *Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power - Directional control valves - Measurement of shifting time*

1 AIR DISTRIBUTION

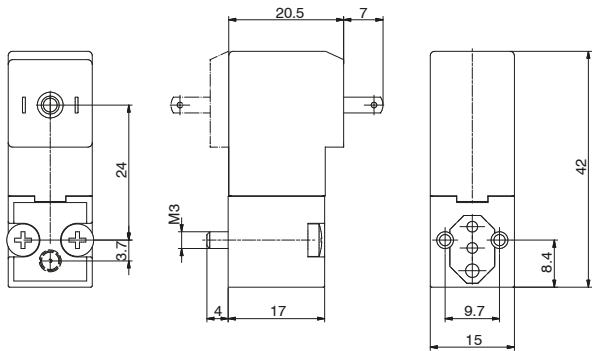
15 mm miniature solenoid ordering codes



With Faston



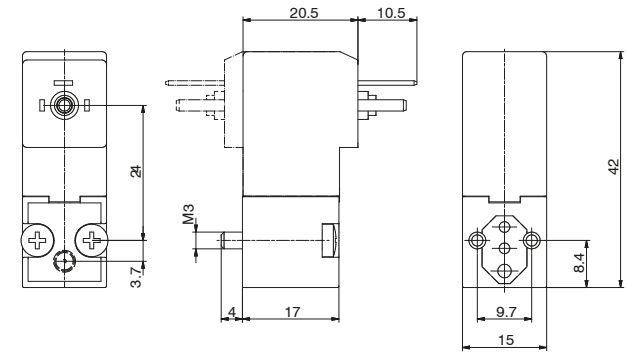
Weight 36 gr.



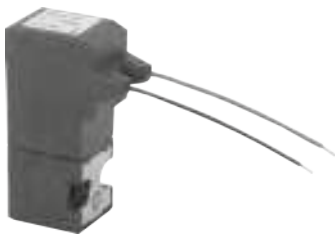
With Faston EN17301-803 (Ex DIN 43650)



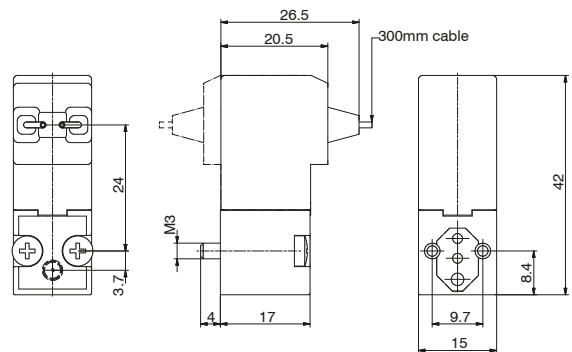
Weight 36 gr.



With Cables (300 mm)



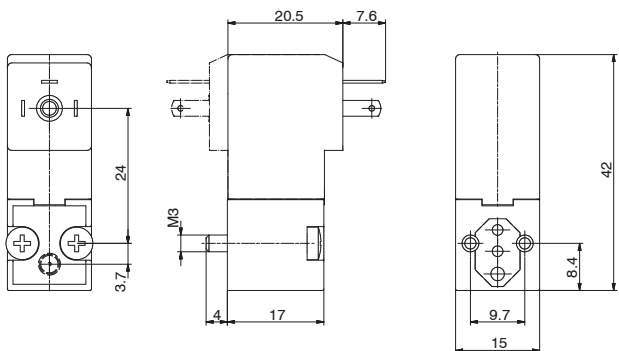
Weight 38 gr.



With Faston ground



Weight 38 gr.



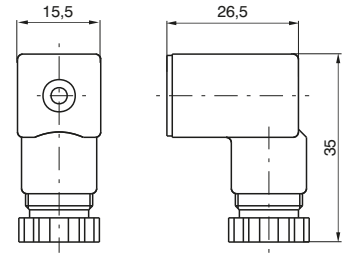
1

AIR DISTRIBUTION

Connector

Ordering code

- 315.11.00** Standard
- 315.12.00** for faston EN17301-803 (Ex DIN 43650)
- 315.11.0 L** Led
 - 1 = 24 V D.C. / A.C.
 - 2 = 110 V 50/60 Hz
 - 3 = 230 V 50/60 Hz
- 315.12.0 L** for faston EN17301-803 (Ex DIN 43650) with Led
 - 1 = 24 V D.C. / A.C.
 - 2 = 110 V 50/60 Hz
 - 3 = 230 V 50/60 Hz

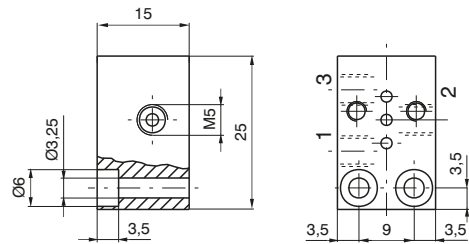


Weight 13 gr.

Single use base

Ordering code

355.01



Weight 18 gr.

Multiple bases

Ordering code

A = Orifice M5

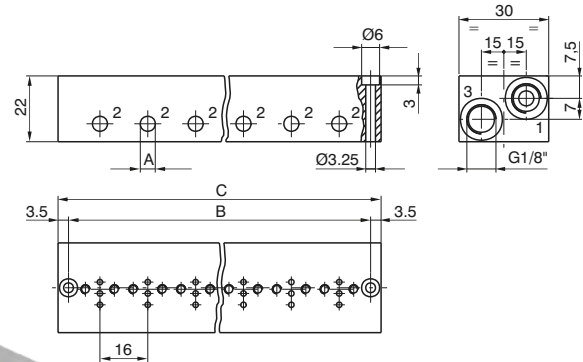
A = Pipe fitting Ø4

355 .

354 .

N° PLACES

N° PLACES



N° places	02	03	04	05	06	07	08	09	10
B	37	53	69	85	101	117	133	149	165
C	44	60	76	92	108	124	140	156	172
Weight (gr.)	66	92	116	141	165	190	216	242	266

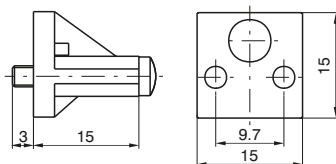
Closing plate

Ordering code

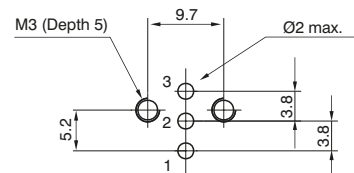
355.00



Weight 6 gr.



Interface dimensions



15mm Solenoid valves Manifold with electric multipoint connection

General

Also for this 15mm solenoid valves series we have realized the possibility of the assembling on the base with multipoint connection, this for making faster the connection and the harness of them.

Realized from a shaped outline, it results compact because it uses a relevant multipoint connection available only with a 37 poles connector from 10 to 32 solenoid valves (with steps of 2), available in line or at 90° and IP40 protection. On the base it is possible to put some threaded cartridges with push-in fittings for Ø3 – Ø3,17 Ø4 tube or M5 threaded.

The application field of these new configurations is the standard of 3/2 valves, where it is needed to realize groups or Manifolds provided with integrated electric connection to make easier and faster the connection and the harness of them (control of single acting cylinders with small dimensions, pilot system of valves with bigger dimensions etc..).

Constructive characteristics:

Constructive principle:

From 10 up to 32 solenoid valves (with steps of 2)

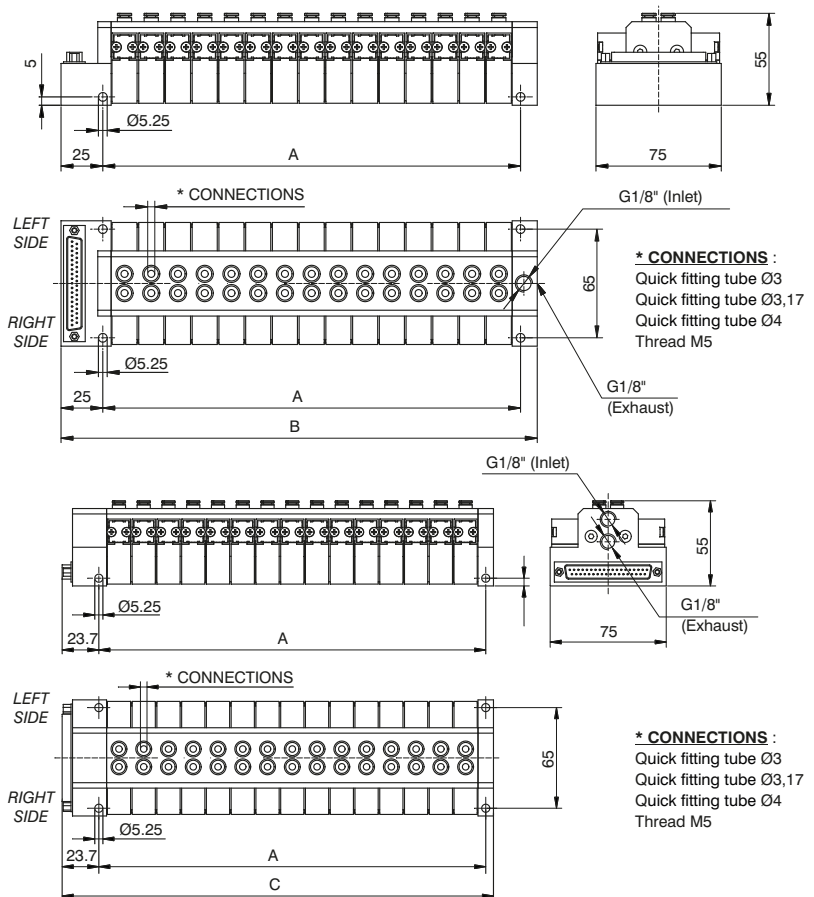
Extremely compact solution

IP40 protection (without visualisation led)

Possibility of having different working connections (Ø3, Ø3,17, Ø4 tubes, M5)

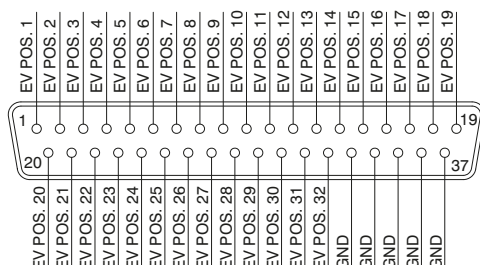
The new coding key requires the use of the same type of solenoid valves (there aren't codes for groups with a mixed configuration).

Overall dimensions

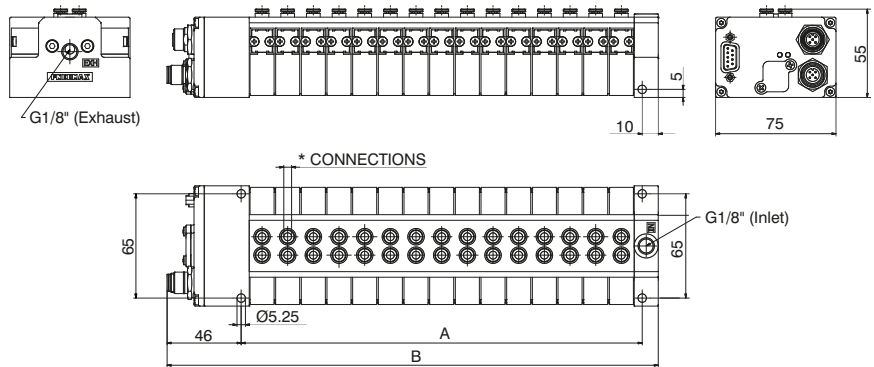


N° places	A	B	C
10	90	125	118,7
12	106	141	134,7
14	122	157	150,7
16	138	173	166,7
18	154	189	182,7
20	170	205	198,7
22	186	221	214,7
24	202	237	230,7
26	218	253	246,7
28	234	269	262,7
30	250	285	278,7
32	266	301	294,7

SUB-D 37 POLES CONNECTORS

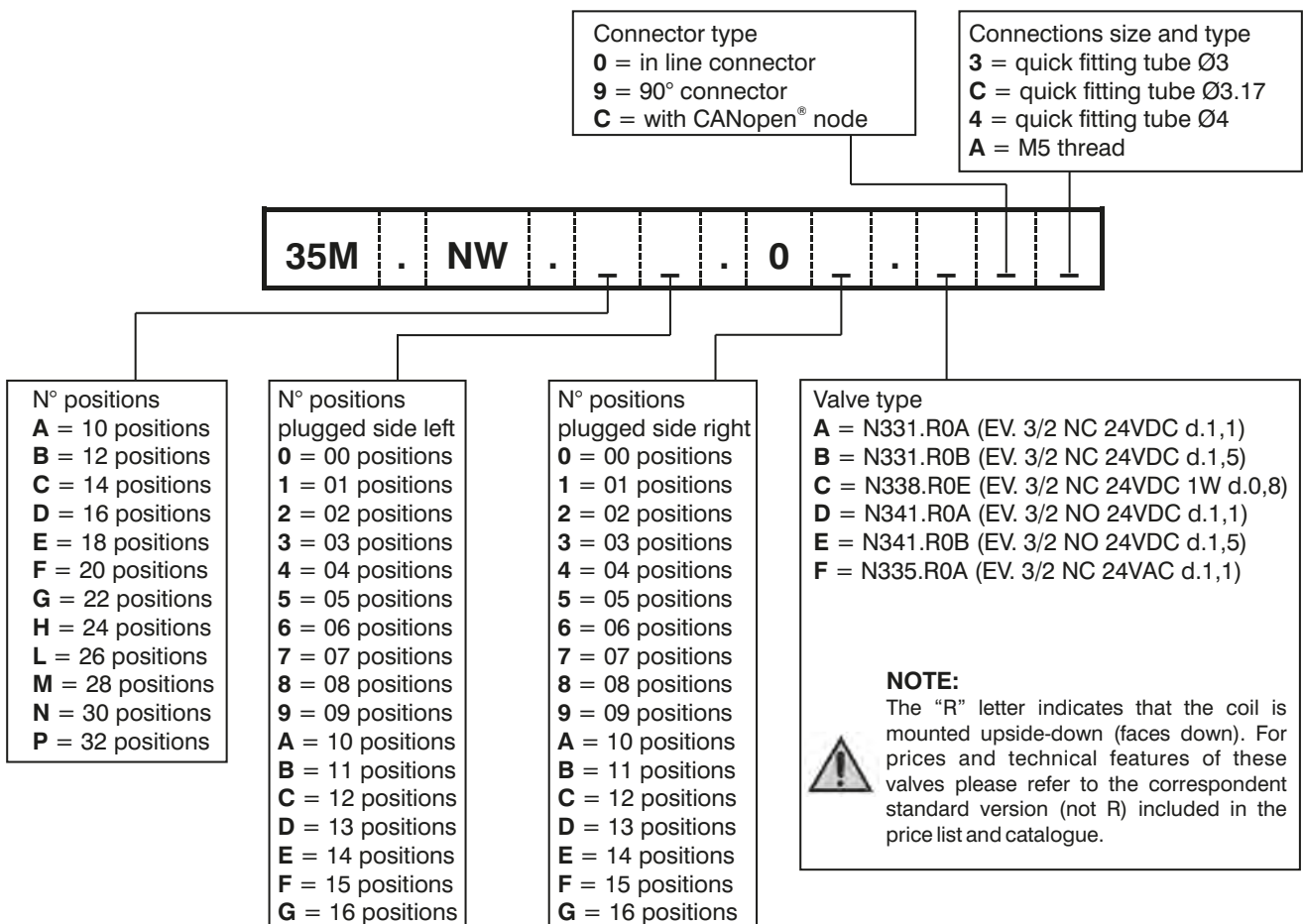


Overall dimensions
Manifold with CANopen® node



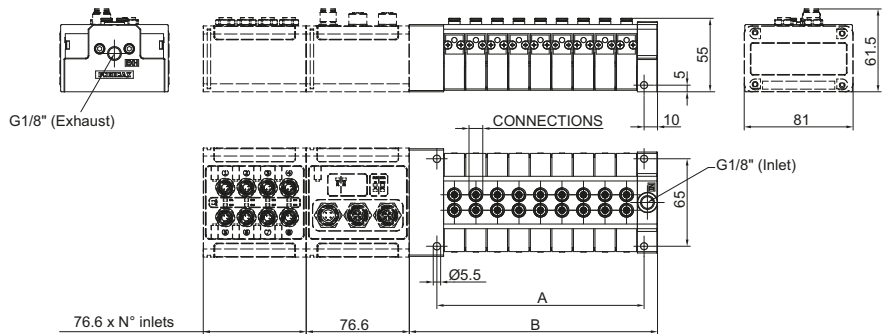
N° positions	A	B
10	90	146
12	106	162
14	122	178
16	138	194
18	154	210
20	170	226
22	186	242
24	202	258
26	218	274
28	234	290
30	250	306
32	266	322

Manifold layout configuration



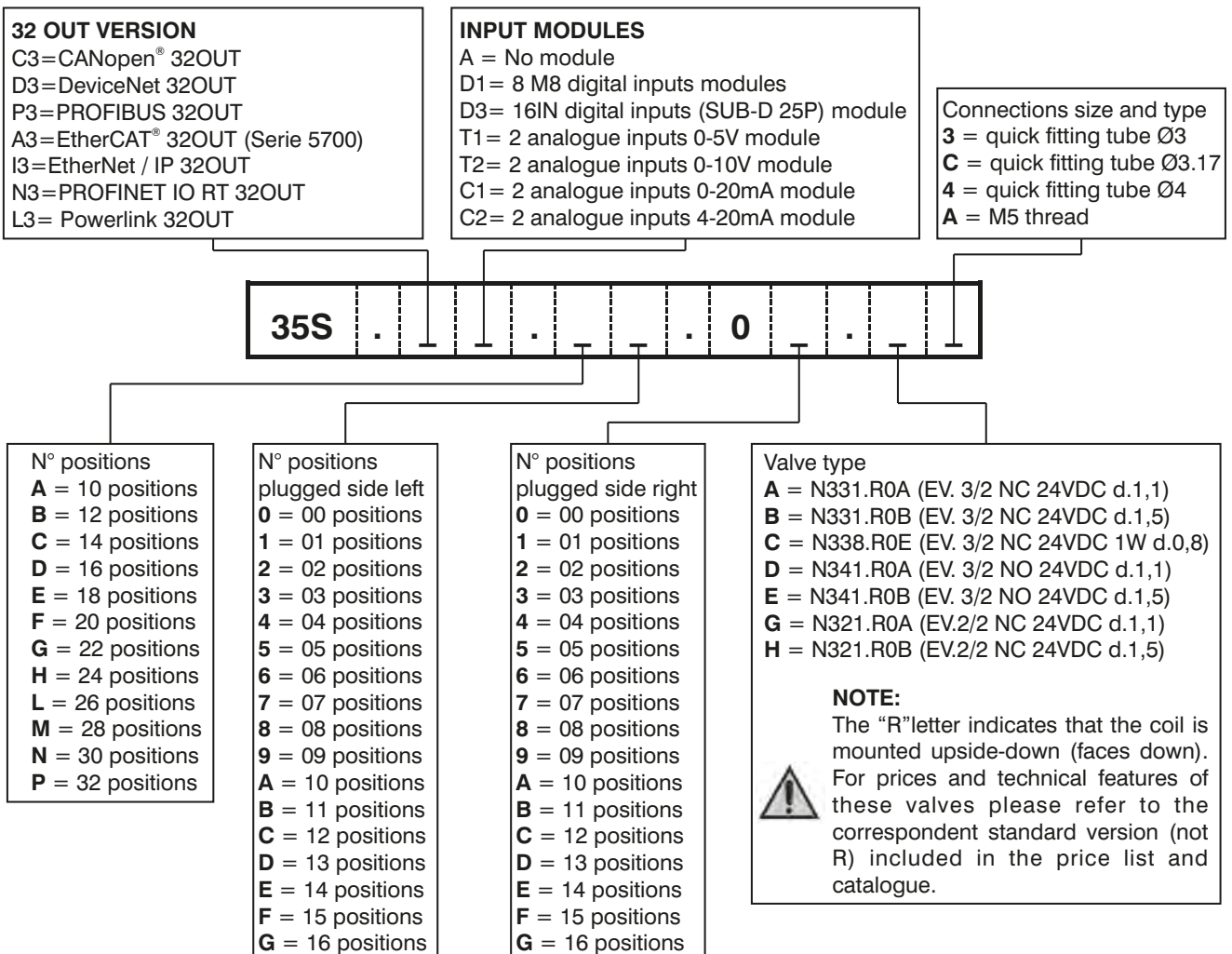
Overall dimensions

Manifold with Optyma-F serial system (slave + input modules)

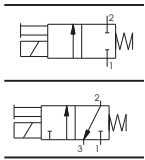


N° positions	A	B
10	90	120,50
12	106	136,50
14	122	152,50
16	138	168,50
18	154	184,50
20	170	200,50
22	186	216,50
24	202	232,50
26	218	248,50
28	234	264,50
30	250	280,50
32	266	296,50

Manifold layout configuration with Optyma-F serial system (slave + input modules)

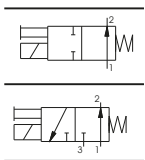
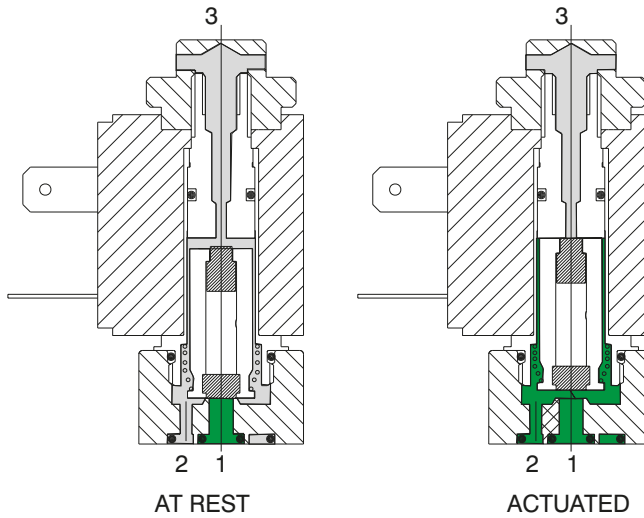


Functional schematics

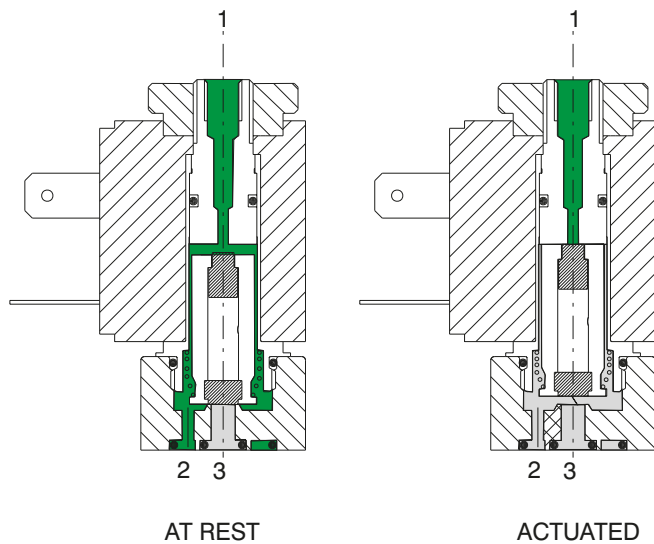


- 1 = INLET PORT
- 2 = OUTLET PORT
- 3 = EXHAUST PORT
(Plugged if 2/2)

Normally Closed (N.C.) 3/2 or 2/2



Normally Open (N.O.) 3/2 or 2/2



Construction characteristics

Electrical parts: Solenoids: the solenoid consist of coils having different diameter copper wire windings insulated according standards "H"; they are encased in a nylon-glass compound. All parts are corrosion resistant.

Mechanical parts: Nickel plated brass tube nitrile viton seals stainless steel plunger (AISI 430F), stainless steel adjusted springs, viton poppet seals, tropicalized zinc alloy interface plate, nickered brass manual override, nickel steel coil lock nut, zinc steel mounting screw. To be usable, the solenoids and microsolenoids have to be attached either to a base or directly to the distributor's operators by means of connectors M5 or G 1/8". These solenoids are available in all voltages and frequencies used in the world. The following are the technical characteristics of the solenoid.

1
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Technical characteristics

Pneumatic	Working pressure	0 - 10 bar	
	Orifice size	1,3 mm	(0,9 mm for 2 W)
	Maximum fluid temperature	50°C	
	Maximum ambient temperature	50°C	
	Maximum flow rate at 6 bar with Δp 1 bar	53 NI/min	(20NI/min. for 2 W)
	Cycles/minute	700	
	Fluids	Air-vacuum-inert gases	
	Lubrication	non required	
Life	45 to 50 million cycles		
Electrical	Power consumption holding - D.C	5 W	(2.5 W) low consumption
	Power consumption holding - A.C	9 VA	(6 VA) low consumption
	Operating voltage tolerance	$\pm 10\%$	
	Response time opening *	8 ms	
	Response time closing *	6 ms	
	Insulation of the copper wire	H	
	Insulation of the coil	F	
	Connector protection	IP 65	
Cable protection	DIN 43650 INDUSTRIAL FORM		

(*) "Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power - Directional control valves - Measurement of shifting time"

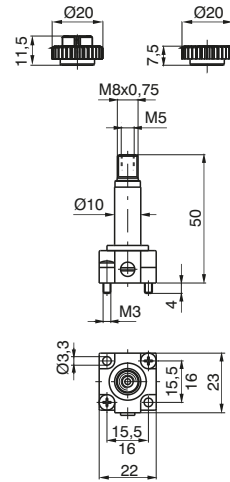
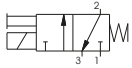
Maintenance and replacement parts

Maintenance practices for these valves are similar to those already detailed for other products- replacement of the plunger or poppet is not advisable since the new replacement would not provide the best fit with the rest of the already used valve. Special care should be taken that no dirt is accumulated between the working surface of fixed core and the plunger which would result in vibrations and overheating of the solenoid. In the case of microsolenoid it must be assured that the alternate current coil is not charged when the mechanical part is not mounted to avoid destruction of the coil. The electrical connections have to be perfect, especially where low currents are used (12-24V). Oxidation of contacts between the connector and the coil can lead to intermittent malfunctions which are difficult to trace. Oxidation of contacts due to humidity or corrosive atmosphere are one of the most common causes of false alarms. Clean the contacts with appropriate spray.

Mechanical actuator for miniature solenoid valve

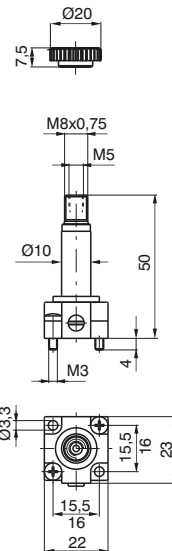
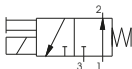
Ordering code

- M 2** Normally Closed (N.C.)
- M 2P** Normally Closed (N.C.) threaded lock nut
- M 2/9** Normally Closed (N.C.) 2 W 24 VDC



Weight 51 gr.

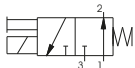
- M 2/1** Normally Open (N.O.) air feeding through fix flunger



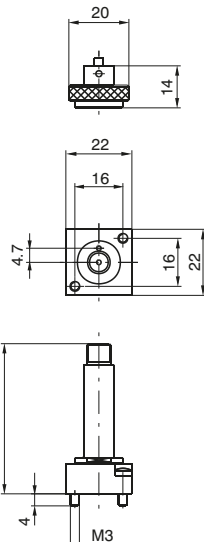
Weight 48 gr.

- Normally Open (N.O.) air feeding through base

MM 7

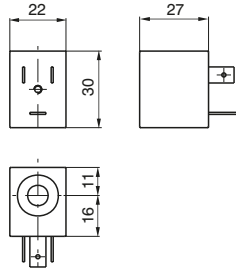


Weight 46 gr.



Ordering code	Available voltages	
N.O.	Coil	
MB10/1	24 D.C. (8 Watt)	Direct current
MB17/1	24/50	Alternating current 50 Hz
MB21/1	48/50	
MB22/1	110/50	
MB24/1	230/50	
MB37/1	24/60	Alternating current 60 Hz
MB39/1	110/60	
MB41/1	230/60	
MB56/1	24/50-60	Alternating current 50/60 Hz
MB57/1	110/50-60	
MB58/1	230/50-60	

Coil

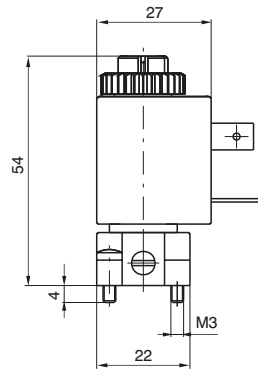
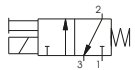


Weight 54 gr.

* Use only with M2/9

Ordering code	Available voltages Coils
MB 4 MB 5 MB 6	12 D.C. 24 D.C. 48 D.C. Direct current
MB 9*	24 D.C. (2 Watt) (Direct current, low consumption)
MB 17 MB 21 MB 22 MB 24	24/50 48/50 110/50 230/50 Alternating current 50 Hz
MB 37 MB 39 MB 41	24/60 110/60 230/60 Alternating current 60 Hz
MB 56 MB 57 MB 58	24/50-60 110/50-60 230/50-60 Alternating current 50/60 Hz
MB 66 MB 67 MB 68	24/50-60 110/50-60 230/50-60 Alternating current (low consumption) 50/60 Hz

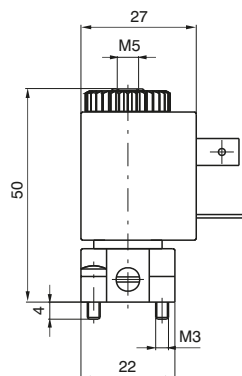
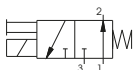
Miniature solenoid valve Normally Closed (N.C.)



Weight 100 gr.

Ordering code	Available voltages Miniature solenoid valve N.C.
M 2.4 M 2.5 M 2.6 M 2.9	12 D.C. 24 D.C. 48 D.C. 24 D.C. (2 Watt) Direct current
M 2.17 M 2.21 M 2.22 M 2.24	24/50 48/50 110/50 230/50 Alternating current 50 Hz
M 2.37 M 2.39 M 2.41	24/60 110/60 230/60 Alternating current 60 Hz
M 2.56 M 2.57 M 2.58	24/50-60 110/50-60 230/50-60 Alternating current 50/60 Hz
M 2.66 M 2.67 M 2.68	24/50-60 110/50-60 230/50-60 Alternating current (low consumption) 50/60 Hz

Miniature solenoid valve Normally Open (N.O.)



Weight 103 gr.

Ordering code	Available voltages Miniature solenoid valve N.O.
M 2/1.4 M 2/1.5 M 2/1.6 M 2/1.9	12 D.C. 24 D.C. 48 D.C. 24 D.C. (2 Watt) Direct current
M 2/1.17 M 2/1.21 M 2/1.22 M 2/1.24	24/50 48/50 110/50 230/50 Alternating current 50 Hz
M 2/1.37 M 2/1.39 M 2/1.41	24/60 110/60 230/60 Alternating current 60 Hz
M 2/1.56 M 2/1.57 M 2/1.58	24/50-60 110/50-60 230/50-60 Alternating current 50/60 Hz

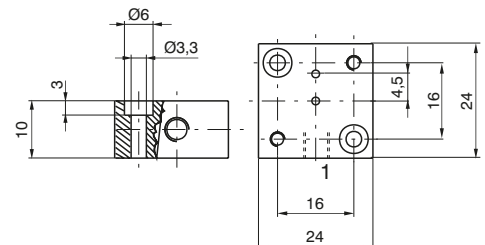
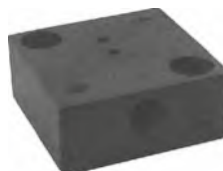
External feeding base

Use with solenoid valves for piloting pressure different from the using pressure

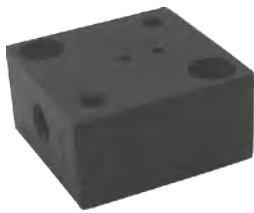
Ordering code

305.10.05

Weight 18 gr.



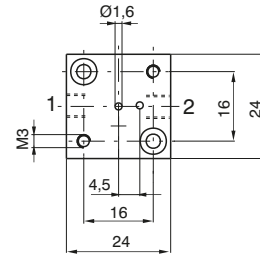
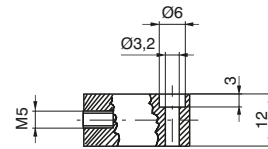
Individual base



In line ports - thread M5

1 = INLET PORT (N.C.)
2 = OUTLET PORT

With a N.O. miniature solenoid valve
1 = EXHAUST
2 = OUTLET PORT



Ordering code

305.00.00

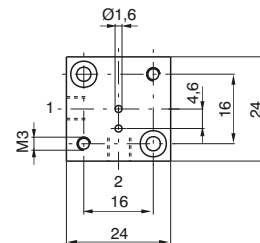
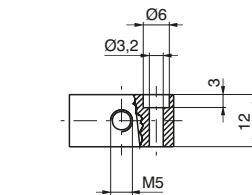
Weight 56 gr.



90° Port - thread M5

1 = INLET PORT (N.C.)
2 = OUTLET PORT (N.C.)

With a N.O. miniature solenoid valve
1 = EXHAUST
2 = OUTLET PORT



Ordering code

305.90.00

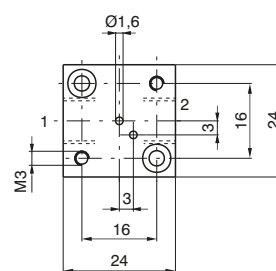
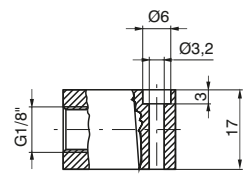
Weight 56 gr.



In line ports - thread G 1/8"

1 = INLET PORT (N.C.)
2 = OUTLET PORT (N.C.)

With a N.O. miniature solenoid valve
1 = EXHAUST
2 = OUTLET PORT



Ordering code

305.00.18

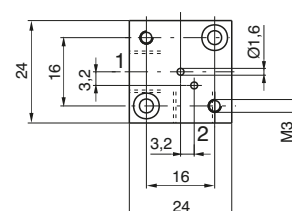
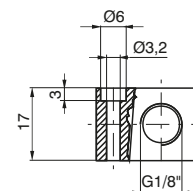
Weight 75 gr.



90° Port - thread G 1/8"

1 = INLET PORT (N.C.)
2 = OUTLET PORT (N.C.)

With a N.O. miniature solenoid valve
1 = EXHAUST
2 = OUTLET PORT

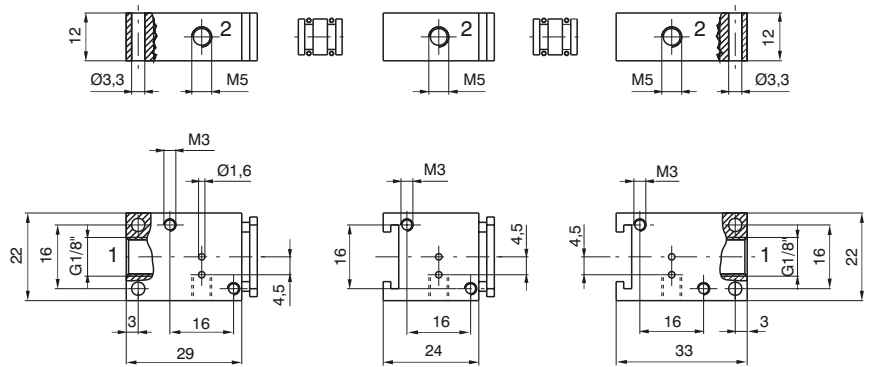


Ordering code

305.90.18

Weight 75 gr.

Modular bases for series mounting



Ordering code

Initial base
305.05.00
Weight 57 gr.

Intermediate base
305.06.00
Weight 44 gr.

Last base
305.07.00
Weight 53 gr.

Bored spacer
305.05.01
Weight 3 gr.

Solid spacer
305.05.02
Weight 4 gr.

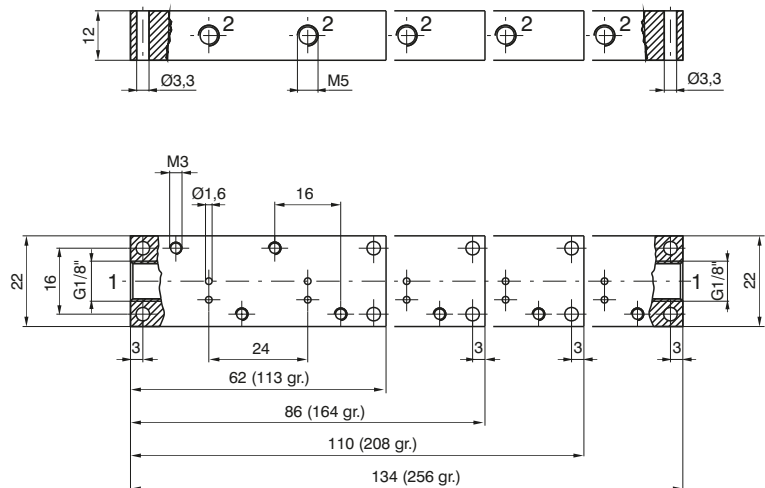
Initial base

Intermediate base

Last base

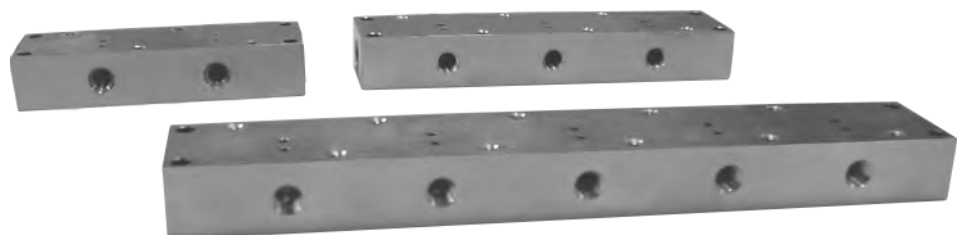


Multiple integral bases for series mounting

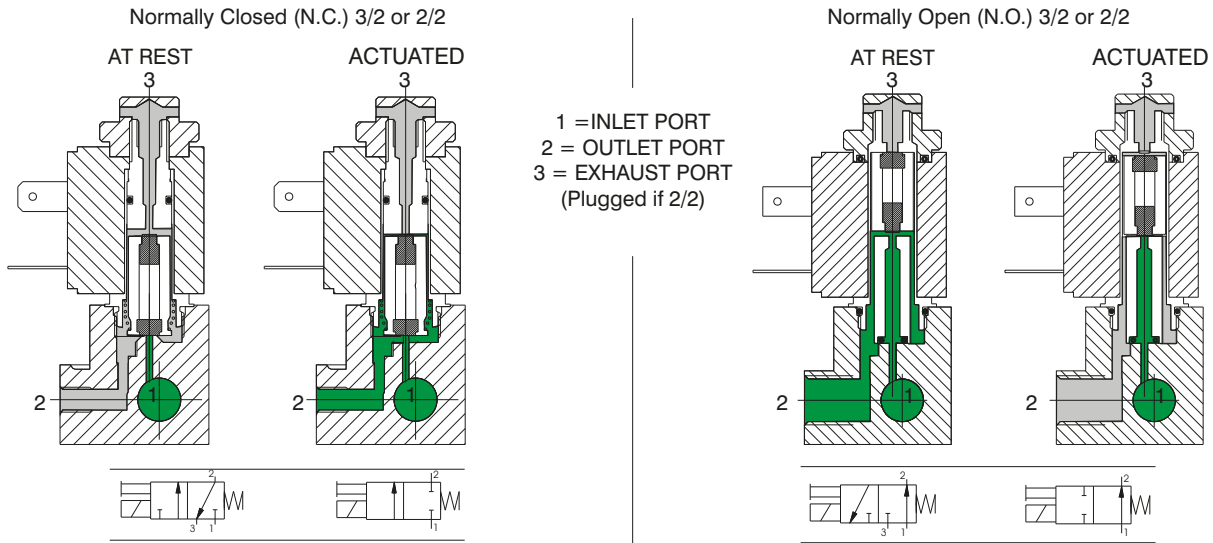


Ordering code

305.08.02 2 positions
305.08.03 3 positions
305.08.04 4 positions
305.08.05 5 positions



Functional schematic



Construction characteristics

Electrical parts: Solenoids: the solenoid consist of coils having different diameter copper wire windings insulated according standards "H"; they are encased in a nylon-glass compound. All parts are corrosion resistant.

Mechanical parts: Nickel plated brass tube nitrile (NBR) stainless steel plunger (AISI 430F), stainless steel adjusted springs, viton poppet seals, tropicalized zinc alloy interface plate, nickered brass manual override, Technopolymer coil lock nut, zinc steel mounting screws. Electrical connectors are standard.

Technical characteristics

Pneumatic	Working pressure	0 - 10 bar	
	Orifice size	1,3 mm	(1,1 mm for 2 W)
	Maximum fluid temperature	50°C	
	Maximum ambient temperature	50°C	
	Maximum flow rate at 6 bar with $\eta_p = 1$	53 NI/min	(35 NI/min. for 2 W)
	Cycles/minute	700	
	Fluids	Air-Vacuum-Inert gases	
	Lubrication	Non needed	
	Life	40 to 50 million cycles	
	Electrical	Power consumption holding - D.C	5 W
Power consumption holding - A.C		8 VA	(6 VA) low consumption
Operating voltage tolerance		$\pm 10\%$	
Response time opening *		8 ms	
Response time closing *		6 ms	
Insulation of the copper wire		H	
Insulation of the coil		F	
Connector protection		IP 65	
Cable protection		DIN 43650 INDUSTRIAL FORM	

(*) "Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power - Directional control valves - Measurement of shifting time"

Maintenance and replacement parts

Maintenance practices for these valves are similar to those already detailed for other products - replacement of the plunger or poppet is not advisable since the new replacement would not provide the best fit with the rest of the already used valve.

Special care should be taken that no dirt is accumulated between the working surface of fixed core and the plunger which would result in vibrations and overheating of the solenoid. In the case of microsolenoid it must be assured that the alternate current coil is not charged when the mechanical part is not mounted to avoid destruction of the coil.

The electrical connections have to be perfect, especially where low currents are used (12-24 V). Oxidation of contacts between the connector and the coil can lead to intermittent malfunctions which are difficult to trace. Oxidation of contacts due to humidity or corrosive atmosphere are one of the most common causes of false alarms. Clean the contacts with appropriate spray.

**Mechanical actuator for Normally Closed (N.C.)
Miniature solenoid valve**

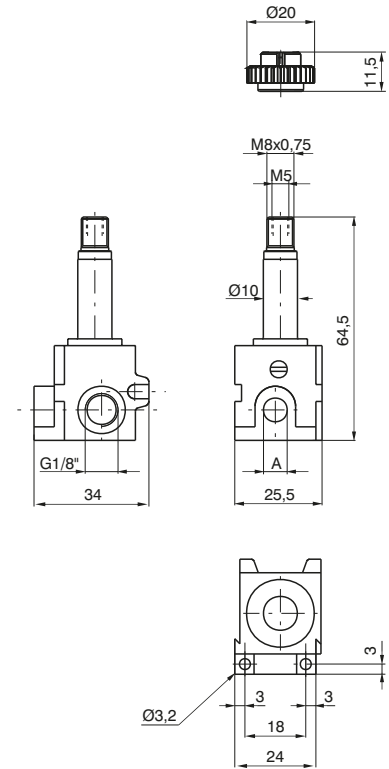
Normally Closed (N.C.)

Ordering code

- 305.M1 A = G 1/8"
- 355.M1 A = M5
- 345.M1 A = Push in fitting for 4 mm tube

- 305.M1/9 A = G 1/8"
- 355.M1/9 A = M5
- 345.M1/9 A = Push in fitting for 4 mm tube

2 W
24 DC

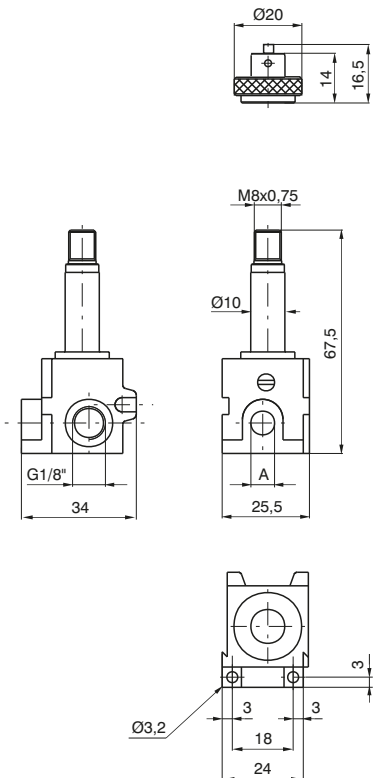


Weight 95 gr.

Normally Open (N.O.)

Ordering code

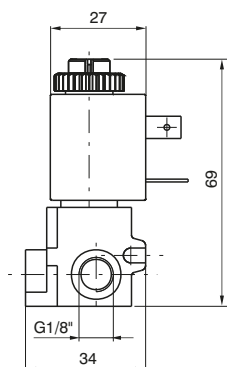
- 305.M1/1 A = G 1/8"
- 355.M1/1 A = M5
- 345.M1/1 A = Push in fitting for 4 mm tube



Weight 106 gr.

1
AIR DISTRIBUTION

Miniature solenoid valve

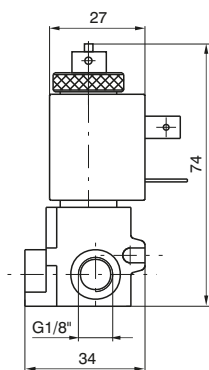


Normally Closed (N.C.)

Weight 149 gr.



Ordering code			Available voltage miniature solenoid	
G 1/8"	M5	TUBE Ø4 mm		
305.M4	355.M4	345.M4	12 D.C.	Direct current
305.M5	355.M5	345.M5	24 D.C.	
305.M6	355.M6	345.M6	48 D.C.	
305.M9	355.M9	345.M9	24 D.C. (2 Watt)	
305.M17	355.M17	345.M17	24/50	Alternating current 50 Hz
305.M21	355.M21	345.M21	48/50	
305.M22	355.M22	345.M22	110/50	
305.M24	355.M24	345.M24	230/50	
305.M37	355.M37	345.M37	24/60	Alternating current 60 Hz
305.M39	355.M39	345.M39	110/60	
305.M41	355.M41	345.M41	230/60	
305.M56	355.M56	345.M56	24/50-60	Alternating current 50/60 Hz
305.M57	355.M57	345.M57	110/50-60	
305.M58	355.M58	345.M58	230/50-60	
305.M66	355.M66	345.M66	24/50-60	Alternating current low consumption 50/60 Hz
305.M67	355.M67	345.M67	110/50-60	
305.M68	355.M68	345.M68	230/50-60	



Normally Open (N.O.)

Weight 165 gr.

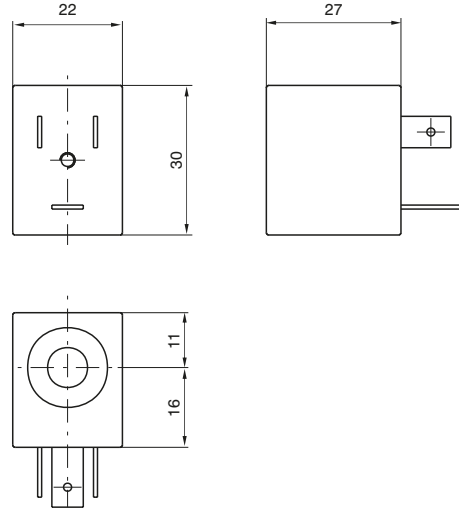


Ordering code			Available voltages miniature solenoid	
G 1/8"	M5	TUBE Ø4 mm		
305.M10/1	355.M10/1	345.M10/1	24 D.C. (8 Watt)	Direct current
305.M17/1	355.M17/1	345.M17/1	24/50	Alternating current 50 Hz
305.M21/1	355.M21/1	345.M21/1	48/50	
305.M22/1	355.M22/1	345.M22/1	110/50	
305.M24/1	355.M24/1	345.M24/1	230/50	
305.M37/1	355.M37/1	345.M37/1	24/60	Alternating current 60 Hz
305.M39/1	355.M39/1	345.M39/1	110/60	
305.M41/1	355.M41/1	345.M41/1	230/60	
305.M56/1	355.M56/1	345.M56/1	24/50-60	Alternating current 50/60 Hz
305.M57/1	355.M57/1	345.M57/1	110/50-60	
305.M58/1	355.M58/1	345.M58/1	230/50-60	

Coil



Weight 54 gr.



1
AIR DISTRIBUTION

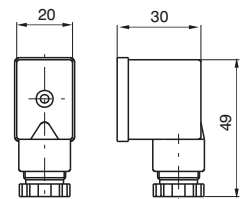
Ordering code		Available voltages Coil
N.C.	N.O.	
MB4 MB5 MB6 MB9	MB10/1	12 D.C. 24 D.C. 48 D.C. 24 D.C. (2 Watt) 24 D.C. (8 Watt) Direct current
MB17 MB21 MB22 MB24	MB17/1 MB21/1 MB22/1 MB24/1	24/50 48/50 110/50 230/50 Alternating current 50 Hz
MB37 MB39 MB41	MB37/1 MB39/1 MB41/1	24/60 110/60 230/60 Alternating current 60 Hz
MB56 MB57 MB58	MB56/1 MB57/1 MB58/1	24/50-60 110/50-60 230/50-60 Alternating current 50/60 Hz
MB66 MB67 MB68	/	24/50-60 110/50-60 230/50-60 Alternating current (low consumption) 50/60 Hz

Electrical connector

Ordering code

305.11.00 Normal

305.11.0 L with Led
 1 = 24 V D.C. / A.C.
 2 = 110 V 50/60 Hz
 3 = 230 V 50/60 Hz



Weight 19 gr.

BISTABLE

General

The most interesting aspects of this bi-stable miniature solenoid valve operating with D.C. only, is that it can be commuted with a simple electric impulse and stay commuted till an inverted polarity impulse deactivates it. It means that the valve is not automatically deactivated if current fail as happens with normal solenoid valves.

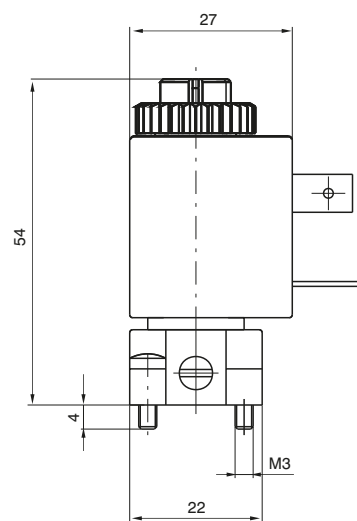
The applications differ but are all based on above mentioned feature.

The internal construction is relatively special. The fix plunger is equipped with a permanent magnet that hold or release the mobile plunger according to the magnetic field generated by the coil.

A specific coil is used for this application and it cannot be replaced by the standard ones.

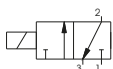
Ordering code is **MBB5**.

Miniature solenoid valve for distributors and bases



Ordering code

M5/B



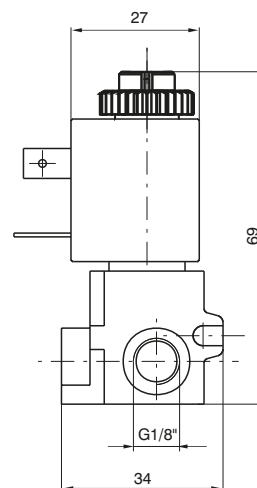
Miniature solenoid valve with inseries mounting base

Ordering code

305.M5/B = G 1/8"

355.M5/B = M5

345.M5/B = Fitting for 4 mm tube



Electric pilot CNOMO (coil not included)

Mechanics with base for solenoid to be used where an electric pilot system is required.

May be used on all sizes and is standardized as an interface on the distributor.

The base is fitted with a manual control which is pulse actuated, without check, or with two stable positions, actuated by means of a screwdriver (pressing down and turning clockwise by 90°). Two different types of solenoids can be mounted on the stem, one in conformity with ISO standard size 30x38 and ISO 4400 (DIN 43650) electrical connection, and a compact one size 22x27, having the same performance but at lower price. The technical characteristics of the latter are described in the catalogue, series 300, and refer to MB solenoids. The base is fitted with screws (M4x30) for fastening to the distributor.

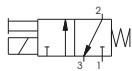
Ordering code

M

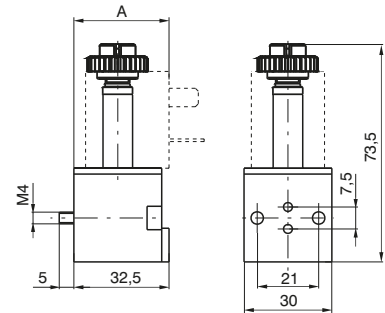
P = Manual 1 position
R = Manual 2 positions

3 = Mechanics CNOMO

4 = 2-W Mechanics CNOMO



Weight 49 gr.



A = 33 (with MB solenoid)

A = 38 (with MC solenoid)

General characteristics

Structural	Body	Thermoplastic polyester	
	Stem	Nickel-plated brass	
	Cores	AISI 430F stainless steel	
	Springs	AISI 302 stainless steel	
	Shutters	FPM	
	Other seals	NBR	
	Manual control	Nickel-plated brass	
Pneumatic	Fluid	Air, Neutral gases	
	Working pressure	0-10 bar	
	Fluid ambient temperature	-5°C - +50°C	
	Flow rate at 6 bar with Δp 1 bar	53 NI/min	(20 NI/min for 2 W)
	Nominal flow cross section	1,3 mm	(0,9 mm for 2 W)
Electric	Power consumption (inrush) - A.C.	13 VA	
	Power consumption holding - D.C.	4 W	(2 W)
	Power consumption holding - A.C.	8,5 VA	
	Operating voltage tolerance	±10%	
	Response time opening *	13 ms	
	Response time closing *	5 ms	
	Insulation of the copper wire	H	
	Insulation of the coil	F	
	Connector protection	IP 65	
	Cable protection	DIN 43650 "A" FORM	

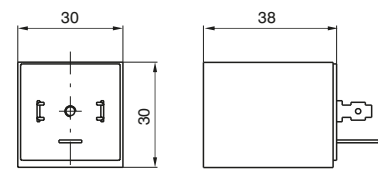
(*) "Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power - Directional control valves - Measurement of shifting time"

Coil

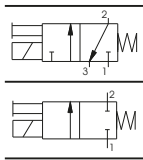
Ordering code	Available voltages
	Coil
MC5	24 D.C.
MC9	24 D.C. (2 Watt)
MC56	24/50-60 Hz
MC57	110/50-60 Hz
MC58	230/50-60 Hz



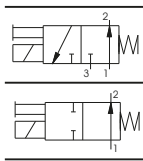
Weight 110 gr.



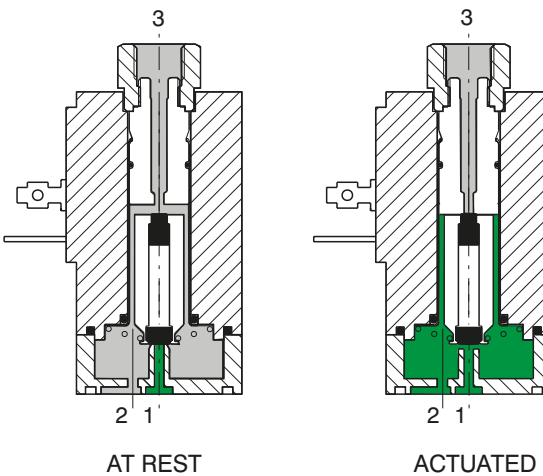
Functional schematic



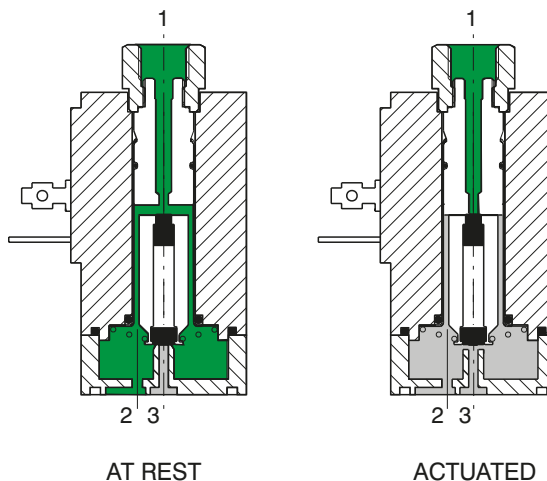
- 1 = INLET PORT
- 2 = OUTLET PORT
- 3 = EXHAUST PORT
(Plugged if 2/2)



Normally Closed (N.C.) 3/2 or 2/2



Normally Open (N.O.) 3/2 or 2/2



Construction characteristics

Electrical parts:

Solenoids: the solenoid consists of coils having different diameter copper wire windings insulated according standards "H"; they are encased in a nylon-glass compound. All parts are corrosion resistant.

Mechanical parts:

Stainless steel tube and plunger (AISI 430F), stainless steel adjusted springs, viton poppet seals, tropicalized zinc alloy interface plate, nitrile (NBR) seal nicked brass manual override, nickel steel coil lock nut, zinc steel mounting screws. To be usable, the solenoids have to be attached either to a base or directly to the distributor's operators by means of connectors G 1/8". Electrical connectors are standard. These solenoid are available in all voltages and frequencies used in the world. The following are the technical characteristics of the solenoid.

1 AIR DISTRIBUTION



Technical characteristics

Pneumatic	Working pressure	0 - 10 bar
	Orifice size	1,8 mm
	Maximum fluid temperature	50°C
	Maximum ambient temperature	50°C
	Maximum flow rate at 6 bar with $\Delta p = 1$	80 NI/min
	Cycles/minute	700
	Fluids	Air-Vacuum-Inert gases
	Lubrication	Not required
	Life	40 to 50 millions
Electric	Power consumption (inrush) - D.C.	-
	Power consumption (inrush) - A.C.	19,5 VA
	Power consumption holding - D.C.	8,2 W
	Power consumption holding - A.C.	9 VA
	Operating voltage tolerance	$\pm 10\%$
	Response time opening *	15 ms
	Response time closing *	30 ms
	Insulation of the copper wire	H
	Insulation of the coil	F
	Connector protection	IP 65
	Cable protection	DIN 43650 "A" FORM

(*): "Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power - Directional control valves - Measurement of shifting time"

Maintenance and replacement parts

Maintenance practices for these valves are similar to those already detailed for other products - replacement of the plunger or poppet is not advisable since the new replacement would not provide the best fit with the rest of the already used valve.

Special care should be taken that no dirt is accumulated between the working surface of fixed cores 3 and the plunger 2 which would result in vibrations and overheating of the solenoid. In the case of microsolenoid it must be assured that the alternate current coil is not charged when the mechanical part is not mounted to avoid destruction of the coil.

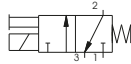
The electrical connections have to be perfect, especially where low currents are used (12-24 V). Oxidation of contacts between the connector and the coil can lead to intermittent malfunctions which are difficult to trace. Oxidation of contacts due to humidity or corrosive atmosphere are one of the most common causes of false alarms. Clean the contacts with appropriate spray.

Solenoid valve S and S/1

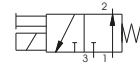


Weight 220 gr.

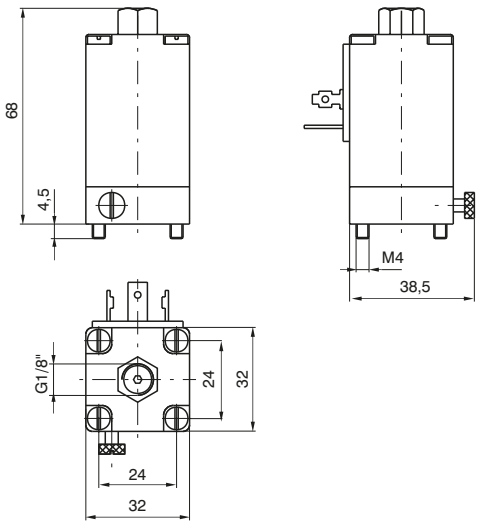
Normally Closed
(N.C.) - S



Normally Open
(N.O.) - S/1



1
AIR DISTRIBUTION

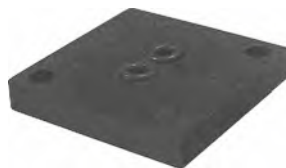


Ordering code		Available voltages Coil	
S 2 S 4 S 5 S 6	S 2/1 S 4/1 S 5/1 S 6/1	6 D.C. 12 D.C. 24 D.C. 48 D.C.	Direct current
S 16 S 17 S 19 S 20 S 21 S 22 S 23 S 24	S 16/1 S 17/1 S 19/1 S 20/1 S 21/1 S 22/1 S 23/1 S 24/1	12/50 24/50 32/50 42/50 48/50 110/50 115/50 230/50	Alternating current 50 Hz
S 36 S 37 S 38 S 39 S 40 S 41	S 36/1 S 37/1 S 38/1 S 39/1 S 40/1 S 41/1	12/60 24/60 48/60 110/60 115/60 230/60	Alternating current 60 Hz
S 56 S 57 S 58	S 56/1 S 57/1 S 58/1	24/50-60 110/50-60 230/50-60	Alternating current 50/60 Hz

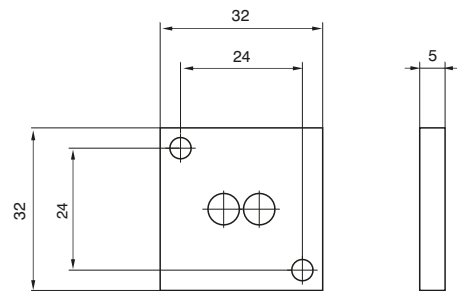
Closing plate

Ordering code

300.12.00



Weight 14 gr.

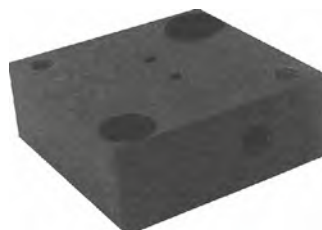


External feeding base

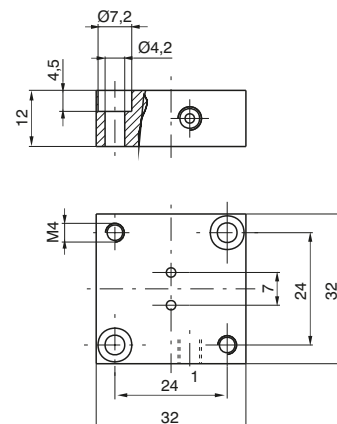
To be used with electrodistributeur to get a different piloting pressure from the line one.

Ordering code

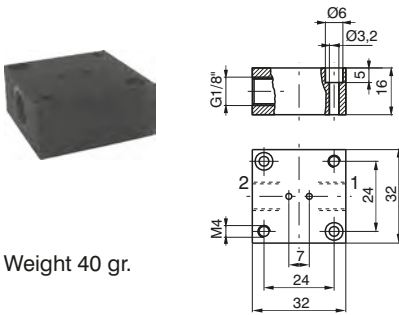
300.10.05



Weight 35 gr.



Individual base



Weight 40 gr.

In line port - thread G 1/8"
1 = INLET PORT (N.C.)
2 = OUTLET PORT (N.C.)
With solenoid valve N.O.
1 = EXHAUST PORT
2 = OUTLET PORT

Ordering code

300.04.00



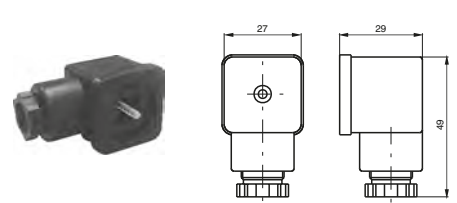
Weight 40 gr.

90° Port - thread G 1/8"
1 = INLET PORT (N.C.)
2 = OUTLET PORT (N.C.)
With solenoid valve N.O.
1 = EXHAUST PORT
2 = OUTLET PORT

Ordering code

300.04.90

Electrical connector



Weight 25 gr.

Ordering code

300.11.00
300.11.0 L

Standard
Led
1 = 24 V D.C. / A.C.
2 = 110 V 50/60 Hz
3 = 230 V 50/60 Hz

Modular bases for series mounting

Ordering code

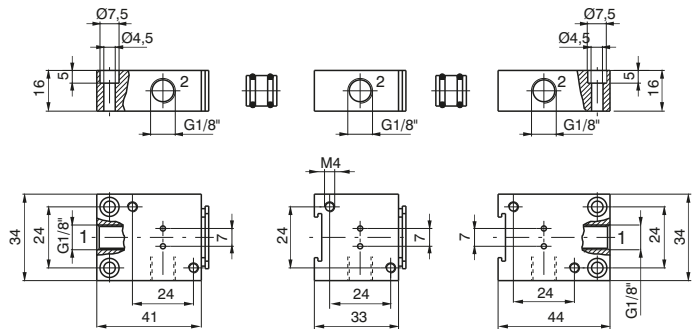
Initial base
300.05.00

Intermediate base
300.06.00

Last base
300.07.00

Bored spacer
300.05.01
Weight 5 gr.

Solid spacer
300.05.02
Weight 6 gr.



Initial base

Intermediate base

Last base



Weight 52 gr.

Weight 40 gr.

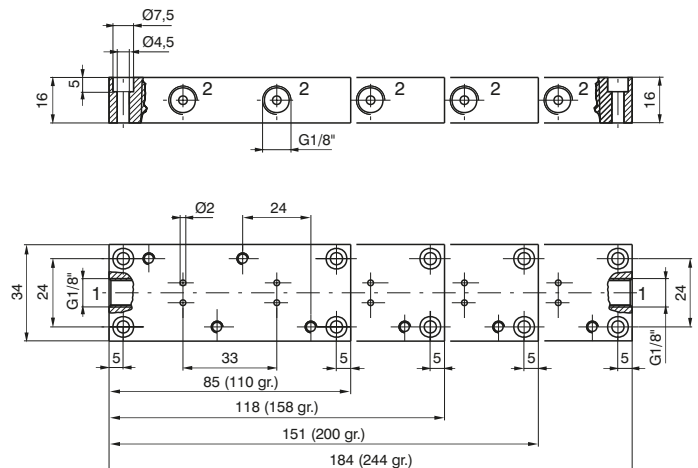
Weight 52 gr.

Multiple integral bases for series mounting



Ordering code

300.08.02 2 positions
300.08.03 3 positions
300.08.04 4 positions
300.08.05 5 positions



General

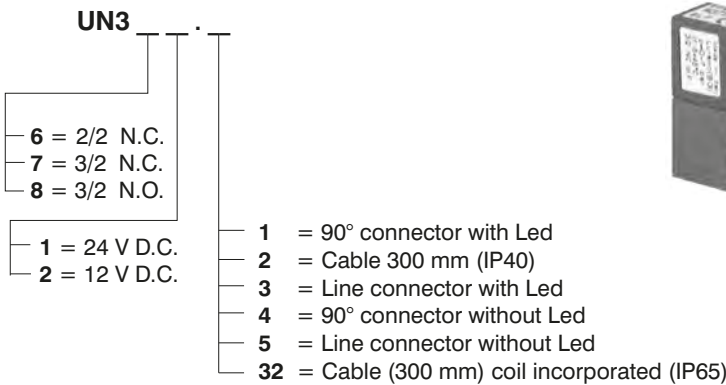
The series **us** homologated solenoid valves (valid for USA and Canada file n. E206325-VAIU2, VAIU8) are different from the standard ones for microsolenoid made with an injected RYNITE embedded copper wire (they are included in class "F" insulation).

Refer to standard versions as for as other details and accessories to be used with solenoid valves.

1
AIR DISTRIBUTION

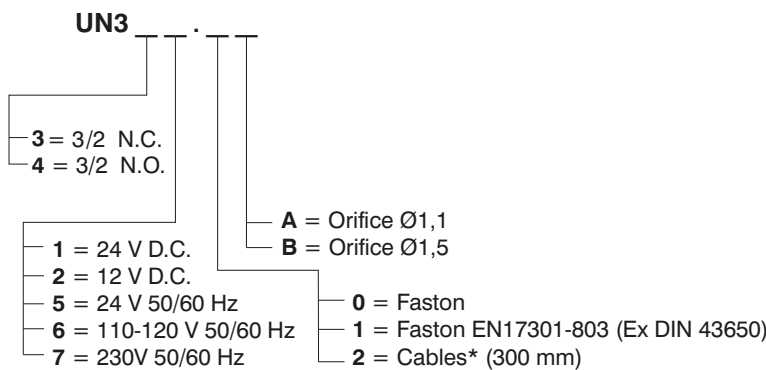
Miniature solenoid valve 10mm

Ordering code



Miniature solenoid valve 15mm

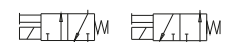
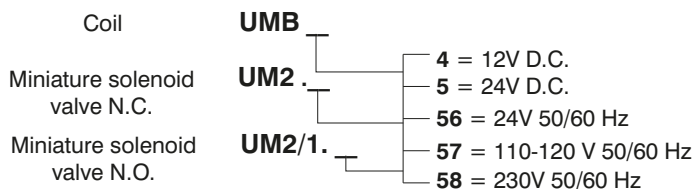
Ordering code



* On request and for large quantity only (only 24 V D.C. 2,3 W)

Miniature solenoid valve 22mm

Ordering code



Miniature solenoid valve 22mm for series mounting

Ordering code

- Coil N.C. **UMB**
 - 4 = 12 V D.C.
 - 5 = 24 V D.C.
 - 56 = 24 V 50/60 Hz
 - 57 = 110-120 V 50/60 Hz
 - 58 = 230 V 50/60 Hz

- Coil N.O. **UMB /1**
 - 10 = 24 V D.C. 8W
 - 56 = 24 V 50/60 Hz
 - 57 = 110-120 V 50/60 Hz
 - 58 = 230 V 50/60 Hz

- Solenoid valve N.C. **U3 5.M**
 - 0 = G1/8"
 - 5 = M5
 - 4 = fitting for 4mm tube
 - 4 = 12 V D.C.
 - 5 = 24 V D.C.
 - 56 = 24 V 50/60 Hz
 - 57 = 110-120 V 50/60 Hz
 - 58 = 230 V 50/60 Hz

- Solenoid valve N.O. **U3 5.M /1**
 - 0 = G1/8"
 - 5 = M5
 - 4 = fitting for 4mm tube
 - 10 = 24 V D.C. 8W
 - 56 = 24 V 50/60 Hz
 - 57 = 110-120 V 50/60 Hz
 - 58 = 230 V 50/60 Hz

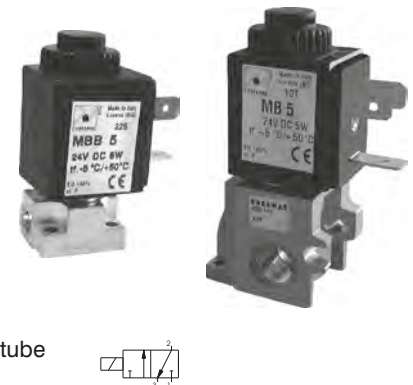


1
AIR DISTRIBUTION

Bi-stable miniature solenoid valve 22mm

Ordering code

- Coil **UMBB5**
- Miniature solenoid valve for distributors and bases (N.C.) **UM5/B**
- Miniature solenoid valve with inseries mounting base (N.C.) **U3 5.M5/B**
 - 0 = G1/8"
 - 5 = M5
 - 4 = fitting for 4mm tube



Solenoid valve 30 mm (for mechanics M3 and M4)

Ordering code

- UMC5** = 24 V D.C.
- UMC56** = 24 V 50/60 Hz
- UMC57** = 110 ÷ 120 V 50/60 Hz
- UMC58** = 230 V 50/60 Hz



Solenoid valve 32 mm

Ordering code

- Solenoid valve N.C. **US**
- Solenoid valve N.O. **US /1**
 - 4 = 12 V D.C.
 - 5 = 24 V D.C.
 - 56 = 24 V 50/60 Hz
 - 57 = 110-120 V 50/60 Hz
 - 58 = 230 V 50/60 Hz





Series 700 - For compressed air and vacuum

General

The large flow valves and solenoid poppet valves for compressed air and vacuum. Are manufactured for 3/2 and 2/2 versions only, either normally close and normally open. For the compressed air operation, the application is similar to the equivalent spool valves while for the vacuum operation a particular attention should be paid to the valve selected and its connection to the pump. For the electric pilot it is used a normal miniature solenoid M2 with pneumatic actuator and the special miniature solenoid M2/V with vacuum.

The ordering code are referring to the solenoid valves with mechanics "M2" or "M2/V" assembled.

Coil are not included and have to be ordered separately (see Series 300).

Coil c  **US homologated are available (see 300 Series).**

1

AIR DISTRIBUTION

Construction characteristics

	G 3/8"	G 1/2" - G 3/4"	G 1"	G 1 1/2"
Body	Aluminium	Zinc alloy	Aluminium	Aluminium
Actuators			NBR	
Bottom plates			Aluminium	
Springs			Stainless steel	
Actuators rod			Stainless steel	
Pistons			Aluminium	
Piston seals			NBR	

Use and maintenance

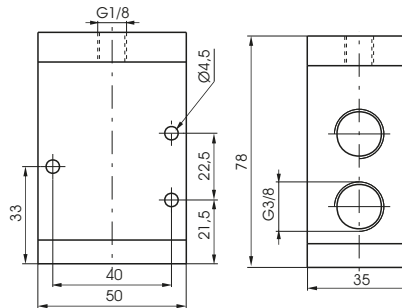
These valves have a mean life of 10 to 15 million cycles under normal operating conditions. Lubrication is not required for good operation but we recommend good filtration to avoid dirty deposit causing malfunction. Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature. The exhaust port of the distributor has to be protected in a dusty and dirty environment. For these products, according to the construction technique and special application, is not required any maintenance with parts replacement. When necessary it is sufficient to clean the internal parts. When it is used the solenoid valves with internal pilot, either for air or vacuum, inlet flow rate must be equal or higher that the required consumption flow rate. Otherwise is better choose the external pilot version.

Pneumatic - Spring

Coding: 779.32.11.ⓕ

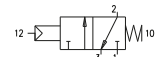
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5
Temperature °C	-10 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	1800
Orifice size (mm)	10
Working ports size	G3/8"
Pilot ports size	G1/8"

FUNCTION	
ⓕ	1C = Normally Closed
	1A = Normally Open



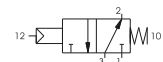
For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.

Inlet port 3
Outlet port 2
Outlet port 1



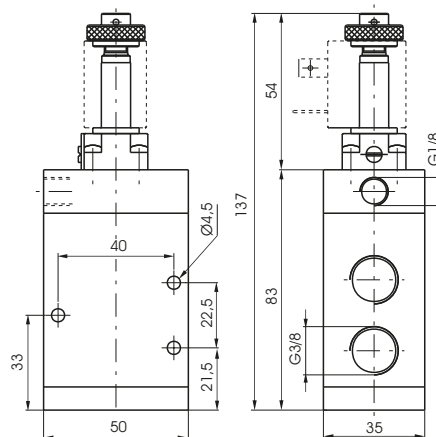
Weight 360 g
Attention: for the Normally open version, connect the inlet port to the exhaust port No "3".

Solenoid - Spring

Coding: 779.32.0.ⓕ.M2

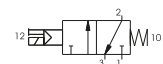
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5 (External pilot version) 3 (Internal pilot version)
Temperature °C	-10 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1800
Orifice size (mm)	10
Working ports size	G3/8"
Pilot ports size	G1/8"

FUNCTION	
1AC	Internal pilot normally closed
ⓕ	1C = External pilot normally closed
1AA	Internal pilot normally open
1A	External pilot normally open



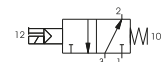
Internal pilot - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



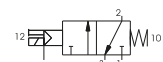
Internal pilot - N.O.

Inlet port 3
Outlet port 2
Outlet port 1



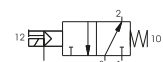
External pilot - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



External pilot - N.O.

Inlet port 3
Outlet port 2
Outlet port 1



Weight 420 g



Valves and solenoid valves poppet system Series 700 - For vacuum - G3/8"

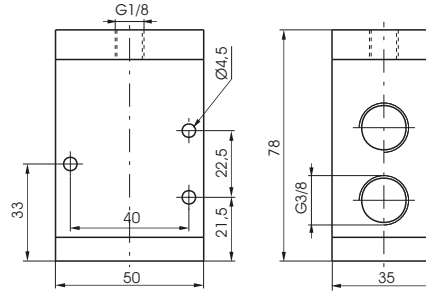
AIR DISTRIBUTION

Pneumatic - Spring

Coding: 779/V.32.11.Ⓡ

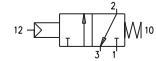
Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-10 ÷ +70
Orifice size (mm)	10
Working ports size	G3/8"
Pilot ports size	G1/8"

FUNCTION	
Ⓡ	1C = Normally Closed
	1A = Normally Open



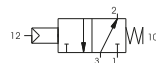
For vacuum - N.O.

Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.

Exhaust port 3
Outlet port 2
Pump 1



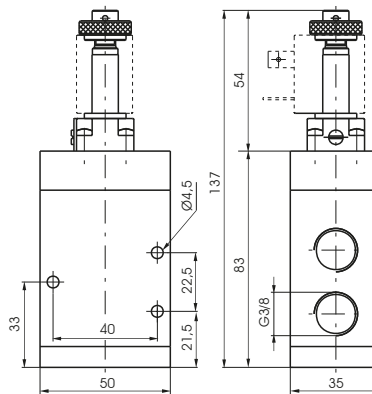
Weight 360 g

Solenoid-Spring - Internal pilot

Coding: 779/V.32.0.Ⓡ.M2/V

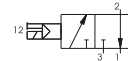
Operational characteristics	
Fluid	Vacuum
Temperature °C	-10 ÷ +50
Orifice size (mm)	10
Working ports size	G3/8"
Pilot ports size	G1/8"

FUNCTION	
Ⓡ	1AA = Normally Open
	1AC = Normally Closed



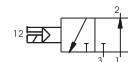
For vacuum - N.O.

Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.

Exhaust port 3
Outlet port 2
Pump 1



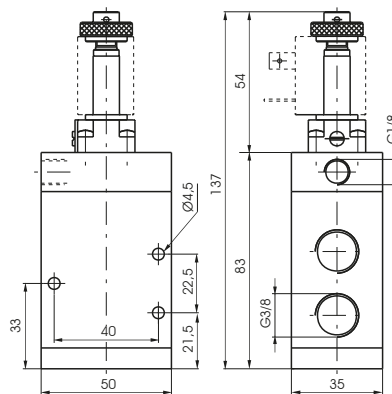
Weight 420 g

Solenoid-Spring - External pilot

Coding: 779/V.32.0.Ⓡ.M2

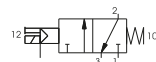
Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-10 ÷ +50
Orifice size (mm)	10
Working ports size	G3/8"
Pilot ports size	G1/8"

FUNCTION	
Ⓡ	1A = Normally Open
	1C = Normally Closed



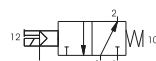
For vacuum - N.O.

Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.

Exhaust port 3
Outlet port 2
Pump 1

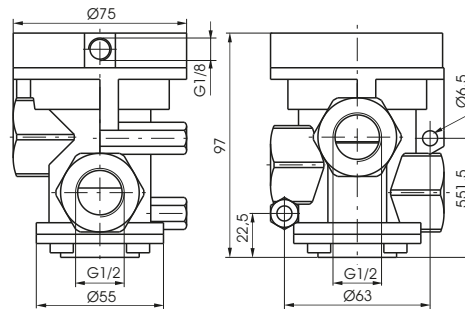


Weight 420 g

Pneumatic - Spring

Coding: 772.32.11.1C

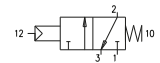
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	4800
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"



Weight 1100 g
Normally Closed

For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3

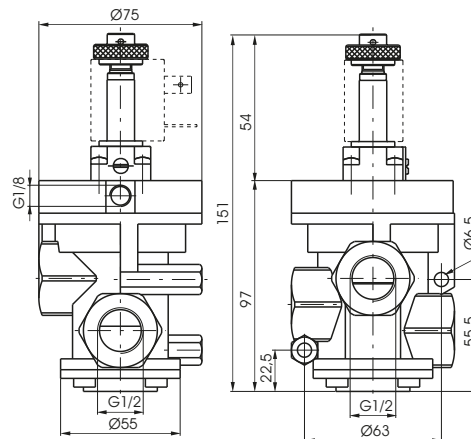


Solenoid - Spring

Coding: 772.32.0.Ⓜ.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5 (External pilot version) 3 (Internal pilot version)
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	4800
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

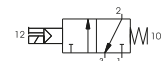
FUNCTION	
Ⓜ	1AC = Internal pilot normally closed
	1C = External pilot normally closed



Weight 1160 g

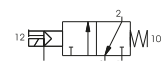
Internal pilot - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



External pilot - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3





Valves and solenoid valves poppet system Series 700 - For vacuum - G1/2"

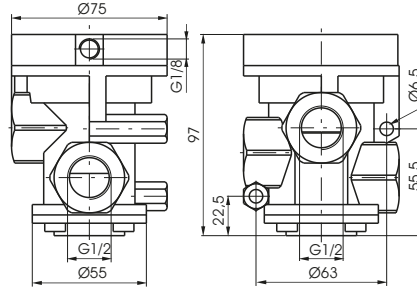
AIR DISTRIBUTION 1

Pneumatic - Spring

Coding: 772/V.32.11.ⓕ

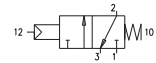
Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +70
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

FUNCTION	
ⓕ	1C = Normally Closed
	1A = Normally Open



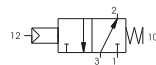
For vacuum - N.O.

Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.

Exhaust port 3
Outlet port 2
Pump 1



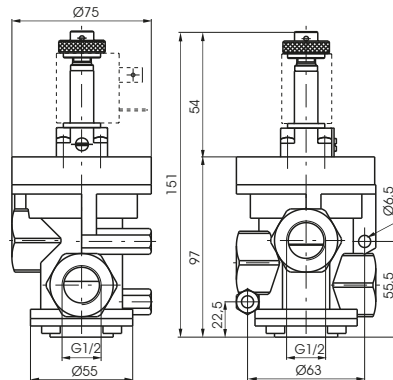
Weight 1100 g

Solenoid-Spring - Internal pilot

Coding: 772/V.32.0.ⓕ.M2/V

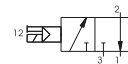
Operational characteristics	
Fluid	Vacuum
Temperature °C	-5 ÷ +50
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

FUNCTION	
ⓕ	1AA = Normally Open
	1AC = Normally Closed



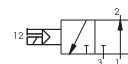
For vacuum - N.O.

Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.

Exhaust port 3
Outlet port 2
Pump 1



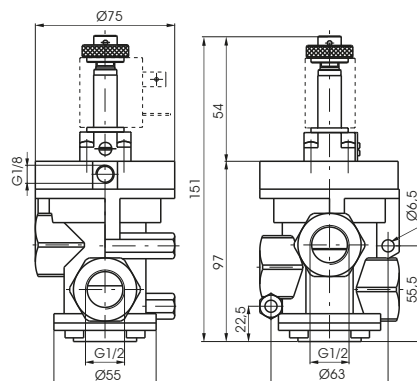
Weight 1160 g

Solenoid-Spring - External pilot

Coding: 772/V.32.0.ⓕ.M2

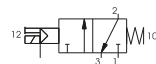
Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

FUNCTION	
ⓕ	1A = Normally Open
	1C = Normally Closed



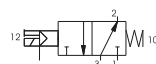
For vacuum - N.O.

Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.

Exhaust port 3
Outlet port 2
Pump 1

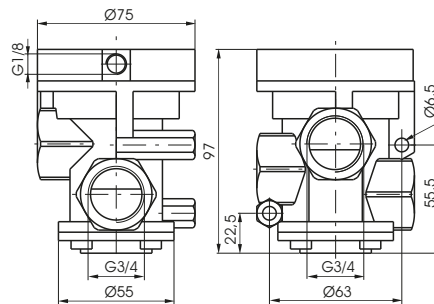


Weight 1160 g

Pneumatic - Spring

Coding: 773.32.11.1C

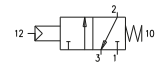
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5 bar
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	7000
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"



Weight 990 g
Normally Closed

For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3

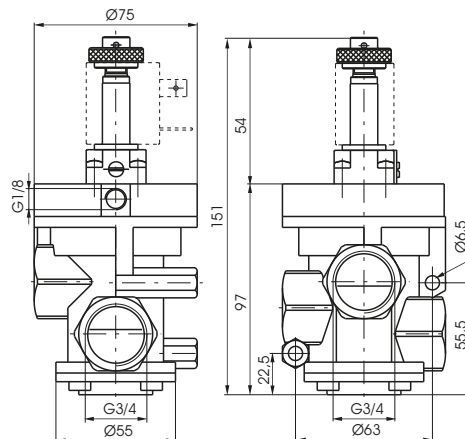


Solenoid - Spring

Coding: 773.32.0.Ⓜ.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5 (External pilot version) 3 (Internal pilot version)
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	7000
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"

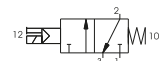
FUNCTION	
Ⓜ	1AC = Internal pilot normally closed
	1C = External pilot normally closed



Weight 1050 g

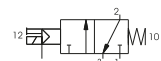
Internal pilot - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



External pilot - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3





Valves and solenoid valves poppet system Series 700 - For vacuum - G3/4"

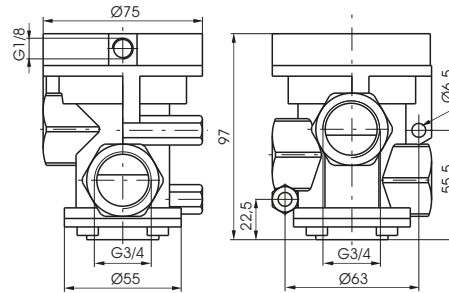
AIR DISTRIBUTION 1

Pneumatic - Spring

Coding: 773/V.32.11.F

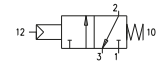
Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +70
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"

FUNCTION	
F	1C = Normally Closed
	1A = Normally Open



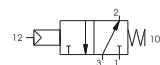
For vacuum - N.O.

Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.

Exhaust port 3
Outlet port 2
Pump 1



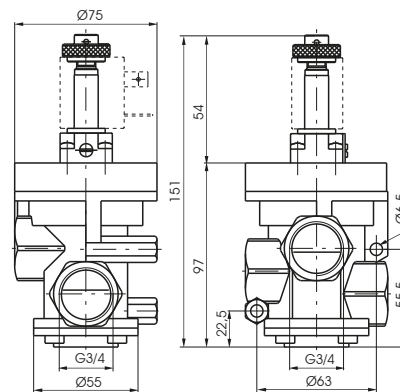
Weight 990 g

Solenoid-Spring - Internal pilot

Coding: 773/V.32.0.F.M2/V

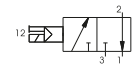
Operational characteristics	
Fluid	Vacuum
Temperature °C	-5 ÷ +50
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"

FUNCTION	
F	1AA = Normally Open
	1AC = Normally Closed



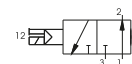
For vacuum - N.O.

Exhaust port 3
Outlet port 2
Pump 1



For vacuum - N.C.

Outlet port 1
Outlet port 2
Pump 3



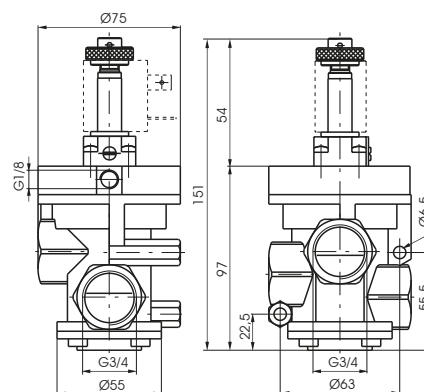
Weight 1050 g

Solenoid-Spring - External pilot

Coding: 773/V.32.0.F.M2

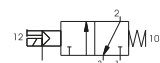
Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"

FUNCTION	
F	1A = Normally Open
	1C = Normally Closed



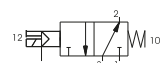
For vacuum - N.O.

Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.

Exhaust port 3
Outlet port 2
Pump 1

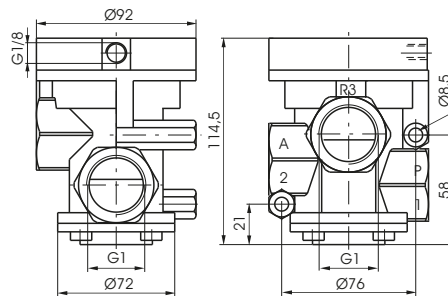


Weight 1050 g

Pneumatic - Spring

Coding: 771.32.11.1C

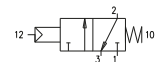
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	12500
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"



Weight 1060 g
Normally Closed

For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



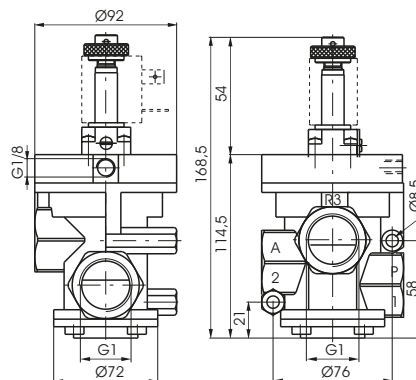
1
AIR DISTRIBUTION

Solenoid - Spring

Coding: 771.32.0.Ⓜ.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5 (External pilot version) 3 (Internal pilot version)
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	12500
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"

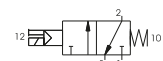
FUNCTION	
Ⓜ	1AC = Internal pilot normally closed
	1C = External pilot normally closed



Weight 1120 g

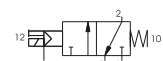
Internal pilot - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



External pilot - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3





Valves and solenoid valves poppet system

Series 700 - For vacuum - G1"

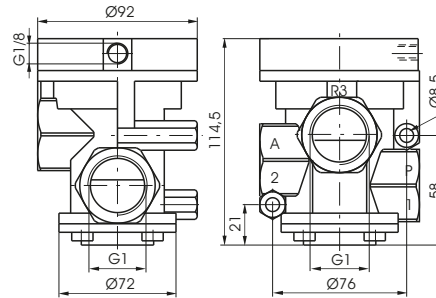
AIR DISTRIBUTION 1

Pneumatic - Spring

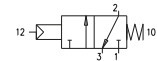
Coding: 771/V.32.11.Ⓡ

Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +70
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"

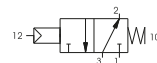
FUNCTION	
Ⓡ	1C = Normally Closed
	1A = Normally Open



For vacuum - N.O.
Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.
Exhaust port 3
Outlet port 2
Pump 1



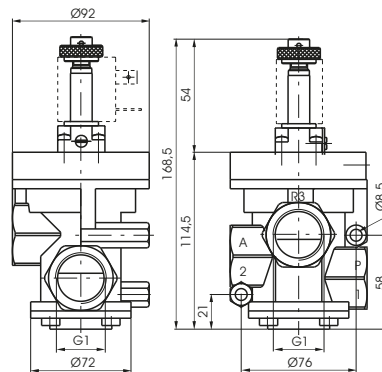
Weight 1060 g

Solenoid-Spring - Internal pilot

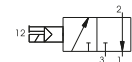
Coding: 771/V.32.0.Ⓡ.M2/V

Operational characteristics	
Fluid	Vacuum
Temperature °C	-5 ÷ +50
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"

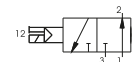
FUNCTION	
Ⓡ	1AA = Normally Open
	1AC = Normally Closed



For vacuum - N.O.
Exhaust port 3
Outlet port 2
Pump 1



For vacuum - N.C.
Outlet port 1
Outlet port 2
Pump 3



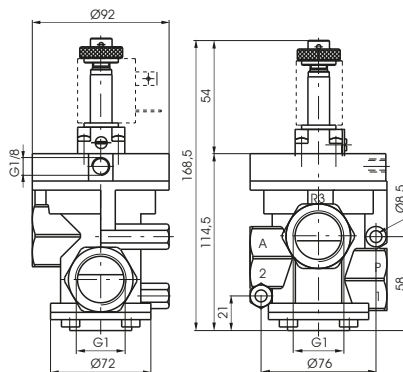
Weight 1120 g

Solenoid-Spring - External pilot

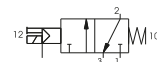
Coding: 771/V.32.0.Ⓡ.M2

Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"

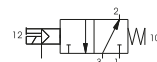
FUNCTION	
Ⓡ	1A = Normally Open
	1C = Normally Closed



For vacuum - N.O.
Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.
Exhaust port 3
Outlet port 2
Pump 1



Weight 1120 g

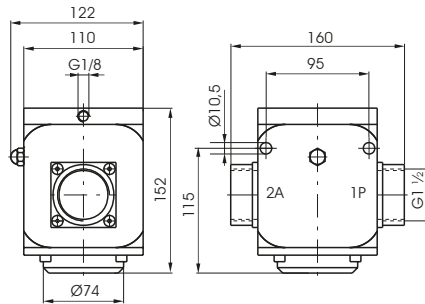
Pneumatic - Spring

Coding: 776.22.11.1C

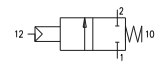
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	33500
Orifice size (mm)	38
Working ports size	G1 1/2"
Pilot ports size	G1/8"



Weight 3950 g
Normally Closed



For compressed air - N.C.
Inlet port 1
Outlet port 2



Solenoid - Spring

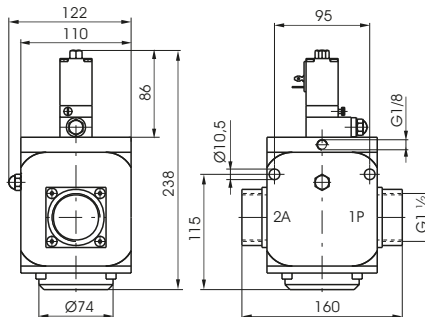
Coding: 776.22.0.F.S

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5 (External pilot version) 3 (Internal pilot version)
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	33500
Orifice size (mm)	38
Working ports size	G1 1/2"
Pilot ports size	G1/8"

FUNCTION	
F	1AC = Internal pilot normally closed
	1C = External pilot normally closed
SOLENOID CODE	
S	SEE SOLENOID VALVES "S" TYPE, SERIES 300

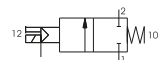
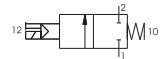


Weight 4450 g



Internal pilot - N.C.
Inlet port 1
Outlet port 2

External pilot - N.C.
Inlet port 1
Outlet port 2



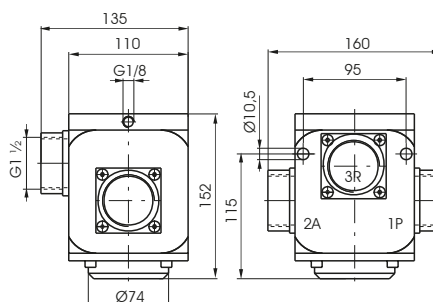
Pneumatic - Spring

Coding: 776.32.11.1C

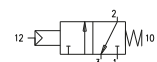
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	33500
Orifice size (mm)	38
Working ports size	G1 1/2"
Pilot ports size	G1/8"



Weight 3900 g
Normally Closed



For compressed air - N.C.
Inlet port 1
Outlet port 2
Exhaust port 3





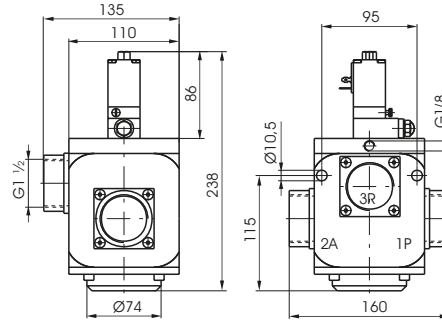
Solenoid - Spring

Coding: 776.32.0.F.S

Operational characteristics

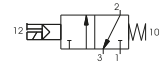
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5 (External pilot version) 3 (Internal pilo version)
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	33500
Orifice size (mm)	38
Working ports size	G1 1/2"
Pilot ports size	G1/8"

FUNCTION	
F	1AC = Internal pilot normally closed
	1C = External pilot normally closed
SOLENOID CODE	
S	SEE SOLENOID VALVES "S" TYPE, SERIES 300



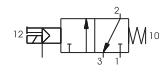
Internal pilot - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



External pilot - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



Weight 4450 g

1 AIR DISTRIBUTION

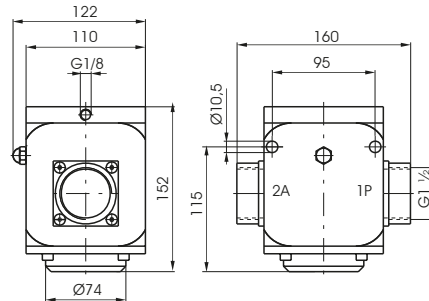
Pneumatic - Spring

Coding: 776/V.22.11.1C

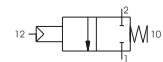
Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +70
Orifice size (mm)	38
Working ports size	G1 1/2"
Pilot ports size	G1/8"



Weight 3950 g
Normally Closed



For vacuum - N.C.
Outlet port 2
Pump 1



Solenoid - Spring

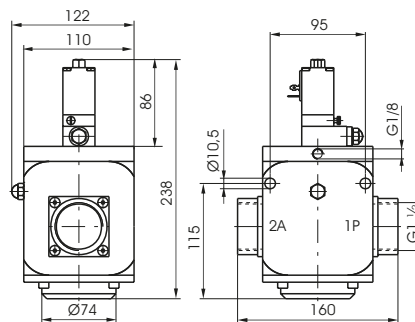
Coding: 776/V.22.0.1C.S

Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Orifice size (mm)	38
Working ports size	G1 1/2"
Pilot ports size	G1/8"

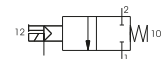
SOLENOID CODE
S SEE SOLENOID VALVES "S" TYPE,
SERIES 300



Weight 4450 g
External pilot normally closed



For vacuum - N.C.
Outlet port 2
Pump 1



Pneumatic - Spring

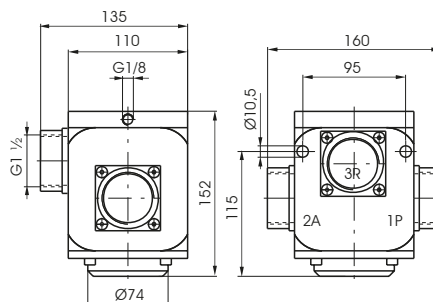
Coding: 776/V.32.11.F

Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +70
Orifice size (mm)	38
Working ports size	G1 1/2"
Pilot ports size	G1/8"

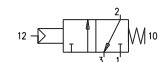
FUNCTION
F 1C = Normally Closed
1A = Normally Open



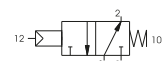
Weight 3900 g



For vacuum - N.O.
Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.
Exhaust port 3
Outlet port 2
Pump 1





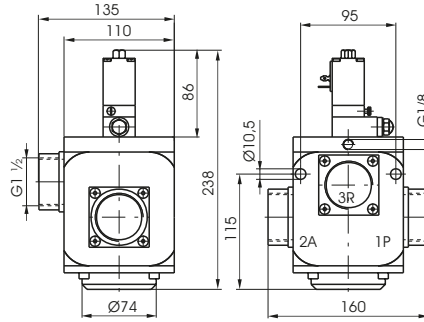
Solenoid - Spring

Coding: 776/V.32.0.F.S

Operational characteristics

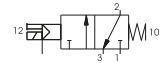
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Orifice size (mm)	38
Working ports size	G1 1/2"
Pilot ports size	G1/8"

FUNCTION
F 1C = External pilot normally closed
1A = External pilot normally open
SOLENOID CODE
S SEE SOLENOID VALVES "S" TYPE, SERIES 300



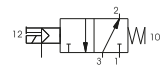
For vacuum - N.O.

Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.

Exhaust port 3
Outlet port 2
Pump 1



Weight 4500 g

1 AIR DISTRIBUTION



Series N776 - For compressed air and vacuum - G1 1/2"

General

The N776 G1.1/2" series of valves and solenoid operated poppet valves is the result of the technical evolution of the 776 series. A rolling diaphragm construction has replaced the previously used piston design ensure lower frictions and longer life. Connection 3 is isolated via a dedicated seal which allow to have the N.O. version as well as the self feed for vacuum which was not available on the 776 series.

The pilot valves are the M3R (CNOMO Stile) with bistable manual override.

Coils are not included and have to be ordered separately (see 300 series, 22mm MB coils and 30mm CNOMO MC coils).

Coils c  **US homologated are also available. (See series 300).**

Construction characteristics

Springs	Stainless steel
Pistons	Aluminium (for Air) - Acetylic resin (for Vacuum)
Pin guide	Stainless steel
Diaphragm	NBR oil resistant rubber
Body, operator and end cover	Die-cast aluminium
Seals and poppets	NBR

Use and maintenance

These valves have a mean life of 10 to 15 million cycles under normal operating conditions.

Lubrication is not required for good operation but we recommend good filtration to avoid dirty deposit causing malfunction.

Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature.

The exhaust port of the distributor has to be protected in a dusty and dirty environment.

For these products, according to the construction technique and special application, is not required any maintenance with parts replacement.

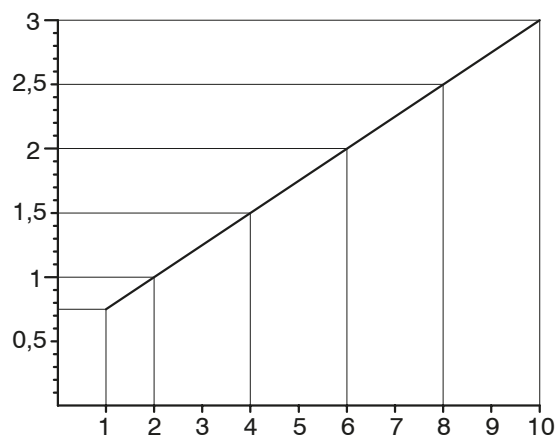
When necessary it is sufficient to clean the internal parts.

When it is used the solenoid valves with internal pilot, either for air or vacuum, inlet flow rate must be equal or higher that the required consumption flow rate.

Otherwise is better choose the external pilot version.

Minumum working pressure diagram

for external pilot versions N.C. & N.O.





Valves and solenoid valves poppet system Series N776 - For compressed air - G1 1/2"

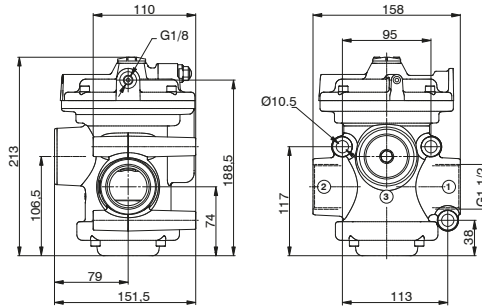
AIR DISTRIBUTION

Pneumatic - Spring

Coding: N776.22.11.1C

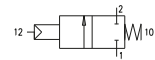
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	See diagram at general page
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	33500
Orifice size (mm)	38
Working ports size	G 1 1/2"
Pilot ports size	G1/8"



Weight 3560 g
Normally Closed

For compressed air - N.C.
Inlet port 1
Outlet port 2

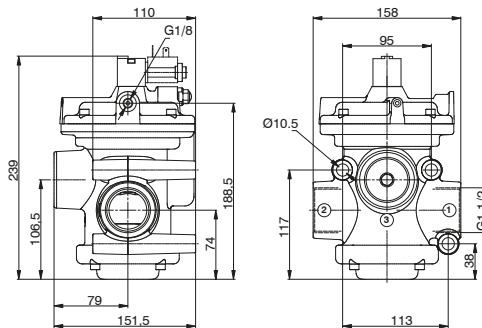


Solenoid - Spring

Coding: N776.22.0.F.M3R

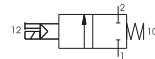
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	See diagram at general page (External pilot version) 3,5 (Internal pilot version)
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	33500
Orifice size (mm)	38
Working ports size	G 1 1/2"
Pilot ports size	G1/8"

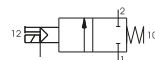


Weight 3620 g

Internal pilot - N.C.
Inlet port 1
Outlet port 2



External pilot - N.C.
Inlet port 1
Outlet port 2

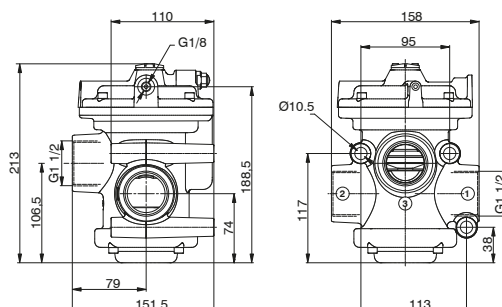


Pneumatic - Spring

Coding: N776.32.11.1

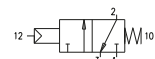
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	See diagram at general page
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	33500
Orifice size (mm)	38
Working ports size	G 1 1/2"
Pilot ports size	G1/8"

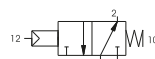


Weight 3550 g
Normally closed/Normally open

For compressed air - N.C.
Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.
Inlet port 3
Outlet port 2
Outlet port 1

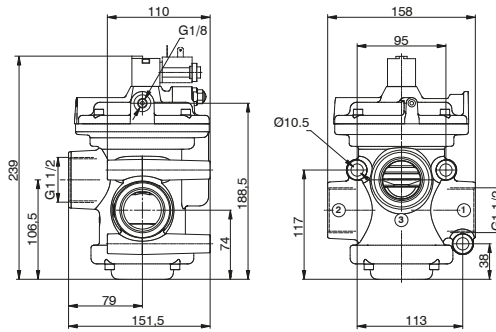


Solenoid - Spring

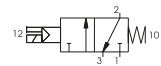
Coding: N776.32.0.Ⓜ.M3R

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	See diagram at general page (External pilot version) 3.5 (Internal pilot version)
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	33500
Orifice size (mm)	38
Working ports size	G 1 1/2"
Pilot ports size	G1/8"

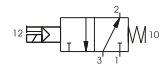
FUNCTION	
1AC	= Internal pilot normally closed
Ⓜ 1AA	= Internal pilot normally open
1	= External pilot Normally closed- Normally open



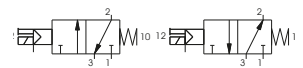
Internal pilot - N.C.
Inlet port 1
Outlet port 2
Exhaust port 3



Internal pilot - N.O.
Inlet port 3
Outlet port 2
Outlet port 1



External pilot for compressed air - N.C. - N.O.
Inlet port 1 (N.C.) or 3 (N.O.)
Outlet 2 (N.C. & N.O.)
Exhaust 3 (N.C.) or 1 (N.O.)



Weight 3610 g

1
AIR DISTRIBUTION

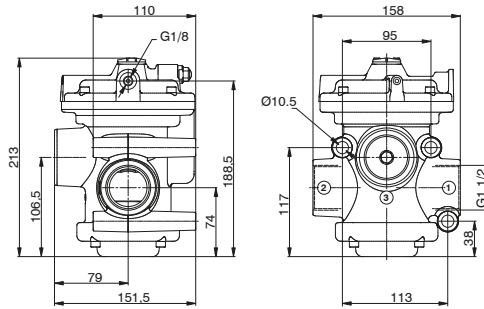


AIR DISTRIBUTION

Pneumatic - Spring

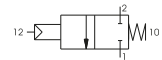
Coding: N776/V.22.11.1C

Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +70
Orifice size (mm)	38
Working ports size	G 1 1/2"
Pilot ports size	G1/8"



Weight 3178 g
Normally Closed

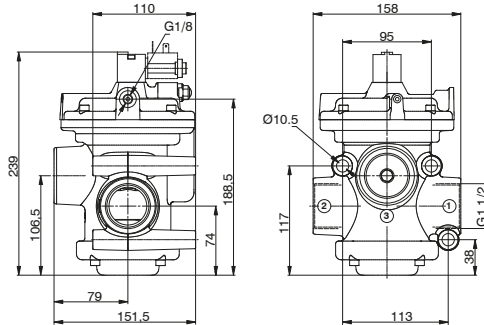
For vacuum - N.C.
Outlet port 2
Pump 1



Solenoid - Spring

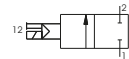
Coding: N776/V.22.0.F.M3R

Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2 (External pilot version)
Temperature °C	-5 ÷ +50
Orifice size (mm)	38
Working ports size	G 1 1/2"
Pilot ports size	G1/8"

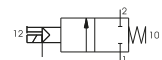


Weight 3238 g

Internal pilot for vacuum - N.C.
Outlet port 2
Pump 1



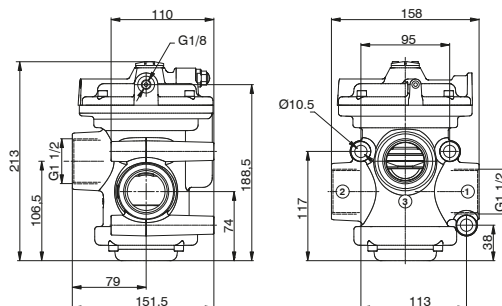
External pilot for vacuum - N.C.
Outlet port 2
Pump 1



Pneumatic - Spring

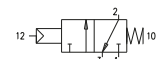
Coding: N776/V.32.11.1

Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +70
Orifice size (mm)	38
Working ports size	G 1 1/2"
Pilot ports size	G1/8"

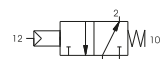


Weight 3168 g
Normally closed/Normally open

For vacuum - N.O.
Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.
Exhaust port 3
Outlet port 2
Pump 1

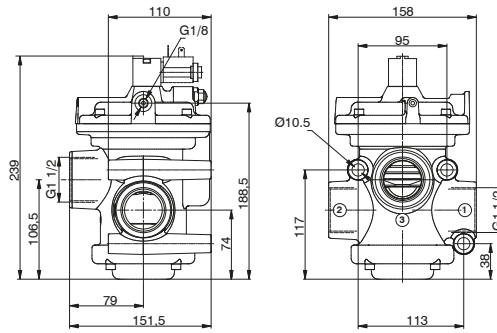


Solenoid - Spring

Coding: N776/V.32.0.Ⓢ.M3R

Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2 (External pilot version)
Temperature °C	-5 ± +50
Orifice size (mm)	38
Working ports size	G 1 1/2"
Pilot ports size	G1/8"

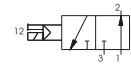
FUNCTION	
1AC	= Internal pilot normally closed
Ⓢ 1AA	= Internal pilot normally open
1	= External pilot Normally closed- Normally open



Weight 3228 g

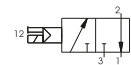
Internal pilot for vacuum - N.C.

Exhaust port 3
Outlet port 2
Pump 1



Internal pilot for vacuum - N.O.

Outlet port 1
Outlet port 2
Pump 3



External pilot for vacuum - N.C. - N.O.

Exhaust 3 (N.C.) or (N.O.)
Outlet 2 (N.C. & N.O.)
Pump 1 (N.C.) & 3 (N.O.)



1
AIR DISTRIBUTION




Series T772-773 - for compressed air and vacuum in technopolymer - G1/2" & G3/4"

General

The range of G1/2" and G3/4" pilot and solenoid operated poppet valves are manufactured with high impact resistant thermoplastic. The use of this material results in a versatile, lightweight and economical valve. The traditional piston lip seal has been replaced with a rolling diaphragm, thereby eliminating frictional wear and tear to this seal. The valves (with the exception of certain vacuum models) also features a seal, which separates port 3 from the piston head. The inclusion of this seal has enhanced the valve's performance and allows the valve to be used as normally open (a configuration not possible in the Zama series).

Solenoid operated valves (both internal and external pilot versions) are fitted with a quick exhaust unit, which reduces the return stroke operating time by 60%.

The bulk of the valves in this series use the MP type operator, the exception being internally piloted vacuum models, which use the MV operator. These operators differ from the M2 type in that they have self-tapping mounting screws for use in plastics.

The ordering code are referring to the solenoid valves with mechanics "MP" or "MV" assembled.
Coils are not included and have to be ordered separately (series 300, Section 1, General Catalogue), with the exception of the bistable versions which already include 24V DC Coils (N331.0A).
Coils c  US homologated are also available. (See series 300).

Construction characteristics

Springs	AISI 302 stainless steel
Diaphragm	Oil resistant rubber (NBR)
Body, operator and end cover	High impact resistant thermoplastic
Seals and poppets	NBR
Piston and shaft	Acetal resin

Use and maintenance

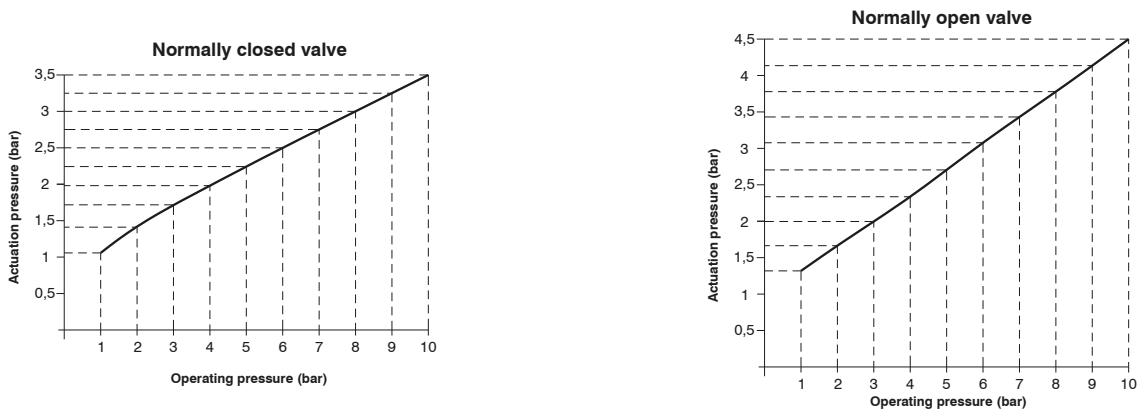
These valves have a mean life of 10 to 15 million cycles under normal operating conditions. Lubrication is not required for good operation but we recommend good filtration to avoid dirty deposit causing malfunction. Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature. The exhaust port of the distributor has to be protected in a dusty and dirty environment. For these products, according to the construction technique and special application, is not required any maintenance with parts replacement.

When necessary it is sufficient to clean the internal parts.

When it is used the solenoid valves with internal pilot, either for air or vacuum, inlet flow rate must be equal or higher that the required consumption flow rate.

Otherwise is better choose the external pilot version.

**MINIMUM PILOTING PRESSURE DIAGRAM (Valves for compressed air)
 PNEUMATIC/SPRING AND EXTERNAL SOLENOID PILOT VERSION**



AIR DISTRIBUTION 1

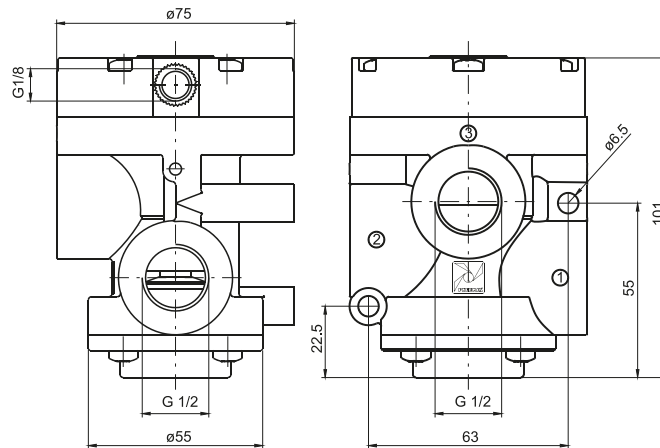
Pneumatic - Spring

Coding: T772.32.11.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	See diagram at general page
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	4100
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

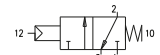


Weight 350 g



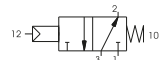
For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.

Inlet port 3
Outlet port 2
Outlet port 1



1
AIR DISTRIBUTION

Solenoid-Spring - Internal pilot

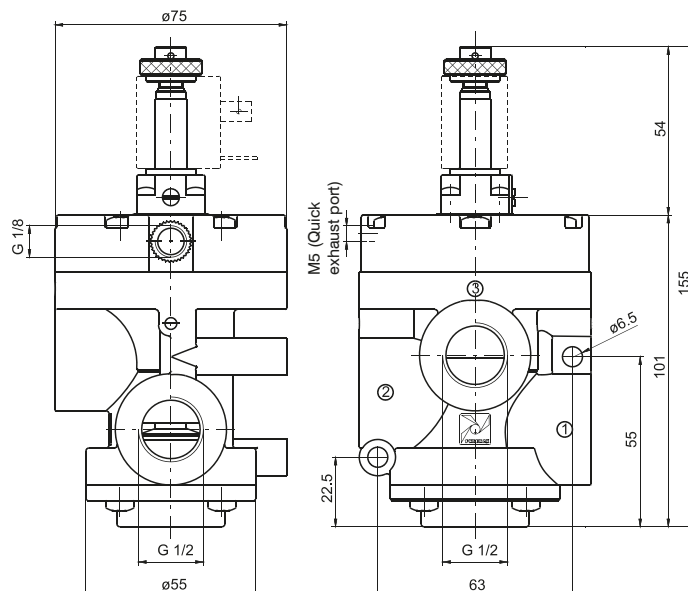
Coding: T772.32.0.Ⓢ.MP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	4100
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

FUNCTION	
Ⓢ 1AA	Normally Open
1AC	Normally Closed

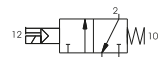


Weight 390 g



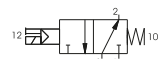
For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.

Inlet port 3
Outlet port 2
Outlet port 1





Valves and solenoid valves poppet system Series T772-773 - for compressed air in technopolymer - G1/2"

Solenoid-Spring - External pilot

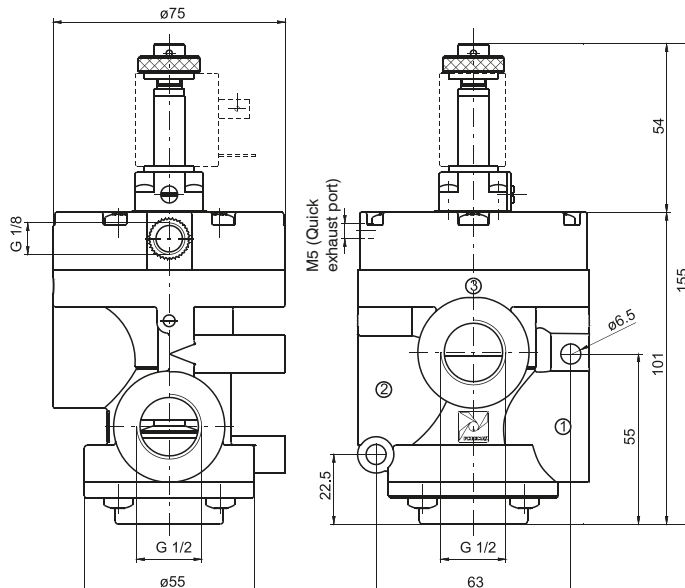
Coding: T772.32.0.1.MP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	See diagram at general page
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	4100
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

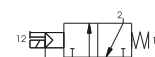
1
AIR DISTRIBUTION



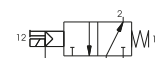
Weight 390 g



For compressed air - N.C.
Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.
Inlet port 3
Outlet port 2
Outlet port 1



Solenoid-Spring - Internal pilot with quick exhaust

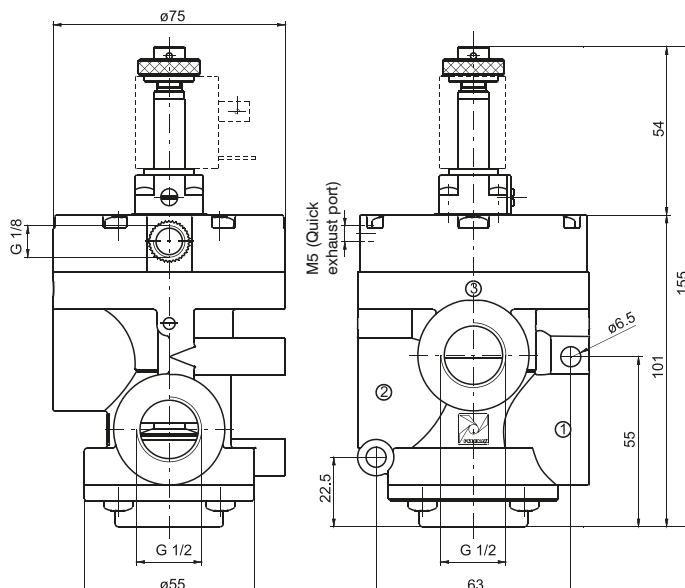
Coding: T772S.32.0.1.MP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	4100
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

FUNCTION	
1AA =	Normally Open
1AC =	Normally Closed



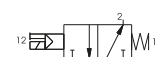
Weight 390 g



For compressed air - N.C.
Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.
Inlet port 3
Outlet port 2
Outlet port 1



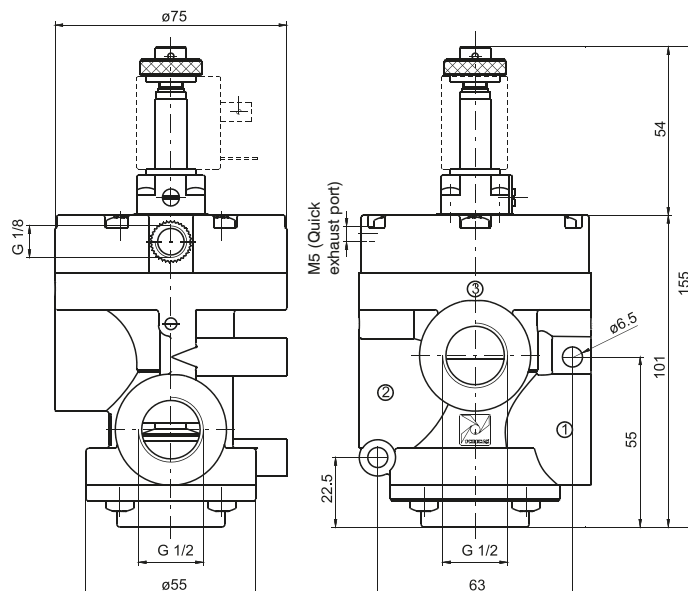
Solenoid - Spring - External pilot with quick exhaust

Coding: T772S.32.0.1.MP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	See diagram at general page
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	4100
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

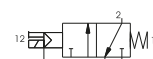


Weight 390 g



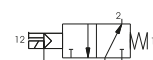
For compressed air - N.C.

- Inlet port 1
- Outlet port 2
- Exhaust port 3



For compressed air - N.O.

- Inlet port 3
- Outlet port 2
- Outlet port 1



1
AIR DISTRIBUTION



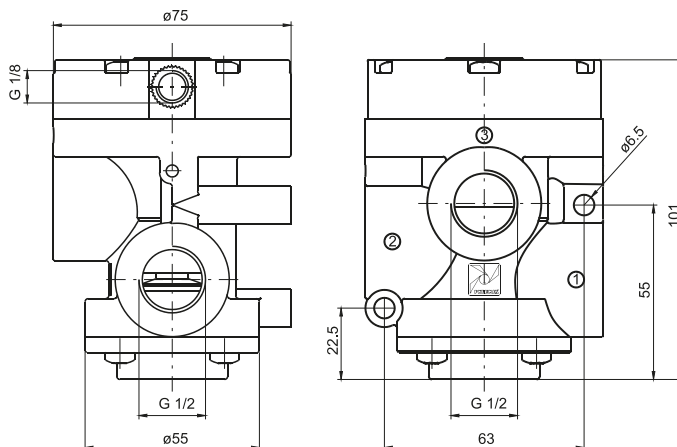
Valves and solenoid valves poppet system Series T772-773 - For vacuum in technopolymer - G1/2"

Pneumatic - Spring

Coding: T772/V.32.11.1

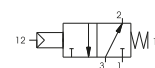
Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

1
AIR DISTRIBUTION

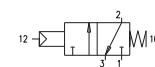


Weight 350 g

For vacuum - N.C.
Exhaust port 3
Outlet port 2
Pump 1



For vacuum - N.O.
Outlet port 1
Outlet port 2
Pump 3

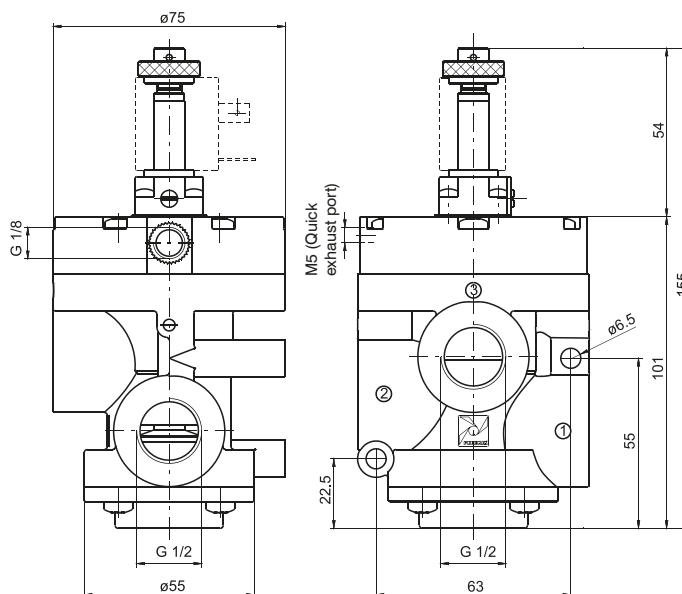


Solenoid-Spring - Internal pilot

Coding: T772/V.32.0.Ⓜ.MV

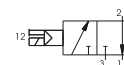
Operational characteristics	
Fluid	Vacuum
Temperature °C	-5 ÷ +50
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

FUNCTION	
Ⓜ	1AA = Normally Open
	1AC = Normally Closed

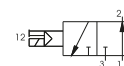


Weight 390 g

For vacuum - N.O.
Exhaust port 3
Outlet port 2
Pump 1



For vacuum - N.O.
Outlet port 1
Outlet port 2
Pump 3



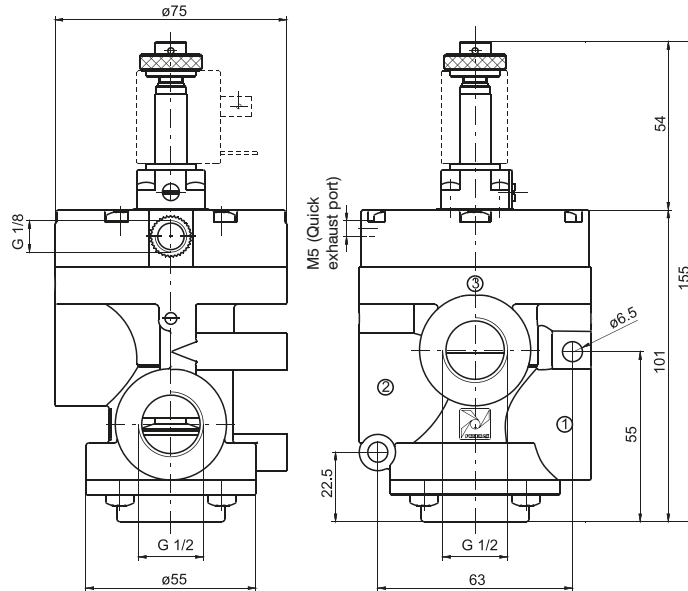
Solenoid-Spring - External pilot

Coding: T772/V.32.0.1.MP

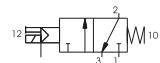
Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"



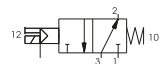
Weight 390 g



For vacuum - N.O.
Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.
Exhaust port 3
Outlet port 2
Pump 1



1
AIR DISTRIBUTION

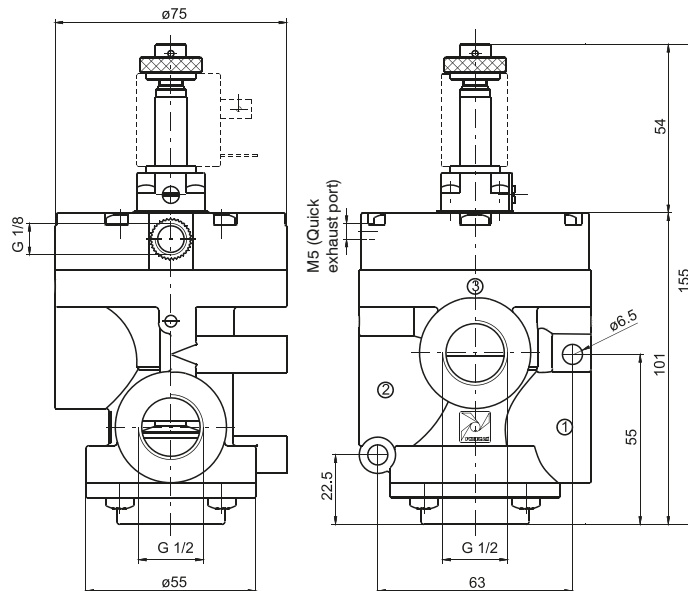
Solenoid - Spring - External pilot with quick exhaust

Coding: T772/VS.32.0.1.MP

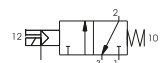
Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"



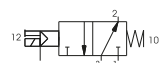
Weight 390 g



For vacuum - N.O.
Outlet port 1
Outlet port 2
Pump 3



For vacuum - N.C.
Exhaust port 3
Outlet port 2
Pump 1





Valves and solenoid valves poppet system Series T772-773 - For compressed air in technopolymer - G3/4"

Pneumatic - Spring

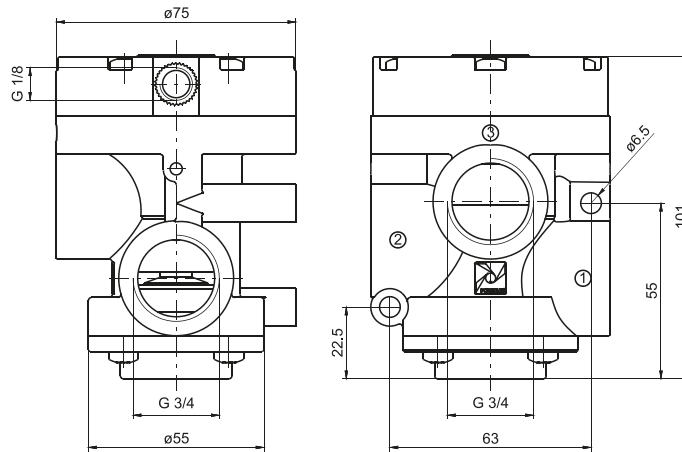
Coding: T773.32.11.1

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	See diagram at general page
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	7500
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"

1

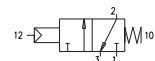
AIR DISTRIBUTION



Weight 330 g

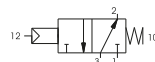
For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.

Inlet port 3
Outlet port 2
Outlet port 1



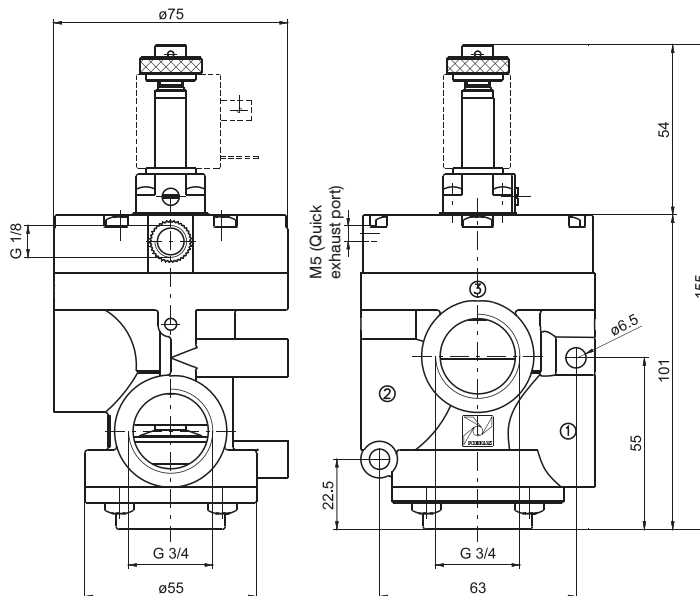
Solenoid-Spring - Internal pilot

Coding: T773.32.0.F.MP

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	7500
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"

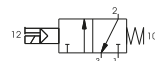
FUNCTION	
F 1AA =	Normally Open
1AC =	Normally Closed



Weight 370 g

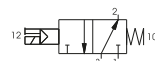
For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.

Inlet port 3
Outlet port 2
Outlet port 1



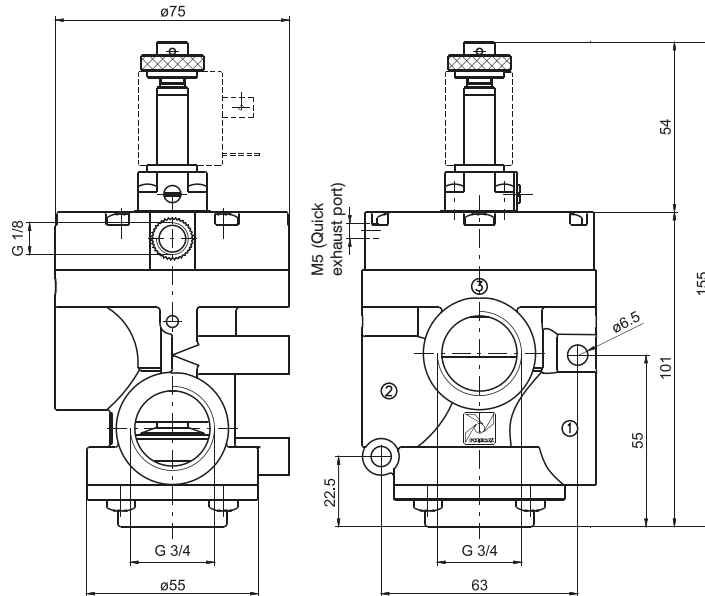
Solenoid-Spring - External pilot

Coding: T773.32.0.1.MP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	See diagram at general page
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	7500
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"

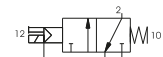


Weight 370 g



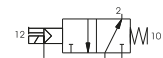
For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.

Inlet port 3
Outlet port 2
Outlet port 1



1

AIR DISTRIBUTION

Solenoid-Spring - Internal pilot with quick exhaust

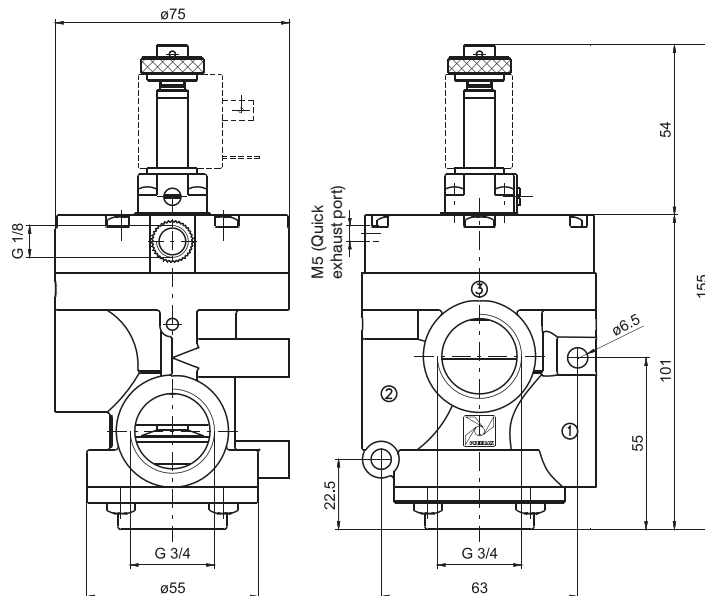
Coding: T773S.32.0.1.MP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	7500
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"

FUNCTION	
1AA	Normally Open
1AC	Normally Closed

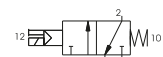


Weight 370 g



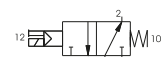
For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.

Inlet port 3
Outlet port 2
Outlet port 1





Valves and solenoid valves poppet system
Series T772-773 - For compressed air in technopolymer - G3/4"

Solenoid - Spring - External pilot with quick exhaust

Coding: T773S.32.0.1.MP

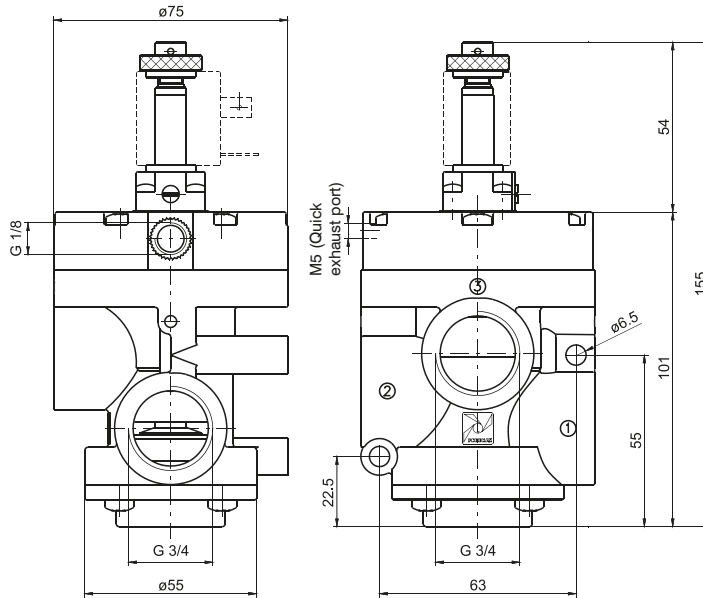
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	See diagram at general page
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	7500
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"

1

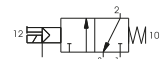
AIR DISTRIBUTION



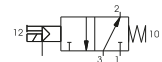
Weight 370 g



For compressed air - N.C.
 Inlet port 1
 Outlet port 2
 Exhaust port 3



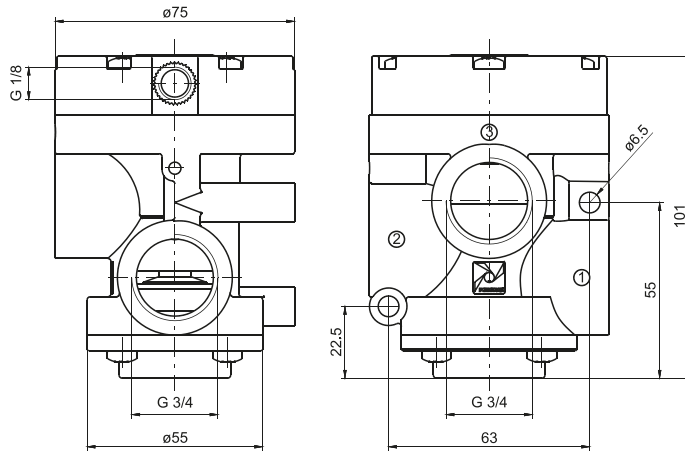
For compressed air - N.O.
 Inlet port 3
 Outlet port 2
 Outlet port 1



Pneumatic - Spring

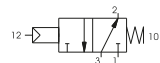
Coding: T773/V.32.11.1

Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"

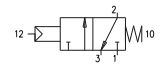


Weight 330 g

For vacuum - N.C.
Exhaust port 3
Outlet port 2
Pump 1



For vacuum - N.O.
Outlet port 1
Outlet port 2
Pump 3



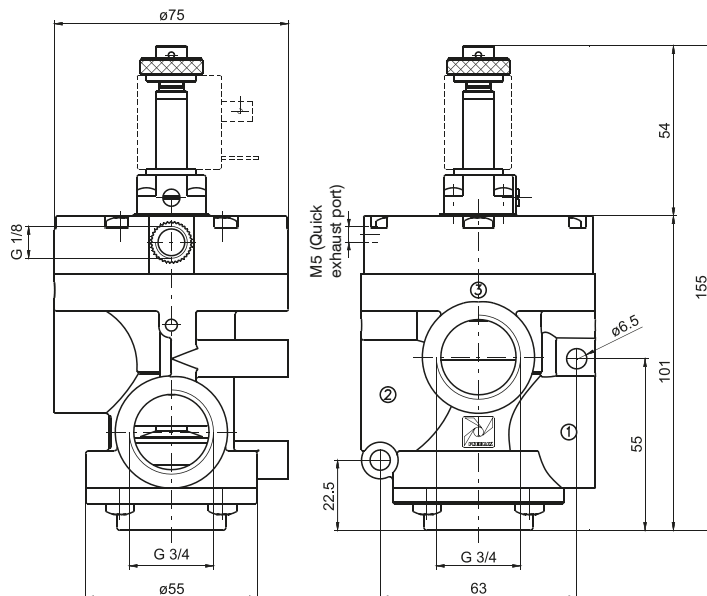
1
AIR DISTRIBUTION

Solenoid-Spring - Internal pilot

Coding: T773/V.32.0.Ⓜ.MV

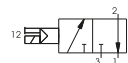
Operational characteristics	
Fluid	Vacuum
Temperature °C	-5 ÷ +50
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"

FUNCTION	
Ⓜ	1AA = Normally Open
	1AC = Normally Closed

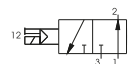


Weight 370 g

For vacuum - N.O.
Exhaust port 3
Outlet port 2
Pump 1



For vacuum - N.C.
Outlet port 1
Outlet port 2
Pump 3





Valves and solenoid valves poppet system
Series T772-773 - For vacuum in technopolymer - G3/4"

Solenoid-Spring - External pilot

Coding: T773/V.32.0.1.MP

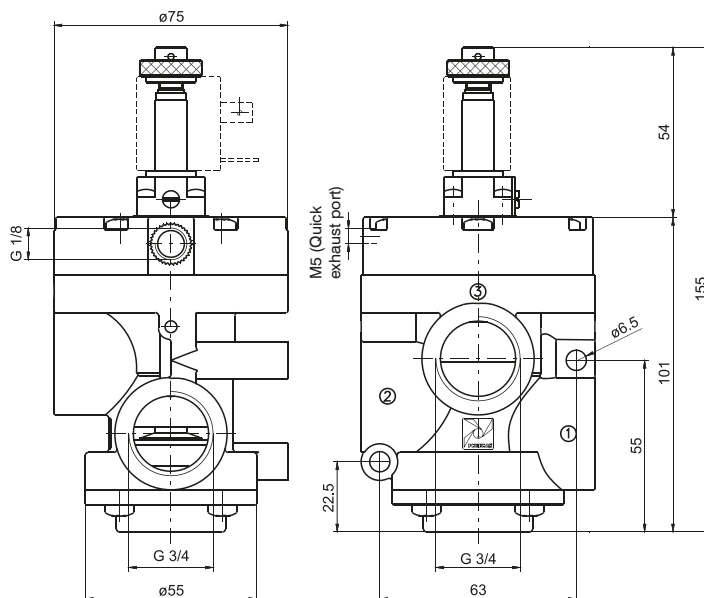
Operational characteristics

Fluid	Vacuum
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"

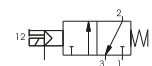
1
AIR DISTRIBUTION



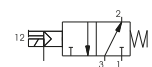
Weight 350 g



For vacuum - N.O.
 Outlet port 1
 Outlet port 2
 Pump 3



For vacuum - N.C.
 Exhaust port 3
 Outlet port 2
 Pump 1



Solenoid - Spring - External pilot with quick exhaust

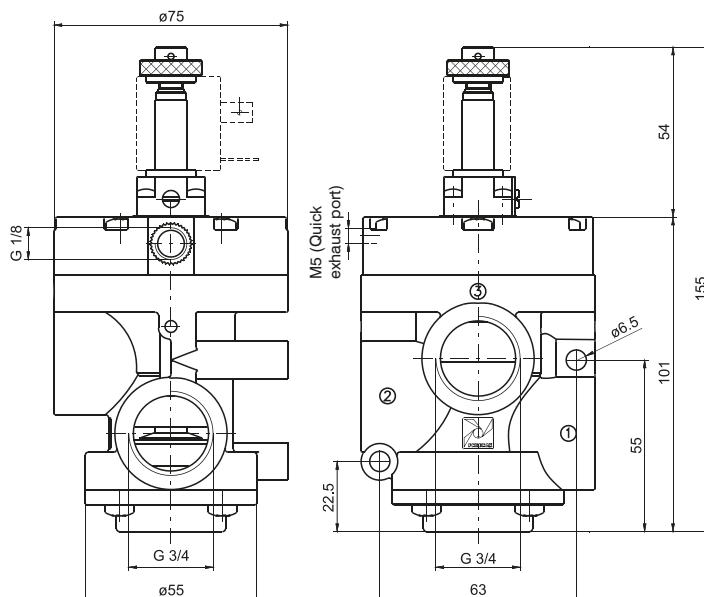
Coding: T773/VS.32.0.1.MP

Operational characteristics

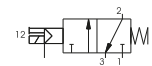
Fluid	Vacuum
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Orifice size (mm)	20
Working ports size	G3/4"
Pilot ports size	G1/8"



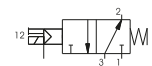
Weight 350 g



For vacuum - N.O.
 Outlet port 1
 Outlet port 2
 Pump 3



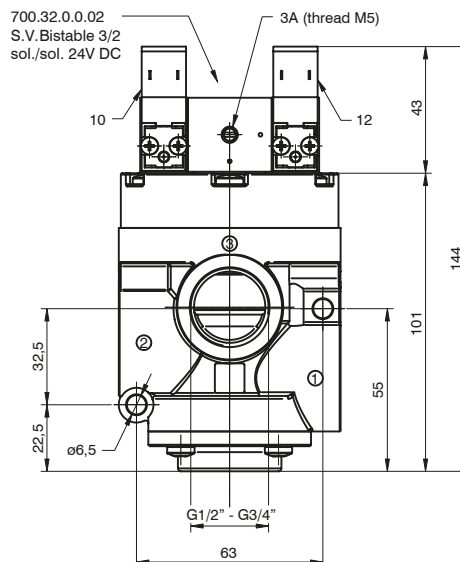
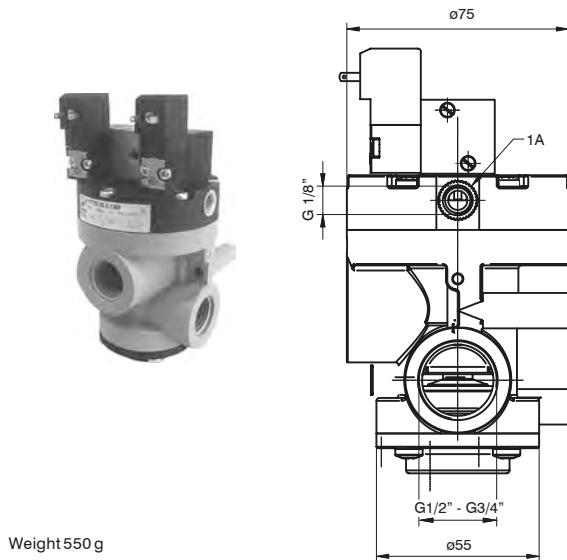
For vacuum - N.C.
 Exhaust port 3
 Outlet port 2
 Pump 1



Bistable for compressed air - G1/2"

Coding: T772.32.0.1.BP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	4100
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"



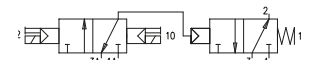
For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.

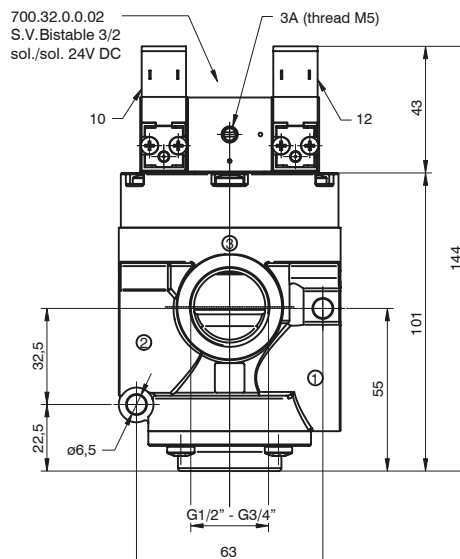
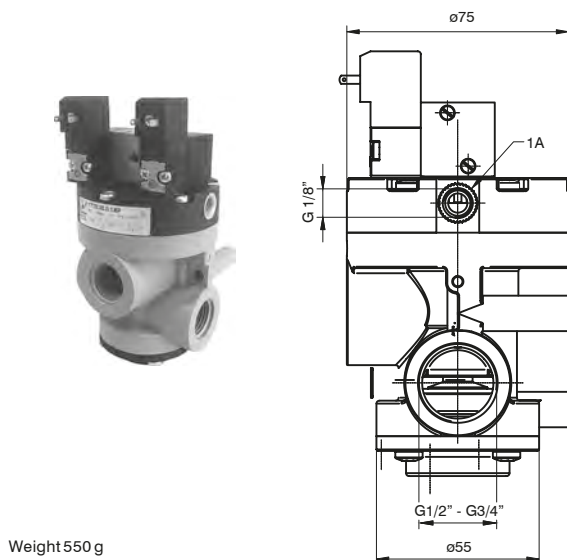
Inlet port 3
Outlet port 2
Outlet port 1



Bistable for compressed air - G3/4"

Coding: T773.32.0.1.BP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	7500
Orifice size (mm)	15
Working ports size	G3/4"
Pilot ports size	G1/8"



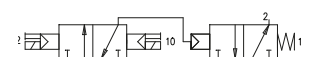
For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.

Inlet port 3
Outlet port 2
Outlet port 1





Valves and solenoid valves poppet system Series T772-773 - Bistable for compressed air in technopolymer - G1/2" & G3/4"

Bistable for compressed air with quick exhaust - G1/2"

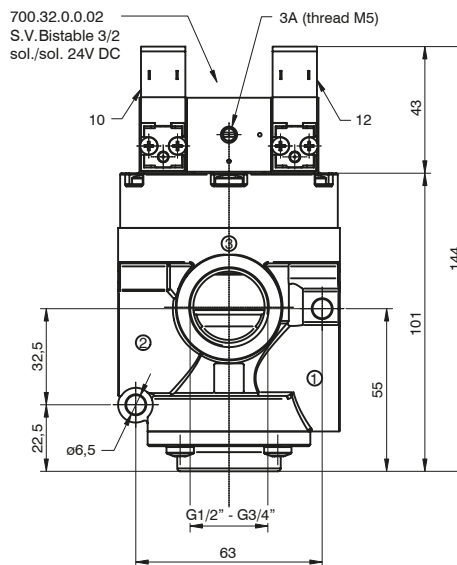
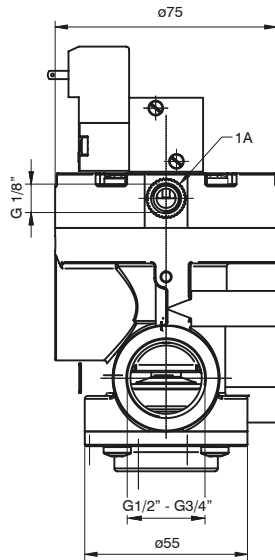
Coding: T772S.32.0.1.BP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	4100
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

AIR DISTRIBUTION

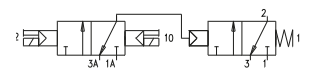


Weight 550 g



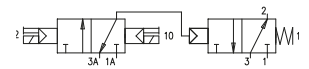
For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.

Inlet port 3
Outlet port 2
Outlet port 1



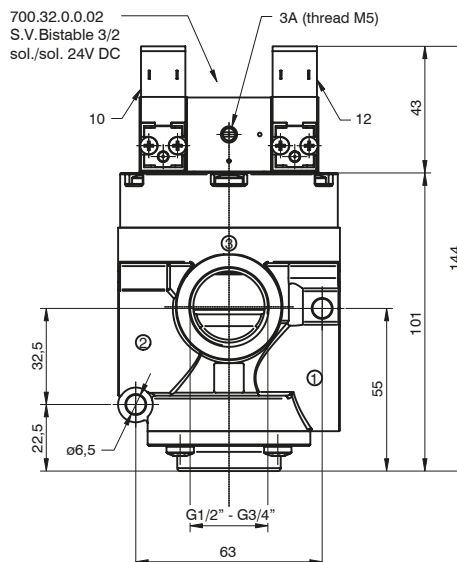
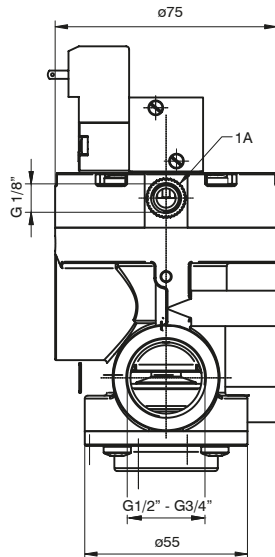
Bistable for compressed air with quick exhaust - G3/4"

Coding: T773S.32.0.1.BP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	7500
Orifice size (mm)	15
Working ports size	G3/4"
Pilot ports size	G1/8"

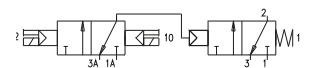


Weight 550 g



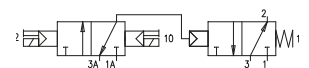
For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.

Inlet port 3
Outlet port 2
Outlet port 1



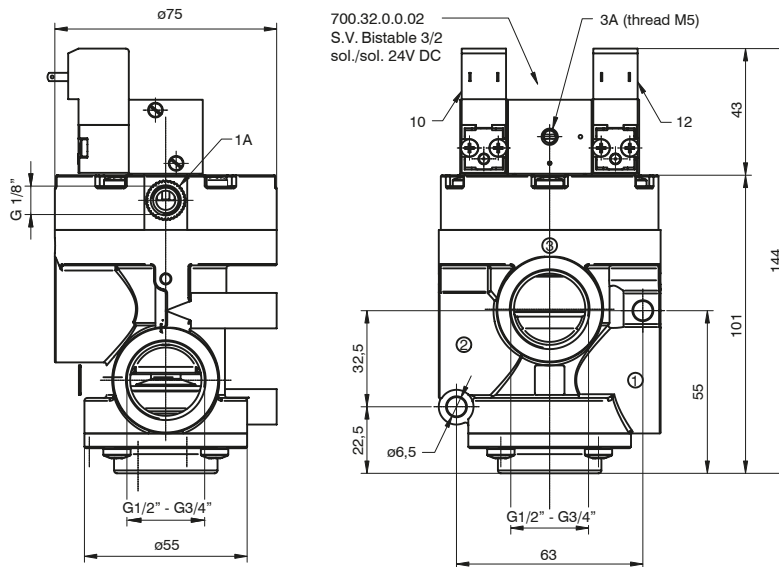
Bistable for vacuum - G1/2"

Coding: T772/V.32.0.1.BP

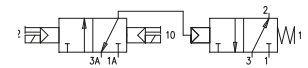
Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"



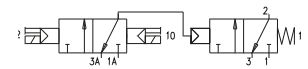
Weight 550 g



For vacuum - N.C.
Pump 1
Outlet port 2
Exhaust port 3



For vacuum - N.O.
Pump 3
Outlet port 2
Outlet port 1



1
AIR DISTRIBUTION

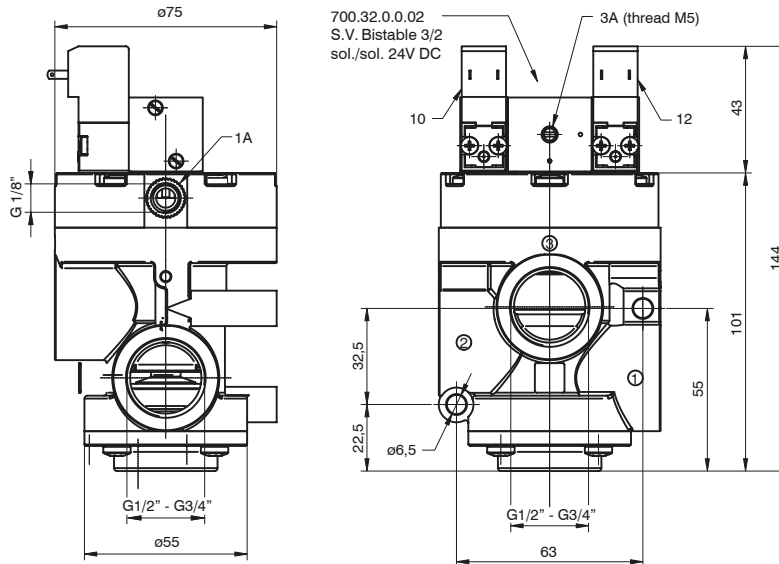
Bistable for vacuum - G3/4"

Coding: T773/V.32.0.1.BP

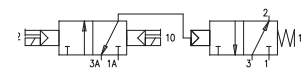
Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Orifice size (mm)	15
Working ports size	G3/4"
Pilot ports size	G1/8"



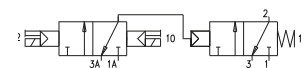
Weight 550 g



For vacuum - N.C.
Pump 1
Outlet port 2
Exhaust port 3



For vacuum - N.O.
Pump 3
Outlet port 2
Outlet port 1





Valves and solenoid valves poppet system
Series T772-773 - Bistable for vacuum in technopolymer - G1/2" & G3/4"

Bistable for vacuum with quick exhaust - G1/2"

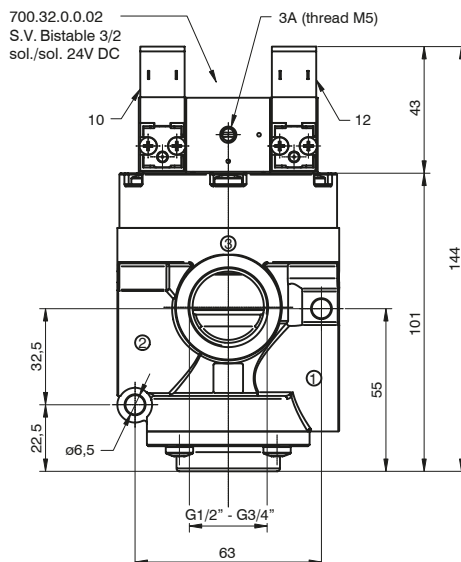
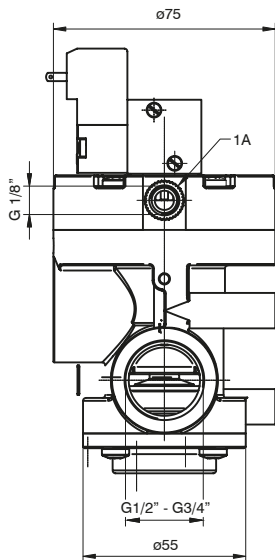
Coding: T772/VS.32.0.1.BP

Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Orifice size (mm)	15
Working ports size	G1/2"
Pilot ports size	G1/8"

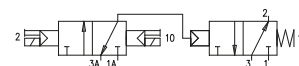
1
AIR DISTRIBUTION



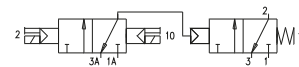
Weight 550 g



For vacuum - N.C.
 Pump 1
 Outlet port 2
 Exhaust port 3



For vacuum - N.O.
 Pump 3
 Outlet port 2
 Exhaust port 3



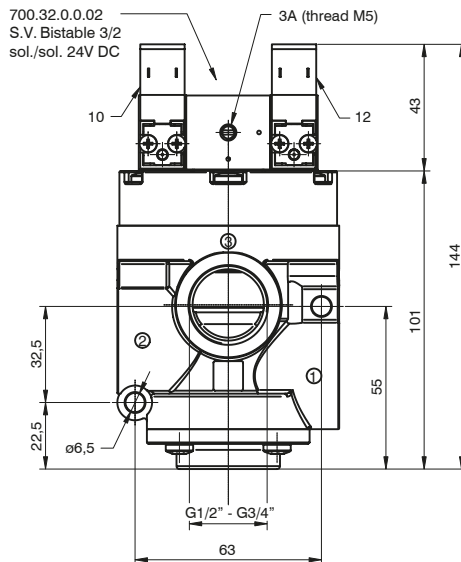
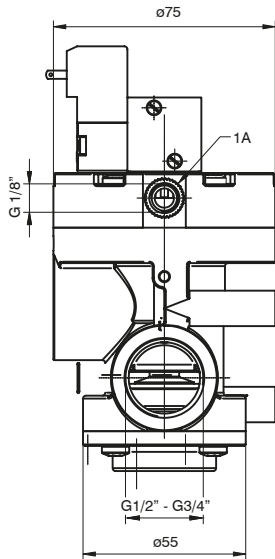
Bistable for vacuum with quick exhaust - G3/4"

Coding: T773/VS.32.0.1.BP

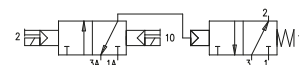
Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Orifice size (mm)	15
Working ports size	G3/4"
Pilot ports size	G1/8"



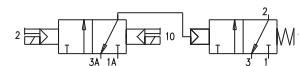
Weight 550 g



For vacuum - N.C.
 Pump 1
 Outlet port 2
 Exhaust port 3



For vacuum - N.O.
 Pump 3
 Outlet port 2
 Outlet port 1





Series T771 - for compressed air & vacuum in technopolymer - G1"

General

The range of G1" pilot and solenoid operated poppet valves represents an evolution of the current popular Zama series and of the series T772-T773 (G1/2"-3/4").

Also for this series the main feature is the technopolymer material used to mould most of its components.

The use of this material results in a versatile, lightweight and economical valve.

This series also has other technical and functional enhancements over the existing range. Firstly, the traditional piston lip seal has been replaced with a rolling diaphragm, thereby eliminating frictional wear and tear to this seal.

This series (with the exception of certain vacuum models) also features a seal, which separates port 3 from the piston head. The inclusion of this seal has enhanced the valve's performance and allows the valve to be used as normally open (a configuration not possible in the Zama series).

Solenoid operated valves (both internal and external pilot versions) are fitted with a quick exhaust unit, which reduces the return stroke operating time by 80%.

The bulk of the valves in this series use the MP type operator, the exception being internally piloted vacuum models, which use the MV operator. These operators differ from the M2 type in that they have self-tapping mounting screws for use in plastics.

Bistable versions are also available, both for air or for vacuum. These valves are fitted with a 3/2 sol-sol valve (instead of the standard pilot valve) fitted with two 15mm 24V Dc microvalves (N331.0A).

The ordering code are referring to the solenoid valves with mechanics "MP" or "MV" assembled.

Coils are not included and have to be ordered separately (series 300, Section 1, General Catalogue), with the exception of the bistable versions which already include 24V Dc Coils (N331.0A).

Coils in US homologated are available (see 300 Series).

Construction characteristics

Springs	AISI 303 stainless steel
Diaphragm	Oil resistant rubber (NBR)
Body, operator and end cover	High impact resistant thermoplastic
Seals and poppets	NBR
Piston and shaft	Acetal resin

Use and maintenance

These valves have a mean life of 10 to 15 million cycles under normal operating conditions.

Lubrication is not required for good operation but we recommend good filtration to avoid dirty deposit causing malfunction.

Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature.

The exhaust port of the distributor has to be protected in a dusty and dirty environment.

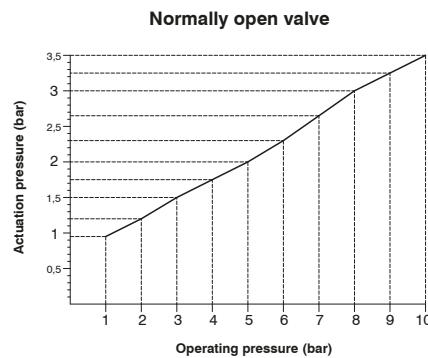
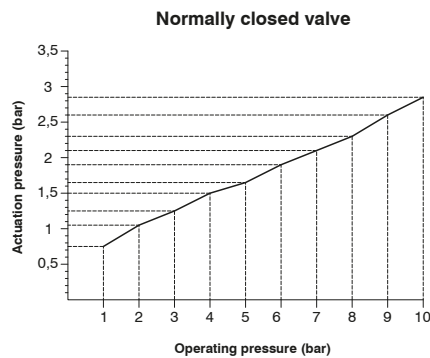
For these products, according to the construction technique and special application, is not required any maintenance with parts replacement.

When necessary it is sufficient to clean the internal parts.

When it is used the solenoid valves with internal pilot, either for air or vacuum, inlet flow rate must be equal or higher that the required consumption flow rate.

Otherwise is better choose the external pilot version.

MINIMUM PILOTING PRESSURE DIAGRAM (Valves for compressed air) PNEUMATIC/SPRING AND EXTERNAL SOLENOID PILOT VERSION





Valves and solenoid valves poppet system Series T771 - for compressed air in technopolymer - G1"

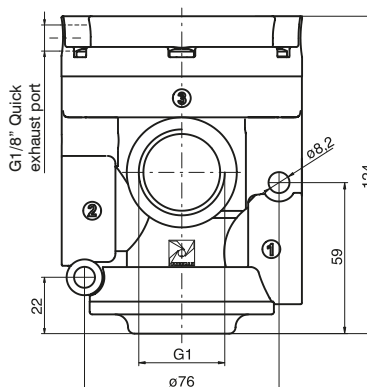
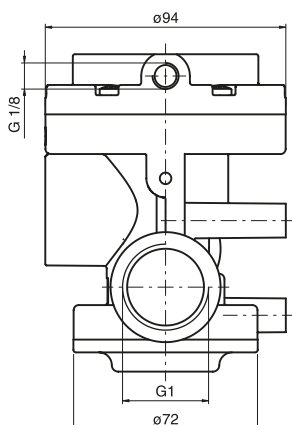
Pneumatic - Spring

Coding: T771.32.11.1

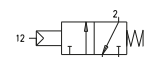
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	See diagram at general page
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	12500
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"

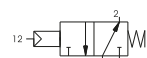
AIR DISTRIBUTION



For compressed air - N.C.
Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.
Inlet port 3
Outlet port 2
Outlet port 1



Weight 480 g

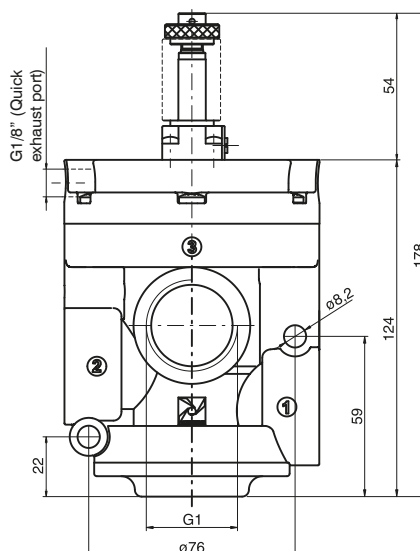
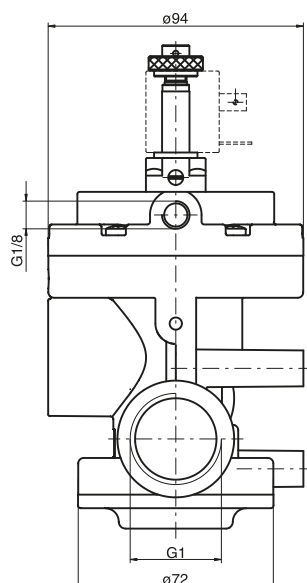
Solenoid-Spring - Internal pilot

Coding: T771.32.0.Ⓜ.MP

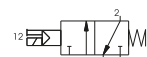
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	12500
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"

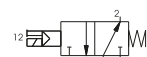
FUNCTION	
Ⓜ	1AC = Normally Closed
	1AA = Normally Open



For compressed air - N.C.
Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.
Inlet port 3
Outlet port 2
Outlet port 1



Weight 520 g

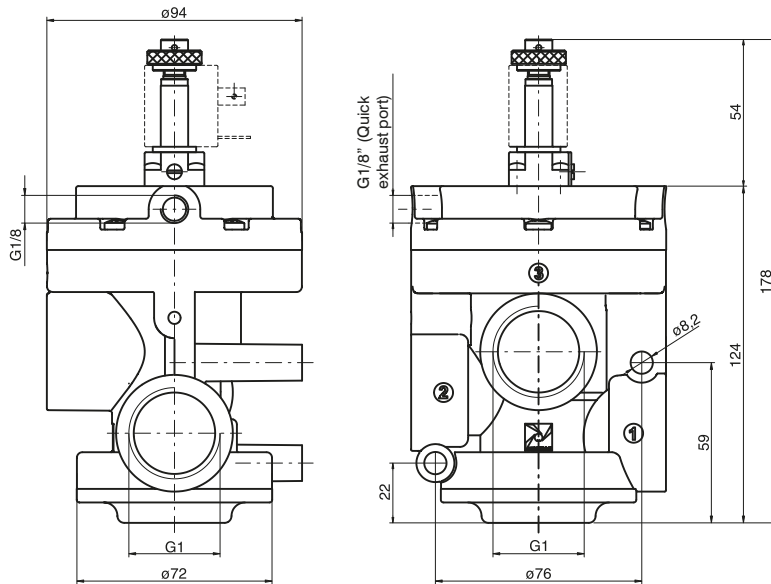
Solenoid-Spring - External pilot

Coding: T771.32.0.1.MP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	See diagram at general page
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	12500
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"

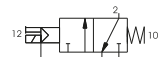


Weight 520 g



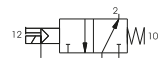
For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.

Inlet port 3
Outlet port 2
Outlet port 1



1

AIR DISTRIBUTION

Solenoid-Spring - Internal pilot with quick exhaust

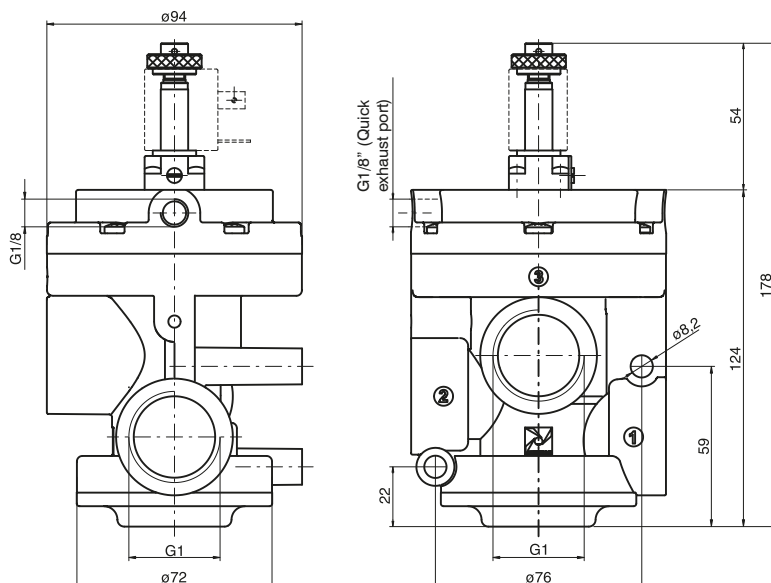
Coding: T771S.32.0.1.MP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	12500
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"

FUNCTION	
F 1AC =	Normally Closed
1AA =	Normally Open

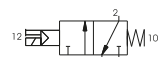


Weight 520 g



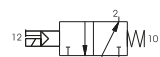
For compressed air - N.C.

Inlet port 1
Outlet port 2
Exhaust port 3



For compressed air - N.O.

Inlet port 3
Outlet port 2
Outlet port 1





Valves and solenoid valves poppet system
Series T771 - for compressed air in technopolymer - G1"

Solenoid - Spring - External pilot with quick exhaust

Coding: T771S.32.0.1.MP

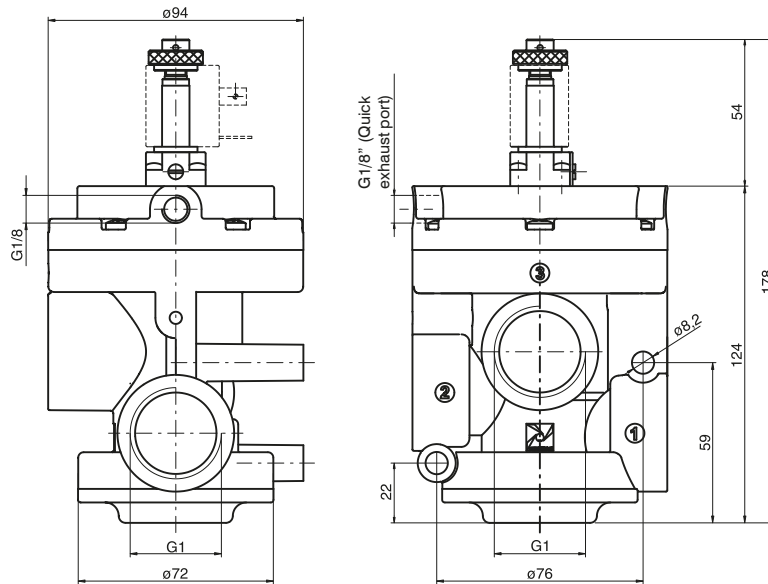
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	See diagram at general page
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	12500
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"

1
AIR DISTRIBUTION

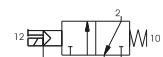


Weight 520 g



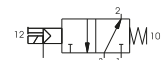
For compressed air - N.C.

- Inlet port 1
- Outlet port 2
- Exhaust port 3



For compressed air - N.O.

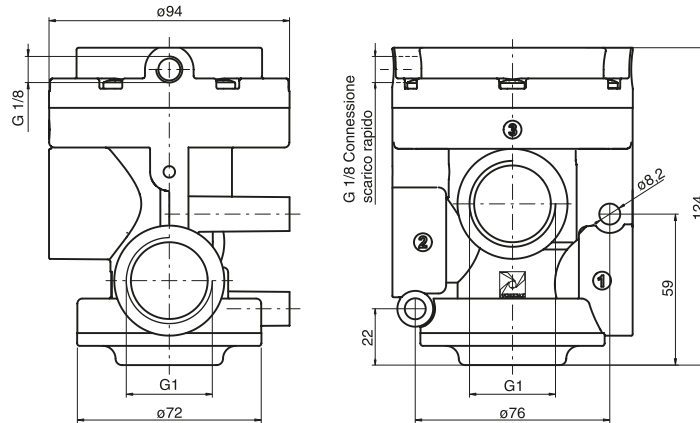
- Inlet port 3
- Outlet port 2
- Outlet port 1



Pneumatic - Spring

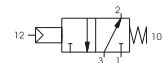
Coding: T771/V.32.11.1

Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"

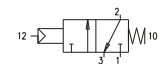


Weight 480 g

For vacuum - N.C.
Exhaust port 3
Outlet port 2
Pump 1



For vacuum - N.O.
Outlet port 1
Outlet port 2
Pump 3



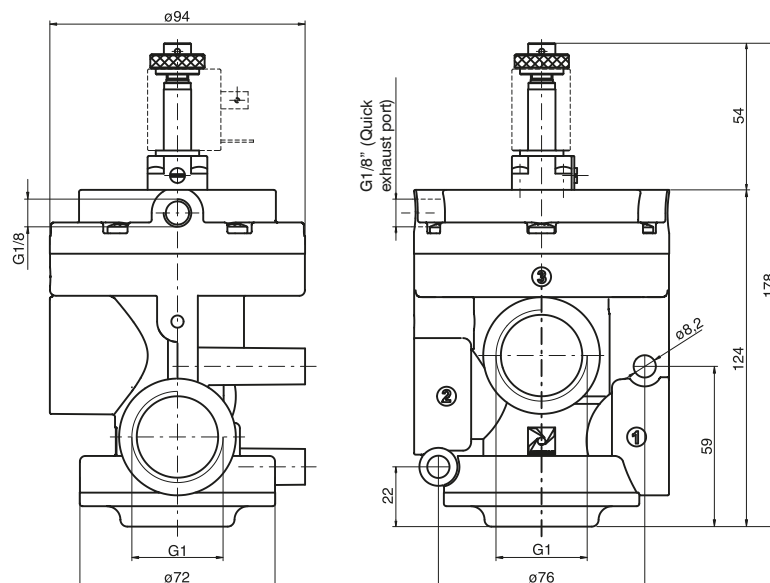
1
AIR DISTRIBUTION

Solenoid-Spring - Internal pilot

Coding: T771/V.32.0.Ⓜ.MV

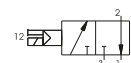
Operational characteristics	
Fluid	Vacuum
Temperature °C	-5 ÷ +50
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"

FUNCTION	
Ⓜ	1AC = Normally Closed
	1AA = Normally Open

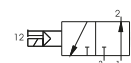


Weight 520 g

For vacuum - N.O.
Exhaust port 3
Outlet port 2
Pump 1



For vacuum - N.O.
Outlet port 1
Outlet port 2
Pump 3



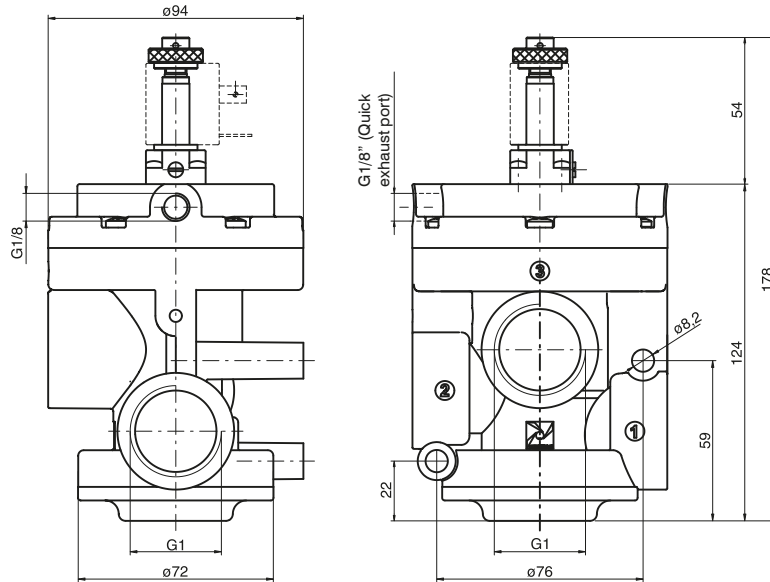


Solenoid-Spring - External pilot

Coding: T771/V.32.0.1.MP

Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"

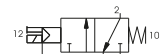
AIR DISTRIBUTION



Weight 520 g

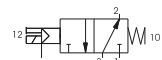
For vacuum - N.O.

Pump 3
Outlet port 2
Outlet port 1



For compressed air - N.C.

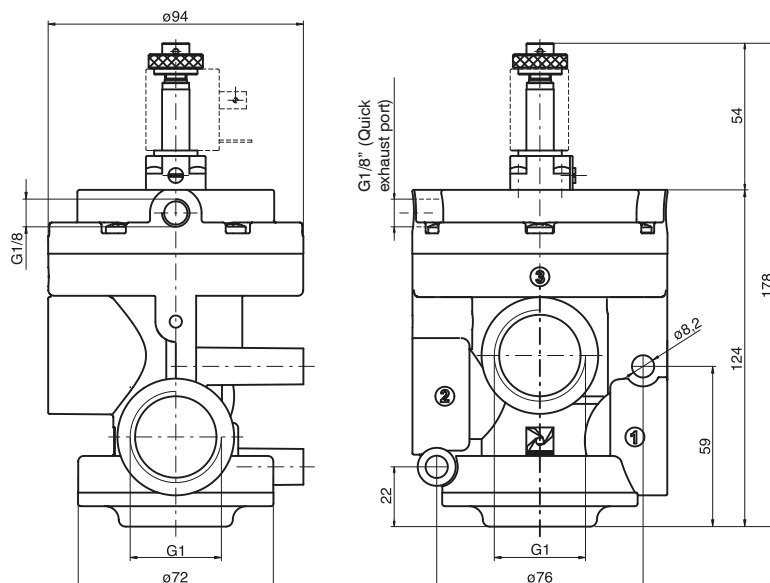
Inlet port 1
Outlet port 2
Exhaust port 3



Solenoid - Spring - External pilot with quick exhaust

Coding: T771/VS.32.0.1.MP

Operational characteristics	
Fluid	Vacuum
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"



Weight 520 g

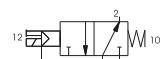
For vacuum - N.O.

Pump 3
Outlet port 2
Outlet port 1



For compressed air - N.C.

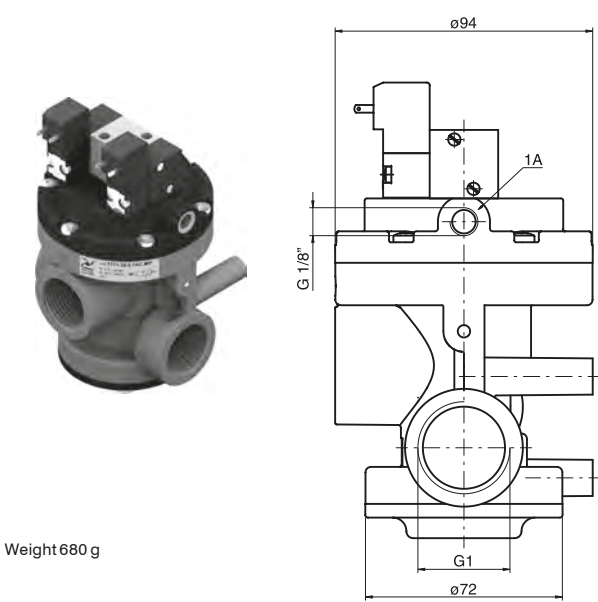
Inlet port 1
Outlet port 2
Exhaust port 3



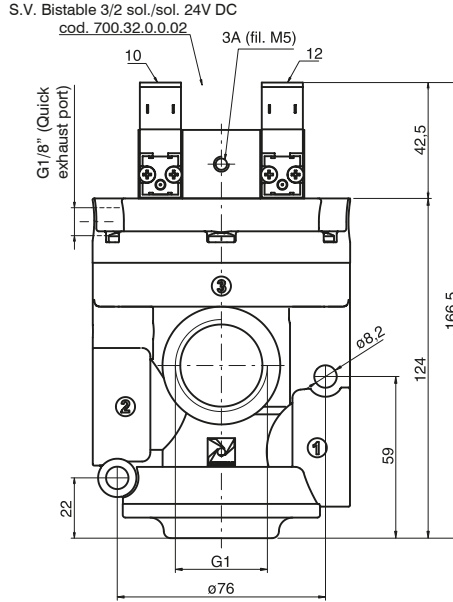
Bistable for compressed air - G1"

Coding: T771.32.0.1.BP

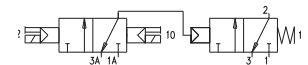
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	12500
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"



Weight 680 g



Minimum piloting pressure 2.5 bar

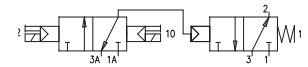


For compressed air - N.C.

Inlet port 1

Outlet port 2

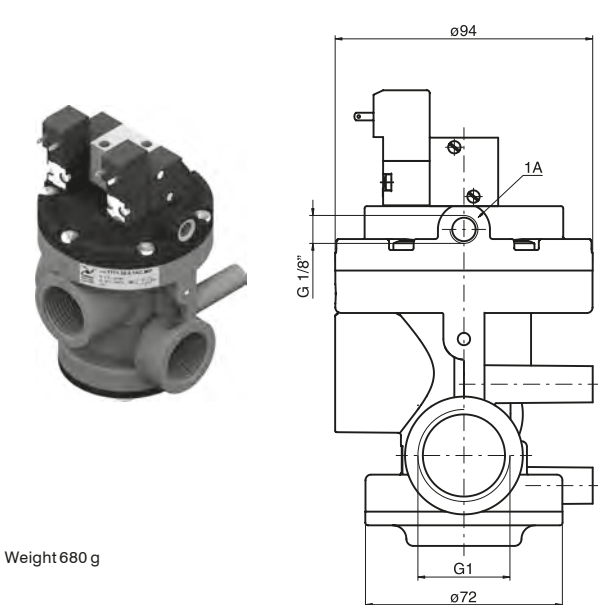
Exhaust port 3



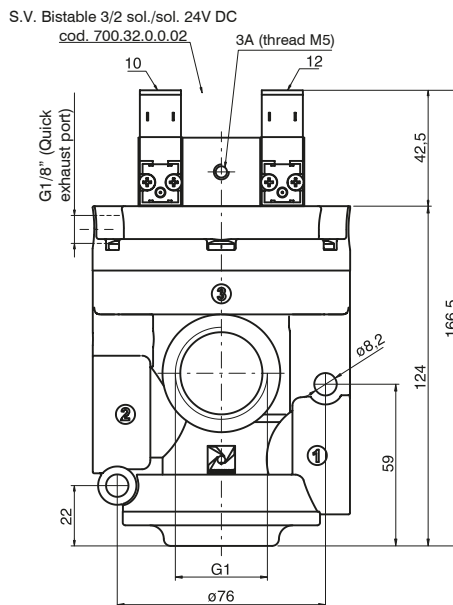
Bistable for compressed air with quick exhaust - G1"

Coding: T771S.32.0.1.BP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	12500
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"



Weight 680 g

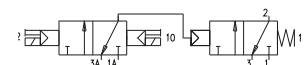


For compressed air - N.C.

Inlet port 1

Outlet port 2

Exhaust port 3

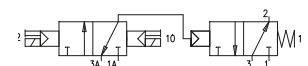


For compressed air - N.O.

Inlet port 3

Outlet port 2

Outlet port 1





Valves and solenoid valves poppet system Series T771 - Bistable for vacuum in technopolymer - G1"

Bistable for vacuum - G1"

Coding: T771/V.32.0.1.BP

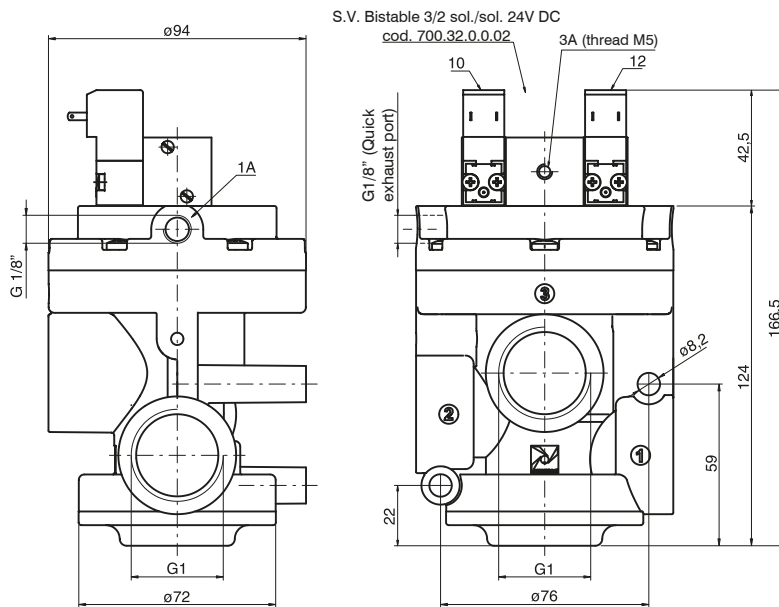
Operational characteristics

Fluid	Vacuum
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"

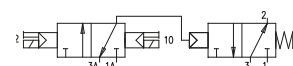
1
AIR DISTRIBUTION



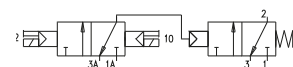
Weight 680 g



Minimum piloting pressure 2.5 bar



For vacuum - N.C.
Pump 1
Outlet port 2
Exhaust port 3



Bistable for vacuum with quick exhaust - G1"

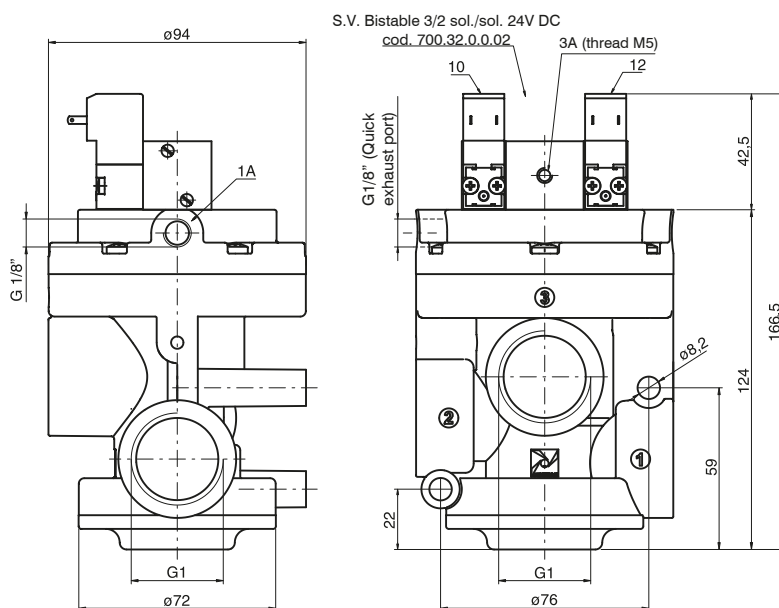
Coding: T771/VS.32.0.1.BP

Operational characteristics

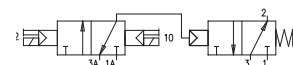
Fluid	Vacuum
Minimum piloting pressure (bar)	2,5
Temperature °C	-5 ÷ +50
Orifice size (mm)	25
Working ports size	G1"
Pilot ports size	G1/8"



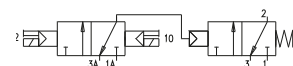
Weight 680 g



For vacuum - N.O.
Pump 3
Outlet port 2
Outlet port 1



For vacuum - N.C.
Pump 1
Outlet port 2
Exhaust port 3





Series PVA - Pad valve for air 2/2

General

Pad Valves offer a reliable and economic solution to fluid control. The valve is manufactured with a 2 way Bronze body and actuated pneumatically using either a single or double acting compact cylinder which can be rotated 360°.

Versions are available with NBR, FPM or PTFE valve seals.

The barrel profile allows the use of magnetic sensors code "1500._", "RS._", "HS._", for slots "A" type. (see the Pneumax General catalogue, chapter 3).

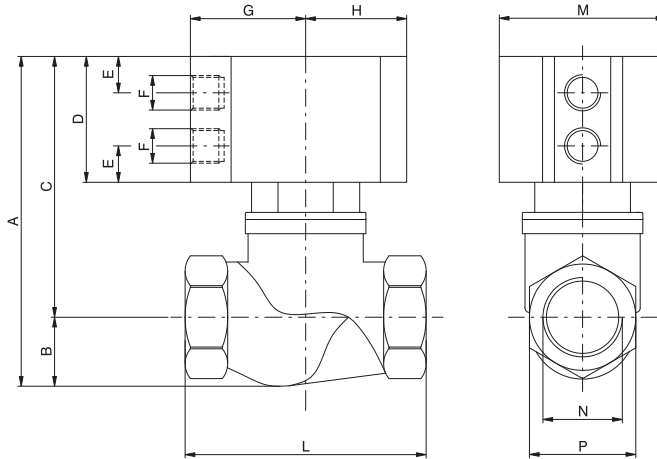
Construction characteristics

Bushing, Bushing pad, Nut pad	Brass
Cylinder	Aluminium alloy Anodized
Rear eye, Piston and Rod bushing	Anodized aluminium
Seals in contact with fluid	NBR, FPM, PTFE
Pneumatic cylinder seals	NBR, FPM, PTFE
Springs	Zinc plated steel
Piston rod	Chromed stainless steel

Technical characteristics

Pneumatic cylinder fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Valve fluid	Fluid compatible with gasket compounds available
Working pressure (Cylinder) (bar)	10
Temperature °C, non magnetic piston, NBR seals	-10 / + 70
Temperature °C, non magnetic piston, FPM seals	-10 / + 150
Temperature °C, non magnetic piston, PTFE seals	-10 / + 150
Temperature °C, magnetic piston,, NBR, FPM, PTFE seals	-10 / + 70

"T" body version Pad valves

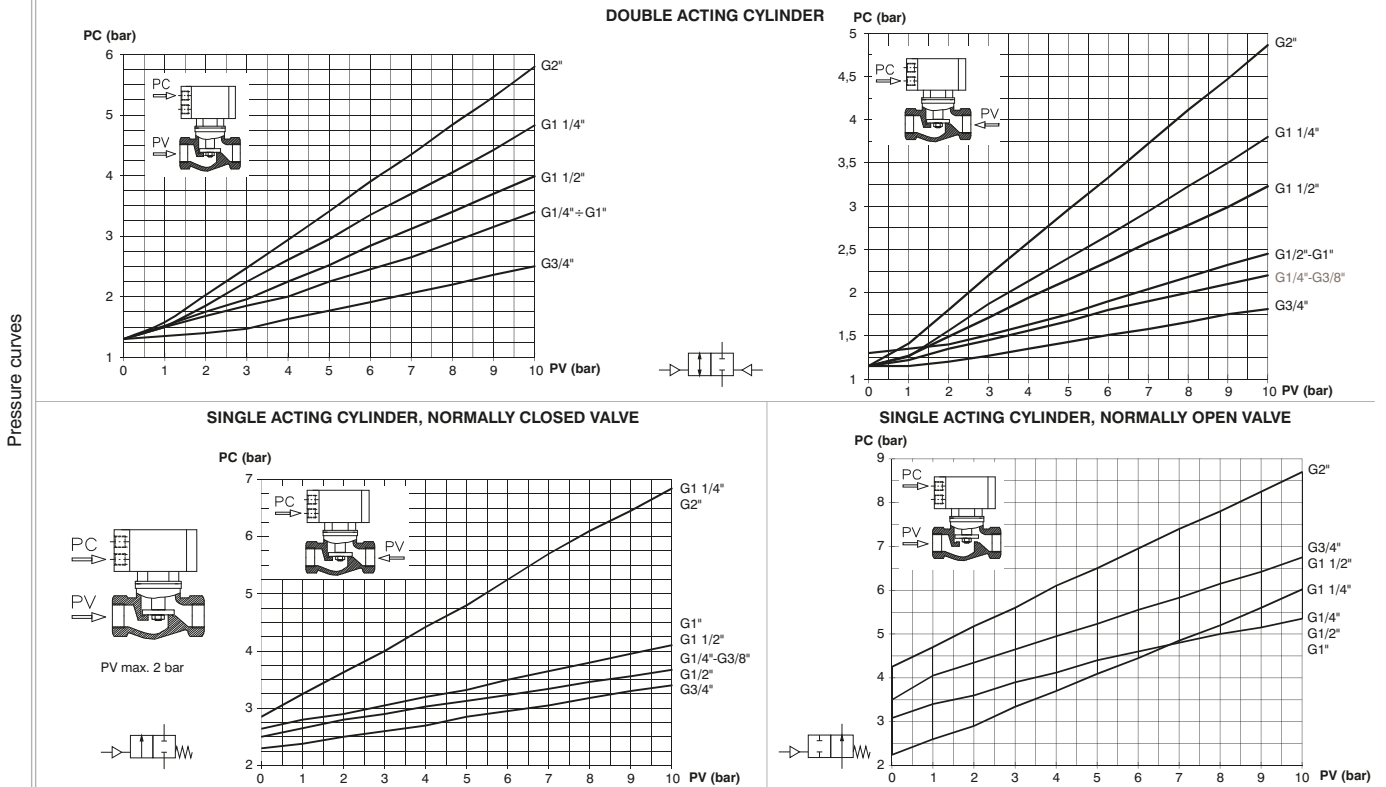


Ordering code	
PVA.B.A.P.T.C.S	
ACTING	
A	DE=Double acting SC=Normally closed SA=Normally OPEN
PISTON	
P	N=Non magnetic M= Magnetic
CONNECTIONS	
C	A=G1/4" B=G3/8" C=G1/2" D=G3/4" E=G1" F=G1 1/4" G=G1 1/2" H=G2"
SEALS	
S	N=NBR V=FPM F=PTFE

TABLE OF DIMENSIONS

Connection (N)	Non magnetic version			Magnetic version			TECHNICAL DATA										
	A	C	D	A	C	D	B	E	F	G	H	L	M	P	Actuator (Ø)	Nominal Valve (Ø)	Weight (gr.)
G1/4"	93,5	77,5	41	97,5	81,5	45	16	10,25	G1/8"	32,5	28,5	64	47	25	Ø40	Ø13,5	350
G3/8"	93,5	77,5	41	97,5	81,5	45	16	10,25	G1/8"	32,5	28,5	64	47	25	Ø40	Ø13,5	350
G1/2"	93,5	78	41	99,5	82	45	17,5	10,25	G1/8"	32,5	28,5	68	47	30	Ø40	Ø15	400
G 3/4"	105	83	41	113	90	48	22	11,25	G1/8"	44	40	79	70	36	Ø63	Ø20,5	850
G1"	117	89	41	125	101	53	28	11,25	G1/8"	44	40	94	70	44	Ø63	Ø25	1100
G1 1/4"	131	103	48	136	108	53	28	11,25	G1/8"	44	40	110	70	55	Ø63	Ø30	1400
G1 1/2"	154	118	57	166	130	69	36	13,75	G1/8"	56	49	120	90	60	Ø80	Ø38	2100
G2"	169	124	57	181	136	69	45	13,75	G1/8"	56	49	140	90	73	Ø80	Ø49,5	3000

Pad valves, 2-ways, are a reliable and economic solution to control fluid. Pneumatically actuated by a compact double or single acting cylinder with 360° revolving connections. Standard seals in contact with fluid are made in NBR, FPM or PTFE. The barrel profile allows the use of Pneumax magnetic sensors series 1500 (see the Sensors Section).



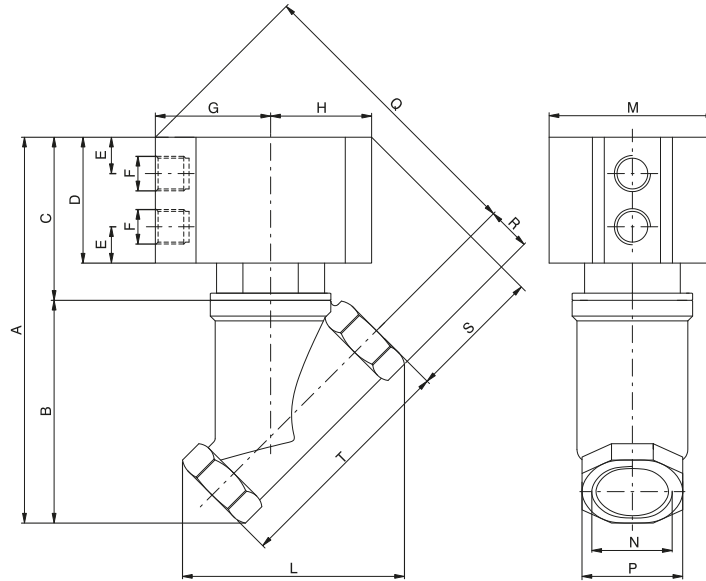
Operational characteristics

- Rear eye, Piston and Rod bushing = Anodized aluminium
- Cylinder = Aluminium alloy Anodized
- Spring = Zinc plated steel
- Seals = NBR, FPM, PTFE
- Piston rod = Chromed stainless steel
- Bushing, Bushing pad, Nut pad = Brass

Technical characteristics

Fluid	Filtered air.
Maximum working pressure (bar)	No lubrication needed, if applied it shall be continuous.
Temperature °C (non magnetic piston, NBR seals)	-5 / + 70
Temperature °C (non magnetic piston, FPM seals)	-10 / + 150
Temperature °C (non magnetic piston, PTFE seals)	-5 / + 150
Temperature °C (magnetic piston, NBR, FPM, PTFE seals)	-10 / + 70

"Y" body version Pad valves

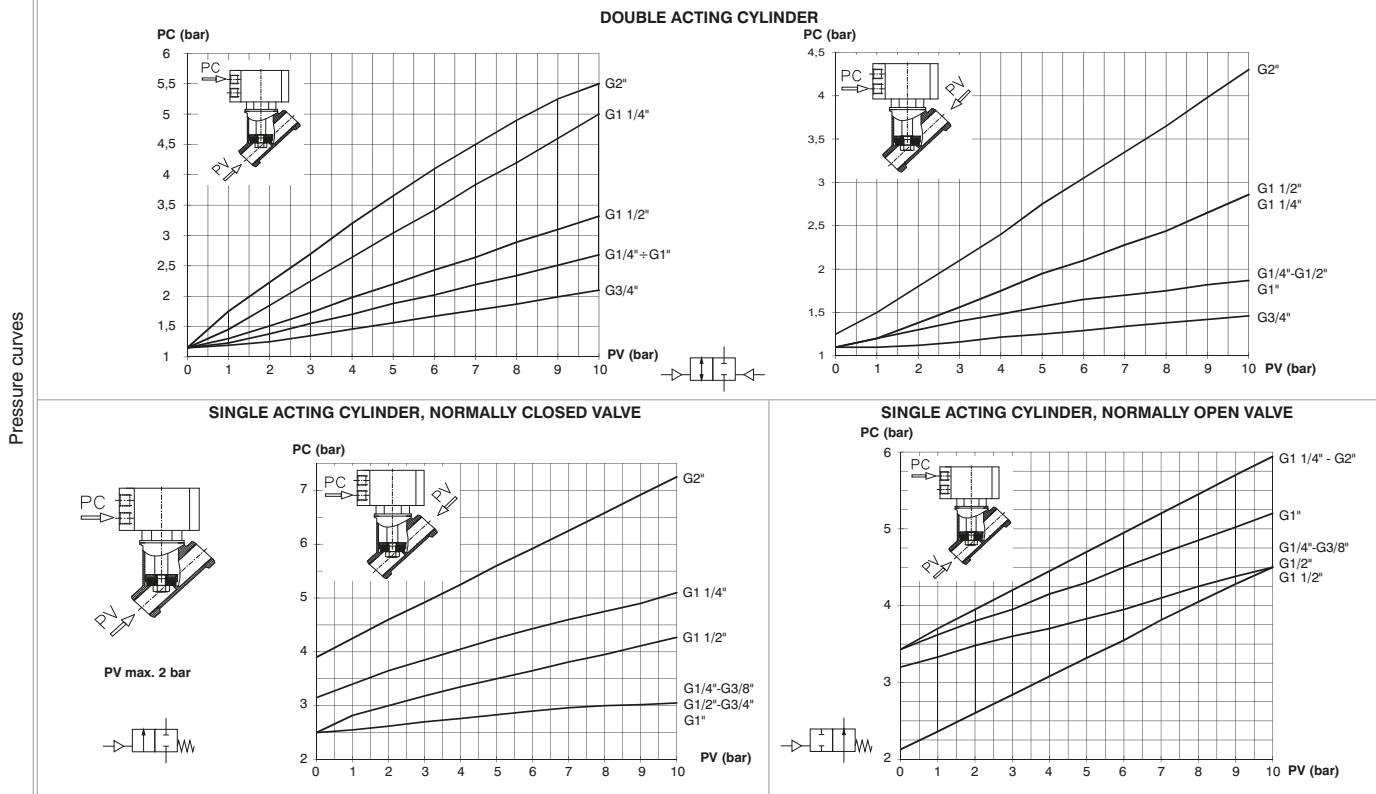


Ordering code	
PVA.B.A.P.Y.C.S	
ACTING	
A	DE=Double acting
	SC=Normally closed
	SA=Normally OPEN
PISTON	
P	N=Non magnetic
	M= Magnetic
CONNECTIONS	
C	A=G1/4"
	B=G3/8"
	C=G1/2"
	D=G3/4"
	E=G1"
	F=G1 1/4"
	G=G1 1/2"
	H=G2"
SEALS	
S	N=NBR
	V=FPM
	F=PTFE

TABLE OF DIMENSIONS

Connection (N)	Non magnetic version			Magnetic version			TECHNICAL DATA										
	A	C	D	A	C	D	B	E	F	G	H	L	M	P	Actuator (Ø)	Nominal Valve (Ø)	Weight (gr.)
G1/4"	93,5	77,5	41	97,5	81,5	45	16	10,25	G1/8"	32,5	28,5	64	47	25	Ø40	Ø13,5	350
G3/8"	93,5	77,5	41	97,5	81,5	45	16	10,25	G1/8"	32,5	28,5	64	47	25	Ø40	Ø13,5	350
G1/2"	93,5	78	41	99,5	82	45	17,5	10,25	G1/8"	32,5	28,5	68	47	30	Ø40	Ø15	400
G 3/4"	105	83	41	113	90	48	22	11,25	G1/8"	44	40	79	70	36	Ø63	Ø20,5	850
G1"	117	89	41	125	101	53	28	11,25	G1/8"	44	40	94	70	44	Ø63	Ø25	1100
G1 1/4"	131	103	48	136	108	53	28	11,25	G1/8"	44	40	110	70	55	Ø63	Ø30	1400
G1 1/2"	154	118	57	166	130	69	36	13,75	G1/8"	56	49	120	90	60	Ø80	Ø38	2100
G2"	169	124	57	181	136	69	45	13,75	G1/8"	56	49	140	90	73	Ø80	Ø49,5	3000

Pad valves, 2-ways, are a reliable and economic solution to control fluid. Pneumatically actuated by a compact double or single acting cylinder with 360° revolving connections. Standard seals in contact with fluid are made in NBR, FPM or PTFE. The barrel profile allows the use of Pneumax magnetic sensors series 1500 (see the Sensors Section).



Operational characteristics

- Rear eye, Piston and Rod bushing = Anodized aluminium
- Cylinder = Aluminium alloy Anodized
- Spring = Zinc plated steel
- Seals = NBR, FPM, PTFE
- Piston rod = Chromed stainless steel
- Bushing, Bushing pad, Nut pad = Brass

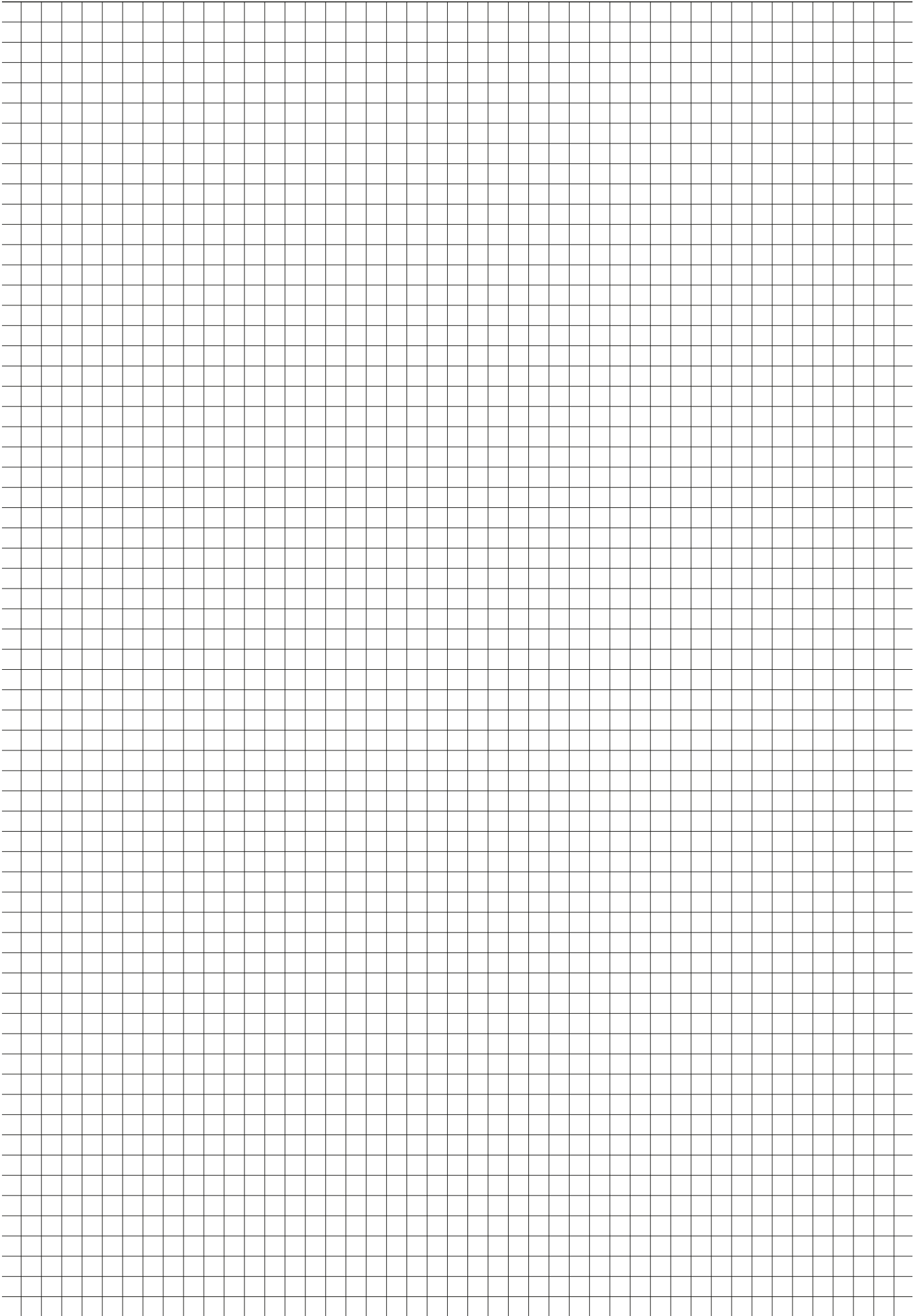
Technical characteristics

Fluid	Filtered air.
Maximum working pressure (bar) 10	No lubrication needed, if applied it shall be continuous.
Temperature °C (non magnetic piston, NBR seals) -5 / + 70	10
Temperature °C (non magnetic piston, FPM seals) -5 / + 150	-10 / + 70
Temperature °C (non magnetic piston, PTFE seals) -5 / + 150	-10 / + 150
Temperature °C (magnetic piston, NBR, FPM, PTFE seals)	-10 / + 150
	-10 / + 70



1

AIR DISTRIBUTION



F300 Series, Solenoid valves for fluids

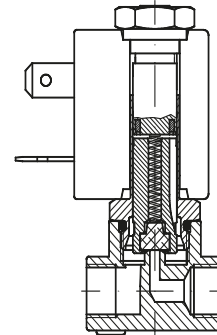
General details

PNEUMAX offer a vast range of solenoid valves in brass and stainless steel designed to control air, water, steam and all fluids that are compatible with the materials (body and seals) used in the range. The solenoid valves are 2 or 3-way, normally closed, normally open, general service, direct acting or servo-actuated, with connections available in NPT & BSP threads from G1/8" up to G2", with a working pressure range from vacuum to 100 bar. Solenoid valves are available with coils that conform to CESA 03 ATEX 344 certification for explosive environments. Our technical office ensures the highest standard of skill and understanding for the widest variety of applications, ensuring that the best possible solutions are found.

Versions manufactured

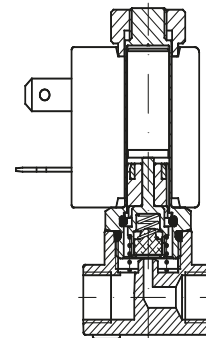
Direct action 2-way: 2-way solenoid valves have an input connection and an output connection machined in the valve body, the orifice being intercepted by the plunger mounted in the core tube.

They can be **normally closed (2/2 NC)**, in this case the fluid is intercepted by the plunger at rest, with electricity applied, the input orifice is opened and the media reaches the intended use.



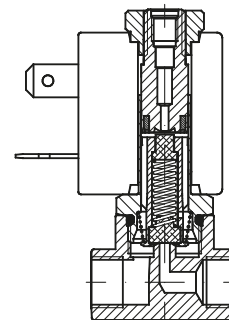
They can be **normally open (2/2 NO)**, in this case at rest the orifice remains open without electricity applied, the media reaches the intended use. When electricity is applied the input orifice closes.

Performance in both cases depends solely on the magnetic field produced by the solenoid coil.
The solenoid valves can also work at zero pressure.



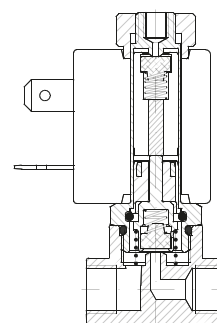
Direct action 3-way: 3-way solenoid valves have an input and an output connection in the valve body and an exhaust connection fitted in the fixed core. The input and exhaust orifices are intercepted directly by the plunger fitted within the core tube.

They can be **normally closed (3/2 NC)** and in this case, at rest, the incoming fluid is intercepted by the plunger and output port is connected to the exhaust port. Applying electrical power, the input orifice is opened and feed is supplied to the output. Exhaust is closed.



They can be **normally open (3/2 NA)** and in this case, at rest, the input orifice is open without electricity applied, the media reaches the intended use. Exhaust is closed. Applying power, the input orifice closes and the output discharges through the exhaust port.

Performance in both cases depends solely on the magnetic field produced by the solenoid coil.
The solenoid valves can also work at zero pressure.



Servo actuated

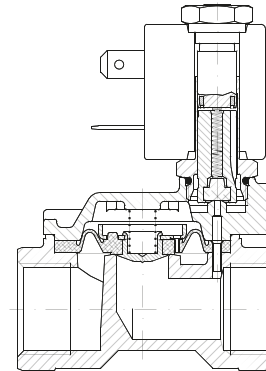
With large-sized passage orifices, the static pressure value that needs to be overcome by the magnetic field produced by the coil increases.

These solenoid valves are used to control high-pressure values with large diameter bores. In these models, the fluid helps in the opening or closing of the main plunger.

They can be normally closed (2/2 NC) and have an input and a utilisation connection machined into the valve body and at rest the fluid is intercepted by the main plunger, which can be either diaphragm or a piston. In this condition, the fluid acts on both faces of the main plunger through a pinhole contributing to closure of the plunger.

Applying electrical power, the secondary, or pilot, orifice opens leading to the exhaust of the fluid, which acts to close the main plunger. Greater force is thus applied when opening, the plunger is raised from the orifice and allows the media to flow to the output.

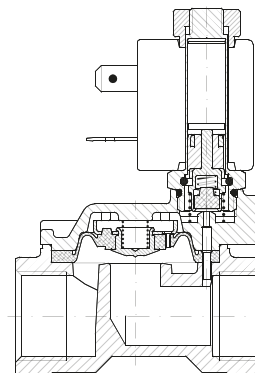
In these versions, performance does not depend solely on the magnetic field produced by the coil; a minimum input pressure is also needed so as to move the diaphragm or the piston overcoming its rigidity and to keep it raised from the main orifice. (Δp minimum performance).



They can be **normally open (2/2 NA)**, and have an input and output connection machined into the valve body, and at rest the secondary plunger communicates with output, a minimum-pressure difference between the feed and the output causes the main shutter to rise, leading to it opening.

Applying electrical power, the secondary orifice closes and equilibrium between the pressure on the two faces of the main shutter is reinstated, and so it returns to its closed position on the main orifice.

In this version a minimum working pressure is also needed.



Sealing materials

Designation	Trade names	General characteristics	Field of use
FPM (Fluorocarbon)	VITON TECNOFLO FLUOREL	A synthetic hexa-fluoropropylene-based elastomer. Excellent resistance to high temperatures. Excellent resistance to ozone, oxygen, mineral oils, hydrocarbons and many chemical products. Not specific for superheated steam.	For general use up to 130 °C

1 AIR DISTRIBUTION

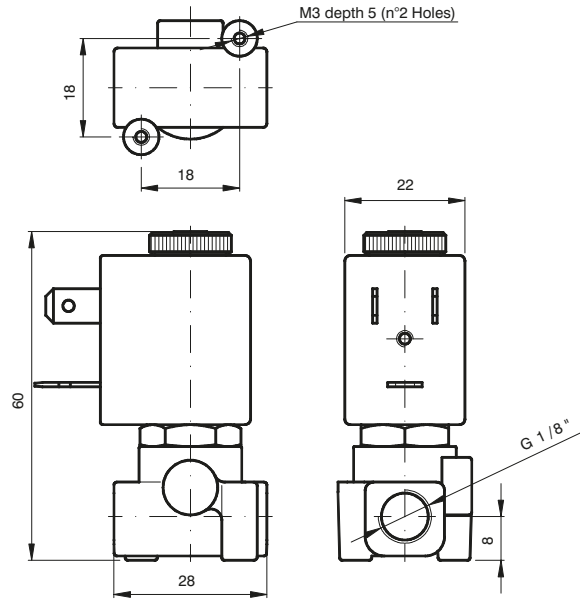


Resistance to fluids

The table below serves to general information relating to the compatibility between FPM (fluorocarbon) and a number of neutral fluids. Where there are corrosive fluids, in order to establish compatibility, it is important to be aware of all the data relating to use: temperature, concentration and composition of the fluid.

Fluido	
Ethyl acetate	Non Compatible
Acetylene	Compatible
Vinegar	Non Compatible
Acetone	Non Compatible
Calcareous water	Compatible
Hot water <75°C	Compatible
Hot water and steam <140°C	Non Compatible
Water with glycol	Compatible
Deionised water	Compatible
Demineralised water	Compatible
Hydrogen peroxide	Compatible
Soapy water	Compatible
Carbon dioxide (liquid)	Non Compatible
Dry carbon dioxide (gas)	Compatible
Argon	Compatible
Nitrogen	Compatible
Petrol/Gasoline	Compatible
Benzol	Non Compatible
Butane	Compatible
Chloroform	Non Compatible
Ethyl Chloride	Compatible
Methyl chloride	Non Compatible
Helium	Compatible
Heptane	Compatible
Hexane	Compatible
Ethane	Compatible
Ethanol	Non Compatible
Formaldehyde	Compatible
Freon	Non Compatible
Natural gas	Compatible
Diesel oil	Compatible
Glycerine	Compatible
Ethylene glycol	Compatible
Hydrogen	Compatible
Isobutane	Compatible
Isopentane	Compatible
Methane	Compatible
Methanol	Non Compatible
Calcium monoxide	Compatible
Neon	Compatible
Nitrobenzene	Non Compatible
Mineral oil	Compatible
Oxygen	Compatible
Pentane-n	Compatible
Propanol-n	Compatible
Propane-n	Compatible
Carbon sulphide	Non Compatible
Toluene	Compatible
Dry trichloroethylene	Compatible
Xylene	Compatible

▶ 2-way solenoid normally closed valve, direct plunger operation

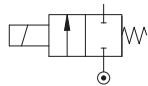


CODE	Connection G ISO 228	Orifice (mm)	KV (m ³ /h)	Differential pressure (bar)			Power Consumption			Coil Ⓢ		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
					AC	DC						
F3105AV25Ⓢ	1/8"	2,5	0,14	0	8	5,5	12	8	6,5	MI	22	-10 +130

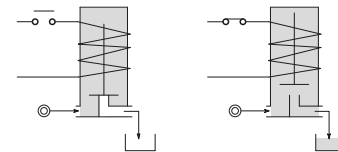
N.B. For use with steam, maximum admitted pressure PS is 6 bar (relative pressure) with seals in FPM
Esempio: F3105AV25Ⓢ => F3105AV25MI58:

2-way normally closed, direct acting solenoid valve with G connector (ISO228) 1/8", Seals in FPM, Orifice 2,5 mm, Coil 220V 50/60Hz (MI58, size 22).

Pneumatic symbol



Diagram



Operational characteristic

- Brass Body
- Guide pipe in Brass
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

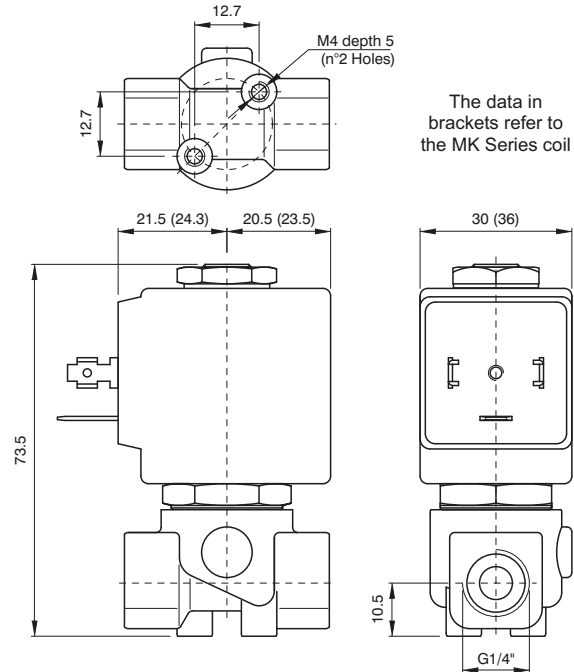
- OPTIONS (if requested):

- Manual operation
- Surface treatment in chemical nickel-plating
- Guide pipe in Stainless Steel
- For use with oxygen

Technical characteristic

Maximum admitted pressure (bar)	50
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Mounting position	indifferent
Weight (gr.) with MI Series Coil	130

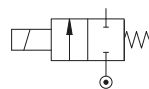
► 2-way solenoid normally closed valve, direct plunger operation



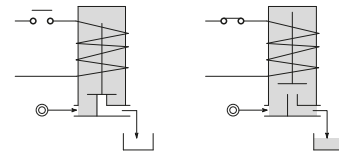
CODE "V" = Seals in FPM "E" = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)			Power Consumption			Coil E		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
					AC	DC						
F3106BV15E	1/4"	1,5	0,07	0	30	26	20	15	10	MG	30	-10 +140
F3106BV20E	1/4"	2,0	0,1	0	22	20	20	15	10	MG	30	
F3106BV25E	1/4"	2,5	0,15	0	16	14	20	15	10	MG	30	
F3106BV35E	1/4"	3,5	0,32	0	10	8	20	15	10	MG	30	
F3106BV45E	1/4"	4,5	0,41	0	6,5	3,5	20	15	10	MG	30	
F3106BV52E	1/4"	5,2	0,47	0	4	1,8	20	15	10	MG	30	
F3106BV64E	1/4"	6,4	0,64	0	3	1	20	15	10	MG	30	
F3106BV15E	1/4"	1,5	0,07	0	80	80	40	30	27	MK	36	
F3106BV20E	1/4"	2,0	0,1	0	50	40	40	30	27	MK	36	
F3106BV25E	1/4"	2,5	0,15	0	35	33	40	30	27	MK	36	
F3106BV35E	1/4"	3,5	0,32	0	20	19	40	30	27	MK	36	
F3106BV45E	1/4"	4,5	0,41	0	14	13	40	30	27	MK	36	
F3106BV52E	1/4"	5,2	0,47	0	10	9	40	30	27	MK	36	
F3106BV64E	1/4"	6,4	0,64	0	5	4,5	40	30	27	MK	36	

N.B. For use with steam, maximum admitted pressure PS is 6 bar (relative pressure) with seals in PTFE and 2.5 bar with seals in EPDM.
Example: F3106BV52E => F3106BV52MG58:
2-way normally closed, direct acting solenoid valve with G connector (ISO228) 1/4", Seals in FPM, Orifice 5.2 mm, Coil 220V 50/60Hz (MG58, size 30).

Pneumatic symbol



Diagram



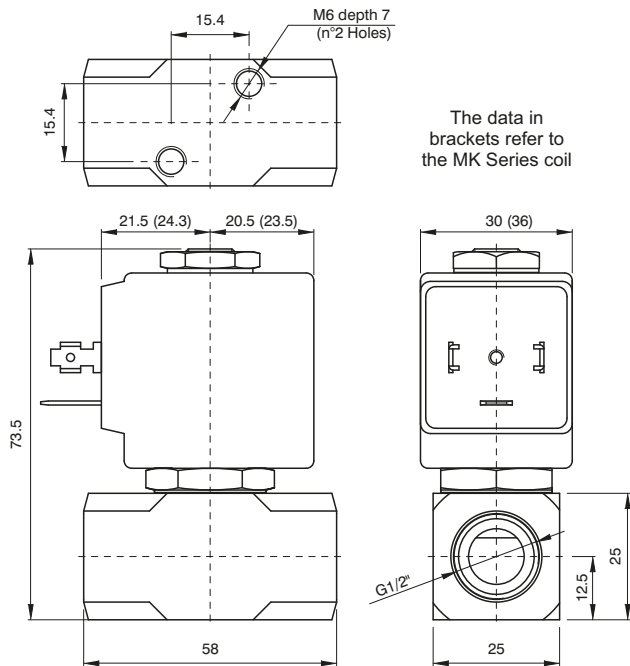
Operational characteristic

- Brass Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM
- **OPTIONS (if requested):**
 - Manual operation
 - Surface treatment in chemical nickel-plating
 - Inserted stainless steel seating
 - For use with oxygen

Technical characteristic

Maximum admitted pressure (bar)	80
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	indifferent
Weight (gr.) with MG Series Coil	300
Weight (gr.) with MK Series Coil	380

2-way solenoid normally closed valve, direct plunger operation



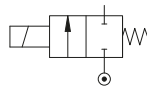
CODE "V"=Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)			Power Consumption			Coil ⊕		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
					AC	DC						
F3106DV45⊕	1/2"	4,5	0,41	0	6,5	3,5	20	15	10	MG	30	-10 +140
F3106DV52⊕	1/2"	5,2	0,47	0	4	1,8	20	15	10	MG	30	
F3106DV64⊕	1/2"	6,4	0,64	0	3	1	20	15	10	MG	30	
F3106DV45⊕	1/2"	4,5	0,41	0	14	13	40	30	27	MK	36	
F3106DV52⊕	1/2"	5,2	0,47	0	10	9	40	30	27	MK	36	
F3106DV64⊕	1/2"	6,4	0,64	0	5	4,5	40	30	27	MK	36	

N.B. For use with steam, maximum admitted pressure PS is 6 bar (relative pressure) with seals in PTFE and 2.5 bar with seals in EPDM.

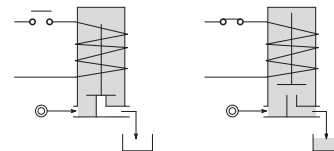
Example: F3106DV52⊕ => F3106DV52MK5:

2-way normally closed, direct acting solenoid valve with G connector (ISO228) 1/2", Seals in FPM, Orifice 5.2 mm, Coil 24V DC (MK5, size 36).

Pneumatic symbol



Diagram



Operational characteristic

- Brass Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

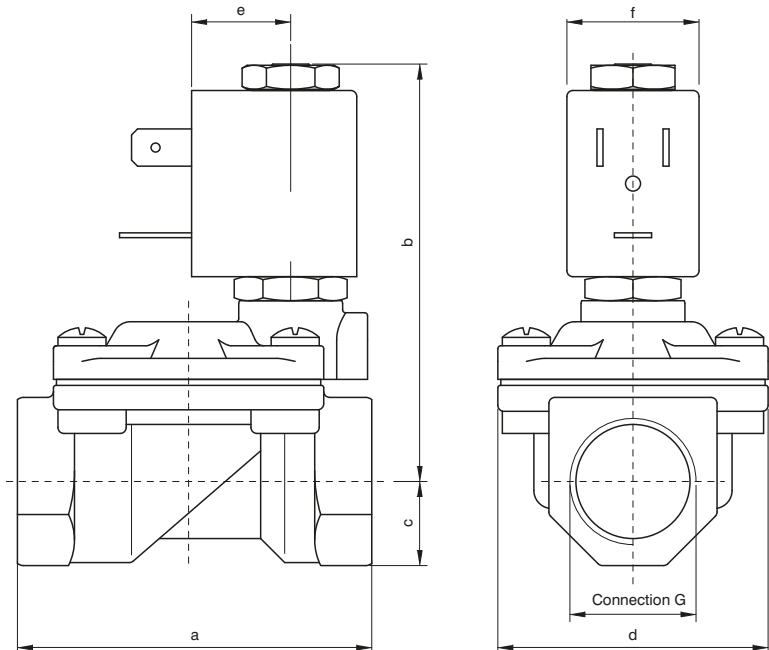
- OPTIONS (if requested):

- Manual operation
- Surface treatment in chemical nickel-plating
- For use with oxygen

Technical characteristic

Maximum admitted pressure (bar)	80
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	indifferent
Weight (gr.) with MG Series Coil	300
Weight (gr.) with MK Series Coil	380

► 2-Way normally closed solenoid valve, servo-actuated diaphragm



Connection	a	b	c	d	e	f	Weight (g)
G1/4" Ø10	49	65	11	32	16	22	230
G3/8" Ø12	59	70	14	45	16	22	420
G1/2" Ø12	59	70	14	45	16	22	390
G3/4"	79	76	18	55	16	22	650
G1"	96	85	20	72	16	22	1050
G1" 1/4	119	92	25	85	16	22	1700

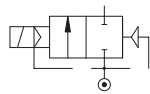
CODE "V" = Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)			Power Consumption			Coil ⊕		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
					AC	DC						
F3107BV10⊕	1/4"	10	1,5	0,15	15	15	12	8	6,5	MI	22	-10 +140
F3107CV12⊕	3/8"	12	2,2	0,15	15	15	12	8	6,5	MI	22	
F3107DV12⊕	1/2"	12	2,5	0,15	15	15	12	8	6,5	MI	22	
F3107EV18⊕	3/4"	18	5,5	0,15	13	13	12	8	6,5	MI	22	
F3107FV25⊕	1"	24	10,2	0,15	10	10	12	8	6,5	MI	22	
F3107GV30⊕	1"1/4	30	15	0,15	10	10	12	8	6,5	MI	22	

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)

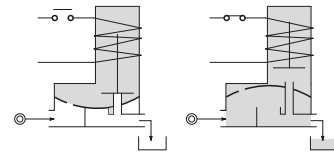
Example: F3107BV10⊕ => F3107BV10MI5:

2-Way normally closed solenoid valve, servo-actuated diaphragm with Connector G (ISO228) 1/4", Seals in FPM, Orifice 10 mm, Coil 24V DC (MI5, size 22).

Pneumatic symbol



Diagram



Operational characteristic

- Body and cover in Brass
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

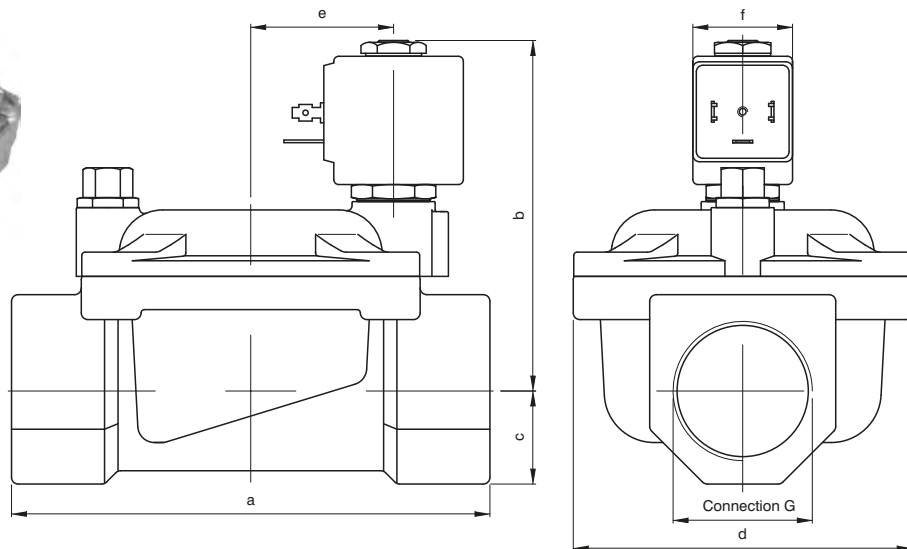
- OPTIONS (if requested):

- Manual operation
- Surface treatment in chemical nickel-plating
- Coil for potentially explosive environments meeting 'ATEX standards Ex m Serie XME'.
- Version with slowed commutation
- Version for vacuum (air/gas)
- Version for use with oxygen
- "SVGW/SSIGE" approved versions.

Technical characteristic

Minimum differential pressure (bar)	0,15
Maximum admitted pressure (bar)	25
Maximum fluid viscosity (mm²/s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	Preferably with coil upwards

2-Way normally closed solenoid valve, servo-actuated diaphragm



Connection	a	b	c	d	e	f	Weight (g)
G1" 1/4	142	105	28	102	21	30	3000
G1" 1/2	142	105	28	102	21	30	2850
G2"	158	115	35	119	21	30	4300

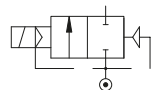
CODE "V"=Seals in FPM "C" = Coil	Connection G ISO 228	Orifice (mm)	KV (m ³ /h)	Differential pressure (bar)			Power Consumption			Coil "C"		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
					AC	DC						
F3107GV37"V	1 1/4"	37	18	0,15	10	10	20	15	10	MG	30	-10 +140
F3107HV37"V	1" 1/2"	37	21	0,15	10	10	20	15	10	MG	30	
F3107IV50"V	2"	50	36	0,15	10	10	20	15	10	MG	30	

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)

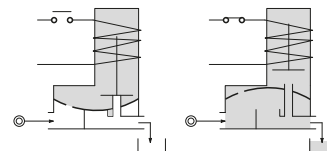
Example: F3107GV37"V => F3107GV37MG5:

2-Way normally closed solenoid valve, servo-actuated diaphragm with Connector G (ISO228) 1" 1/4", Seals in FPM, Orifice 37 mm, Coil 24V DC (MG5, size 30).

Pneumatic symbol



Diagram



Operational characteristic

- Body and cover in Brass
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

- OPTIONS (if requested):

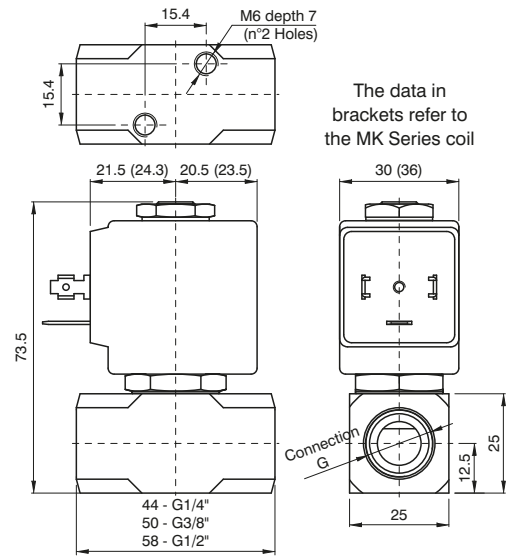
- Manual operation
- Surface treatment in chemical nickel-plating
- Version for vacuum (air/gas)

Technical characteristic

Minimum differential pressure (bar)	0,15 ÷ 3
Maximum admitted pressure (bar)	80
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	Preferably with coil upwards



► 2-way solenoid normally closed valve, direct plunger operation



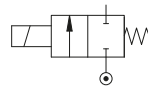
CODE "V"=Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)			Power Consumption			Coil ⊕		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
					AC	DC						
F3110BV25⊕	1/4"	2,5	0,15	0	16	14	20	15	10	MG	30	-10 +140
F3110BV35⊕	1/4"	3,5	0,32	0	10	8	20	15	10	MG	30	
F3110BV45⊕	1/4"	4,5	0,41	0	6,5	3,5	20	15	10	MG	30	
F3110CV35⊕	3/8"	3,5	0,32	0	10	8	20	15	10	MG	30	
F3110CV52⊕	3/8"	5,2	0,47	0	4	1,8	20	15	10	MG	30	
F3110DV35⊕	1/2"	3,5	0,32	0	10	8	20	15	10	MG	30	
F3110DV52⊕	1/2"	5,2	0,47	0	4	1,8	20	15	10	MG	30	
F3110DV64⊕	1/2"	6,4	0,64	0	3,5	1	20	15	10	MG	30	
F3110BV25⊕	1/4"	2,5	0,15	0	35	33	40	30	27	MK	36	
F3110BV35⊕	1/4"	3,5	0,32	0	20	19	40	30	27	MK	36	
F3110BV45⊕	1/4"	4,5	0,41	0	14	13	40	30	27	MK	36	
F3110CV35⊕	3/8"	3,5	0,32	0	20	19	40	30	27	MK	36	
F3110CV52⊕	3/8"	5,2	0,47	0	10	9	40	30	27	MK	36	
F3110DV35⊕	1/2"	3,5	0,32	0	20	19	40	30	27	MK	36	
F3110DV52⊕	1/2"	5,2	0,47	0	10	9	40	30	27	MK	36	
F3110DV64⊕	1/2"	6,4	0,64	0	5	4,5	40	30	27	MK	36	

N.B. For use with steam, maximum admitted pressure PS is 6 bar (relative pressure)

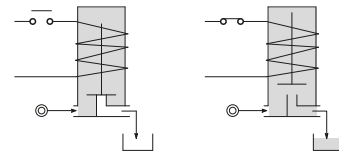
Example: F3110BV25⊕ => F3110BV25MG5:

2-way solenoid normally closed valve, direct plunger operation with Connector G (ISO228) 1/4", Seals in FPM, Orifice 2,5 mm, Coil 24V DC (MG5, size 30).

Pneumatic symbol



Diagram



Operational characteristic

- Stainless Steel Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

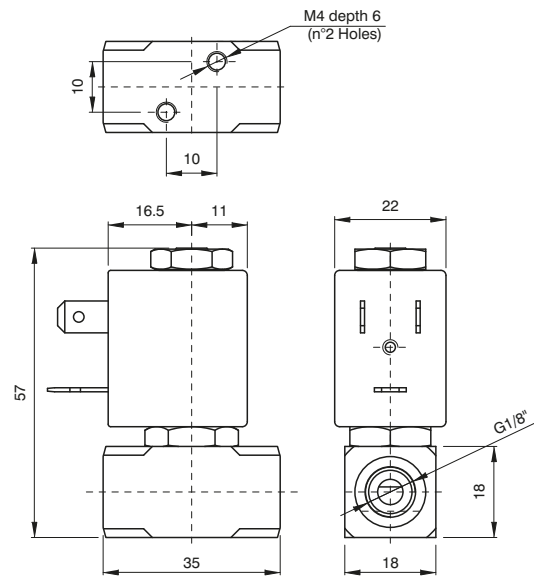
- OPTIONS (if requested):

- Manual operation
- Advance ring in silver
- For use with oxygen

Technical characteristic

Maximum admitted pressure (bar)	100
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	indifferent
Weight (gr.) with MG Series Coil	360
Weight (gr.) with MK Series Coil	440

► 2-way solenoid normally closed valve, direct plunger operation



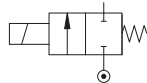
CODE "V" = Seals in FPM "E" = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)				Power Consumption			Coil "E"		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size		
					AC	DC							
F3111AV12E	1/8"	1,2	0,04	0	25	25	12	8	6,5	MI	22	-10 +140	
F3111AV15E	1/8"	1,5	0,06	0	16	16	12	8	6,5	MI	22		
F3111AV20E	1/8"	2	0,09	0	12	10	12	8	6,5	MI	22		

N.B. For use with steam, maximum admitted pressure PS is 6 bar (relative pressure)

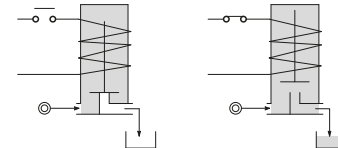
Example: F3111AV12E => F3111AV12MI56:

2-way solenoid normally closed valve, direct plunger operation with Connector G (ISO228) 1/8", Seals in FPM, Orifice 1,2 mm, Coil 24V 50/60Hz (MI56, size 22).

Pneumatic symbol



Diagram



Operational characteristic

- Stainless Steel Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

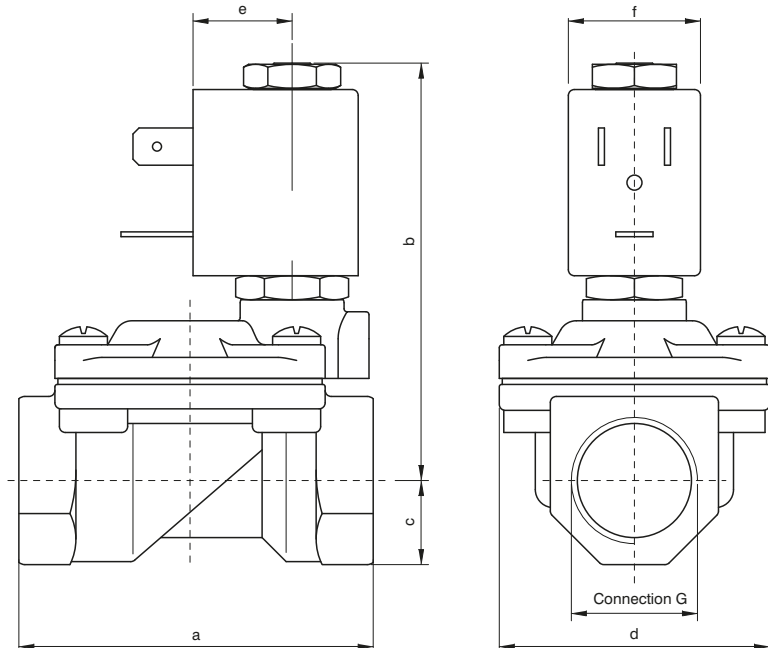
- OPTIONS (if requested):

- Advance ring in silver
- Coil for potentially explosive environments meeting 'ATEX standards Ex m Serie XME':
- For use with oxygen

Technical characteristic

Maximum admitted pressure (bar)	50
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	indifferent
Weight (g.)	150

► 2-way normally closed diaphragm solenoid valve in stainless steel AISI 316, servo-actuated



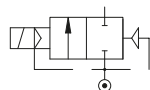
Connection	a	b	c	d	e	f	Weight (g)
G3/8"	59	70	11	45	16	22	300
G1/2"	59	70	13	45	16	22	320
G3/4"	80	75	16	55	16	22	550
G1"	100	84	20	72	16	22	950

CODE "V" = Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)			Power Consumption			Coil ⊕		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
					AC	DC						
F3177CV12⊕	3/8"	12	2,2	0,15	15	15	12	8	6,5	MI	22	-10 +140
F3177DV12⊕	1/2"	12	2,5	0,15	15	15	12	8	6,5	MI	22	
F3177EV18⊕	3/4"	18	5,5	0,15	13	13	12	8	6,5	MI	22	
F3177FV25⊕	1"	24	10,2	0,15	10	10	12	8	6,5	MI	22	

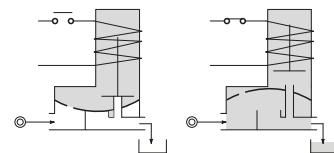
N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)
Example: F3177CV12⊕ => F3177CV12MI5:

2-way normally closed diaphragm solenoid valve in stainless steel AISI 316, servo-actuated with Connector G (ISO228) 3/8", Seals in FPM, Orifice 12 mm, Coil 24V DC (MI5, size 22).

Pneumatic symbol



Diagram



Operational characteristic

- Body and cover in Stainless Steel.
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

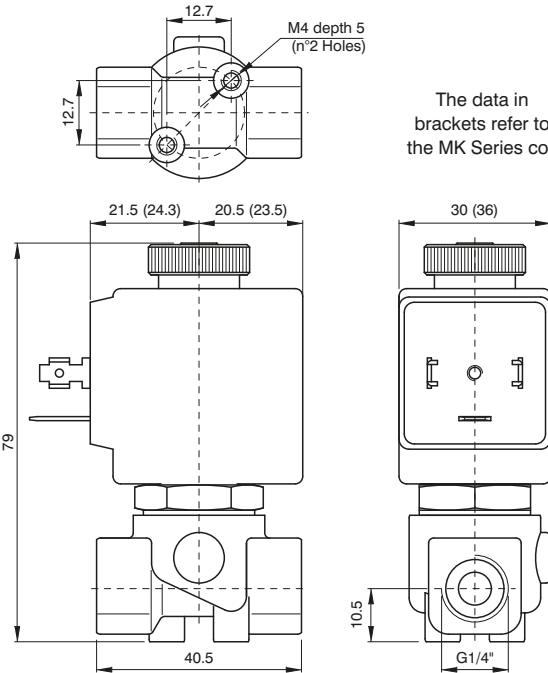
- OPTIONS (if requested):

- Manual operation
- Coil for potentially explosive environments meeting 'ATEX standards Ex m Serie XME'.
- Seals for use with foodstuff fluids.
- Version with slowed commutation
- Version for use with oxygen
- Advance ring in silver

Technical characteristic

Minimum differential pressure (bar)	0,15
Maximum admitted pressure (bar)	25
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	Preferably with coil upwards

► 2-way normally open with direct operated plunger solenoid valve



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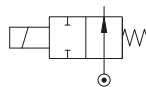
CODE "V"=Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)				Power Consumption			Coil ⊕		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size		
					AC	DC							
F3206BV15⊕	1/4"	1,5	0,07	0	23	-	20	15	-	MG	30	-10 +140	
F3206BV20⊕	1/4"	2,0	0,1	0	17	-	20	15	-	MG	30		
F3206BV25⊕	1/4"	2,5	0,15	0	12	-	20	15	-	MG	30		
F3206BV35⊕	1/4"	3,5	0,32	0	7	-	20	15	-	MG	30		
F3206BV45⊕	1/4"	4,5	0,41	0	4,5	-	20	15	-	MG	30		
F3206BV52⊕	1/4"	5,2	0,47	0	3	-	20	15	-	MG	30		
F3206BV15⊕	1/4"	1,5	0,07	0	23	23	20	15	-	MK	36		
F3206BV20⊕	1/4"	2,0	0,1	0	17	17	40	30	27	MK	36		
F3206BV25⊕	1/4"	2,5	0,15	0	12	12	40	30	27	MK	36		
F3206BV35⊕	1/4"	3,5	0,32	0	7	7	40	30	27	MK	36		
F3206BV45⊕	1/4"	4,5	0,41	0	4,5	4,5	40	30	27	MK	36		
F3206BV52⊕	1/4"	5,2	0,47	0	3	3	40	30	27	MK	36		
F3206BV64⊕	1/4"	6,4	0,64	0	3,5	3,5	40	30	27	MK	36		

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)

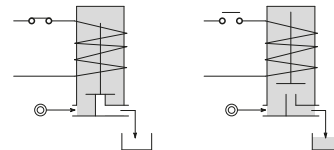
Example: F3206BV15⊕ => F3206BV15MG58:

2-way normally open with direct operated plunger solenoid valve with Connector G (ISO228) 1/4", Seals in FPM, Orifice 1,5 mm, Coil 220V 50/60Hz (MG58, size 30).

Pneumatic symbol



Diagram



Operational characteristic

- Brass Body.
- Guide pipe in Brass.
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

- OPTIONS (if requested):

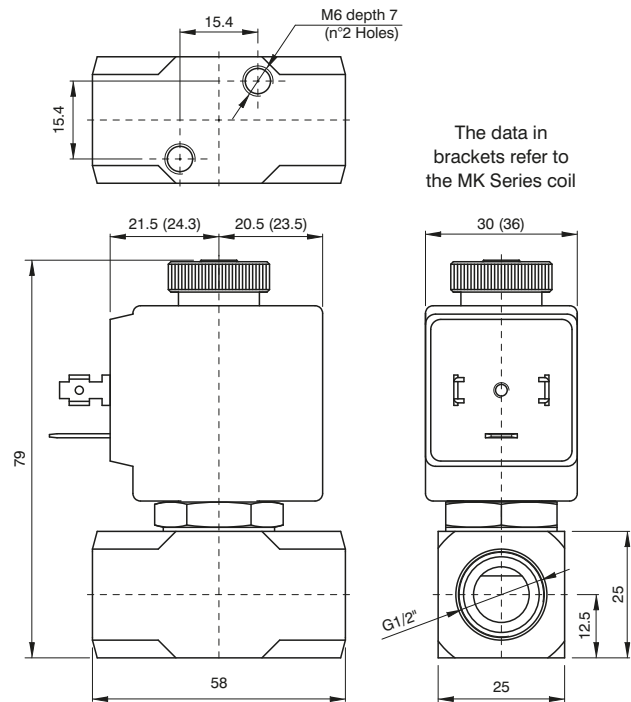
- Surface treatment in chemical nickel-plating
- Guide pipe in Stainless Steel

Technical characteristic

Maximum admitted pressure (bar)	50
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	indifferent
Weight (gr.) with MG Series Coil	300
Weight (gr.) with MK Series Coil	380



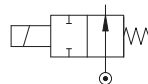
► 2-way normally open with direct operated plunger solenoid valve



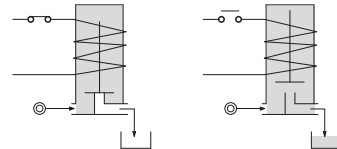
CODE "V"=Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)			Power Consumption			Coil ⊕		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
					AC	DC						
F3206DV52⊕	1/2"	5,2	0,47	0	3	-	20	15	-	MG	30	-10 +140
F3206DV52⊕	1/2"	5,2	0,47	0	3	3	40	30	27	MK	36	
F3206DV64⊕	1/2"	6,4	0,64	0	3,5	3,5	40	30	27	MK	36	

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)
Example: F3206DV30⊕ => F3206DV30MG58:
2-way normally open with direct operated plunger solenoid valve with Connector G (ISO228) 1/2", Seals in FPM, Orifice 3 mm, Coil) 220V 50/60Hz (MG58, size 30).

Pneumatic symbol



Diagram



Operational characteristic

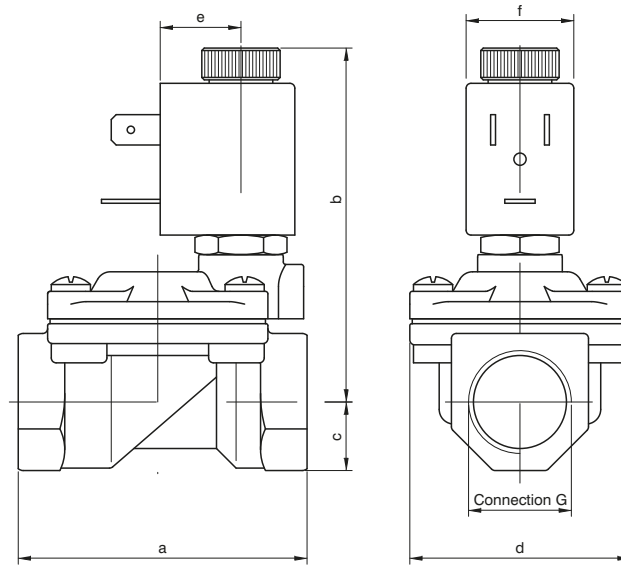
- Brass Body.
- Guide pipe in Brass.
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM
- **OPTIONS (if requested):**
- Surface treatment in chemical nickel-plating
- Guide pipe in Stainless Steel

Technical characteristic

Maximum admitted pressure (bar)	50
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	indifferent
Weight (gr.) with MG Series Coil	360
Weight (gr.) with MK Series Coil	440

1
AIR DISTRIBUTION

▶ 2-way normally open servo-actuated diaphragm solenoid valve



Connection	a	b	c	d	e	f	Weight (g)
G1/4" Ø10	49	69	11	32	16	22	230
G3/8" Ø10	49	69	11	32	16	22	240
G1/2" Ø12	59	74	14	45	16	22	390
G3/4"	79	81	18	55	16	22	650
G1"	96	89	20	72	16	22	1050

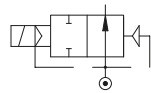
CODE "V"=Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)				Power Consumption			Coil ⊕		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size		
					AC	DC							
F3207BV10⊕	1/4"	10	1,5	0,15	15	15	12	8	6,5	MI	22	-10 +140	
F3207CV10⊕	3/8"	10	1,7	0,15	15	15	12	8	6,5	MI	22		
F3207DV12⊕	1/2"	12	2,5	0,15	15	15	12	8	6,5	MI	22		
F3207EV18⊕	3/4"	18	5,5	0,15	13	13	12	8	6,5	MI	22		
F3207FV25⊕	1"	24	10,2	0,15	10	10	12	8	6,5	MI	22		

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)

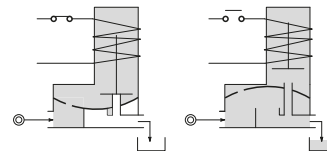
Example: F3207BV10⊕ => F3207BV10MI5.

2-way normally open servo-actuated diaphragm solenoid valve with Connector G (ISO228) 1/4", Seals in FPM, Orifice 10 mm, Coil 24V DC (MI5, size 22).

Pneumatic symbol



Diagram



Operational characteristic

- Body and cover in Brass
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

- OPTIONS (if requested):

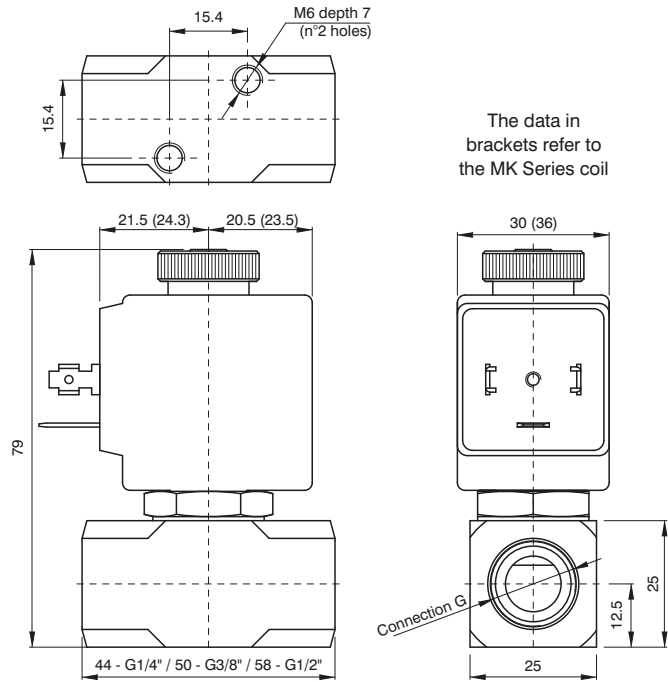
- Surface treatment in chemical nickel-plating
- Coil for potentially explosive environments meeting 'ATEX standards Ex m Serie XME'.

Technical characteristic

Minimum differential pressure (bar)	0,15
Maximum admitted pressure (bar)	25
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	indifferent



► 2-way normally open with direct operated plunger solenoid valve

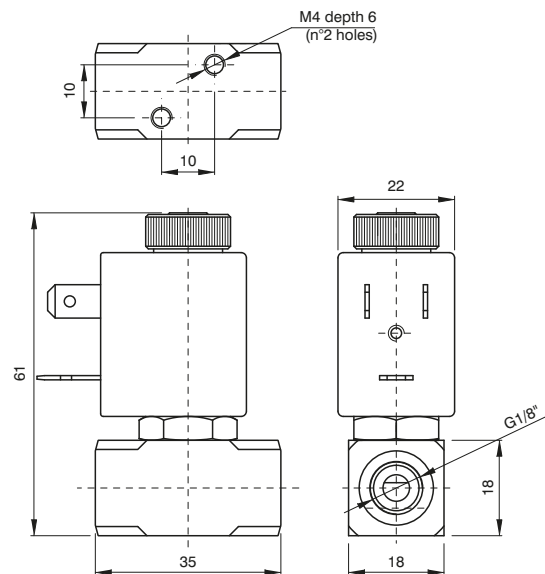


CODE "V" = Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)			Power Consumption			Coil ⊕		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
					AC	DC						
F3210BV25⊕	1/4"	2,5	0,15	0	10	-	20	15	-	MG	30	-10 +140
F3210BV35⊕	1/4"	3,5	0,32	0	7	-	20	15	-	MG	30	
F3210BV45⊕	1/4"	4,5	0,41	0	4,5	-	20	15	-	MG	30	
F3210CV35⊕	3/8"	3,5	0,32	0	7	-	20	15	-	MG	30	
F3210CV52⊕	3/8"	5,2	0,47	0	3	-	20	15	-	MG	30	
F3210DV35⊕	1/2"	3,5	0,32	0	7	-	20	15	-	MG	30	
F3210DV52⊕	1/2"	5,2	0,47	0	3	-	20	15	-	MG	30	
F3210BV25⊕	1/4"	2,5	0,15	0	10	10	40	30	27	MK	36	
F3210BV35⊕	1/4"	3,5	0,32	0	7	7	40	30	27	MK	36	
F3210BV45⊕	1/4"	4,5	0,41	0	4,5	4,5	40	30	27	MK	36	
F3210CV35⊕	3/8"	3,5	0,32	0	7	7	40	30	27	MK	36	
F3210CV52⊕	3/8"	5,2	0,47	0	3	3	40	30	27	MK	36	
F3210DV35⊕	1/2"	3,5	0,32	0	7	7	40	30	27	MK	36	
F3210DV52⊕	1/2"	5,2	0,47	0	3	3	40	30	27	MK	36	
F3210DV64⊕	1/2"	6,4	0,64	0	3,5	3,5	40	30	27	MK	36	

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)
Example: F3210BV25⊕ => F3210BV25MG56:
2-way normally open with direct operated plunger solenoid valve with Connector G (ISO228) 1/4", Seals in FPM, Orifice 2,5 mm, Coil 24V 50/60Hz (MG56, size 30).

Pneumatic symbol		Diagram	
Operational characteristic	Technical characteristic		
<ul style="list-style-type: none"> - Stainless Steel Body - Guide pipe in Stainless Steel - Mobile and fixed core in Stainless Steel - Springs in Stainless Steel - Sealing assemblies in FPM - OPTIONS (if requested): <ul style="list-style-type: none"> - Advance ring in silver 	Maximum admitted pressure (bar)	50	
	Maximum fluid viscosity (mm ² /s) 25cSt	25cSt	
	Ambient temperature: with class F coil (°C) -10 +55	-10 +55	
	Ambient temperature: with class H coil (°C) -10 +80	-10 +80	
	Mounting position	indifferent	

▶ 2-way normally open with direct operated plunger solenoid valve



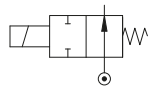
CODE "V" = Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)				Power Consumption			Coil ⊕		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size		
					AC	DC							
F3211AV12⊕	1/8"	1,2	0,04	0	19	19	12	8	6,5	MI	22	-10 +140	
F3211AV15⊕	1/8"	1,5	0,06	0	14	14	12	8	6,5	MI	22		
F3211AV20⊕	1/8"	2	0,09	0	8	8	12	8	6,5	MI	22		

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)

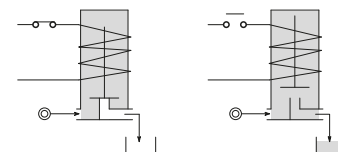
Example: F3211AV12⊕ => F3211AV12MI56:

2-way normally open with direct operated plunger solenoid valve with Connector G (ISO228) 1/8", Seals in FPM, Orifice 1,2 mm, Coil 24V 50/60Hz (MI56, size 22).

Pneumatic symbol



Diagram



Operational characteristic

- Stainless Steel Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing elements in FPM

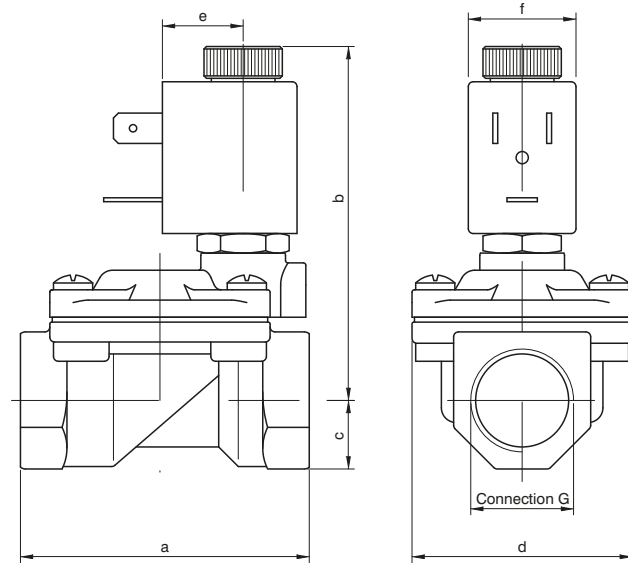
- OPTIONS (if requested):

- Coil for potentially explosive environments meeting 'ATEX standards Ex m Serie XME'.

Technical characteristic

Maximum admitted pressure (bar)	50
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	indifferent

▶ 2-way normally open servo-actuated diaphragm solenoid valve in stainless steel AISI 316



Connection	a	b	c	d	e	f	Weight (g)
G3/8"	59	74	11	45	16	22	300
G1/2"	59	74	13	45	16	22	320
G3/4"	80	78	16	55	16	22	550
G1"	100	88	20	72	16	22	1350

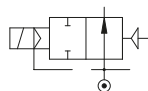
CODE "V" = Seals in FPM "C" = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)			Power Consumption			Coil "C"		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
					AC	DC						
F3277CV12C	3/8"	12	2,2	0,15	15	15	12	8	6,5	MI	22	-10 +140
F3277DV12C	1/2"	12	2,5	0,15	15	15	12	8	6,5	MI	22	
F3277EV18C	3/4"	18	5,5	0,15	13	13	12	8	6,5	MI	22	
F3277FV25C	1"	24	10,2	0,15	10	10	12	8	6,5	MI	22	

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)

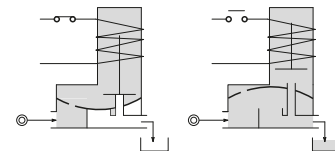
Example: F3277CV12C => F3277CV12MI5:

2-way normally open servo-actuated diaphragm solenoid valve in stainless steel AISI 316 with Connector G (ISO228) 3/8", Seals in FPM, Orifice 12 mm, Coil 24V DC (MI5, size 22).

Pneumatic symbol



Diagram



Operational characteristic

- Body and cover in Stainless Steel.
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

- OPTIONS (if requested):

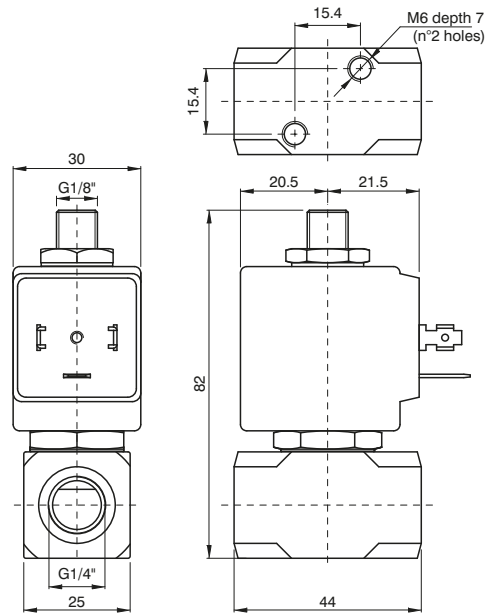
- Coil for potentially explosive environments meeting 'ATEX standards Ex m Serie XME'.
- Seals for use with foodstuff fluids.
- Advance ring in silver

Technical characteristic

Minimum differential pressure (bar)	0,15
Maximum admitted pressure (bar)	25
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	Preferably with coil upwards



▶ 3-way direct acting solenoid valve



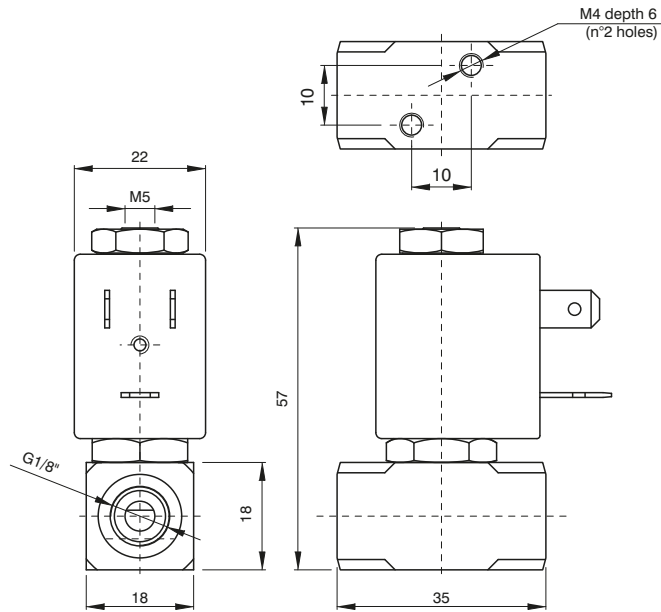
CODE "V"=Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)		KV (m³/h)	Differential pressure (bar)			Power Consumption			Coil ⊕		Temp. range (°C)
		alim.	scar.		Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
						AC	DC						
U Universal													
F3310BV25U⊕	1/4"	2,5	2,4	0,16	0	5	4	20	15	10	MG	30	-10 +140

Example: F3310BV25G⊕ => F3310BV25GMG5:
3-way direct acting solenoid valve with Connector G (ISO228) 1/4", Seals in FPM, Feed bore 2,5 mm, Exhaust bore 2,4 mm Coil 24V DC (MG5, size 30), N.O.

Pneumatic symbol		Diagram													
Operational characteristic		Technical characteristic													
<ul style="list-style-type: none"> - Stainless Steel body - Guide pipe in Stainless Steel - Mobile and fixed core in Stainless Steel - Springs in Stainless Steel - Sealing assemblies in FPM <p>- OPTIONS (if requested):</p> <ul style="list-style-type: none"> - Advance ring in silver 		<table border="1"> <tr> <td>Maximum admitted pressure (bar)</td> <td>Maximum running pressure + 10%</td> </tr> <tr> <td>Maximum fluid viscosity (mm²/s)</td> <td>25cSt</td> </tr> <tr> <td>Ambient temperature: with class F coil (°C)</td> <td>-10 +55</td> </tr> <tr> <td>Ambient temperature: with class H coil (°C)</td> <td>-10 +80</td> </tr> <tr> <td>Mounting position</td> <td>indifferent</td> </tr> <tr> <td>Weight (g.)</td> <td>150</td> </tr> </table>		Maximum admitted pressure (bar)	Maximum running pressure + 10%	Maximum fluid viscosity (mm ² /s)	25cSt	Ambient temperature: with class F coil (°C)	-10 +55	Ambient temperature: with class H coil (°C)	-10 +80	Mounting position	indifferent	Weight (g.)	150
Maximum admitted pressure (bar)	Maximum running pressure + 10%														
Maximum fluid viscosity (mm ² /s)	25cSt														
Ambient temperature: with class F coil (°C)	-10 +55														
Ambient temperature: with class H coil (°C)	-10 +80														
Mounting position	indifferent														
Weight (g.)	150														

1 AIR DISTRIBUTION

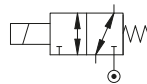
3-way direct acting solenoid valve



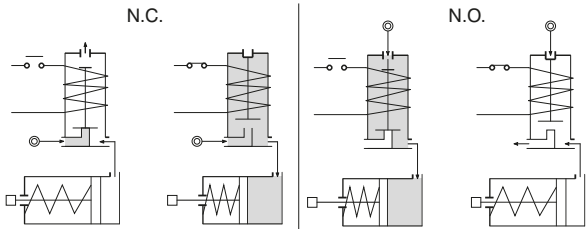
CODE "V"=Seals in FPM ⊕ = Bobna	Connection G ISO 228	Orifice (mm)		KV (m³/h)	Differential pressure (bar)			Power Consumption			Coil ⊕		Temp. range (°C)
		alim.	scar.		Min	Max		AC Spunto	VA Regime	DC Watt	Series	Size	
						AC	DC						
U Universal													
F3311AV15U⊕	1/8"	1,5	1,5	0,06	0	6	6	12	8	6,5	MI	22	-10 +140

Example: F3311AV15G⊕ => F3311AV15GM15:
3-way direct acting solenoid valve with Connector G (ISO228) 1/8", Seals in FPM, Feed bore 1,5 mm, Exhaust bore 1,5 mm Coil 24V DC (MI5, size 22), N.O.

Pneumatic symbol



Diagram



Operational characteristic

- Stainless Steel Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

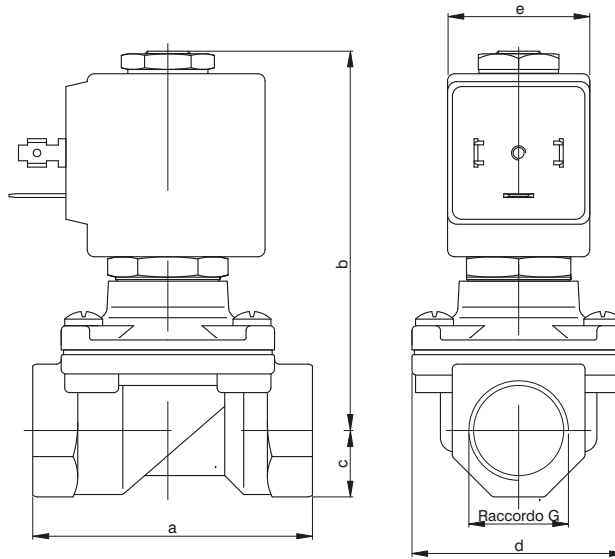
- OPTIONS (if requested):

- Advance ring in silver
- Coil for potentially explosive environments meeting 'ATEX standards Ex m Serie XME'.
- Exhaust with hose mount.

Technical characteristic

Maximum admitted pressure (bar)	Maximum running pressure + 10%
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	indifferent
Weight (g.)	150

▶ 2-way normally closed servo-actuated towed membrane solenoid valve



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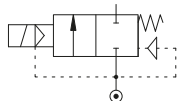
Connection	a	b	c	d	e	f	Weight (g) Series 2	Weight (g) Series 5
G3/8" Ø12	59	83	14	45	16	36	0,50	0,58
G1/2"	59	83	14	45	16	36	0,45	0,53
G3/4"	79	90	18	55		36	-	0,75
G1"	96	101	20	72		36	-	1,10

CODE "V"=Seals in FPM "E" = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)			Power Consumption			Coil E		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
					AC	DC						
F3108CV12E	3/8"	12	2	0	10	-	20	15	-	MG	30	-10 +140
F3108DV12E	1/2"	12	2.2	0	10	-	20	15	-	MG	30	
F3108CV12E	3/8"	12	2	0	12	10	40	30	27	MK	36	
F3108DV12E	1/2"	12	2.2	0	12	10	40	30	27	MK	36	
F3108EV18E	3/4"	18	4.5	0	9	-	40	30	-	MK	36	
F3108FV25E	1"	24	8.5	0	7	-	40	30	-	MK	36	
F3108EV18CE	3/4"	18	4.5	0	-	9	-	-	27	MK	36	
F3108FV25CE	1"	24	8.5	0	-	8	-	-	27	MK	36	

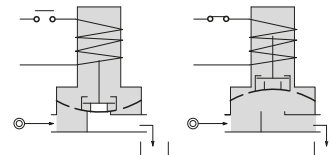
Example: F3108DV12E => F3108DV12MG5:

2-way normally closed in brass with towed membrane solenoid valve with Connector G (ISO228) 1/2", Seals in FPM, Orifice 12 mm, Coil 24V DC (MG5, size 30).

Pneumatic symbol



Diagram



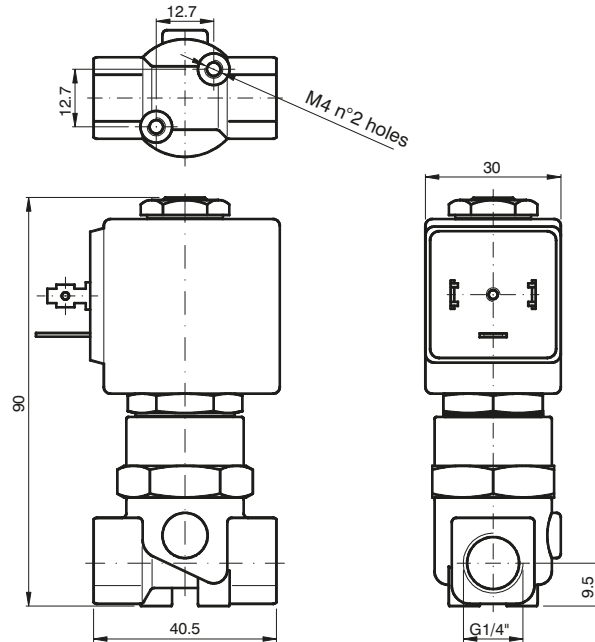
Operational characteristic

- Body and cover in Brass
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM
- **OPTIONS (if requested):**
- Surface treatment in chemical nickel-plating

Technical characteristic

Maximum admitted pressure (bar)	25
Maximum fluid viscosity (mm²/s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	Preferably with coil upwards

▶ 2-way normally closed servo-actuated piston solenoid valve 1/4"

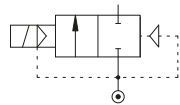


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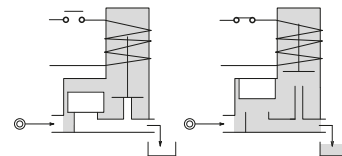
CODE "V" = Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)			Power Consumption			Coil ⊕		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
					AC	DC						
F3119BV52⊕	1/4"	5,2	0,47	1,5	50	50	20	15	10	MG	30	-10 +140

Example: F3119BV52⊕ => F3119BV52MG5:
2-way normally closed servo-actuated piston solenoid valve in brass with Connector G (ISO228) 1/4", Seals in FPM, Orifice 5,2 mm, Coil 24V DC (MG5, size 30).

Pneumatic symbol



Diagram



Operational characteristic

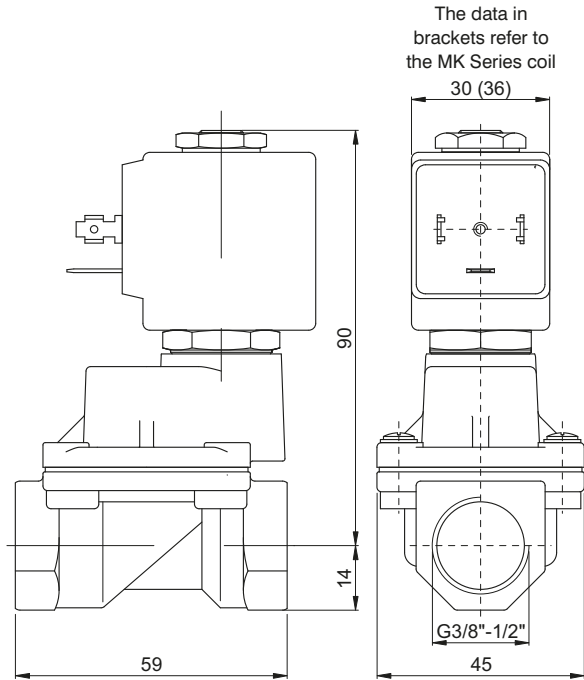
- Body and cover in Brass
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Piston in Brass.
- Guide slide in loaded PTFE.
- Main shutter in PTFE.
- Remaining sealing elements in FPM.

- OPTIONS (if requested):**
- Surface treatment in chemical nickel-plating

Technical characteristic

Minimum differential pressure (bar)	1
Maximum admitted pressure (bar)	40
Maximum running pressure Versione /1 (bar)	60
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	630
Weight (g.)	Preferably with coil upwards

► 2-way normally closed, servo-actuated piston solenoid valve



The data in brackets refer to the MK Series coil

30 (36)

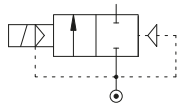
G3/8"-1/2"

CODE "V"=Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m ³ /h)	Differential pressure (bar)				Power Consumption			Coil ⊕		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size		
					AC	DC							
F3119CV12⊕	3/8"	12	2	1	30	30	20	15	10	MG	30	-10 +140	
F3119DV12⊕	1/2"	12	2.2	1	30	30	20	15	10	MG	30		
F3119CV12/1⊕	3/8"	12	2	1	50	50	40	30	27	MK	36		
F3119DV12/1⊕	1/2"	12	2.2	1	50	50	40	30	27	MK	36		

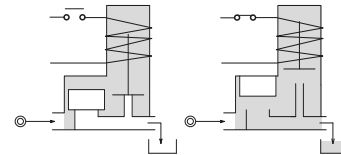
Example: F3119DV12⊕ => F3108DV12MG5:

2-way normally closed servo-actuated piston solenoid valve in brass with Connector G (ISO228) 1/2", Seals in FPM, Orifice 12 mm, Coil 24V DC (MG5, size 30).

Pneumatic symbol



Diagram



Operational characteristic

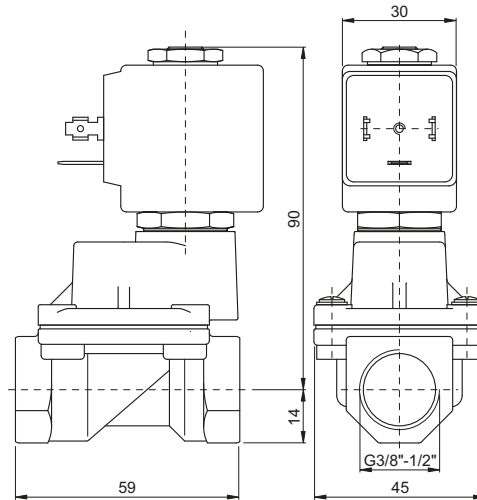
- Body and cover in Brass
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Piston in Brass.
- Guide slide in loaded PTFE.
- Main shutter in PTFE.
- Remaining sealing elements in FPM.

- **OPTIONS (if requested):**
- Surface treatment in chemical nickel-plating

Technical characteristic

Minimum differential pressure (bar)	1
Maximum admitted pressure (bar)	40
Maximum running pressure Versione /1 (bar)	60
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature: with class F coil (°C)	-10 +55
Ambient temperature: with class H coil (°C)	-10 +80
Mounting position	Preferably with coil upwards
Weight (gr.) with MG Series Coil	630
Weight (gr.) with MK Series Coil	710

▶ 2-way normally closed servo-actuated piston solenoid valve for use with steam



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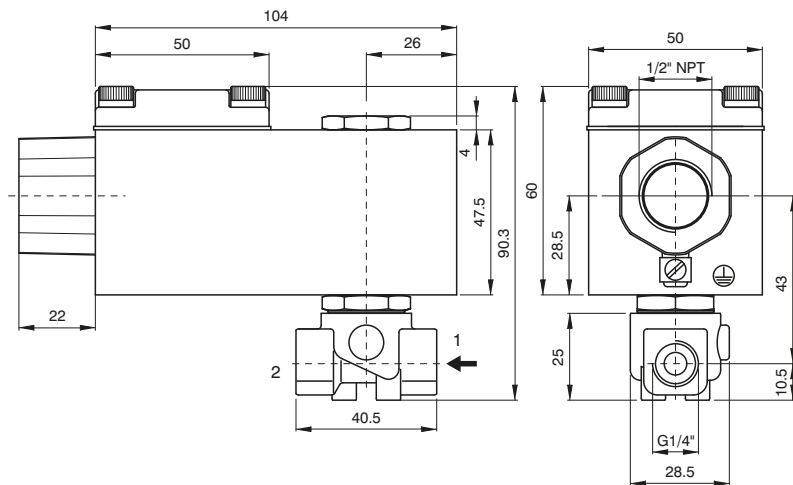
CODE "V"=Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)			Power Consumption			Coil ⊕		Temp. range (°C)
				Min	Max		AC Inrush	VA Holding	DC Watt	Series	Size	
					AC	DC						
F3119CW12/1⊕	3/8"	12	2	2,5	9	9	20	15	10	MG	30	-10 +180
F3119DW12/1⊕	1/2"	12	2.2	2,5	9	9	20	15	10	MG	30	-10 +180

Example: F3119DW12/1⊕ => F3119DW12/1MG5:
2-way normally closed servo-actuated piston solenoid valve in brass with Connector G (ISO228) 1/2", Seals in FPM, Orifice 12 mm, Coil 24V DC (MG5, size 30).

Pneumatic symbol		Diagram	
Operational characteristic		Technical characteristic	
<ul style="list-style-type: none"> - Body and cover in Brass - Guide pipe in Stainless Steel - Mobile and fixed core in Stainless Steel - Springs in Stainless Steel - Piston in Stainless Steel. - Guide slide in loaded PTFE. - Sealing elements in PTFE/FPM. <p>- OPTIONS (if requested):</p> <ul style="list-style-type: none"> - Surface treatment in chemical nickel-plating - Steam sealing up to +160°C 		Minimum differential pressure (bar)	2,5
		Ambient temperature: only with class H Coil (°C)	-10 +80
		Mounting position	Preferably with coil upwards
		Weight (g.)	630



2-way solenoid normally closed valve, direct plunger operation, with housing for potentially explosive environments certified: CESI 03 ATEX 344 ExII2G/D Eex "d" IIC T6



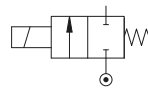
CODE "V"=Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)			Power Consumption		Temp. range (°C)	Coil ⊕ Series A6 (CURRENT)
				Min	Max		AC Inrush	DC Watt		
					AC	DC				
FX3106BV35⊕	1/4"	3,5	0,32	0	10	8	12	8	-10 +140	A6B=24 Volt (AC 50/60Hz)
FX3106BV45⊕	1/4"	4,5	0,41	0	6,5	3,5	12	8		A6E=220/230 Volt (AC 50/60Hz)
										A60=12 Volt (DC)
										A61=24 Volt (DC)

N.B. The solenoid valve is suited for intercepting only fluids that are NOT potentially explosive.

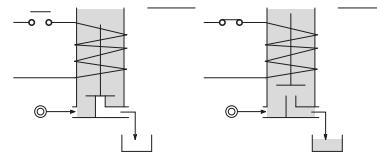
Example: FX3106BV35b => FX3106BV35A60:

2-way solenoid normally closed valve, direct plunger operation, with housing for potentially explosive environments certified:
CESI 03 ATEX 344 ExII2G/D Eex "d" IIC T6 with Connector G (ISO228) 1/4", Seals in FPM, Orifice 3,5 mm, Coil 12V DC (A60).

Pneumatic symbol



Diagram



Operational characteristic

- Brass Body
- Container in light red coloured alloy
- Electrical connection 1/2" NPT
- Sealing elements in FPM
- **OPTIONS (if requested):**
- Manual operation
- Surface treatment in chemical nickel-plating
- Inserted stainless steel seating

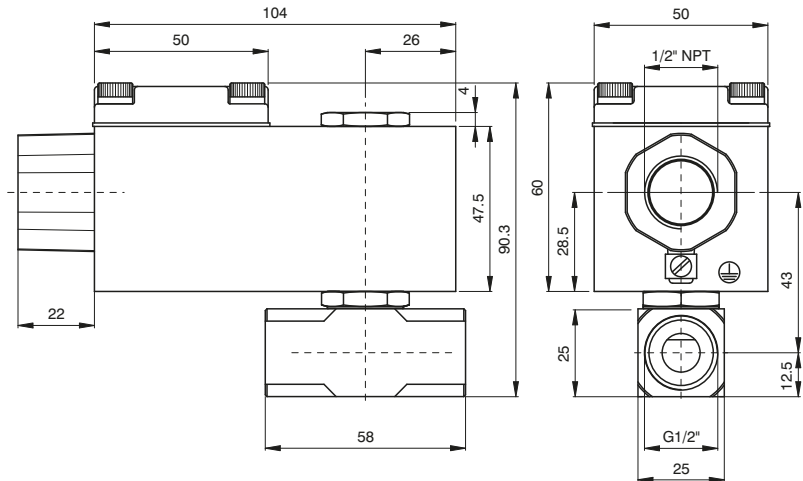
Technical characteristic

Maximum admitted pressure (bar)	80
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature (°C)	-10 +40
Mounting position	With coil upwards
Weight (g.)	600

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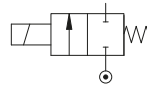
► **2-way normally closed direct acting solenoid valve with housing for potentially explosive environments certified: CESI 03 ATEX 344 ExII2G/D Eex "d" IIC T6**



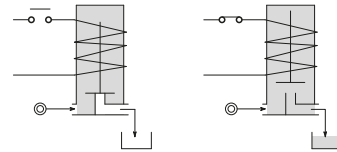
CODE "V"=Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m ³ /h)	Differential pressure (bar)			Power Consumption		Temp. range (°C)	Coil ⊕ Series A6 (CURRENT)
				Min	Max		AC Inrush	DC Watt		
					AC	DC				
FX3106DV52⊕	1/2"	5,2	0,47	0	4	1,8	12	8	-10 +140	A6B=24 Volt (AC 50/60Hz)
FX3106DV64⊕	1/2"	6,4	0,64	0	3	1	12	8		A6E=220/230 Volt (AC 50/60Hz)
										A60=12 Volt (DC)
										A61=24 Volt (DC)

N.B. The solenoid valve is suited for intercepting only fluids that are NOT potentially explosive.
Example: FX3106DV52⊕ => FX3106DV52A60:
2-way solenoid normally closed valve, direct plunger operation, with housing for potentially explosive environments certified:
CESI 03 ATEX 344 ExII2G/D Eex "d" IIC T6, with Connector G (ISO228) 1/2", Seals in FPM, Orifice 5,2 mm, Coil 12V DC (A60).

Pneumatic symbol



Diagram



Operational characteristic

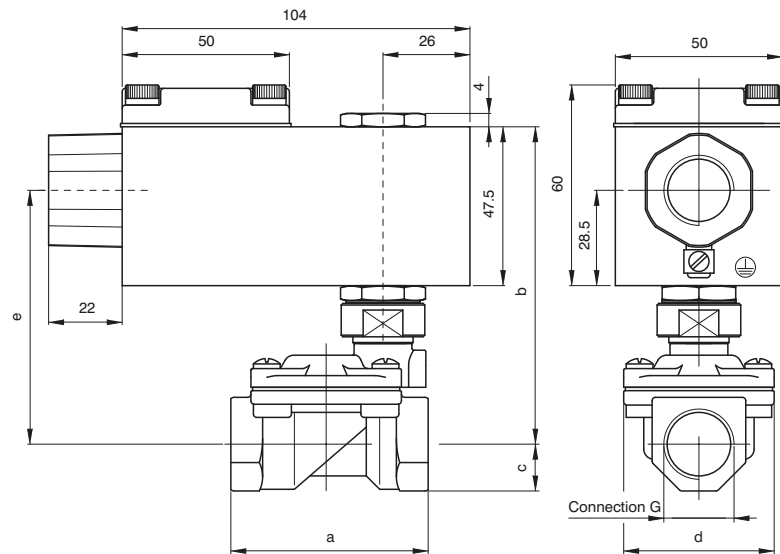
- Brass Body
- Container in light red coloured alloy
- Electrical connection 1/2" NPT
- Sealing elements in FPM
- **OPTIONS (if requested):**
 - Manual operation
 - Surface treatment in chemical nickel-plating
 - Inserted stainless steel seating

Technical characteristic

Maximum admitted pressure (bar)	80
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature (°C)	-10 +40
Mounting position	With coil upwards
Weight (g.)	660

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2-Way normally closed solenoid valve, servo-actuated diaphragm, with housing for potentially explosive environments certified: CESI 03 ATEX 344 ExII2G/ D Eex "d" IIC T6



Connection G	a	b	c	d	e	Weight (g)
G1/4" Ø10	49	90	11	32	71	720
G3/8" Ø12	59	95	14	45	76	920
G1/2" Ø12	59	95	14	45	76	920
G3/4"	79	101	18	54	82	1100
G1"	96	110	20	72	91	1500

CODE "V" = Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m ³ /h)	Differential pressure (bar)			Power Consumption		Temp. range (°C)
				Min	Max		AC Inrush	DC Watt	
					AC	DC			
FX3107BV10⊕	1/4"	10	1,5	0,15	15	15	12	8	-10 +140
FX3107CV12⊕	3/8"	12	2,2	0,15	15	15	12	8	
FX3107DV12⊕	1/2"	12	2,5	0,15	15	15	12	8	
FX3107EV18⊕	3/4"	18	5,5	0,15	13	13	12	8	
FX3107FV25⊕	1"	24	10,2	0,15	10	10	12	8	

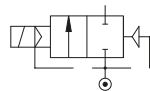
Coil ⊕ Series A6 CURRENT
A6B=24 Volt (AC 50/60Hz)
A6E=220/230 Volt (AC 50/60Hz)
A60=12 Volt (DC)
A61=24 Volt (DC)

N.B. The solenoid valve is suited for intercepting only fluids that are NOT potentially explosive.

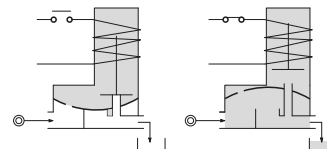
Example: FX3107BV101⊕ => FX3107BV101A60.

2-Way normally closed solenoid valve, servo-actuated diaphragm, with housing for potentially explosive environments certified: CESI 03 ATEX 344 ExII2G/D Eex "d" IIC T6, with Connector G (ISO228) 1/4", Seals in FPM, Orifice 10 mm, Coil 12V DC (A60).

Pneumatic symbol



Diagram



Operational characteristic

- Body and cover in Brass
- Container in light red coloured alloy
- Electrical connection 1/2" NPT
- Sealing elements in FPM

- OPTIONS (if requested):

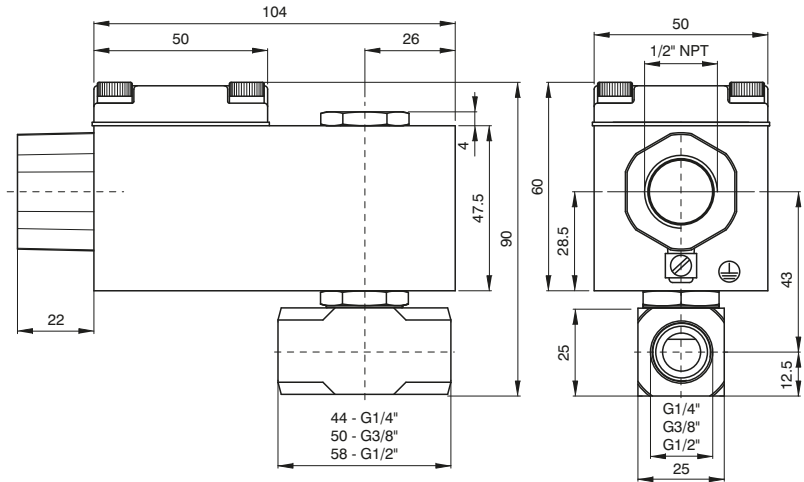
- Surface treatment in chemical nickel-plating
- Version with slowed commutation

Technical characteristic

Minimum differential pressure (bar)	0,15
Maximum admitted pressure (bar)	25
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature (°C)	-10 +40
Mounting position	Preferably with coil upwards



► **2-Way normally closed direct acting solenoid valve with housing for potentially explosive environments certified: CESI 03 ATEX 344 ExII2G/D Eex "d" IIC T6**



CODE "V"= Seals in FPM ⊕ = Coil	Connection G ISO 228	Orifice (mm)	KV (m ² /h)	Differential pressure (bar)			Power Consumption		Temp. range (°C)	Coil ⊕ Series A6 CURRENT
				Min	Max		AC Inrush	DC Watt		
					AC	DC				
FX3110BV25⊕	1/4"	2,5	0,15	0	16	14	12	8	-10 +140	A6B=24 Volt (AC 50/60Hz) A6E=220/230 Volt (AC 50/60Hz) A60=12 Volt (DC) A61=24 Volt (DC)
FX3110BV35⊕	1/4"	3,5	0,32	0	10	8	12	8		
FX3110BV45⊕	1/4"	4,5	0,41	0	6,5	3,5	12	8		
FX3110CV35⊕	3/8"	3,5	0,32	0	10	8	12	8		
FX3110CV52⊕	3/8"	5,2	0,47	0	4	1,8	12	8		
FX3110DV35⊕	1/2"	3,5	0,32	0	10	8	12	8		
FX3110DV52⊕	1/2"	5,2	0,47	0	4	1,8	12	8		
FX3110DV64⊕	1/2"	6,4	0,64	0	3,5	1	12	8		

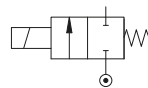
N.B. The solenoid valve is suited for intercepting only fluids that are NOT potentially explosive.

Example: FX3110BV25⊕ => FX3110BV25A60:

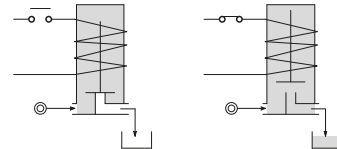
2-Way normally closed direct acting solenoid valve with housing for potentially explosive environments certified:

CESI 03 ATEX 344 ExII2G/D Eex "d" IIC T6, with Connector G (ISO228) 1/4", Seals in FPM, Orifice 2,5 mm, Coil 12V DC (A60).

Pneumatic symbol



Diagram



Operational characteristic

- Stainless Steel Body
- Container in light red coloured alloy
- Electrical connection 1/2" NPT
- Sealing elements in FPM

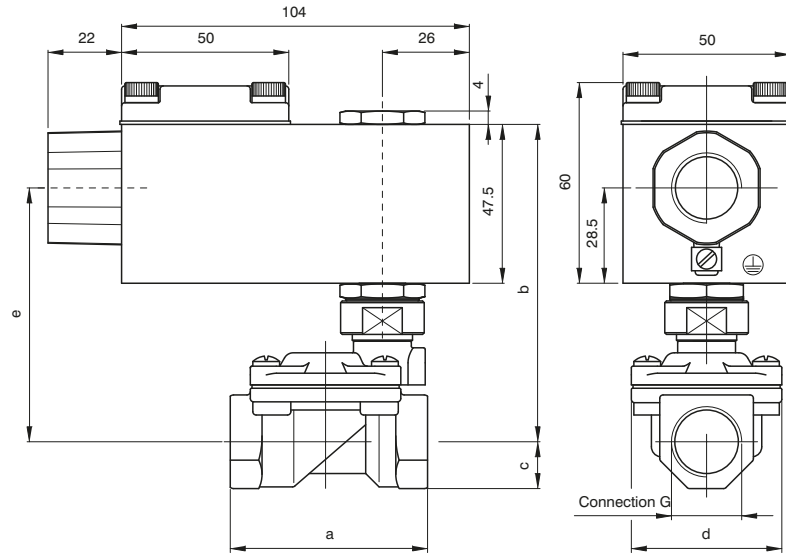
- OPTIONS (if requested):**
- Advance ring in silver

Technical characteristic

Maximum admitted pressure (bar)	100
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature (°C)	-10 +40
Mounting position	with coil upwards
Weight (g.)	660

1
AIR DISTRIBUTION

2-Way normally closed servo-actuated diaphragm solenoid valve in stainless steel AISI 316, with housing for potentially explosive environments certified: CESI 03 ATEX 344 ExII2G/D Eex "d" IIC T6



Connection G	a	b	c	d	e	Weight (g)
G3/8"	59	95	14	45	76	1120
G1/2"	59	95	14	45	76	1110
G3/4"	79	101	18	54	82	1100
G1"	96	110	20	72	91	1500

CODE	Connection G ISO 228	Orifice (mm)	KV (m³/h)	Differential pressure (bar)			Power Consumption		Temp. range (°C)
				Min	Max		AC Inrush	DC Watt	
					AC	DC			
FX3177CV121Ⓢ	3/8"	12	2,2	0,15	15	15	12	8	-10 +140
FX3177DV121Ⓢ	1/2"	12	2,5	0,15	15	15	12	8	
FX3177EV181Ⓢ	3/4"	18	5,5	0,15	13	13	12	8	
FX3177FV251Ⓢ	1"	24	10,2	0,15	10	10	12	8	

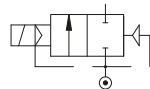
Coil Ⓢ Series A6
CURRENT
A6B=24 Volt (AC 50/60Hz)
A6E=220/230 Volt (AC 50/60Hz)
A6O=12 Volt (DC)
A6I=24 Volt (DC)

N.B. The solenoid valve is suited for intercepting only fluids that are NOT potentially explosive.

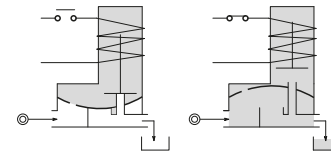
Example: FX3177CV121Ⓢ => FX3177CV121A60:

2-Way normally closed servo-actuated diaphragm solenoid valve in stainless steel AISI 316, with housing for potentially explosive environments certified: CESI 03 ATEX 344 ExII2G/D Eex "d" IIC T6, with Connector G (ISO228) 3/8", Seals in FPM, Orifice 12 mm, Coil 12V DC (A60).

Pneumatic symbol



Diagram



Operational characteristic

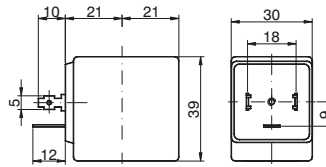
- Body and cover in Stainless Steel
- Container in light red coloured alloy
- Electrical connection 1/2" NPT
- Sealing elements in FPM

- OPTIONS (if requested):**
- Version with slowed commutation

Technical characteristic

Minimum differential pressure (bar)	0,15
Maximum admitted pressure (bar)	25
Maximum fluid viscosity (mm ² /s)	25cSt
Ambient temperature (°C)	-10 +40
Mounting position	Preferably with coil upwards

► **MG Series coil (Size 30 mm), class F**

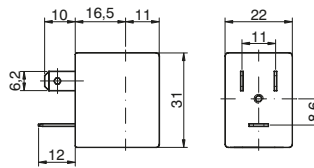


Ordering code	
MG Ⓜ	
VOLTAGE	
56=24 Volt (AC 50/60Hz)	
Ⓜ	58=220/230 Volt (AC 50/60Hz)
5=24 Volt (DC)	
4=12 Volt (DC)	

Options:
Electrical connection via cables
Special voltages and powers.

Operational characteristic							
Class of insulation	Tolerance on AC voltage	Tolerance on DC voltage	Degree of protection with connector fitted	Continuous service	Electrical conn.	Connectors	Weight (g.)
F	+15% -10%	± 10%	IP65	ED100%	DIN 43650A	PG9 Codice 10349000	120

► **MI Series coil (Size 22 mm), class F**

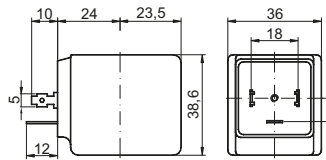


Ordering code	
MI Ⓜ	
VOLTAGE	
56=24 Volt (AC 50/60Hz)	
Ⓜ	58=220/230 Volt (AC 50/60Hz)
5=24 Volt (DC)	
4=12 Volt (DC)	
21=48-50 Volt (AC 50/60Hz)	

Options:
Electrical connection via cables
Special voltages and powers.

Operational characteristic							
Class of insulation	Tolerance on AC voltage	Tolerance on DC voltage	Degree of protection with connector fitted	Continuous service	Electrical conn.	Connectors	Weight (g.)
F	+15% -10%	± 10%	IP65	ED100%	DIN 43650A	PG9 Codice 10349000	120

► **MK Series coil (Size 36 mm), class H**

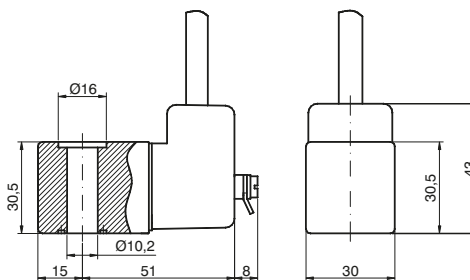


Ordering code	
MK Ⓜ	
VOLTAGE	
56=24 Volt (AC 50/60Hz)	
Ⓜ	58=220/230 Volt (AC 50/60Hz)
5=24 Volt (DC)	
4=12 Volt (DC)	

Options:
Electrical connection via cables
Special voltages and powers.

Operational characteristic							
Class of insulation	Tolerance on AC voltage	Tolerance on DC voltage	Degree of protection with connector fitted	Continuous service	Electrical conn.	Connectors	Weight (g.)
F	+15% -10%	± 10%	IP00	ED100%	DIN 43650A	PG9 Codice 10349000	200

► **Coils 2G Ex mb IIC T4-T6; II2D Ex mb IIIC T85°C-T135°C (Size 30 mm), Class H**



Ordering code	
XME Ⓜ	
VOLTAGE	
56=24 Volt (AC 50/60Hz)	
Ⓜ	58=220/230 Volt (AC 50/60Hz)
5=24 Volt (DC)	
4=12 Volt (DC)	

Options:
Electrical connection via cables
Special voltages and powers.

Operational characteristic						
Class of insulation	Tolerance on AC voltage	Tolerance on DC voltage	Degree of protection with connector fitted	Continuous service	Electrical conn.	Weight (g.)
F	+15% -10%	± 10%	Ip00	ED100%	3m cable	250

2way angle seat valve pneumatically operated

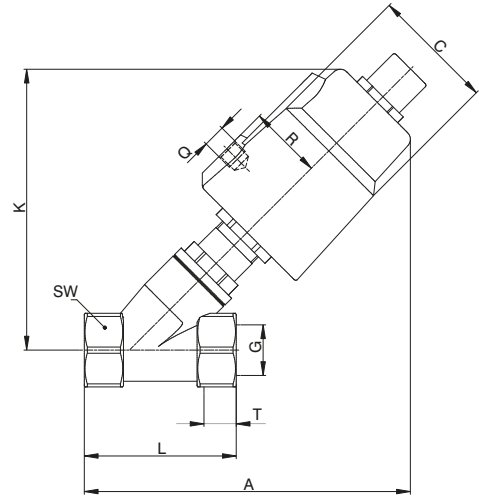


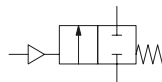
Table of dimensions

CODE AISI316	CODE AISI304	Connection G	Actuator (mm)	C (mm)	R (mm)	K (mm)	Q (mm)	T (mm)	A (mm)	L (mm)	SW (mm)
PVF40115-316	PVF40115-304	1/2"	40	50,5	27	111	1/8"	15	119	68	27
PVF50115-316	PVF50115-304	1/2"	50	60	33	124	1/8"	15	131	68	27
PVF50120-316	PVF50120-304	3/4"	50	60	33	128	1/8"	16	136	75	32
PVF50125-316	PVF50125-304	1"	50	60	33	136	1/8"	17	145	90	40
PVF63125-316	PVF63125-304	1"	63	75	41	162	1/8"	17	169	90	40
PVF63132-316	PVF63132-304	1 -1/4"	63	75	41	174	1/8"	21	187	116	50
PVF63140-316	PVF63140-304	1 -1/2"	63	75	41	175	1/8"	21	187	116	56
PVF63150-316	PVF63150-304	2"	63	75	41	183	1/8"	22	201	138	69
PVF125AL165-316	PVF125AL165-304	2-1/2"	125-Aluminium	148	74	302	1/4"	26	320	178	85
PVF125AL180-316	PVF125AL180-304	3"	125-Aluminium	148	74	313	1/4"	27	372	210	100

Technicals data

CODE AISI316	CODE AISI304	Connection G	KV m/h	Actuator (mm)	Maximum ΔP (bar)		Piloting pressure (bar)	Weight (g.)
					Above seat	Under seat		
PVF40115-316	PVF40115-304	1/2"	4,8	40	16	13	3 ÷ 8	765
PVF50115-316	PVF50115-304	1/2"	4,8	50	16	14		952
PVF50120-316	PVF50120-304	3/4"	10	50	16	14		1062
PVF50125-316	PVF50125-304	1"	14	50	16	8		1371
PVF63125-316	PVF63125-304	1"	14	63	16	13		2006
PVF63132-316	PVF63132-304	1 -1/4"	23	63	16	8		2575
PVF63140-316	PVF63140-304	1 -1/2"	30	63	16	5		2714
PVF63150-316	PVF63150-304	2"	70	63	9	3		3634
PVF125AL165-316	PVF125AL165-304	2-1/2"	107	125-Aluminium	16	9		9713
PVF125AL180-316	PVF125AL180-304	3"	157	125-Aluminium	16	5		13003

Pneumatic symbol



Operational characteristic

- High flow rate thanks to Body configuration with inclined seating.
- Anti water hammer functioning with input below shutter.
- Pneumatically operated valve with stainless steel Body, resistant to ambient corrosion.
- Self-levelling shutter to ensure improved sealing.
- Optical position indicator.
- May be used with back pressure for gaseous fluids.
- Self-adjusting maintenance free stuffer gasket package.
- Valves may be mounted in all positions.
- **OPTIONS:**
- Connection type: GAS ISO / NPT

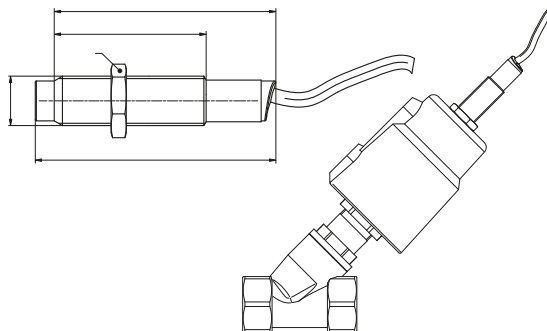
Valve Body technical characteristics

- Fluid temperature: -10°C ÷ + 180°C
- Temperature: -10°C ÷ + 80°C
- Fluid viscosity: max. 600cSt.
- Shutter: PTFE.
- Gasket packet with PTFE, FKM stuffer

Actuator technical characteristics

- Body AISI 304
- Pilot fluid dry or lubricated Air, gas and neutral fluids.
- Temperature fluid max. + 60°C.

Proximity Sensor



Ordering code

PVF.1.S

OUTPUT TYPE

- 01 = NPN (N.C.)
- 02 = NPN (N.O.)
- 03 = PNP (N.C.)
- 04 = PNP (N.O.)

Nickel brass sensor, usable on valves up to size 2 inches for detection ON - OFF
Cable: 2m

Operational characteristic

Maximum current	Voltage field	Temperature (°C)	Detection Distance	Protection grade	Weight (g)
100 mA	10 ÷ 30V DC	-10°C ÷ +70°C	3mm (max) ± 10 %	IP67	68

Series 514/N

General

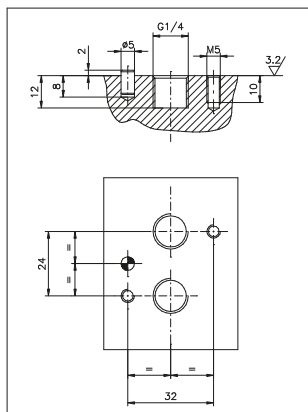
The **514/N** Solenoid valves, are 2 stage valves actuated electro-pneumatically. A series 300 directly operated solenoid valve actuates pneumatically the principal power distributor.

Everything is well integrated in a practical configuration that also permits applications where there is limited space. Used primarily to operate rotary actuators and wherever there is a **NAMUR** standard installation plan.

The pilot air is normally taken from the inlet port (autofeed) and the only actuating signal is electric.

The range of the solenoid valves, as far as dimensions and mechanical construction, is similar to series 200. We have therefore solenoid valves G 1/4" with identical pneumatic characteristics that are, however, actuated electrically. They have a balanced spool, insensitive to presence or absence of pressure. They are constructed in 3 and 5 way with 1 solenoid (monostable) or 2 solenoids (bistable).

“NAMUR” interface dimensions:
according to standard (VDI/VDE 3847 July 2003)



Construction characteristics

Body	Aluminium
Spacer	Technopolymer
Seals	NBR
Springs	Spring steel
Operators	Aluminium
Spools	Nickel plated steel
Screws	Zinc coated Steel

Use and maintenance

This valves have an average life of 15 million cycles depending on the application and air quality.

Filtered and lubricated air using specified lubricants will reduce the wear of the seals and ensures long and trouble free operation.

Please ensure that the valve is being used according with the manufacturers specification, such as air pressure and temperature.

The exhaust port of the distributor has to be protected in a dusty and dirty environment.

Repair kits including the spool complete with seals are available for overhauling the valves.

However, although this is a simple operation it should be carried out by a competent person.

ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).



AIR DISTRIBUTION

Solenoid - Spring

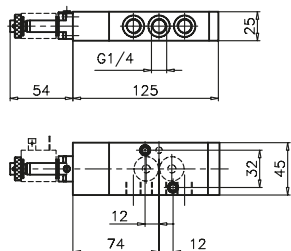
Coding: 514/N.ⓕ.0.1.M2

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-10 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	1030
Orifice size (mm)	7
Working ports size	G 1/4"

FUNCTION
ⓕ 32 = 3 ways
52 = 5 ways

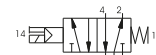
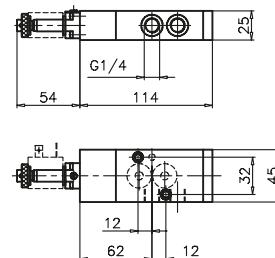
5 ways



Weight 450 g
Minimum working pressure 2,5 bar

514/N.52.0.1.M2

3 ways



Weight 390 g
Minimum working pressure 2,5 bar

514/N.32.0.1.M2

Solenoid-Differential

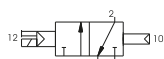
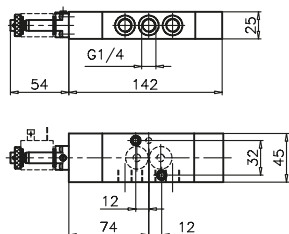
Coding: 514/N.ⓕ.0.12.M2

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-10 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	1030
Orifice size (mm)	7
Working ports size	G 1/4"

FUNCTION
ⓕ 32 = 3 ways
52 = 5 ways

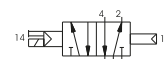
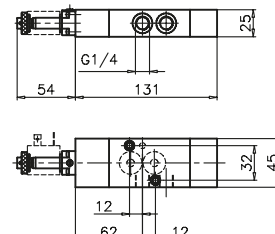
5 ways



Weight 450 g
Minimum working pressure 2,5 bar

514/N.52.0.12.M2

3 ways



Weight 390 g
Minimum working pressure 2,5 bar

514/N.32.0.12.M2

Solenoid-Solenoid

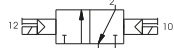
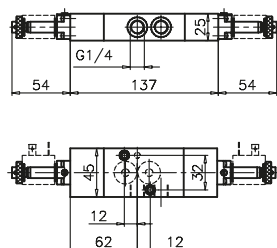
Coding: 514/N.ⓕ.0.0.M2

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-10 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	1030
Orifice size (mm)	7
Working ports size	G 1/4"

FUNCTION
ⓕ 32 = 3 ways
52 = 5 ways

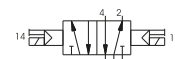
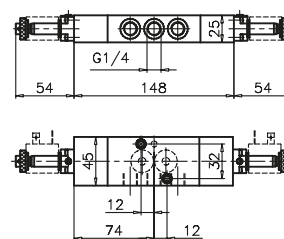
3 ways



Weight 390 g
Minimum working pressure 2,5 bar

514/N.32.0.0.M2

5 ways



Weight 450 g
Minimum working pressure 2,5 bar

514/N.52.0.0.M2



Series T514

General

TECNO-NAMUR are 5/2 and 4/2 valves are solenoid valves pneumatically or electrically actuated. They are used in industrial automation applications or whenever a **NAMUR** mounting plane is available.

Is available in 5/2, 4/2 and all-purposes versions. The final user can switch from one version to another by simply changing interface plate and adding/removing a plug.

TECNO-NAMUR valves are produced using the most up to date technical features, granting flexible design and elevated characteristics over standard products. Superior performance is further enhanced by the use of innovative materials of construction.

Construction characteristics

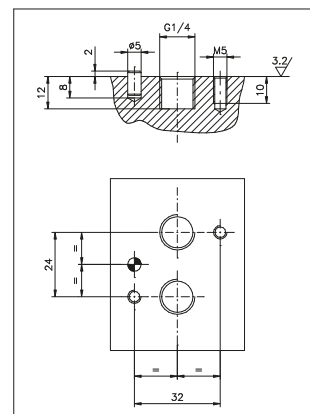
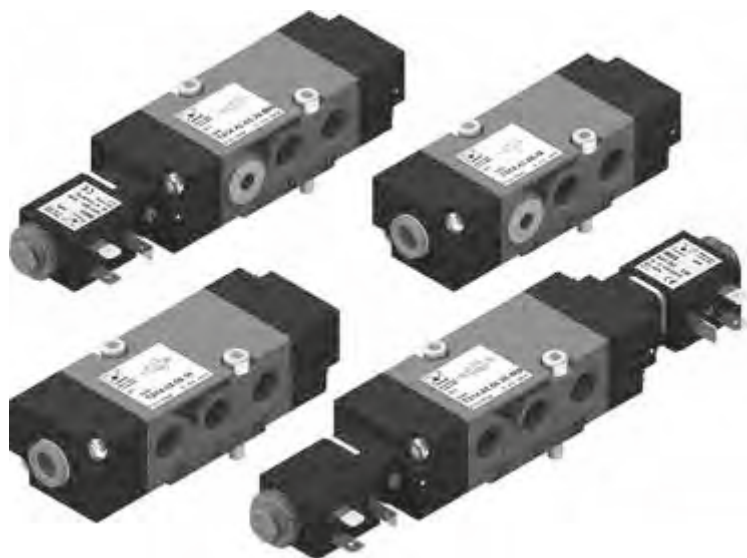
Body	Technopolymer
Spacer	Technopolymer
Seals	Nitrile rubber
Springs	Stainless Steel
Operators	Technopolymer
Spools	Nickel plated steel
Screws	Zinc coated Steel

Note:

"Although accurately described, the 4/2 valve actually functions as a 3/2 normally closed valve and should be used as such."

“NAMUR” interface dimensions:

according to standard (VDI/VDE 3847 July 2003)





1
AIR DISTRIBUTION

Pneumatic - Differential

Coding: T514.Ⓢ.00.16

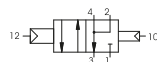
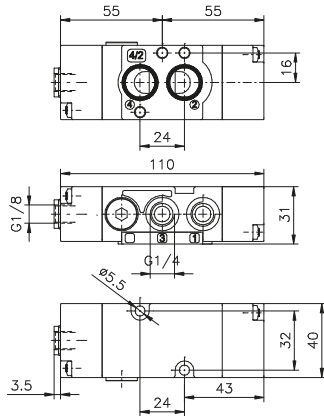
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-10 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

FUNCTION	
Ⓢ	42 = 4 ways
	52 = 5 ways

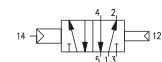
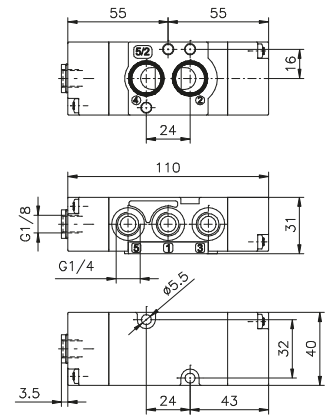
4 ways

5 ways



Weight 140 g
Minimum working pressure 2,5 bar
Maximum fitting torque 9 N/m

T514.42.00.16



Weight 140 g
Minimum working pressure 2,5 bar
Maximum fitting torque 9 N/m

T514.52.00.16

Pneumatic - Pneumatic

Coding: T514.Ⓢ.00.18

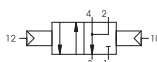
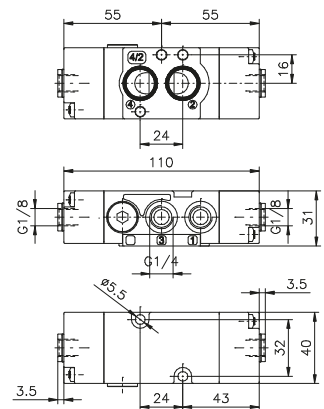
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-10 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

FUNCTION	
Ⓢ	42 = 4 ways
	52 = 5 ways

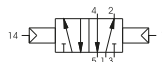
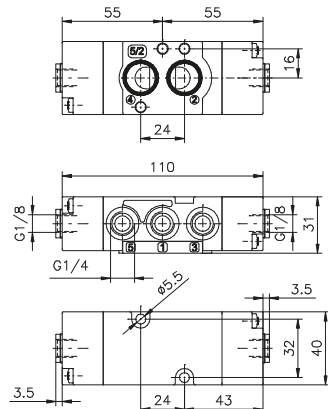
4 ways

5 ways



Weight 140 g
Minimum working pressure 2,5 bar
Maximum fitting torque 9 N/m

T514.42.00.18



Weight 140 g
Minimum working pressure 2,5 bar
Maximum fitting torque 9 N/m

T514.52.00.18

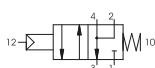
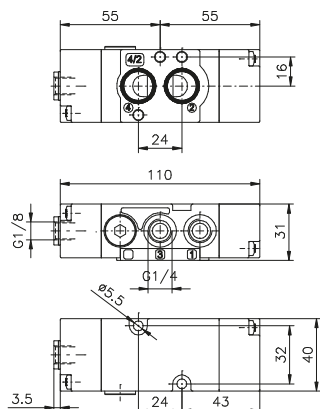
Pneumatic - Spring

Coding: T514.F.00.19

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-10 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

FUNCTION	
F	42 = 4 ways
	52 = 5 ways

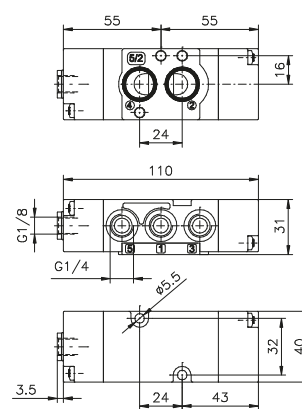
4 ways



Weight 140 g
Minimum working pressure 2,5 bar
Maximum fitting torque 9 N/m

T514.42.00.19

5 ways



Weight 140 g
Minimum working pressure 2,5 bar
Maximum fitting torque 9 N/m

T514.52.00.19

Solenoid-Solenoid

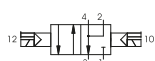
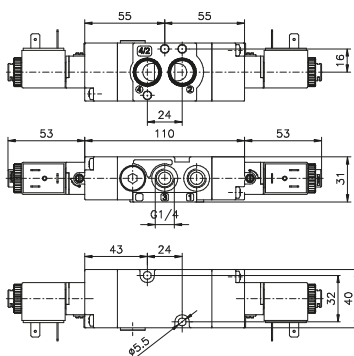
Coding: T514.F.00.35.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-10 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

FUNCTION	
F	42 = 4 ways
	52 = 5 ways

VOLTAGE	
B04	= 12 VDC
B05	= 24 VDC
B09	= 24 VDC (2W)
B56	= 24V (50-60 Hz)
B57	= 110V (50-60 Hz)
B58	= 230 V (50-60 Hz)

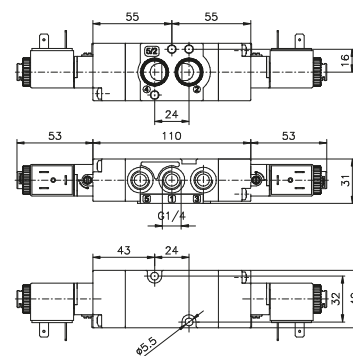
4 ways



Weight 250 g
Minimum working pressure 2,5 bar
Maximum fitting torque 9 N/m

T514.42.00.35.T

5 ways



Weight 250 g
Minimum working pressure 2,5 bar
Maximum fitting torque 9 N/m

T514.52.00.35.T

Solenoid-Differential

Coding: T514.Ⓕ.00.36.Ⓙ

Operational characteristics

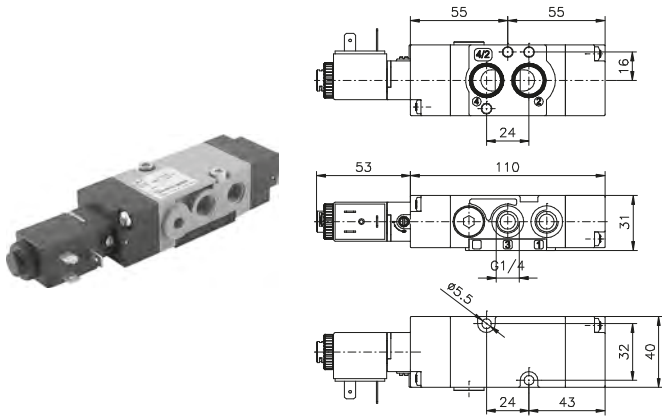
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-10 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

FUNCTION	
Ⓕ 42 = 4 ways	
52 = 5 ways	

VOLTAGE	
Ⓙ B04 = 12VDC	
B05 = 24VDC	
Ⓙ B09 = 24VDC (2W)	
B56 = 24V (50-60 Hz)	
B57 = 110V (50-60 Hz)	
B58 = 230V (50-60 Hz)	

1
AIR DISTRIBUTION

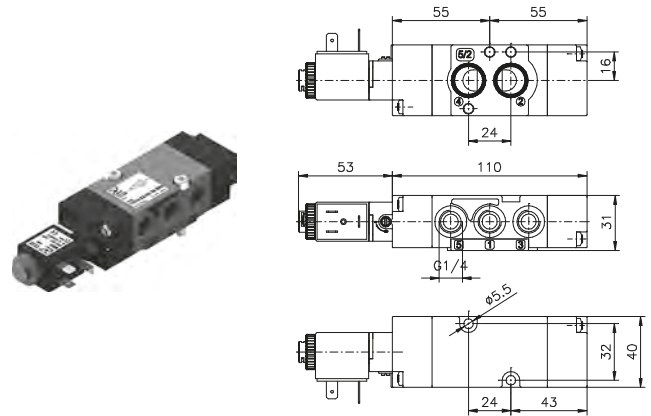
4 ways



Weight 200 g
Minimum working pressure 2,5 bar
Maximum fitting torque 9 N/m

T514.42.00.36.Ⓙ

5 ways



Weight 200 g
Minimum working pressure 2,5 bar
Maximum fitting torque 9 N/m

T514.52.00.36.Ⓙ

Solenoid - Spring

Coding: T514.Ⓕ.00.39.Ⓙ

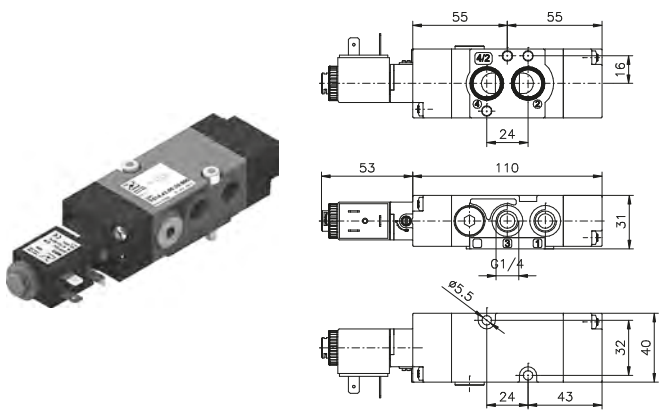
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-10 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

FUNCTION	
Ⓕ 42 = 4 ways	
52 = 5 ways	

VOLTAGE	
Ⓙ B04 = 12VDC	
B05 = 24VDC	
Ⓙ B09 = 24VDC (2W)	
B56 = 24V (50-60 Hz)	
B57 = 110V (50-60 Hz)	
B58 = 230V (50-60 Hz)	

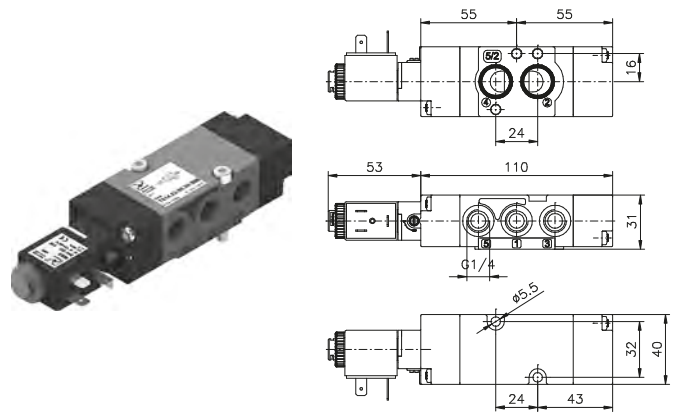
4 ways



Weight 200 g
Minimum working pressure 2,5 bar
Maximum fitting torque 9 N/m

T514.42.00.39.Ⓙ

5 ways



Weight 200 g
Minimum working pressure 2,5 bar
Maximum fitting torque 9 N/m

T514.52.00.39.Ⓙ



► **Universal kit**

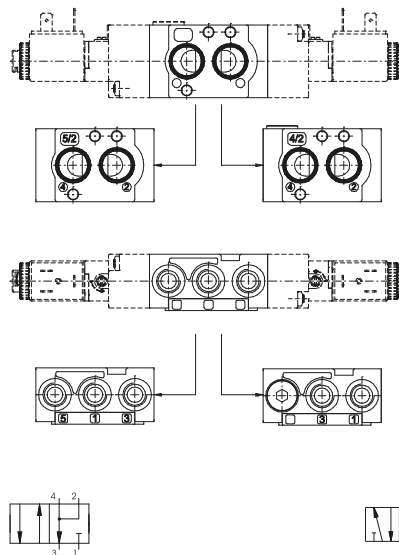
Coding: T514.92.00.V.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-10 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

VERSION		VOLTAGE	
16	= Pneumatic - Differential	B04	= 12 VDC
18	= Pneumatic - Pneumatic	B05	= 24 VDC
19	= Pneumatic - Spring	B09	= 24 VDC (2W)
35	= Solenoid - Solenoid	B56	= 24V (50-60 Hz)
36	= Solenoid - Differential	B57	= 110V (50-60 Hz)
39	= Solenoid - Spring	B58	= 230 V (50-60 Hz)



Weight 170 g
Minimum working pressure 2,5 bar
Maximum fitting torque 9 N/m



1
AIR DISTRIBUTION

Series 514

General

NAMUR valves are 5/2 and 4/2 valves and electrovalves, piloted electrically or pneumatically, utilised primarily to operate rotary actuators and wherever there is a NAMUR standard installation plan.

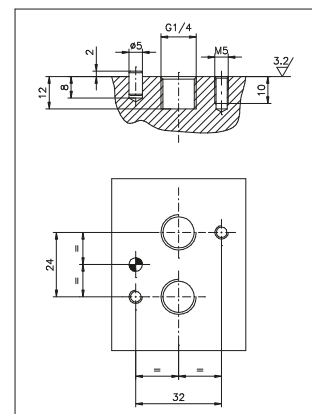
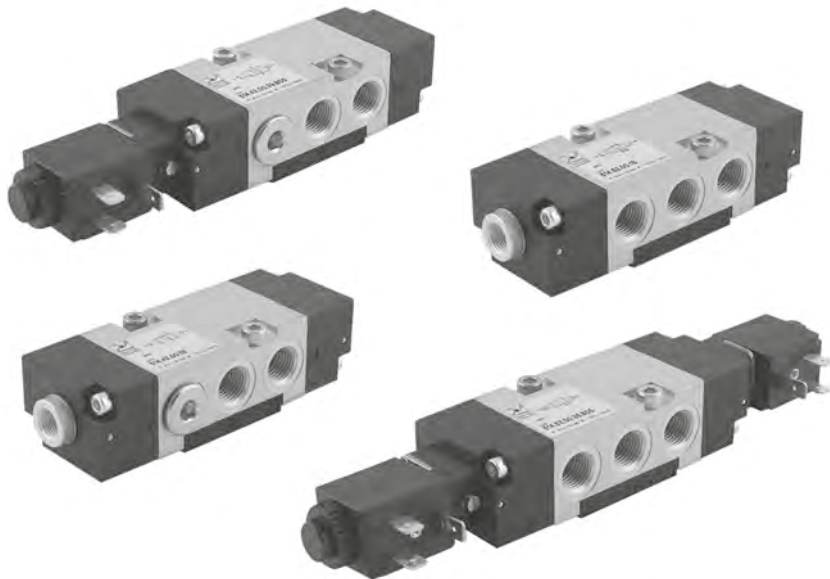
The product is classified for use in potentially explosive atmospheres (Directive 2014/34/EU).

NAMUR valves have been developed using the latest, technical design solutions which guarantee flexibility and an increased flow rate capacity exceeding that of traditional, spool valves.

In addition, they have been produced with innovative materials which guarantee increased performance.

Note:
"Although accurately described, the 4/2 valve actually functions as a 3/2 normally closed valve and should be used as such."

“NAMUR” interface dimensions:
according to standard (VDI/VDE 3847 July 2003)



Construction characteristics

Body	Aluminium
Spacer	Technopolymer
Seals	Nitrile rubber
Springs	Stainless Steel
Operators	Technopolymer
Spools	Steel
Screws	Zinc coated Steel / Stainless steel

Certifications available:

SOLENOID VALVES WITH XMB OR XMC 3GD COIL

: CE II 3G Ex h IIB T4 Gc X
CE II 3D Ex h IIIC T120°C Dc X IP65

MECHANICAL AND PNEUMATIC VALVES WITHOUT COILS

: CE II 2G Ex h IIB T5 Gc X
CE II 2D Ex h IIIC T96°C Dc X IP65

AIR DISTRIBUTION

1

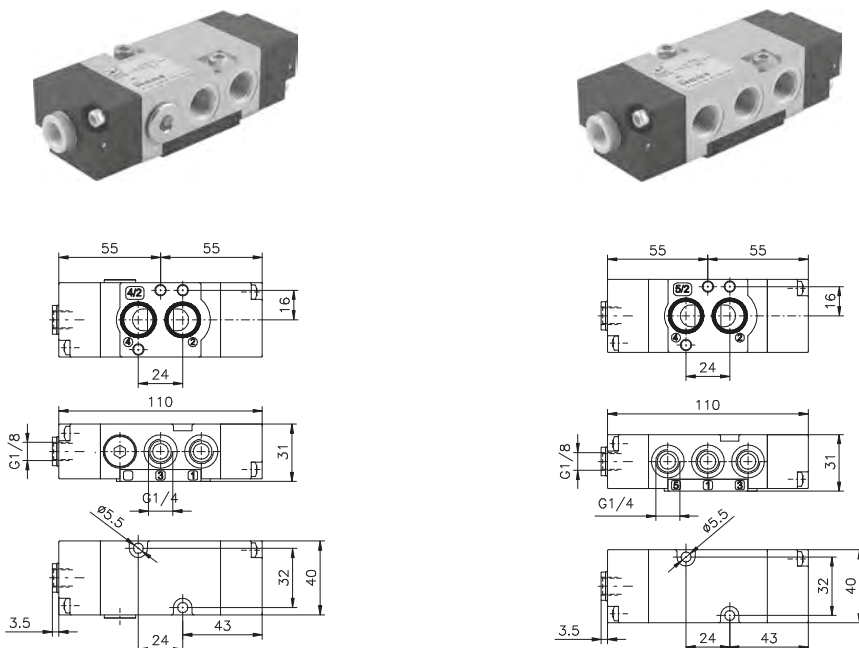
Pneumatic - Differential

Coding: **M514.F.00.16**Ⓞ

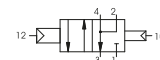
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10 Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Temperature °C	1100 Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

M	MODEL = Standard valve X = ATEX valve
F	FUNCTION 42 = 4 ways 52 = 5 ways
Ⓞ	TEMPERATURE OPTIONS = Standard valves (-10 ... +50) LT = Low temperature valves (-30 ... +50) = ATEX valves (-20 ... +40)

Minimum pilot pressure 2,5 bar
Maximum fitting torque 9 N/m



M514.42.00.16Ⓞ Weight 240 g



M514.52.00.16Ⓞ Weight 235 g



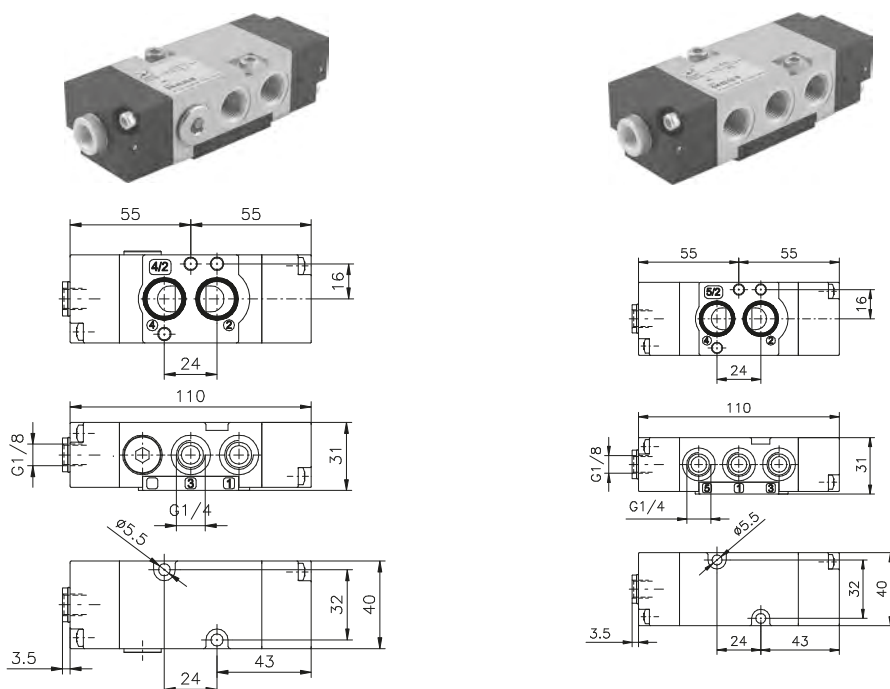
Pneumatic - Pneumatic

Coding: **M514.F.00.18**Ⓞ

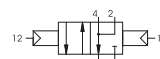
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10 Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Temperature °C	1100 Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

M	MODEL = Standard valve X = ATEX valve
F	FUNCTION 42 = 4 ways 52 = 5 ways
Ⓞ	TEMPERATURE OPTIONS = Standard valves (-10 ... +50) LT = Low temperature valves (-30 ... +50) = ATEX valves (-20 ... +40)

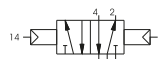
Minimum pilot pressure 2,5 bar
Maximum fitting torque 9 N/m



M514.42.00.18Ⓞ Weight 240 g



M514.52.00.18Ⓞ Weight 235 g



Pneumatic - Spring

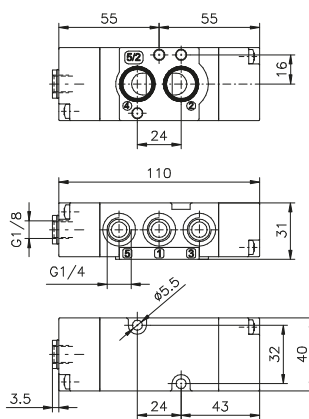
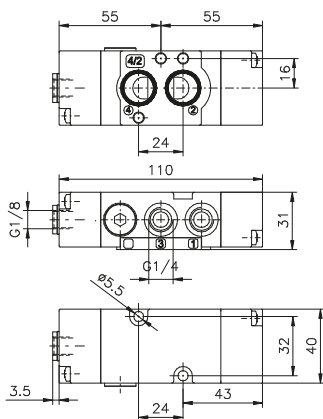
Coding: **M**514.**F**.00.19**⊙**

Operational characteristics

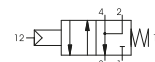
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

M	MODEL
	= Standard valve
X	= ATEX valve
F	FUNCTION
	42 = 4 ways
	52 = 5 ways
⊙	TEMPERATURE OPTIONS
	= Standard valves (-10 ... +50)
	LT = Low temperature valves (-30 ... +50)
	= ATEX valves (-20 ... +40)

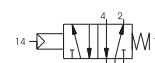
Minimum pilot pressure 2,5 bar
Maximum fitting torque 9 N/m



M514.42.00.19.⊙ Weight 240 g



M514.52.00.19.⊙ Weight 235 g

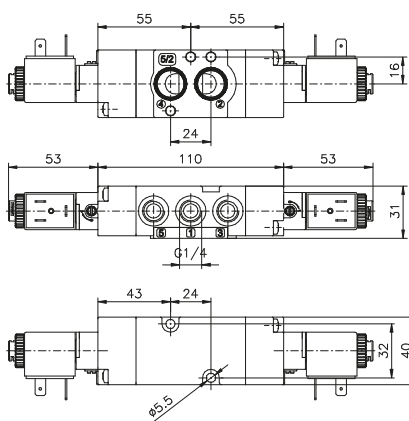
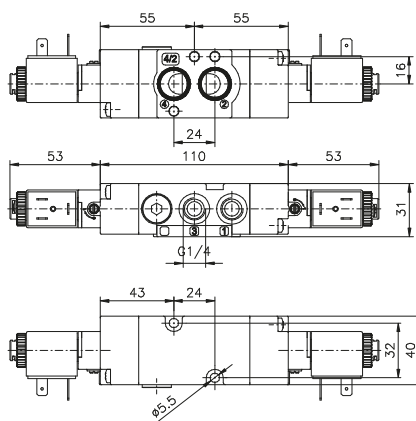


1 AIR DISTRIBUTION

Solenoid-Solenoid

Coding: M514.F.00.35.T.O

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"



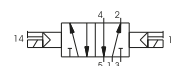
MODEL	
M	= Standard valve
X	= ATEX valve
FUNCTION	
F	42 = 4 ways
52	= 5 ways
VOLTAGE	
B04	= 12 VDC
B05	= 24 VDC
B09	= 24 VDC (2W)
B56	= 24V (50-60 Hz)
B57	= 110V (50-60 Hz)
B58	= 230 V (50-60 Hz)
C04	= 12 VDC
C05	= 24 VDC
T	
C09	= 24 VDC (2W)
C56	= 24 V (50-60 Hz)
C57	= 110 V (50-60 Hz)
C58	= 230 V (50-60 Hz)
F04	= 12 VDC
F05	= 24 VDC
F56	= 24 V (50-60 Hz)
F57	= 110 V (50-60 Hz)
F58	= 230 V (50-60 Hz)
TEMPERATURE OPTIONS	
	= Standard valves (-10 ... +50)
LT	= Low temperature valves (-30 ... +50)
O	= ATEX valves (-20 ... +40)

Minimum pilot pressure 2,5 bar
Maximum fitting torque 9 N/m
"LT" and "ATEX" versions are not available with MF coils

M514.42.00.35.O Weight 410 g



M514.52.00.35.O Weight 405 g



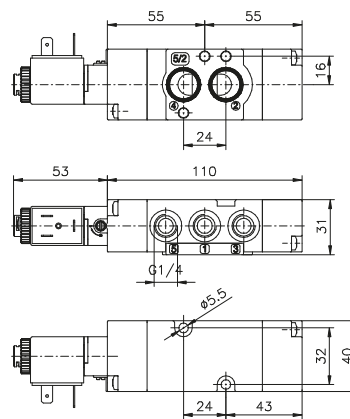
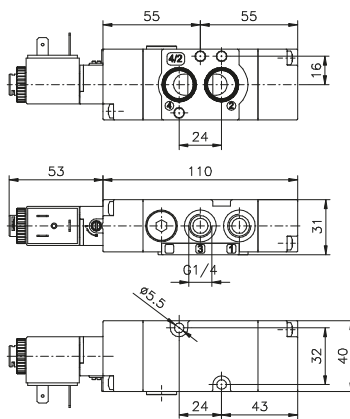
1
AIR DISTRIBUTION

Solenoid-Differential

Coding: **M**514.**F**.00.36**T****⊙**

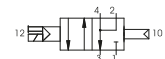
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

M	MODEL
	= Standard valve
	X = ATEX valve
F	FUNCTION
	42 = 4 ways
	52 = 5 ways
	VOLTAGE
	B04 = 12 VDC
	B05 = 24 VDC
	B09 = 24 VDC (2W)
	B56 = 24V (50-60 Hz)
	B57 = 110V (50-60 Hz)
	B58 = 230 V (50-60 Hz)
	C04 = 12 VDC
	C05 = 24 VDC
T	C09 = 24 VDC (2W)
	C56 = 24 V (50-60 Hz)
	C57 = 110 V (50-60 Hz)
	C58 = 230 V (50-60 Hz)
	F04 = 12 VDC
	F05 = 24 VDC
	F56 = 24 V (50-60 Hz)
	F57 = 110 V (50-60 Hz)
	F58 = 230 V (50-60 Hz)
	TEMPERATURE OPTIONS
	= Standard valves (-10 ... +50)
⊙	LT = Low temperature valves (-30 ... +50)
	= ATEX valves (-20 ... +40)

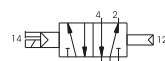


Minimum pilot pressure 2.5 bar
Maximum fitting torque 9 N/m
“LT” and “ATEX” versions are not available with MF coils

M514.42.00.36**T****⊙** Weight 330 g



M514.52.00.36**T****⊙** Weight 325 g

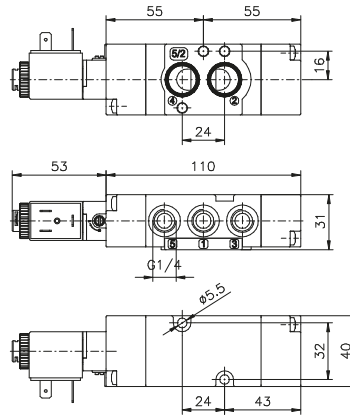
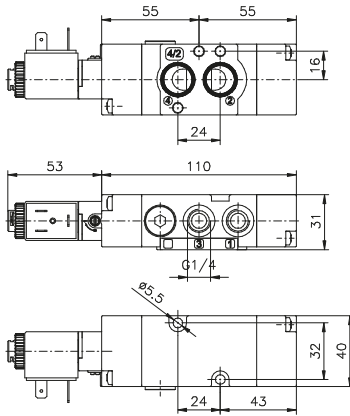


1 AIR DISTRIBUTION

Solenoid - Spring

Coding: **M514.F.00.39.T.O**

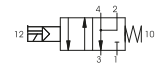
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"



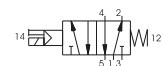
M	MODEL
	= Standard valve
X	= ATEX valve
	FUNCTION
F	42 = 4 ways
	52 = 5 ways
	VOLTAGE
B04	= 12 VDC
B05	= 24 VDC
B09	= 24 VDC (2W)
B56	= 24V (50-60 Hz)
B57	= 110V (50-60 Hz)
B58	= 230 V (50-60 Hz)
C04	= 12 VDC
C05	= 24 VDC
T	C09 = 24 VDC (2W)
	C56 = 24 V (50-60 Hz)
	C57 = 110 V (50-60 Hz)
	C58 = 230 V (50-60 Hz)
	F04 = 12 VDC
	F05 = 24 VDC
	F56 = 24 V (50-60 Hz)
	F57 = 110 V (50-60 Hz)
	F58 = 230 V (50-60 Hz)
	TEMPERATURE OPTIONS
	= Standard valves (-10 ... +50)
O	LT = Low temperature valves (-30 ... +50)
	= ATEX valves (-20 ... +40)

Minimum pilot pressure 2,5 bar
Maximum fitting torque 9 N/m
“LT” and “ATEX” versions are not available with MF coils

M514.42.00.39.T.O Weight 330 g



M514.52.00.39.T.O Weight 325 g



1
AIR DISTRIBUTION

Universal kit

Operational characteristics

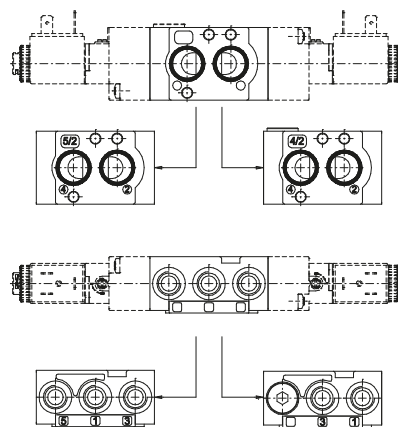
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

M	MODEL
	= Standard valve
	X = ATEX valve
	VERSION
	16 = Pneumatic - Differential
	18 = Pneumatic - Pneumatic
V	19 = Pneumatic - Spring
	35 = Solenoid - Solenoid
	36 = Solenoid - Differential
	39 = Solenoid - Spring
	VOLTAGE
	B04 = 12 VDC
	B05 = 24 VDC
	B09 = 24 VDC (2W)
	B56 = 24V (50-60 Hz)
	B57 = 110V (50-60 Hz)
	B58 = 230V (50-60 Hz)
	C04 = 12 VDC
	C05 = 24 VDC
T	C09 = 24 VDC (2W)
	C56 = 24 V (50-60 Hz)
	C57 = 110 V (50-60 Hz)
	C58 = 230 V (50-60 Hz)
	F04 = 12 VDC
	F05 = 24 VDC
	F56 = 24 V (50-60 Hz)
	F57 = 110 V (50-60 Hz)
	F58 = 230 V (50-60 Hz)
	TEMPERATURE OPTIONS
	= Standard valves (-10 ... +50)
O	LT = Low temperature valves (-30 ... +50)
	= ATEX valves (-20 ... +40)

Minimum pilot pressure 2,5 bar
Maximum fitting torque 9 N/m
“LT” and “ATEX” versions are not available with MF coils

To change a 5/2 valve into a 4/2:
Simply replace the bottom plate with the one included in the universal kit (cod. 514.92....) and by plugging port 5

Weight 405 g



1 AIR DISTRIBUTION

Series 515

General

NAMUR valves are 5/2 and 4/2 valves and electrovalves, piloted electrically or pneumatically, utilised primarily to operate rotary actuators and wherever there is a **NAMUR** standard installation plan.

The product is classified for use in potentially explosive atmospheres (Directive 2014/34/EU).

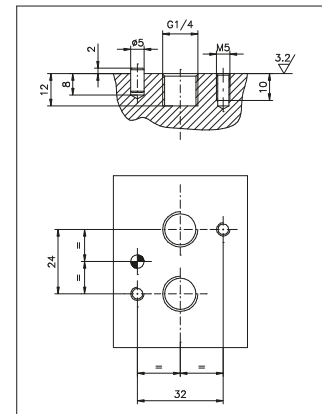
NAMUR valves have been developed using the latest, technical design solutions which guarantee flexibility and an increased flow rate capacity exceeding that of traditional, spool valves.

In addition, they have been produced with innovative materials which guarantee increased performance.

IMPORTANT:

Differs from version 514 because it is supplied without a plate.

“NAMUR” interface dimensions:
according to standard (VDI/VDE 3847 July 2003)



Construction characteristics

Body	Aluminium
Spacer	Technopolymer
Seals	Nitrile rubber
Springs	Stainless Steel
Operators	Technopolymer
Spools	Steel
Screws	Zinc coated Steel / Stainless steel

Certifications available:

SOLENOID VALVES WITH XMB OR XMC 3GD COIL

: CE II 3G Ex h IIB T4 Gc X
CE II 3D Ex h IIIC T120°C Dc X IP65

MECHANICAL AND PNEUMATIC VALVES WITHOUT COILS

: CE II 2G Ex h IIB T5 Gc X
CE II 2D Ex h IIIC T96°C Dc X IP65



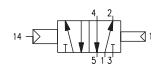
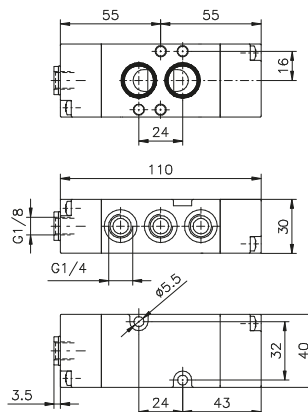
Pneumatic - Differential

Coding: **M515.52.00.16**

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

M	MODEL	⊙	TEMPERATURE OPTIONS
	= Standard valve		= Standard valves (-10 ... +50)
	X = ATEX valve		LT = Low temperature valves (-30 ... +50)
			= ATEX valves (-20 ... +40)



Weight 245 g
Minimum pilot pressure 2,5 bar
Maximum fitting torque 9 N/m

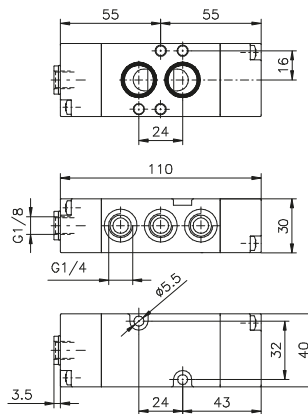
Pneumatic - Pneumatic

Coding: **M515.52.00.18**

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

M	MODEL	⊙	TEMPERATURE OPTIONS
	= Standard valve		= Standard valves (-10 ... +50)
	X = ATEX valve		LT = Low temperature valves (-30 ... +50)
			= ATEX valves (-20 ... +40)



Weight 245 g
Minimum pilot pressure 2,5 bar
Maximum fitting torque 9 N/m

AIR DISTRIBUTION

1



Pneumatic - Spring

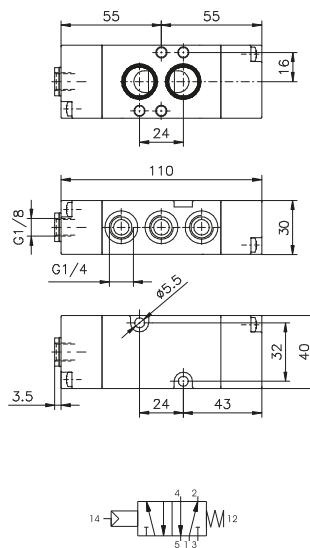
Coding: **M**515.52.00.19**Ⓞ**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

MODEL	TEMPERATURE OPTIONS
M = Standard valve	= Standard valves (-10 ... +50)
X = ATEX valve	LT = Low temperature valves (-30 ... +50)
	= ATEX valves (-20 ... +40)



Weight 245 g
Minimum pilot pressure 2,5 bar
Maximum fitting torque 9 N/m



1
AIR DISTRIBUTION



Solenoid-Solenoid

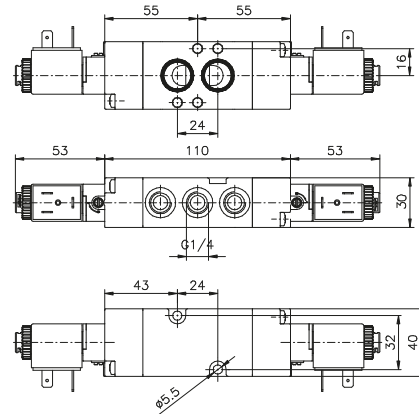
Coding: M515.52.00.35. T C

Operational characteristics

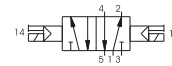
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

MODEL -	
M = Standard valve	
X = ATEX valve	
VOLTAGE	
B04 = 12 VDC	
B05 = 24 VDC	
B09 = 24 VDC (2W)	
B56 = 24V (50-60 Hz)	
B57 = 110V (50-60 Hz)	
B58 = 230 V (50-60 Hz)	
C04 = 12 VDC	
C05 = 24 VDC	
T C09 = 24 VDC (2W)	
C56 = 24 V (50-60 Hz)	
C57 = 110 V (50-60 Hz)	
C58 = 230 V (50-60 Hz)	
F04 = 12 VDC	
F05 = 24 VDC	
F56 = 24 V (50-60 Hz)	
F57 = 110 V (50-60 Hz)	
F58 = 230 V (50-60 Hz)	

TEMPERATURE OPTIONS
= Standard valves (-10 ... +50)
LT = Low temperature valves (-30 ... +50)
= ATEX valves (-20 ... +40)



Weight 415 g
Minimum pilot pressure 2,5 bar
Maximum fitting torque 9 N/m



1 AIR DISTRIBUTION

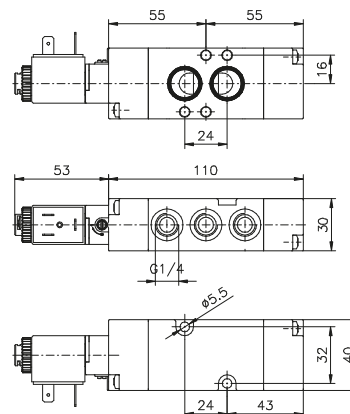


Solenoid-Differential

Coding: **M**515.52.00.36.**T****O**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Flow rate at 6 bar with Δp=1 (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

M	MODEL -	O	TEMPERATURE OPTIONS
	= Standard valve		= Standard valves (-10 ... +50)
	X = ATEX valve		LT = Low temperature valves (-30 ... +50)
	VOLTAGE		= ATEX valves (-20 ... +40)
	B04 = 12 VDC		
	B05 = 24 VDC		
	B09 = 24 VDC (2W)		
	B56 = 24V (50-60 Hz)		
	B57 = 110V (50-60 Hz)		
	B58 = 230 V (50-60 Hz)		
	C04 = 12 VDC		
	C05 = 24 VDC		
T	C09 = 24 VDC (2W)		
	C56 = 24 V (50-60 Hz)		
	C57 = 110 V (50-60 Hz)		
	C58 = 230 V (50-60 Hz)		
	F04 = 12 VDC		
	F05 = 24 VDC		
	F56 = 24 V (50-60 Hz)		
	F57 = 110 V (50-60 Hz)		
	F58 = 230 V (50-60 Hz)		



Weight 330 g
Minimum pilot pressure 2,5 bar
Maximum fitting torque 9 N/m

1
AIR DISTRIBUTION



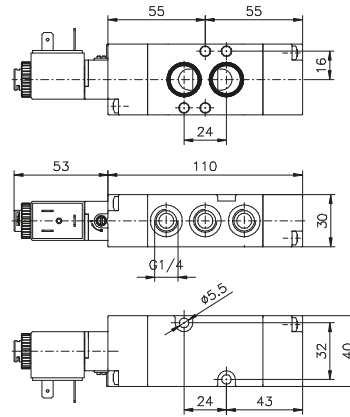
Solenoid - Spring

Coding: M515.52.00.39.TO

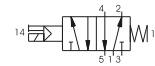
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	Standard valves (-10 ... +50) Low temperature valves (-30 ... +50) ATEX valves (-20 ... +40)
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1100
Orifice size (mm)	8
Working ports size	G 1/4"

M	MODEL	C	TEMPERATURE OPTIONS
	= Standard valve		= Standard valves (-10 ... +50)
	X = ATEX valve		LT = Low temperature valves (-30 ... +50)
	VOLTAGE		= ATEX valves (-20 ... +40)
	B04 = 12 VDC		
	B05 = 24 VDC		
	B09 = 24 VDC (2W)		
	B56 = 24V (50-60 Hz)		
	B57 = 110V (50-60 Hz)		
	B58 = 230 V (50-60 Hz)		
	C04 = 12 VDC		
	C05 = 24 VDC		
T	C09 = 24 VDC (2W)		
	C56 = 24 V (50-60 Hz)		
	C57 = 110 V (50-60 Hz)		
	C58 = 230 V (50-60 Hz)		
	F04 = 12 VDC		
	F05 = 24 VDC		
	F56 = 24 V (50-60 Hz)		
	F57 = 110 V (50-60 Hz)		
	F58 = 230 V (50-60 Hz)		



Weight 330 g
Minimum pilot pressure 2,5 bar
Maximum fitting torque 9 N/m



AIR DISTRIBUTION

1



Series 1000 - Size 1, 2 & 3

General

5 ways 2 or 3 positions distributors and electric distributors can be used mounted on individual or ganged bases. These standards are ISO 5599/1, according to which certain dimensions are mandatory, namely, the mounting surface, the pitch of the fastening screws, the characteristic of the electric pilot, the flow rate, the pneumatic connections, and so on. The design is based on the balanced spool principle with pneumatic or electropneumatic actuators and resetting by mechanically or pneumatically operated spring. The 3 position closed centres, are obtained by spring operation. The feed to the actuators on the distributors can be provided either by pressure intake from inlet 1 (autofeed) or through the base from inlets 12 and 14 (external feed); there are two separate types of these distributors: one is the Series 1000 and the other is the Series 1010. The Serie 1000 includes size 1 and 2 and are built of die-cast aluminium. The selection is made by turning a seal fitted between body and operator by 180°, so to utilize external-feed pilot or with internal feed.

Ordering codes are referring to distributors with "M2" mechanics or solenoid valves "S" mounted. Coil are not included and have to be ordered separately (see Series 300). "S" homologated c RU solenoid coil are available (see Series 300).

Use and maintenance

This valves have an average life of 15 million cycles depending on the application and air quality. Filtered and lubricated air using specified lubricants will reduce the wear of the seals and ensures long and trouble free operation. Make sure that the conditions of use comply with the pressure, temperature etc. limits indicated and that the fastening screws are tightened with the following maximum torques on distributors Serie 1010.

Size 1 = 4 Nm
Size 2 = 5 Nm
Size 3 = 8 Nm

Repair kits including the spool complete with seals are available for overhauling the valves. However, although this is a simple operation it should be carried out by a competent person.

ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).

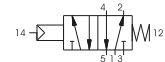
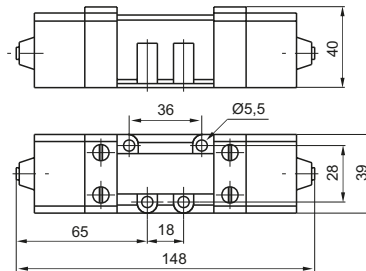
Construction characteristics

Series 1000	Size 1	Size 2	
Body	Zinc alloy	Aluminium	
Operators	Zinc alloy	Aluminium	
Spools	Steel	Steel	
Seals	NBR	NBR	
Spacer	Technopolymer	Aluminium	
Springs	Spring steel	Spring steel	
Selectors	NBR	NBR	
Series 1010	Size 1	Size 2	Size 3
Body	Technopolymer	Technopolymer	Aluminium
Operators	Technopolymer	Technopolymer	Aluminium
Spools	Steel	Steel	Steel
Seals	NBR	NBR	NBR
Spacer	Technopolymer	Technopolymer	Technopolymer
Pistons	Aluminium	Aluminium	Aluminium
Springs	Spring steel	Spring steel	Spring steel

Pneumatic - Spring

Coding: 1001.52.1.9

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	840

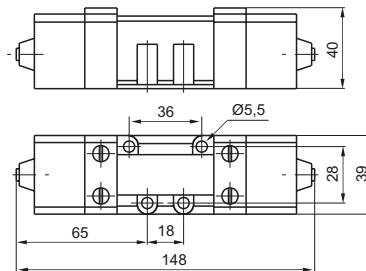


Weight 780 g
Minimum piloting pressure 2,5 bar

Pneumatic - Differential

Coding: 1001.52.1.6

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	840

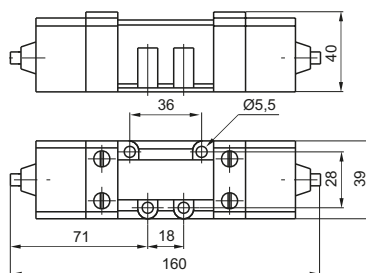


Weight 790 g
Minimum piloting pressure 2 bar

Pneumatic-Pneumatic 5/2

Coding: 1001.52.1.8

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	840



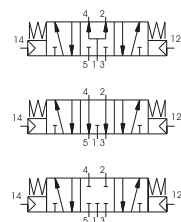
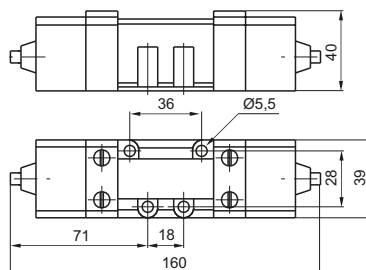
Weight 800 g
Minimum piloting pressure 1,5 bar

Pneumatic-Pneumatic 5/3

Coding: 1001.53.1.8

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	720

FUNCTION	
F 31	= Closed centres
F 32	= Open centres
F 33	= Pressured centres

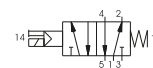
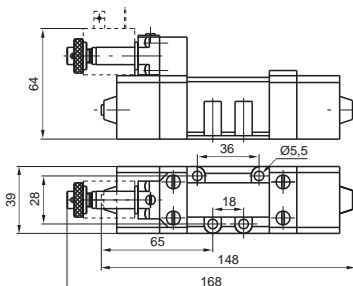


Weight 800 g
Minimum piloting pressure 3 bar

Solenoid - Spring

Coding: 1051.52.3.9.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	840

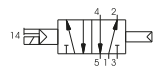
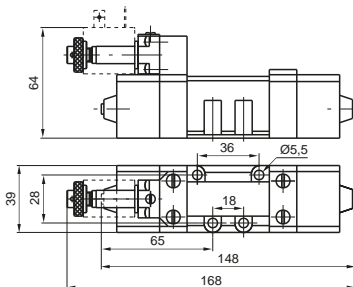


Weight 890 g
Minimum piloting pressure 2,5 bar

Solenoid-Differential

Coding: 1051.52.3.6.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	840

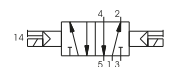
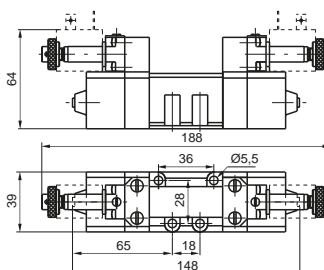


Weight 900 g
Minimum piloting pressure 2 bar

Solenoid-Solenoid 5/2

Coding: 1051.52.3.5.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	840



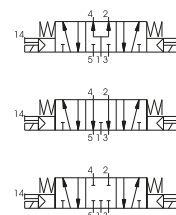
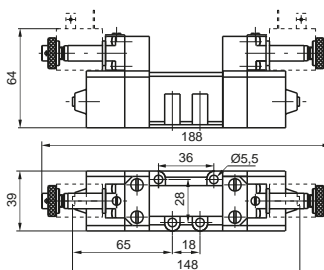
Weight 1040 g
Minimum piloting pressure 1,5 bar

Solenoid-Solenoid 5/3

Coding: 1051.53.3.5.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	720

FUNCTION
31 = Closed centres
32 = Open centres
33 = Pressured centres

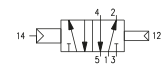
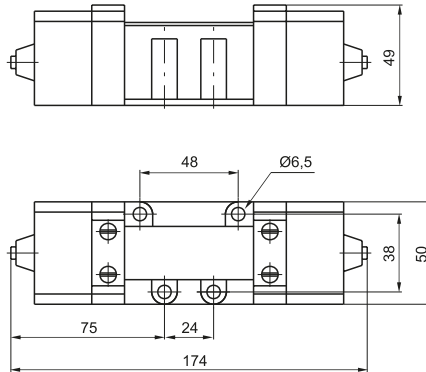


Weight 1040 g
Minimum piloting pressure 3 bar

Pneumatic - Differential

Coding: 1002.52.1.6

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (l/min)	1700

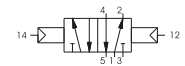
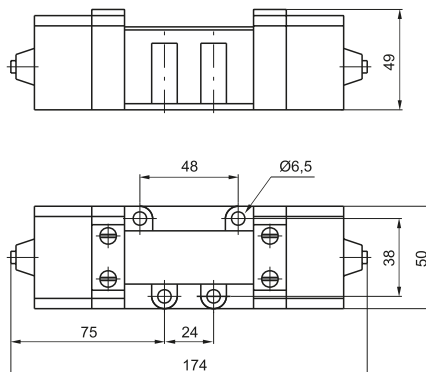


Weight 730 g
Minimum piloting pressure 2 bar

Pneumatic-Pneumatic 5/2

Coding: 1002.52.1.8

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (l/min)	1700



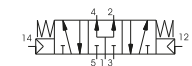
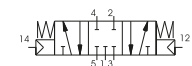
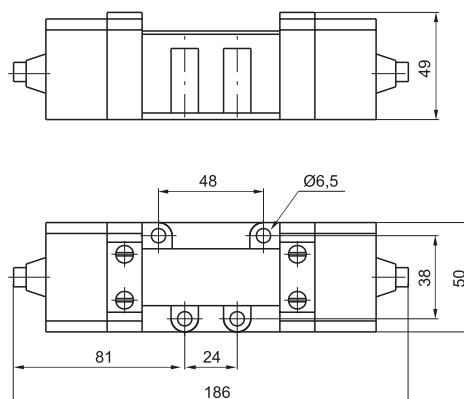
Weight 800 g
Minimum piloting pressure 1,5 bar

Pneumatic-Pneumatic 5/3

Coding: 1002.53.1.8

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p=1$ (l/min)	1700

FUNCTION	
F 31	= Closed centres
32	= Open centres
33	= Pressured centres

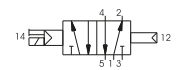
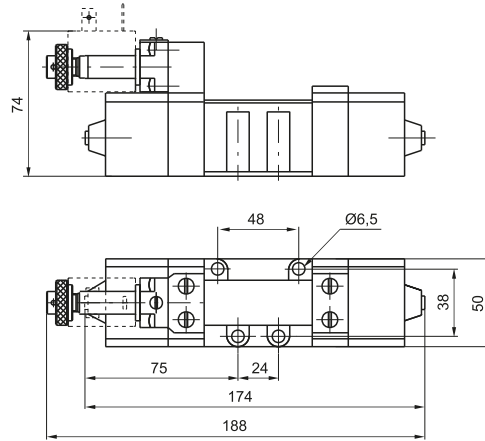


Weight 740 g
Minimum piloting pressure 3 bar

Solenoid-Differential

Coding: 1052.52.3.6.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1700

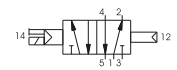
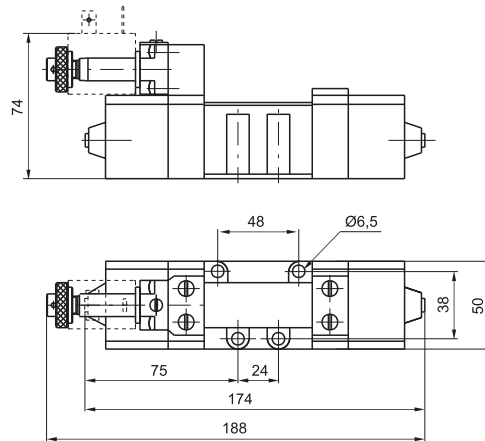


Weight 850 g
Minimum piloting pressure 2 bar

Solenoid-Solenoid 5/2

Coding: 1052.52.3.5.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1700



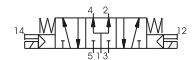
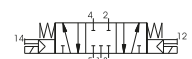
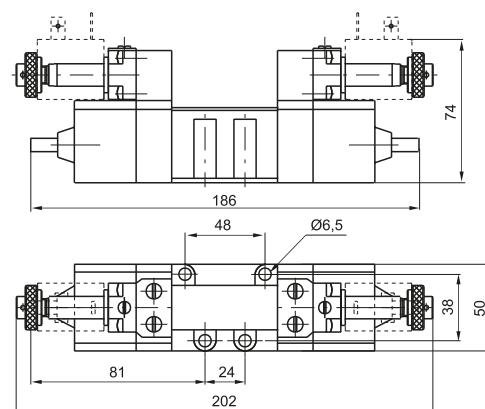
Weight 980 g
Minimum piloting pressure 1,5 bar

Solenoid-Solenoid 5/3

Coding: 1052.53.F.3.5.M2

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1700

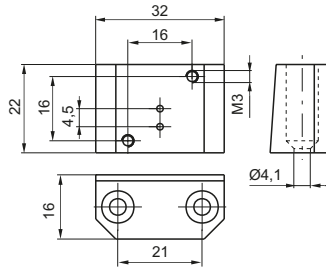
FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres



Weight 980 g
Minimum piloting pressure 3 bar

► Base for 32 mm Solenoid valve

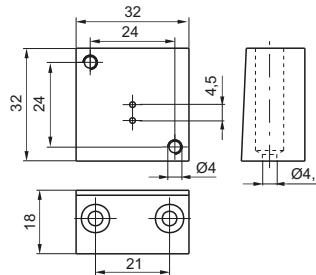
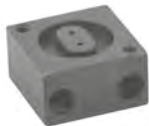
Coding: 1001.05



Weight 60 g

► Base CNOMO for 32 mm Solenoid valve

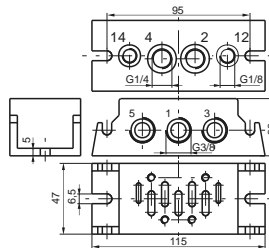
Coding: 1001.04



Weight 90 g

► Base with bottom connections size 1

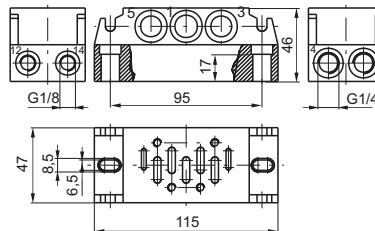
Coding: 1001.00



Weight 320 g
1=INLET PORT 2-4=OUTLET PORTS
3-5=EXHAUST PORTS 12-14=PILOT PORTS

► Base with side connections size 1

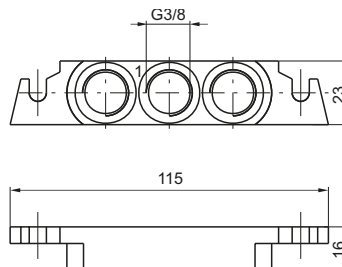
Coding: 1001.01



Weight 445 g
1=INLET PORT 2-4=OUTLET PORTS
3-5=EXHAUST PORTS 12-14=PILOT PORTS

► Inlet blocks

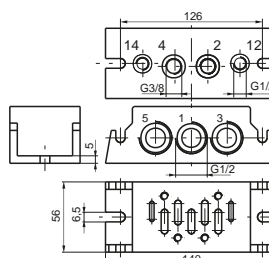
Coding: 1001.02



Weight 55 g

► Base with bottom connections size 2

Coding: 1002.00

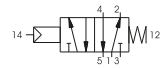
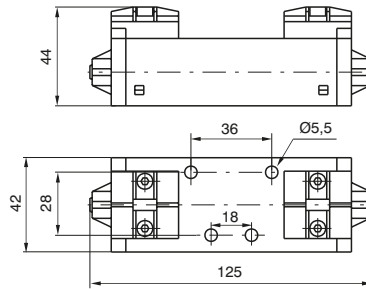


Weight 520 g
1=INLET PORT 2-4=OUTLET PORTS
3-5=EXHAUST PORTS 12-14=PILOT PORTS

Pneumatic - Spring

Coding: 1011.52.1.9

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900

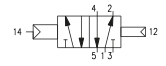
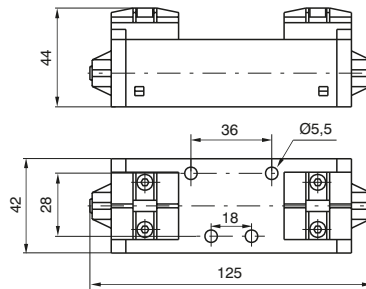


Weight 230 g
Minimum piloting pressure 2,5 bar

Pneumatic - Differential

Coding: 1011.52.1.6

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900

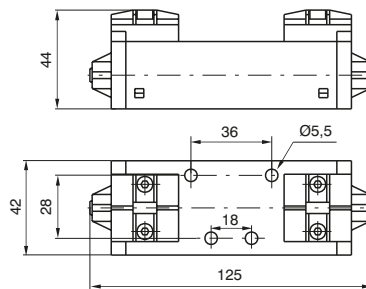


Weight 240 g
Minimum piloting pressure 2 bar

Pneumatic-Pneumatic 5/2

Coding: 1011.52.1.8

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900



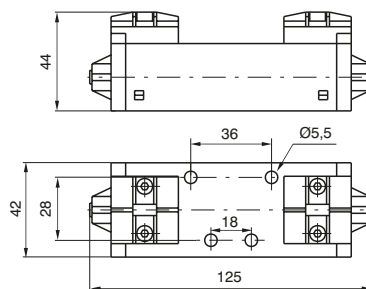
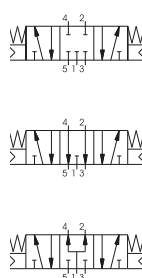
Weight 240 g
Minimum piloting pressure 1,5 bar

Pneumatic-Pneumatic 5/3

Coding: 1011.53.1.8

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900

FUNCTION
31 = Closed centres
32 = Open centres
33 = Pressured centres



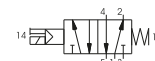
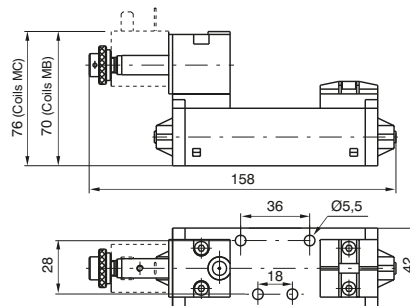
Weight 240 g
Minimum piloting pressure 3 bar

Solenoid - Spring

Coding: 1011.52.3.9. **M**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900

M	MECHANICAL CODE SEE VALVES SERIES 300 CNOMO
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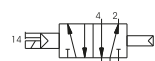
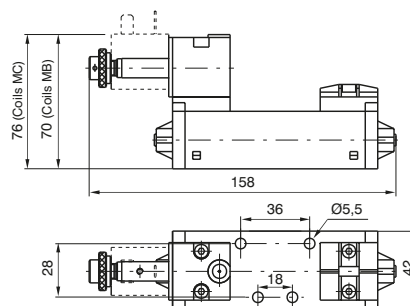
Weight 290 g
Minimum piloting pressure 2,5 bar

Solenoid-Differential

Coding: 1011.52.3.6. **M**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900

M	MECHANICAL CODE SEE VALVES SERIES 300 CNOMO
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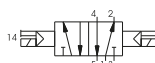
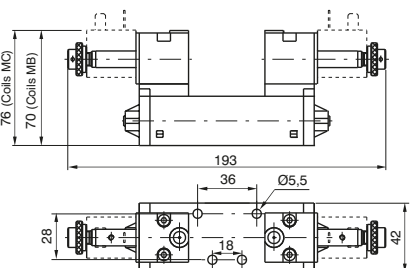
Weight 290 g
Minimum piloting pressure 2 bar

Solenoid-Solenoid 5/2

Coding: 1011.52.3.5. **M**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900

M	MECHANICAL CODE SEE VALVES SERIES 300 CNOMO
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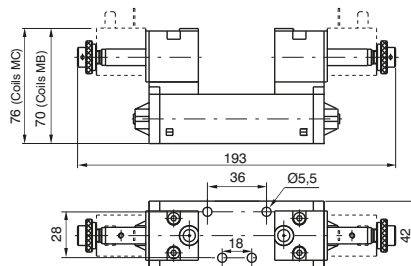
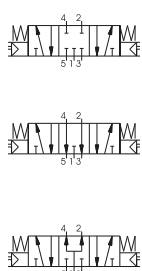
Weight 350 g
Minimum piloting pressure 1,5 bar

Solenoid-Solenoid 5/3

Coding: 1011.53. **F**.3.5. **M**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900

F	FUNCTION 31 = Closed centres 32 = Open centres 33 = Pressured centres
M	MECHANICAL CODE SEE VALVES SERIES 300 CNOMO

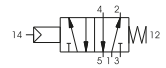
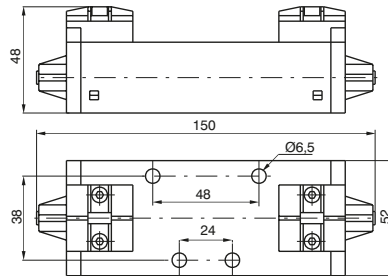


Weight 350 g
Minimum piloting pressure 3 bar

Pneumatic - Spring

Coding: 1012.52.1.9

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1600

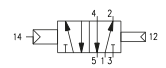
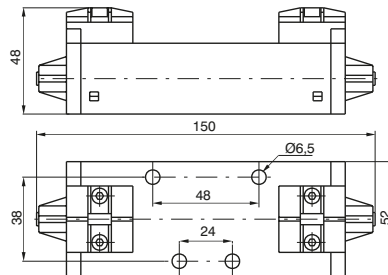


Weight 300 g
Minimum piloting pressure 2,5 bar

Pneumatic - Differential

Coding: 1012.52.1.6

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1600

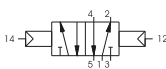
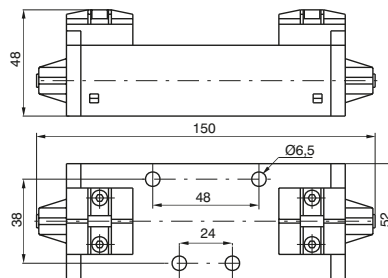


Weight 310 g
Minimum piloting pressure 2 bar

Pneumatic-Pneumatic 5/2

Coding: 1012.52.1.8

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1600



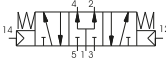
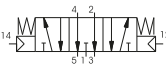
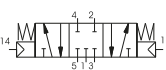
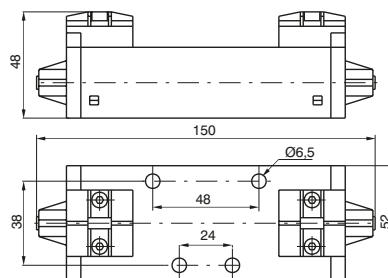
Weight 310 g
Minimum piloting pressure 1,5 bar

Pneumatic-Pneumatic 5/3

Coding: 1012.53.1.8

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1600

FUNCTION
F 31 = Closed centres
32 = Open centres
33 = Pressured centres



Weight 310 g
Minimum piloting pressure 3 bar

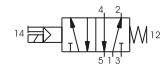
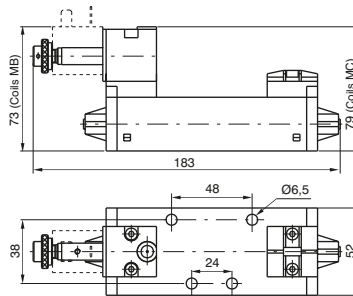
1012.53.1.8

Solenoid - Spring

Coding: 1012.52.3.9. **M**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1600

M	MECHANICAL CODE SEE VALVES SERIES 300 CNOMO
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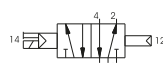
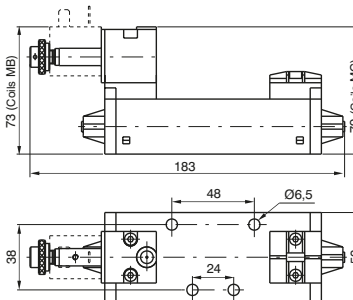
Weight 360 g
Minimum piloting pressure 2,5 bar

Solenoid-Differential

Coding: 1012.52.3.6. **M**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1600

M	MECHANICAL CODE SEE VALVES SERIES 300 CNOMO
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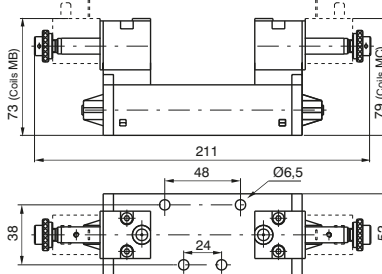
Weight 360 g
Minimum piloting pressure 2 bar

Solenoid-Differential

Coding: 1012.52.3.5. **M**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1600

M	MECHANICAL CODE SEE VALVES SERIES 300 CNOMO
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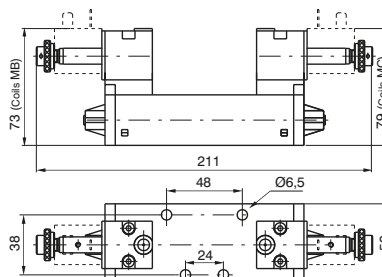
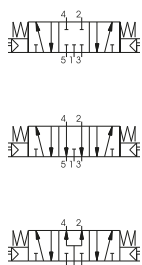
Weight 420 g
Minimum piloting pressure 1,5 bar

Solenoid-Solenoid 5/3

Coding: 1012.53. **F**.3.5. **M**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1600

F	FUNCTION 31 = Closed centres 32 = Open centres 33 = Pressured centres
M	MECHANICAL CODE SEE VALVES SERIES 300 CNOMO



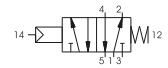
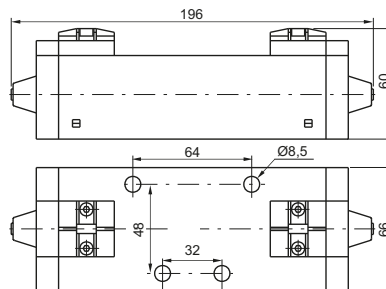
Weight 420 g
Minimum piloting pressure 3 bar

1012.53. **F**.3.5. **M**

Pneumatic - Spring

Coding: 1013.52.1.9

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600

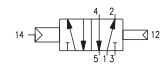
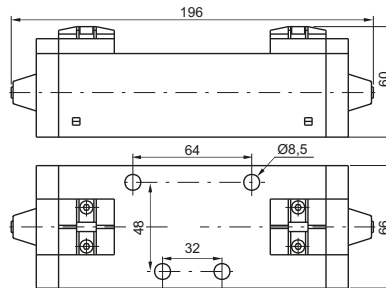


Weight 1000 g
Minimum piloting pressure 2,5 bar

Pneumatic - Differential

Coding: 1013.52.1.6

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600

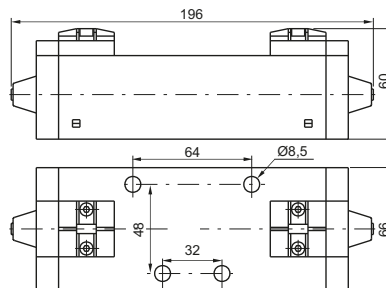


Weight 1020 g
Minimum piloting pressure 2 bar

Pneumatic-Pneumatic 5/2

Coding: 1013.52.1.8

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600



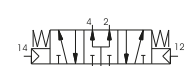
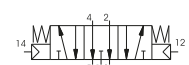
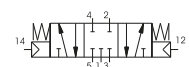
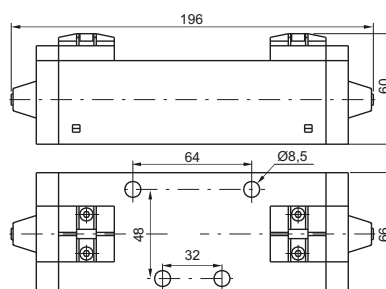
Weight 1050 g
Minimum piloting pressure 1,5 bar

Pneumatic-Pneumatic 5/3

Coding: 1013.53.1.8

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3000

FUNCTION
F 31 = Closed centres
32 = Open centres
33 = Pressured centres



Weight 1050 g
Minimum piloting pressure 3 bar

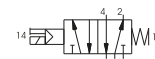
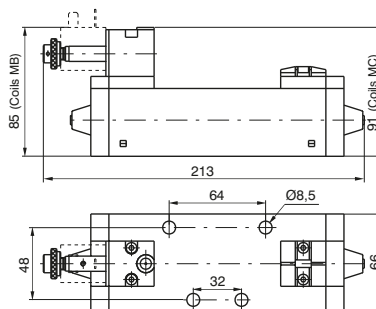
1013.53.1.8

Solenoid - Spring

Coding: 1013.52.3.9.M

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600

M	MECHANICAL CODE SEE VALVES SERIES 300 CNOMO
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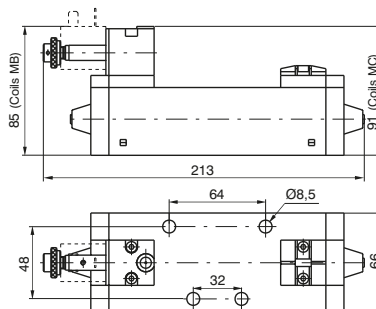
Weight 1060 g
Minimum piloting pressure 2,5 bar

Solenoid-Differential

Coding: 1013.52.3.6.M

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600

M	MECHANICAL CODE SEE VALVES SERIES 300 CNOMO
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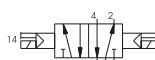
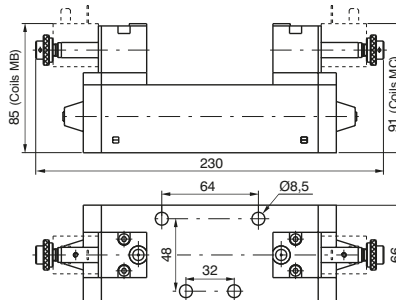
Weight 1080 g
Minimum piloting pressure 2 bar

Solenoid-Solenoid 5/2

Coding: 1013.52.3.5.M

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600

M	MECHANICAL CODE SEE VALVES SERIES 300 CNOMO
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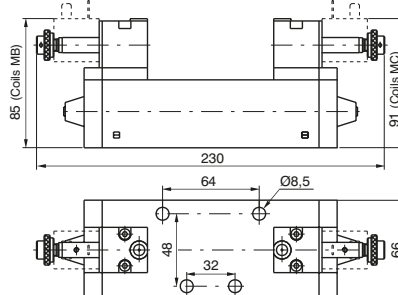
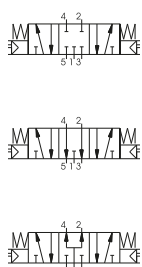
Weight 1170 g
Minimum piloting pressure 1,5 bar

Solenoid-Solenoid 5/3

Coding: 1013.53.F.3.5.M

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3000

F	FUNCTION 31 = Closed centres 32 = Open centres 33 = Pressured centres
M	MECHANICAL CODE SEE VALVES SERIES 300 CNOMO



Weight 1170 g
Minimum piloting pressure 3 bar

1013.53.F.3.5.M



Series 1100 - Modular bases with side and bottom connections

General

These bases are manufactured with the outlet and pilot ports on both the sides and the bottom faces giving the option for use with any application.

Unused ports must be blanked off using threaded plugs which are not included in the part number or price.

To isolate bases from each other for use with different supply pressures ports 1, 3 & 5 should be plugged underneath the seal.

The codes are:

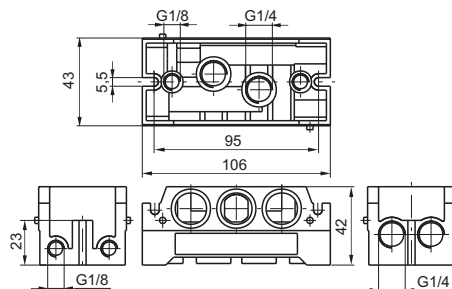
1101.17 (size 1) - 1102.17 (size 2) - 1103.17 (size 3)



Modular bases

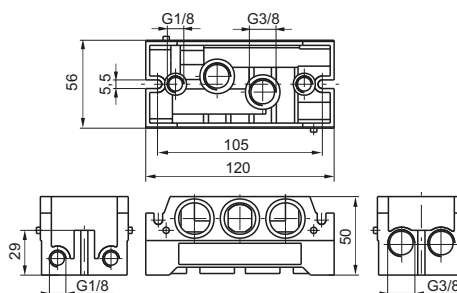
Coding: 110T.00

SIZE	
T 1	= Size 1
2	= Size 2
3	= Size 3



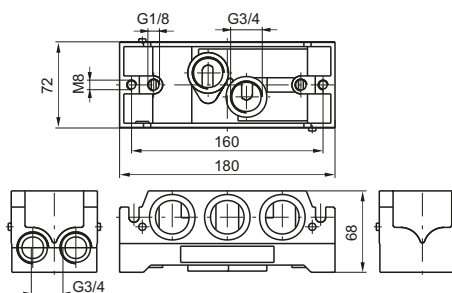
Weight 240 g

1101.00



Weight 340 g

1102.00

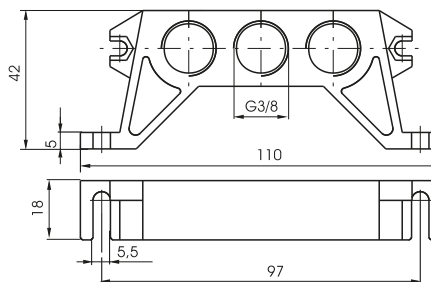


Weight 950 g

1103.00

Inlet blocks, Size 1

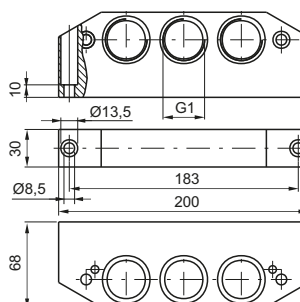
Coding: 1101.09



Weight 100 g

Inlet blocks, Size 3

Coding: 1103.11



Weight 840 g

AIR DISTRIBUTION

1

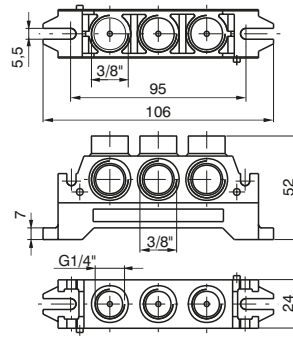
Inlet blocks

Coding: 110**T**.**N**



Weight 160 g

1101.**N**

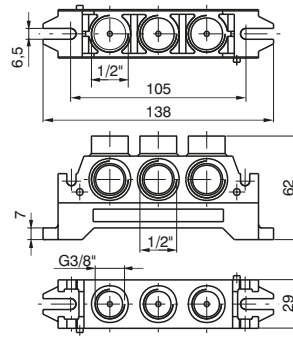


	SIZE
T	1 = Size 1 2 = Size 2
	WORKING PORTS SIZE
N	10 = Universal 11 = In line 12 = Top connections 13 = Bottom connections



Weight 230 g

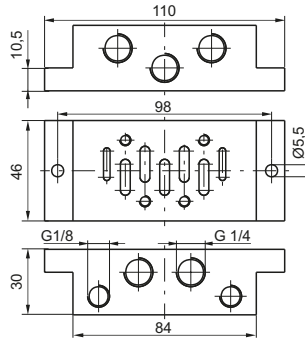
1102.**N**



Single use bases

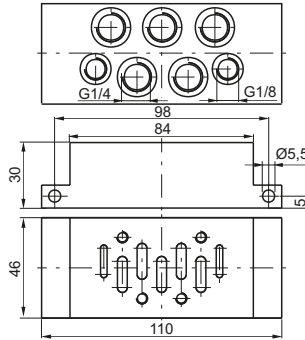
Coding: 110T.F

	SIZE
1	= Size 1
2	= Size 2
3	= Size 3
	SHAPE
14	= Shape A
15	= Shape B (only for sizes 1 & 2)



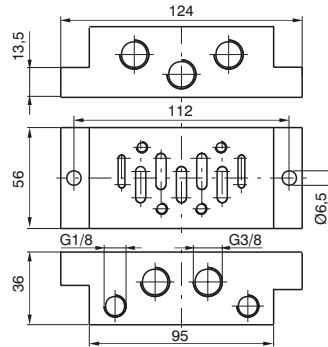
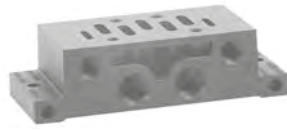
Weight 160 g

1101.14



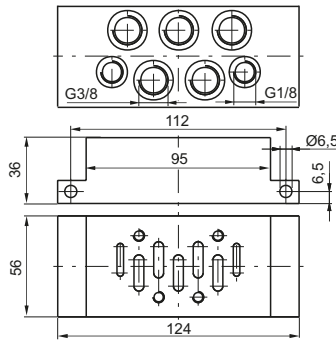
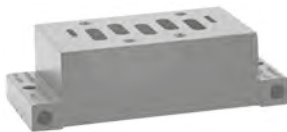
Weight 190 g

1101.15



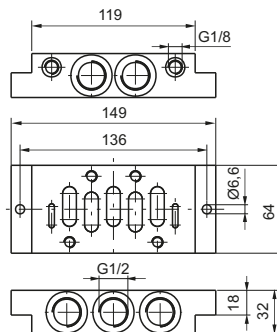
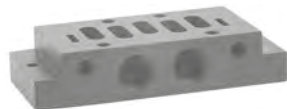
Weight 190 g

1102.14



Weight 220 g

1102.15



Weight 600 g

1103.14

AIR DISTRIBUTION

1

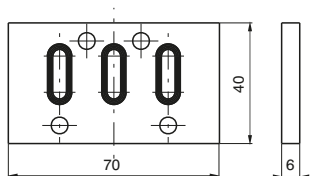
▶ Closing plate

Coding: 1100.1.16

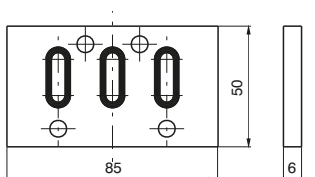
SIZE
1 = Size 1
2 = Size 2
3 = Size 3



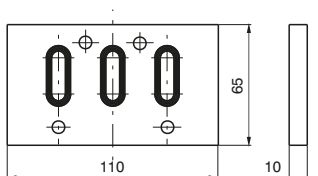
1101.16



1102.16



1103.16



▶ Base adaptor

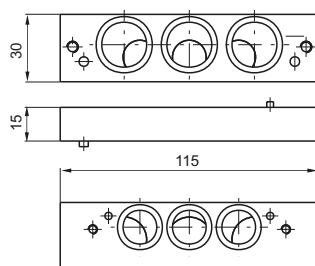
Coding: 1100.1.1

SIZE
2 = Sizes 2-1
3 = Sizes 3-2



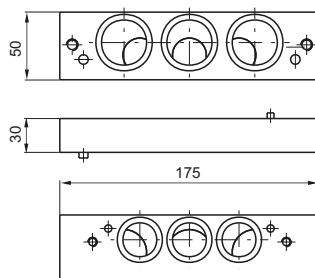
Weight 110 g

1100.2-1



Weight 590 g

1100.3-2





Series 1000 M12 - Size 1, 2 & 3

General

The ISO 5599/1 Solenoid valves Series 1000 M12 are available in three sizes with flow rates from 900 NI/min for size 1 up to the 3600 NI/min for size 3.

The standard features of the ISO valves are still included, however, they are now combined with a M12 electrical connector located in the middle of the valve to manage the electrical signals.

Versions are available to suit valves with both single and double 24VDC solenoids complete with IP65 protection.

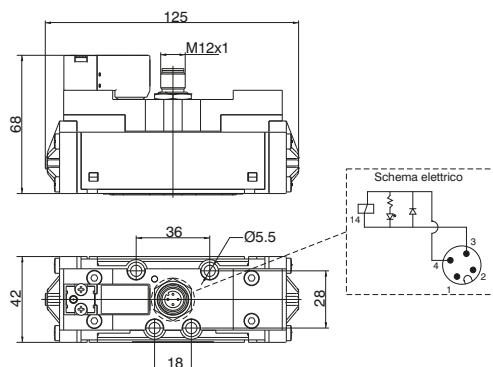
All version are supplied with LED indicators

“Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power-Directional control valves-Measurement of shifting time”

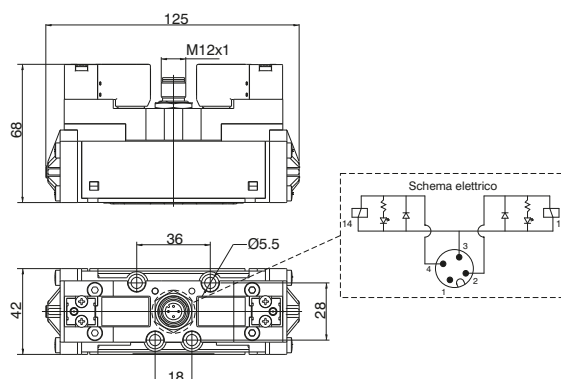
Electrical characteristics

- Electrical connector M12x1
- Protection degree IP65
- Input voltage 24VDC
- Nominal power 2,3W
- LED identification

Monostable version



Bistable version



Solenoid - Spring

Coding: 1111.52.3.9.Ⓟ

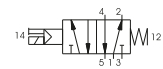
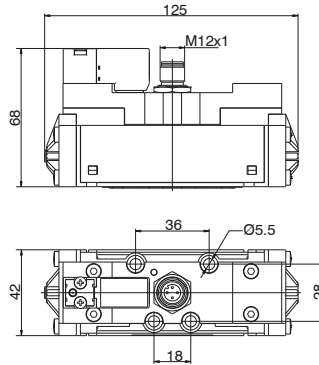
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900
Response time according to ISO 12238, activation time (ms)	16
Response time according to ISO 12238, deactivation time (ms)	122

Ⓟ	COIL VOLTAGE
12P	= 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 350 g



Solenoid-Differential

Coding: 1111.52.3.6.Ⓟ

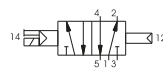
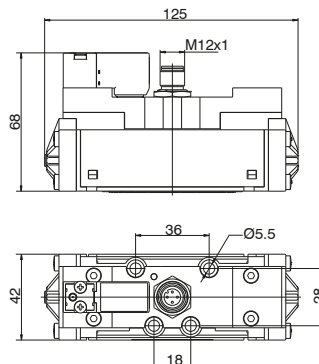
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900
Response time according to ISO 12238, activation time (ms)	32
Response time according to ISO 12238, deactivation time (ms)	51

Ⓟ	COIL VOLTAGE
12P	= 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 356 g



Solenoid-Solenoid 5/2

Coding: 1111.52.3.5.Ⓟ

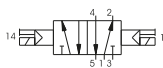
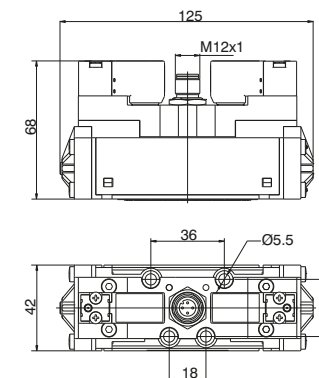
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	1.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900
Response time according to ISO 12238, activation time (ms)	13
Response time according to ISO 12238, deactivation time (ms)	14

Ⓟ	COIL VOLTAGE
12P	= 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 390 g





Solenoid-Solenoid 5/3

Coding: 1111.53.F.3.5.T

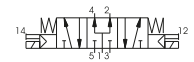
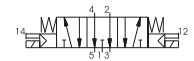
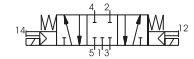
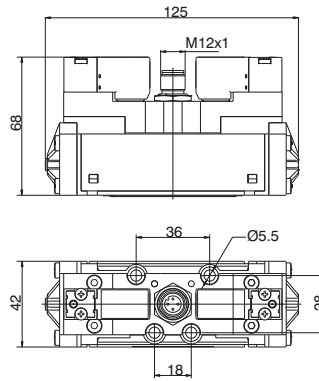
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	3
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900
Response time according to ISO 12238, activation time (ms)	18 (Closed centres) 18 (Open centres) 19 (Pressured centres)
Response time according to ISO 12238, deactivation time (ms)	19 (Closed centres) 20 (Open centres) 18 (Pressured centres)

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
COIL VOLTAGE	
T	12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

1

AIR DISTRIBUTION



Weight 392 g

Solenoid - Spring

Coding: 1112.52.3.9.1

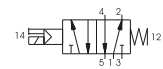
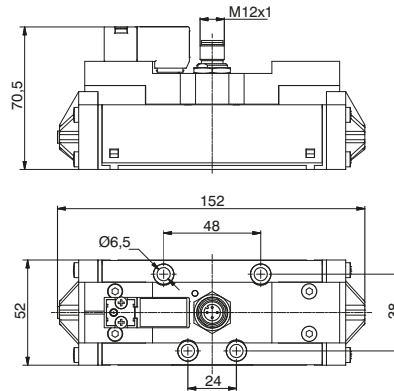
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1600
Response time according to ISO 12238, activation time (ms)	24
Response time according to ISO 12238, deactivation time (ms)	124

1 COIL VOLTAGE
12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 510 g



Solenoid-Differential

Coding: 1112.52.3.6.1

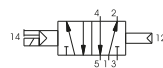
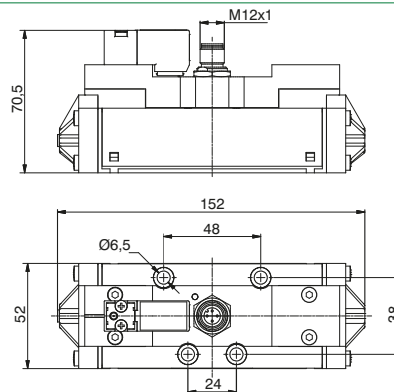
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1600
Response time according to ISO 12238, activation time (ms)	37
Response time according to ISO 12238, deactivation time (ms)	90

1 COIL VOLTAGE
12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 515 g



Solenoid-Solenoid 5/2

Coding: 1112.52.3.5.1

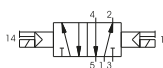
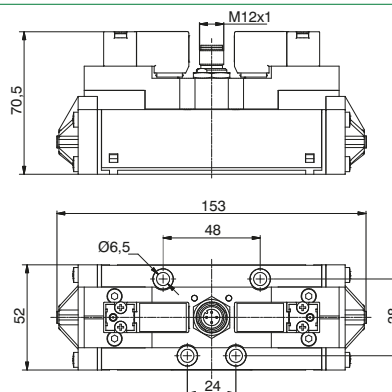
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	1.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1600
Response time according to ISO 12238, activation time (ms)	17
Response time according to ISO 12238, deactivation time (ms)	20

1 COIL VOLTAGE
12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 550 g





Solenoid-Solenoid 5/3

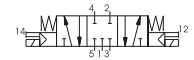
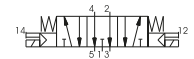
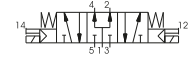
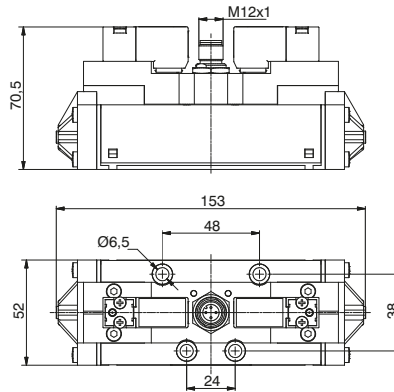
Coding: 1112.53.F.3.5.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	3
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1600
Response time according to ISO 12238, activation time (ms)	18 (Closed centres) 18 (Open centres) 20 (Pressured centres)
Response time according to ISO 12238, deactivation time (ms)	112 (Closed centres) 106 (Open centres) 118 (Pressured centres)

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
COIL VOLTAGE	
T	12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

AIR DISTRIBUTION



Weight 560 g

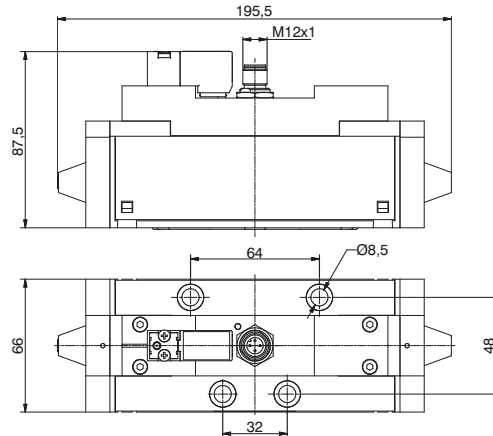
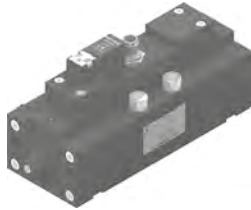
Solenoid - Spring

Coding: 1113.52.3.9.①

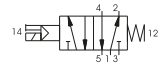
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Response time according to ISO 12238, activation time (ms)	46
Response time according to ISO 12238, deactivation time (ms)	254

①	COIL VOLTAGE
12P	= 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 1360 g



1
AIR DISTRIBUTION

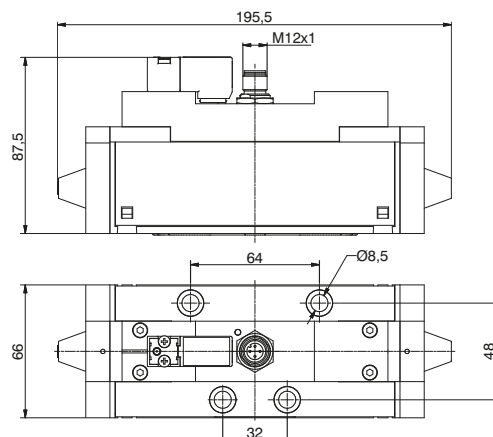
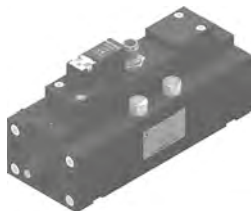
Solenoid-Differential

Coding: 1113.52.3.6.①

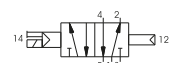
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Response time according to ISO 12238, activation time (ms)	78
Response time according to ISO 12238, deactivation time (ms)	180

①	COIL VOLTAGE
12P	= 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 1360 g



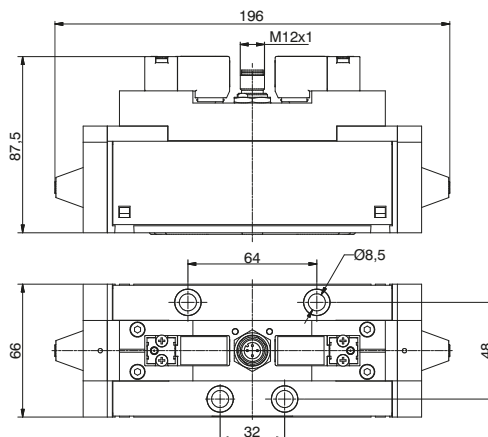
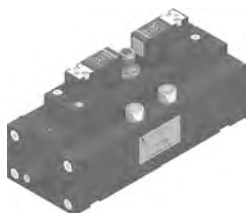
Solenoid-Solenoid 5/2

Coding: 1113.52.3.5.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	1.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Response time according to ISO 12238, activation time (ms)	32
Response time according to ISO 12238, deactivation time (ms)	37

COIL VOLTAGE
12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 1370 g

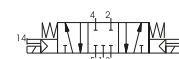
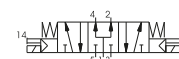
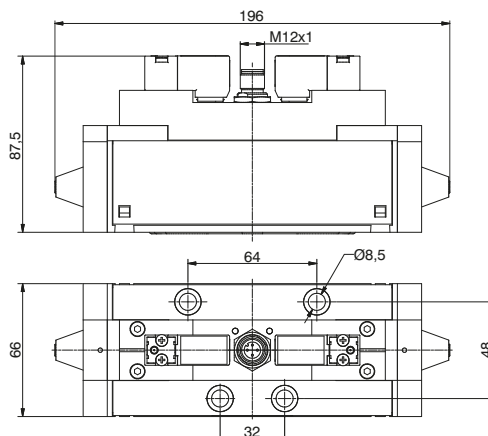
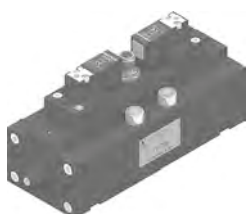
Solenoid-Solenoid 5/3

Coding: 1113.53.3.5.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	3
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Response time according to ISO 12238, activation time (ms)	30 (Closed centres) 30 (Open centres) 32 (Pressured centres)
Response time according to ISO 12238, deactivation time (ms)	305 (Closed centres) 230 (Open centres) 270 (Pressured centres)

COIL VOLTAGE
12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 1380 g



Series 600 - M5 - G1"

General

These accessories are a range of devices for completing a pneumatic circuit. These valves, with their special functions, are inserted between two valves, between a valve and a cylinder, or following a cylinder.

One of the particular characteristic of these accessories is that they are automatically actuated without the need for external commands. Usually, operation and idle are controlled by the presence or absence of pressure as, for example, in the case of quick exhaust valves which pilots itself as a selector, changing the flow direction as the signal goes off and on.

On the other hand, other components are inert. That is, they do not have any internal variable function which is sensitive to pressure. Among these components are silencers, manifolds and flow regulators.

There are also the flow regulators, which like electronic components, can be defined as variable resistences. They are fundamental in regulating the flow rate, provide precise timings and regulate the cylinders' speed.

The selector valves, with "AND" and "OR" functions, are logic functions components which often are an essential element. Furthermore, they are built to allow high flow rate which cannot be obtained by classic pneumatic logic.

The block valves lock the cylinder in a position, avoiding unexpected depressurization of the cylinder's chamber due to lack of compressed air at the inlet port. Practically, it is a piloted unidirectional valve that blocks the exhaust port when there is no air in the pilot circuit.

Finally the economizer valves are in fact a pressure reducer valves installed between valve and cylinder for reducing the air consumption. For example this is applicable on the cylinder return stroke without penalizing the exhaust as happens with FRL pressure regulator.

Construction characteristics

We have not listed all different materials used for the construction of these components because the list would be too the long. We use corrosion proof material, brass or anodized aluminium and the most appropriate specific mixture for seals. If more information is required please contact our technical department.

Use and maintenance

In operation pay attention to the minimum and maximum criteria for temperature and pressure, and ensure good quality compressed air. In a dirty environment, protect the exhaust ports.

In this case, maintenance is minimal and is necessary only if the air is particularly dirty.

The components most subject to damage by the accumulation of dirt are flow regulators with fine regulation and silencers. As for regulators, follow the normal procedure for disassembling, washing with non-chemical cleaning agents and remounting. The silencers need only to be rinsed in petrol or solvent and blown dry with compressed air.

The number of requests for spare seals for flow regulators and shuttle valves are statistically irrelevant. More often, it is necessary to replace the lining of the quick exhaust because of the wear it undergoes due to the particular conditions of operating.

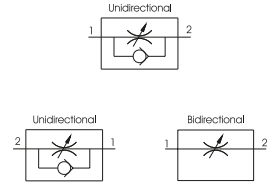
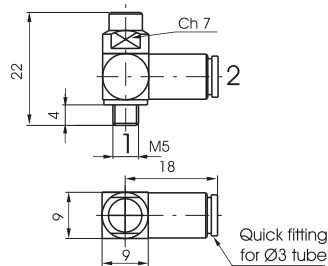
ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).

▶ **Miniature flow control valve M5 - Ø3 tube**

Coding: 6.01.305. **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	1.5

FUNCTION	
F 1.2	= Unidirectional
2.1	= Unidirectional
1.1	= Bidirectional



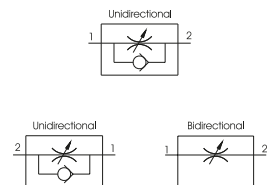
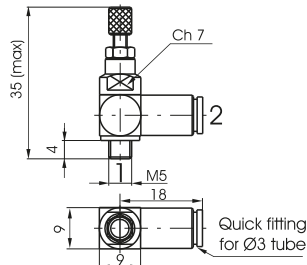
Weight 14 g

▶ **Miniature flow control valve M5 - Ø3 tube, with adjustment knob**

Coding: 6.01.305. **F**P

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	1.5

FUNCTION	
F 1.2	= Unidirectional
2.1	= Unidirectional
1.1	= Bidirectional



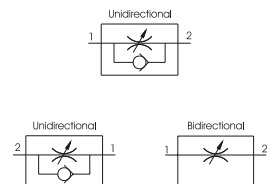
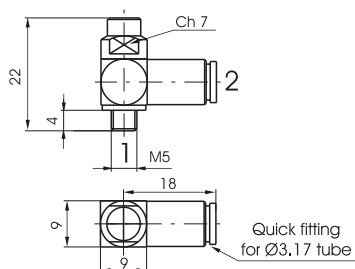
Weight 16 g

▶ **Miniature flow control valve M5 - Ø3,17 tube**

Coding: 6.01.315. **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	1.5

FUNCTION	
F 1.2	= Unidirectional
2.1	= Unidirectional
1.1	= Bidirectional



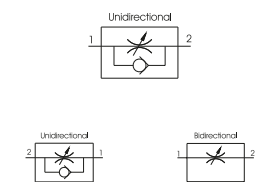
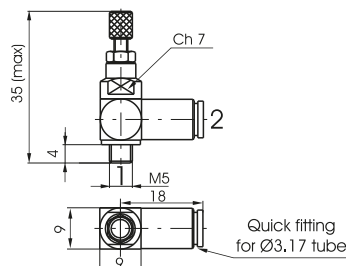
Weight 14 g

▶ **Miniature flow control valve M5 - Ø3,17 tube, with adjustment knob**

Coding: 6.01.315. **F**P

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	1.5

FUNCTION	
F 1.2	= Unidirectional
2.1	= Unidirectional
1.1	= Bidirectional



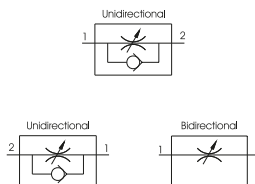
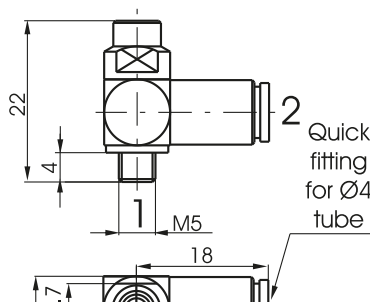
Weight 16 g

► Miniature flow control valve M5 - Ø4 tube

Coding: 6.01.45.ⓕ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	1.5

FUNCTION	
ⓕ 1.2 =	Unidirectional
2.1 =	Unidirectional
1.1 =	Bidirectional



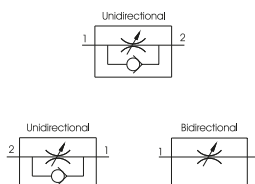
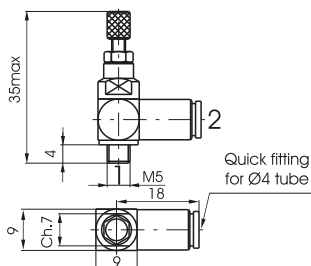
Weight 14 g

► Miniature flow control valve M5 - Ø4 tube, with adjustment knob

Coding: 6.01.45.ⓕP

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	1.5

FUNCTION	
ⓕ 1.2 =	Unidirectional
2.1 =	Unidirectional
1.1 =	Bidirectional



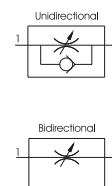
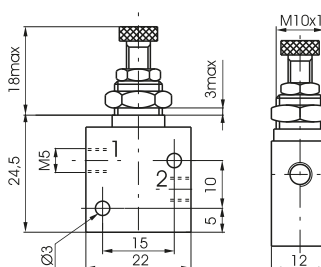
Weight 16 g

► Flow control valve M5 - in line ports

Coding: 6.01.ⓕ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	2

FUNCTION	
ⓕ 05 =	Unidirectional
05/2 =	Bidirectional



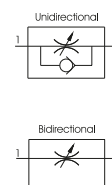
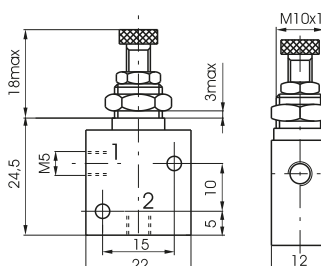
Weight 48 g

► Flow control valve M5 - port at 90°

Coding: 6.01.05.ⓕ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	2

FUNCTION	
ⓕ 90 =	Unidirectional
90/2 =	Bidirectional



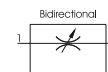
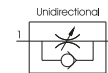
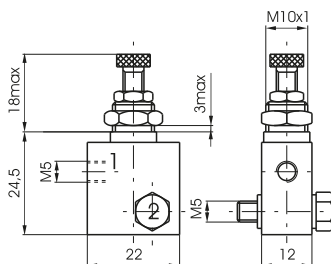
Weight 48 g

Flow control valve M5 - with a through bolt

Coding: 6.01.05. **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	2

FUNCTION	
F 180 =	Unidirectional
180/2 =	Bidirectional



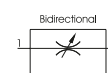
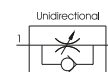
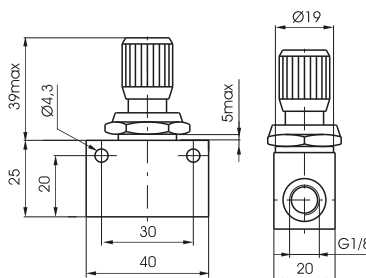
Weight 52 g

Flow control valve G1/8" - ultrasensitive

Coding: 6.01.18/ **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	3

FUNCTION	
F 4 =	Unidirectional
5 =	Bidirectional



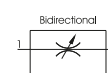
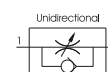
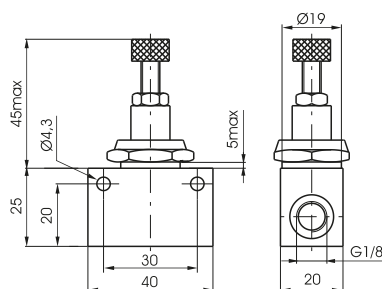
Weight 100 g

Flow control valve G1/8" - ultrasensitive with lock nut

Coding: 6.01.18/ **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	3

FUNCTION	
F 6 =	Unidirectional
7 =	Bidirectional



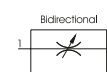
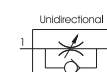
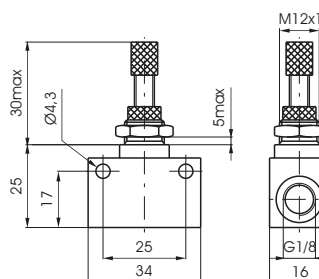
Weight 105 g

Flow control valve G1/8"

Coding: 6.01. **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	4

FUNCTION	
F 18N =	Unidirectional
18NE =	Bidirectional
18/1N =	Unidirectional economic version
18/1NE =	Bidirectional economic version

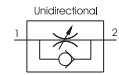
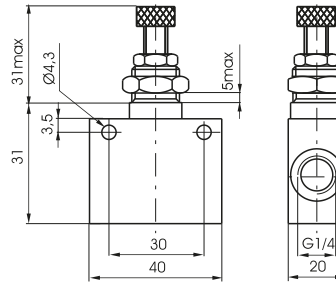


Weight 50 g

Flow control valve G1/4" - compact type - unidirectional

Coding: 6.01.14/1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	5.5



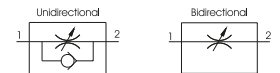
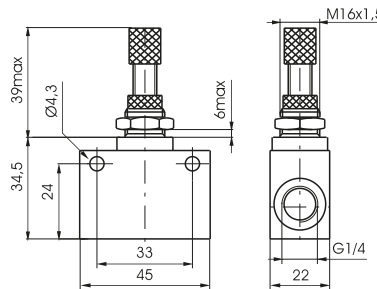
Weight 100 g

Flow control valve G1/4"

Coding: 6.01.F

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	7

FUNCTION	
F 14N	= Unidirectional
F 14/1N	= Bidirectional



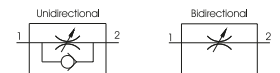
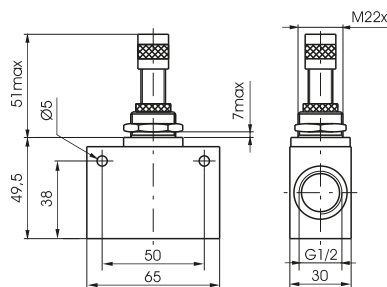
Weight 105 g

Flow control valve G1/2"

Coding: 6.01.F

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	12

FUNCTION	
F 12N	= Unidirectional
F 12/1N	= Bidirectional

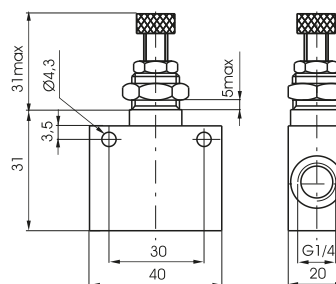


Weight 290 g

Flow control valve G3/4" - unidirectional

Coding: 6.01.34

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Orifice size (mm)	12



Weight 500 g

1
AIR DISTRIBUTION



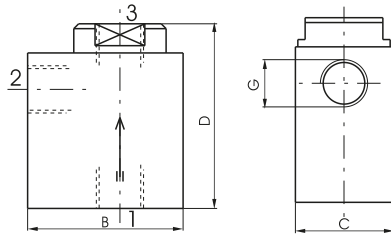
AIR DISTRIBUTION

Quick exhaust valve

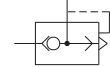
Coding: 6.02.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	0.5÷10
Temperature °C	-5 ÷ +70

CONNECTION (IN)	
05	= M5
18	= G1/8"
14	= G1/4"
12	= G1/2"



	G	M5	1/8"	1/4"	1/2"
B	22	32	35	52	
C	12	20	25	37	
D	28	38	50	62	
Weight g	50	62	112	310	
Flow rate NI/min at 6 bar with $\Delta p = 1$	from 1 to 2	120	480	960	3300
Flow rate NI/min at 6 bar on free exhaust	from 2 to 3	220	1100	1930	6500



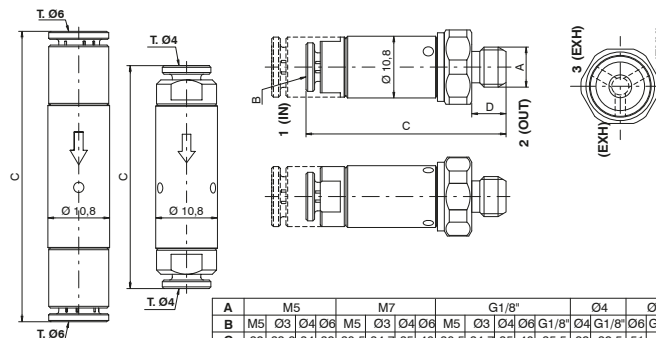
Weight *see table"

Quick exhaust in line valve

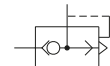
Coding: 6.02.1.C.L

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70

CONNECTION (IN)	
M5	= M5
03	= tube Ø3
04	= tube Ø4
06	= tube Ø6
WORKING PORTS SIZE	
M5	= M5
M7	= M7
18	= G1/8"
04	= tube Ø4
06	= tube Ø6



	M5		M7		G1/8"		04	06
A	M5	Ø3	Ø4	Ø6	M5	Ø3	Ø4	Ø6
B	29	33,2	34	39	30,5	34,7	35	40
C	29	33,2	34	39	30,5	34,7	35	40
D	4,5				6			
Weight (g)				17			18	
Flow rate NI/min at 6 bar with $\Delta p=1$ (from 1 to 2)				90			110	
Flow rate NI/min at 6 bar on free exhaust (from 2 to 3)				240			350	
							17	20
							90	110
							240	350



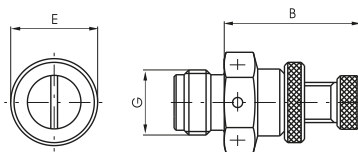
Weight *see table"

Exhaust flow control

Coding: 6.03.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70

CONNECTION (IN)	
05	= M5
18	= G1/8"
14	= G1/4"
12	= G1/2"



G	M5	1/8"	1/4"	1/2"
B	21	18	22	39
E	9	13	16	25
Weight g	10	18	32	155



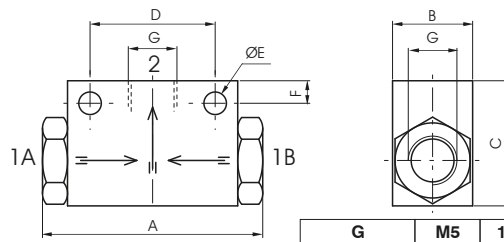
Weight *see table"

Shuttle valve "OR"

Coding: 6.04.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70

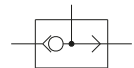
CONNECTION (IN)	
05	M5
18	G1/8"
14	G1/4"



G	M5	1/8"	1/4"
A	27	44	62
B	12	16	22
C	17	25	30
D	15	25	35
E	3,5	4,5	5,5
F	3,5	4,5	5,5
Weight g	33	50	110

Flow rate at 6 bar with $\Delta p = 1$ NI/min.

NI/min.	110	700	2200
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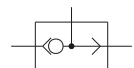
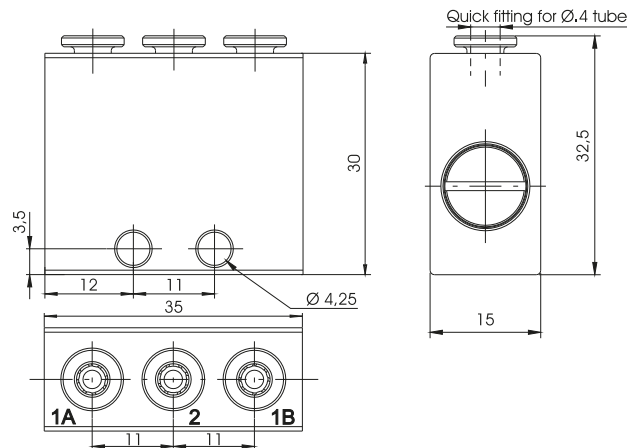


Weight "see table"

Shuttle valve "OR" - T=4

Coding: 6.04.04

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with $\Delta p = 1$ (NI/min)	105
Orifice size (mm)	2.5
Working ports size	Fitting T=4



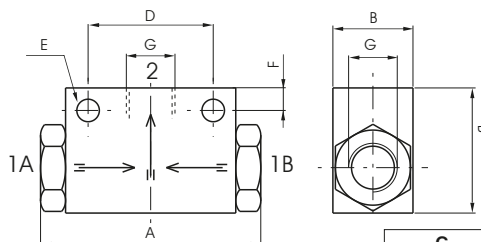
Weight 50g

Shuttle valve "AND" - M5 - G1/8"

Coding: 6.04.1/1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70

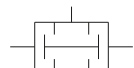
CONNECTION (IN)	
05	M5
18	G1/8"



G	M5	1/8"
A	36	44
B	12	16
C	22	45
D	20	25
E	3,2	4,5
F	3,5	4,5
Weight g	30	50

Flow rate at 6 bar with $\Delta p = 1$ NI/min.

NI/min.	100	480
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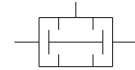
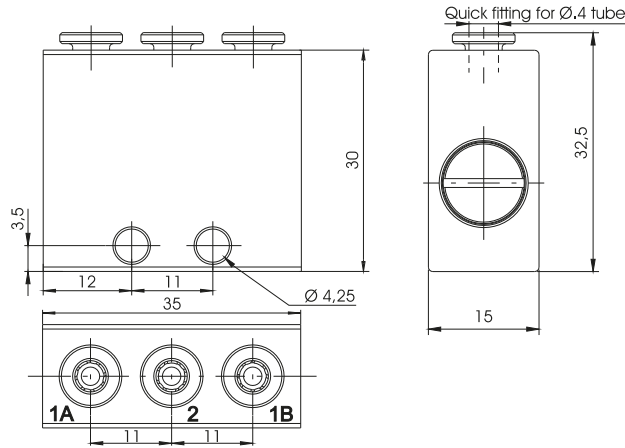


Weight "see table"

Shuttle valve "AND" - T=4

Coding: 6.04.04/1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (Nl/min)	105
Orifice size (mm)	2.5
Working ports size	Fitting T=4



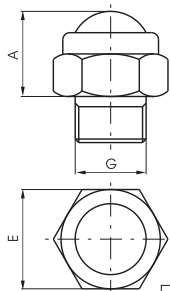
Weight 50 g

Silencers steel wool

Coding: 6.05.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70

CONNECTION (IN)	
18	= G1/8"
14	= G1/4"
38	= G3/8"
12	= G1/2"



G	1/8"	1/4"	3/8"	1/2"
A	12	13	15	17
E	14	17	22	27
Weight g	8	16	32	44



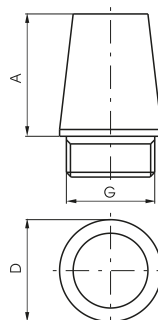
Weight *see table"

Silencers brass

Coding: 6.06.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70

CONNECTION (IN)	
05	= M5
18	= G1/8"
14	= G1/4"
38	= G3/8"
12	= G1/2"
34	= G3/4"
01	= G1"



G	M5	1/8"	1/4"	3/8"	1/2"	3/4"	1"
A	17	15	18	28	32	40	50
D	8	12	15	19	23	29	38
Weight g	4	8	15	35	50	92	182



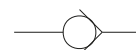
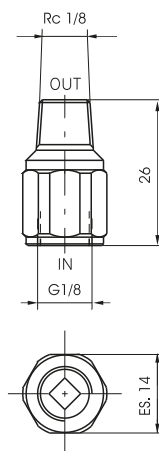
Weight *see table"

G 1/8" compact check valves

Coding: 6.07.18.Ⓒ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	2,5 ÷ 10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	100

SEALS	
Ⓒ R = NBR	
VR = FPM	



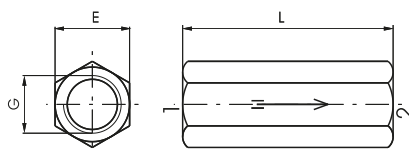
Weight 50 g

Non return valve

Coding: 6.07.Ⓙ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70 (+150°C FPM)

SEALS	
05 = NBR-M5	
18 = NBR-G1/8"	
14 = NBR-G1/4"	
38 = NBR-G3/8"	
12 = NBR-G1/2"	
18V = FPM-G1/8"	
14V = FPM-G1/4"	
38V = FPM-G3/8"	
12V = in FPM-G1/2"	



	G	M5	1/8"	1/4"	3/8"	1/2"
E	10	14	17	21	25	
L	21	37	48	50	60	
Weight g	14	35	60	85	136	
Flow rate at 6 bar with Δp = 1	NI/min.	160	650	1150	2600	3500



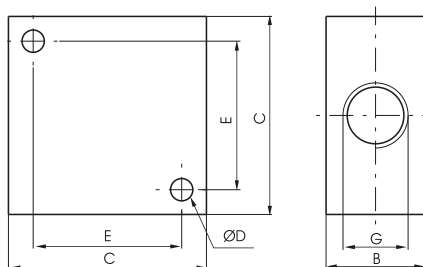
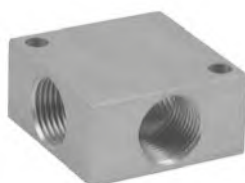
Weight "see table"

Manifold 4 ports

Coding: 6.08.Ⓒ/4

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	20
Temperature °C	-5 ÷ +70

WORKING PORTS SIZE	
05 = M5	
18 = G1/8"	
14 = G1/4"	
38 = G3/8"	
12 = G1/2"	



	G	M5	1/8"	1/4"	3/8"	1/2"
B	10	16	20	20	30	
C	20	32	40	40	50	
D	3,3	4,5	4,5	5,5	6,5	
E	14	22	30	30	38	
Weight g	28	38	68	54	135	

Weight "see table"

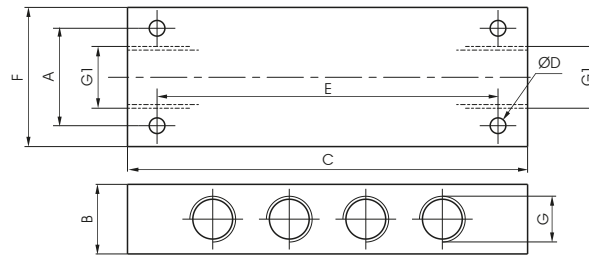


Manifold 10 ports

Coding: 6.08. **C**/8

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	20
Temperature °C	-5 ÷ +70

WORKING PORTS SIZE	
05	= M5
18	= G1/8"
14	= G1/4"
38	= G3/8"
12	= G1/2"



G	M5	1/8"	1/4"	3/8"	1/2"
G1	G1/8"	1/8"	1/4"	3/8"	1/2"
A	16	20	28	28	36
B	12	18	20	20	30
C	60	90	115	130	170
ØD	3,3	4,5	4,5	5,5	5,5
E	50	75	98	112	150
F	22	32	40	40	50
Weight g	92	110	185	165	460

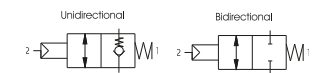
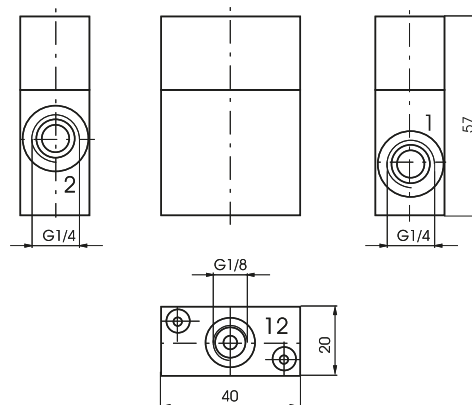
Weight *see table"

Block valve G1/4"

Coding: 6.09.14. **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	4
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	700
Orifice size (mm)	7

FUNCTION	
F UN	= Unidirectional
BN	= Bidirectional



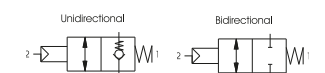
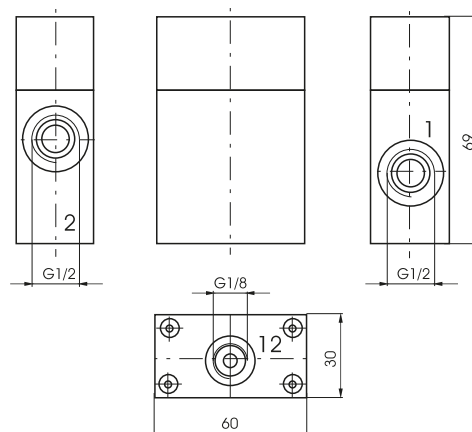
Weight 122 g

Block valve G1/2"

Coding: 6.09.12. **F**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Maximum piloting pressure (bar)	4
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	2000
Orifice size (mm)	12

FUNCTION	
F UN	= Unidirectional
BN	= Bidirectional



Weight 305 g

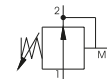
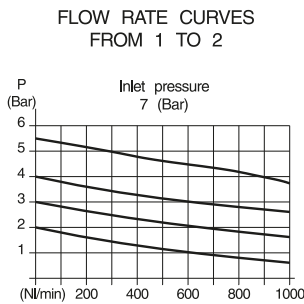
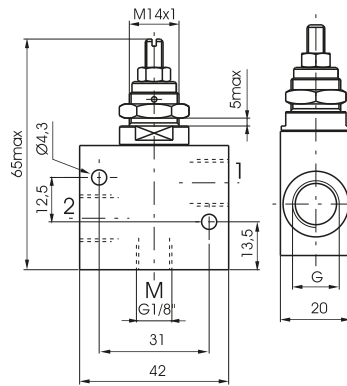
AIR DISTRIBUTION 1

Economizer

Coding: 6.11.ⓐ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Pressure range (bar)	0 ÷ 5,5
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	860
Orifice size (mm)	6

WORKING PORTS SIZE	
ⓐ	18 = G1/8"
	14 = G1/4"



Weight 85 g

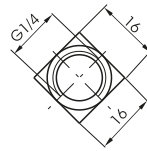
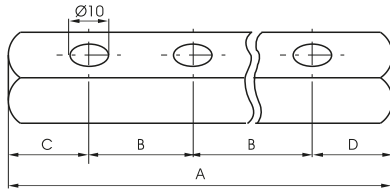
1
AIR DISTRIBUTION



Gang mounting manifold for valves and solenoid valves G1/8"

Coding: 6.10.18. S/P

VALVE SIZE	
18	= 18 mm
25	= 25 mm
S 26	= 26 mm
30	= 30 mm
32	= 32 mm
35	= 35 mm
N. POSITIONS	
2	= N. 2 positions
3	= N. 3 positions
4	= N. 4 positions
P 5	= N. 5 positions
6	= N. 6 positions
7	= N. 7 positions
8	= N. 8 positions
9	= N. 9 positions
10	= N. 10 positions



	N. OF POSITIONS									
	2	3	4	5	6	7	8	9	10	
A	58	76	94	112	130	148	166	184	202	
B	18	18	18	18	18	18	18	18	18	
C	20	20	20	20	20	20	20	20	20	
D	20	20	20	20	20	20	20	20	20	
Weight g	55	80	105	130	155	180	205	230	255	

6.10.18.18/P
Weight *see table"

	N. OF POSITIONS									
	2	3	4	5	6	7	8	9	10	
A	70	95	120	145	170	195	220	245	270	
B	25	25	25	25	25	25	25	25	25	
C	20	20	20	20	20	20	20	20	20	
D	25	25	25	25	25	25	25	25	25	
Weight g	80	115	150	185	220	255	290	325	360	

6.10.18.25/P
Weight *see table"

	N. OF POSITIONS									
	2	3	4	5	6	7	8	9	10	
A	66	92	118	144	170	196	222	248	274	
B	26	26	26	26	26	26	26	26	26	
C	20	20	20	20	20	20	20	20	20	
D	20	20	20	20	20	20	20	20	20	
Weight g	70	110	145	185	220	260	300	340	375	

6.10.18.26/P
Weight *see table"

	N. OF POSITIONS									
	2	3	4	5	6	7	8	9	10	
A	80	110	140	170	200	230	260	290	320	
B	30	30	30	30	30	30	30	30	30	
C	25	25	25	25	25	25	25	25	25	
D	25	25	25	25	25	25	25	25	25	
Weight g	100	140	180	220	260	300	340	380	420	

6.10.18.30/P
Weight *see table"

	N. OF POSITIONS									
	2	3	4	5	6	7	8	9	10	
A	82	114	146	178	210	242	274	306	338	
B	32	32	32	32	32	32	32	32	32	
C	25	25	25	25	25	25	25	25	25	
D	25	25	25	25	25	25	25	25	25	
Weight g	100	145	190	235	280	325	370	415	460	

6.10.18.32/P
Weight *see table"

	N. OF POSITIONS									
	2	3	4	5	6	7	8	9	10	
A	89	124	159	194	229	264	299	334	369	
B	35	35	35	35	35	35	35	35	35	
C	27	27	27	27	27	27	27	27	27	
D	27	27	27	27	27	27	27	27	27	
Weight g	110	160	210	260	310	360	410	460	510	

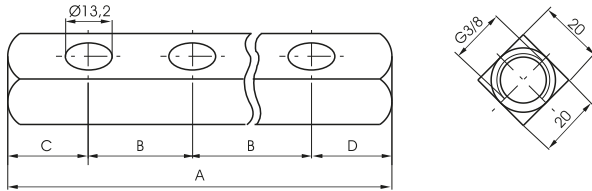
6.10.18.35/P
Weight *see table"

1 AIR DISTRIBUTION



Gang mounting manifold for valves and solenoid valves G1/4"

Coding: 6.10.14.S/P



S	VALVE SIZE
	20 = 20 mm
	25 = 25 mm
	30 = 30 mm
	35 = 35 mm
P	N. POSITIONS
	2 = N. 2 positions
	3 = N. 3 positions
	4 = N. 4 positions
	5 = N. 5 positions
	6 = N. 6 positions
	7 = N. 7 positions
	8 = N. 8 positions
	9 = N. 9 positions
	10 = N. 10 positions

1
AIR DISTRIBUTION

	N. OF POSITIONS									
	2	3	4	5	6	7	8	9	10	
A	65	85	105	125	145	165	185	205	225	
B	20	20	20	20	20	20	20	20	20	
C	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	
D	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	
Weight g	130	150	190	190	210	230	250	270	290	

6.10.14.20/P
Weight "see table"

	N. OF POSITIONS									
	2	3	4	5	6	7	8	9	10	
A	75	100	125	150	175	200	225	250	275	
B	25	25	25	25	25	25	25	25	25	
C	25	25	25	25	25	25	25	25	25	
D	25	25	25	25	25	25	25	25	25	
Weight g	140	170	200	230	260	290	320	350	380	

6.10.14.25/P
Weight "see table"

	N. OF POSITIONS									
	2	3	4	5	6	7	8	9	10	
A	80	110	140	170	200	230	260	290	320	
B	30	30	30	30	30	30	30	30	30	
C	25	25	25	25	25	25	25	25	25	
D	25	25	25	25	25	25	25	25	25	
Weight g	150	190	230	270	310	350	390	430	470	

6.10.14.30/P
Weight "see table"

	N. OF POSITIONS									
	2	3	4	5	6	7	8	9	10	
A	85	120	155	190	225	260	295	335	365	
B	35	35	35	35	35	35	35	35	35	
C	30	30	30	30	30	30	30	30	30	
D	20	20	20	20	20	20	20	20	20	
Weight g	160	210	260	310	360	410	460	510	560	

6.10.14.35/P
Weight "see table"

	N. OF POSITIONS									
	2	3	4	5	6	7	8	9	10	
A	115	160	205	250	295	340	385	430	475	
B	45	45	45	45	45	45	45	45	45	
C	35	35	35	35	35	35	35	35	35	
D	35	35	35	35	35	35	35	35	35	
Weight g	200	275	350	425	500	575	650	725	800	

6.10.14.45/P
Weight "see table"

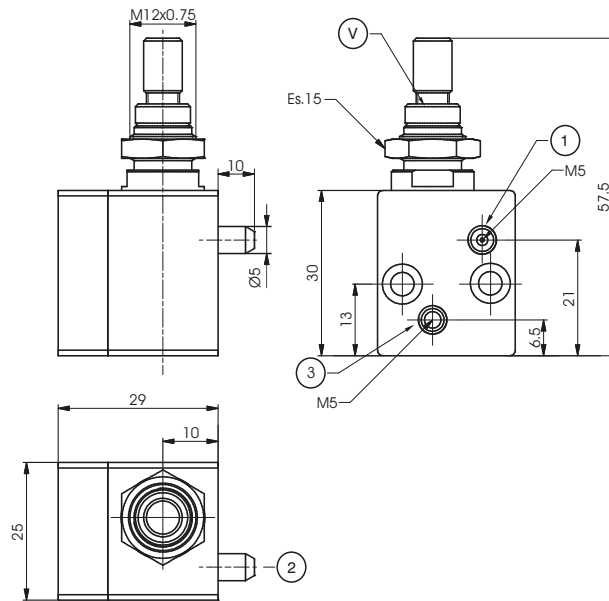
Spry valves

Coding: 6.13.00

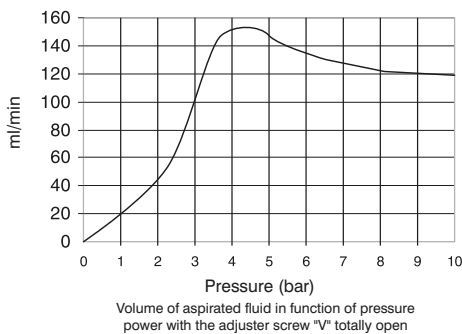
Construction characteristics

- This valve, is based on the Venturi principle, and it is used to spray and nebulize a liquid.
- Useful in all applications where is needed a continuous lubrication and / or refrigeration.
- Incoming air (connection 1) sucks the liquid through the venturi principle (connection 3) to obtain a continuous spray output (connection 2).

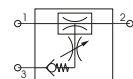
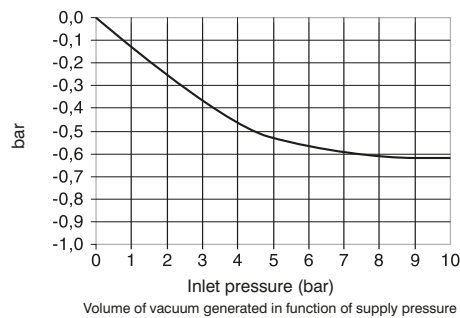
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Liquid	Water and oil (Liquid viscosity 3°E-5°E)
Working pressure (bar)	3 ÷ 10
Temperature °C	-5 ÷ +70
Weight (g)	85



Liquid consumption diagram



Vacuum diagram



Supply air : Connection 1
Output (air and nebulized liquid) : Connection 2
Supply liquid : Connection 3

1 AIR DISTRIBUTION



Series 900

General

The 900 series consist of the following components:

- Pressure switch, which transforms a pneumatic signal into an electric one.
- Impulse generator, which transforms a permanent pneumatic signal into an adjustable impulse from 0 to 10 seconds.
- Pneumatic timer (N.C. or N.O.), which cuts or releases a pneumatic signal within an adjustable time.
- Two hands safety valve, which allows a safety use of two hands pneumatic controls (for example two push-button 3/2 N.C. to a certain distance) excluding false signals in case of push-button or valve malfunction.
- Flip - Flop: 5/2 ways valve, single signal actuated, commutes the outlet from 2 to 4 and vice versa at each puls.
- For a correct functioning it's important that inlet pressure be the same or lower than pilot pressure.
- Oscillator valve, 5/2 - G 1/8" with two logic functions "NOT" mounted on board, switches when the pressure in the connected cylinder exhaust chamber is reaching the threshold of "NOT".
- Signal amplifier, 3/2 - G 1/8" N.C. valve actuated by weak signals but higher than 0.05 bar.
- Progressive start-up valve, which is a device that is fitted in between valve or solenoid valve and cylinder allows a gradual filling of the chamber providing a low power cylinder movement. The progressive start-up valve is made of a flow control valve and a 2/2 N.C. valve with 6 mm nominal orifice. The valve is totally open when the pressure in the cylinder reaches 50% of inlet pressure.
- High-low pressure devices, located in the pneumatic circuit between valve and cylinder, allow the function of the cylinder with two different pressures. Example: in case of a locking action, it is possible to approach the required position at a low pressure, then increase to its maximum value in the circuit with the use of an electric signal. They are practically made of a piloted pressure regulator without relieving.

Construction characteristics

We use corrosion proof material, brass or anodized aluminium and the most appropriate specific mixture for seals. If more information is required please contact our technical department.

Use and maintenance

In use pay attention to the minimum and maximum criteria for temperature and pressure, checking and ensure good quality compressed air. In a dirty environment, protect the exhaust ports. In this case, maintenance is minimal and is necessary only if the air is particularly dirty. This simple operation it should be carried out by a competent person.

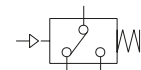
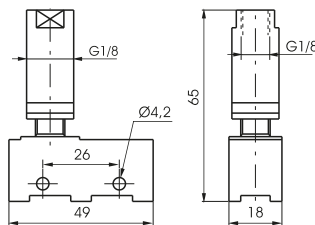
ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).

► Pressure switch G 1/8" - screw connections

Coding: 900.18.1-**P**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate microswitch	13 (3) A to 220V~
Pilot ports size	G1/8"

PRESSURE	
P	1 = Min. switch pressure 1 bar
	4 = Min. switch pressure 4 bar



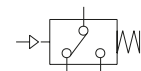
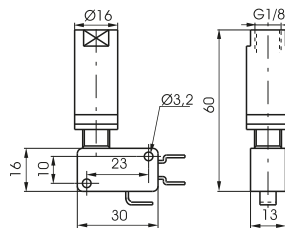
Weight 75 g

► Pressure switch G 1/8" - spade connections

Coding: 900.18.1/**P**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate microswitch	16 (5) A to 220V~
Pilot ports size	G1/8"

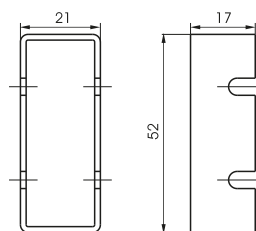
PRESSURE	
P	1 = Min. switch pressure 1 bar
	4 = Min. switch pressure 4 bar



Weight 60 g

► Switch protection

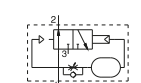
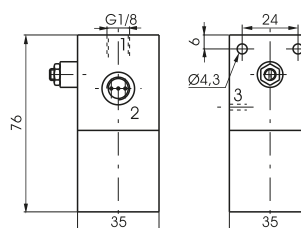
Coding: 900.18.0



Weight 6 g

► Impulse generator

Coding: 900.18.2N



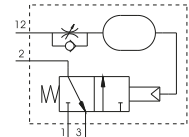
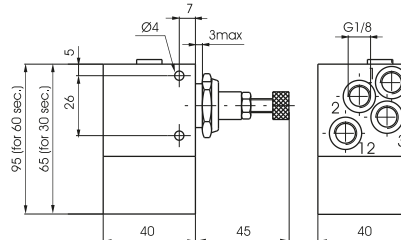
Weight 325 g

Pneumatic timer N.C. - G 1/8"

Coding: 900.18.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	3 ± 10
Temperature °C	-5 ± +70
Flow rate at 6 bar with Δp=1 (NI/min)	130
Orifice size (mm)	2.5

TIME	
① 3 =	0 ÷ 30 sec.
3-60 =	0 ÷ 60 sec.



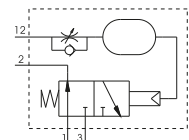
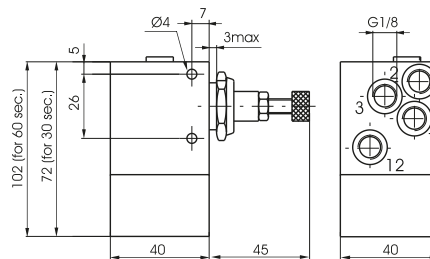
Weight 290 (30 sec.) g
weight 350 g (60 sec.)

Pneumatic timer N.O. - G 1/8"

Coding: 900.18.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	4 ± 10
Temperature °C	-5 ± +70
Flow rate at 6 bar with Δp=1 (NI/min)	130
Orifice size (mm)	2.5

TIME	
① 4 =	0 ÷ 30 sec.
4-60 =	0 ÷ 60 sec.

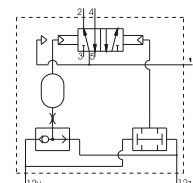
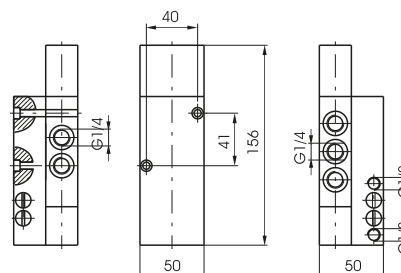


Weight 320 (30 sec.) g
weight 380 g (60 sec.)

Two hands safety valve G 1/4"

Coding: 900.52.1.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ± +70
Flow rate at 6 bar with Δp=1 (NI/min)	1030
Orifice size (mm)	7
Working ports size	G1/4"
Pilot ports size	G1/8"

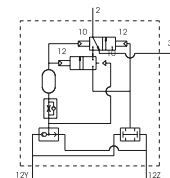
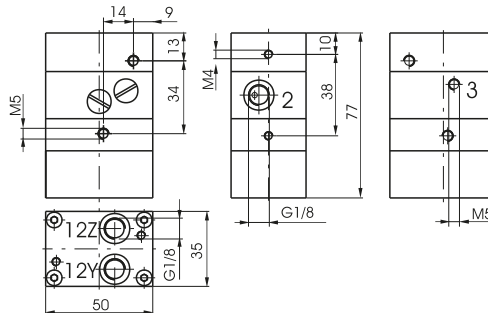


Weight 780 g

Two hands safety valve III A class certification (according to EN 574 standard)

Coding: 900.18.9

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	3 ÷ 8
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	40
Orifice size (mm)	2.5
Working ports size	G1/8"
Pilot ports size	G1/8"

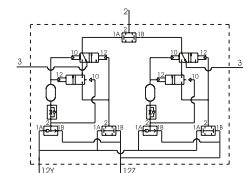
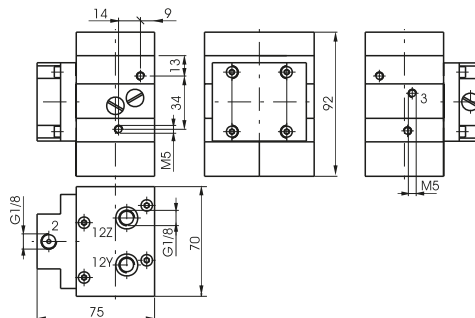


Weight 340 g

Two hands safety valve III B class certification (according to EN 574 standard)

Coding: 900.18.10

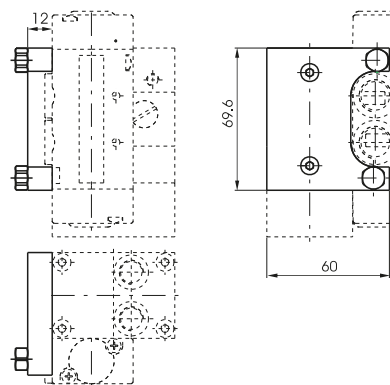
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	3 ÷ 8
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	40
Orifice size (mm)	2.5
Working ports size	G1/8"
Pilot ports size	G1/8"



Weight 980 g

Power valve adaptor (Series 2400)

Coding: 900.18.11

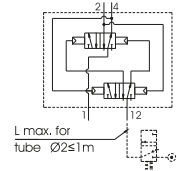
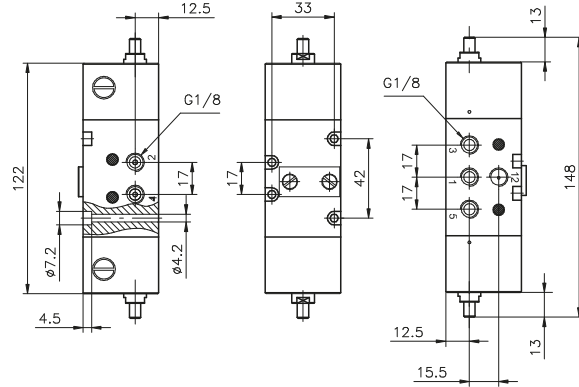


Weight 75 g

Flip-flop valve G 1/8" - Pneumatic command

Coding: 900.52.1.3

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (Nl/min)	540
Orifice size (mm)	6
Working ports size	G1/8"



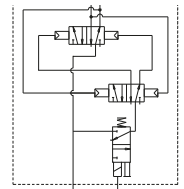
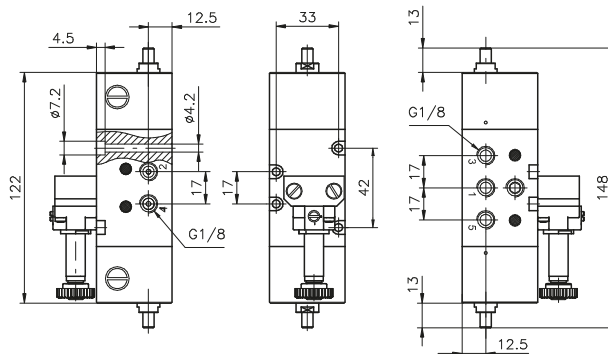
Weight 550 g

Attention : Pressure of signal "12" must be the same or higher than device inlet pressure. The maximum distance between the pilot valve and the device must not exceed 1Mtr. (see pneumatic scheme). Should be necessary to work at a greater distance it is advisable to use a pneumatic-spring shut-off valve positioned at the recommended distance.

Flip-flop valve - Electric command with M2 mechanic

Coding: 900.52.1.4

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (Nl/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

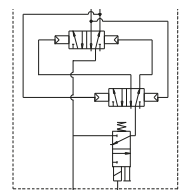
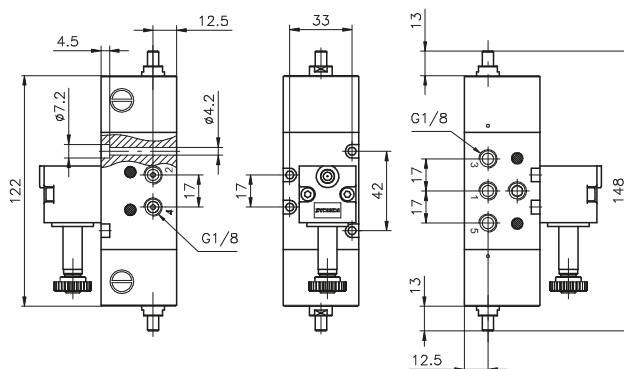
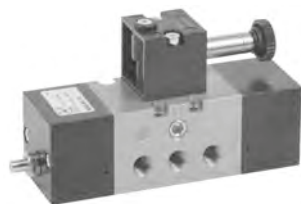


Weight 660 g

Flip-flop valve - Electric command with M3P CNOMO

Coding: 900.52.1.5

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (Nl/min)	540
Orifice size (mm)	6
Working ports size	G1/8"



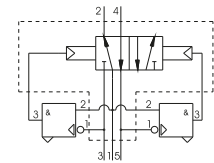
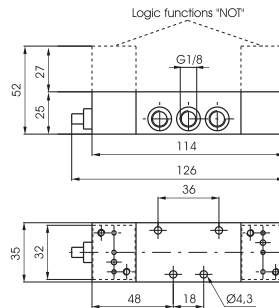
Weight 600 g

Oscillator valve G 1/8"

Coding: 900.52.6

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	8
Min working pressure	2
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	540
Orifice size (mm)	6
Working ports size	G1/8"

FUNCTION	
F	5 = without logic functions NOT
	5C = with logic functions NOT

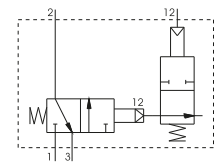
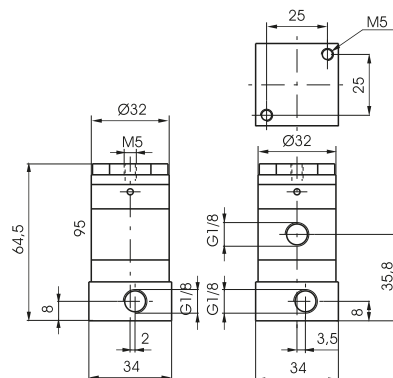


Weight 600 g

Signal amplifier G 1/8"

Coding: 900.32.6

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Min working pressure	0.05
Temperature °C	-5 ÷ +70
Flow rate at 6 bar with Δp=1 (NI/min)	130
Orifice size (mm)	3
Working ports size	G1/8"

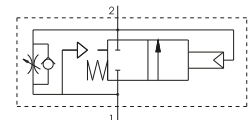
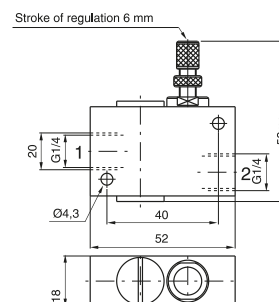


Weight 170 g

Progressive start-up valve G 1/4"

Coding: 900.14.7

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	2,5 ÷ 10
Temperature °C	-5 ÷ +70
Flow rate from 1 to 2 (NI/min)	760
Flow rate from 2 to 1 (NI/min)	900
Orifice size (mm)	6

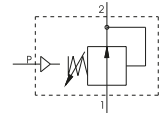
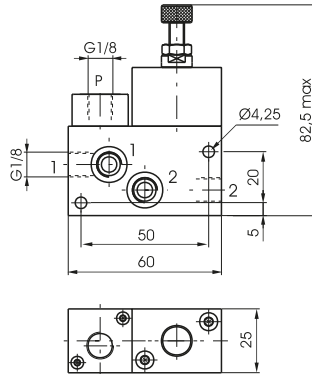


Weight 100 g
Flow rate needle fully open from port 1 to 2 (NI/min.) = 200

High-low pressure device

Coding: 900.18.8.P

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Pressure range (bar)	1 ÷ 4
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	650
Working ports size	G1/8"

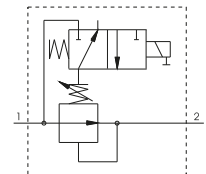
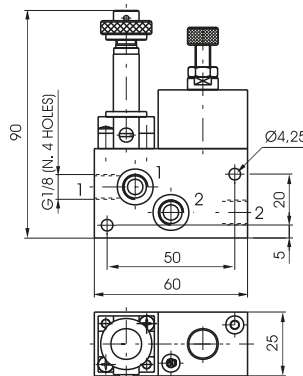


Weight 240 g
with pneumatic pilot

High-low pressure device

Coding: 900.18.8.E

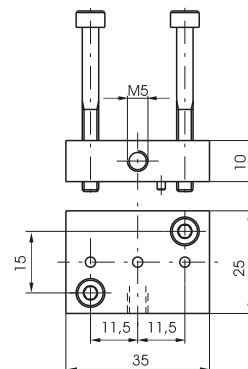
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Pressure range (bar)	1 ÷ 4
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	650
Working ports size	G1/8"



Weight 280 g
with M2 mechanic

External feeding base "NOT" logical element

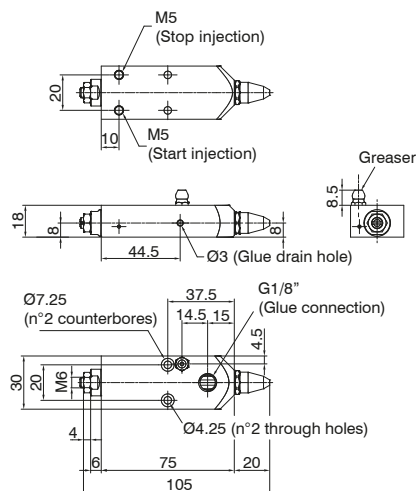
Coding: 900.005



Weight 35 g

Pneumatic glue injector

Coding: 900.19.01



1
AIR DISTRIBUTION

Construction characteristics

- External components: nickel-plated brass / stainless steel
- Piloting connections: M5
- Glue connection: G1/8"
- Glue Seal: special PTFE
- Pneumatic seals: NBR
- Grease nipple: Stainless steel
- Spray intensity adjustment screw: Stainless steel

Technical characteristics

Technical characteristics	
Injection fluid	Vinyl glue
Pressure Glue (bar)	7
Pneumatic fluid piloting	Filtered air. No lubrication needed, if applied it shall be continuous
Opening pilot (bar)	3 ÷ 6
Closing pilot (bar)	3 ÷ 6 (or spring)
Temperature °C	-5 ÷ +70
Weight (g)	285

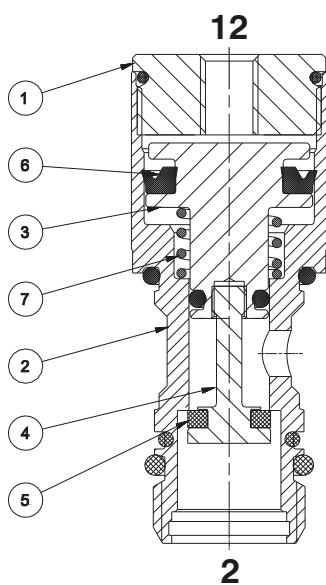
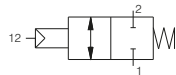
Series 50

General

The blocking valves are used to maintain pressure in the downstream part of the pneumatic circuit even when the pressure supply is shut down.
Blocking valves are normally assembled directly on cylinders ports in order to maintain the position even in cases of accidental loss of the pilot pressure by preventing a sudden loss of pressure in the cylinder chambers.
Unidirectional and bidirectional version are both available.
The unidirectional version allows free air to flow in one direction while requires a pneumatic signal to allow air flow in the opposite direction.
The bidirectional valve requires a pressure signal to allow air flow in both of the two directions.
The blocking valve cannot be used as safety device.

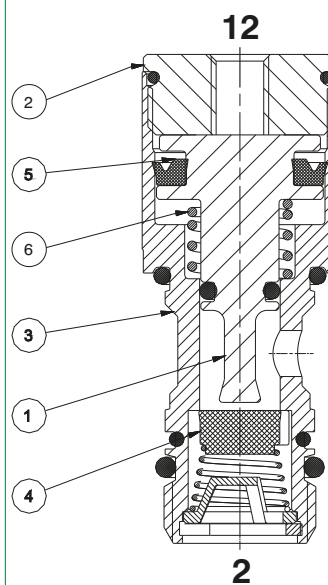
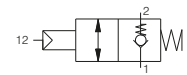
Constructive features

UNIDIRECTIONAL VERSION



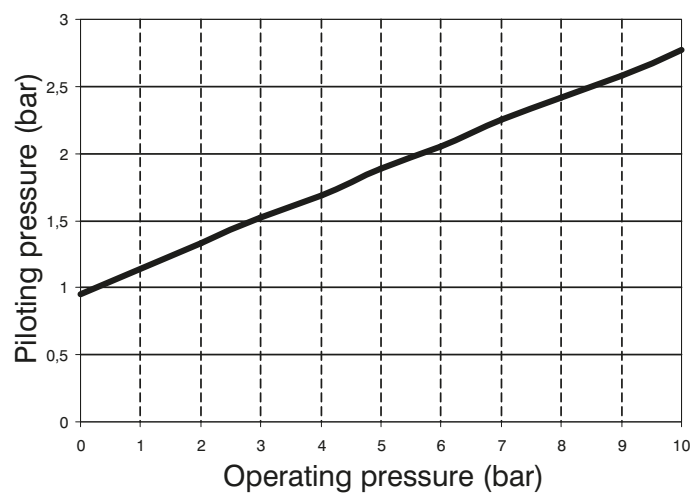
- 1 - Aluminium piston
- 2 - Brass plug
- 3 - Brass body
- 4 - FPM poppet (1/8" and 1/4" version) PUR poppet
- 5 - NBR seal
- 6 - Steel spring

BIDIRECTIONAL VERSION



- 1 - Brass plug
- 2 - Brass body
- 3 - Aluminium piston
- 4 - Steel piston extension
- 5 - PUR poppet
- 6 - NBR seal
- 7 - Steel spring

Working curves

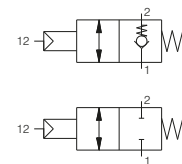
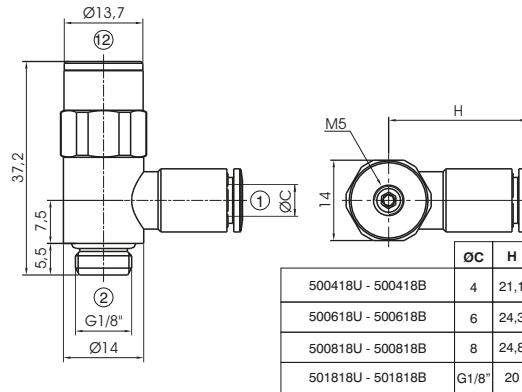


Blocking valves metal type - Size 1/8"

Coding: 50**T**18**V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	0,5 ÷ 10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	285
Flow rate with free exhaust (NI/min)	450

T	METAL TYPE
	A = Banjo only
	04 = Banjo Ø4
	06 = Banjo Ø6
	08 = Banjo Ø8
	18 = Banjo G1/8"
V	VERSION
	U = Unidirectional
	B = Bidirectional

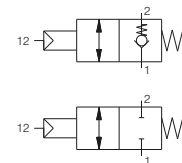
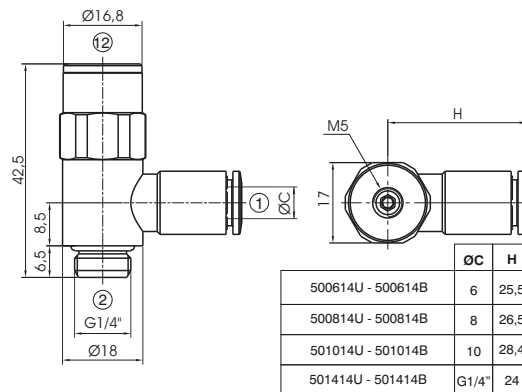


Blocking valves metal type - Size 1/4"

Coding: 50**T**14**V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	0,5 ÷ 10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	530
Flow rate with free exhaust (NI/min)	800

T	METAL TYPE
	A = Banjo only
	06 = Banjo Ø6
	08 = Banjo Ø8
	10 = Banjo Ø10
	14 = Banjo G1/4"
V	VERSION
	U = Unidirectional
	B = Bidirectional

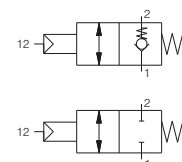
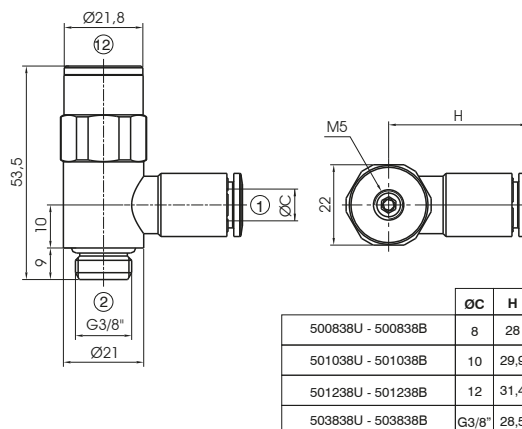


Blocking valves metal type - Size 3/8"

Coding: 50**T**38**V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	0,5 ÷ 10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1000
Flow rate with free exhaust (NI/min)	1600

T	METAL TYPE
	A = Banjo only
	08 = Banjo Ø8
	10 = Banjo Ø10
	12 = Banjo Ø12
	38 = Banjo G3/8"
V	VERSION
	U = Unidirectional
	B = Bidirectional

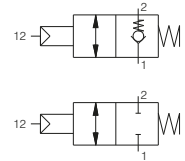
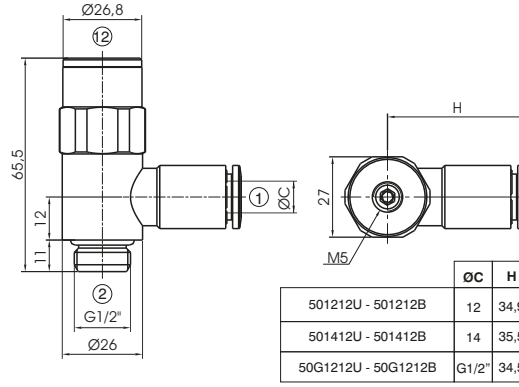


Blocking valves metal type - Size 1/2"

Coding: 50 12 U

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	0,5 ÷ 10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1300
Flow rate with free exhaus (NI/min)	2600

METAL TYPE	
1	A = Banjo only
	12 = Banjo Ø12
	G12 = Banjo G1/2"
VERSION	
U	U = Unidirectional
B	B = Bidirectional



1
AIR DISTRIBUTION



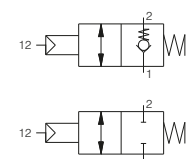
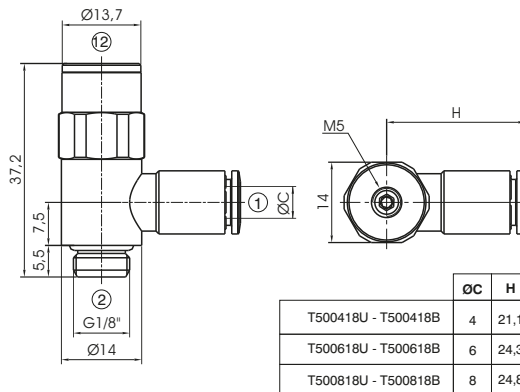
1
AIR DISTRIBUTION

Blocking valves technopolymer type - Size 1/8"

Coding: T50**T**18**V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	0,5 ÷ 10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	285
Flow rate with free exhaus (NI/min)	450

METAL TYPE	
A	= Banjo only
T 04	= Banjo Ø4
06	= Banjo Ø6
08	= Banjo Ø8
VERSION	
V U	= Unidirectional
B	= Bidirectional

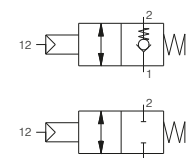
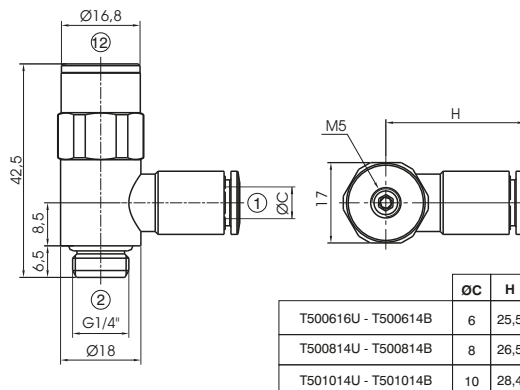


Blocking valves technopolymer type - Size 1/4"

Coding: T50**T**14**V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	0,5 ÷ 10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	530
Flow rate with free exhaus (NI/min)	800

METAL TYPE	
A	= Banjo only
T 06	= Banjo Ø6
08	= Banjo Ø8
10	= Banjo Ø10
VERSION	
V U	= Unidirectional
B	= Bidirectional

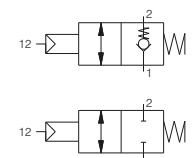
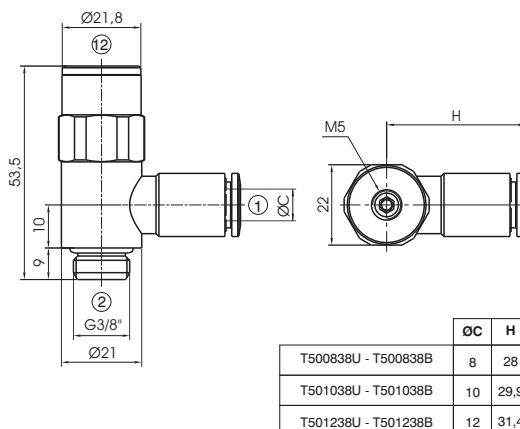


Blocking valves technopolymer type - Size 3/8"

Coding: T50**T**38**V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	0,5 ÷ 10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1000
Flow rate with free exhaus (NI/min)	1600

METAL TYPE	
A	= Banjo only
T 08	= Banjo Ø8
10	= Banjo Ø10
12	= Banjo Ø12
VERSION	
V U	= Unidirectional
B	= Bidirectional



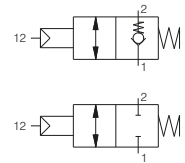
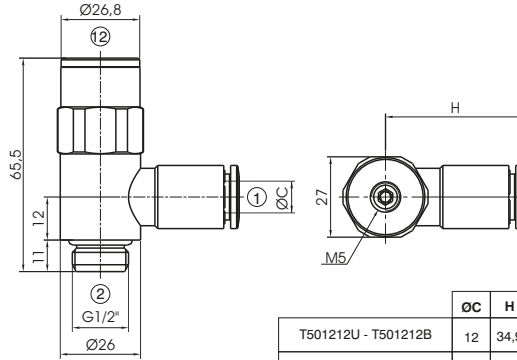


Blocking valves technopolymer type - Size 1/2"

Coding: T50^①12^②V

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	0,5 ± 10
Temperature °C	-5 ± +50
Flow rate at 6 bar with Δp=1 (NI/min)	1300
Flow rate with free exhaus (NI/min)	2600

METAL TYPE	
①	A = Banjo only
	10 = Banjo Ø10
	12 = Banjo Ø12
VERSION	
②	U = Unidirectional
	B = Bidirectional



1
AIR DISTRIBUTION

Series 55 Tecno-FUN

General

This line of different logic functions that can be used in any place of the secondary pneumatic circuit, developed to be installed directly onto the main pneumatic components (distributors or cylinders).

Thanks to the modular design it is possible to easily join together multiple logic functions without the need of using pipes to connect them; it is also possible to choose the type and style of each connection. The connections available are the following: straight cartridge; Banjo PL cartridge; male cartridge threaded 1/8" or 1/4" and female cartridge threaded 1/8".

Function fittings can also be assembled side by side in order to be assembled on the DIN EN 50022 rail (using the relevant kit).



Other characteristics:

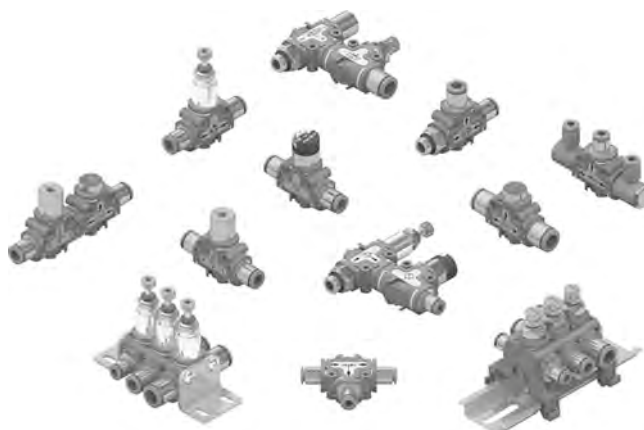
Technopolymer body
Input/output connection directly integrated into the body
In line or 90° connection
Possibility to build a manifold -parallel mounting-
Different connection options:
Tube Ø4 Ø6 Ø8 (elbow version as well)
G1/8" G1/4" male straight cartridge
G1/8" female cartridge, in line or 90°

Different mounting options:

- Wall fixing through the holes in the body
- By means of the fixing bracket
- Panel mounting (for those function that include such possibility)
- On DIN rail EN 50022 (using the DIN rail adapter kit)

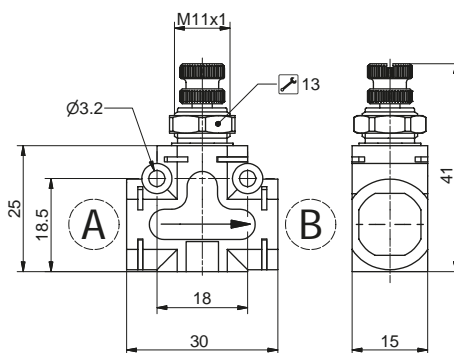
Available functions

- Flow control valve
- Pressure regulator
- Block valve
- Quick exhaust valve
- OR gate
- AND gate
- Pressure gauge
- Progressive start-up valve
- Pressure regulator + pressure gauge
- Block valve + Flow control valve
- Block valve + quick exhaust valve



Flow regulator

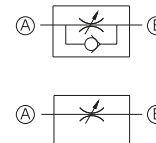
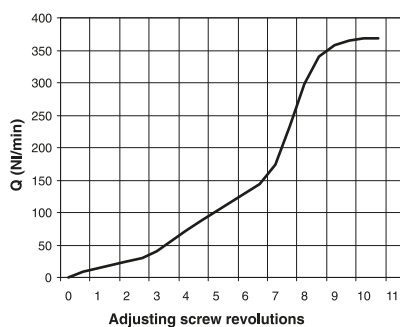
Coding: 551.11 T A B XX



	TYPE
T	1 = Unidirectional 2 = Bidirectional
A	CONNECTION A SEE CONNECTIONS LIST
B	CONNECTION B SEE CONNECTIONS LIST
	CONNECTIONS LIST
	00 = None
	D4 = Straight Ø4
	D6 = Straight Ø6
	D8 = Straight Ø8
	L1 = Female banjo G1/8"
	G4 = Rotating banjo Ø 4
	G6 = Rotating banjo Ø 6
	G8 = Rotating banjo Ø 8
	M1 = G1/8" male
	M2 = G1/4" male
	F1 = G1/8" female

Example: 551.111.D6.D6.XX
Flow control valve unidirectional, CONNECTIONS "A" and "B" Tube Ø6
NOTE : For the dimension including cartridges see page Accessories - Function fittings

Piloting curves



Construction characteristics

- The flow control valve is normally used to regulate the air flow and, as a consequence, for example, the speed of a cylinder. Two types of flow control valves are available: unidirectional and bidirectional. In the unidirectional valve the flow is regulated only in one direction while is free to move in the opposite direction; in the bidirectional valve the flow is regulated in both directions.
- Panel mounting using the lock nut supplied as standard
- on DIN rail using the relevant adaptor kit (see accessories)
- With 90° bracket (see accessories)
- directly on the support plate thanks to two through holes on the body

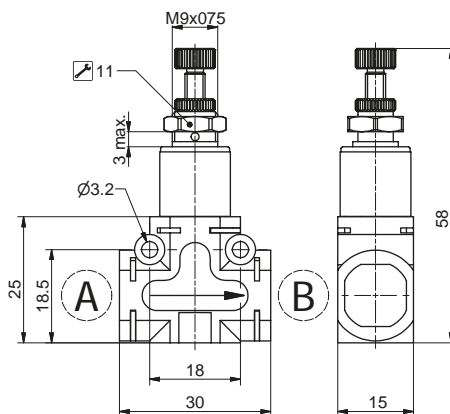
Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	10
Orifice size (mm)	Ø3
Free exhaust flow rate in the opposite side of the regulation	800 (for unidirectional version)
Temperature °C	-5 ÷ +50
Weight (g)	26

1 AIR DISTRIBUTION

In line pressure regulator

Coding: 551.12T.A.B.XX



TYPE	
T	2 = 0-2 bar
	4 = 0-4 bar
	8 = 0-8 bar
CONNECTION A	
A	SEE CONNECTIONS LIST
CONNECTION B	
B	SEE CONNECTIONS LIST
CONNECTIONS LIST	
00	= None
D4	= Straight Ø4
D6	= Straight Ø6
D8	= Straight Ø8
L1	= Female banjo G1/8"
G4	= Rotating banjo Ø 4
G6	= Rotating banjo Ø 6
G8	= Rotating banjo Ø 8
M1	= G1/8" male
M2	= G1/4" male
F1	= G1/8" female

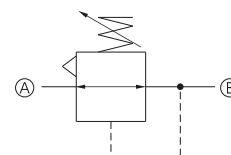
Example: 551.128.D8.D8.XX

In line pressure regulator, pressure range (bar) 0-8 bar. Connections "A" and "B" Tube Ø6
NOTE : For the dimension including cartridges see page Accessories - Function fittings

Construction characteristics

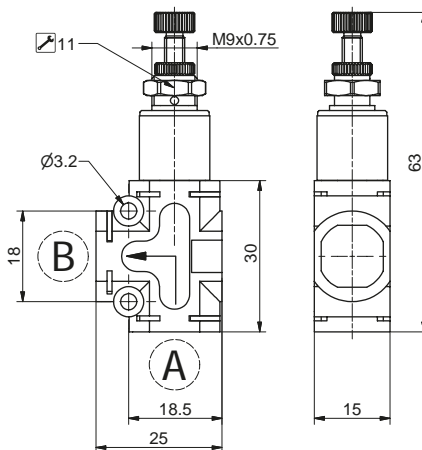
- The pressure regulator is a device which is used to reduce, regulate and stabilize the air pressure in a conduit in order to adapt it to the needs of the equipments to be supplied. The pressure regulator incorporates the relieving function.
- Panel mounting using the lock nut supplied as standard
- on DIN rail using the relevant adaptor kit (see accessories)
- With 90° bracket (see accessories)
- directly on the support plate thanks to two through holes on the body

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	10
Flow rate at 6 bar with Δp=1 (NI/min)	180
Pressure range (bar)	0÷2 / 0÷4 / 0÷8
Temperature °C	-5 ÷ +50
Weight (g)	31



90° pressure regulator

Coding: 551.22T.A.B.XX



TYPE	
T	2 = 0-2 bar
	4 = 0-4 bar
	8 = 0-8 bar
CONNECTION A	
A	SEE CONNECTIONS LIST
CONNECTION B	
B	SEE CONNECTIONS LIST
CONNECTIONS LIST	
00	= None
D4	= Straight Ø4
D6	= Straight Ø6
D8	= Straight Ø8
L1	= Female banjo G1/8"
G4	= Rotating banjo Ø 4
G6	= Rotating banjo Ø 6
G8	= Rotating banjo Ø 8
M1	= G1/8" male
M2	= G1/4" male
F1	= G1/8" female

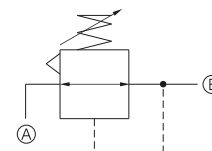
Example: 551.224.M1.D6.XX

90° pressure regulator, pressure range (bar) 0-4 bar. Connections "A" Male G1/8 and "B" Tube Ø6
NOTE : For the dimension including cartridges see page Accessories - Function fittings

Construction characteristics

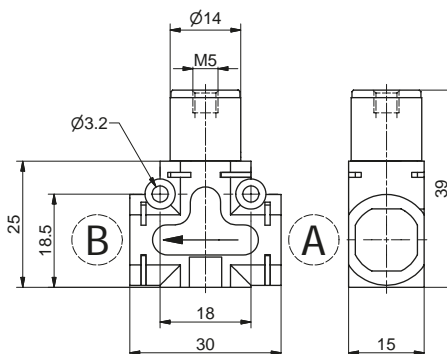
- The pressure regulator is a device which is used to reduce, regulate and stabilize the air pressure in a conduit in order to adapt it to the needs of the equipments to be supplied. The pressure regulator incorporates the relieving function.
- Panel mounting using the lock nut supplied as standard
- on DIN rail using the relevant adaptor kit (see accessories)
- With 90° bracket (see accessories)
- directly on the support plate thanks to two through holes on the body

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	10
Flow rate at 6 bar with Δp=1 (NI/min)	180
Pressure range (bar)	0÷2 / 0÷4 / 0÷8
Temperature °C	-5 ÷ +50
Weight (g)	31



Blocking valve

Coding: 551.13T.A.B.XX



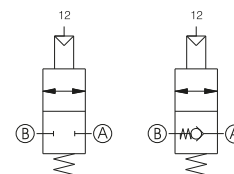
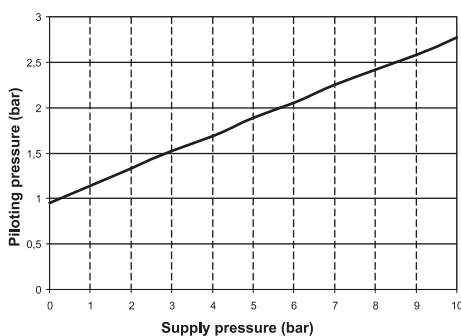
TYPE	
T	1 = Unidirectional 2 = Bidirectional
CONNECTION A	SEE CONNECTIONS LIST
CONNECTION B	SEE CONNECTIONS LIST
CONNECTIONS LIST	
00	None
D4	Straight Ø4
D6	Straight Ø6
D8	Straight Ø8
L1	Female banjo G1/8"
G4	Rotating banjo Ø 4
G6	Rotating banjo Ø 6
G8	Rotating banjo Ø 8
M1	G1/8" male
M2	G1/4" male
F1	G1/8" female

Example: 551.131.D4.D4.XX

In line blocking valve, unidirectional. Connections "A" and "B" Tube Ø4

NOTE : For the dimension including cartridges see page Accessories - Function fittings

Piloting curves



Construction characteristics

- The blocking valve function is to maintain the circuit downstream pressure in the event of loss of supply pressure. It is normally fitted directly onto the cylinder connections ports in order to ensure that, in case of accidental loss of the supply pressure, the units positions is maintained. This is achieved as the blocking valve preserves the pressure inside the pressurised chamber. Blocking valves can be unidirectional or bidirectional.
- In the unidirectional version the air flow is free in one direction while in order to allow the flow in the opposite direction is necessary to send a pneumatic signal to the unit connection 12.
- The bidirectional version requires a pneumatic signal on connection 12 to allow the flow in any of the two directions.
- on DIN rail using the relevant adaptor kit (see accessories)
- With 90° bracket (see accessories)
- directly on the support plate thanks to two through holes on the body

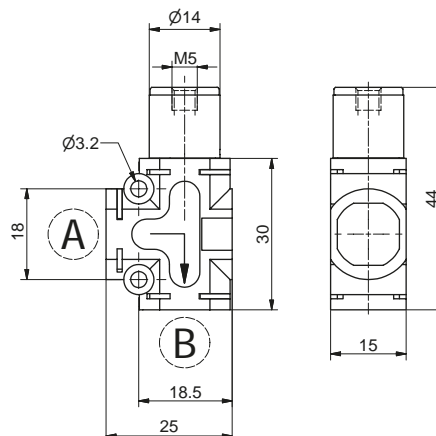
Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	0,5 ÷ 10
Flow rate at 6 bar with Δp=1 (NI/min)	285
Flow rate at 6 bar with free exhaust (NI/min)	450
Temperature °C	-5 ÷ +50
Weight (g)	26

1 AIR DISTRIBUTION

90° blocking valve

Coding: 551.231.T.A.B.XX



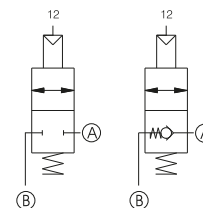
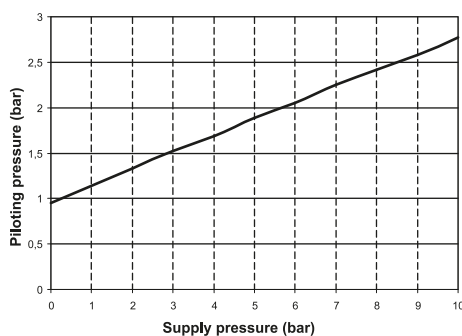
	TYPE
T	1 = Unidirectional 2 = Bidirectional
A	CONNECTION A SEE CONNECTIONS LIST
B	CONNECTION B SEE CONNECTIONS LIST
	CONNECTIONS LIST
	00 = None
	D4 = Straight Ø4
	D6 = Straight Ø6
	D8 = Straight Ø8
	L1 = Female banjo G1/8"
	G4 = Rotating banjo Ø 4
	G6 = Rotating banjo Ø 6
	G8 = Rotating banjo Ø 8
	M1 = G1/8" male
	M2 = G1/4" male
	F1 = G1/8" female

Example: 551.231.D6.M1.XX

90° blocking valve. Connections "A" Male G1/8 and "B" Tube Ø6

NOTE : For the dimension including cartridges see page Accessories - Function fittings

Piloting curves



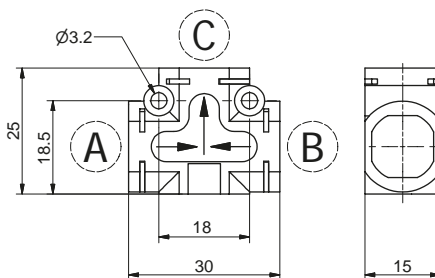
Construction characteristics

- The blocking valve function is to maintain the circuit downstream pressure in the event of loss of supply pressure. It is normally fitted directly onto the cylinder connections ports in order to ensure that, in case of accidental loss of the supply pressure, the units positions is maintained. This is achieved as the blocking valve preserves the pressure inside the pressurised chamber.
- Unidirectional and bidirectional version are both available.
- In the unidirectional version the air flow is free in one direction while in order to allow the flow in the opposite direction is necessary to send a pneumatic signal to the unit connection 12.
- The bidirectional version requires a pneumatic signal on connection 12 to allow the flow in any of the two directions.
- on DIN rail using the relevant adaptor kit (see accessories)
- With 90° bracket (see accessories)
- directly on the support plate thanks to two through holes on the body

Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	0,5 ÷ 10
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	285
Flow rate at 6 bar with free exhaust (NI/min)	450
Temperature °C	-5 ÷ +50
Weight (g)	26

Circuit selector valve - OR



Coding: 551.141.A.B.C

A	CONNECTION A SEE CONNECTIONS LIST
B	CONNECTION B SEE CONNECTIONS LIST
C	CONNECTION C SEE CONNECTIONS LIST
CONNECTIONS LIST	
00 = None	
D4 = Straight Ø4	
D6 = Straight Ø6	
D8 = Straight Ø8	
L1 = Female banjo G1/8"	
G4 = Rotating banjo Ø4	
G6 = Rotating banjo Ø6	
G8 = Rotating banjo Ø8	
M1 = G1/8" male	
M2 = G1/4" male	
F1 = G1/8" female	

Example: 551.141.D8.D8.D8

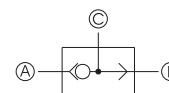
Circuit selector valve - OR. Connections "A", "B" and "C" Tube Ø8

NOTE : For the dimension including cartridges see page Accessories - Function fittings

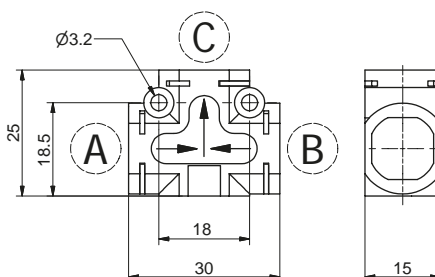
Construction characteristics

- These valves have two inlets and one output connection and are normally called high pressure selector valves as, when receiving two separate pressure supply, only allow the passage of the highest pressure. The most common application is to operate a component from two separate positions.
- on DIN rail using the relevant adaptor kit (see accessories)
- With 90° bracket (see accessories)
- directly on the support plate thanks to two through holes on the body

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	10
Flow rate at 6 bar with Δp=1 (Nl/min)	600
Temperature °C	-5 ÷ +50
Weight (g)	10



Circuit selector valve - AND



Coding: 551.151.A.B.C

A	CONNECTION A SEE CONNECTIONS LIST
B	CONNECTION B SEE CONNECTIONS LIST
C	CONNECTION C SEE CONNECTIONS LIST
CONNECTIONS LIST	
00 = None	
D4 = Straight Ø4	
D6 = Straight Ø6	
D8 = Straight Ø8	
L1 = Female banjo G1/8"	
G4 = Rotating banjo Ø4	
G6 = Rotating banjo Ø6	
G8 = Rotating banjo Ø8	
M1 = G1/8" male	
M2 = G1/4" male	
F1 = G1/8" female	

Example: 551.151.D6.D6.D6

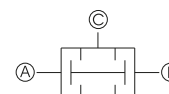
Circuit selector valve AND. Connections "A", "B" and "C" Tube Ø6

NOTE : For the dimension including cartridges see page Accessories - Function fittings

Construction characteristics

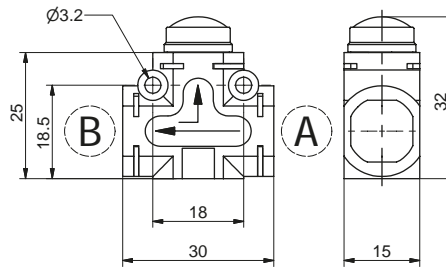
- These valves have two inlets and one output connection and are normally called low pressure selector valves as, when receiving two separate pressure supply, only allow the passage of the lowest pressure. The most common application is to operate a component from two separate positions.
- on DIN rail using the relevant adaptor kit (see accessories)
- With 90° bracket (see accessories)
- directly on the support plate thanks to two through holes on the body

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	10
Flow rate at 6 bar with Δp=1 (Nl/min)	550
Temperature °C	-5 ÷ +50
Weight (g)	10



Quick exhaust valve

Coding: 551.161.A.B.XX



A	CONNECTION A SEE CONNECTIONS LIST
B	CONNECTION B SEE CONNECTIONS LIST
CONNECTIONS LIST	
00 = None	
D4 = Straight Ø4	
D6 = Straight Ø6	
D8 = Straight Ø8	
L1 = Female banjo G1/8"	
G4 = Rotating banjo Ø4	
G6 = Rotating banjo Ø6	
G8 = Rotating banjo Ø8	
M1 = G1/8" male	
M2 = G1/4" male	
F1 = G1/8" female	

Example: 551.161.D8.D8.XX

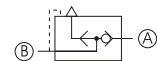
Quick exhaust valve. Connections "A" and "B" Tube Ø6

NOTE : For the dimension including cartridges see page Accessories - Function fittings

Construction characteristics

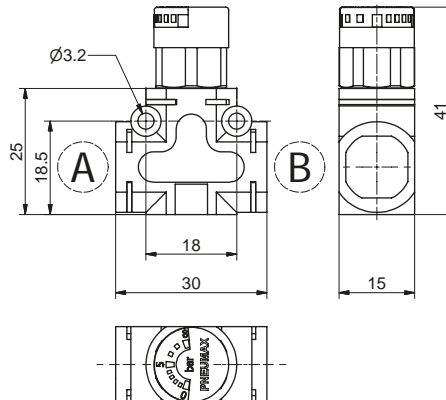
- These are 3 ways, two positions valves which can be directly mounted onto the actuator or between the actuator and the control valve. Their function is to discharge the air directly into the atmosphere without going through the pneumatic circuit enabling the actuator to reach the maximum speed.
- on DIN rail using the relevant adaptor kit (see accessories)
- With 90° bracket (see accessories)
- directly on the support plate thanks to two through holes on the body

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	10
Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	250
Flow rate at 6 bar with free exhaust (Nl/min)	500
Temperature °C	-5 ÷ +50
Weight (g)	15



Pressure indicator

Coding: 551.178.A.B.XX



A	CONNECTION A SEE CONNECTIONS LIST
B	CONNECTION B SEE CONNECTIONS LIST
CONNECTIONS LIST	
00 = None	
D4 = Straight Ø4	
D6 = Straight Ø6	
D8 = Straight Ø8	
L1 = Female banjo G1/8"	
G4 = Rotating banjo Ø4	
G6 = Rotating banjo Ø6	
G8 = Rotating banjo Ø8	
M1 = G1/8" male	
M2 = G1/4" male	
F1 = G1/8" female	

Example: 551.178.D6.D4.XX

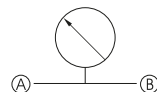
Pressure indicator. Connections "A" Tube Ø6, "B" Tube Ø4

NOTE : For the dimension including cartridges see page Accessories - Function fittings

Construction characteristics

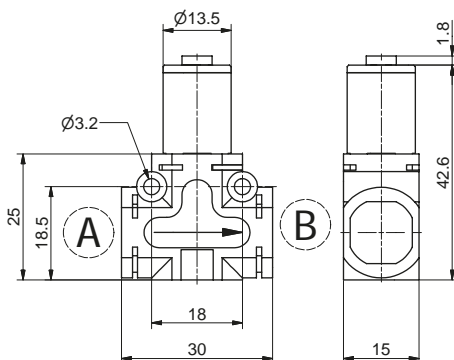
- The pressure visual indicator is a device which measures the pressure inside a pneumatic circuit. The 0 to 8 bar visual indicator makes very easy to monitor the pressure state inside the circuit. It can be use on its own or can be coupled with another device.
- It can be use on its own or can be coupled with another device.
- on DIN rail using the relevant adaptor kit (see accessories)
- With 90° bracket (see accessories)
- directly on the support plate thanks to two through holes on the body

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	8
Visualization scale (bar)	0 ÷ 8
Temperature °C	-5 ÷ +50
Weight (g)	20.5



In line progressive start-up valve

Coding: 551.181.A.B.XX



A	CONNECTION A SEE CONNECTIONS LIST
B	CONNECTION B SEE CONNECTIONS LIST
CONNECTIONS LIST	
00 = None	
D4 = Straight Ø4	
D6 = Straight Ø6	
D8 = Straight Ø8	
L1 = Female banjo G1/8"	
G4 = Rotating banjo Ø 4	
G6 = Rotating banjo Ø 6	
G8 = Rotating banjo Ø 8	
M1 = G1/8" male	
M2 = G1/4" male	
F1 = G1/8" female	

Example: 551.181.D6.D4.XX

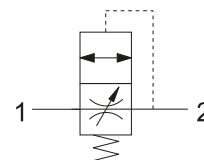
In line progressive start-up valve. Connections "A" Tube Ø6, "B" Tube Ø4

NOTE : For the dimension including cartridges see page Accessories - Function fittings

Construction characteristics

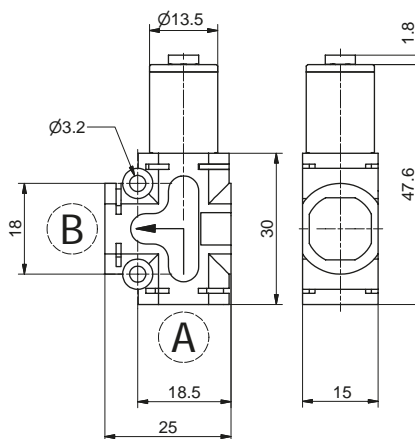
- The soft start valve is a device designed to gradually pressurise the downstream circuit until 50% of the upstream pressure value is reached.
- Once the 50% of the upstream pressure value is reached in the down stream circuit the valve fully opens allowing full air passage.
- The filling time can be adjusted thanks to the built in flow regulator.
- This device is used in order to ensure that during the pneumatic circuit start up the cylinders will return to theirs home position slowly avoiding collisions or sudden movements.

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Opening pressure (Pa)	50% of the inlet pressure (Pi)
Flow rate at 6 bar with free exhaust (Nl/min) from 1 to 2 with opening circuit	350
Flow rate at 6 bar with $\Delta p=1$ from 1 to 2 with opening circuit	600
Flow rate at 6 bar with $\Delta p=1$ from 2 to 1 with opening pin	650
Temperature °C	-5 ÷ +50
Weight (g)	31



90° progressive start-up valve

Coding: 551.281.A.B.XX



A	CONNECTION A SEE CONNECTIONS LIST
B	CONNECTION B SEE CONNECTIONS LIST
CONNECTIONS LIST	
00 = None	
D4 = Straight Ø4	
D6 = Straight Ø6	
D8 = Straight Ø8	
L1 = Female banjo G1/8"	
L	G4 = Rotating banjo Ø 4
G6 = Rotating banjo Ø 6	
G8 = Rotating banjo Ø 8	
M1 = G1/8" male	
M2 = G1/4" male	
F1 = G1/8" female	

Example: 551.281.M1.D4.XX

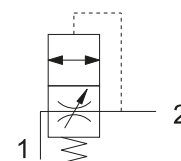
90° progressive start-up valve. connections "A" Male G1/8", "B" Tube Ø4

NOTE : For the dimension including cartridges see page Accessories - Function fittings

Construction characteristics

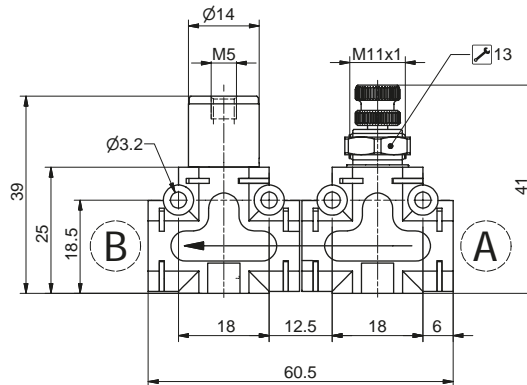
- The soft start valve is a device designed to gradually pressurise the downstream circuit until 50% of the upstream pressure value is reached.
- Once the 50% of the upstream pressure value is reached in the down stream circuit the valve fully opens allowing full air passage.
- The filling time can be adjusted thanks to the built in flow regulator.
- This device is used in order to ensure that during the pneumatic circuit start up the cylinders will return to theirs home position slowly avoiding collisions or sudden movements.

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Opening pressure (Pa)	50% of the inlet pressure (Pi)
Flow rate at 6 bar with free exhaust (Nl/min) from 1 to 2 with opening circuit	350
Flow rate at 6 bar with $\Delta p=1$ from 1 to 2 with opening circuit	600
Flow rate at 6 bar with $\Delta p=1$ from 2 to 1 with opening pin	650
Temperature °C	-5 ÷ +50
Weight (g)	31



In line blocking valve with flow control valve

Coding: 551.1F^T.^A.^B.XX



TYPE
1 = Unidirectional blocking valve + Unidirectional flow control valve
2 = Bidirectional blocking valve + Bidirectional flow control valve
T
3 = Unidirectional blocking valve + Bidirectional flow control valve
4 = Bidirectional blocking valve + Unidirectional flow control valve
A
CONNECTION A
SEE CONNECTIONS LIST
CONNECTION B
B
SEE CONNECTIONS LIST
CONNECTIONS LIST
00 = None
D4 = Straight Ø4
D6 = Straight Ø6
D8 = Straight Ø8
L1 = Female banjo G1/8"
G4 = Rotating banjo Ø 4
G6 = Rotating banjo Ø 6
G8 = Rotating banjo Ø 8
M1 = G1/8" male
M2 = G1/4" male
F1 = G1/8" female

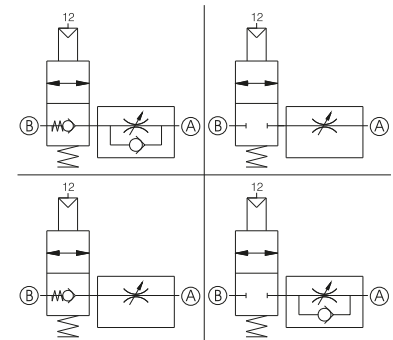
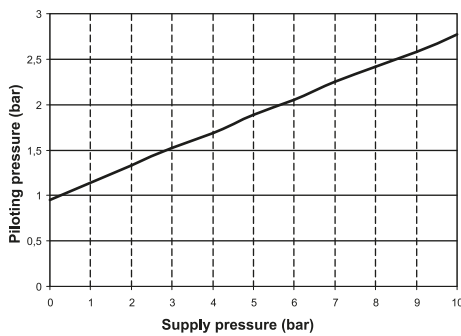
1
AIR DISTRIBUTION

Example: 551.1F1.00.00.XX

In line blocking valve + flow control valve. Without connections "A" and "B"

NOTE: For the dimension including cartridges see page Accessories - Function fittings

Piloting curves



Construction characteristics

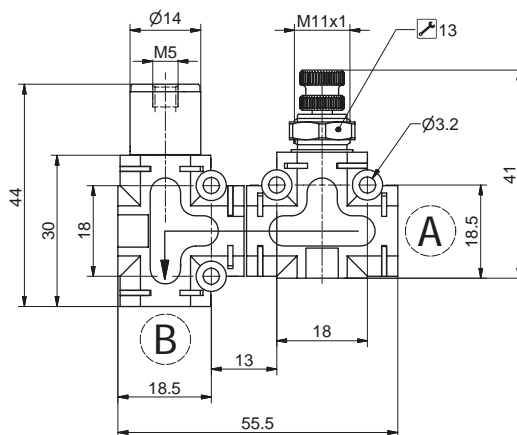
- The combination of this two functions ensures that the downstream pressure is maintained in case of accidental loss of supply pressure and at the same time grants the possibility to regulate the circuit flow rate. A typical application of this combination is close to or directly assembled onto the actuator connection ports. This allows to keep pressurised the cylinder chamber in case of accidental loss of supply pressure and to regulate the exhaust flow rate when the blocking valve is actuated.
- The possible combinations are the following:
 - Unidirectional blocking valve + unidirectional flow control valve
 - Bidirectional blocking valve + bidirectional flow control valve
 - Bidirectional blocking valve + unidirectional flow control valve
 - Unidirectional blocking valve + bidirectional flow control valve

Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	0,5 ÷ 10
Flow rate at 6 bar with Δp=1 (Nl/min)	285
Orifice size (mm)	Ø3
Temperature °C	-5 ÷ +50
Weight (g)	62

► 90° blocking valve + flow control valve

Coding: 551.2F^T.A.B.XX

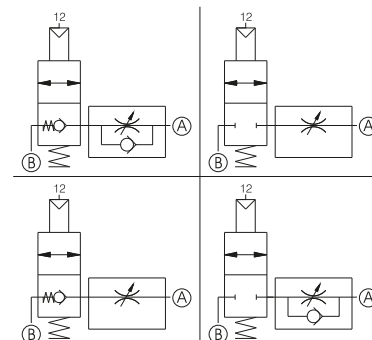
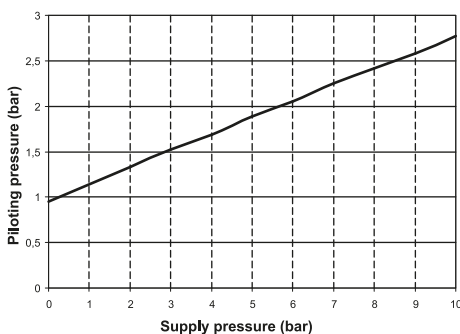


	TYPE
	1 = 90° Unidirectional blocking valve + Unidirectional flow control valve
	2 = 90° Bidirectional blocking valve + Bidirectional flow control valve
T	3 = 90° Unidirectional blocking valve + Bidirectional flow control valve
	4 = 90° Bidirectional blocking valve + Unidirectional flow control valve
A	CONNECTION A SEE CONNECTIONS LIST
B	CONNECTION B SEE CONNECTIONS LIST
	CONNECTIONS LIST
	00 = None
	D4 = Straight Ø4
	D6 = Straight Ø6
	D8 = Straight Ø8
	L1 = Female banjo G1/8"
	G4 = Rotating banjo Ø 4
	G6 = Rotating banjo Ø 6
	G8 = Rotating banjo Ø 8
	M1 = G1/8" male
	M2 = G1/4" male
	F1 = G1/8" female

1
AIR DISTRIBUTION

Example: 5512F1.00.00.XX
90° blocking valve + flow control valve. Without connections "A" and "B"
NOTE : For the dimension including cartridges see page Accessories - Function fittings

Piloting curves



Construction characteristics

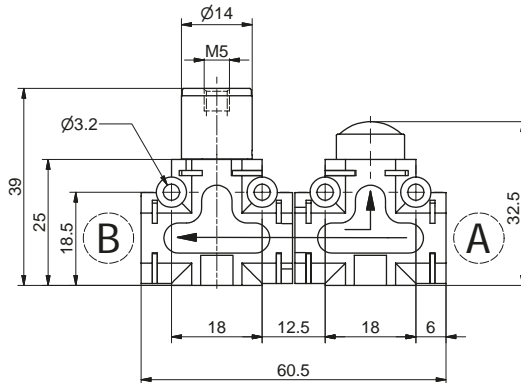
- The combination of this two functions ensures that the downstream pressure is maintained in case of accidental loss of supply pressure and at the same time grants the possibility to regulate the circuit flow rate. A typical application of this combination is close to or directly assembled onto the actuator connection ports. This allows to keep pressurised the cylinder chamber in case of accidental loss of supply pressure and to regulate the exhaust flow rate when the blocking valve is actuated.
- The possible combinations are the following:
 - 90° Unidirectional blocking valve + Unidirectional flow control valve
 - 90° Bidirectional blocking valve + Bidirectional flow control valve
 - 90° Bidirectional blocking valve + Unidirectional flow control valve
 - 90° Unidirectional blocking valve + Bidirectional flow control valve

Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	0,5 + 10
Flow rate at 6 bar with Δp=1 (Nl/min)	285
Orifice size (mm)	Ø3
Temperature °C	-5 ÷ +50
Weight (g)	62

In line blocking valve + quick exhaust valve

Coding: 551.1G^T.A.B.XX



TYPE	
1	Unidirectional blocking valve + quick exhaust valve
2	Bidirectional blocking valve + quick exhaust valve
CONNECTION A	
SEE CONNECTIONS LIST	
CONNECTION B	
SEE CONNECTIONS LIST	
CONNECTIONS LIST	
00	None
D4	Straight Ø4
D6	Straight Ø6
D8	Straight Ø8
L1	Female banjo G1/8"
G4	Rotating banjo Ø 4
G6	Rotating banjo Ø 6
G8	Rotating banjo Ø 8
M1	G1/8" male
M2	G1/4" male
F1	G1/8" female

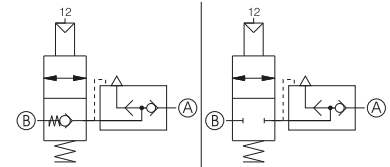
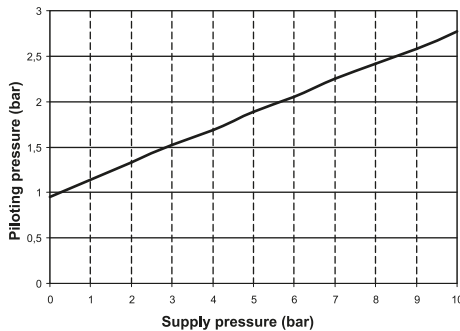
AIR DISTRIBUTION

Example: 5511G1.00.00.XX

In line blocking valve + quick exhaust valve. Without connections "A" and "B"

NOTE: For the dimension including cartridges see page Accessories - Function fittings

Piloting curves



Construction characteristics

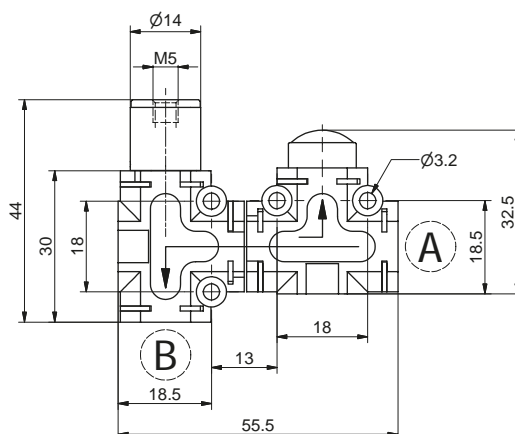
- The combination of this two functions ensures that the downstream pressure is maintained in case of accidental loss of supply pressure and at the same time allows for the air to be directly discharged into the atmosphere without going through the pneumatic circuit. A typical application of this combination is close to or directly assembled onto the actuator connection ports. This allows to keep pressurised the cylinder chamber in case of accidental loss of supply pressure and to quickly discharge the same chamber when the blocking valve is actuated.
- The possible combinations are the following:
 - Unidirectional blocking valve + quick exhaust valve
 - Bidirectional blocking valve + quick exhaust valve

Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	0.5 ÷ 10
Flow rate at 6 bar with Δp=1 (NI/min)	285
Temperature °C	-5 ÷ +50
Weight (g)	51

► 90° blocking valve + quick exhaust valve

Coding: 551.2G^T.A.B.XX

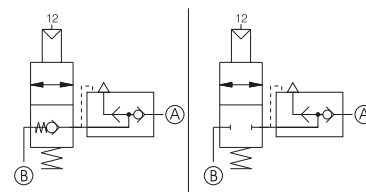
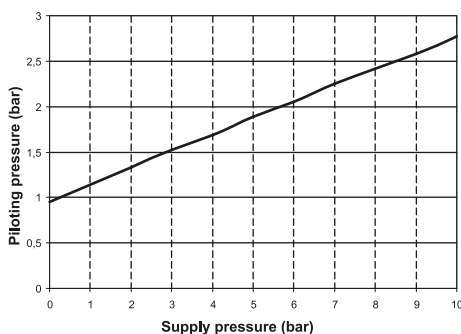


	TYPE
1	= 90° Unidirectional blocking valve + quick exhaust valve
2	= 90° Bidirectional blocking valve + quick exhaust valve
A	CONNECTION A SEE CONNECTIONS LIST
B	CONNECTION B SEE CONNECTIONS LIST
	CONNECTIONS LIST
00	= None
D4	= Straight Ø4
D6	= Straight Ø6
D8	= Straight Ø8
L1	= Female banjo G1/8"
G4	= Rotating banjo Ø 4
G6	= Rotating banjo Ø 6
G8	= Rotating banjo Ø 8
M1	= G1/8" male
M2	= G1/4" male
F1	= G1/8" female

1 AIR DISTRIBUTION

Example: 551.2G1.00.00.XX
90° bidirectional blocking valve + quick exhaust valve. Without connections "A" and "B"
NOTE : For the dimension including cartridges see page Accessories - Function fittings

Piloting curves



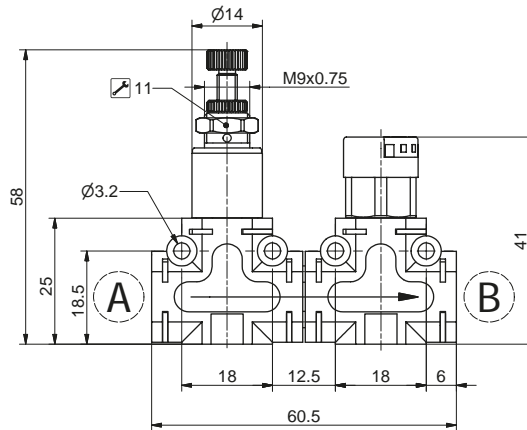
Construction characteristics

- The combination of this two functions ensures that the downstream pressure is maintained in case of accidental loss of supply pressure and at the same time allows for the air to be directly discharged into the atmosphere without going through the pneumatic circuit. A typical application of this combination is close to or directly assembled onto the actuator connection ports. This allows to keep pressurised the cylinder chamber in case of accidental loss of supply pressure and to quickly discharge the same chamber when the blocking valve is actuated.
- The possible combinations are the following:
 - 90° Unidirectional blocking valve + quick exhaust valve
 - 90° Bidirectional blocking valve + quick exhaust valve

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	0,5 ÷ 10
Flow rate at 6 bar with Δp=1 (NI/min)	285
Temperature °C	-5 ÷ +50
Weight (g)	51

In line pressure regulator + pressure indicator

Coding: 551.1H**T**.**A**.**B**.XX



TYPE	
T	2 = 0-2 bar
	4 = 0-4 bar
	8 = 0-8 bar
CONNECTION A	
A	SEE CONNECTIONS LIST
CONNECTION B	
B	SEE CONNECTIONS LIST
CONNECTIONS LIST	
00	= None
D4	= Straight Ø4
D6	= Straight Ø6
D8	= Straight Ø8
L1	= Female banjo G1/8"
G4	= Rotating banjo Ø4
G6	= Rotating banjo Ø6
G8	= Rotating banjo Ø8
M1	= G1/8" male
M2	= G1/4" male
F1	= G1/8" female

Example: 551.1H2.M1.D4.XX

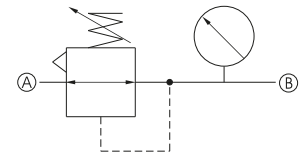
In line pressure regulator, adjusting range 0 - 2 bar + pressure indicator. Connections "A" Male G 1/8 and "B" Tube Ø4

NOTE : For the dimension including cartridges see page Accessories - Function fittings

Construction characteristics

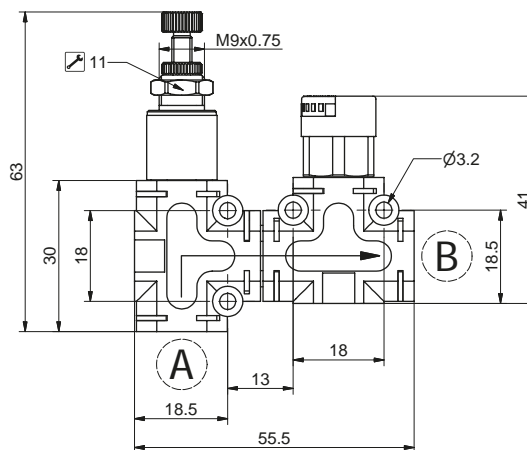
- The combination of this two functions ensures the possibility to regulate the downstream pressure while directly visualising the adjusted pressure value.
- The possible combinations are the following:
 - 0 to 2 bar pressure regulator + pressure visual indicator
 - 0 to 4 bar pressure regulator + pressure visual indicator
 - 0 to 8 bar pressure regulator + pressure visual indicator
- The visual indicator Pressure range (bar) is always 0 to 8 bar

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	8
Visualization scale (bar)	0 ÷ 8
Pressure range (bar)	0 ÷ 2 0 ÷ 4 0 ÷ 8
Temperature °C	-5 ÷ +50
Weight (g)	62



90° pressure regulator + pressure indicator

Coding: 551.2H**T**.**A**.**B**.XX



TYPE	
T	2 = 0-2 bar
	4 = 0-4 bar
	8 = 0-8 bar
CONNECTION A	
A	SEE CONNECTIONS LIST
CONNECTION B	
B	SEE CONNECTIONS LIST
CONNECTIONS LIST	
00	= None
D4	= Straight Ø4
D6	= Straight Ø6
D8	= Straight Ø8
L1	= Female banjo G1/8"
G4	= Rotating banjo Ø4
G6	= Rotating banjo Ø6
G8	= Rotating banjo Ø8
M1	= G1/8" male
M2	= G1/4" male
F1	= G1/8" female

Example: 551.2H2.M1.D4.XX

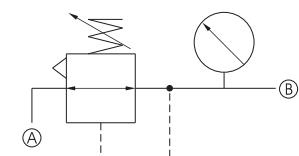
90° pressure regulator, adjusting range 0 - 2 bar + pressure indicator. Connections "A" Male G 1/8 and "B" Tube Ø4

NOTE : For the dimension including cartridges see page Accessories - Function fittings

Construction characteristics

- The combination of this two functions ensures the possibility to regulate the downstream pressure while directly visualising the adjusted pressure value.
- The possible combinations are the following:
 - 0 to 2 bar pressure regulator + pressure visual indicator
 - 0 to 4 bar pressure regulator + pressure visual indicator
 - 0 to 8 bar pressure regulator + pressure visual indicator
- The visual indicator Pressure range (bar) is always 0 to 8 bar

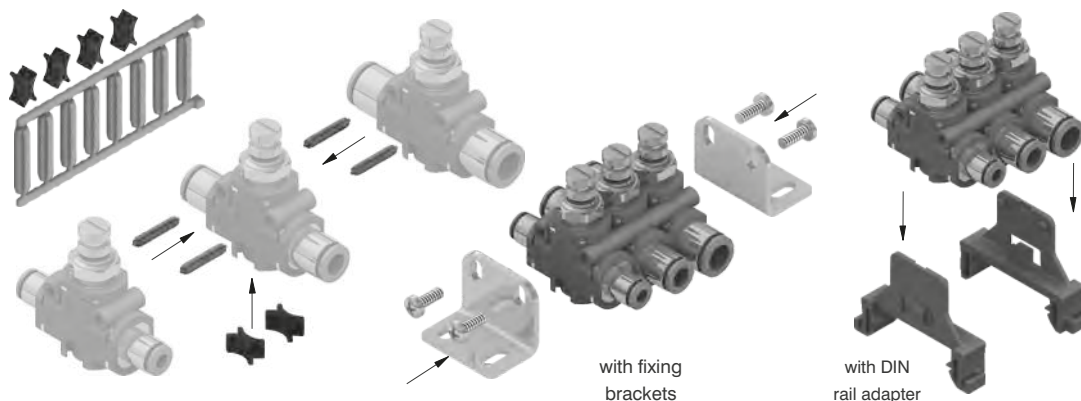
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working ports size	See CONNECTIONS LIST
Max working pressure (bar)	8
Visualization scale (bar)	0 ÷ 8
Pressure range (bar)	0 ÷ 2 0 ÷ 4 0 ÷ 8
Temperature °C	-5 ÷ +50
Weight (g)	62



AIR DISTRIBUTION

Coupling kit (pins and forks)

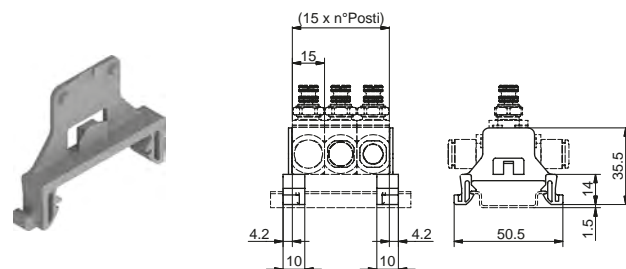
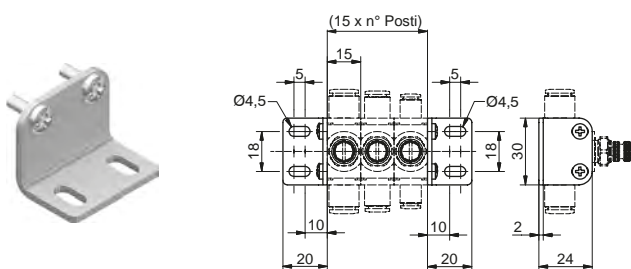
Coding: 55160



- Weight 2,5 g
- The kit, which includes a series of pins and forks, enables to join together in a fast and safe way the function fittings. The pins, once inserted in the front holes, ensure resistance against forces applied perpendicularly and sideways (for example the insertion of the tube in the cartridges).
- The forks, once located in the profiled housing ensures that the parts are held together tightly.
- The kit allows for 5 function fittings to be mounted together.

Fixing brackets

DIN rail adapter



Coding: 55150

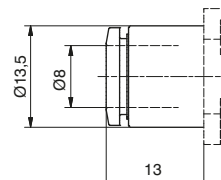
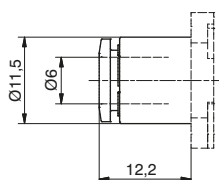
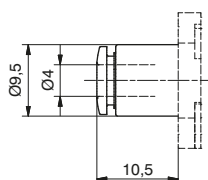
Weight 18 g
The kit comprises two fixing brackets and the screws

Coding: 55116

Weight 4 g
The kit comprises two adapters

Ø4, Ø6 & Ø8 straight cartridge

Coding: 551KD[Ⓢ]



Weight 7,5 g

551KD4

Weight 7,3 g

551KD6

Weight 7 g

551KD8

CONNECTIONS	
4	= tube Ø4
6	= tube Ø6
8	= tube Ø8

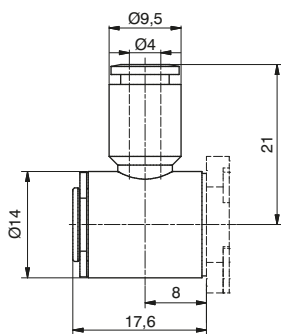


AIR DISTRIBUTION

► Ø4, Ø6 & Ø8 banjo PL cartridge

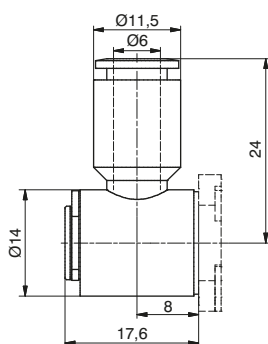
Coding: 551KG[Ⓢ]

CONNECTIONS	
Ⓢ	4 = tube Ø4
	6 = tube Ø6
	8 = tube Ø8



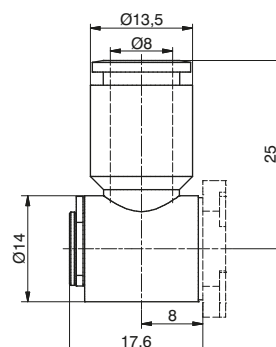
Weight 13,6 g

551KG4



Weight 14 g

551KG6



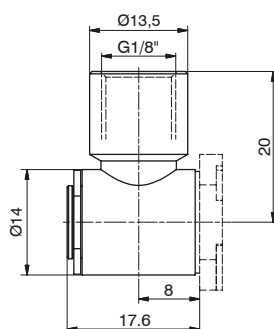
Weight 14,3 g

551KG8

► G1/8" banjo artridge

Coding: 551KL[Ⓢ]

CONNECTIONS	
Ⓢ	1 = G1/8"



Weight 30 g

551KL1

► Connection for multiple function



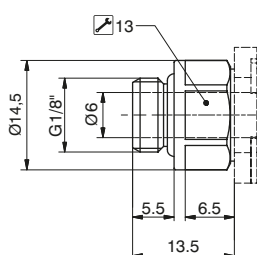
Coding: 551KUU

Weight 14 g

► Cartridge

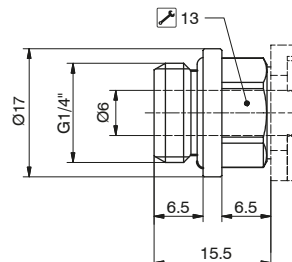
Coding: 551K[Ⓢ]

CONNECTIONS	
Ⓢ	M1 = G1/8" male straight cartridge
	M2 = G1/4" male straight cartridge
	F1 = G1/8" female straight cartridge



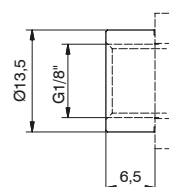
Weight 14 g
G1/8" male straight cartridge

551KM1



Weight 20 g
G1/4" male straight cartridge

551KM2



Weight 9 g
G1/8" female straight cartridge

551KF1

Series 1750-1760

General

This new type of miniaturised pressure regulators are mostly indicated for the use on the secondary level of the pneumatic circuits. Thanks to the contained dimensions are particularly indicated to be used very closely or directly mounted onto the consumption. Three versions are available.



Version rod G1/8" swivel ring with female thread G 1/8" and G 1/4" or push-in fitting for tube Ø4, Ø6 and Ø8



model with body in technopolymer integrated gauge and quick coupling fittings for tube Ø4 and Ø6.

G1/8" model to be directly mounted onto the valve

Compact design to be directly mounted onto the valves uses standard swivel rings with G1/8" female thread (ref 41218) or quick coupling fittings for tube sizes. It is also possible to supply the regulating shaft without the swivel ring.

Model with body in technopolymer and integrated gauge

is the more complete solution, comprises a movable gauge which enables to check the regulated pressure.

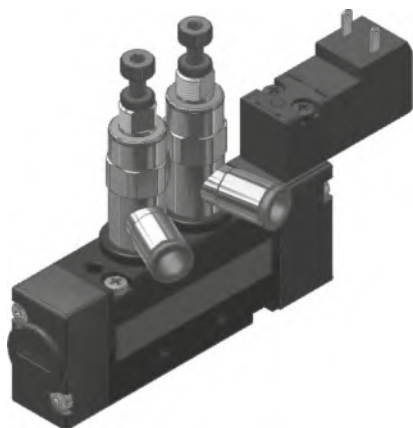
Is manufactured using the same regulating unit as the base model fitted into a technopolymer body on which are inserted two quick coupling cartridges, 4mm or 6mm tube for inlet and outlet connections; two side plates lock the cartridges and gauge in position.

It is possible to join together more than one regulator by means of a dedicated adaptor made of technopolymer which must be inserted in the appropriate slot. (the air must be supplied independently to each regulator.)

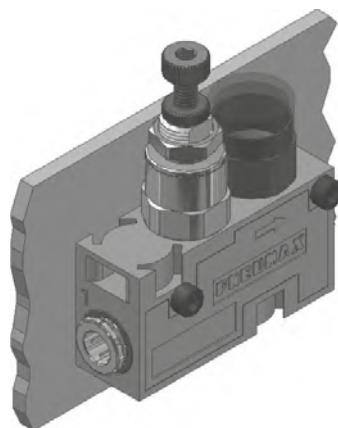
Several mounting solutions are available: wall mounting via two mounting holes, on DIN rail using the specific accessories or on panels.

Mounting solutions

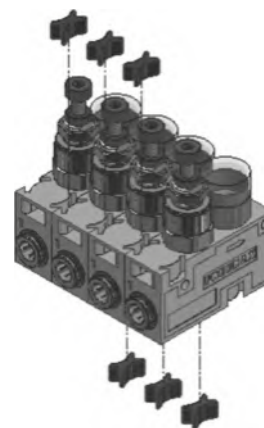
G1/8" model to be directly mounted onto the valve:
Directly mounted onto the valves threaded connections (consumptions)



Model with body in technopolymer and integrated gauge:
Panel mounting via the locking nut



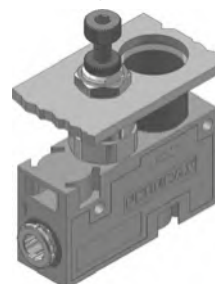
Model with body in technopolymer and integrated gauge:
Wall mounting via the mounting holes on the body



Model with body in technopolymer and integrated gauge:
On DIN rail using the specific accessories



Model with body in technopolymer and integrated gauge:
Panel mounting via the locking nut



Miniaturised pressure regulators - with technopolymer body

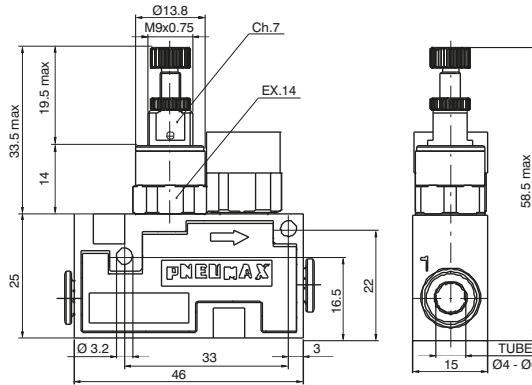
Coding: 17522A^C^G

Construction characteristics

- Regulating cartridge = Nickel-plated brass
- Regulator body = Technopolymer
- Seals = Oil resistant nitrilic rubber (NBR)
- Plunger spring = AISI 302
- Regulating spring = Spring suitable steel
- Plunger = Oil resistant nitrilic rubber (NBR)
- Other parts = Brass

Operational characteristics	
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	120
Working ports size	Ø4-Ø6
Inlet connections sizes	Ø4-Ø6
Mounting positioning	Any

CONNECTIONS	
^C	4 = Tube Ø4
	6 = Tube Ø6
REGULATION RANGE	
^G	C = 0÷8bar
	B = 0÷4bar
	A = 0÷2bar



Miniaturised pressure regulators, rod G1/8"

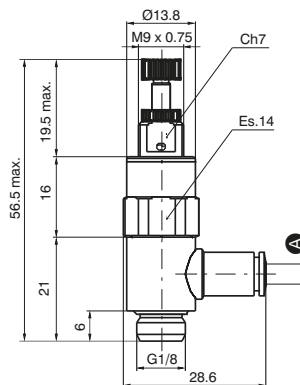
Coding: 17602A^A^G

Construction characteristics

- Regulating cartridge = Nickel-plated brass
- Regulator body = Nickel-plated brass
- Seals = Oil resistant nitrilic rubber (NBR)
- Plunger spring = AISI 302
- Regulating spring = Spring suitable steel
- Plunger = Oil resistant nitrilic rubber (NBR)
- Other parts = Brass

Operational characteristics	
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	120
Working ports size	G1/8"
Inlet connections sizes	G1/8"-Ø4-Ø6-Ø8
Mounting positioning	Any

SWIVEL RING	
^A	0 = None
	1 = Swivel ring G1/8" female
	4 = Tube Ø4
	6 = Tube Ø6
	8 = Tube Ø8
REGULATION RANGE	
^G	C = 0÷8bar
	B = 0÷4bar
	A = 0÷2bar



Miniaturised pressure regulators, rod G1/4"

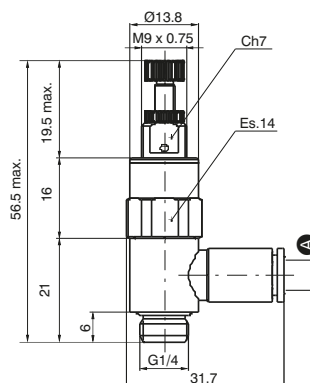
Coding: 17602B^A^G

Construction characteristics

- Regulating cartridge = Nickel-plated brass
- Regulator body = Nickel-plated brass
- Seals = Oil resistant nitrilic rubber (NBR)
- Plunger spring = AISI 302
- Regulating spring = Spring suitable steel
- Plunger = Oil resistant nitrilic rubber (NBR)
- Other parts = Brass

Operational characteristics	
Max working pressure (bar)	10
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	120
Working ports size	G1/4"
Inlet connections sizes	G1/4"-Ø4-Ø6-Ø8
Mounting positioning	Any

SWIVEL RING	
^A	0 = None
	1 = Swivel ring G1/4" female
	6 = Tube Ø6
	8 = Tube Ø8
REGULATION RANGE	
^G	C = 0÷8bar
	B = 0÷4bar
	A = 0÷2bar





Series Mini-RAP

Technical data

Working temperature: -20°C +70°C
Maximum working pressure: 10 bar
Fluid: Compressed air (others fluids on requests)
Nichel-plated brass body, Brass grip, Silicone free NBR gaskets
Thread: Cylindrical with O-Ring
Maximum fixing torque for fittings
Thread: M3: 0,4 Nm
Thread: M6 and M6x0,75: 1,3 Nm

Main characteristics

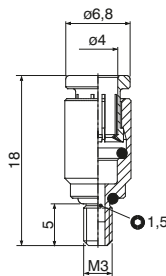
1. Can be inserted and extracted with one hand
2. Suitable for tube Rilsan, Polyurethane, Nylon, Polyethylene
3. Supercompact
4. Extremely lightweight yet sturdy
5. O-Ring provided with his own seat to ensure seal with polished surface
6. Suitable for vacuum applicatio



1
AIR DISTRIBUTION

RDR Straight male adaptor (parallel)

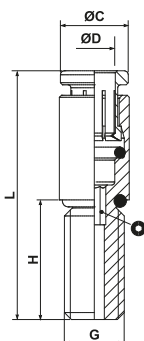
Coding: RDR3.40-MH05



RDR3.40-MH05

RDR Straight male adaptor (parallel)

Coding: RDR6.40-**V**



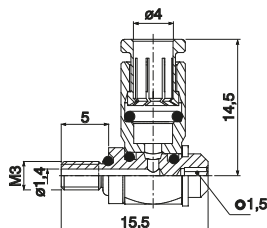
CODE	ØD	G	ØC	H	L	Ø
RDR6.40-MH12	4	M6	6,8	12	25	2
RDR6.40-FH12	4	M6x0,75	6,8	12	25	2

VERSION		
V MH12	=	M6,
H=12mm		
FH12	=	M6x0,75, H=12mm

RDR6.40-**V**

RGR Complete single banjo with stem

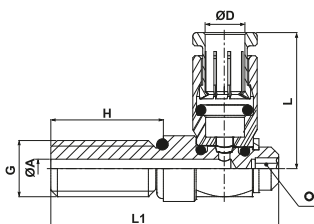
Coding: RGR3.40-MH05



RGR3.40-MH05

RGR Complete single banjo with stem

Coding: RGR6.40-**V**



CODE	ØD	G	ØA	H	L1	L	Ø
RGR6.40-MH12	4	M6	2	12	24,3	14,5	2
RGR6.40-FH12	4	M6x0,75	2	12	24,3	14,5	2

VERSION		
V MH12	=	M6,
H=12mm		
FH12	=	M6x0,75, H=12mm

RGR6.40-**V**



Series 2700

General

The 2700 Series of solenoid operated valves have been designed in accordance with ISO 15407, a standard for both pneumatic and electrical layout.
This series of valves have a 27mm valve body width and a nominal flow rate of 1000 NI/Min.
The solenoid valves are mounted upon a modular sub-base with G1/4" pneumatic connections and built in electrical connection.
Another feature of the 2700 series is that it can be equipped with the serial bus modules currently being used with our Optyma-T valve series, thus offering an extremely flexible product that can be integrated with standard communication protocols (CANopen®, PROFIBUS DP, DeviceNet, EtherNet/IP, PROFINET I/O RT/IRT, EtherCAT®, Powerlink and Modbus/TCP).
In addition to the serial bus modules, the valves manifolds can also be used with either a 25 or 37 pin D-SUB connectors offering control of up to a maximum of 32 electrical signals.

“Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power-Directional control valves-Measurement of shifting time”

Main characteristics

- Integrated and optimized electrical connection system.
- IP65 protection degree.
- Only one 26mm size.
- Monostable and bistable solenoid valves with the same size dimensions.
- G1/4" quick coupling connections.
- Easy and fast manifold assembling.

Construction characteristics

Body	Aluminium
Operators	Technopolymer
Spacers	HNBR 75-80 Shore A
Spools	Aluminium
Springs	AISI 302 stainless steel
Pistons	Technopolymer
Piston seals	NBR

Functions

SV 5/2 MONOSTABLE SOLENOID-SPRING
SV 5/2 MONOSTABLE SOLENOID-DIFFERENTIAL
SV 5/2 BISTABLE SOLENOID-SOLENOID
SV 5/3 C.C. SOLENOID-SOLENOID
SV 2x3/2 N.C.-N.C. (=5/3 O.C.) SOLENOID-SOLENOID
SV 2x3/2 N.O.-N.O. (=5/3 P.C.) SOLENOID-SOLENOID
SV 2x3/2 N.C.-N.O. SOLENOID-SOLENOID

Technical characteristics

Voltage	24 VDC ±10% PNP
Pilot consumption	1 Watt - 2,3Watt
Valve working pressure [1]	from vacuum up to 10 bar
Operating temperature	-5°C +50°C
Life (standard operating conditions)	50000000
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous

1
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1 AIR DISTRIBUTION

Solenoid - Spring

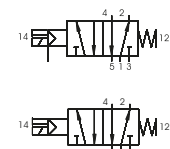
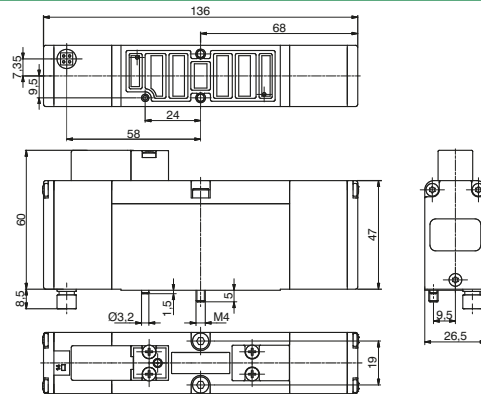
Coding: 2741.52.00.**P.T**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1000
Response time according to ISO 12238, activation time (ms)	20
Response time according to ISO 12238, deactivation time (ms)	38

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

PILOTING	
P	39 = Self feeding
	29 = External feeding
VOLTAGE	
T	01 = 12V DC
	02 = 24V DC
	08 = 24V DC 1 Watt

SHORT FUNCTION (Self feeding) "AA"
SHORT FUNCTION (External feeding) "AE"
Weight 280 g



The "Activations time" values, are valid only for the 2,3W versions

Solenoid-Differential

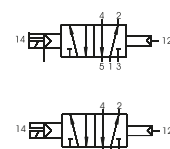
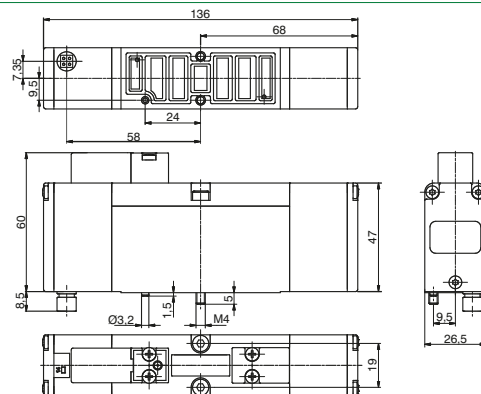
Coding: 2741.52.00.**P.T**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1000
Response time according to ISO 12238, activation time (ms)	20
Response time according to ISO 12238, deactivation time (ms)	38

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

PILOTING	
P	36 = Self feeding
	26 = External feeding
VOLTAGE	
T	01 = 12V DC
	02 = 24V DC
	08 = 24V DC 1 Watt

SHORT FUNCTION (Self feeding) "BA"
SHORT FUNCTION (External feeding) "BE"
Weight 280 g



The "Activations time" values, are valid only for the 2,3W versions

Solenoid-Solenoid 5/2

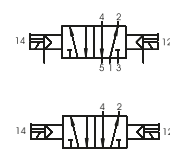
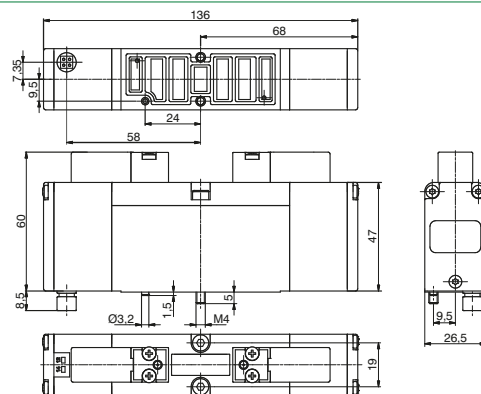
Coding: 2741.52.00.**P.T**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1000
Response time according to ISO 12238, activation time (ms)	12
Response time according to ISO 12238, deactivation time (ms)	14

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

PILOTING	
P	35 = Self feeding
	24 = External feeding
VOLTAGE	
T	01 = 12V DC
	02 = 24V DC
	08 = 24V DC 1 Watt

SHORT FUNCTION (Self feeding) "CA"
SHORT FUNCTION (External feeding) "CE"
Weight 310 g



The "Activations time" values, are valid only for the 2,3W versions

Solenoid-Solenoid 5/3

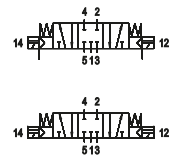
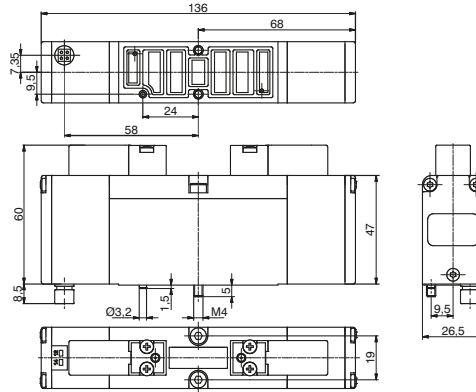
Coding: 2741.53.31.P.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Minimum piloting pressure (bar)	3
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	660
Response time according to ISO 12238, activation time (ms)	12
Response time according to ISO 12238, deactivation time (ms)	60

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

PILOTING	
P	35 = Self feeding
	24 = External feeding
VOLTAGE	
T	01 = 12V DC
	02 = 24V DC
	08 = 24V DC 1 Watt

SHORT FUNCTION (Self feeding) "EA"
SHORT FUNCTION (External feeding) "EE"



Weight 310 g
The "Activations time" values, are valid only for the 2,3W versions

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Solenoid-Solenoid 2x3/2 (Self feeding / External feeding)

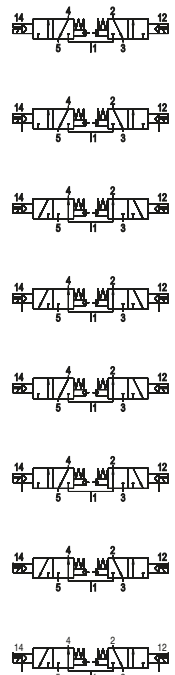
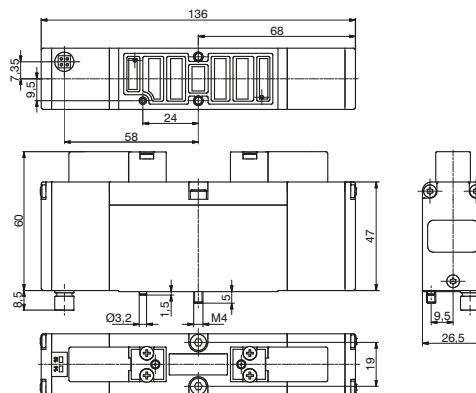
Coding: 2741.62.F.P.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Minimum piloting pressure (bar)	≥2+(0,3xP.alim.)
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	550
Response time according to ISO 12238, activation time (ms)	15 (Self feeding) 12 (External feeding)
Response time according to ISO 12238, deactivation time (ms)	15 (Self feeding) 60 (External feeding)

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

FUNCTION	
F	44 = 2 Coils 3/2 NC
	45 = 1 Coil 3/2 NC (14) + 1 Coil 3/2 NO (12)
	55 = 2 Coils 3/2 NO
	54 = 1 Coil 3/2 NO (14) + 1 Coil 3/2 NC (12)
PILOTING	
P	35 = Self feeding
	24 = External feeding
VOLTAGE	
T	01 = 12V DC
	02 = 24V DC
	08 = 24V DC 1 Watt

SHORT FUNCTION (Self feeding):
2/3/2 NC="FA"
1 3/2 NC (14) + 1 3/2 NA (12)="HA"
2/3/2 NA="GA"
1 3/2 NA (14) + 1 3/2 NC (12)="IA"
SHORT FUNCTION (External feeding):
2/3/2 NC="FE"
1 3/2 NC (14) + 1 3/2 NA (12)="HE"
2/3/2 NA="GE"
1 3/2 NA (14) + 1 3/2 NC (12)="IE"



Weight 310 g
The "Activations time" values, are valid only for the 2,3W versions
"Example: If inlet pressure is set at 5bar then pilot pressure must be at least Pp=2+(0.3*5)=3,5bar"

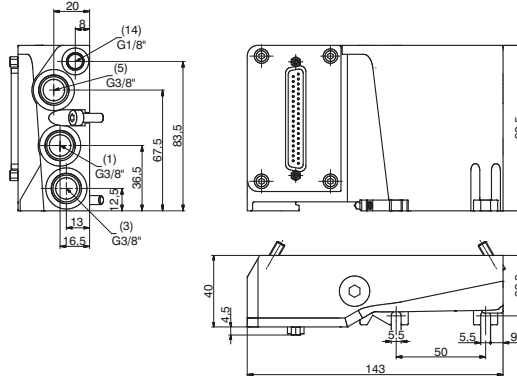
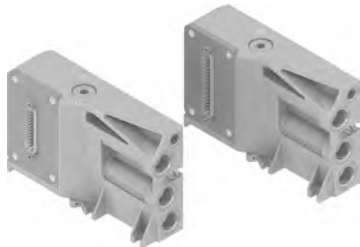
Right Endplates

Coding: 2740.02.Ⓒ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50

ELECTRICAL CONNECTION	
37P	= Connectors 37 poles
PNP	
25P	= Connectors 25 poles
Ⓒ PNP	
37N	= Connectors 37 poles
NPN	
25N	= Connectors 25 poles
NPN	

Weight 600 g



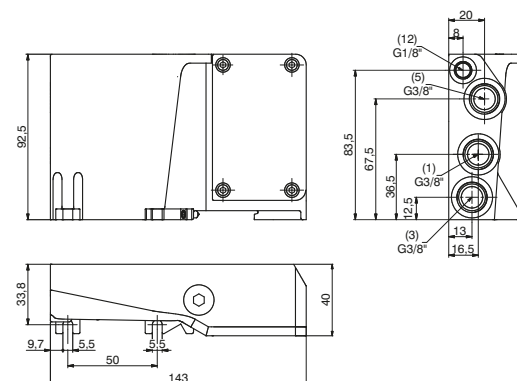
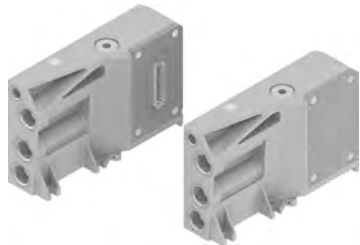
Left Endplates

Coding: 2740.03.Ⓒ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50

ELECTRICAL CONNECTION	
Ⓒ 00	= Electrical connection
25P	= Connectors 25 poles

Weight 600 g



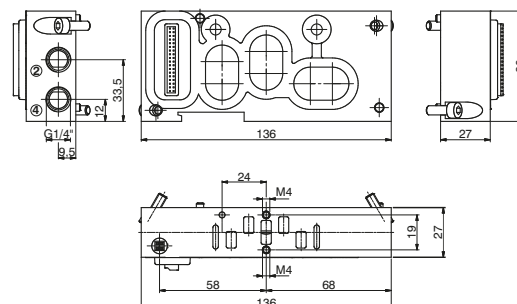
Modular base

Coding: 2740.01.Ⓥ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50

VERSION	
Ⓥ M	= for Monostable SV
B	= for Bistable SV

Weight 330 g

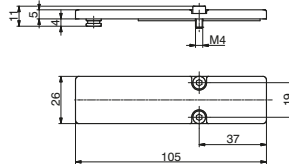


Closing plate

Coding: 2740.00

Weight 100 g

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50



Diaphragm plug

Coding: 2740.17



Weight 65 g

Cable complete with connector, 25 Poles IP65

Coding: 2300.25.L.C



L	CABLE LENGTH
	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
F	FUNCTION
	31 = Closed centres
	32 = Open centres
	33 = Pressured centres

Cable complete with connector, 37 Poles IP65

Coding: 2400.37.L.C



L	CABLE LENGTH
	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
F	FUNCTION
	31 = Closed centres
	32 = Open centres
	33 = Pressured centres

Cable complete with connector, 25 Poles IP65

Coding: 2400.25.L.25



L	CABLE LENGTH
	03 = 3 meters
	05 = 5 meters
	10 = 10 meters

The electrical connection is achieved by a 37 pin connector and can manage up to 32 solenoid pilots. It is also possible use a 25 sub-D pin connector and, in this case, it is possible to manage a maximum of 22 outputs. The management and distribution of the electrical signals between each valve is obtained thanks to an electrical connector which receives the signals from the previous module, uses one, two or none depending on the type, and carries forward to the next module the remaining.

Bistable valves, 5/3 and 2x3/2 valves which have two solenoid pilots built in, use two signals; the first is directed to the pilot side 14 the second to the pilot side 12. Modular bases can be fitted with two type of electrical connector: the monostable version uses only one signal (connected to the pilot side 14) and carries forward the remaining, the bistable version which always uses two signals.

This solution allows the modification of the manifold (replacement of monostable valves without bistable for example) without having to reset the PLC output layout.

On other hand this solution limits the maximum number of valves to 16 when it is used a 37 pin connector or 11 when it is used a 25 pin connector.

Intermediate supply/exhaust module uses an electrical connector directly forwarding signals to the next one without any kind of modification.

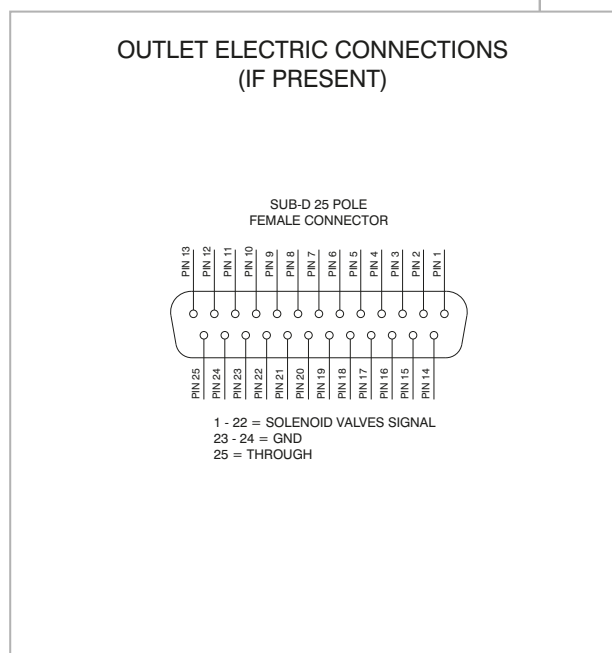
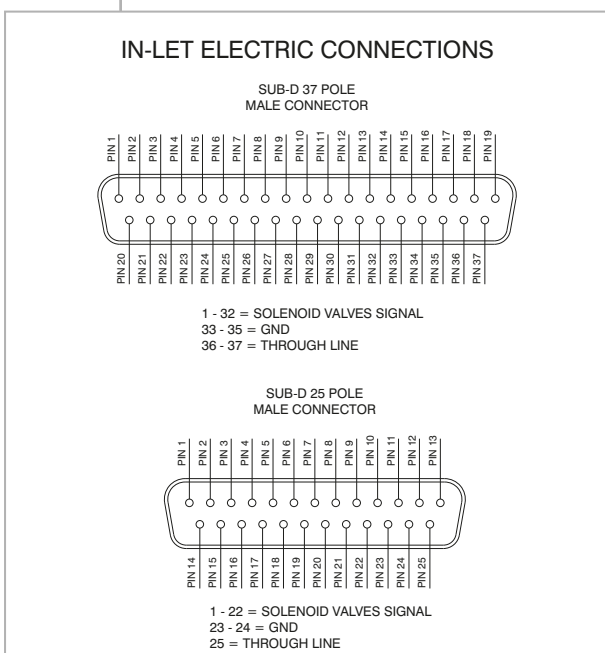
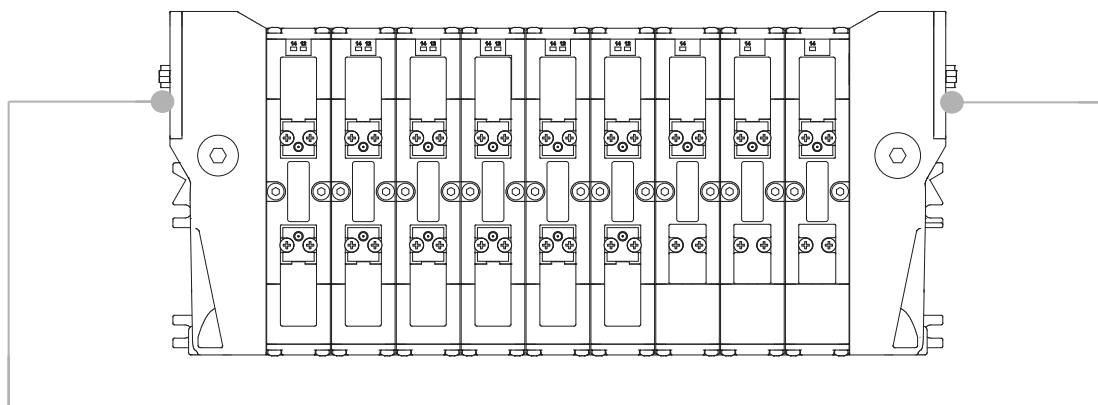
This allows the use of intermediate modules in any position of the manifold.

All the electrical signals that have not been used on the manifold can be used placing at the end of the manifold the end plate complete with the 25 sub-D female connector.

The number of available signals depends of the connector used to the type of the left end plate and by the total signals used along the manifold:

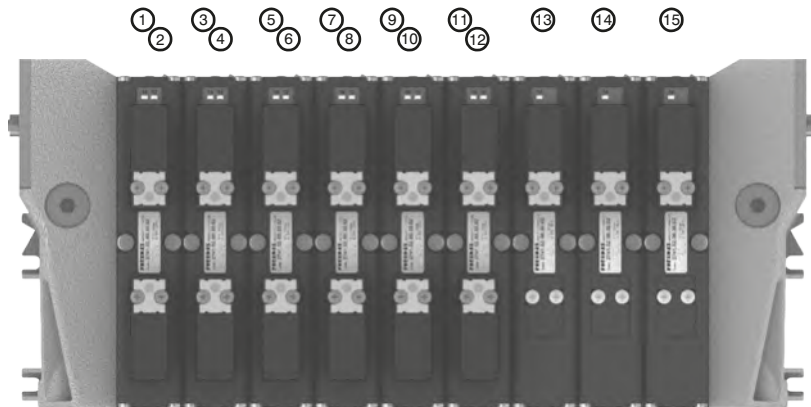
37 pin connector	nr of output = 32 – (total of used signals)
25 pin connector	nr of output = 22 – (total of used signals)

Following we show some examples of possible combination and the relative pin assignment.





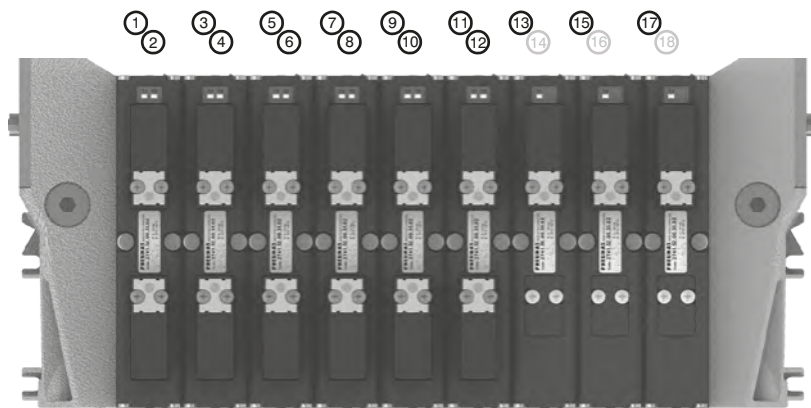
37 PIN Connector correspondence for valves assembled on mixed bases



- PIN 1 = PILOT 14 SV POS.1
- PIN 2 = PILOT 12 SV POS.1
- PIN 3 = PILOT 14 SV POS.2
- PIN 4 = PILOT 12 SV POS.2
- PIN 5 = PILOT 14 SV POS.3
- PIN 6 = PILOT 12 SV POS.3
- PIN 7 = PILOT 14 SV POS.4
- PIN 8 = PILOT 12 SV POS.4
- PIN 9 = PILOT 14 SV POS.5
- PIN 10 = PILOT 12 SV POS.5
- PIN 11 = PILOT 14 SV POS.6
- PIN 12 = PILOT 12 SV POS.6
- PIN 13 = PILOT 14 SV POS.7
- PIN 14 = PILOT 14 SV POS.8
- PIN 15 = PILOT 14 SV POS.9

POS.	1	2	3	4	5	6	7	8	9
------	---	---	---	---	---	---	---	---	---

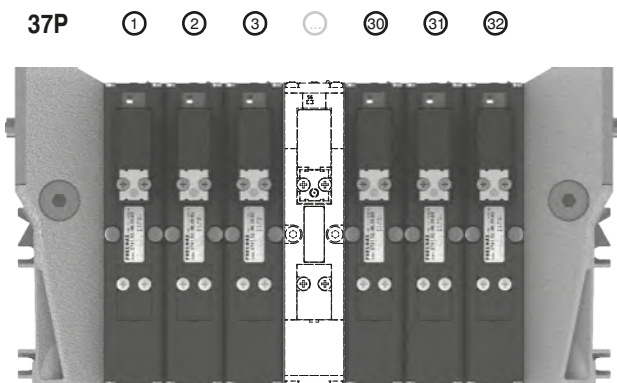
37 PIN Connector correspondence for manifold mounted on bases for bistable valves



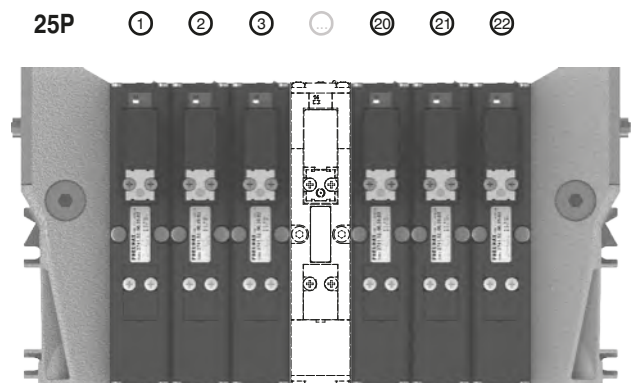
- PIN 1 = PILOT 14 SV POS.1
- PIN 2 = PILOT 12 SV POS.1
- PIN 3 = PILOT 14 SV POS.2
- PIN 4 = PILOT 12 SV POS.2
- PIN 5 = PILOT 14 SV POS.3
- PIN 6 = PILOT 12 SV POS.3
- PIN 7 = PILOT 14 SV POS.4
- PIN 8 = PILOT 12 SV POS.4
- PIN 9 = PILOT 14 SV POS.5
- PIN 10 = PILOT 12 SV POS.5
- PIN 11 = PILOT 14 SV POS.6
- PIN 12 = PILOT 12 SV POS.6
- PIN 13 = PILOT 14 SV POS.7
- PIN 14 = NOT CONNECTED
- PIN 15 = PILOT 14 SV POS.8
- PIN 16 = NOT CONNECTED
- PIN 17 = PILOT 14 SV POS.9
- PIN 18 = NOT CONNECTED

POS.	1	2	3	4	5	6	7	8	9
------	---	---	---	---	---	---	---	---	---

37 PIN Connector correspondence for manifold for 32 position manifold with monostable valves on base



POS.	1	2	3	...	30	31	32
------	---	---	---	-----	----	----	----



POS.	1	2	3	...	20	21	22
------	---	---	---	-----	----	----	----

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General :

Using the 2740.03.25P output terminal it is possible to make any electrical signals not used by valves available on a 25 sub-D female connector at the right end of the manifold.
 It is possible to then join a multi-core cable to link to the next manifold, or connect directly to one or two I/O modules.
 The I/O modules can accept input or output signals, depending upon what is connected.

Ordering code

2540.08T



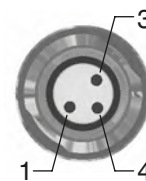
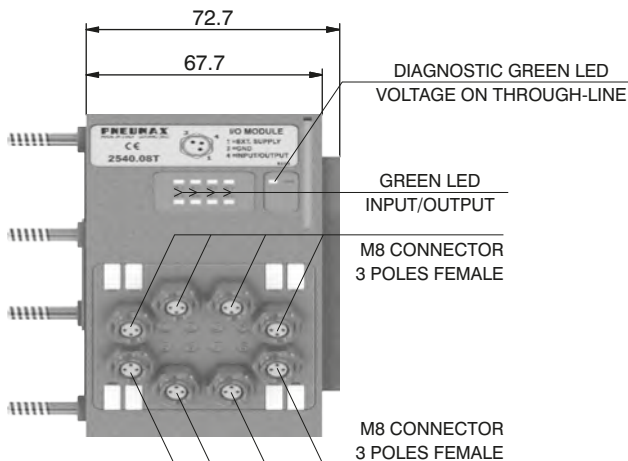
Please note: If the manifold is connected by a multi-core connection, each connection can be used as either an input or an output, while if the manifold is connected to a serial node the connections can only be used as an output.

It is possible to connect the manifold to up to two I/O modules.

Each I/O module includes 8 diagnostic LEDs which indicate the presence of an Input / Output signal for each connector.

Please note: For an LED to function, a signal of at least +15VDC must be present on pin 4 of the connector. If this signal is lower, the LED will not light, this does not compromise the normal Input / Output function of the unit.

Overall dimensions and I/O layout :



PIN	DESCRIPTION
1	+24 VDC
4	INPUT/OUTPUT
3	GND

Input features:

Each connection can accept either two wire (switches, magnetic switches, pressure switches, etc.) or three wire connections (photocells, electronic end of stroke sensors, etc.) If +24VDC is required on at Pin 1 of each connector, it is possible to provide this via the through-line pin of the multi-pole connector.

I.E :

Pin 25 of the 25 pin multi-pole connector (code 2740.02.25P or 2740.12.25P)

Pin 36-37 of the 37 pin multi-pole connector (code 2740.02.37P or 2740.12.37P)

Output features:



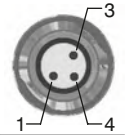
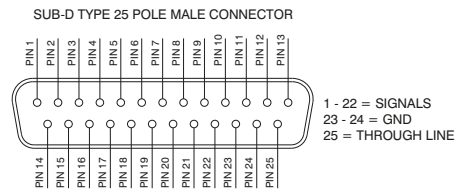
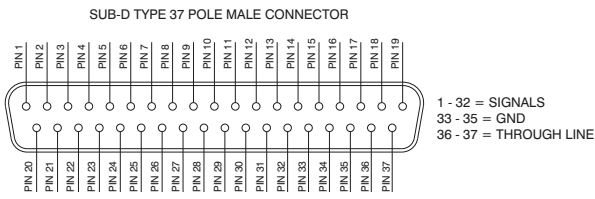
Attention: The output connections are not protected against short-circuit. Please pay attention when wiring (avoid Pin 4 being connected to Pin 3 or Pin 1).

		Model	2540.08T
		General characteristics	Case
I/O Connector	M8 connector 3 poles female (IEC 60947-5-2)		
PIN 1 voltage (connector used as Input)	By the user		
PIN 4 voltage diagnosis	Green Led		
Node consumption (Outlets excluded)	7mA per each LED with 24 VDC signal		
Outlets voltage	+23,3 VDC (serial) /by the user (multipolar)		
Input voltage	Depend by the using		
Maximum outlet current	100 mA (serial) / 400 mA (multipolar)		
Maximum Input/Output	8 per module		
Multiconnector max. Current	100 mA		
Connections to manifold	Direct connection to 25 poles connector		
Maximum n. of moduls	2		
Protection degree	IP65 when assembled		
Ambient temperature	from -0° to +50° C		

1
AIR DISTRIBUTION



CORRESPONDENCE BETWEEN MULTI-POLE SIGNAL AND CONNECTOR



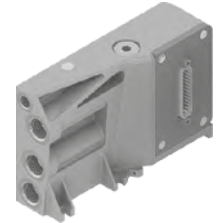
PIN DESCRIPTION	
1	THROUGH LINE
4	SIGNAL
3	GND

Connection modes:

The I/O module changes its operation depending on the way the manifold is controlled. There are two possible modes:

- A) Control via multi-pole connection
- B) Control via fieldbus

In order to use the I/O module, the correct right hand endplate with 25 pole female outlet connector must be used.
(Code 2740.03.25P).



A) Control via multi-pole :

M8 connector used as Input:



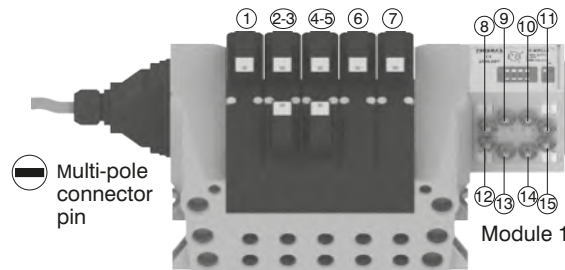
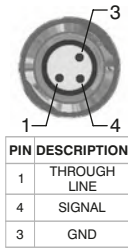
Attention: Voltage applied to each connector is passed to multi-pole connector pin.

M8 connector used as Output:

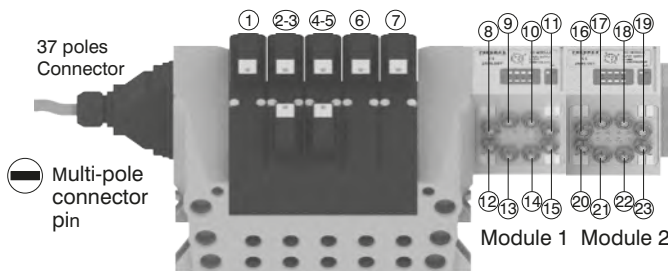
Output voltage will be the same as is applied at the multi-pole connector pin.
The maximum output current depends upon the power unit used, but we recommend no more than 250mA.



Attention: Since every cable has a degree of resistance, there will always be a voltage drop depending on the cable's length, sectional area and the current.

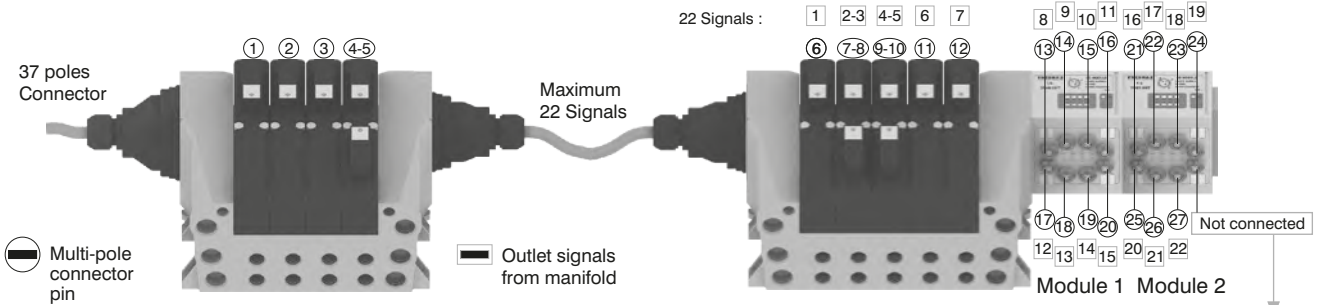


Attention: Only one more I/O module can be added.



Attention: No more additions are possible

Attention : 2700 solenoid valve manifolds permit up to 22 electrical signals that are not used by manifolds to be made available: these signals can be managed by another manifold and / or by I/O modules. The I/O module will manage these unused signals. Connections that are not managing useful signals will remain unconnected.

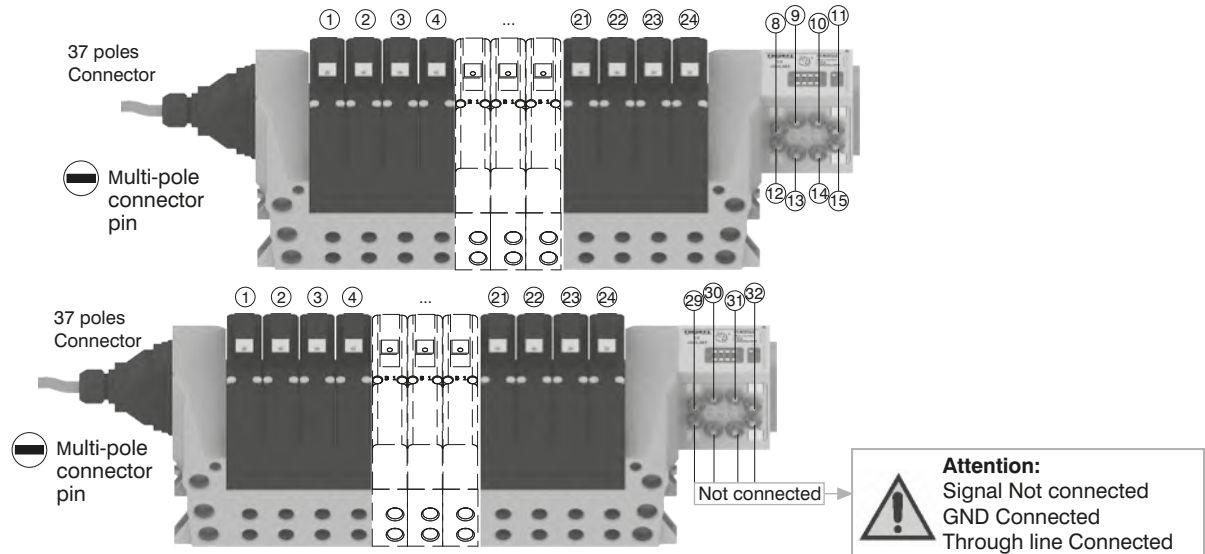


Attention: Signal Not connected
GND Connected
Through line Connected

Please note: this example considers a 37 pin multi-pole connector. The same configuration managed by a 25 pin multi-pole connector will stop at number 22 of multi-pole connector and at number 17 of the manifold. 22 17

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Please note: 2700 solenoid valve manifolds manage up to 32 signals. If the manifold uses more than 24 signals the I/O module will manage only the remainder. Connections that are not managing useful signals will remain unconnected.

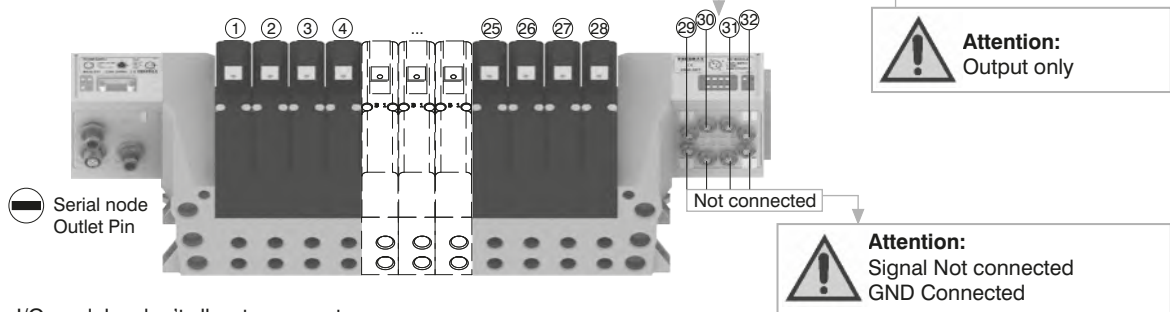
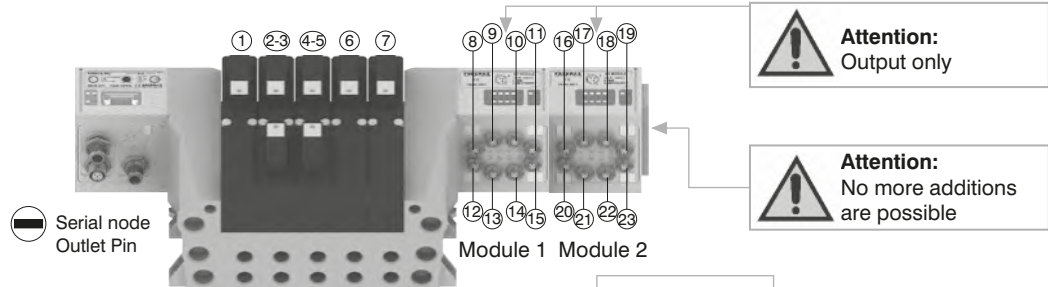
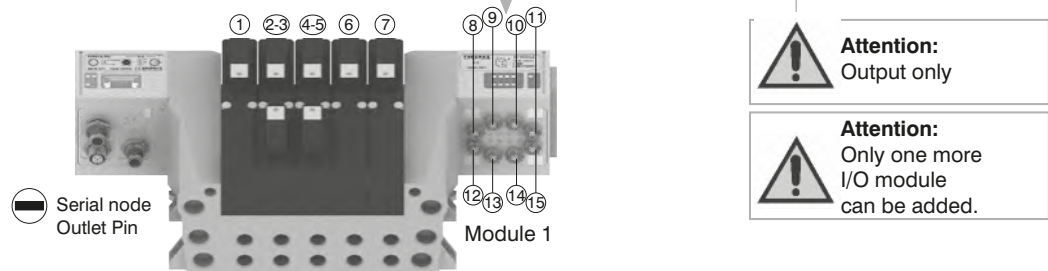


B) Control via fieldbus:

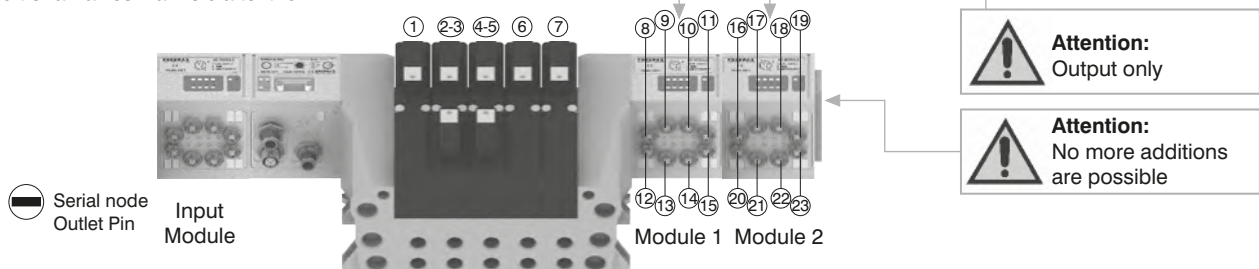
With this kind of control the I/O module can only be used as an output. Pin 1 of each connector is not connected. The output voltage will be 0.7V lower than that applied to Pin 4 of the connector.

The maximum output current for each output is 100mA. The correspondence between control byte and each single output depends on how many electrical signals are used by the manifold and by the relative position of the I/O module.

PIN	DESCRIPTION
1	NOT CONNECTED
4	SIGNAL
3	GND

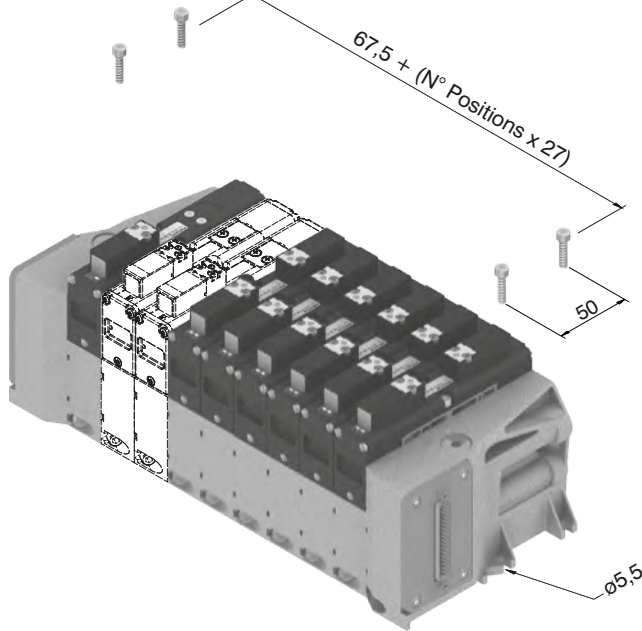


Please note: I/O modules don't allow to connect any additional valves manifold after them.

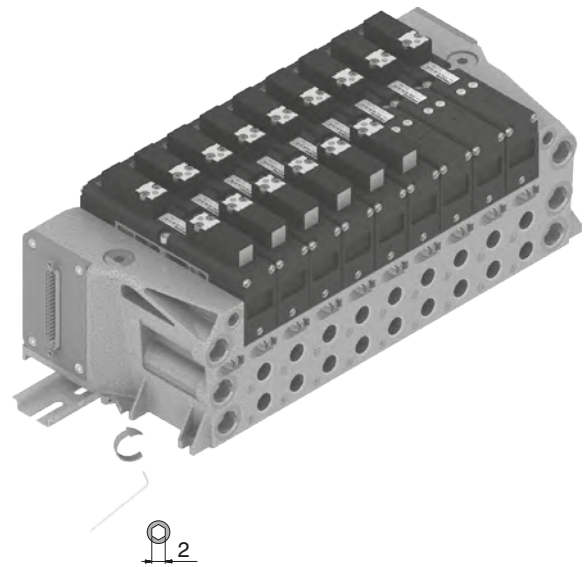


AIR DISTRIBUTION 1

From the top

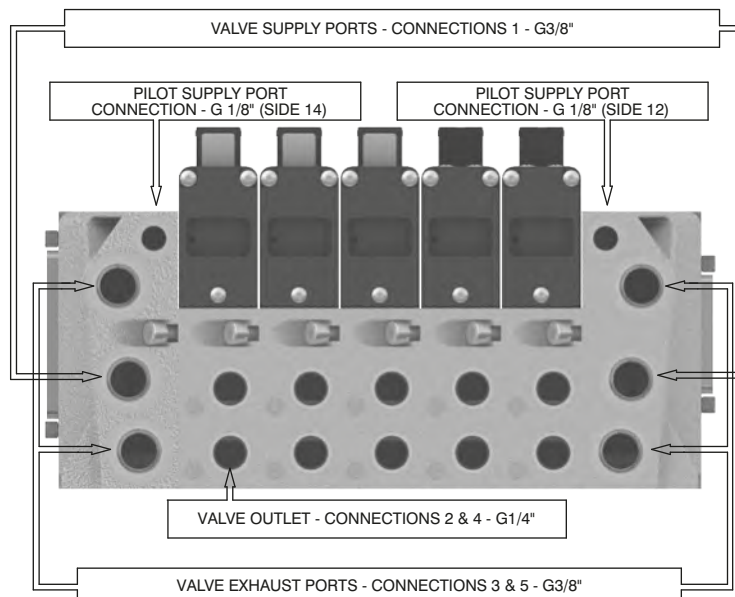
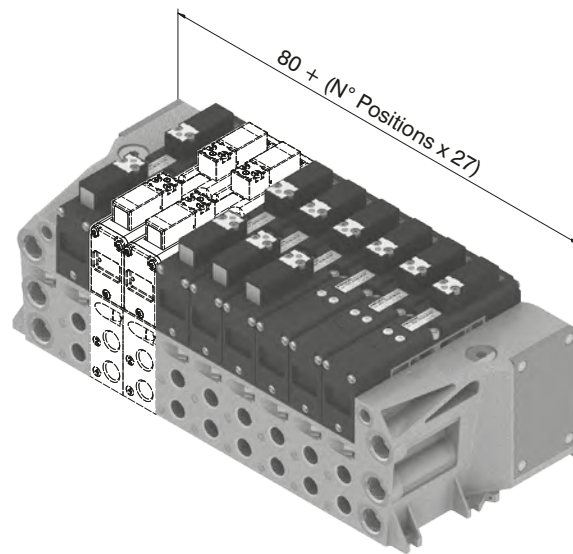


DIN rail fixing



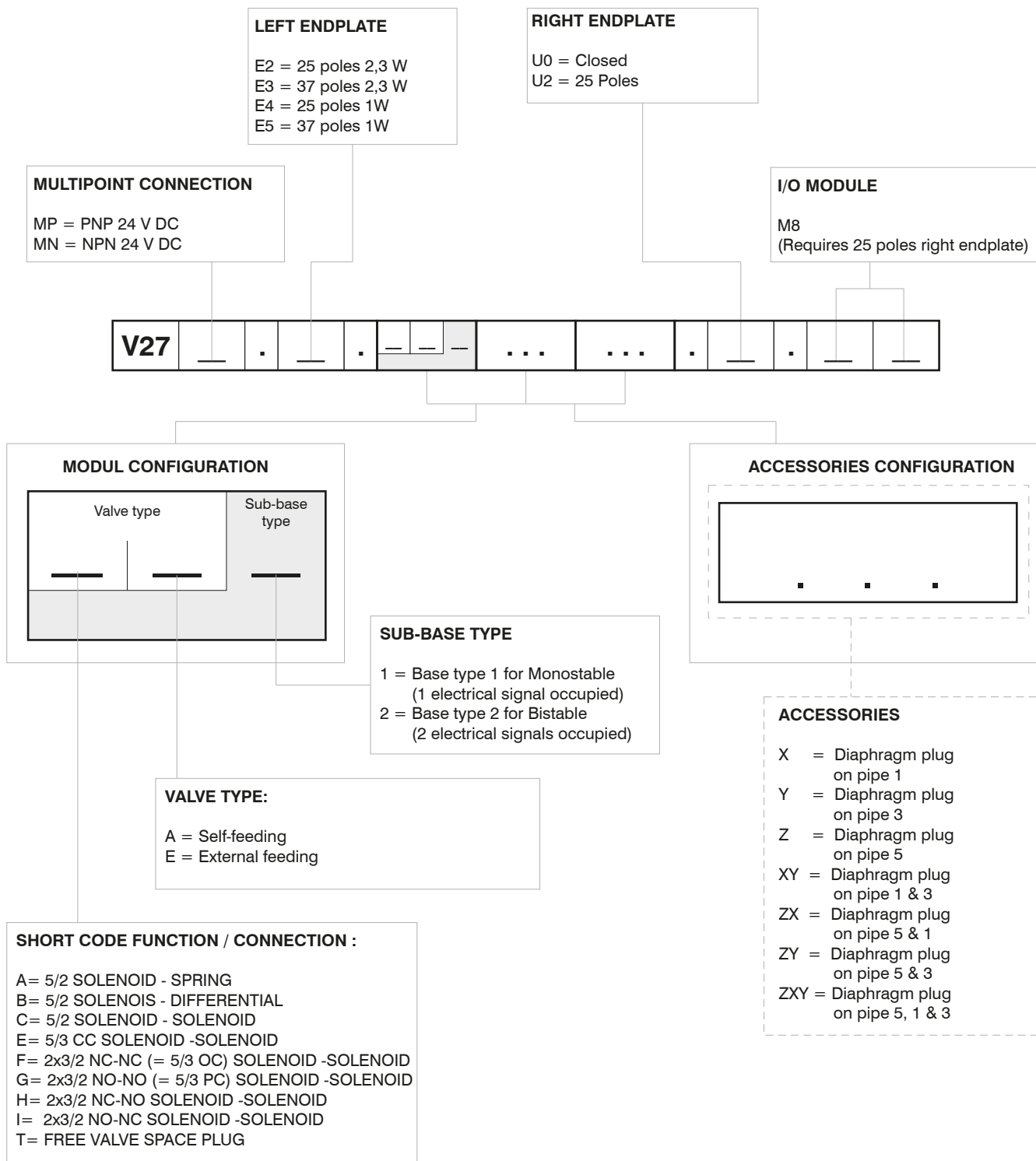
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Maximum possible size according to valves seats



Manifold Layout configuration

1 AIR DISTRIBUTION



NOTE:

While configuring the manifold always be careful that the maximum number of electrical signals available is:

32 when an input 37 poles endplate is used.

22 when an input 25 poles endplate is used.

The use of monostable valve mounted on a base type 2 (2 electrical signals occupied) causes the loss of one electric signal.

In this case the monostable valve can be replaced by a bistable valve. The diaphragms plugs are used to intercept the conduits 1,3 & 5 of the base. If it is necessary to interrupt more than one conduit in the same time then put in line the letters which identifies the position (for example : regarding the 3 & 5 conduits, put the Y & Z letters).

Should one or more conduits be cut more than one time it is necessary to add the relevant intermediate Supply/Exhaust module.



General:

CANopen® module is directly integrated on 2700 solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
2700 series solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08T or a max number of 4 Input modules 5225.12T.

CANopen® module recognizes automatically the presence of the Input modules on power on. Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus CANopen® is possible via 2 M12 5P male - female circular connectors; these two are connected in parallel and according to CiA Draft Recommendation 303-1 (V. 1.3 : 30 December 2004).

Transmission speed can be set by 3 dip-switches.

The node address can be set by 6 dip-switches using BCD numeration.

The module includes an internal terminating resistance that can be activated by a dip-switch.

Ordering code

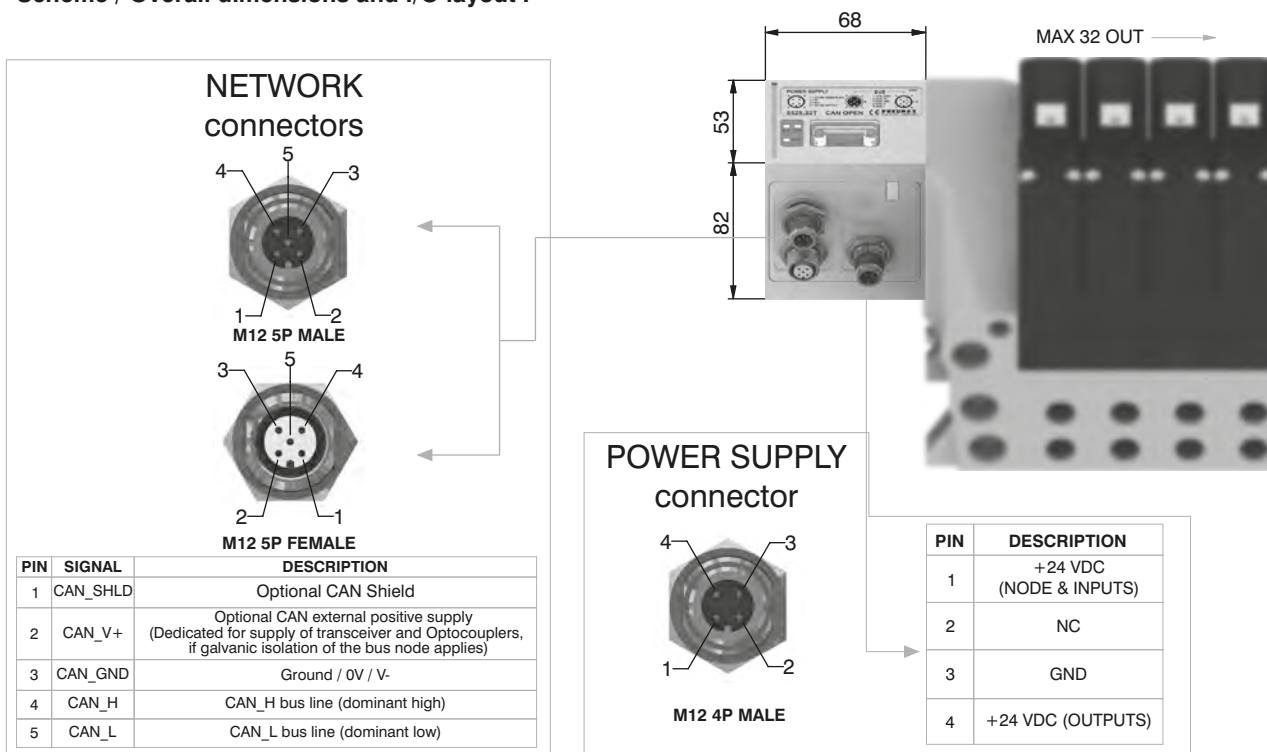
5525.32T



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Scheme / Overall dimensions and I/O layout :



PIN	SIGNAL	DESCRIPTION
1	CAN_SHLD	Optional CAN Shield
2	CAN_V+	Optional CAN external positive supply (Dedicated for supply of transceiver and Optocouplers, if galvanic isolation of the bus node applies)
3	CAN_GND	Ground / 0V / V-
4	CAN_H	CAN_H bus line (dominant high)
5	CAN_L	CAN_L bus line (dominant low)

PIN	DESCRIPTION
1	+24 VDC (NODE & INPUTS)
2	NC
3	GND
4	+24 VDC (OUTPUTS)

Technical characteristics

	Model	5525.32T
	Specifications	CiA Draft Standard Proposal 301 V 4.10 (15 August 2006)
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	30 mA
	Power supply diagnosis	Green LED PWR
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 5P connectors male-female Type A (IEC 60947-5-2)
	Baud rate	10 - 20 - 50 - 125 - 250 - 500 - 800 - 1000 Kbit/s
	Addresses, possible numbers	From 1 to 63
	Max nodes in net	64 (slave + master)
	Bus maximum recommended length	100 m at 500 Kbit/s
	Bus diagnosis	Green LED + Red LED
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General:

DeviceNet module is directly integrated on 2700 solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
 2700 series solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08T or a max number of 4 Input modules 5225.12T.

DeviceNet module recognizes automatically the presence of the Input modules on power on.

Regardless of the number of Input modules connected, the managable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus DeviceNet is possible via 2 M12 5P male - female circular connectors; these two are connected in parallel and according to DeviceNet Specifications Volume I, release 2.0.

Transmission speed can be set by 3 dip-switches.

The node address can be set by 6 dip-switches using BCD numeration.

The module includes an internal terminating resistance that can be activated by a dip-switch.

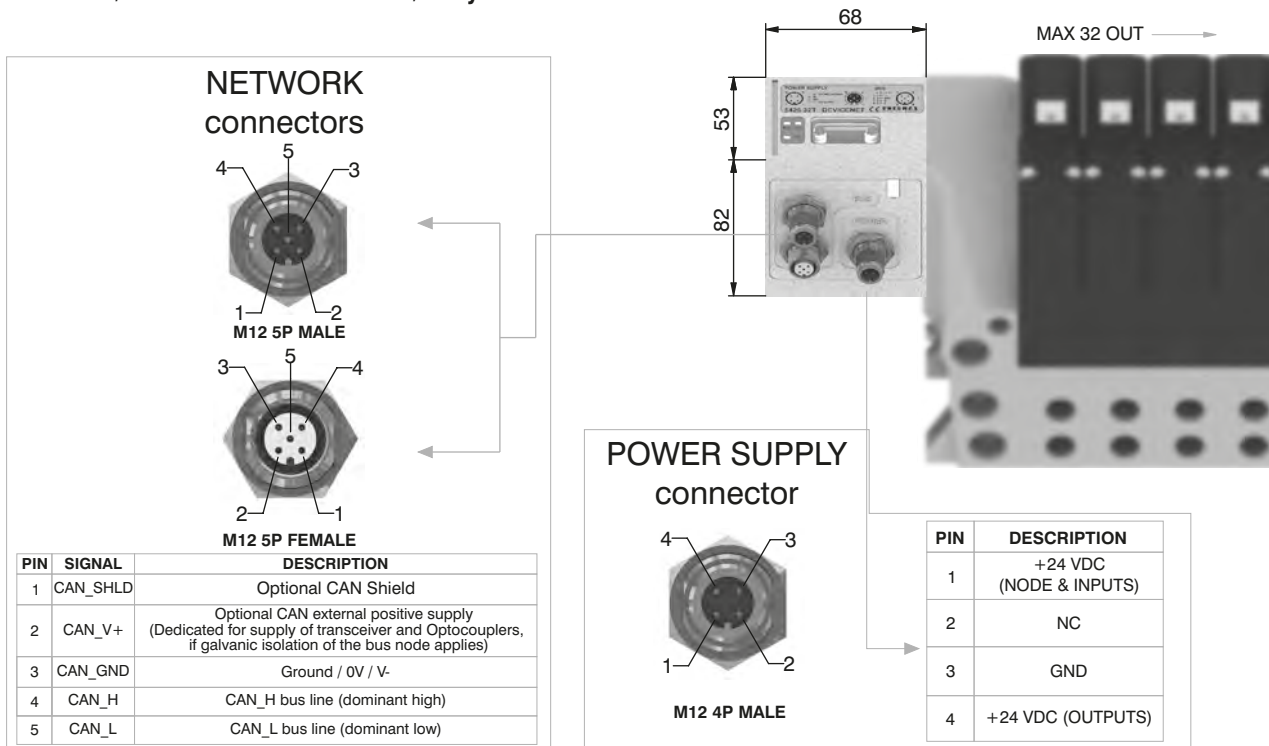
Ordering code

5425.32T



1 AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5425.32T
	Specifications	DeviceNet Specifications Volume I, release 2.0.
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	30 mA
	Power supply diagnosis	Green LED PWR
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 5P connectors male-female Type A (IEC 60947-5-2)
	Baud rate	125 - 250 - 500 Kbit/s
	Addresses, possible numbers	From 1 to 63
	Max nodes in net	64 (slave + master)
	Bus maximum recommended length	100 m at 500 Kbit/s
	Bus diagnosis	Green LED + Red LED
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C



General:

PROFIBUS DP module is directly integrated on 2700 solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
2700 series solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 8 Input modules 5225.08T or a max number of 8 Input modules 5225.12T.

PROFIBUS DP module recognizes automatically the presence of the Input modules on power on. Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

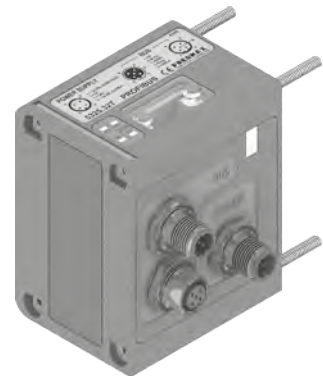
Connection to Bus PROFIBUS DP is possible via 2 M12 type B 5P male - female circular connectors; these two are connected in parallel and according to PROFIBUS Interconnection Technology (Version 1.1 : August 2001).

The node address can be set using BCD numeration: 4 dip-switches for the units and 4 dip-switches for the tens.

The module includes an internal terminating resistance that can be activated by 2 dip-switches.

Ordering code

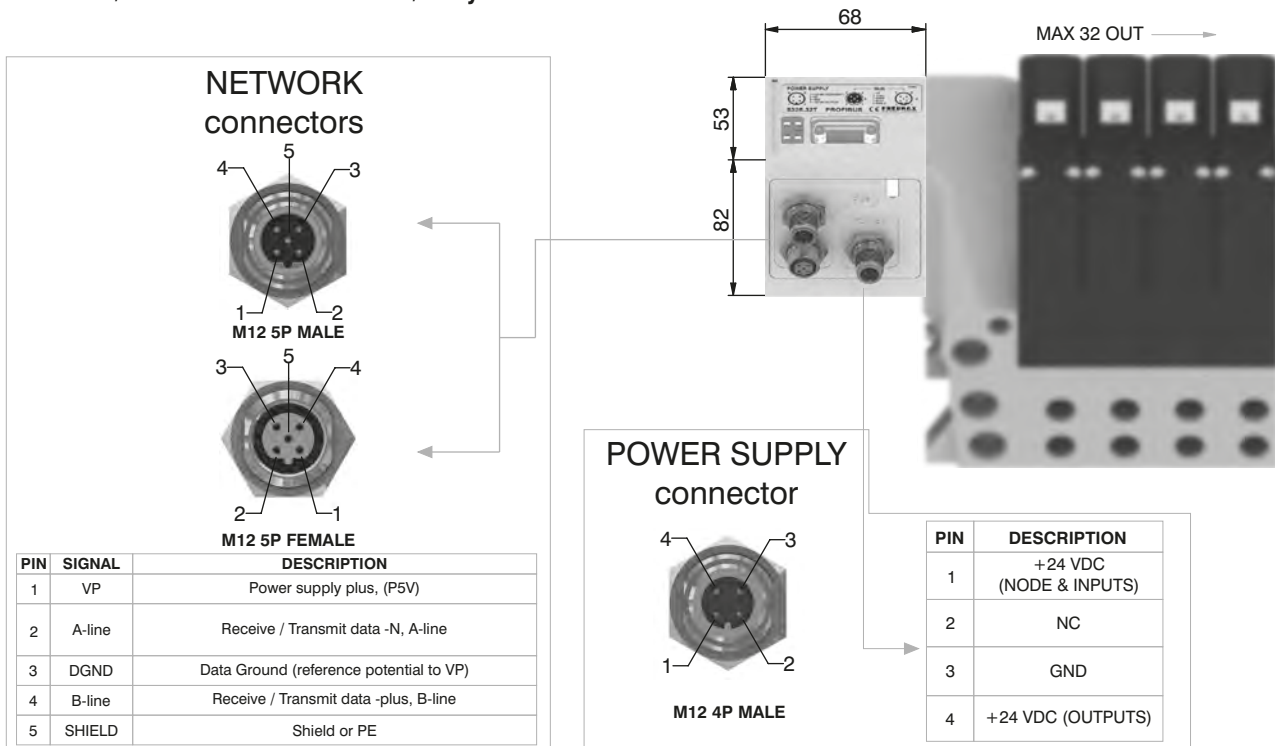
5325.32T



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Scheme / Overall dimensions and I/O layout :



Technical characteristics

Model	5325.32T	
Specifications	PROFIBUS DP	
Case	Reinforced technopolymer	
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	50 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 5P male-female connectors Type B
	Baud rate	9,6 - 19,2 - 93,75 - 187,5 - 500 - 1500 - 3000 - 6000 - 12000 Kbit/s
	Addresses, possible numbers	From 1 to 99
	Max nodes in net	100 (slave + master)
	Bus maximum recommended length	100 m at 12 Mbit/s - 1200 m at 9,6 Kbit/s
	Bus diagnosis	Green LED + Red LED
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General:

EtherCAT® module is directly integrated on 2700 solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection. 2700 series solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08T or a max number of 4 Input modules 5225.12T.

The EtherCAT® module, regardless the number of Input module connected, reports to have connected 4 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus EtherCAT® is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

The node address is assigned during configuration.

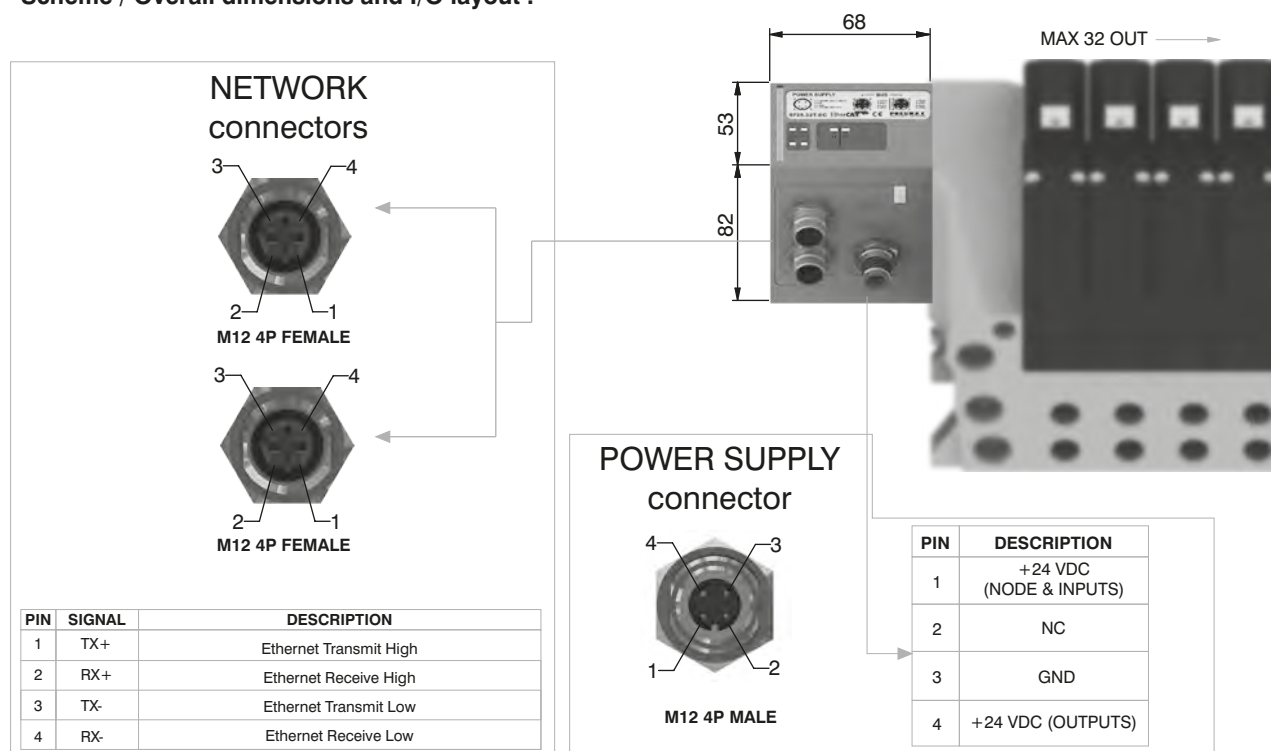
Note: 5700 series has a different configuration file from series 5600.

Ordering code

5725.32T.EC



Scheme / Overall dimensions and I/O layout :



Technical characteristics

Model	5725.32T.EC	
Specifications	EtherCAT® Specifications ETG.1000 series	
Case	Reinforced technopolymer	
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LEDPWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	From 1 to 65535
	Max nodes in net	65536 (Master + Slave)
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C



General :

PROFINET IO RT module is directly integrated on 2700 solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
2700 series solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 8 Input modules 5225.08T or a max number of 8 Input modules 5225.12T.

The PROFINET IO RT module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus PROFINET IO RT is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

The node address is assigned during configuration.

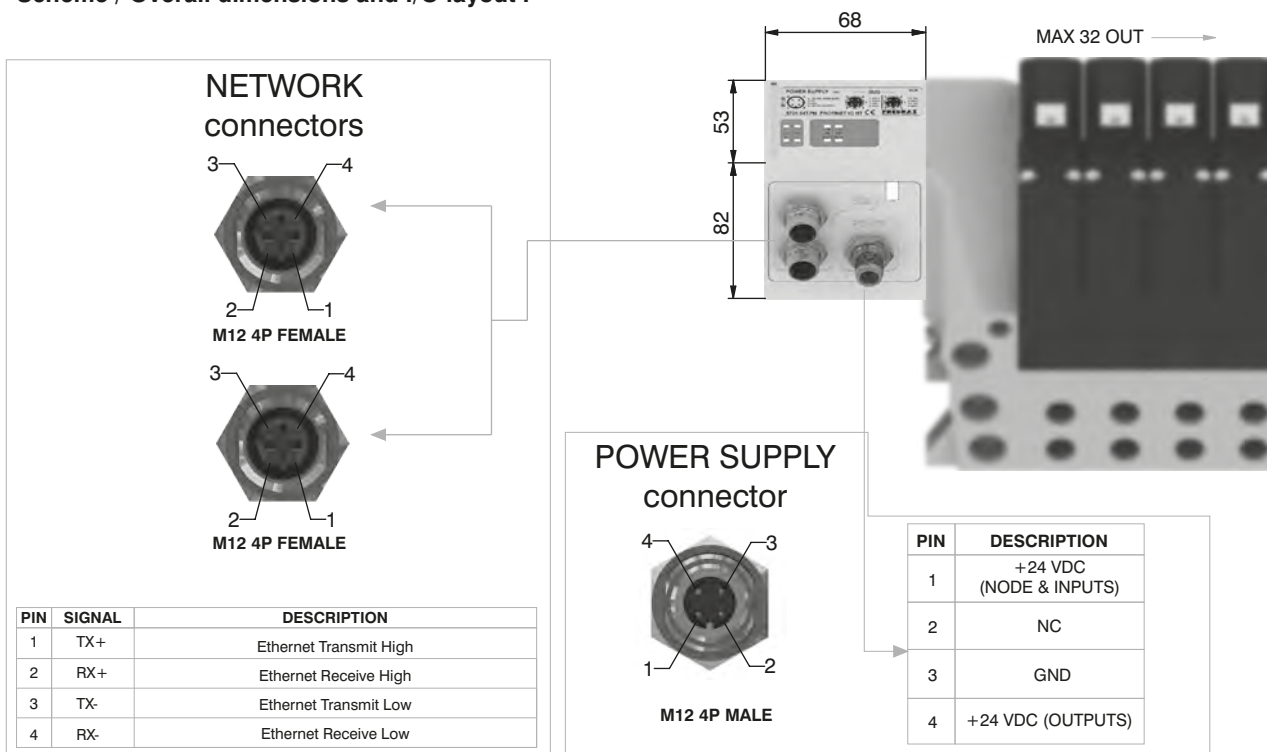
Ordering code

5725.32T.PN



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Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5725.32T.PN
	Specifications	PROFINET IO RT
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	As an IP address
	Max nodes in net	As an Ethernet Network
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 4 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General :

EtherNet/IP module is directly integrated on 2700 solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection. 2700 series solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 8 Input modules 5225.08T or a max number of 8 Input modules 5225.12T.

The EtherNet/IP module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

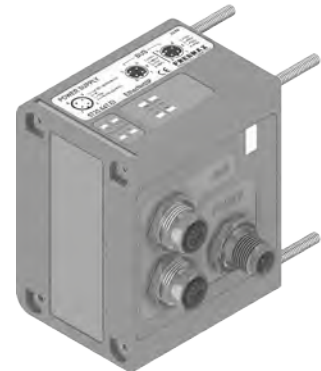
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus EtherNet/IP is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

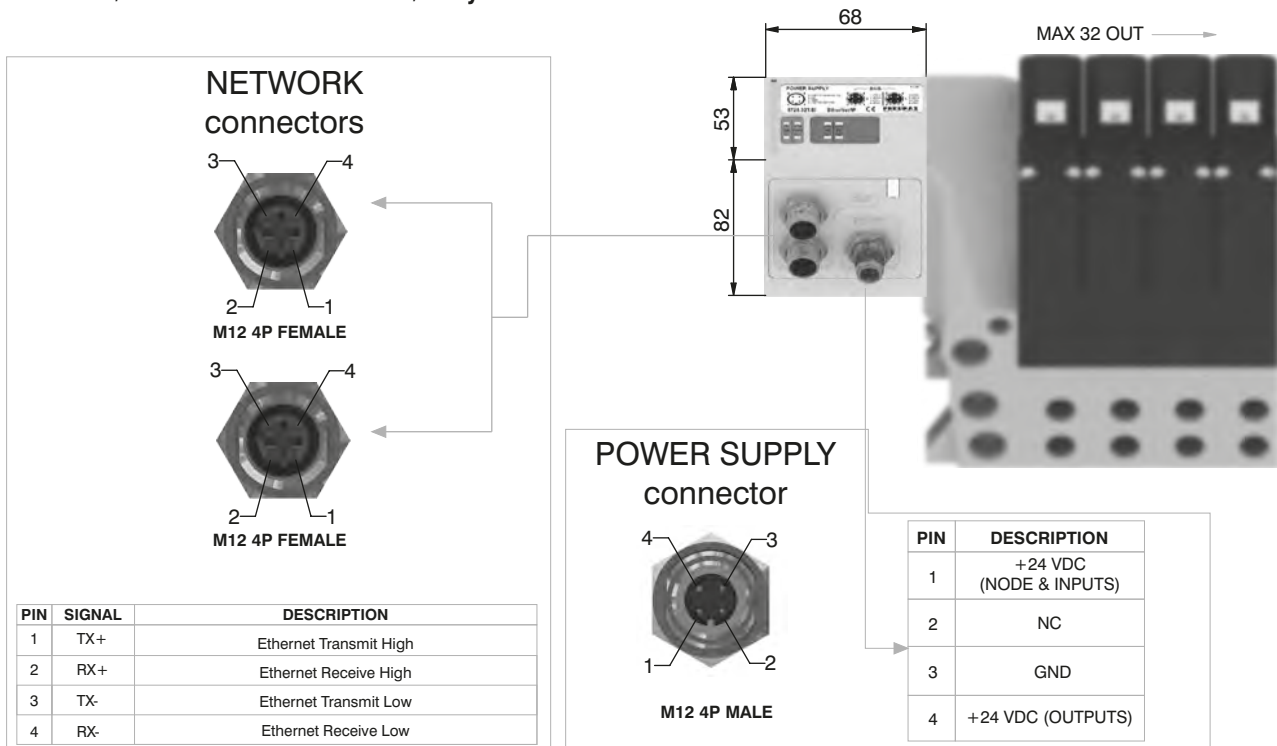
The node address is assigned during configuration.

Ordering code

5725.32T.EI



Scheme / Overall dimensions and I/O layout :



Technical characteristics

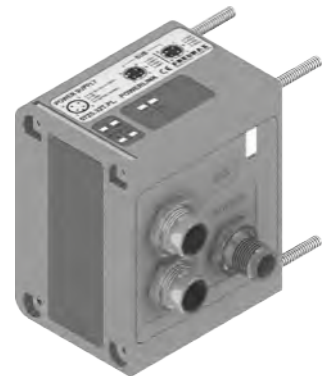
	Model	5725.32T.EI
	Specifications	The EtherNet/IP Specification
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	As an IP address
	Max nodes in net	As an Ethernet Network
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 4 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General :

Powerlink module is directly integrated on 2700 solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
2700 series solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
The node can be easily installed also on solenoid valves manifold already mounted on equipment.
Module can manage up to 32 solenoid valves, and, in the same time, a max number of 8 Input modules 5225.08T or a max number of 8 Input modules 5225.12T.
The Powerlink module, regardless the number of Input module connected, reports to have connected 8 Input modules.
Regardless of the number of Input modules connected, the manageable solenoid valves are 32.
Node power supply is made by a M12 4P male circular connector.
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.
Connection to Bus Powerlink is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.
The node address is assigned during configuration.

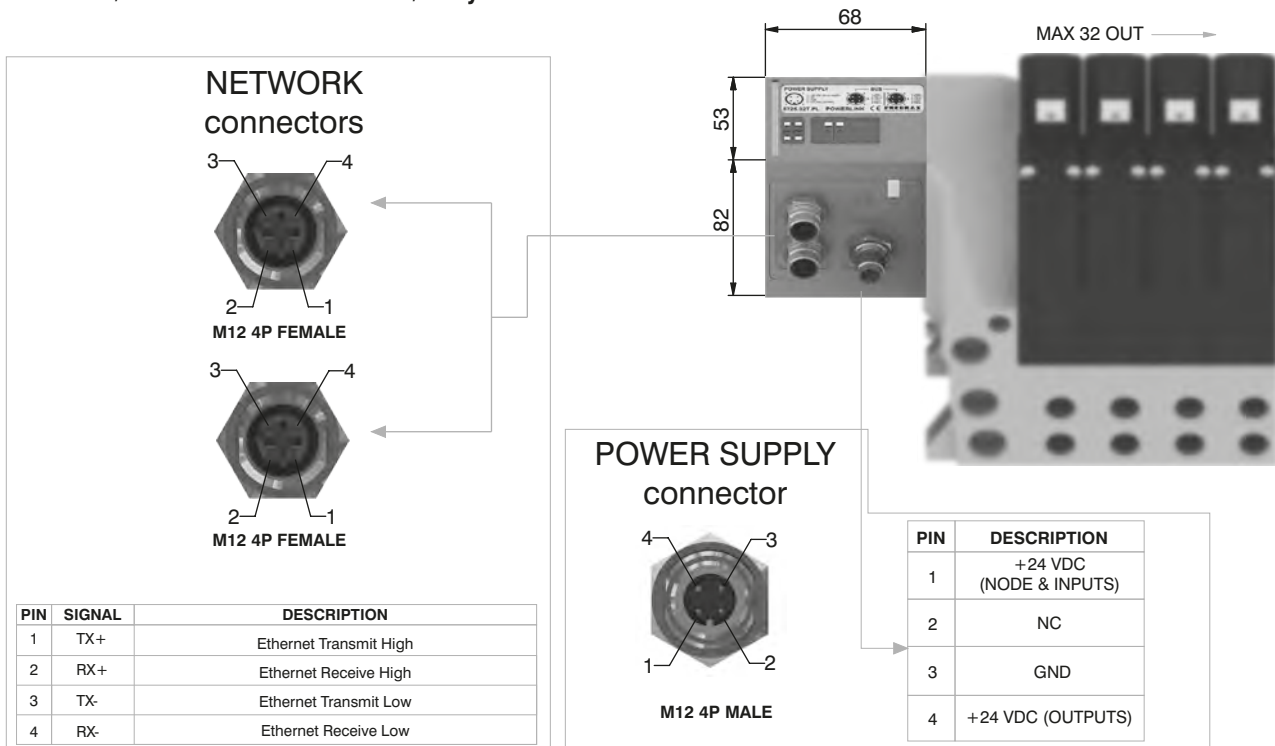
Ordering code

5725.32T.PL



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Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5725.32T.PL
	Specifications	Ethernet POWERLINK Communication Profile Specifications
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	239
	Max nodes in net	240
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
Temperature range	From 0° to +50° C	

General :

Modbus/TCP module is directly integrated on 2700 solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
 2700 series solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 8 Input modules 5225.08T or a max number of 8 Input modules 5225.12T.

The Modbus/TCP module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus Modbus/TCP is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

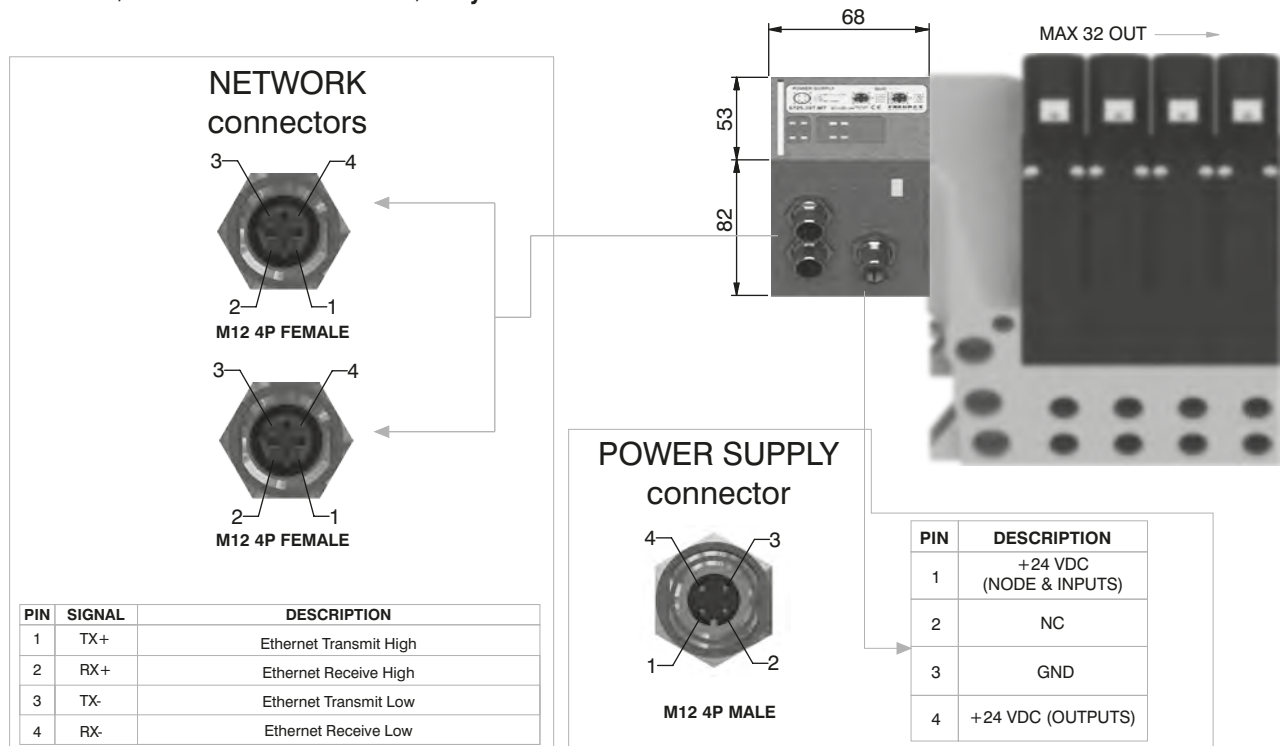
The node address is assigned during configuration.

Ordering code

5725.32T.MT



Scheme / Overall dimensions and I/O layout :



Technical characteristics

Model	5725.32T.MT
Specifications	MODBUS Application Protocol Specification V1.1a, June 4, 2004
Case	Reinforced technopolymer
Power supply	Power supply connection M12 4P male connector (IEC 60947-5-2)
	Power supply voltage +24 VDC +/- 10%
	Node consumption (without inputs) 400 mA
	Power supply diagnosis Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs +24 VDC +/- 10%
	Maximum current for each output 100 mA
	Maximum output number 32
	Max output simultaneously actuated 32
Network	Network connectors 2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate 100 Mbit/s
	Addresses, possible numbers 248
	Max nodes in net 248
	Maximum distance between 2 nodes 100 m
	Bus diagnosis 1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file Modbus/TCP nodes don't require configuration file
	IP protection grade IP65 when assembled
	Temperature range From 0° to +50° C



General :

Modules have 8 connectors M8 3P female.

The Inputs are PNP equivalent 24 VDC ± 10%.

To each connector it is possible to plug both 2 wires Inputs (switches, magnetic switches pressure switches, etc) or 3 wires Inputs (proximity, photocells, electronic sensors, etc).

The maximum current available for all 8 Inputs is 300 mA.

Each module includes a 300 mA self-mending fuse. If a short circuit or a overcharge (overall current >300mA) occur the safety device acts cutting the 24 VDC power supply to all M8 connectors on the module and switching off the green led PWR. Any other Input module connected to the node will remain powered and will function correctly.

Once the cause of the fault disappears the green LED PWR lights up indicating the ON state and the node will re-start to operate.

The maximum number of Input modules supported is 4 for CANopen®, DeviceNet and EtherCAT®.

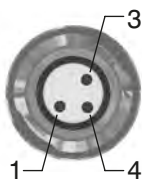
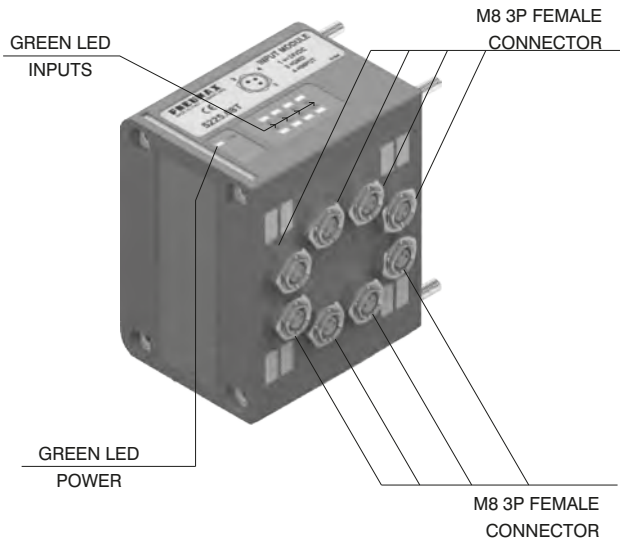
The maximum number of Input modules supported is 8 for PROFIBUS DP, PROFINET IO RT/IRT EtherNet/IP and Powerlink.

Ordering code

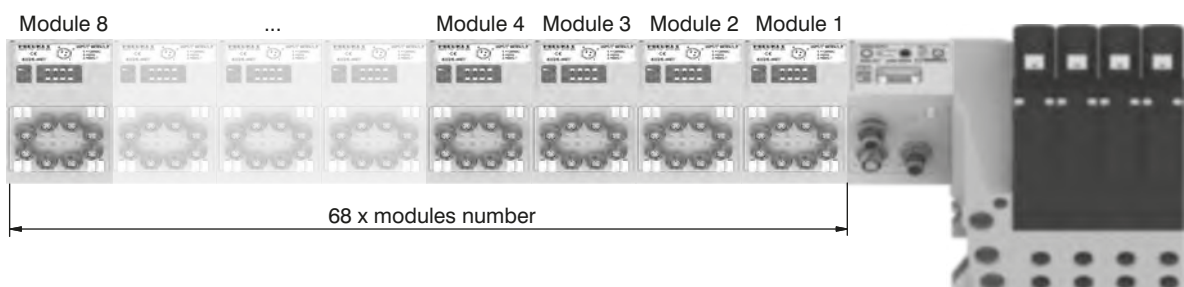
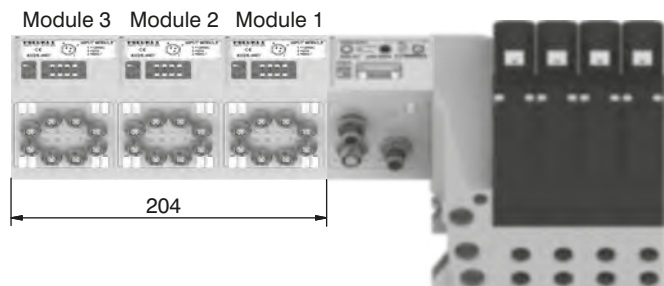
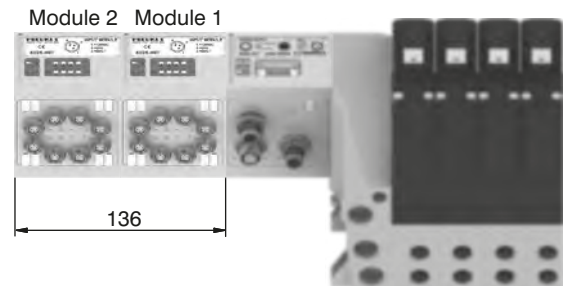
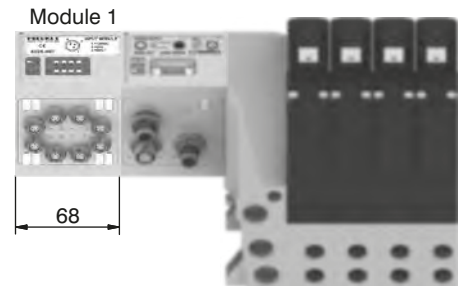
5225.08T



Scheme / Overall dimensions and I/O layout :



PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND



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AIR DISTRIBUTION

General :

Modules have 4 connectors M12 5P female.

The Inputs are PNP equivalent 24 VDC $\pm 10\%$.

To each connector it is possible to plug both 2 wires Inputs (switches, magnetic switches pressure switches, etc) or 3 wires Inputs (proximity, photocells, electronic sensors, etc).

The maximum current available for all 8 Inputs is 300 mA.

Each module includes a 300 mA self-mending fuse. If a short circuit or a overcharge (overall current $>300\text{mA}$) occur the safety device acts cutting the 24 VDC power supply to all M8 connectors on the module and switching off the green led PWR. Any other Input module connected to the node will remain powered and will function correctly.

Once the cause of the fault disappears the green LED PWR lights up indicating the ON state and the node will re-start to operate.

The maximum number of Input modules supported is 4 for CANopen®, DeviceNet and EtherCAT®.

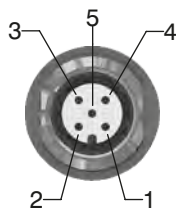
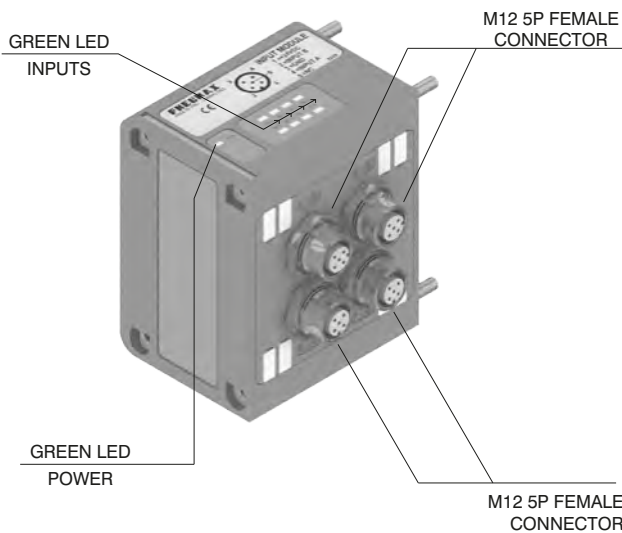
The maximum number of Input modules supported is 8 for PROFIBUS DP, PROFINET IO RT/IRT EtherNet/IP and Powerlink.

Ordering code

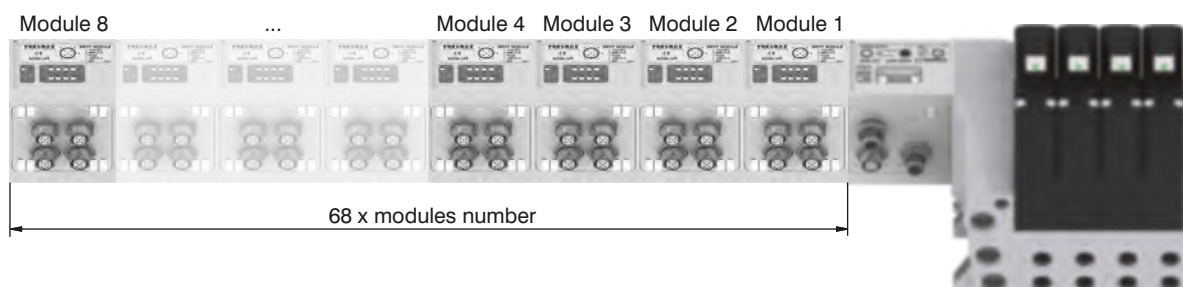
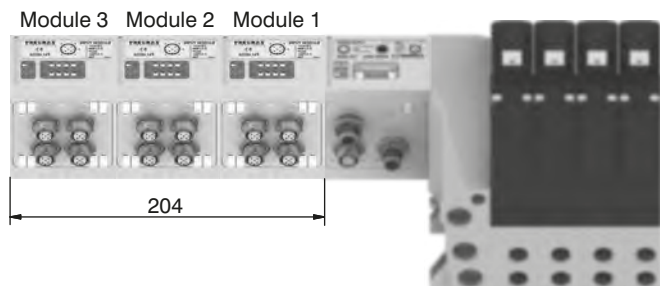
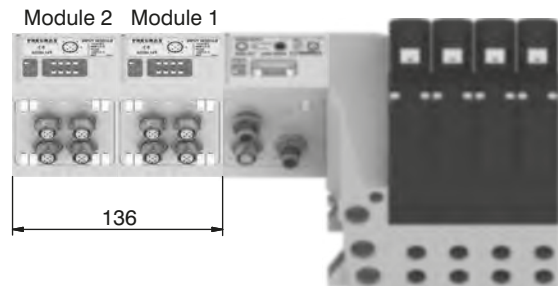
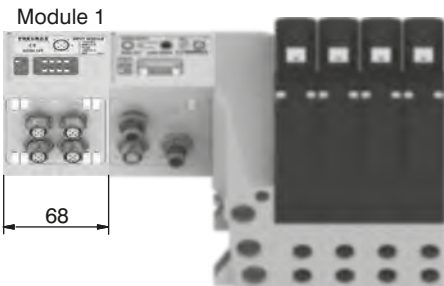
5225.12T



Scheme / Overall dimensions and I/O layout :



PIN	DESCRIPTION
1	+24 VDC
2	INPUT B
3	GND
4	INPUT A
5	NC





General :

This module is fitted with two M8 3 pin female connectors.

With this module is possible to read two analogue inputs (voltage or current).

The inputs are sampled at 12 bit.

For practicality the sampled value is transmitted with 16 bit, of which the four less significant are fixed at zero.

Available models:

- 5225.2T.00T (voltage signal 0 - 10V);
- 5225.2T.01T (voltage signal 0 - 5V);
- 5225.2C.00T (current signal 4 - 20mA);
- 5225.2C.01T (current signal 0 - 20mA).

Each module includes a 300 mA self-mending fuse. Should a short circuit or a overcharge (overall current >300mA) occur the safety device intervenes cutting the 24VDC power supply to all M8 connectors on the module and switching off the green LED PWR. Any other Input module connected to the node will remain powered and will function correctly. Once the cause of the fault is removed the green LED lights up indicating the ON state and the node will re-start to operate.

This module is counted as four 8 digital Inputs modules.

The Maximum number of 2 analogue Inputs modules supported is 1 for CANopen®, DeviceNet, PROFIBUS DP and EtherCAT®.

The Maximum number of 2 analogue Inputs modules supported is 2 for PROFINET IO RT/IRT, EtherNet/IP and Powerlink.

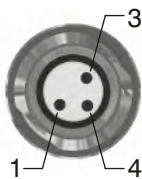
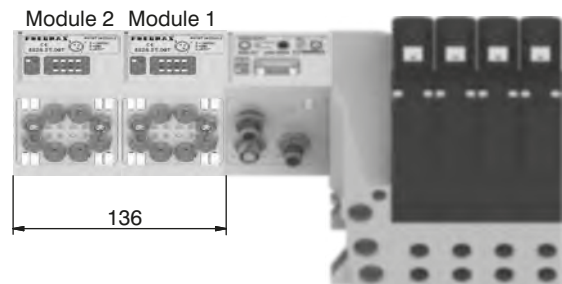
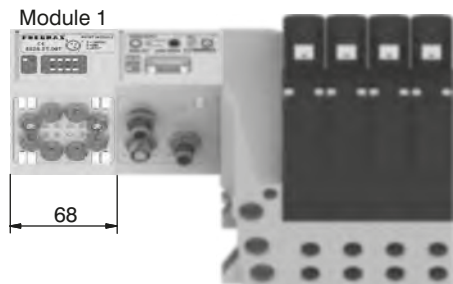
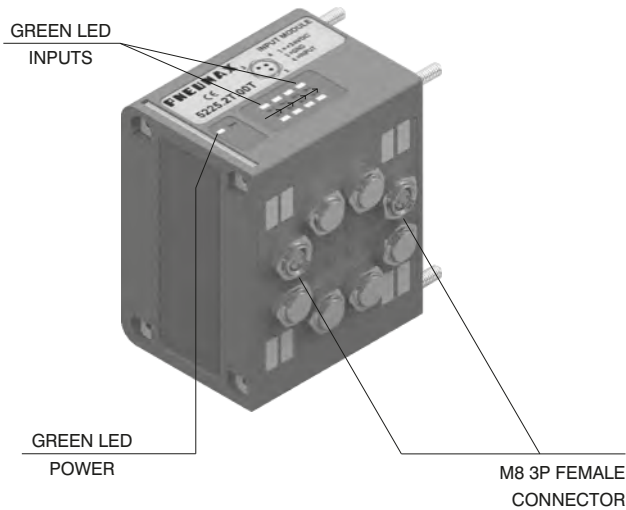
Ordering code

5225.2 _ . _ T



1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout :



PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND

General :

This module is fitted with two M8 3 pin female connectors.
 With this module is possible to read two Pt100 probes.
 The inputs are sampled at 12 bit.
 For practicality the sampled value is transmitted with 16 bit, of which the four less significant are fixed at zero.
 It is possible to plug 3-wires probes or 2-wires probes.
 The temperature is expressed in tenths of degree.
 The temperature range is 0 – 250°C, beyond which the green LED for probe presence doesn't light on.
 The module returns a value correspondent to 250°C when the probe is not connected.

Available models:
 5225.2P00T (2-wires probes);
 5225.2P01T (3-wires probes).

Each module includes a 300 mA self-mending fuse. Should a short circuit or a overcharge (overall current >300mA) occur the safety device intervenes cutting the 24VDC power supply to all M8 connectors on the module and switching off the green LED PWR. Any other Input module connected to the node will remain powered and will function correctly.
 Once the cause of the fault is removed the green LED lights up indicating the ON state and the node will re-start to operate.
 This module is counted as four 8 digital Inputs modules.

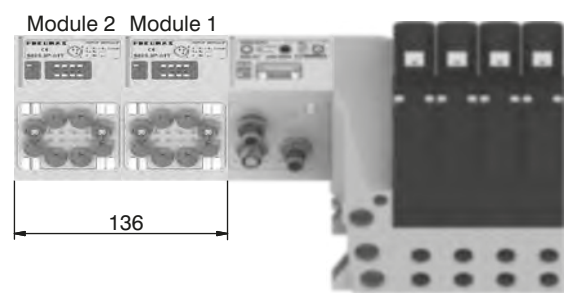
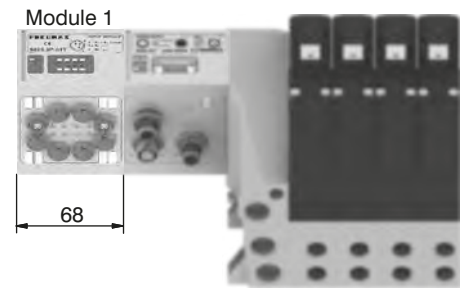
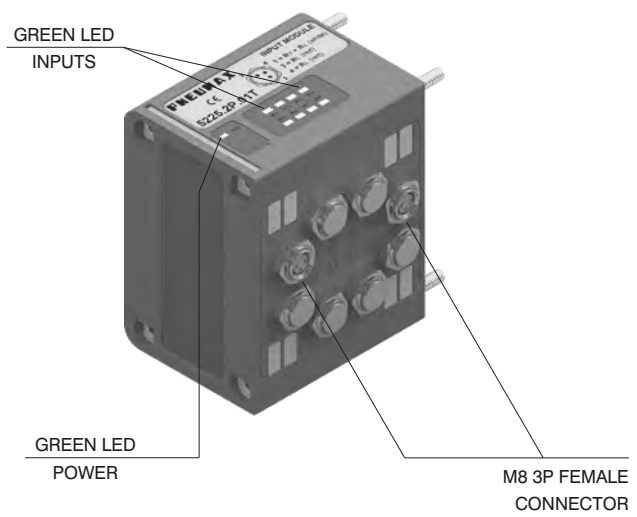
The Maximum number of 2 Pt100 Inputs modules supported is 1 for CANopen®, DeviceNet, PROFIBUS DP and EtherCAT®.
 The Maximum number of 2 Pt100 Inputs modules supported is 2 for PROFINET IO RT/IRT, EtherNet/IP and Powerlink.

Ordering code

5225.2P . 0 _T



Scheme / Overall dimensions and I/O layout :



3 WIRES

PIN	DESCRIPTION
1	RT (white)
4	RL (red)
3	RL (red)

2 WIRES

PIN	DESCRIPTION
1	RT (white)
4	NC
3	RL (red)



General :

This module is fitted with two M8 3 pin female connectors.

With this module is possible to read two Pt100 probes.

The inputs are sampled at 12 bit.

For practicality the sampled value is transmitted with 16 bit, of which the four less significant are fixed at zero.

It is possible to plug 3-wires probes or 2-wires probes.

The temperature is expressed in points according to the formula

$$\text{Temperature} = \left(\frac{\text{Points}}{4095} \times 600 \right) - 200$$

The temperature range is -200 to +400°C, beyond which the green LED for probe presence doesn't light on.

The module returns a value correspondent to 400°C when the probe is not connected.

Available models:

5225.2P:10T (2-wires probes);

5225.2P:11T (3-wires probes).

Each module includes a 300 mA self-mending fuse. Should a short circuit or a overcharge (overall current >300mA) occur the safety device intervenes cutting the 24VDC power supply to all M8 connectors on the module and switching off the green LED PWR. Any other INPUT module connected to the node will remain powered and will function correctly.

Once the cause of the fault is removed the green LED lights up indicating the ON state and the node will re-start to operate.

This module is counted as four 8 digital Inputs modules.

The Maximum number of 2 Pt100 Inputs modules supported is 1 for CANopen®, DeviceNet, PROFIBUS DP and EtherCAT®.

The Maximum number of 2 Pt100 Inputs modules supported is 2 for PROFINET IO RT/IRT, EtherNet/IP and Powerlink.

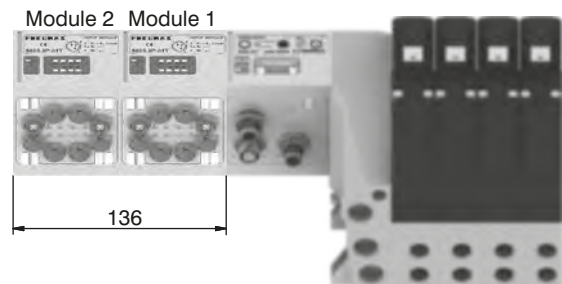
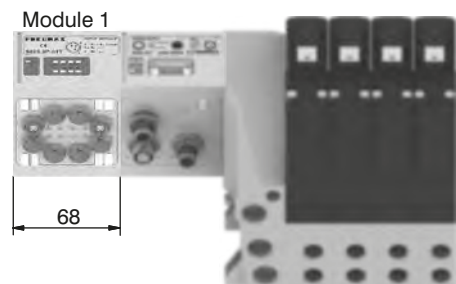
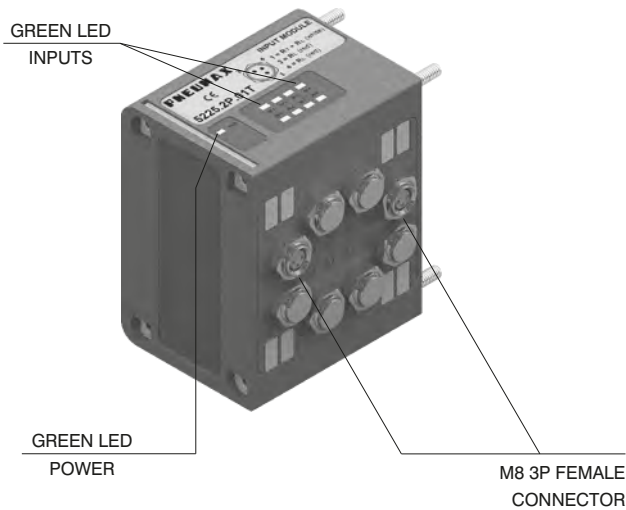
Ordering code

5225.2P . 1_T



1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout :



3 WIRES

PIN	DESCRIPTION
1	RT (white)
4	RL (red)
3	RL (red)

2 WIRES

PIN	DESCRIPTION
1	RT (white)
4	NC
3	RL (red)

Socket for Power Supply
STRAIGHT CONNECTOR
M12A 4P FEMALE

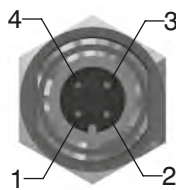
Ordering code

5312A.F04.00



POWER SUPPLY connector

Upper view
Slave connector

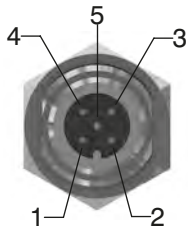


PIN	DESCRIPTION
1	+24 VDC Node
2	
3	0 V
4	+24 VDC Outputs

Socket for Bus CANopen®/DeviceNet
STRAIGHT CONNECTOR
M12A 5P FEMALE

Ordering code

5312A.F05.00



PIN	DESCRIPTION
1	(CAN_SHIELD)
2	(CAN_V+)
3	CAN_GND
4	CAN_H
5	CAN_L

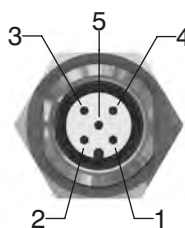
Upper view
Slave connector

NETWORK connectors

Plug for Bus CANopen®/DeviceNet
STRAIGHT CONNECTOR
M12A 5P MALE

Ordering code

5312A.M05.00



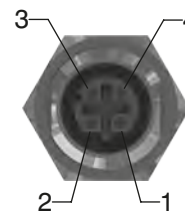
Plug for Bus EtherCAT®,
PROFINET IO RT,
EtherNet/IP and Powerlink
STRAIGHT CONNECTOR M12D 4P MALE

Ordering code

5312D.M04.00



PIN	SIGNAL	DESCRIPTION
1	TX+	Ethernet Transmit High
2	RX+	Ethernet Receive High
3	TX-	Ethernet Transmit Low
4	RX-	Ethernet Receive Low

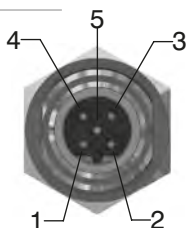


Upper view
Slave connector

Socket for Bus PROFIBUS DP
STRAIGHT CONNECTOR
M12B 5P FEMALE

Ordering code

5312B.F05.00



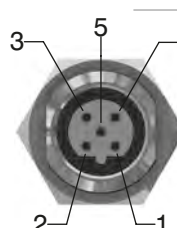
PIN	DESCRIPTION
1	Power Supply
2	A-line
3	DGND
4	B-line
5	SHIELD

Upper view
Slave connector

Plug for Bus PROFIBUS DP
STRAIGHT CONNECTOR
M12B 5P MALE

Ordering code

5312B.M05.00



Plug for Input module
STRAIGHT CONNECTOR
M8 3P MALE

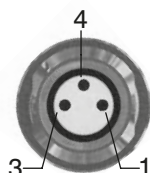
Ordering code

5308A.M03.00



INPUT connectors

Upper view
Slave connector



PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND

Plug for Input module
STRAIGHT CONNECTOR
M12A 5P MALE

Ordering code

5312A.M05.00



M12 plug

Ordering code

5300.T12

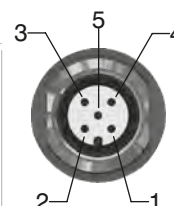


Plugs

M8 plug

Ordering code

5300.T08



PIN	DESCRIPTION
1	+24 VDC
2	INPUT B
3	GND
4	INPUT A
5	NC



Manifold Layout configuration

32 OUT VERSION

- C3 = CANopen® 32OUT
- D3 = DeviceNet 32OUT
- P3 = PROFIBUS 32OUT
- A3 = EtherCAT® 32OUT (5700 Series)
- I3 = EtherNet / IP 32OUT
- N3 = PROFINET IO RT 32OUT
- L3 = Powerlink 32OUT
- M3 = Modbus/TCP 32OUT

INPUT MODULES

- A = No module
- D1= 8 M8 digital inputs module
- D2= 8 M12 digital inputs module
- T1= 2 analogue inputs 0-5V module
- T2= 2 analogue inputs 0-10V module
- C1= 2 analogue inputs 0-20mA module
- C2= 2 analogue inputs 4-20mA module
- P1= 2 Pt100 inputs 2 wires module
- P2= 2 Pt100 inputs 3 wires module
- E1= 2 Pt100 inputs 2 wires module extended range
- E2= 2 Pt100 inputs 3 wires module extended range

RIGHT ENDPLATE

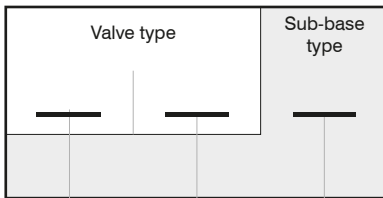
- U0 = Closed
- U2 = 25 Poles

I/O MODULE

- M8 (Requires 25 poles right endplate)



MODUL CONFIGURATION



S.V. POWER

- E3 = S.V. 2,3W
- E5 = S.V. 1W

ACCESSORIES CONFIGURATION



SUB-BASE TYPE

- 1 = Base type 1 for Monostable (1 electrical signal occupied)
- 2 = Base type 2 for Bistable (2 electrical signals occupied)

VALVE TYPE:

- A = Self-feeding
- E = External feeding

SHORT CODE FUNCTION / CONNECTION :

- A= 5/2 SOLENOID - SPRING
- B= 5/2 SOLENOIS - DIFFERENTIAL
- C= 5/2 SOLENOID - SOLENOID
- E= 5/3 CC SOLENOID -SOLENOID
- F= 2x3/2 NC-NC (= 5/3 OC) SOLENOID -SOLENOID
- G= 2x3/2 NO-NO (= 5/3 PC) SOLENOID -SOLENOID
- H= 2x3/2 NC-NO SOLENOID -SOLENOID
- I= 2x3/2 NO-NC SOLENOID -SOLENOID
- T= FREE VALVE SPACE PLUG

ACCESSORIES

- X = Diaphragm plug on pipe 1
- Y = Diaphragm plug on pipe 3
- Z = Diaphragm plug on pipe 5
- XY = Diaphragm plug on pipe 1 & 3
- ZX = Diaphragm plug on pipe 5 & 1
- ZY = Diaphragm plug on pipe 5 & 3
- ZXY = Diaphragm plug on pipe 5, 1 & 3

1 AIR DISTRIBUTION

NOTE:

While configuring the manifold always be careful that the maximum number of electrical signals available is 32. The use of monostable valve mounted on a base type 2 (2 electrical signals occupied) causes the loss of one electric signal. In this case the monostable valve can be replaced by a bistable valve. The diaphragms plugs are used to intercept the conduits 1,3 & 5 of the base. If it is necessary to interrupt more than one conduit in the same time then put in line the letters which identifies the position (for example : regarding the 3 & 5 conduits, put the Y & Z letters). Should one or more conduits be cut more than one time it is necessary to add the relevant intermediate Supply/Exhaust module.



Series 2300 - ENOVA®

General

Technical innovation, rational design, high performance and extremely compact size: these are the main features the ENOVA® series bring to the market.

Each valve comprises all the necessary pneumatic and electrical functions needed to produce a solenoid valve assembly.

There are no limits to the configuration of the solenoid valve island, as full priority has been given to the end user's needs; the addition or removal of modules is a simple operation that can be swiftly and easily achieved.

The management of the electrical signals through the valves is optimized through a patented dedicated connector in each valve.

Electrical connections are made via a twenty-five pin connector, which is capable of controlling up to twenty-two solenoids.

Electrical and pneumatic connections are located on the same module at one end of the assembly.

Serial bus nodes compatible with most common protocols are easily integrated.

Most widely used and known communication protocols, such as PROFIBUS DP, CANopen®, DeviceNet, AS-Interface can be directly integrated with the valve manifold by simply plugging the necessary module onto the electrical connection, maintaining IP65 environmental protection.

The management of inputs has also been foreseen, and can be achieved by adding one or more expansion modules directly to the serial module.

“Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power-Directional control valves-Measurement of shifting time”

Main characteristics

- Clean profile prevents accumulation of dirt
- Compact size: modules of 12.5 mm
- Connections available: 4 , 6 , 8 mm
- IP65 protection grade
- Optimized electrical connection system
- Electrical and pneumatic line connections on one side
- Quick coupling connection system with visual indicator: locked/unlocked
- Freedom of configuration

Functions

- 5/2 monostable
- 5/2 bistable
- 5/3 closed centres
- 2x3/2 NC/NC (5/3 open centres)
- 2x3/2 NO/NO (5/3 pressured centres)
- 2x3/2 NC/NO
- 2x2/2 NC/NC
- 2x2/2 NO/NO
- 2x2/2 NC/NO

Construction characteristics

Central body	Reinforced Technopolymer
External casing	Reinforced Technopolymer
Operators	Reinforced Technopolymer
Spool seals	PUR
Spools	Aluminium 2011
Springs	Spring steel with protective coating
Piston seals	Oil resistant nitrile rubber - NBR

Technical characteristics

Voltage	24 VDC ± 10% PNP (NPN on request)
Pilot consumption	0,9 Watt
Valve working pressure (1-11)	from vacuum to 10 bar max.
Pilot working pressure (12-14)	from 2,5 to 7 bar max.
Operating temperature	-5°C +50°C
Protection degree	IP65
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous

Attention: dry air must be used for applications below 0°C"

1
AIR DISTRIBUTION

Solenoid - Differential (Monostable)

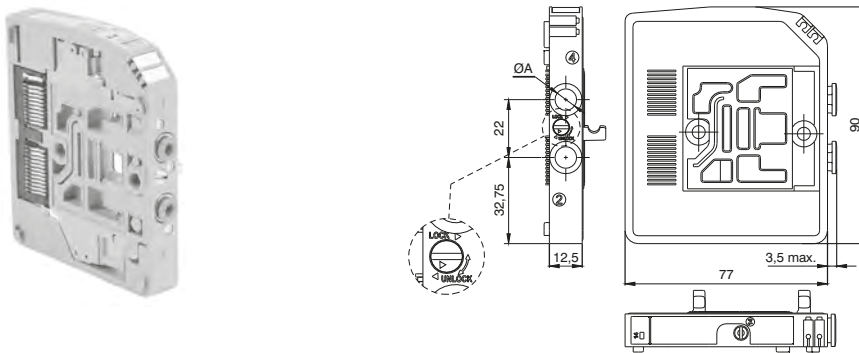
Coding: 23E052.00.36.V

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	700
Response time according to ISO 12238, activation time (ms)	12
Response time according to ISO 12238, deactivation time (ms)	15

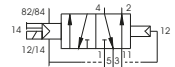
Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

ELECTRICAL CONTACTS	
0	= STANDARD-only one electric signal
1	= CEB (Bistable Electrical contacts)-(two electrical signals)
ELECTRICAL CONTACTS	
4	= Quick connection for tube Ø4
6	= Quick connection for tube Ø6
8	= Quick connection for tube Ø8
VOLTAGE	
02	= 24 VDC PNP
12	= 24 VDC NPN

SHORT CODE B4
SHORT CODE B6
SHORT CODE B8
SHORT CODE R4 (CEB)
SHORT CODE R6 (CEB)
SHORT CODE R8 (CEB)



Weight 115 g



Solenoid - Spring (Monostable)

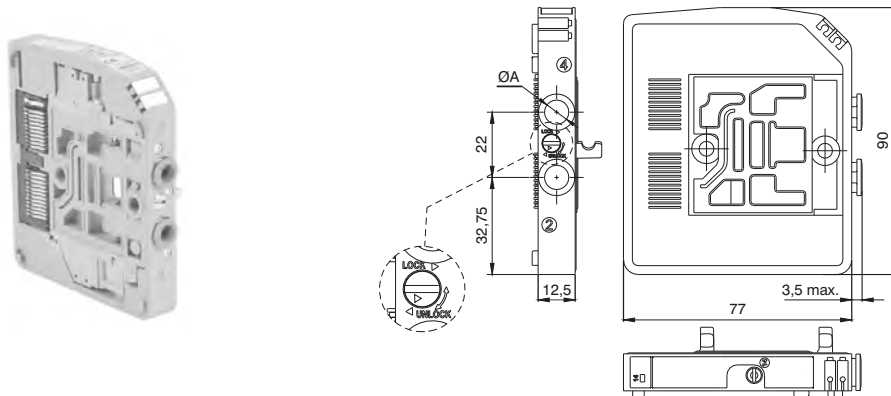
Coding: 23E052.00.39.V

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	700
Response time according to ISO 12238, activation time (ms)	9
Response time according to ISO 12238, deactivation time (ms)	30

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

ELECTRICAL CONTACTS	
0	= STANDARD-only one electric signal
1	= CEB (Bistable Electrical contacts)-(two electrical signals)
ELECTRICAL CONTACTS	
4	= Quick connection for tube Ø4
6	= Quick connection for tube Ø6
8	= Quick connection for tube Ø8
VOLTAGE	
02	= 24 VDC PNP
12	= 24 VDC NPN

SHORT CODE A4
SHORT CODE A6
SHORT CODE A8
SHORT CODE P4 (CEB)
SHORT CODE P6 (CEB)
SHORT CODE P8 (CEB)



Weight 115 g



1
AIR DISTRIBUTION



Solenoid - Solenoid (Bistable)

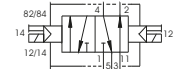
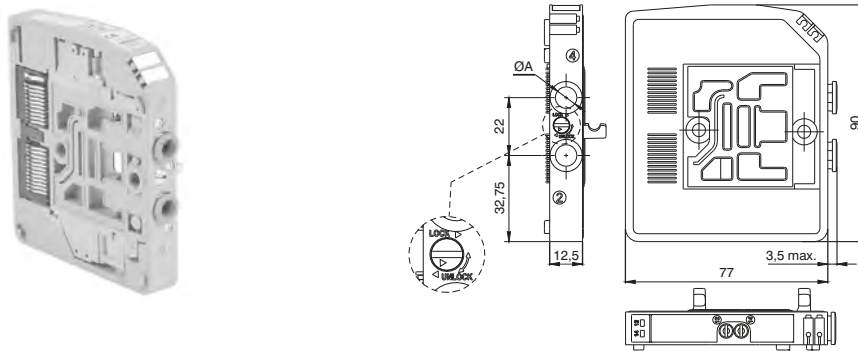
Coding: 230●.52.00.35.▼

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	700
Response time according to ISO 12238, activation time (ms)	7
Response time according to ISO 12238, deactivation time (ms)	7

ELECTRICAL CONTACTS	
●	4 = Quick connection for tube Ø4
	6 = Quick connection for tube Ø6
	8 = Quick connection for tube Ø8
VOLTAGE	
▼	02 = 24 VDC PNP
	12 = 24 VDC NPN

SHORT CODE C4
SHORT CODE C6
SHORT CODE C8

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 115 g

Solenoid - Solenoid (Bistable-Closed centres)

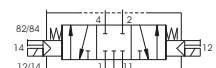
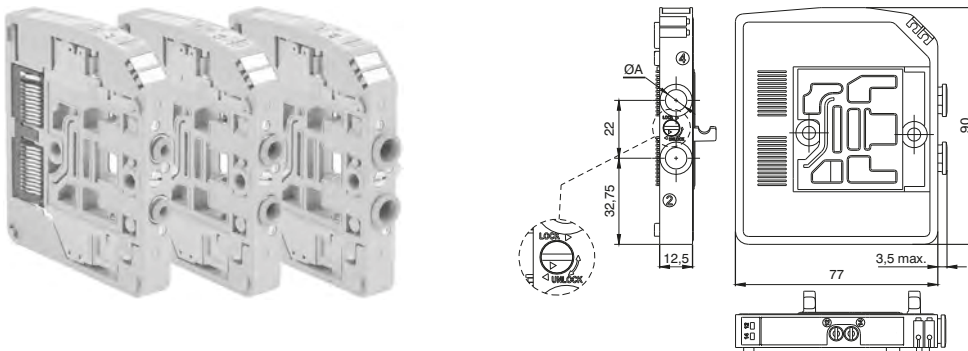
Coding: 230●.53.31.35.▼

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	550
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	15

ELECTRICAL CONTACTS	
●	4 = Quick connection for tube Ø4
	6 = Quick connection for tube Ø6
	8 = Quick connection for tube Ø8
VOLTAGE	
▼	02 = 24 VDC PNP
	12 = 24 VDC NPN

SHORT CODE E4
SHORT CODE E6
SHORT CODE E8

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 130 g

Solenoid - Solenoid 2x3/2 Bistable-N.C.-N.C. (=5/3 Open centres)

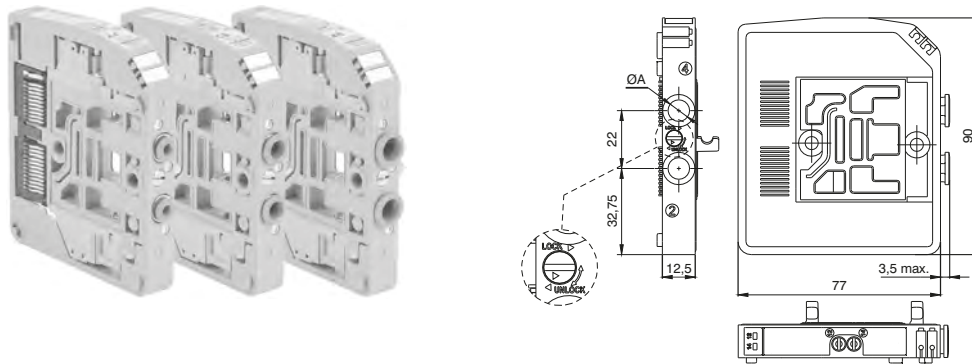
Coding: 230 ④.62.44.35. ⑤

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	700
Response time according to ISO 12238, activation time (ms)	9
Response time according to ISO 12238, deactivation time (ms)	30

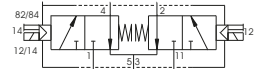
ELECTRICAL CONTACTS	
④	4 = Quick connection for tube Ø4
⑥	6 = Quick connection for tube Ø6
⑧	8 = Quick connection for tube Ø8
VOLTAGE	
⑤	02 = 24 VDC PNP
	12 = 24 VDC NPN

SHORT CODE F4
SHORT CODE F6
SHORT CODE F8

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 130 g
5/3 Open Centres: Use the Solenoid valves with 2x3/2 N.C.-N.C. function
5/3 Pressured Centres: Use the Solenoid valves with 2x3/2 N.O.-N.O. function



Solenoid - Solenoid 2x3/2 Bistable-N.C.-N.O.

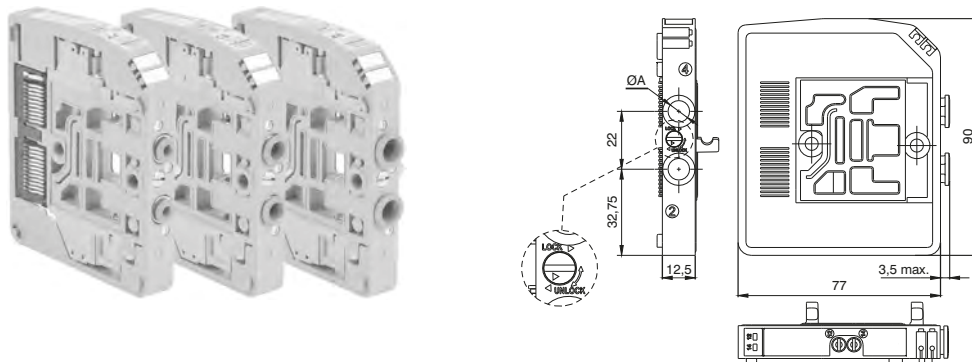
Coding: 230 ④.62.45.35. ⑤

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	700
Response time according to ISO 12238, activation time (ms)	9
Response time according to ISO 12238, deactivation time (ms)	30

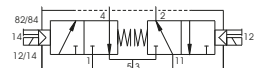
ELECTRICAL CONTACTS	
④	4 = Quick connection for tube Ø4
⑥	6 = Quick connection for tube Ø6
⑧	8 = Quick connection for tube Ø8
VOLTAGE	
⑤	02 = 24 VDC PNP
	12 = 24 VDC NPN

SHORT CODE H4
SHORT CODE H6
SHORT CODE H8

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 130 g
5/3 Open Centres: Use the Solenoid valves with 2x3/2 N.C.-N.C. function
5/3 Pressured Centres: Use the Solenoid valves with 2x3/2 N.O.-N.O. function





Solenoid - Solenoid 2x3/2 Bistable-N.O.-N.O. (=5/3 Pressured centres)

Coding: 230 62.55.35

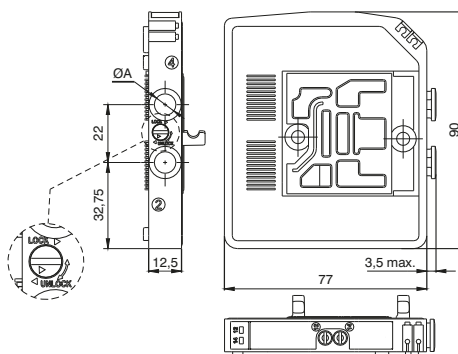
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	700
Response time according to ISO 12238, activation time (ms)	9
Response time according to ISO 12238, deactivation time (ms)	30

ELECTRICAL CONTACTS	
4	= Quick connection for tube Ø4
6	= Quick connection for tube Ø6
8	= Quick connection for tube Ø8
VOLTAGE	
02	= 24 VDC PNP
12	= 24 VDC NPN

SHORT CODE G4
SHORT CODE G6
SHORT CODE G8

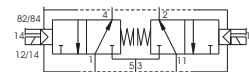
Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

1 AIR DISTRIBUTION



Weight 130 g

5/3 Open Centres: Use the Solenoid valves with 2x3/2 N.C.-N.C. function
5/3 Pressured Centres: Use the Solenoid valves with 2x3/2 N.O.-N.O. function



Solenoid - Solenoid 2x2/2 Bistable-N.C.-N.C.

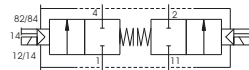
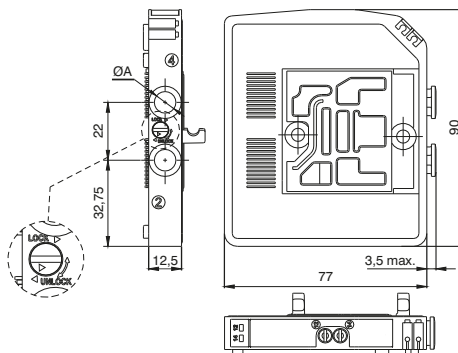
Coding: 230 42.44.35

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	700
Response time according to ISO 12238, activation time (ms)	9
Response time according to ISO 12238, deactivation time (ms)	30

ELECTRICAL CONTACTS	
4	= Quick connection for tube Ø4
6	= Quick connection for tube Ø6
8	= Quick connection for tube Ø8
VOLTAGE	
02	= 24 VDC PNP
12	= 24 VDC NPN

SHORT CODE L4
SHORT CODE L6
SHORT CODE L8

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 130 g

Solenoid - Solenoid 2x2/2 Bistable-N.C.-N.O.

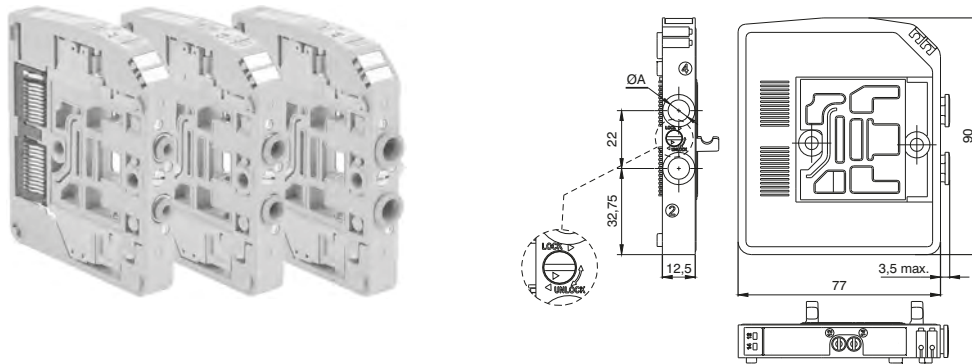
Coding: 230 42.45.35. V

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	700
Response time according to ISO 12238, activation time (ms)	9
Response time according to ISO 12238, deactivation time (ms)	30

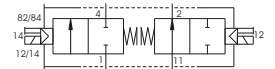
ELECTRICAL CONTACTS	
4	= Quick connection for tube Ø4
6	= Quick connection for tube Ø6
8	= Quick connection for tube Ø8
VOLTAGE	
02	= 24 VDC PNP
12	= 24 VDC NPN

SHORT CODE N4
SHORT CODE N6
SHORT CODE N8

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 130 g



Solenoid - Solenoid 2x2/2 Bistable-N.O.-N.O.

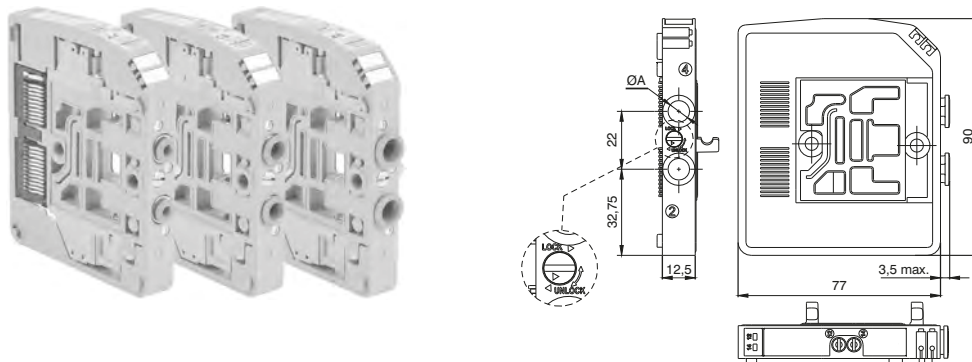
Coding: 230 42.55.35. V

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	700
Response time according to ISO 12238, activation time (ms)	9
Response time according to ISO 12238, deactivation time (ms)	30

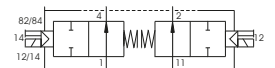
ELECTRICAL CONTACTS	
4	= Quick connection for tube Ø4
6	= Quick connection for tube Ø6
8	= Quick connection for tube Ø8
VOLTAGE	
02	= 24 VDC PNP
12	= 24 VDC NPN

SHORT CODE M4
SHORT CODE M6
SHORT CODE M8

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 130 g



1
AIR DISTRIBUTION

Left Endplates

Coding: 2311.05

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50

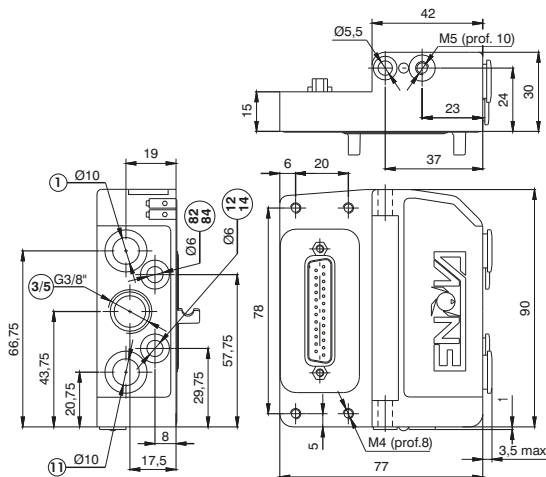
PORTS	
B	05 = 5 ports
	03 = 3 ports
CONNECTIONS	
C	P = Electrical connection PNP
	N = Electrical connection NPN

AIR DISTRIBUTION



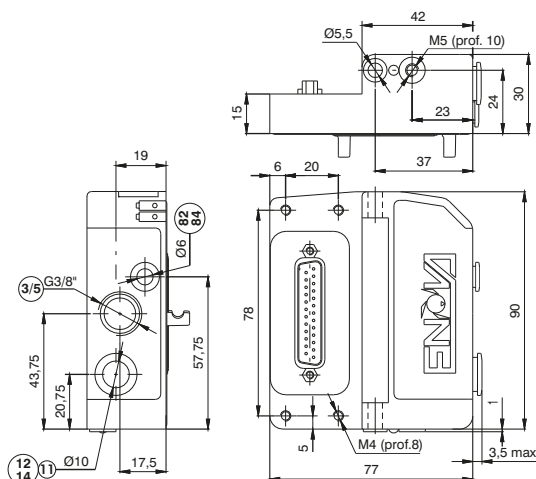
Weight 190 g
 1/11 Conduit (tube $\varnothing 10$): Main Solenoid valve feeding (pressure from vacuum to 10 bar maximum)
 3/5 Conduit (G 3/8"): Main Solenoid valve exhaust

2311.05



Weight 185 g
 1/11-12/14 Conduit (tube $\varnothing 10$): Main Solenoid valve and pilot feeding (pressure from 2,5bar to 7 bar)
 3/5 Conduit (G 3/8"): Main Solenoid valve exhaust
 82/84 Conduit (tube $\varnothing 6$): Pilot exhaust

2311.03

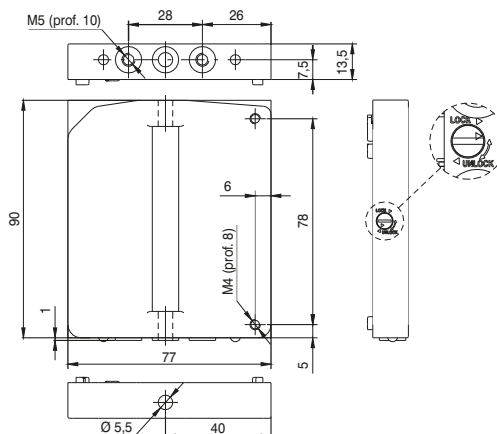


Right Endplates closed

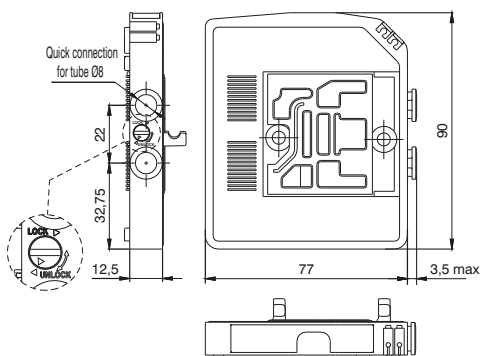
Coding: 2312.00



Weight 100 g



► Intermediate Inlet/Exhaust module



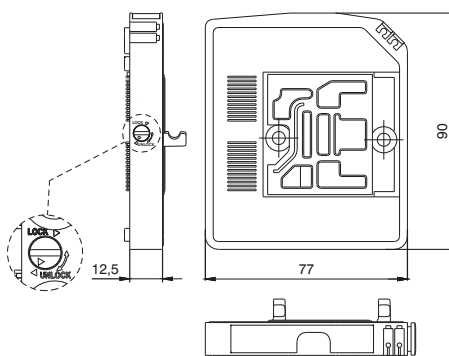
Weight 5 g

Coding: 2308.F

FUNCTION	
F	08 = Exhaust module
	12 = Inlet module
	20 = Inlet-Exhaust module

SHORT CODE J
SHORT CODE K
SHORT CODE W

► Through module



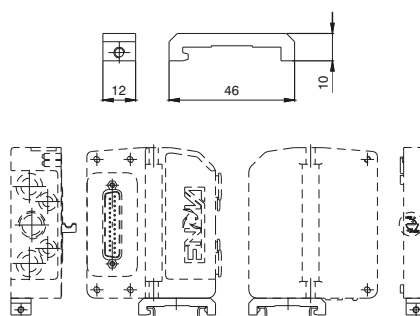
Weight 90 g

Coding: 2300.F

FUNCTION	
F	01 = 1 electric signal module
	02 = 2 electric signals module

SHORT CODE T1
SHORT CODE T2

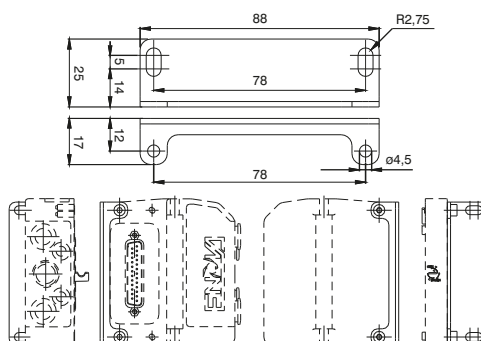
► DIN rail adapter



Weight 12 g

Coding: 2300.16

► Fixing brackets



Weight 45 g
for fixing dimensions see the Left endplates 3 and 5 ports

Coding: 2300.50



▶ Exhaust Diaphragm

Coding: 2317.08

1



Weight 5 g
SHORT CODE Y

▶ Inlet/Exhaust Diaphragm

Coding: 2317.20



Weight 5 g
SHORT CODE Z

▶ Inlet Diaphragm

Coding: 2317.12



Weight 5 g
SHORT CODE X

▶ Cable complete with connector, 25 Poles IP65

Coding: 2300.25.L.C



	CABLE LENGTH
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
	CONNECTOR
C	10 = In line
	90 = 90° Angle



The electrical connection is achieved via a 25 pin connector and can manage up to 22 solenoid pilots.

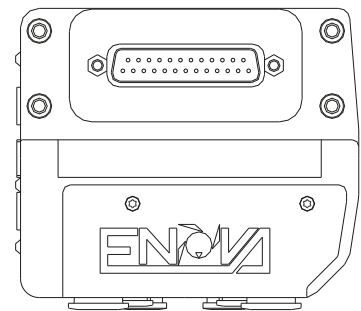
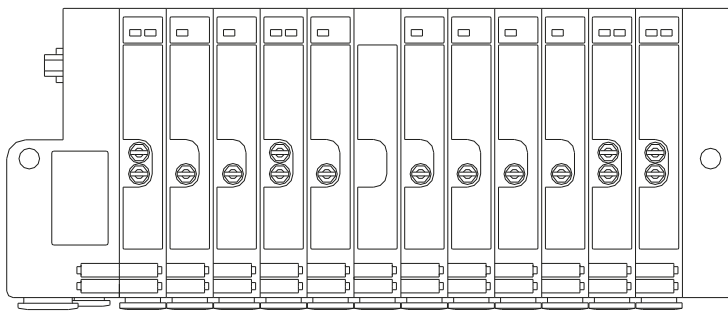
The management and distribution of the electrical signals between each valve is obtained thanks to a patented electrical connector which receives the signals from the previous module, uses one, two or none depending on the type, and carries forward to the next module the remaining. Bistable valves, 5/3 ; 2X3/2 e 2X2/2 valves which have two solenoid pilots built in, use two signals; the first is directed to the pilot side 14 the second to the pilot side 12.

Mono-stable valves can be fitted with two type of electrical connector: one that uses only one signal (connected to the pilot side 14) and carries forward the remaining and one called CEB (Electrical contact for bistable) which uses two signals, one is needed for the valve the other is not used.

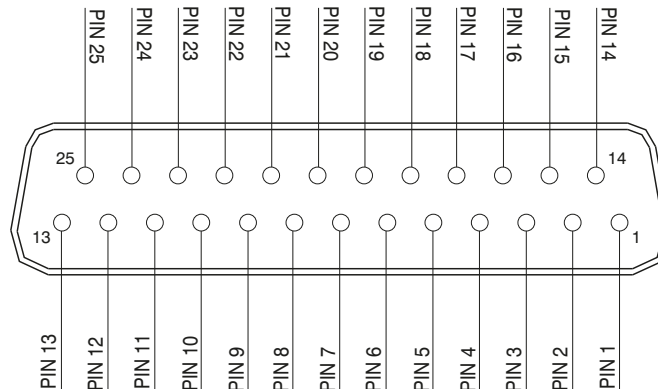
This second solution (CEB) allows the modification of the manifold (replacement of monostable valves with bistable for example) without the need of reconfiguring the PLC outputs layout. On the other hand this solution limits the maximum number of valves to 11 (two signals for each position).

Intermediate supply / exhaust modules are fitted with a dedicated electrical connector which carries forward all electric signals without using any. This allows the use of intermediate modules in any position of the manifold.

Example of manifold samples with the corresponding pin layout.

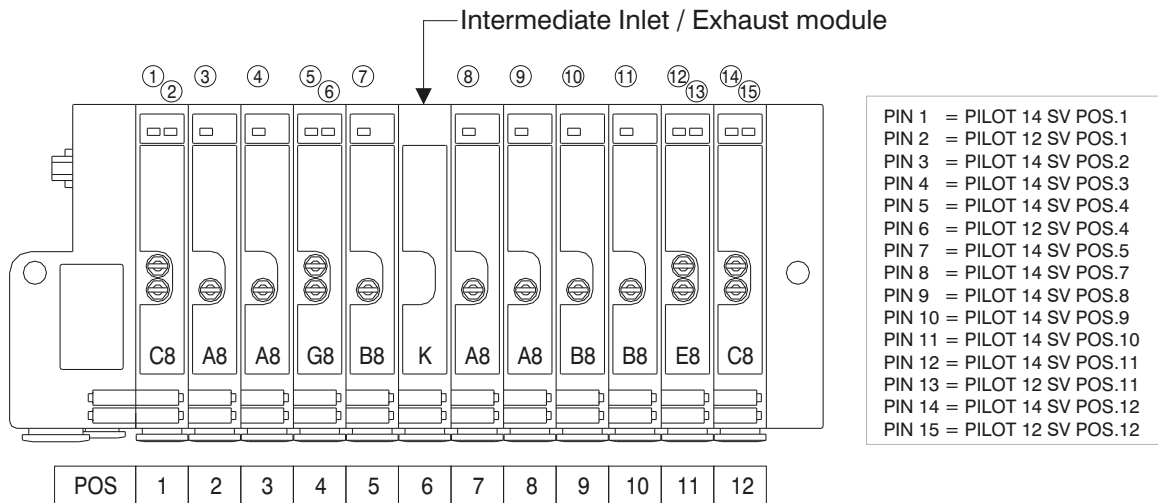


**ELECTRIC CONNECTOR
SUB-D TYPE - 25 POLES**

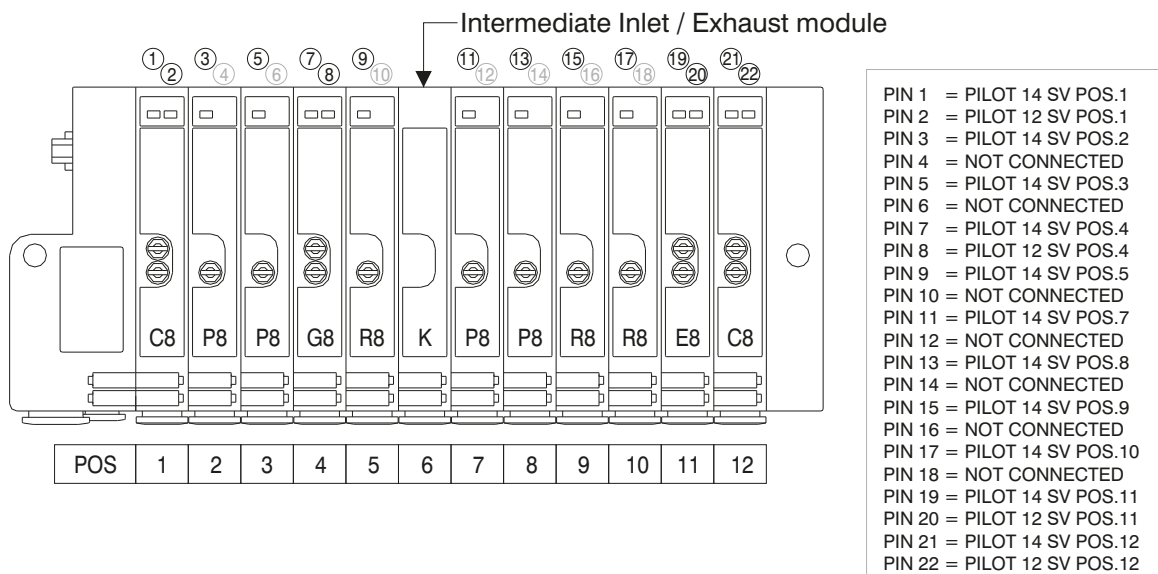


1 - 22 = Solenoid valves signals
23 - 24 - 25 = Common

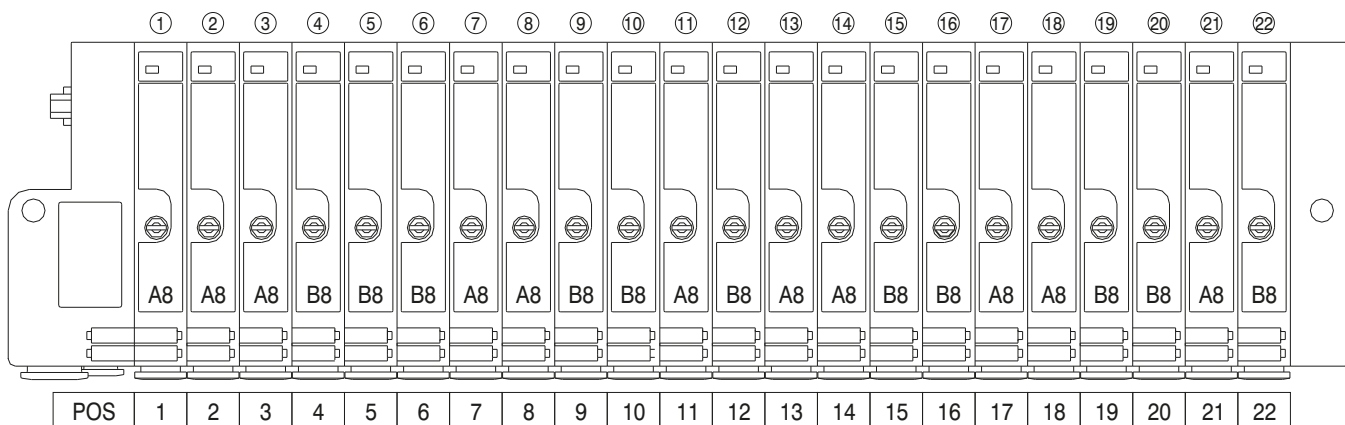
25 PIN Connector correspondence for bistable, 2x3/2, 5/3 and standard monostable valves manifold



25 PIN Connector correspondence for bistable, 2x3/2, 5/3 manifold and CEB monostable valves (electrical contact for bistable)

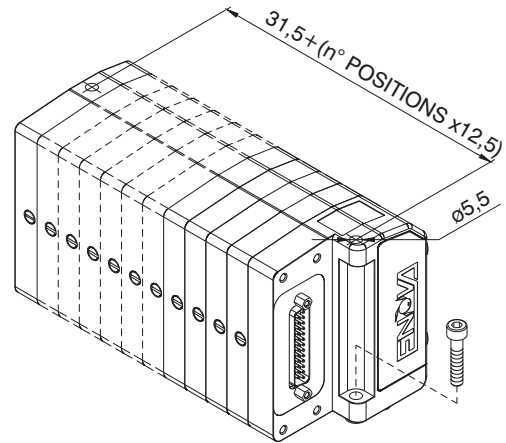
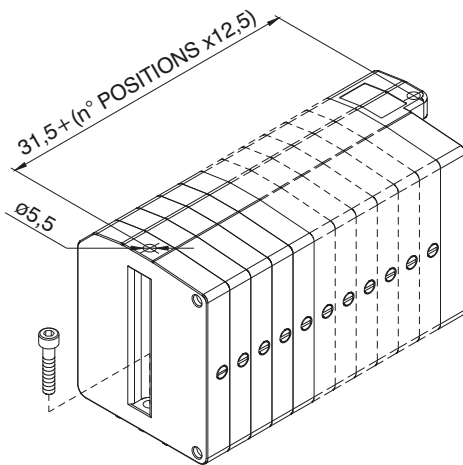


25 PIN Connector correspondence for manifold for 22 position manifold with standard monostable valves

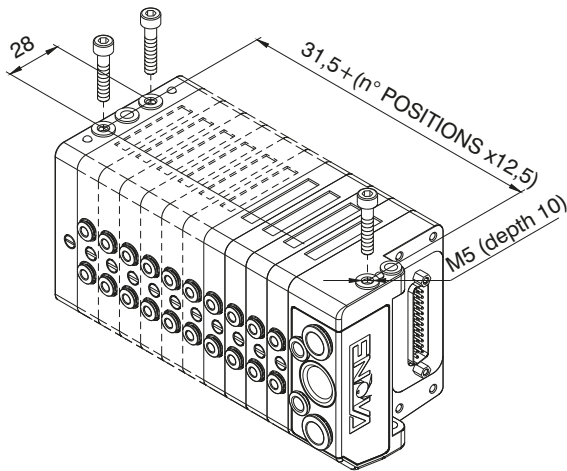


Mounting

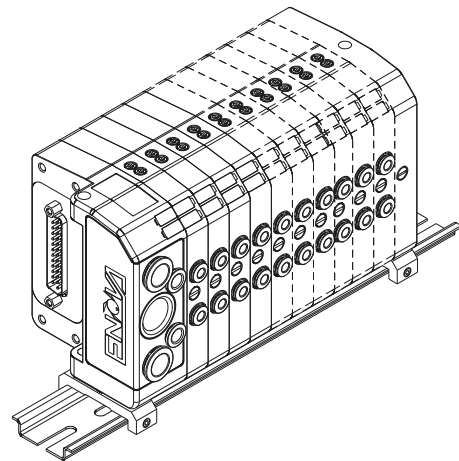
From the top



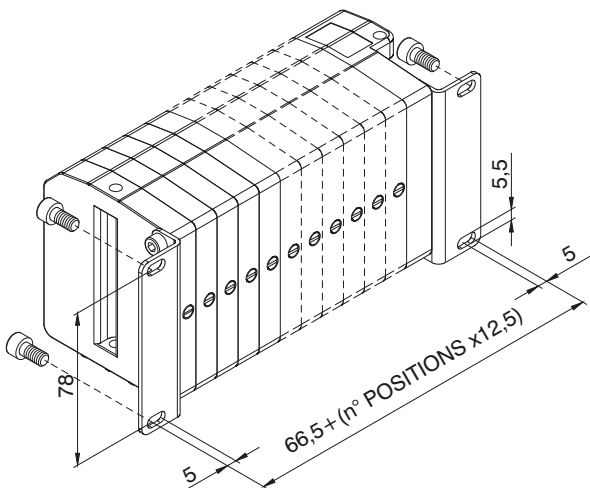
From the bottom



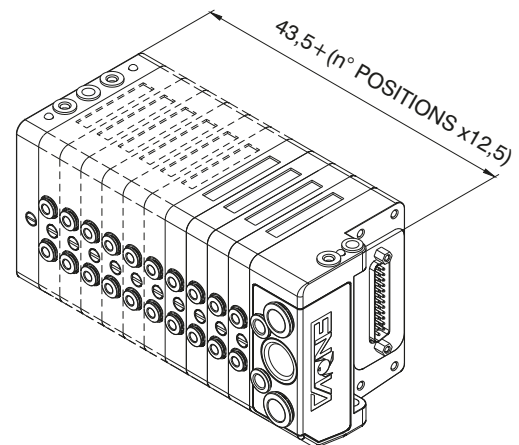
On DIN rail

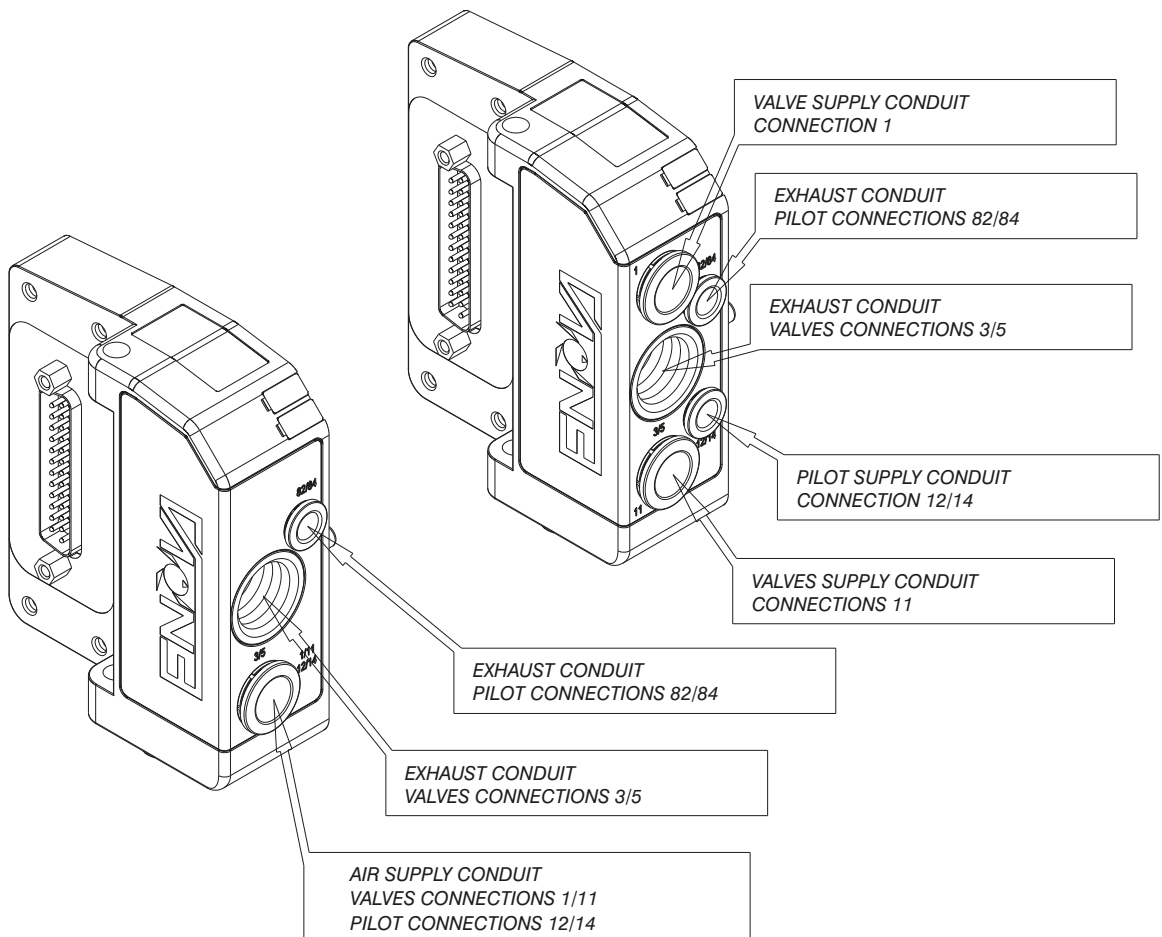
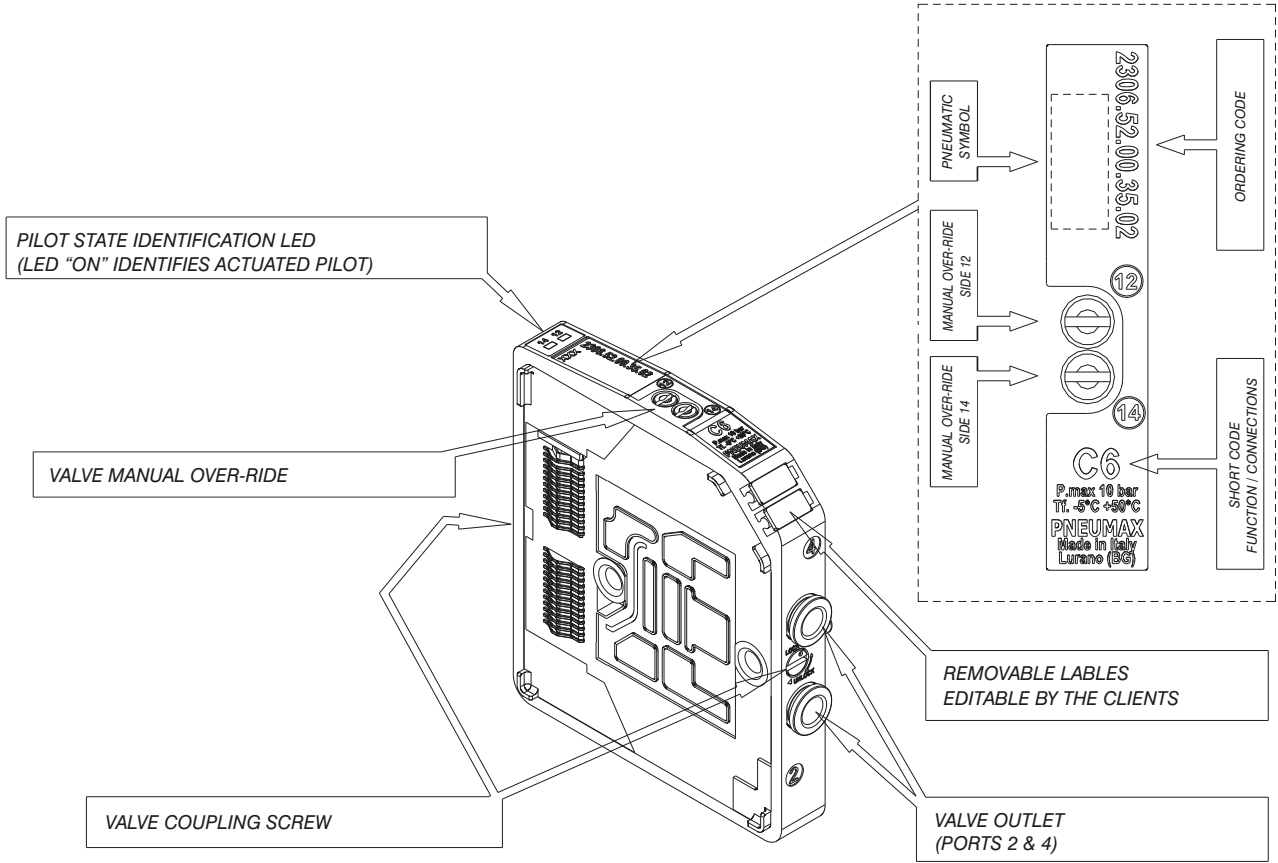


90° Bracket



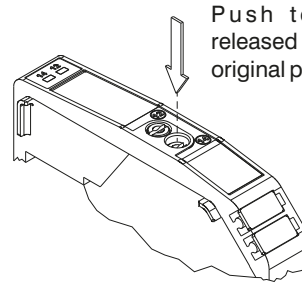
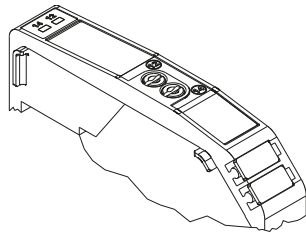
Maximum envelop size based on the number of positions



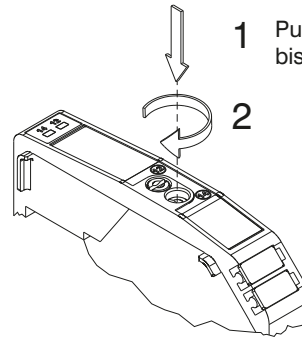
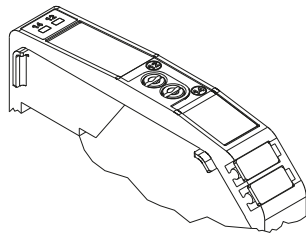


Manual over-ride function

Unstable function



Bistable function



NOTE: It is strongly suggested to replace the original position after using

1
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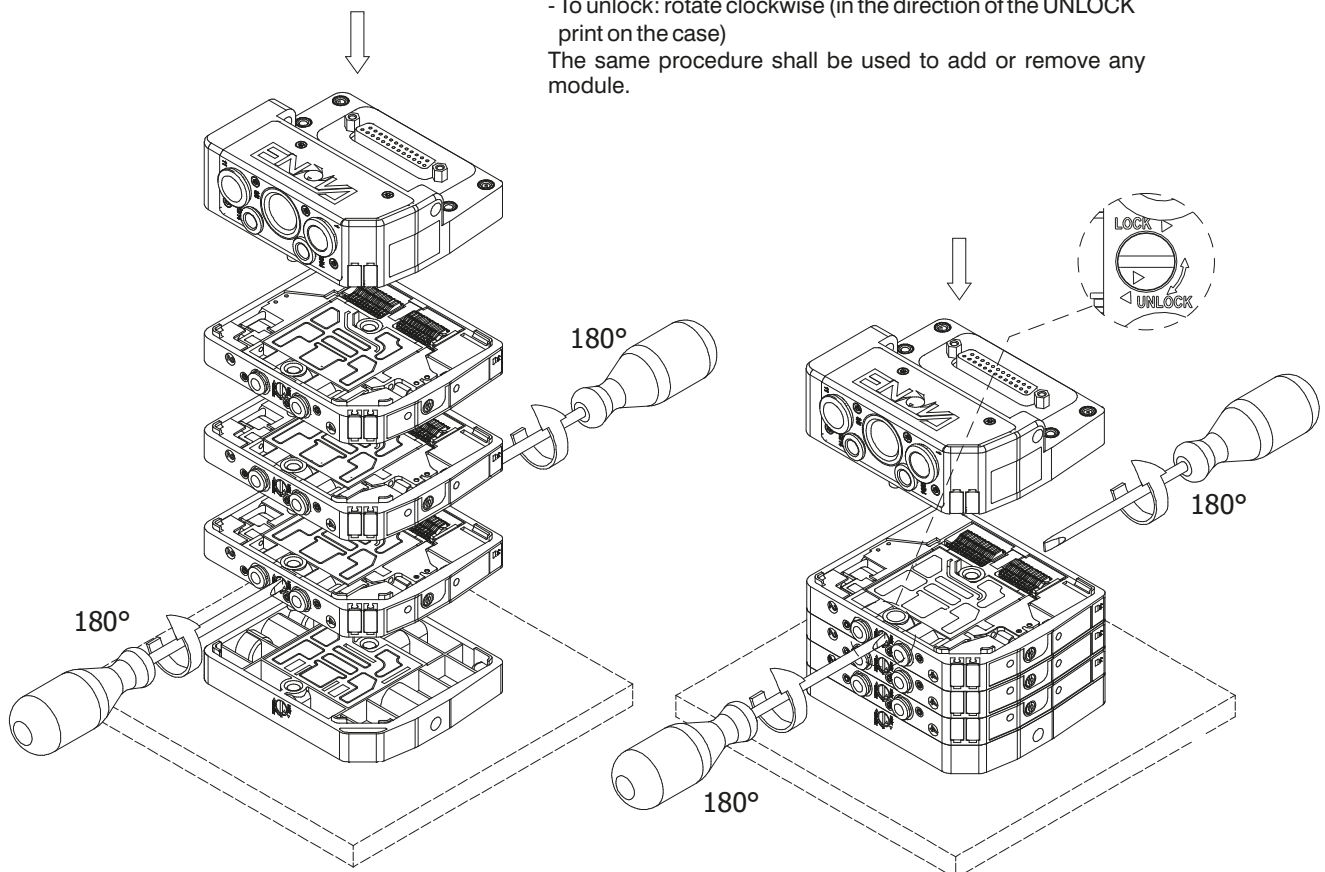
Manifold assembly

The assembly procedure should start from the end-plate which should be positioned on a flat surface. Add the requested modules by simply rotating by 180° the fastening pins by means of a 1x5.5 flat screw driver. The last module to be assembled shall be the inlet module

Fastening pins rotation direction:

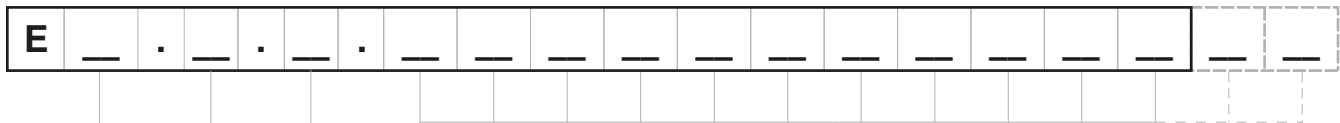
- To lock: rotate anticlockwise (in the direction of the LOCK print on the case)
- To unlock: rotate clockwise (in the direction of the UNLOCK print on the case)

The same procedure shall be used to add or remove any module.



Manifold Lay-Out configuration

1
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ACCESSORIES :
 0= none
 D= DIN bar adapter
 S= 90° Fixing bracket

ENDPLATES SELECTION :
 A= 5 ports endplated left side plus right side endplated
 B= 3 ports endplated left side plus right side endplated

ELECTRICAL CONNECTION:
 MP= MULTIPOLAR PNP (standard)
 MN= MULTIPOLAR NPN
 CA= CANopen® 22 OUT
 CB= CANopen® 22 OUT + 8 IN
 CC= CANopen® 22 OUT + 16 IN
 CD= CANopen® 22 OUT + 24 IN
 DA= DeviceNet 22 OUT
 DB= DeviceNet OUT + 8 IN
 DC= DeviceNet 22 OUT + 16 IN
 DD= DeviceNet OUT + 24 IN
 PA= PROFIBUS 22 OUT
 PB= PROFIBUS 22 OUT + 8 IN
 PC= PROFIBUS 16 OUT + 16 IN

SHORT CODE
FUNCTION / CONNECTION:
 A4= SV 5/2 MONOST. SOL.-SPRING Ø4
 A6= SV 5/2 MONOST. SOL.-SPRING Ø6
 A8= SV 5/2 MONOST. SOL.-SPRING Ø8
 B4= SV 5/2 MONOST. SOL.-DIFFERENTIAL Ø4
 B6= SV 5/2 MONOST. SOL.-DIFFERENTIAL Ø6
 B8= SV 5/2 MONOST. SOL.-DIFFERENTIAL Ø8
 C4= SV 5/2 BISTABLE SOL.-SOL. Ø4
 C6= SV 5/2 BISTABLE SOL.-SOL. Ø6
 C8= SV 5/2 BISTABLE SOL.-SOL. Ø8
 E4= SV 5/3 CC SOL.-SOL. Ø4
 E6= SV 5/3 CC SOL.-SOL. Ø6
 E8= SV 5/3 CC SOL.-SOL. Ø8
 F4= SV 2x3/2 NC-NC (= 5/3 CA) SOL.-SOL. Ø4
 F6= SV 2x3/2 NC-NC (= 5/3 CA) SOL.-SOL. Ø6
 F8= SV 2x3/2 NC-NC (= 5/3 CA) SOL.-SOL. Ø8
 G4= SV 2x3/2 NO-NO (= 5/3 CP) SOL.-SOL. Ø4
 G6= SV 2x3/2 NO-NO (= 5/3 CP) SOL.-SOL. Ø6
 G8= SV 2x3/2 NO-NO (= 5/3 CP) SOL.-SOL. Ø8
 H4= SV 2x3/2 NC-NO SOL.-SOL. Ø4
 H6= SV 2x3/2 NC-NO SOL.-SOL. Ø6
 H8= SV 2x3/2 NC-NO SOL.-SOL. Ø8
 L4= SV 2x2/2 NC-NC SOL.-SOL. Ø4
 L6= SV 2x2/2 NC-NC SOL.-SOL. Ø6
 L8= SV 2x2/2 NC-NC SOL.-SOL. Ø8
 M4= SV 2x2/2 NO-NO SOL.-SOL. Ø4
 M6= SV 2x2/2 NO-NO SOL.-SOL. Ø6
 M8= SV 2x2/2 NO-NO SOL.-SOL. Ø8
 N4= SV 2x2/2 NC-NO SOL.-SOL. Ø4
 N6= SV 2x2/2 NC-NO SOL.-SOL. Ø6
 N8= SV 2x2/2 NC-NO SOL.-SOL. Ø8
 P4= SV 5/2 MONOST. SOL.-SPRING CEB Ø4
 P6= SV 5/2 MONOST. SOL.-SPRING CEB Ø6
 P8= SV 5/2 MONOST. SOL.-SPRING CEB Ø8
 R4= SV 5/2 MONOST. SOL.-DIFF. CEB Ø4
 R6= SV 5/2 MONOST. SOL.-DIFF. CEB Ø6
 R8= SV 5/2 MONOST. SOL.-DIFF. CEB Ø8
 T1 = 1 ELECTRIC SIGNAL THROUGH MODULE
 T2 = 2 ELECTRIC SIGNALS THROUGH MODULE

J= INTERMEDIATE EXHAUST MODULE Ø8
 K= INTERMEDIATE INLET MODULE Ø8
 W = INLET-EXHAUST MODULE Ø8

X= INLET DIAPHRAGM
 Y= EXHAUST DIAPHRAGM
 Z= INLET -EXHAUST DIAPHRAGM

NOTE:

While configuring the manifold always bear in mind that the maximum number of electrical signals available is 22.

N.B. CEB = Electrical connector for bistable valves (uses two electric signals)

Intermediate supply / exhaust modules require the same space as a valve but do not use any electric signals (as the electric connector carries forward all signals received from the module immediately before).

The separation diaphragms are positioned between two modules and replace the standard seal therefore do not increase the dimension of the assembly. When using a separation diaphragm of any type, it is necessary to add, in any position between diaphragm and the manifold and plate, an extra air supply / exhaust module depending on the type of diaphragm used.



General:

CANopen® module is directly integrated on Enova solenoid valves manifold via a 25 poles connector, normally used for multipolar cable connection.
 Enova solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
 The node can be easily installed also on solenoid valves manifold already mounted on equipment.
 Module can manage up to 22 solenoid valves, and, in the same time, a max number of 3 Input modules 5200.08.
 CANopen® module recognizes automatically the presence of the Input modules on power on.
 Regardless of the number of Input modules connected, the managable solenoid valves are 22.
 Node power supply is made by a M12 4P male circular connector.
 The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.
 Connection to Bus CANopen® is possible via 2 M12 5P male - female circular connectors; these two are connected in parallel and according to CiA Draft Standard Proposal 301 V 4.10 (15 August 2006).
 Transmission speed can be set by 3 dip-switches.
 The node address can be set by 6 dip-switches using BCD numeration.
 The module includes an internal terminating resistance that can be activated by a dip-switch.

Ordering code

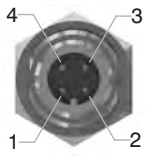
5523.22



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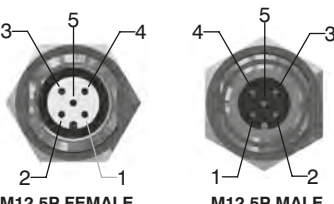
Scheme / Overall dimensions and I/O layout :

POWER SUPPLY connector

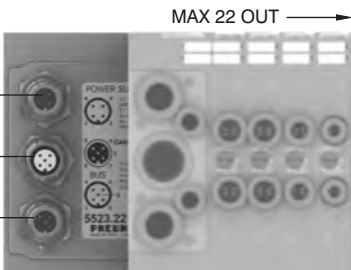
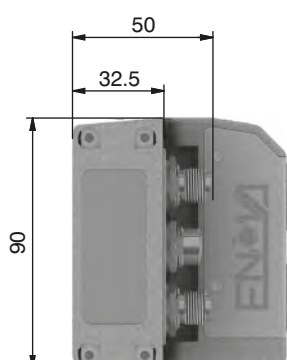
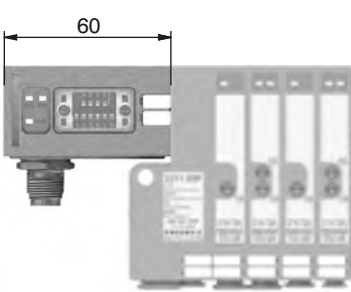


PIN	DESCRIPTION
1	+24 VDC (NODE & INPUTS)
2	NC
3	GND
4	+24 VDC (OUTPUTS)

NETWORK connectors



PIN	SIGNAL	DESCRIPTION
1	CAN_SHLD	Optional CAN Shield
2	CAN_V+	Optional CAN external positive supply (Dedicated for supply of transceiver and Optocouplers, if galvanic isolation of the bus node applies)
3	CAN_GND	Ground / 0V / V-
4	CAN_H	CAN_H bus line (dominant high)
5	CAN_L	CAN_L bus line (dominant low)

Technical characteristics

	Model	5523.22
	Specifications	CiA Draft Standard Proposal 301 V 4.10 (15 August 2006)
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	25 mA
	Power supply diagnosis	Green led PWR
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for output	100 mA
	Maximum output number	22
	Max output simultaneously actuated	22
Network	Network connectors	2 M12 5P connectors male-female (IEC 60947-5-2)
	Baud rate	10 - 20 - 50 - 125 - 250 - 500 - 800 - 1000 Kbit/s
	Addresses, possibile numbers	From 1 to 63
	Max nodes in net	64 (slave + master)
	Bus maximum recommended length	100 m a 500 Kbit/s
	Bus diagnosis	Green led + Red led
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From -0° to +50° C

General:

DeviceNet module is directly integrated on Enova solenoid valves manifold via a 25 poles connector, normally used for multipolar cable connection.
 Enova solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
 The node can be easily installed also on solenoid valves manifold already mounted on equipment.
 Module can manage up to 22 solenoid valves, and, in the same time, a max number of 3 Input modules 5200.08.
 DeviceNet module recognizes automatically the presence of the Input modules on power on.
 Regardless of the number of Input modules connected, the manageable solenoid valves are 22.
 Node power supply is made by a M12 4P male circular connector.
 The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.
 Connection to Bus DeviceNet is possible via 2 M12 5P male - female circular connectors; these two are connected in parallel and according to DeviceNet Specifications Volume I, release 2.0.
 Transmission speed can be set by 3 dip-switches.
 The node address can be set by 6 dip-switches using BCD numeration.
 The module includes an internal terminating resistance that can be activated by a dip-switch.

Ordering code

5423.22



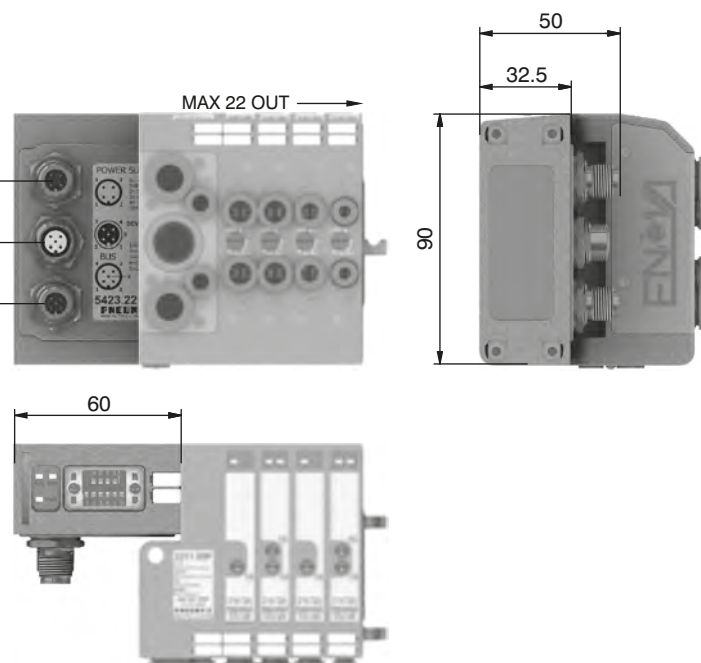
Scheme / Overall dimensions and I/O layout :

POWER SUPPLY connector

PIN	DESCRIPTION
1	+24 VDC (NODE & INPUTS)
2	NC
3	GND
4	+24 VDC (OUTPUTS)

NETWORK connectors

PIN	SIGNAL	DESCRIPTION
1	CAN_SHLD	Optional CAN Shield
2	CAN_V+	Optional CAN external positive supply (Dedicated for supply of transceiver and Optocouplers, if galvanic isolation of the bus node applies)
3	CAN_GND	Ground / 0V / V-
4	CAN_H	CAN_H bus line (dominant high)
5	CAN_L	CAN_L bus line (dominant low)



Technical characteristics

	Model	5423.22
	Specifications	DeviceNet Specifications Volume I, release 2.0.
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	25 mA
	Power supply diagnosis	Green led PWR
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for output	100 mA
	Maximum output number	22
	Max output simultaneously actuated	22
Network	Network connectors	2 M12 5P connectors male-female (IEC 60947-5-2)
	Baud rate	125 - 250 - 500 Kbit/s
	Addresses, possible numbers	From 1 to 63
	Max nodes in net	64 (slave + master)
	Bus maximum recommended length	100 m a 500 Kbit/s
	Bus diagnosis	Green led + Red led
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From -0° to +50° C



General:

PROFIBUS DP module is directly integrated on Enova solenoid valves manifold via a 25 poles connector, normally used for multipolar cable connection.
 Enova solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
 The node can be easily installed also on solenoid valves manifold already mounted on equipment.
 Module can manage up to 22 solenoid valves, when is connected 0 or 1 INPUT modules, or 16 if node is fitted with 2 INPUT modules. The max number of INPUT modules 5200.08, is 2.
 PROFIBUS DP module recognizes automatically the presence of the Input modules on power on.
 Node power supply is made by a M12 4P male circular connector.
 The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.
 Connection to Bus PROFIBUS DP is possible via 2 M12 type B 5P male - female circular connectors; these two are connected in parallel and according to PROFIBUS Interconnection Technology (Version 1.1 : August 2001).
 The node address can be set using BCD numeration: 4 dip-switches for the units and 4 dip-switches for the tens.
 The module includes an internal terminating resistance that can be activated by a dip-switch.

Ordering code

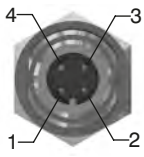
5323.22



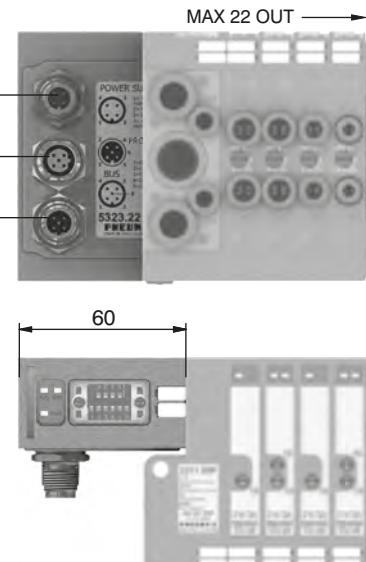
1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout :

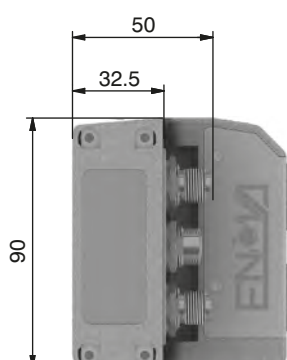
POWER SUPPLY connector



PIN	DESCRIPTION
1	+24 VDC (NODE & INPUTS)
2	NC
3	GND
4	+24 VDC (OUTPUTS)

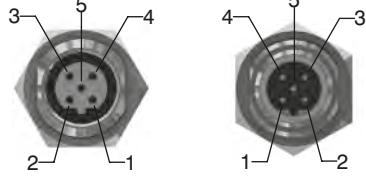


MAX 22 OUT



50
32.5
90

NETWORK connectors



PIN	SIGNAL	DESCRIPTION
1	VP	Power supply plus, (P5V)
2	A-line	Receive / Transmit data -N, A-line
3	DGND	Data Ground (reference potential to VP)
4	B-line	Receive / Transmit data -plus, B-line
5	SHIELD	Shield or PE

Technical characteristics

	Model	5323.22
	Specifications	PROFIBUS DP
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	50 mA
	Power supply diagnosis	Green led PWR
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for output	100 mA
	Maximum output number	22 or 16 if node is fitted with 2 INPUT modules
	Max output simultaneously actuated	22
Network	Network connectors	2 M12 5P connectors male-female (IEC 60947-5-2)
	Baud rate	125 - 250 - 500 Kbit/s
	Addresses, possible numbers	From 1 to 63
	Max nodes in net	64 (slave + master)
	Bus maximum recommended length	100 m a 500 Kbit/s
	Bus diagnosis	Green led + Red led
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From -0° to +50° C

General:

Modules have 8 connectors M8 3P female.

The Inputs are PNP equivalent 24 VDC ±10%.

To each connector it is possible to plug both 2 wires Inputs (switches, magnetic switches pressure switches, etc) or 3 wires Inputs (proximity, photocells, electronic sensors, etc).

The maximum current available for all 8 Inputs is 200 mA.

Each module includes a 200 mA resettable fuse. If a short circuit or a overcharge (overall current >200mA) occur the safety device acts cutting the 24 VDC power supply to all M8 connectors on the module and switching off the green led PWR. Any other Input module connected to the node will remain powered and will function correctly.

Once the cause of the fault disappears the green led PWR light up indicating the ON state and the node will re-start to operate.

The Maximum number of Input modules supported is 3 for CANopen and DeviceNet, 2 for PROFIBUS DP.

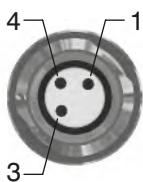
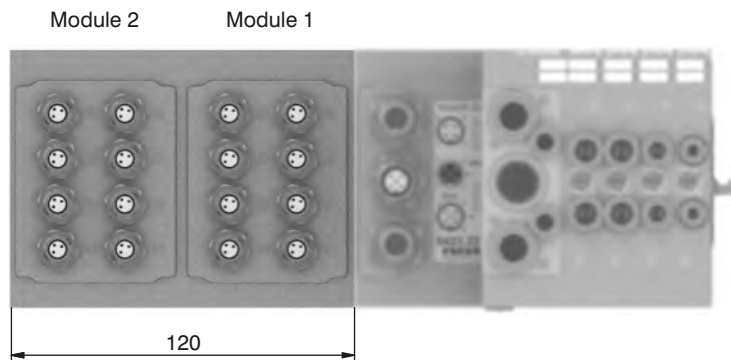
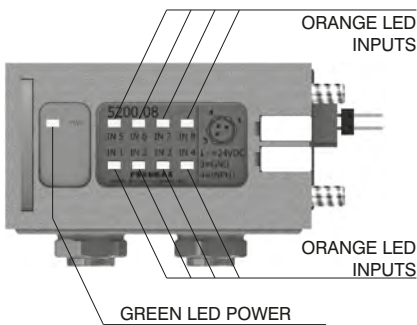
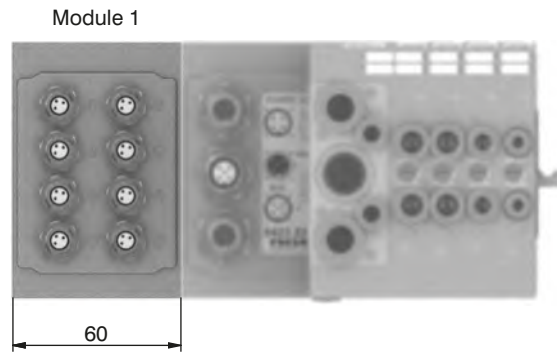
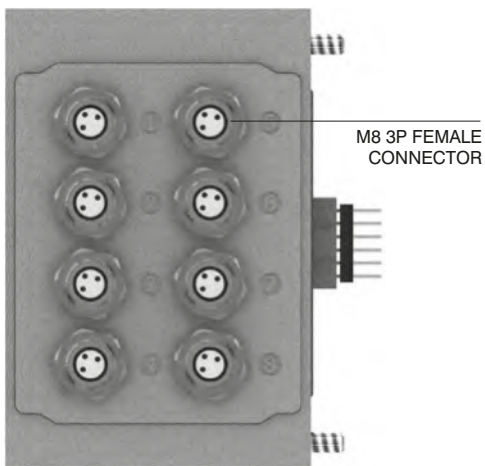
Ordering code

5200.08

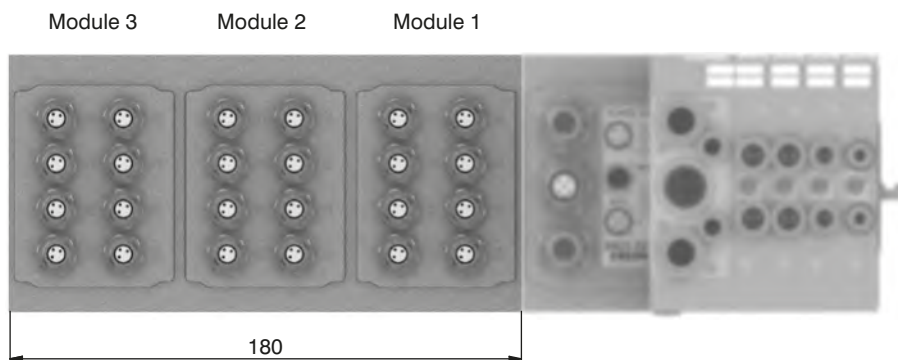


1 AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout :



PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND





Socket for Power Supply
STRAIGHT CONNECTOR
M12A 4P FEMALE

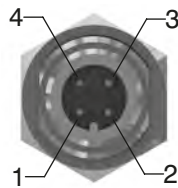
Ordering code

5312A.F04.00



POWER SUPPLY connector

Upper view
Slave connector

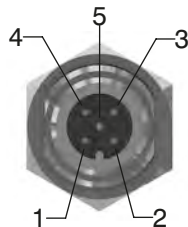


PIN	DESCRIPTION
1	+24 VDC Node
2	
3	0 V
4	+24 VDC Outputs

Socket for Bus CANopen®
STRAIGHT CONNECTOR
M12B 5P FEMALE

Ordering code

5312A.F05.00



NETWORK connectors

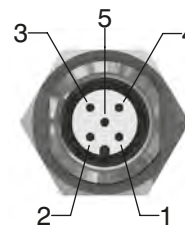
PIN	DESCRIPTION
1	(CAN_SHIELD)
2	(CAN_V+)
3	CAN_GND
4	CAN_H
5	CAN_L

Upper view
Slave connector

Plug for Bus CANopen®
STRAIGHT CONNECTOR
M12A 5P MALE

Ordering code

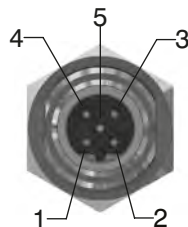
5312A.M05.00



Socket for Bus PROFIBUS
STRAIGHT CONNECTOR
M12B 5P FEMALE

Ordering code

5312B.F05.00



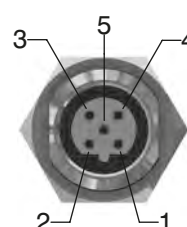
Upper view
Slave connector

PIN	DESCRIPTION
1	Power Supply
2	A-line
3	DGND
4	B-line
5	SHIELD

Plug for Bus PROFIBUS
STRAIGHT CONNECTOR
M12B 5P MALE

Ordering code

5312B.M05.00



Plug for Input module
STRAIGHT CONNECTOR
M8 3P MALE

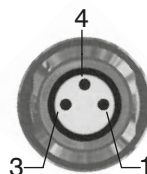
Ordering code

5308A.M03.00



INPUT connectors

Upper view
Slave connector



PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND

M12 plug

Ordering code

5300.T12



Plugs

M8 plug

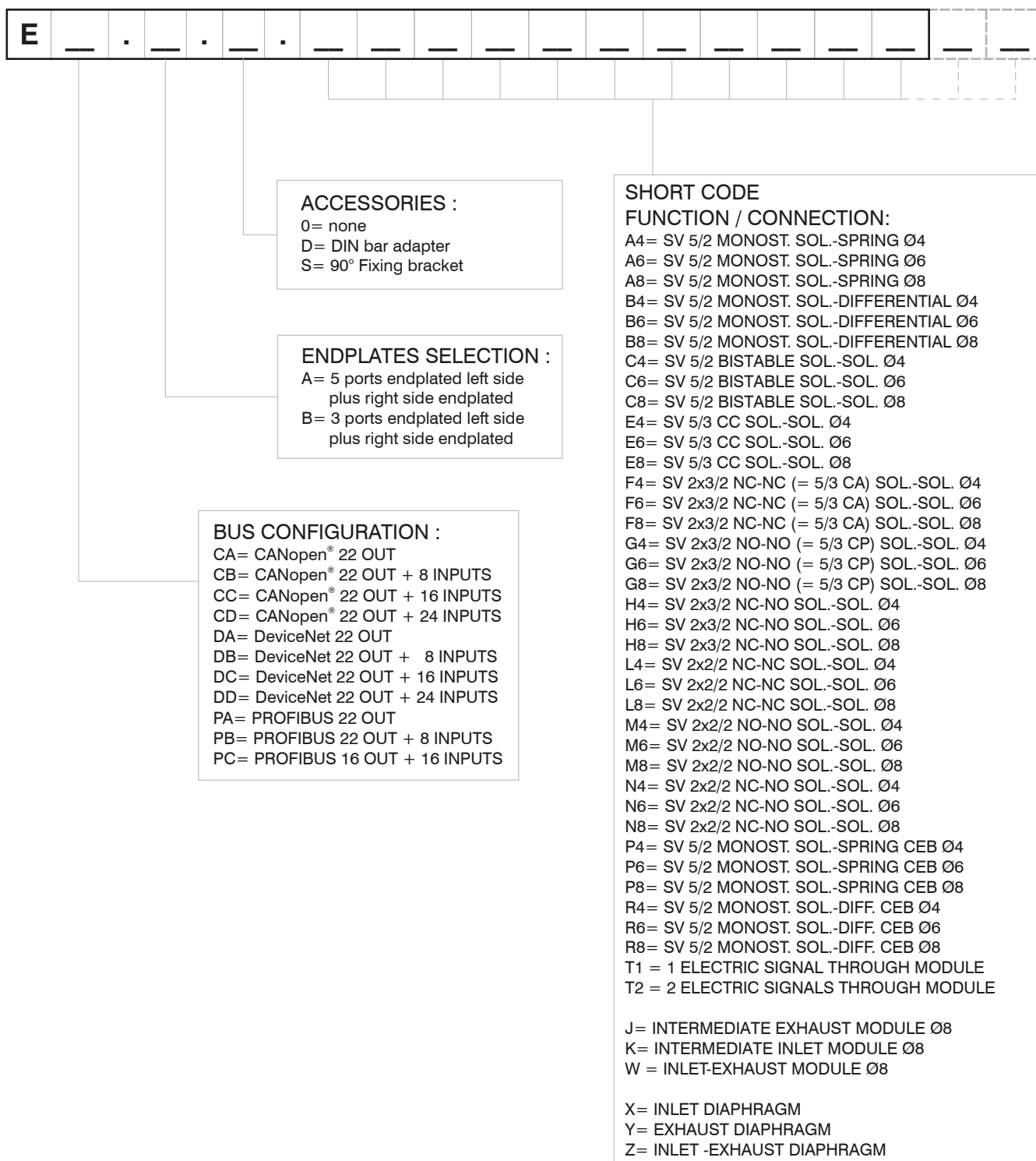
Ordering code

5300.T08



Manifold layout configuration complete with Serial systems

1
AIR DISTRIBUTION



NOTE:

While configuring the manifold always bear in mind that the maximum number of electrical signals available is 22.

N.B. CEB = Electrical connector for bistable valves (uses two electric signals)

Intermediate supply / exhaust modules require the same space as a valve but do not use any electric signals (as the electric connector carries forward all signals received from the module immediately before).

The separation diaphragms are positioned between two modules and replace the standard seal therefore do not increase the dimension of the assembly. When using a separation diaphragm of any type, it is necessary to add, in any position between diaphragm and the manifold and plate, an extra air supply / exhaust module depending on the type of diaphragm used.



Series 2200 "OPTYMA-S"

General

Optyma32-S has been designed in order to complete the Optyma series of valves. Optyma-S, 12.5mm size, integrates all the technical features already developed and implemented on the Optima T & F such as the integrated electrical connection. Further technical specifications are:

- Flow rate: up to 550[Nl/min], using the modular base with Ø8 quick fitting tube.
- Modular base available with Ø4, Ø6, Ø8 quick fitting tube.
- The solenoid pilots are low consumption and fitted on the same side of the valve.
- Mono and bistable valves have the same dimension.
- Easy and fast assembly on the sub base thanks to the "one screw" mounting solution.
- Possibility to replace a valve without the need of disconnecting the pneumatic pipes.
- Electrical and pneumatic connections positioned on the same side.
- Possibility to operate with different pressures and vacuum.
- Management of 32 electrical signals, (16 bi-stable or any combination off mono and bi-stable vales up to max 32 signals).
- The protection grade is IP65 directly integrated in the manifold components.
- The electrical connection is achieved thanks to a 37 pole connector.
- Possibility to integrate with Field Bus modules CANopen®, PROFIBUS DP, DeviceNet, EtherNet/IP, PROFINET IO RT/IRT, EtherCAT®, Powerlink and Modbus/TCP.

"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power-Directional control valves-Measurement of shifting time"

Main characteristics

One size: 12.5mm thick
Monostable and bistable valves with same dimensions
Modular subbase with two positions
Modular subbases assembled via tie rods
Quick coupling connections directly integrated in sub base
Integrated and optimized electrical connection system.
IP65 protection grade as standard

Construction characteristics

Body	Technopolymer
Operators	Technopolymer
Spacers	NBR
Spacer	Technopolymer
Spools	AISI 303 stainless steel
Springs	AISI 303 stainless steel
Pistons	Technopolymer
Piston seals	NBR

Functions

SV 5/2 MONOSTABLE SOLENOID-SPRING
SV 5/2 MONOSTABLE SOLENOID-DIFFERENTIAL
SV 5/2 BISTABLE SOLENOID-SOLENOID
SV 5/3 C.C. SOLENOID-SOLENOID
SV 2x3/2 N.C.-N.C. (=5/3 O.C.) SOLENOID-SOLENOID
SV 2x3/2 N.O.-N.O. (=5/3 P.C.) SOLENOID-SOLENOID
SV 2x3/2 N.C.-N.O. SOLENOID-SOLENOID
SV 2x3/2 N.O.-N.C. SOLENOID-SOLENOID

Technical characteristics

Voltage	24VDC ±10% PNP (NPN and AC on request)
Pilot consumption	0,5 Watt
Pilot working pressure (12-14)	from 2,5 to 7 bar max.
Valve working pressure [1]	from vacuum to 10 bar max.
Operating temperature	from -5°C to +50°C
Protection degree	IP65
Life (standard operating conditions)	50000000
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous



Solenoid valves manifold Series 2200 "OPTYMA-S"

Solenoid - Spring

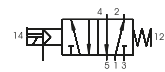
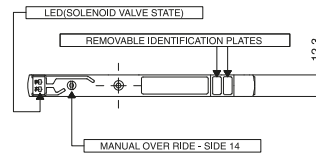
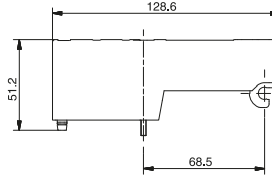
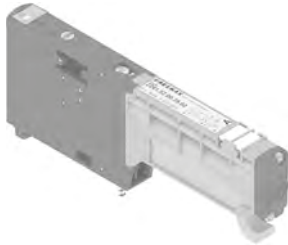
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Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	550
Response time according to ISO 12238, activation time (ms)	12
Response time according to ISO 12238, deactivation time (ms)	20

VOLTAGE	
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE "A"
Weight 67 g

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2244.01. tube Ø4= 140
Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2246.01. tubo Ø6= 400
Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2246.01. tubo Ø8= 550

Solenoid-Differential

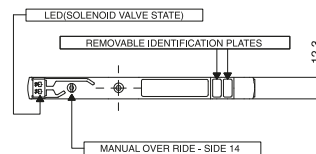
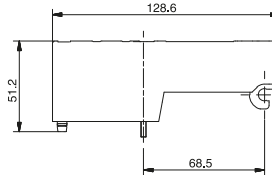
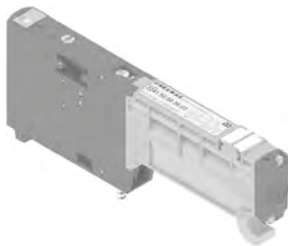
Coding: 2241.52.00.36.

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	550
Response time according to ISO 12238, activation time (ms)	20
Response time according to ISO 12238, deactivation time (ms)	25

VOLTAGE	
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE "B"
Weight 67 g

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2244.01. tube Ø4= 140
Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2246.01. tubo Ø6= 400
Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2246.01. tubo Ø8= 550

Solenoid-Solenoid

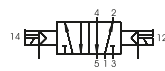
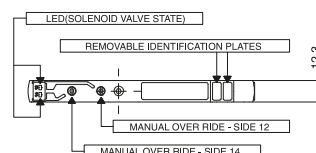
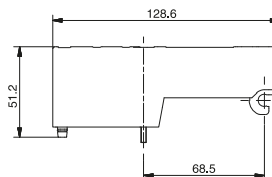
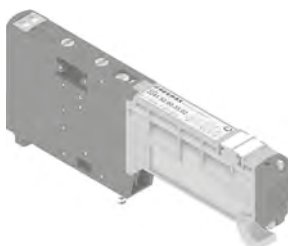
Coding: 2241.52.00.35.

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	550
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	10

VOLTAGE	
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE "C"
Weight 67 g

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2244.01. tube Ø4= 140
Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2246.01. tubo Ø6= 400
Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2246.01. tubo Ø8= 550

1 AIR DISTRIBUTION

Solenoid-Solenoid 5/3 (Closed centres)

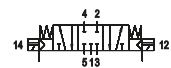
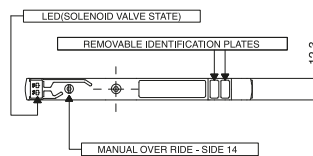
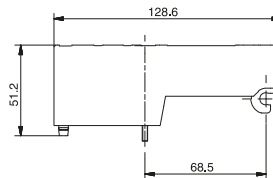
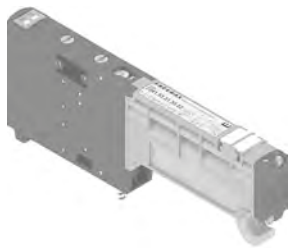
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Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	400
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	20

V	VOLTAGE
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE "E"
Weight 83 g

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2244.01. tube Ø4= 140
Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2246.01. tube Ø6= 300
Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2246.01. tubo Ø8= 400

1
AIR DISTRIBUTION

Solenoid-Solenoid 2x3/2

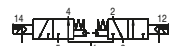
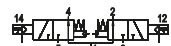
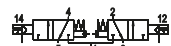
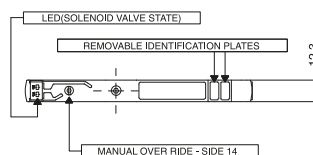
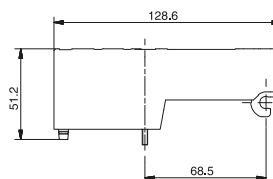
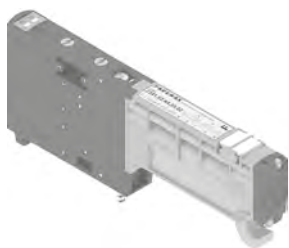
Coding: 2241.62. .35.

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	≥3+(0,2xInlet pressure)
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	420
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	25

F	FUNCTION
	44 = NC-NC (5/3 Open centres)
	45 = NC-NO (normally closed-normally open)
	54 = NO-NC (normally open-normally closed)
	55 = NO-NO (5/3 Pressured centres)
V	VOLTAGE
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE:
NC-NC (5/3 Open centres) = "F"
NO-NO (5/3 Pressured centres) = "G"
NC-NO = "H"
NO-NC = "I"
Weight 75 g

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



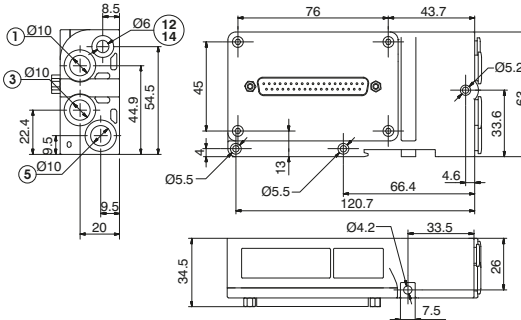
Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2244.01. tube Ø4= 140
Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2246.01. tubo Ø6= 360
Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2246.01. tubo Ø8= 420

Left Endplates

Coding: 2240.02.0

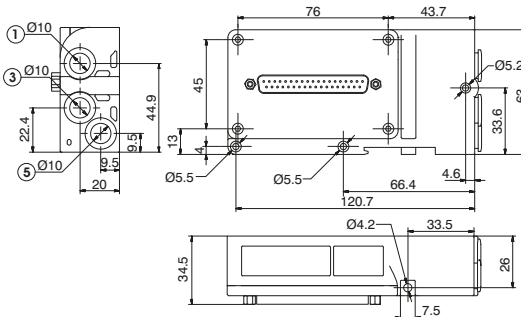
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10 (External pilot base) 2,5-7 (Self-feeding base)
Pressure range (bar)	2,5 ÷ 7 (External pilot base)
Temperature °C	-5 ÷ +50

VERSION	
02	= External feeding
12	= Self-feeding
ELECTRICAL CONNECTION	
37P	= Connectors 37 poles
PNP	
25P	= Connectors 25 poles
PNP	
37N	= Connectors 37 poles
NPN	
25N	= Connectors 25 poles
NPN	
37A	= Connectors 37 poles
AC	
25A	= Connectors 25 poles
AC	



Weight 174 g
12/14 separated from port 1

2240.02.0



Weight 174 g
12/14 connected to port 1

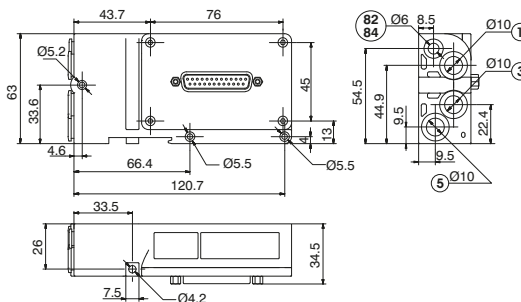
2240.12.0

Right Endplates

Coding: 2240.03.0

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50

ELECTRICAL CONNECTION	
00	= Electrical connection
25P	= Connectors 25 poles

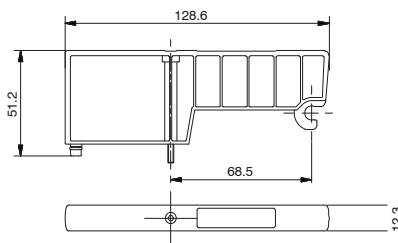


Weight 147 g
PORT 82/84= DO NOT PRESSURIZE, SOLENOID PILOTS EXHAUST

Closing plate

Coding: 2240.00

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50



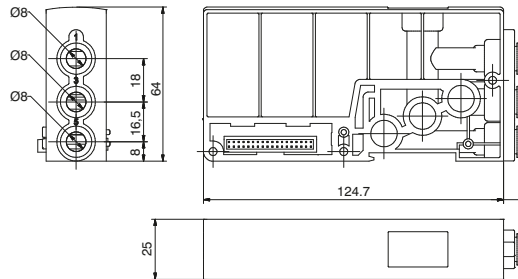
Weight 30 g
SHORT FUNCTION CODE "T"

1 AIR DISTRIBUTION

Intermediate Inlet/Exhaust module

Coding: 2240.10

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50



Weight 105 g
SHORT FUNCTION CODE "W"

Modular base (2 places)

Coding: 224C.F.V

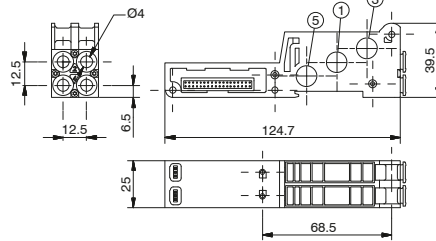
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50



2244.C.F.V

Weight 75 g

SHORT FUNCTION CODE "3" (Monostable) Opened ports
SHORT FUNCTION CODE "33" (Monostable) Ports 1-5 separated
SHORT FUNCTION CODE "34" (Monostable) Ports 1-3 separated
SHORT FUNCTION CODE "35" (Monostable) Port 5 separated
SHORT FUNCTION CODE "36" (Monostable) Separated ports
SHORT FUNCTION CODE "37" (Monostable) Port 1 separated
SHORT FUNCTION CODE "38" (Monostable) Ports 3-5 separated
SHORT FUNCTION CODE "39" (Monostable) Port 3 separated



SHORT FUNCTION CODE "4" (Bistable) Opened ports
SHORT FUNCTION CODE "43" (Bistable) Ports 1-5 separated
SHORT FUNCTION CODE "44" (Bistable) Ports 1-3 separated
SHORT FUNCTION CODE "45" (Bistable) Port 5 separated
SHORT FUNCTION CODE "46" (Bistable) Separated ports
SHORT FUNCTION CODE "47" (Bistable) Port 1 separated
SHORT FUNCTION CODE "48" (Bistable) Ports 3-5 separated
SHORT FUNCTION CODE "49" (Bistable) Port 3 separated

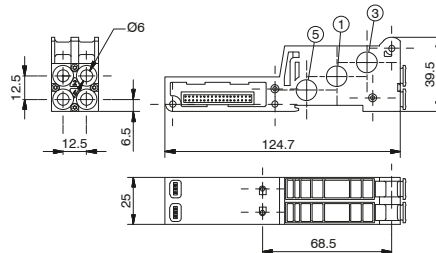
TUBE DIAMETER
4 = Ø4
6 = Ø6
8 = Ø8
FUNCTION
01 = Opened ports
03 = Ports 1-5 separated
04 = Ports 1-3 separated
05 = Ports 5 separated
06 = Separated ports
07 = Ports 1 separated
08 = Ports 3-5 separated
09 = Ports 3 separated
VERSION
M = for Monostable SV
B = for Bistable SV



2246.C.F.V

Weight 75 g

SHORT FUNCTION CODE "5" (Monostable) Opened ports
SHORT FUNCTION CODE "53" (Monostable) Ports 1-5 separated
SHORT FUNCTION CODE "54" (Monostable) Ports 1-3 separated
SHORT FUNCTION CODE "55" (Monostable) Port 5 separated
SHORT FUNCTION CODE "56" (Monostable) Separated ports
SHORT FUNCTION CODE "57" (Monostable) Port 1 separated
SHORT FUNCTION CODE "58" (Monostable) Ports 3-5 separated
SHORT FUNCTION CODE "59" (Monostable) Port 3 separated



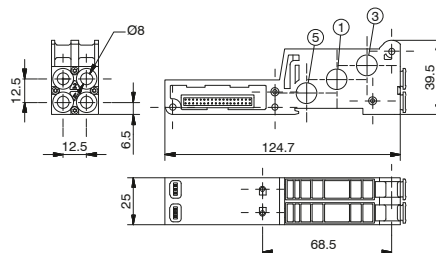
SHORT FUNCTION CODE "6" (Bistable) Opened ports
SHORT FUNCTION CODE "63" (Bistable) Ports 1-5 separated
SHORT FUNCTION CODE "64" (Bistable) Ports 1-3 separated
SHORT FUNCTION CODE "65" (Bistable) Port 5 separated
SHORT FUNCTION CODE "66" (Bistable) Separated ports
SHORT FUNCTION CODE "67" (Bistable) Port 1 separated
SHORT FUNCTION CODE "68" (Bistable) Ports 3-5 separated
SHORT FUNCTION CODE "69" (Bistable) Port 3 separated



2248.C.F.V

Weight 75 g

SHORT FUNCTION CODE "7" (Monostable) Opened ports
SHORT FUNCTION CODE "73" (Monostable) Ports 1-5 separated
SHORT FUNCTION CODE "74" (Monostable) Ports 1-3 separated
SHORT FUNCTION CODE "75" (Monostable) Port 5 separated
SHORT FUNCTION CODE "76" (Monostable) Separated ports
SHORT FUNCTION CODE "77" (Monostable) Port 1 separated
SHORT FUNCTION CODE "78" (Monostable) Ports 3-5 separated
SHORT FUNCTION CODE "79" (Monostable) Port 3 separated



SHORT FUNCTION CODE "8" (Bistable) Opened ports
SHORT FUNCTION CODE "83" (Bistable) Ports 1-5 separated
SHORT FUNCTION CODE "84" (Bistable) Ports 1-3 separated
SHORT FUNCTION CODE "85" (Bistable) Port 5 separated
SHORT FUNCTION CODE "86" (Bistable) Separated ports
SHORT FUNCTION CODE "87" (Bistable) Port 1 separated
SHORT FUNCTION CODE "88" (Bistable) Ports 3-5 separated
SHORT FUNCTION CODE "89" (Bistable) Port 3 separated

Polyethylene Silencer Series SPL-R

Coding: SPLR. **D**



TUBEDIAMETER	
D	6 = 6 mm
	10 = 10 mm

Diaphragm plug

Coding: 2230.17



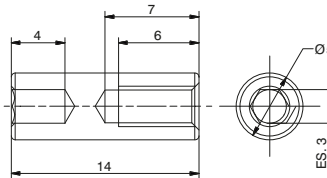
Weight 6,5 g

Tie-rod M3

Coding: 2240.KD.00

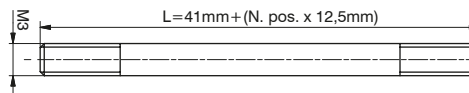


The Kit includes 6 pieces



Tie-rod M3

Coding: 2240.KT. **P**



The Kit includes 3 pieces

N. POSITIONS	
02	= Nr. 2 Positions
04	= Nr. 4 Positions
06	= Nr. 6 Positions
08	= Nr. 8 Positions
10	= Nr. 10 Positions
12	= Nr. 12 Positions
14	= Nr. 14 Positions
P 16	= Nr. 16 Positions
18	= Nr. 18 Positions
20	= Nr. 20 Positions
22	= Nr. 22 Positions
24	= Nr. 24 Positions
26	= Nr. 26 Positions
28	= Nr. 28 Positions
30	= Nr. 30 Positions
32	= Nr. 32 Positions

Cable complete with connector, 25 Poles IP65

Coding: 2300.25. **L.C**



CABLE LENGTH	
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres

Cable complete with connector, 37 Poles IP65

Coding: 2400.37. **L.C**



CABLE LENGTH	
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres

Cable complete with connector, 25 Poles IP65

Coding: 2400.25. **L.25**



CABLE LENGTH	
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters



General :

Using the 2240.03.25P output terminal it is possible to make any electrical signals not used by valves available on a 25 sub-D female connector at the right end of the manifold.
It is possible to then join a multi-core cable to link to the next manifold, or connect directly to one or two I/O modules.
The I/O modules can accept input or output signals, depending upon what is connected.

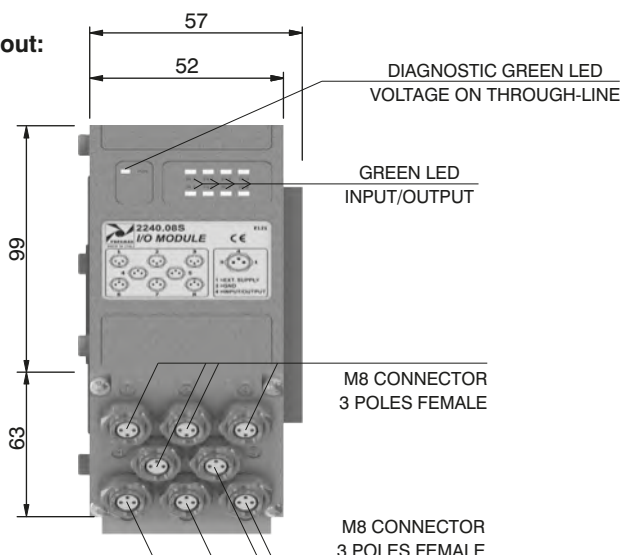
Please note: If the manifold is connected by a multi-core connection, each connection can be used as either an input or an output, while if the manifold is connected to a serial node the connections can only be used as an output.

It is possible to connect the manifold to up to two I/O modules.

Each I/O module includes 8 diagnostic LEDs which indicate the presence of an Input / Output signal for each connector.

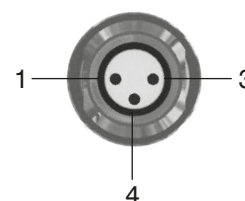
Please note: For an LED to function, a signal of at least +15VDC must be present on pin 4 of the connector. If this signal is lower, the LED will not light, this does not compromise the normal Input / Output function of the unit.

Overall dimensions and I/O layout:



Ordering code

2240.08S



PIN	DESCRIPTION
1	+24 VDC
4	INPUT/OUTPUT
3	GND

Input features:

Each connection can accept either two wire (switches, magnetic switches, pressure switches, etc.) or three wire connections (photocells, electronic end of stroke sensors, etc.) if +24VDC is required on at Pin 1 of each connector, it is possible to provide this via the through-line pin of the multi-pole connector.

I.E.:

Pin 25 of the 25 pin multi-pole connector (code 2240.02.25P or 2240.12.25P)

Pin 36-37 of the 37 pin multi-pole connector (code 2240.02.37P or 2240.12.37P)

Output features:



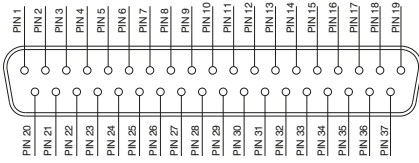
Attention: The output connections are not protected against short-circuit. Please pay attention when wiring (avoid Pin 4 being connected to Pin 3 or Pin 1).

General characteristics	Model	2240.08S
	Case	Reinforced technopolymer
	I/O Connector	M8 connector 3 poles female (IEC 60947-5-2)
	PIN 1 voltage (connector used as Input)	by the user
	PIN 4 voltage diagnosis	Green Led
	Node consumption (Outlets excluded)	7mA per each LED with 24 VDC signal
	Outlets voltage	+23,3 VDC (serial) /by the user (multipolar)
	Input voltage	Depend by the using
	Maximum outlet current	100 mA (serial) / 400 mA (multipolar)
	Maximum Input/Output	8 per module
	Multiconnector max. Current	100 mA
	Connections to manifold	Direct connection to 25 poles connector
	Maximum n. of moduls	2
	Protection degree	IP65 when assembled
Ambient temperature	from -0° to +50° C	

1
AIR DISTRIBUTION

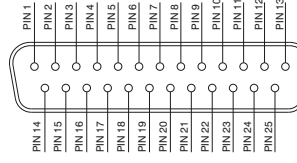
CORRESPONDENCE BETWEEN MULTI-POLE SIGNAL AND CONNECTOR

SUB-D TYPE 37 POLE MALE CONNECTOR

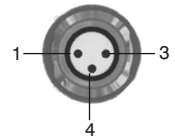


1 - 32 = SIGNALS
 33 - 35 = GND
 36 - 37 = THROUGH LINE

SUB-D TYPE 25 POLE MALE CONNECTOR



1 - 22 = SIGNALS
 23 - 24 = GND
 25 = THROUGH LINE



PIN	DESCRIPTION
1	THROUGH LINE
4	SIGNAL
3	GND

Connection modes:

The I/O module changes its operation depending on the way the manifold is controlled. There are two possible modes:

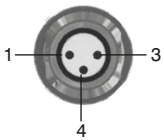
- A) Control via multi-pole connection
- B) Control via fieldbus

A) Control via multi-pole :

M8 connector used as Input:



Attention: Voltage applied to each connector is passed to multi-pole connector pin.



PIN	DESCRIPTION
1	THROUGH LINE
4	SIGNAL
3	GND

In order to use the I/O module, the correct right hand endplate with 25 pole female outlet connector must be used. (Code 2240.03.25P).

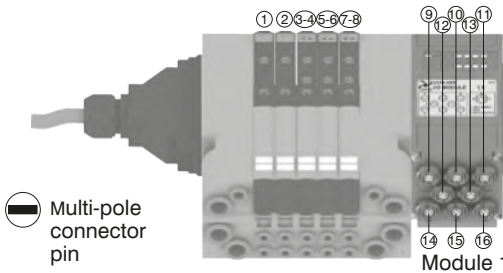


M8 connector used as Output:

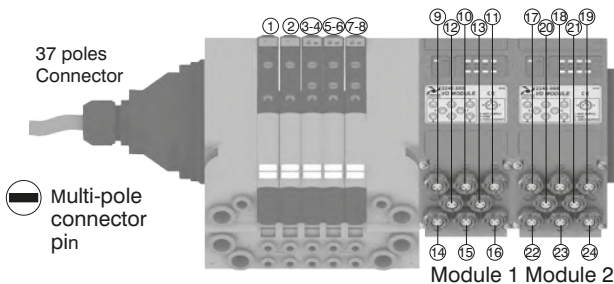
Output voltage will be the same as is applied at the multi-pole connector pin. The maximum output current depends upon the power unit used, but we recommend no more than 250mA.



Attention: Since every cable has a degree of resistance, there will always be a voltage drop depending on the cable's length, sectional area and the current.



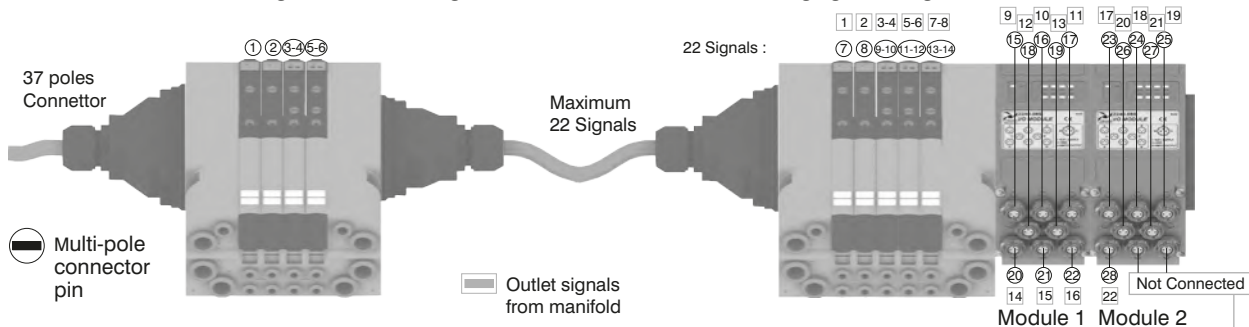
Attention: Only one more I/O module can be added.



Attention: No more additions are possible

Attention : Optyima 32-S solenoid valve manifolds permit up to 22 electrical signals that are not used by manifolds to be made available: these signals can be managed by another manifold and / or by I/O modules.

The I/O module will manage these unused signals. Connections that are not managing useful signals will remain unconnected.



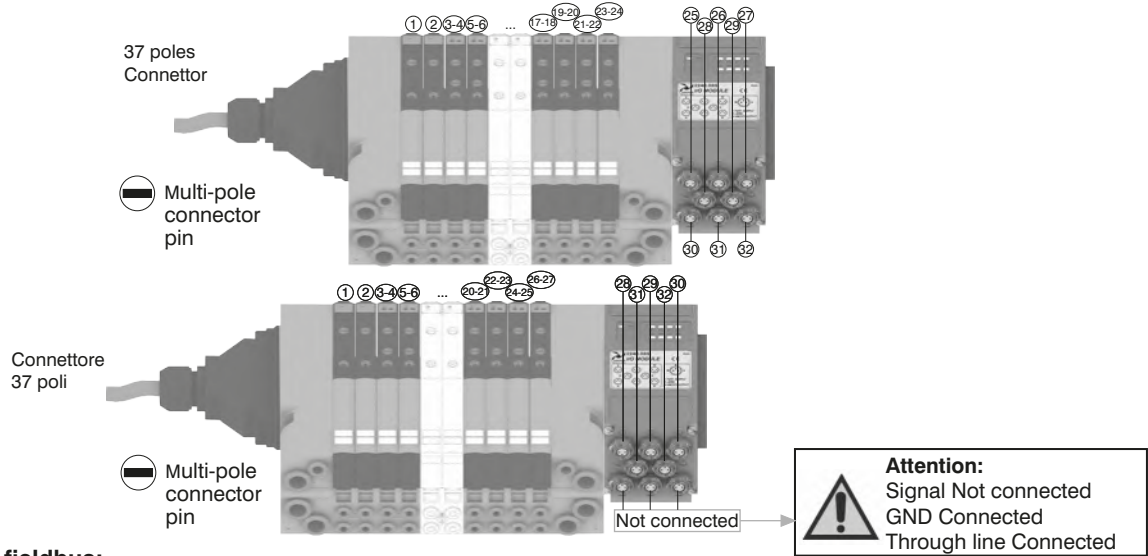
Attention: Signal Not connected
 GND Connected
 Through line Connected

Please note: this example considers a 37 pin multi-pole connector. The same configuration managed by a 25 pin multi-pole connector will stop at number 22 of multi-pole connector and at number 17 of the manifold. 20 16

AIR DISTRIBUTION 1



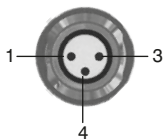
Please note: Optyma 32-S solenoid valve manifolds manage up to 32 signals. If the manifold uses more than 24 signals the I/O module will manage only the remainder. Connections that are not managing useful signals will remain unconnected.



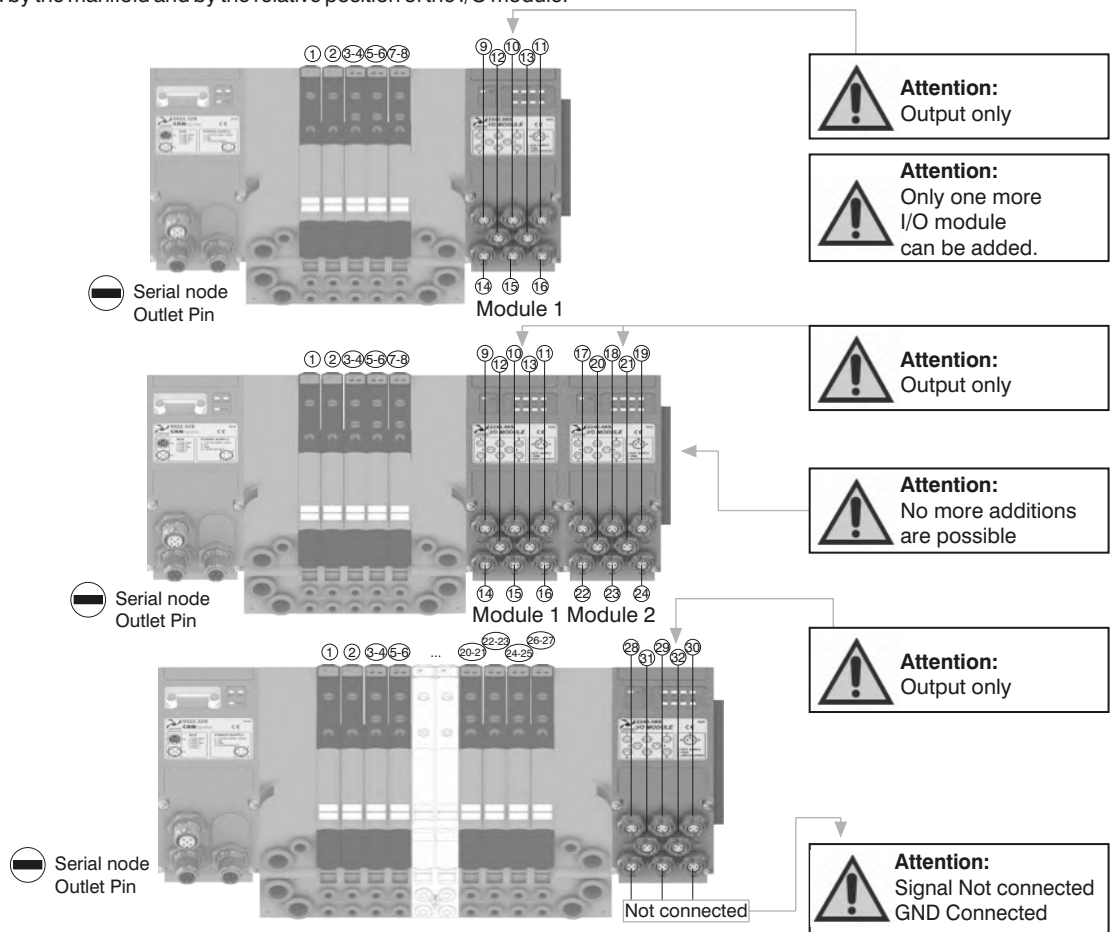
B) Control via fieldbus:

With this kind of control the I/O module can only be used as an output. Pin 1 of each connector is not connected. The output voltage will be 0.7V lower than that applied to Pin 4 of the connector.

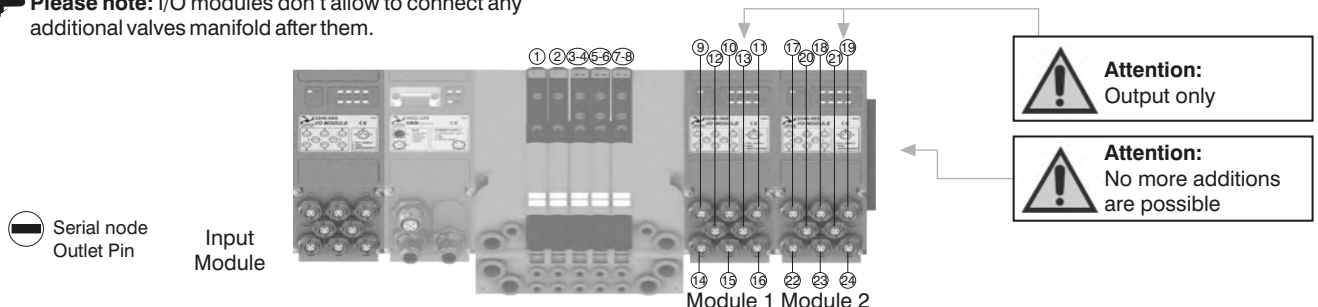
The maximum output current for each output is 100mA. The correspondence between control byte and each single output depends on how many electrical signals are used by the manifold and by the relative position of the I/O module.



PIN	DESCRIPTION
1	NOT CONNECTED
4	SIGNAL
3	GND



Please note: I/O modules don't allow to connect any additional valves manifold after them.





Electrical connection

The electrical connection is made using a 37 pin connector and can manage up to 32 electrical signals. Alternatively a 25 pin connector can be used which is suitable for up to 22 electrical signals. The distributions of the electrical signals between sub-bases achieved thanks to a dedicated electrical connector positioned in each sub-base which diverts the signals needed to operate the solenoid pilots of the valve mounted on the sub-base and passing unused signals forward to the next base.

The Optyima-S sub-bases are designed to carry two valves and are available in the following configurations:

Sub-base configurations	Signals used for the single position	Total number of used signal
Sub-base for 2 bistable valves	2 signals used for the first position	4
	2 signals used for the second position	
Sub-base for 2 monostable valves	1 signal used for the first position	2
	1 signal used for the second position	

Sub-base for 2 bistable valves

On the sub base for 2 bistable valves the first electrical signal is used to actuate the solenoid pilot on side 14 of the first position, the second signal is used to actuate the solenoid pilot on side 12 of the first position. Each sub base uses 4 electric signals. The same layout applies to the following position therefore the third signal is used to actuate the solenoid pilot on side 14 of the second position and the fourth signal is used to actuate the solenoid pilot on side 12 of the second position. The remaining signals are transferred downstream.

On a bistable sub base it is possible to mount both bistable or monostable valves (in the second case 1 electrical signal for each valve is wasted). This solutions enables the user to change the manifold layout without the need to re-configure the output correspondence on the PLC. The use of bistable sub-bases reduces the maximum number of valves that can be mounted on the manifold: If the 37 pole connector is used the maximum number of valves is 16 If the 25 pole connector is used the maximum number of valves is 10.

Sub-base for 2 monostable valves

On the sub base for 2 monostable valves the first electrical signal is used to actuate the solenoid pilot on side 14 of the first position, the second signal is used to actuate the solenoid pilot on side 12 of the second position. Each sub base uses 2 electric signals. The remaining signals are transferred downstream. On a monostable sub base it is possible to mount only monostable valves (shoud a bistable valve be mounted on a monostable sub base it will not be possible to actuate the solenoid pilot on side 12). This solutions enables the user to maximise the manifold lay out using all the electrical signals available.

If the 37 pole connector is used the maximum number of valves is 32
 If the 25 pole connector is used the maximum number of valves is 22



Note:

Monostable valves, which are fitted with only one solenoid pilot can be mounted on both monostable or bistable sub bases.
 Bistable valves ,5/3; 2x3/2;2x2/2, which are fitted with 2 solenoid pilots and therefore always use two electrical signals must always be mounted on bistable subbases.

Additional exhaust and air supply modules:

The Additional exhaust and air supply module is fitted with a dedicated electrical connector which does not use any electric signal but simply carries forward all signals which have not been used by the valves mounted before it. This enables its use in any position of the manifold.

1 AIR DISTRIBUTION



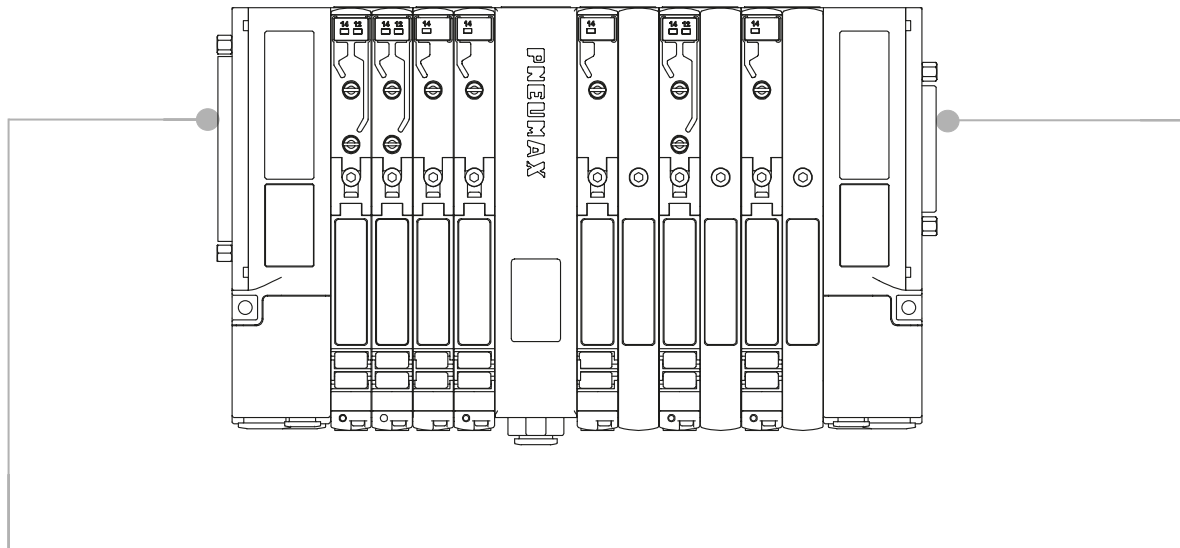
Unused electrical signals

The electrical signals which have not been used in the manifold can be made available by using the end plate fitted with the 25 pole connector.

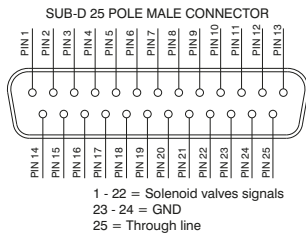
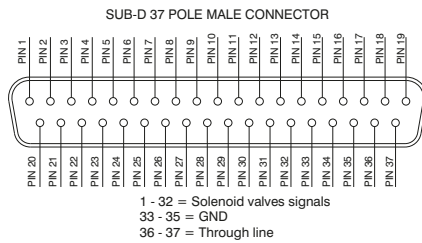
The number of electric signals available depends on the type of connector mounted on the inlet plate and on the number of signals used in the manifold:

- 37 pole Inlet connector : N. of outputs= 32 – used signals (max 22)
- 25 pole Inlet connector : N. of outputs= 22 – used signals

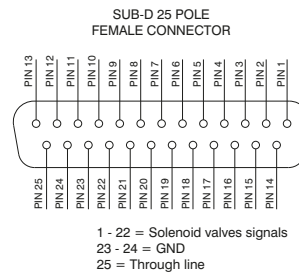
Here are some examples of possible configurations and the corresponding pin layout both on the inlet and end plate :



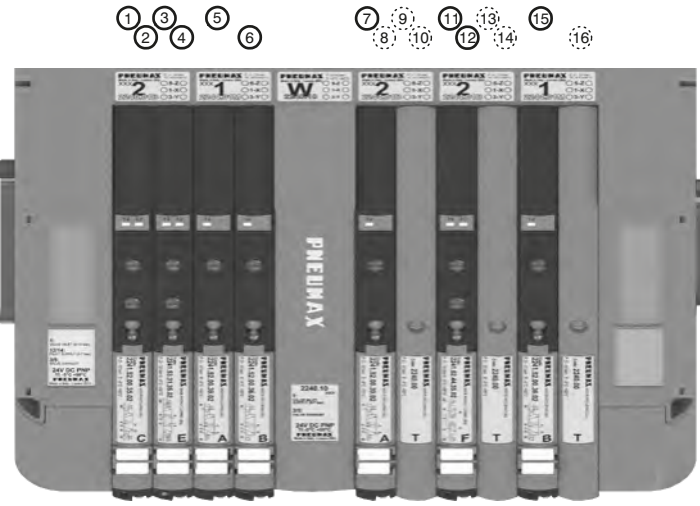
INLET ELECTRIC CONNECTIONS



OUTLET ELECTRIC CONNECTIONS (IF PRESENT)



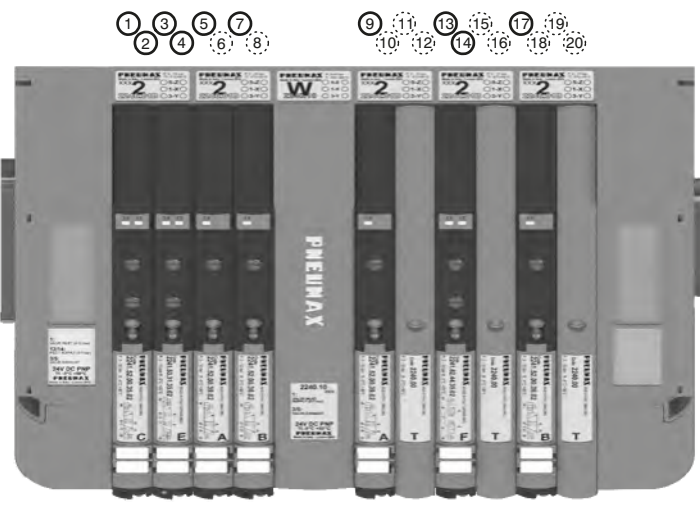
37 PIN Connector correspondence for valves assembled on mixed bases



- PIN 1 = PILOT 14 SV POS.1
- PIN 2 = PILOT 12 SV POS.1
- PIN 3 = PILOT 14 SV POS.2
- PIN 4 = PILOT 12 SV POS.2
- PIN 5 = PILOT 14 SV POS.3
- PIN 6 = PILOT 14 SV POS.4
- PIN 7 = PILOT 14 SV POS.6
- PIN 8 = NOT CONNECTED
- PIN 9 = NOT CONNECTED
- PIN 10 = NOT CONNECTED
- PIN 11 = PILOT 14 SV POS.8
- PIN 12 = PILOT 12 SV POS.8
- PIN 13 = NOT CONNECTED
- PIN 14 = NOT CONNECTED
- PIN 15 = PILOT 14 SV POS.10
- PIN 16 = NOT CONNECTED

POS.	1	2	3	4	5	6	7	8	9	10	11
------	---	---	---	---	---	---	---	---	---	----	----

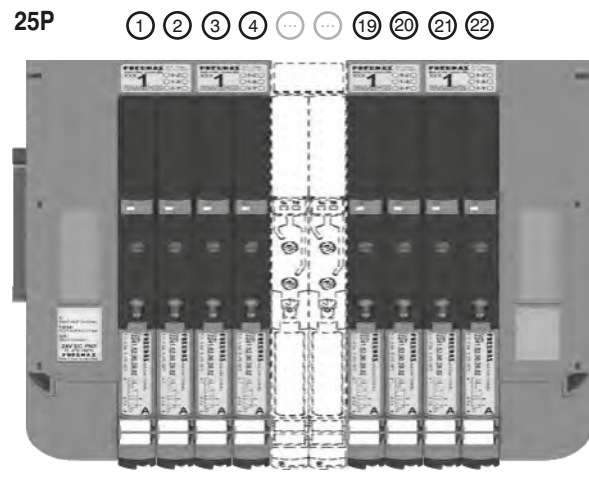
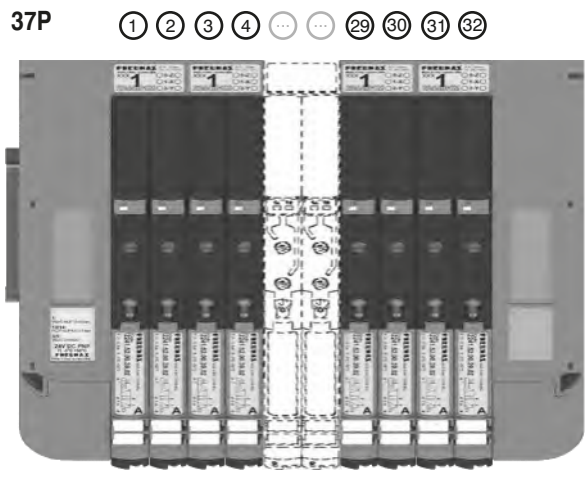
37 PIN Connector correspondence for manifold mounted on bases for bistable valves



- PIN 1 = PILOT 14 SV POS.1
- PIN 2 = PILOT 12 SV POS.1
- PIN 3 = PILOT 14 SV POS.2
- PIN 4 = PILOT 12 SV POS.2
- PIN 5 = PILOT 14 SV POS.3
- PIN 6 = NOT CONNECTED
- PIN 7 = PILOT 14 SV POS.4
- PIN 8 = NOT CONNECTED
- PIN 9 = PILOT 14 SV POS.6
- PIN 10 = NOT CONNECTED
- PIN 11 = NOT CONNECTED
- PIN 12 = NOT CONNECTED
- PIN 13 = PILOT 14 SV POS.8
- PIN 14 = PILOT 12 SV POS.8
- PIN 15 = NOT CONNECTED
- PIN 16 = NOT CONNECTED
- PIN 17 = PILOT 14 SV POS.10
- PIN 18 = NOT CONNECTED
- PIN 19 = NOT CONNECTED
- PIN 20 = NOT CONNECTED

POS.	1	2	3	4	5	6	7	8	9	10	11
------	---	---	---	---	---	---	---	---	---	----	----

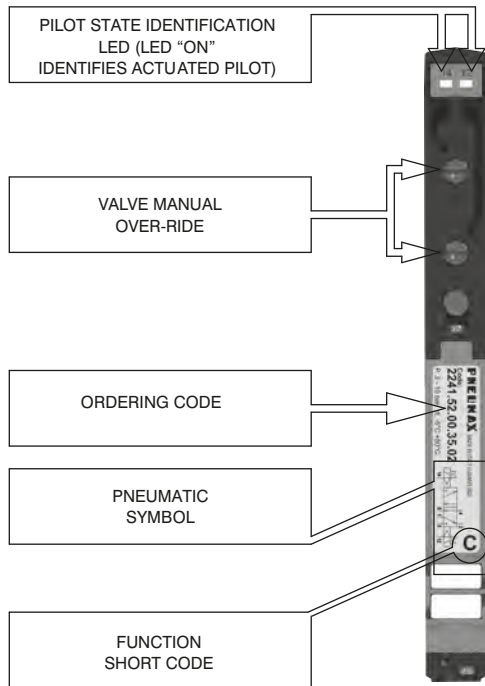
37 PIN Connector correspondence for manifold for 32 position manifold with monostable valves on double bases



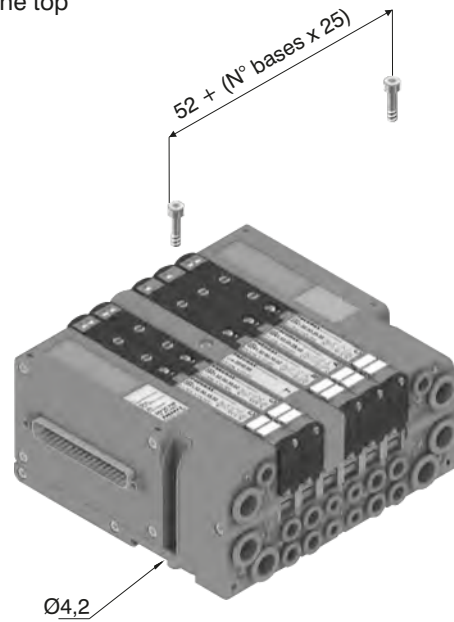
POS.	1	2	3	4	...	29	30	31	32
------	---	---	---	---	-----	----	----	----	----

POS.	1	2	3	4	...	19	20	21	22
------	---	---	---	---	-----	----	----	----	----

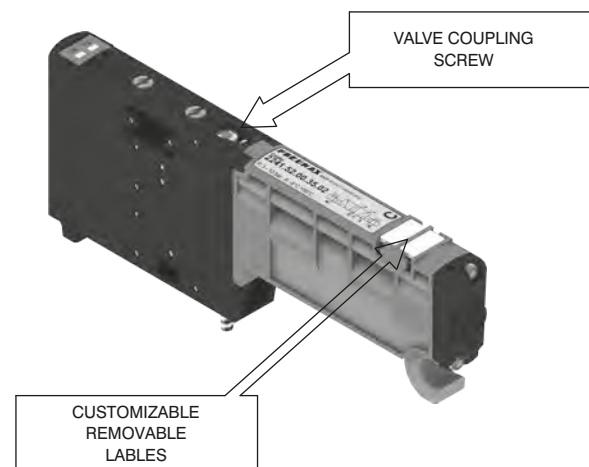
1
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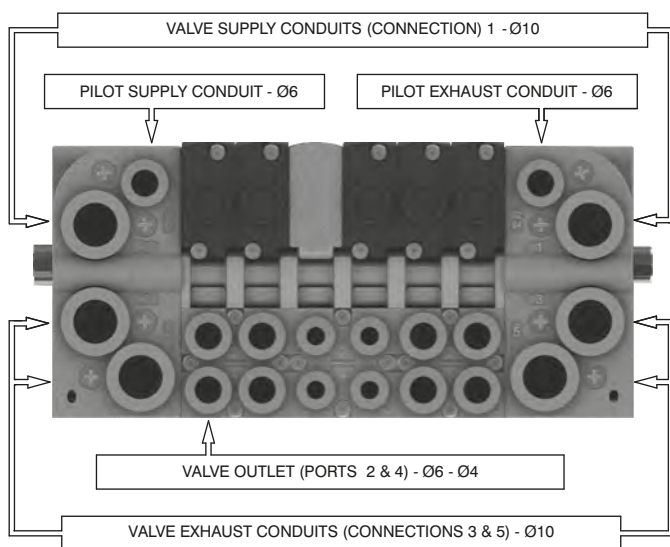
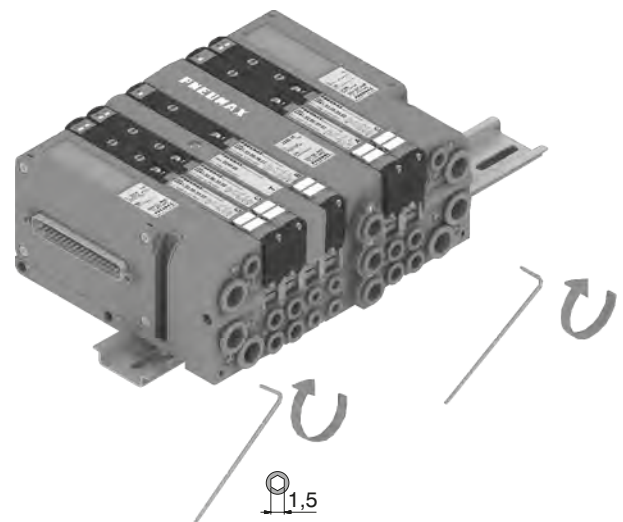
From the top



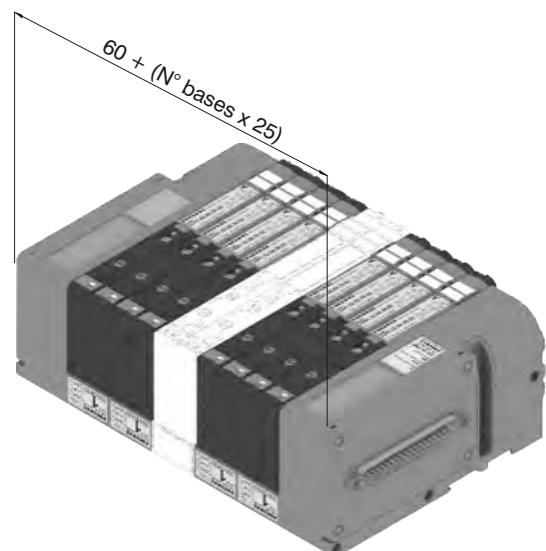
1
AIR DISTRIBUTION



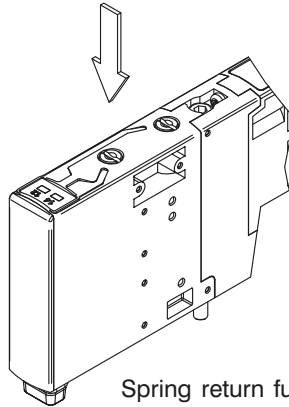
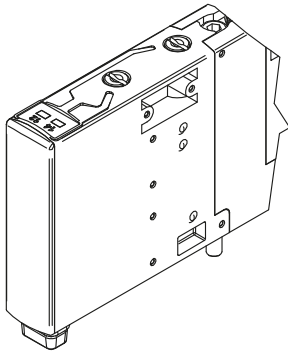
DIN rail fixing



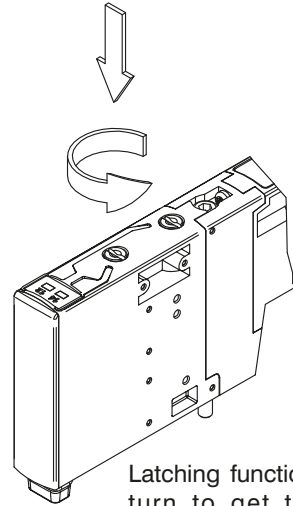
Maximum possible size
According to valves used



Manual override actuation



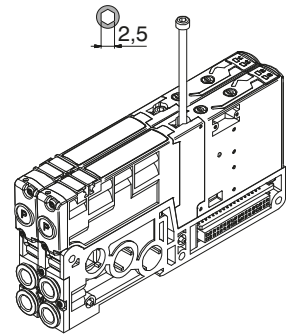
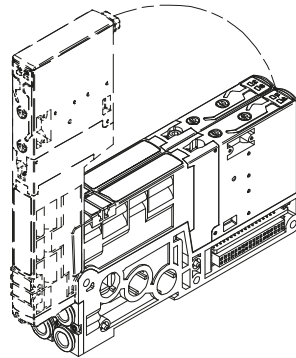
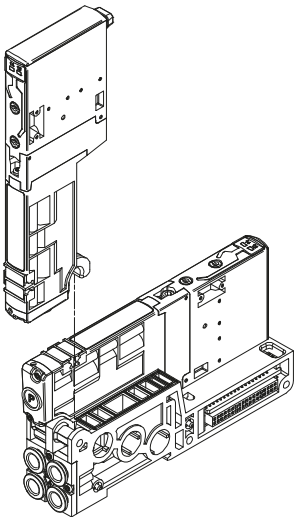
Spring return function: push to actuate (when released it moves back to the original position).



Latching function: push and turn to get the latching function

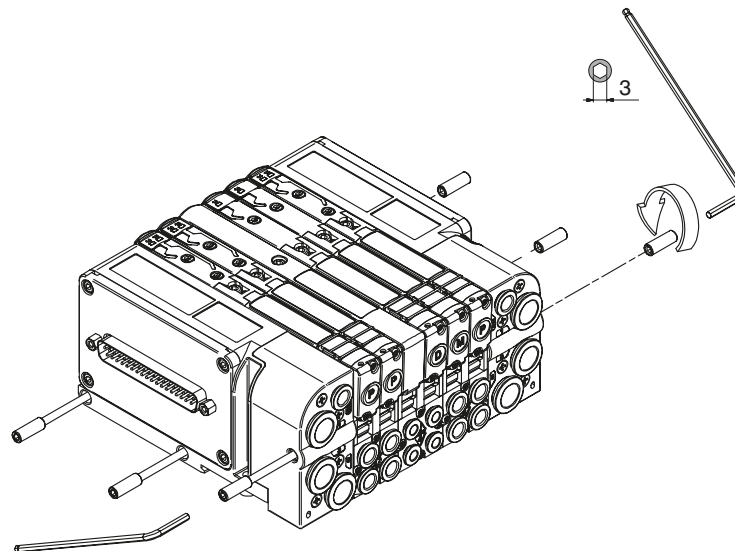
NOTE : It is strongly suggested to replace the original position after using

Valve Installation



Torque moment (Nm) : 0,8

Manifold assembly



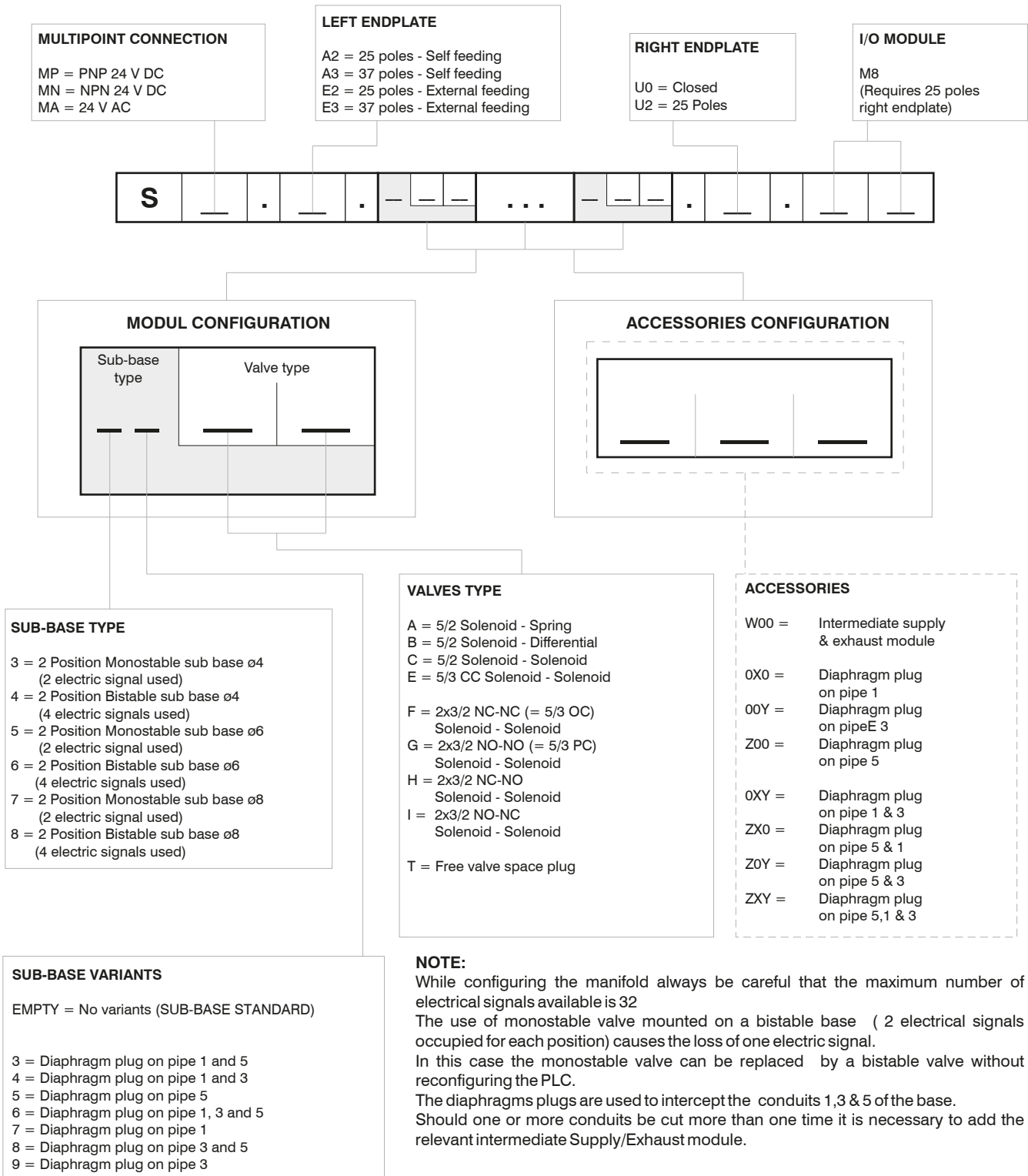
Min. torque moment : 2 Nm
Max. torque moment: 2,5 Nm

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1



Manifold Layout configuration



1
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Series 2200 OPTYMA-S solenoid valve manifolds managed by multipoint connection are "well tried components"

	Well-tryed component	- The product is a well-tryed product for a safety-related application according to ISO 13849-1. - The relevant basic and well-tryed safety principles according ISO 13849-2 for this product are fulfilled.
B_{10d}	50.000.000	- The suitability of the product for a precise application must be verified and confirmed by the user.

General:

CANopen® module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
 Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.

CANopen® module recognizes automatically the presence of the Input modules on power on.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus CANopen® is possible via 2 M12 5P male - female circular connectors; these two are connected in parallel and according to CiA Draft Recommendation 303-1 (V. 1.3 : 30 December 2004).

Transmission speed can be set by 3 dip-switches.

The node address can be set by 6 dip-switches using BCD numeration.

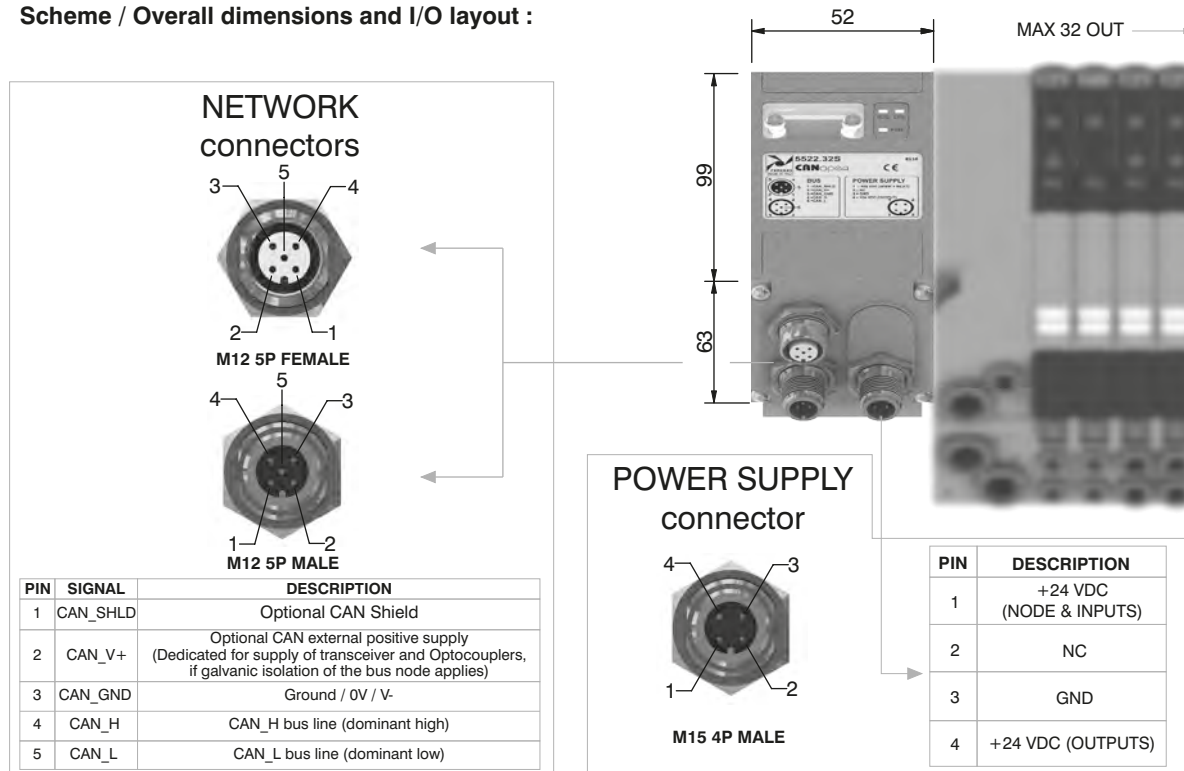
The module includes an internal terminating resistance that can be activated by a dip-switch.

Ordering code

5522.32S



Scheme / Overall dimensions and I/O layout :



Technical characteristics

Model	5522.32S	
Specifications	CiA Draft Standard Proposal 301 V 4.10 (15 August 2006)	
Case	Reinforced technopolymer	
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	30 mA
	Power supply diagnosis	Green LED PWR
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 5P connectors male-female Type A (IEC 60947-5-2)
	Baud rate	10 - 20 - 50 - 125 - 250 - 500 - 800 - 1000 Kbit/s
	Addresses, possible numbers	From 1 to 63
	Max nodes in net	64 (slave + master)
	Bus maximum recommended length	100 m at 500 Kbit/s
	Bus diagnosis	Green LED + Red LED
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General:

DeviceNet module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.

DeviceNet module recognizes automatically the presence of the Input modules on power on.

Regardless of the number of Input modules connected, the managable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus DeviceNet is possible via 2 M12 5P male - female circular connectors; these two are connected in parallel and according to DeviceNet Specifications Volume I, release 2.0.

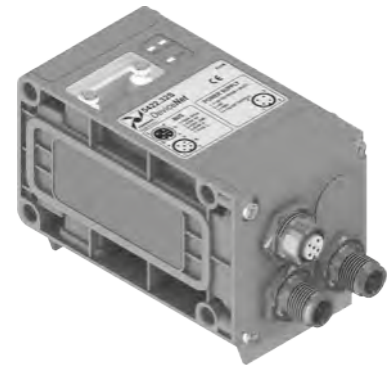
Transmission speed can be set by 3 dip-switches.

The node address can be set by 6 dip-switches using BCD numeration.

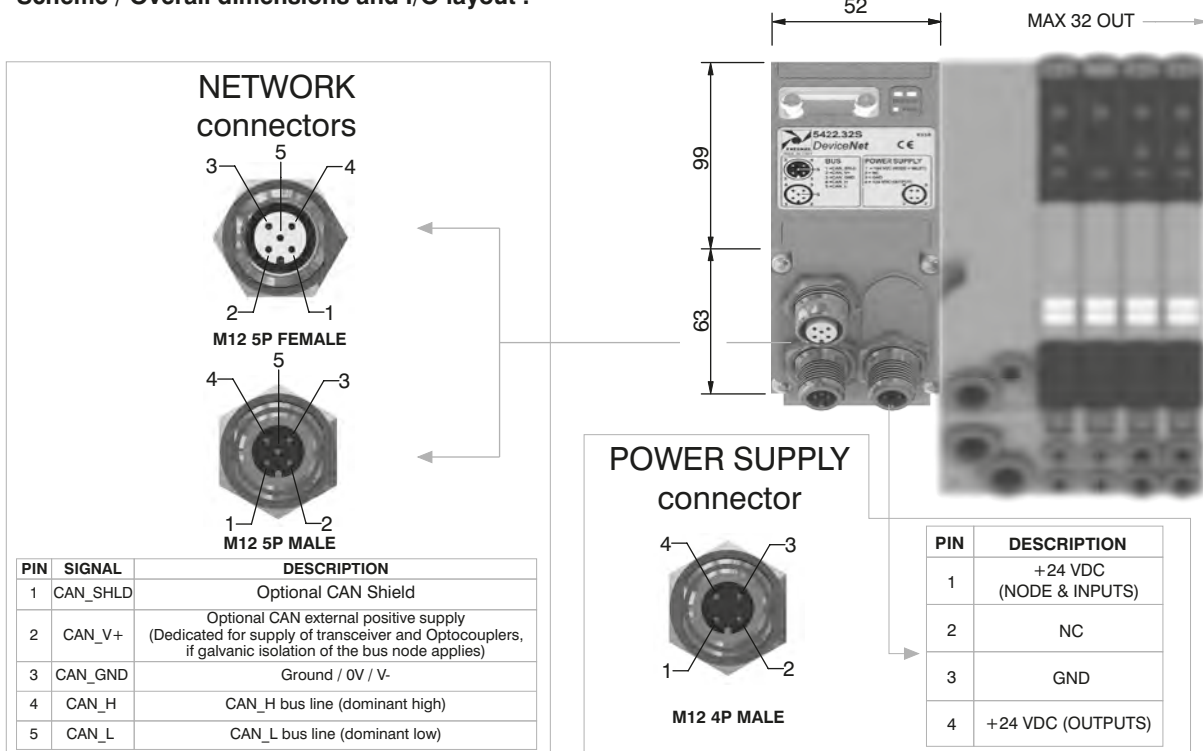
The module includes an internal terminating resistance that can be activated by a dip-switch.

Ordering code

5422.32S



Scheme / Overall dimensions and I/O layout :



Technical characteristics

Model	5422.32S	
Specifications	DeviceNet Specifications Volume I, release 2.0.	
Case	Reinforced technopolymer	
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	30 mA
	Power supply diagnosis	Green LED PWR
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 5P connectors male-female Type A (IEC 60947-5-2)
	Baud rate	125 - 250 - 500 Kbit/s
	Addresses, possible numbers	From 1 to 63
	Max nodes in net	64 (slave + master)
	Bus maximum recommended length	100 m at 500 Kbit/s
	Bus diagnosis	Green LED + Red LED
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General:

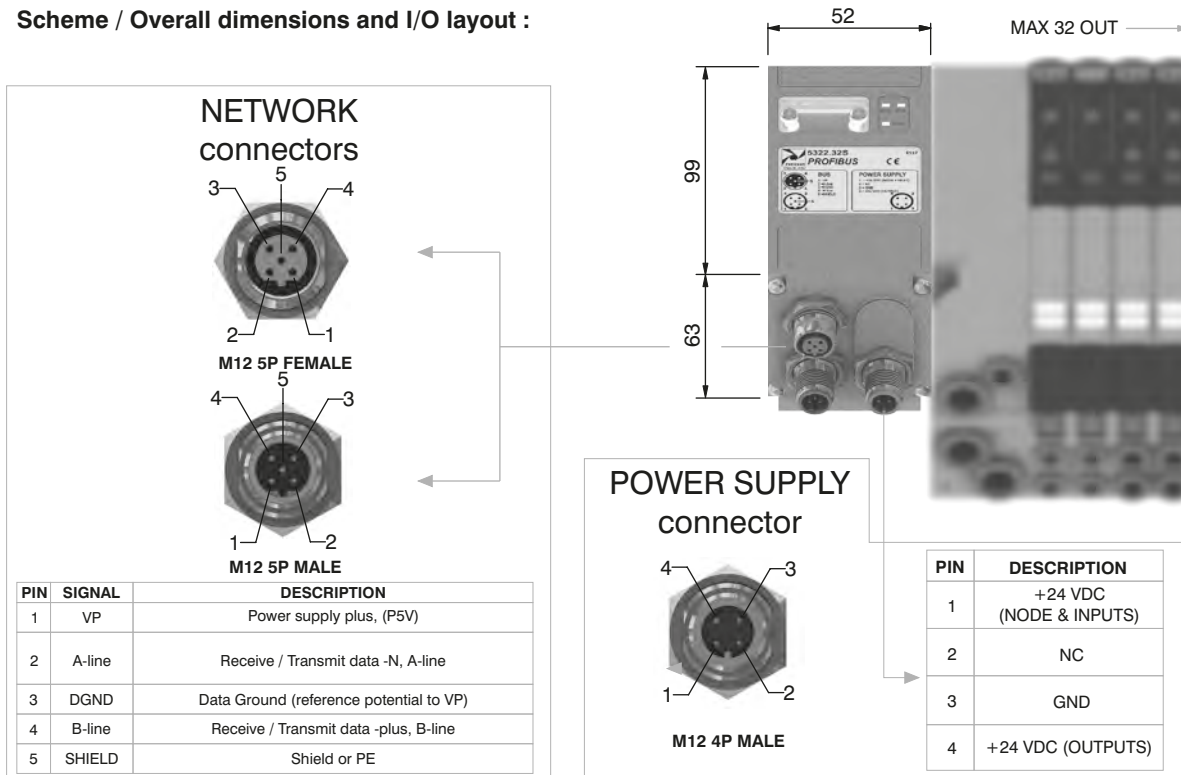
PROFIBUS DP module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
 Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
 The node can be easily installed also on solenoid valves manifold already mounted on equipment.
 Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.
 PROFIBUS DP module recognizes automatically the presence of the Input modules on power on.
 Regardless of the number of Input modules connected, the managable solenoid valves are 32.
 Node power supply is made by a M12 4P male circular connector.
 The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs mantaining powered the node and inputs, if present.
 Connection to Bus PROFIBUS DP is possible via 2 M12 type B 5P male - female circular connectors; these two are connected in parallel and according to PROFIBUS Interconnection Technology (Version 1.1 : August 2001).
 The node address can be set using BCD numeration: 4 dip-switches for the units and 4 dip-switches for the tens.
 The module includes an internal terminating resistance that can be activated by a dip-switch.

Ordering code

5322.32S



Scheme / Overall dimensions and I/O layout :



Technical characteristics

Model	5322.32S
Specifications	PROFIBUS DP
Case	Reinforced technopolymer
Power supply	Power supply connection M12 4P male connector (IEC 60947-5-2)
	Power supply voltage +24 VDC +/- 10%
	Node consumption (without inputs) 50 mA
	Power supply diagnosis Green LED PWR
Outputs	PNP equivalent outputs +24 VDC +/- 10%
	Maximum current for each output 100 mA
	Maximum output number 32
	Max output simultaneously actuated 32
Network	Network connectors 2 M12 5P male-female connectors Type B
	Baud rate 9,6 - 19,2 - 93,75 - 187,5 - 500 - 1500 - 3000 - 6000 - 12000 Kbit/s
	Addresses, possible numbers From 1 to 99
	Max nodes in net 100 (slave + master)
	Bus maximum recommended length 100 m at 12 Mbit/s - 1200 m at 9,6 Kbit/s
	Bus diagnosis Green LED + Red LED
	Configuration file Available from our web site: http://www.pneumaxspa.com
	IP protection grade IP65 when assembled
	Temperature range From 0° to +50° C

General:

EtherCAT® module is directly integrated on Optyima-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyima-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.

The EtherCAT® module, regardless the number of Input module connected, reports to have connected 4 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus EtherCAT® is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

The node address is assigned during configuration.

Note: 5700 series has a different configuration file from series 5600.

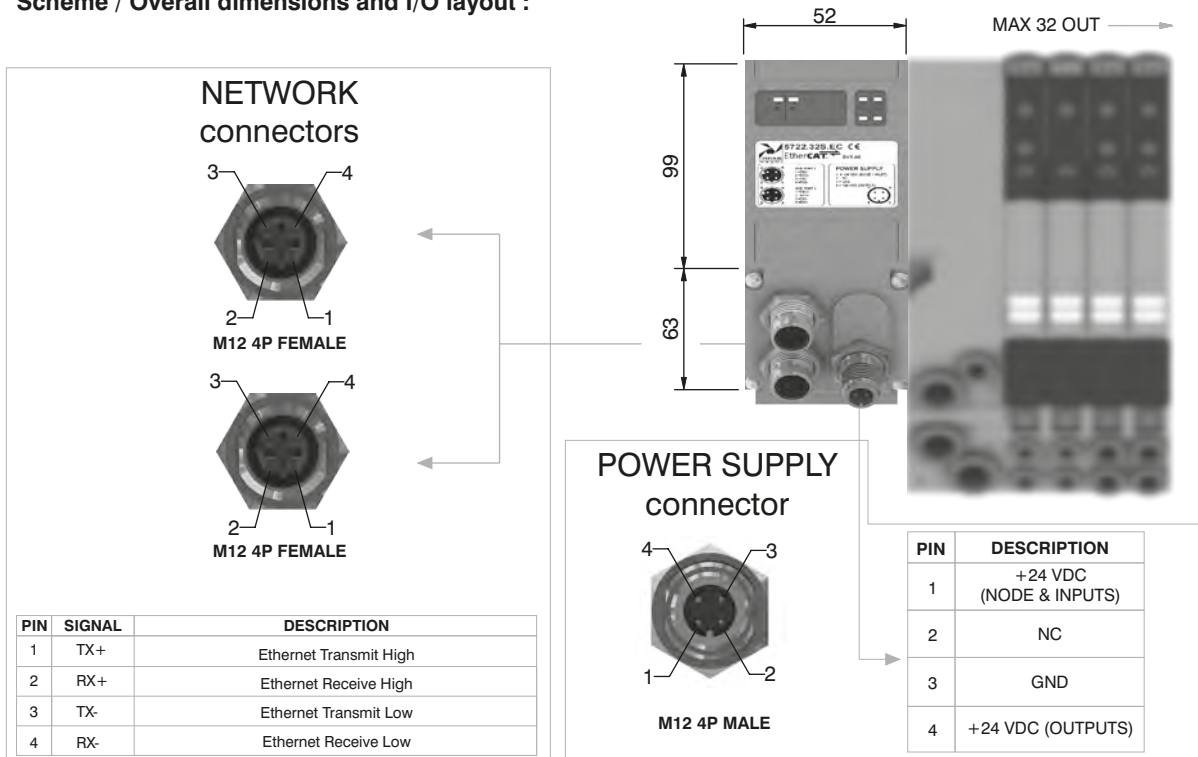
Ordering code

5722.32S.EC



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Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5722.32S.EC
	Specifications	EtherCAT® Specifications ETG.1000 series
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	From 1 to 65535
	Max nodes in net	65536 (Master + Slave)
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
Temperature range	From 0° to +50° C	

General:

PROFINET IO RT module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection. Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.

The PROFINET IO RT module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

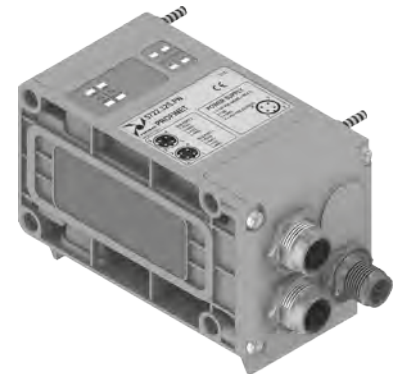
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus PROFINET IO RT is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

The node address is assigned during configuration.

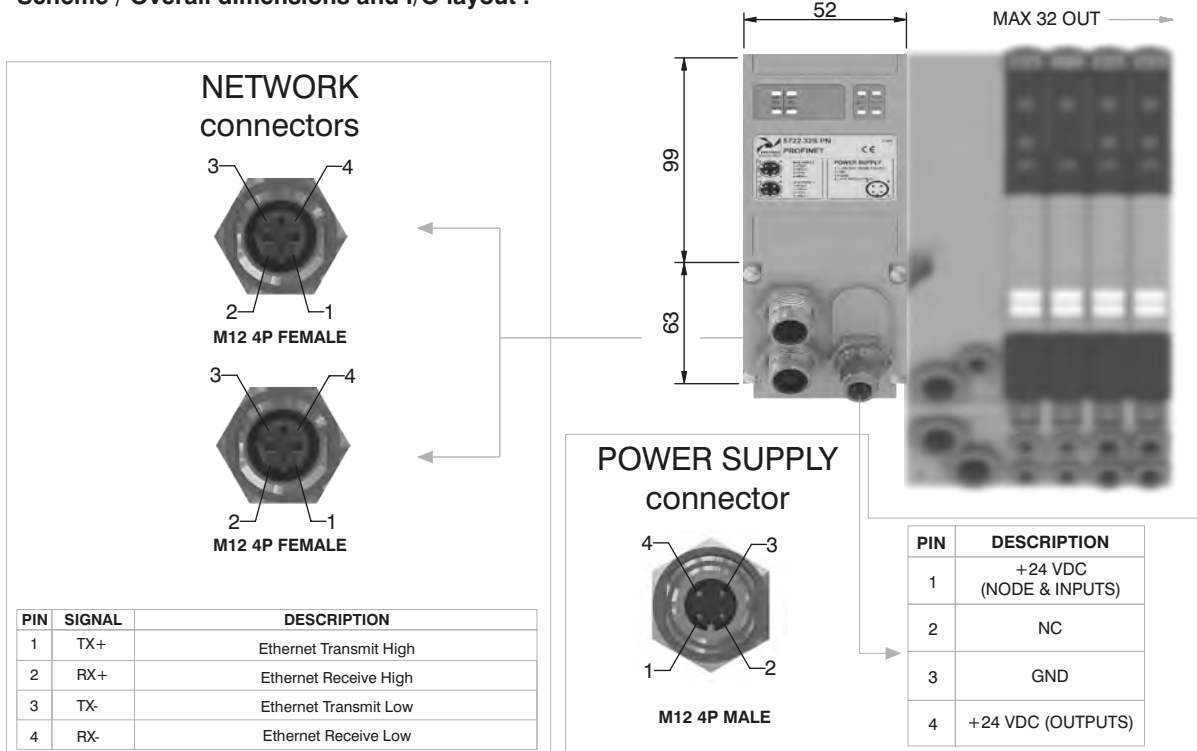
Ordering code

5722.32S.PN



1 AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5722.32S.PN
	Specifications	PROFINET IO RT/IRT
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	As an IP address
	Max nodes in net	As an Ethernet Network
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 4 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C



General:

EtherNet/IP module is directly integrated on Optyima-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyima-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.

The EtherNet/IP module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

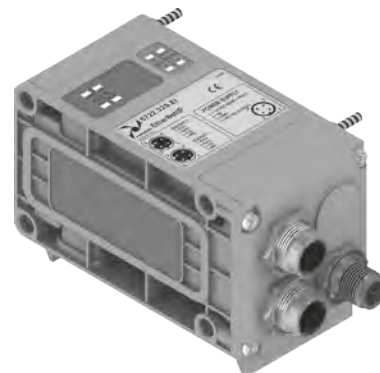
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus EtherNet/IP is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

The node address is assigned during configuration.

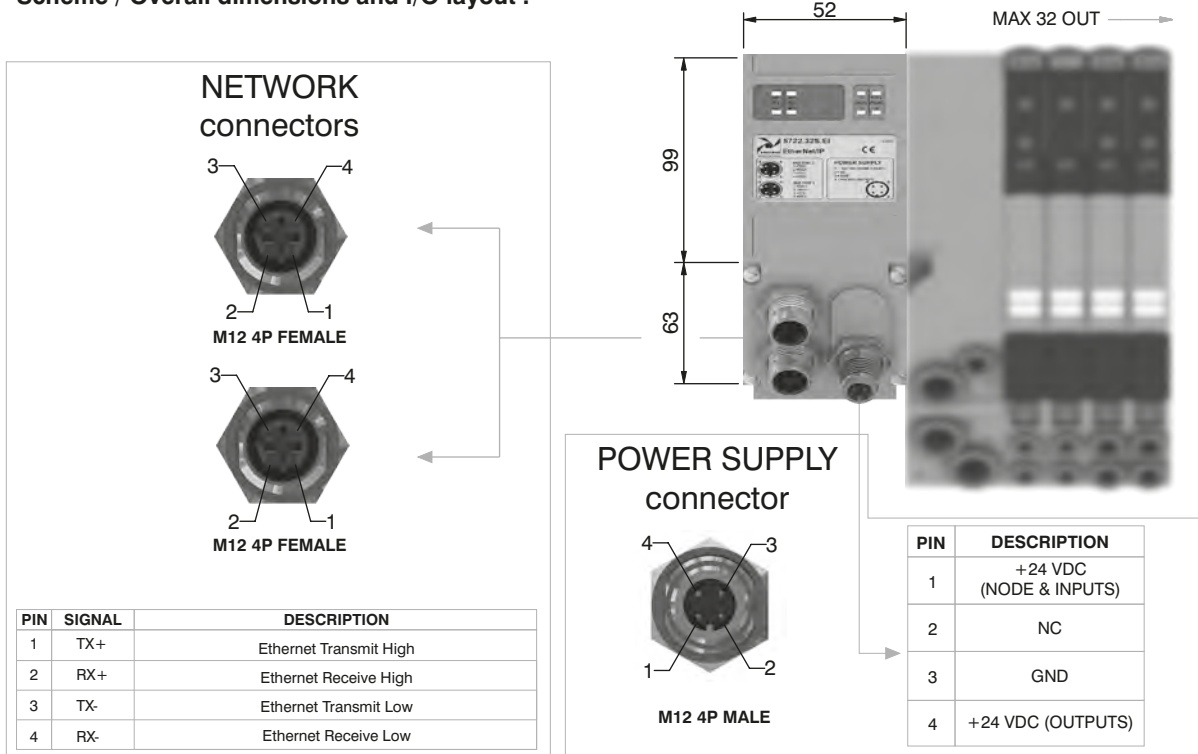
Ordering code

5722.32S.EI



1
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Scheme / Overall dimensions and I/O layout :



PIN	SIGNAL	DESCRIPTION
1	TX+	Ethernet Transmit High
2	RX+	Ethernet Receive High
3	TX-	Ethernet Transmit Low
4	RX-	Ethernet Receive Low

PIN	DESCRIPTION
1	+24 VDC (NODE & INPUTS)
2	NC
3	GND
4	+24 VDC (OUTPUTS)

Technical characteristics

	Model	5722.32S.EI
	Specifications	The EtherNet/IP Specification
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	As an IP address
	Max nodes in net	As an Ethernet Network
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 4 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General:

Powerlink module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection. Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.

The Powerlink module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus Powerlink is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

The node address is assigned during configuration.

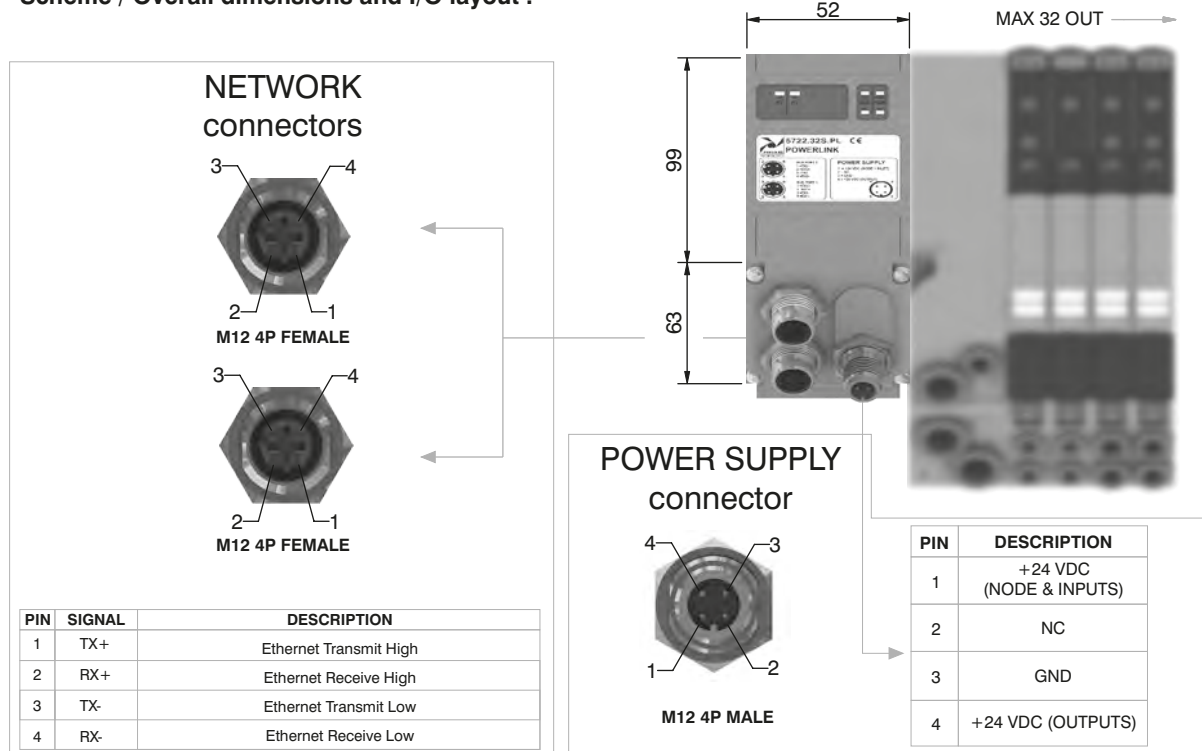
Ordering code

5722.32S.PL



1 AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5722.32S.PL
	Specifications	Ethernet POWERLINK Communication Profile Specifications
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	239
	Max nodes in net	240
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C



General:

Modbus/TCP module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.

The Modbus/TCP module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus Modbus/TCP is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

The node address is assigned during configuration.

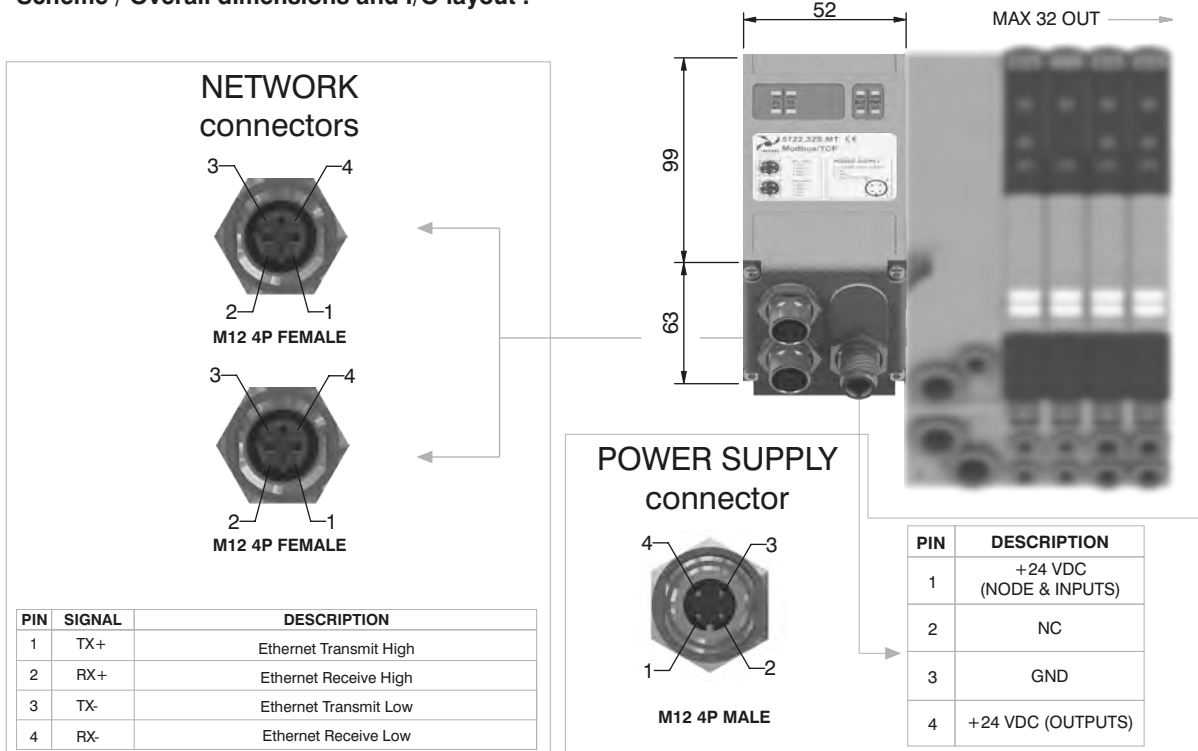
Ordering code

5722.32S.MT



1
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Scheme / Overall dimensions and I/O layout :



PIN	SIGNAL	DESCRIPTION
1	TX+	Ethernet Transmit High
2	RX+	Ethernet Receive High
3	TX-	Ethernet Transmit Low
4	RX-	Ethernet Receive Low

PIN	DESCRIPTION
1	+24 VDC (NODE & INPUTS)
2	NC
3	GND
4	+24 VDC (OUTPUTS)

Technical characteristics

	Model	5722.32S.MT
	Specifications	MODBUS Application Protocol Specification V1.1a, June 4, 2004
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	248
	Max nodes in net	248
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file	Modbus/TCP nodes don't require configuration file
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General:

IO-Link module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
 Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Valve power supply will be provided through an external M12, 5 poles, A type connector, directly through the communication connector for Class B port option.

IO-Link module support the IO-Link communications speed COM2.

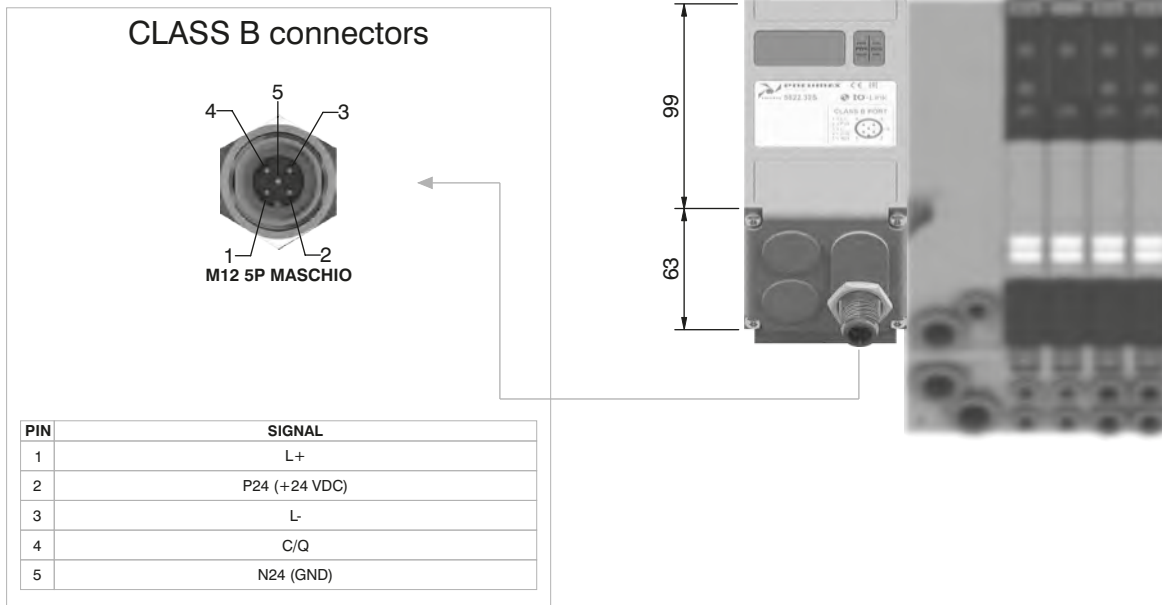
IODD configuration files will be provided by Pneumax.

Ordering code

5822.32S



Scheme / Overall dimensions and I/O layout :



Technical characteristics

Specifications	IO-Link Specification v1.1	
Case	Reinforced technopolymer	
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	Class B ports
	Communication speed	COM 2
	Maximum distance from Master	20 m
	Bus diagnosis	1 green and 1 red LED for status
	Configuration file IODD	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C



General:

Modules have 8 connectors M8 3P female.

The Inputs are PNP equivalent 24 VDC ± 10%.

To each connector it is possible to plug both 2 wires Inputs (switches, magnetic switches pressure switches, etc) or 3 wires Inputs (proximity, photocells, electronic sensors, etc).

The maximum current available for all 8 Inputs is 300 mA.

Each module includes a 300 mA self-mending fuse. If a short circuit or a overcharge (overall current >300mA) occur the safety device acts cutting the 24 VDC power supply to all M8 connectors on the module and switching off the green LED PWR. Any other Input module connected to the node will remain powered and will function correctly.

Once the cause of the fault disappears the green LED PWR lights up indicating the ON state and the node will re-start to operate.

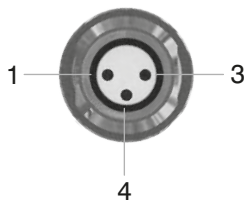
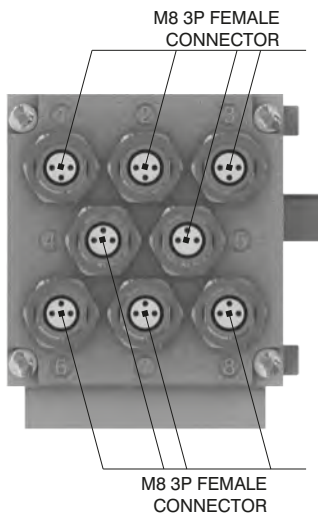
The maximum number of Input modules supported is 4.

Ordering code

5222.08S

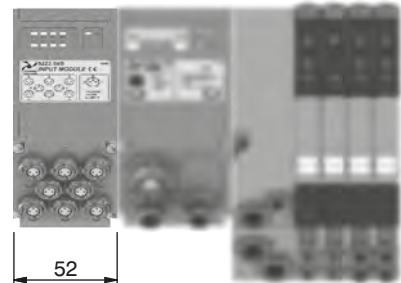


Scheme / Overall dimensions and I/O layout :



PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND

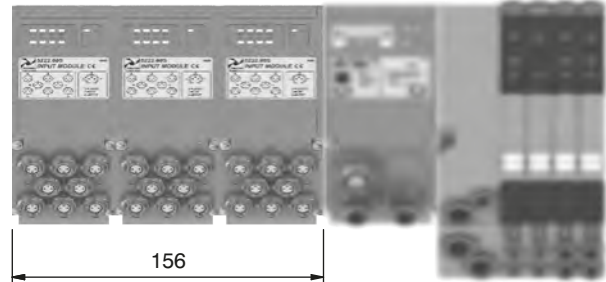
Module 1



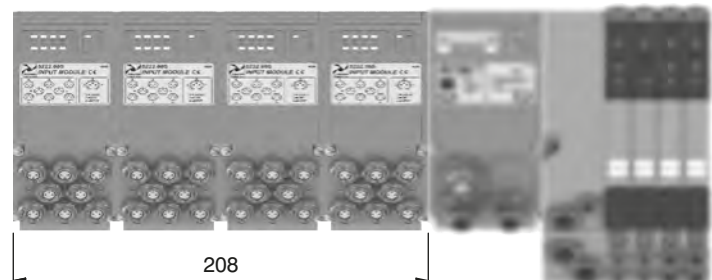
Module 2 Module 1



Module 3 Module 2 Module 1



Module 4 Module 3 Module 2 Module 1



1

AIR DISTRIBUTION

Socket for Power Supply
STRAIGHT CONNECTOR
M12A 4P FEMALE

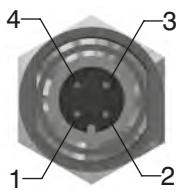
Ordering code

5312A.F04.00



POWER SUPPLY connector

Upper view
Slave connector

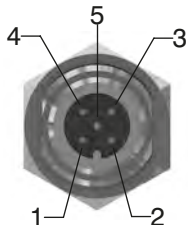


PIN	DESCRIPTION
1	+24 VDC Node
2	
3	0 V
4	+24 VDC Outputs

Socket for Bus CANopen®/DeviceNet
STRAIGHT CONNECTOR
M12A 5P FEMALE

Ordering code

5312A.F05.00



PIN	DESCRIPTION
1	(CAN_SHIELD)
2	(CAN_V+)
3	CAN_GND
4	CAN_H
5	CAN_L

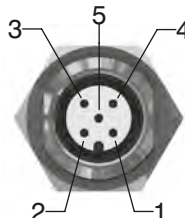
Upper view
Slave connector

NETWORK connectors

Plug for Bus CANopen®/DeviceNet
STRAIGHT CONNECTOR
M12A 5P MALE

Ordering code

5312A.M05.00



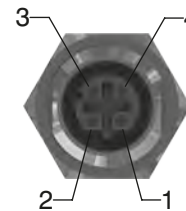
Plug for Bus EtherCAT®,
PROFINET IO RT,
EtherNet/IP and Powerlink
STRAIGHT CONNECTOR M12D 4P MALE

Ordering code

5312D.M04.00



PIN	SIGNAL	DESCRIPTION
1	TX+	Ethernet Transmit High
2	RX+	Ethernet Receive High
3	TX-	Ethernet Transmit Low
4	RX-	Ethernet Receive Low

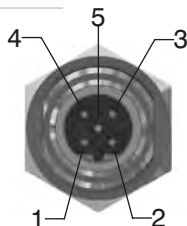


Upper view
Slave connector

Socket for Bus PROFIBUS DP
STRAIGHT CONNECTOR
M12B 5P FEMALE

Ordering code

5312B.F05.00



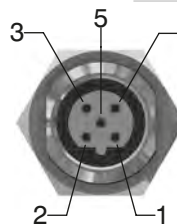
PIN	DESCRIPTION
1	Power Supply
2	A-line
3	DGND
4	B-line
5	SHIELD

Upper view
Slave connector

Plug for Bus PROFIBUS DP
STRAIGHT CONNECTOR
M12B 5P MALE

Ordering code

5312B.M05.00



Plug for Input module
STRAIGHT CONNECTOR
M8 3P MALE

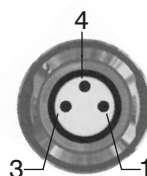
Ordering code

5308A.M03.00



INPUT connectors

Upper view
Slave connector



PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND

M12 plug

Ordering code

5300.T12



Plugs

M8 plug

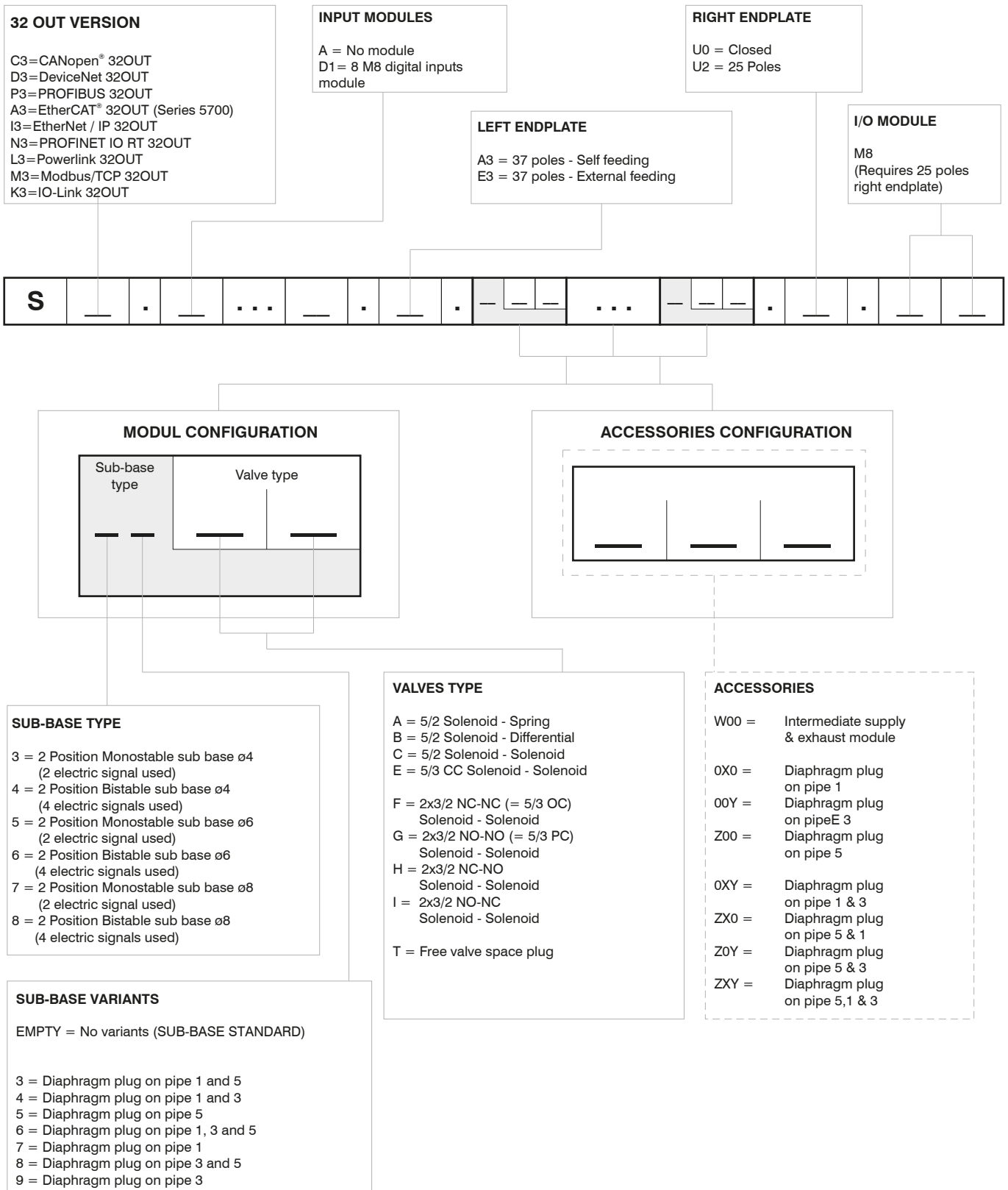
Ordering code

5300.T08





Manifold Layout configuration with serial systems



NOTE:

While configuring the manifold always be careful that the maximum number of electrical signals available is 32

The use of monostable valve mounted on a bistable base (2 electrical signals occupied for each position) causes the loss of one electric signal.

In this case the monostable valve can be replaced by a bistable valve without reconfiguring the PLC.

The diaphragms plugs are used to intercept the conduits 1,3 & 5 of the base.

Should one or more conduits be cut more than one time it is necessary to add the relevant intermediate Supply/Exhaust module.



Series 2200 "OPTYMA-Sc"

General

Optyma solenoid valves series it's completed by "Compact" version. It is useful in case a limited number of solenoid valves is needed without managing input and output signals. Standard base blocks provide 4 or 6 solenoid valves positions. Standard base blocks can be individually sold even without solenoid valves to allow maximum configuration flexibility.

Solenoid valves can be chosen from whole Optyma-S range.

Manifolds made in this way allow great room and weight saving against correspondent pneumatic group from Optyma-S series.

- Flow rate: up to 550[Nl/min], using the modular base with Ø8 quick fitting tube.
- Modular base available with Ø4, Ø6, Ø8 quick fitting tube.
- The solenoid pilots are low consumption and fitted on the same side of the valve.
- Mono and bistable valves have the same dimension.
- Easy and fast assembly on the sub base thanks to the "one screw" mounting solution.
- Possibility to replace a valve without the need of disconnecting the pneumatic pipes.
- Electrical and pneumatic connections positioned on the same side.
- Possibility to operate with different pressures and vacuum.
- 4 or 6 electric signals management (two signals per position, independently of the mounted solenoid valve).
- The electrical connection is achieved thanks to a 9 or 15 poles connector.
- The protection grade is IP65 directly integrated in the manifold components.

"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power-Directional control valves-Measurement of shifting time"

Main characteristics

One size: 12.5mm thick
 Monostable and bistable valves with same dimensions
 Modular subbase with two positions
 Quick coupling connections directly integrated in sub base
 Integrated and optimized electrical connection system.
 IP65 protection grade as standard

Construction characteristics

Body	Technopolymer
Spacer	Technopolymer
Spacers	NBR
Piston seals	NBR
Springs	AISI 303 stainless steel
Operators	Technopolymer
Pistons	Technopolymer
Spools	AISI 303 stainless steel

Functions

SV 5/2 MONOSTABLE SOLENOID-SPRING
 SV 5/2 MONOSTABLE SOLENOID-DIFFERENTIAL
 SV 5/2 BISTABLE SOLENOID-SOLENOID
 SV 5/3 C.C. SOLENOID-SOLENOID
 SV 2x3/2 N.C.-N.C. (=5/3 O.C.) SOLENOID-SOLENOID
 SV 2x3/2 N.O.-N.O. (=5/3 P.C.) SOLENOID-SOLENOID
 SV 2x3/2 N.C.-N.O. SOLENOID-SOLENOID
 SV 2x3/2 N.O.-N.C. SOLENOID-SOLENOID

Technical characteristics

Voltage	24VDC ±10% PNP (NPN and AC on request)
Pilot consumption	0,5 Watt
Pilot working pressure (12-14)	from 2,5 to 7 bar max.
Valve working pressure [1]	from vacuum to 10 bar max.
Operating temperature	from -5°C to +50°C
Protection degree	IP40
Life (standard operating conditions)	50000000
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous

1 AIR DISTRIBUTION

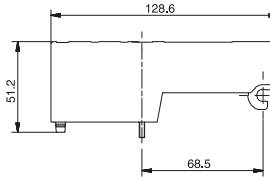
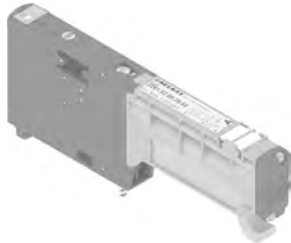
Solenoid - Spring

Coding: 2241.52.00.39.

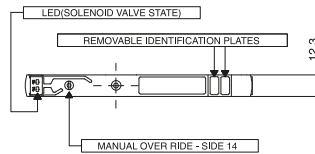
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	550
Response time according to ISO 12238, activation time (ms)	12
Response time according to ISO 12238, deactivation time (ms)	20

	VOLTAGE
	02 = 24 VDC PNP
SHORT FUNCTION CODE "A"	
Weight 67 g	

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Flow rate at 6 bar with $\Delta p=1$ (NI/min) with Base cod. 2248.01 tube $\varnothing 8= 550$



1
AIR DISTRIBUTION

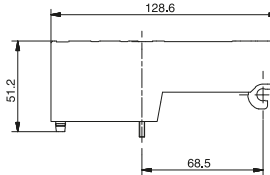
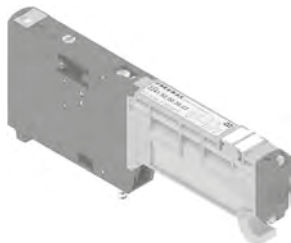
Solenoid-Differential

Coding: 2241.52.00.36.

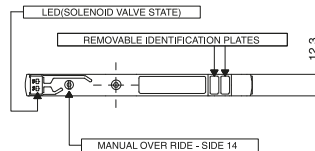
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	550
Response time according to ISO 12238, activation time (ms)	20
Response time according to ISO 12238, deactivation time (ms)	25

	VOLTAGE
	02 = 24 VDC PNP
SHORT FUNCTION CODE "B"	
Weight 67 g	

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Flow rate at 6 bar with $\Delta p=1$ (NI/min) with Base cod. 2248.01 tube $\varnothing 8= 550$



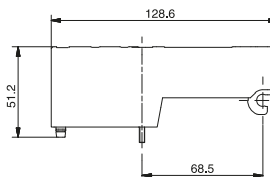
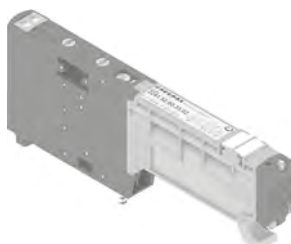
Solenoid-Solenoid

Coding: 2241.52.00.35.

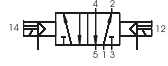
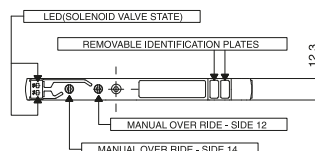
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	550
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	10

	VOLTAGE
	02 = 24 VDC PNP
SHORT FUNCTION CODE "C"	
Weight 67 g	

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Flow rate at 6 bar with $\Delta p=1$ (NI/min) with Base cod. 2248.01 tube $\varnothing 8= 550$





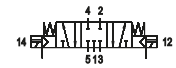
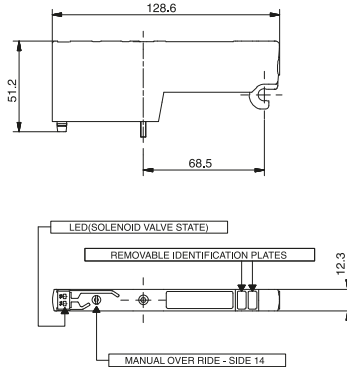
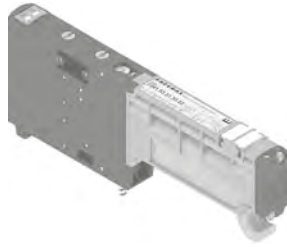
Solenoid-Solenoid 5/3 (Closed centres)

Coding: 2241.53.31.35. **V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	2,5 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	400
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	20

V	VOLTAGE
	02 = 24 VDC PNP
SHORT FUNCTION CODE "E"	
Weight 83 g	

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2248.01. **V** tube Ø8= 400

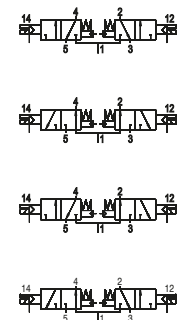
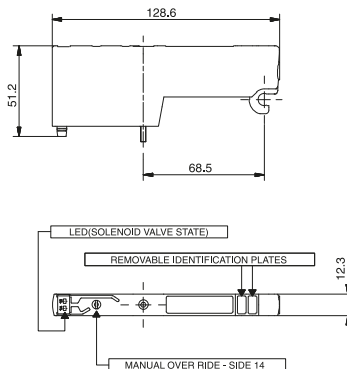
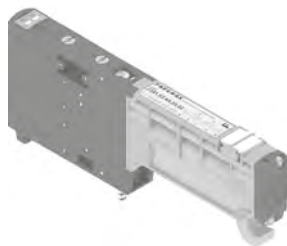
Solenoid-Solenoid 2x3/2

Coding: 2241.62. **F**.35. **V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	≥3+(0,2xInlet pressure)
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	420
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	25

F	FUNCTION
	44 = NC-NC (5/3 Open centres)
	45 = NC-NO (normally closed-normally open)
	54 = NO-NC (normally open-normally closed)
	55 = NO-NO (5/3 Pressured centres)
V	VOLTAGE
	02 = 24 VDC PNP

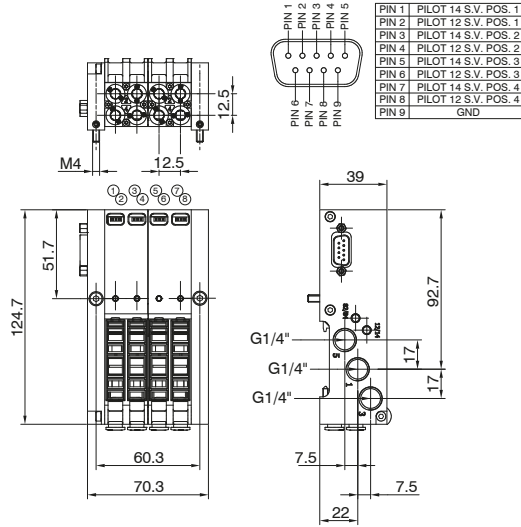
Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2244.01. **F** tube Ø4= 140
Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2246.01. **F** tube Ø6= 360
Flow rate at 6 bar with Δp=1 (NI/min) with Base cod. 2248.01. **F** tube Ø8= 420

Bases only kit

Coding: CMPVCP0

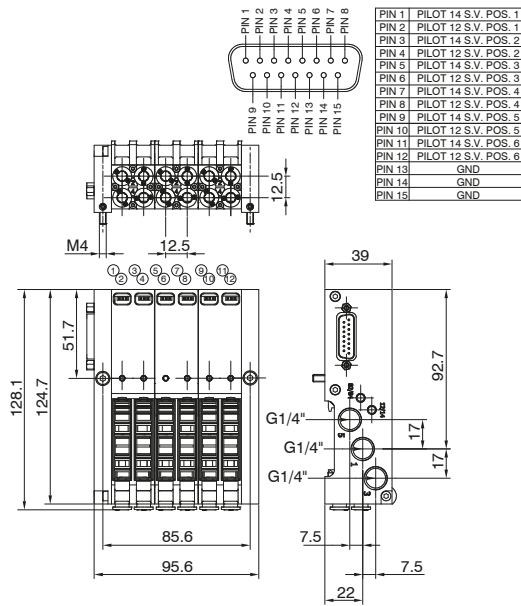


VERSION	
✓ 9E	= 9 poles kit
1E	= 15 poles kit
TUBE DIAMETER	
44	= Ø4-4 (9 poles)
66	= Ø6-6 (9 poles)
Ⓢ 88	= Ø8-8 (9 poles)
444	= Ø4-4-4 (15 poles)
666	= Ø6-6-6 (15 poles)
888	= Ø8-8-8 (15 poles)

Weight 400 g

CMP9EⓈP0

1 AIR DISTRIBUTION



Weight 500 g

CMP1EⓈP0

Available bases

Tube Ø4

Tube Ø6

Tube Ø8



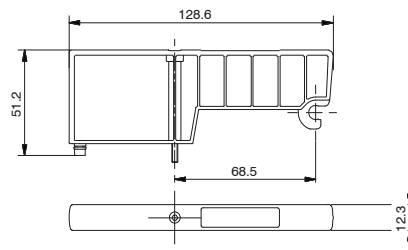


▶ Closing plate

Coding: 2240.00

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50



Weight 30 g
SHORT FUNCTION CODE "T"

1
AIR DISTRIBUTION

▶ Cable complete with connector, 9 Poles, IP40

Coding: 2400.09.●.00



	CABLE LENGTH
●	03 = 3 meters
	05 = 5 meters
	10 = 10 meters

▶ Cable complete with connector, 15 Poles, IP40

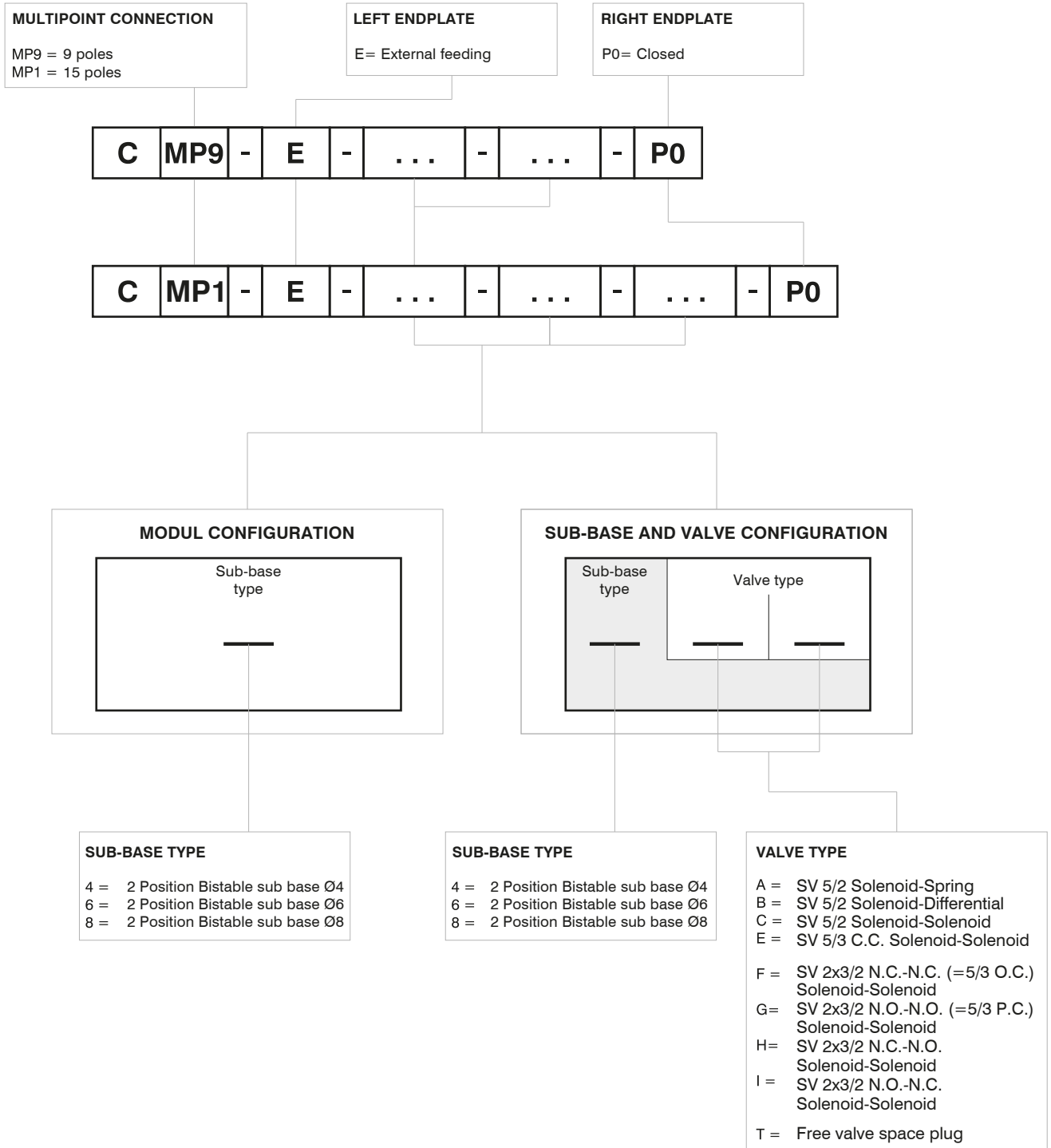
Coding: 2400.15.●.00



	CABLE LENGTH
●	03 = 3 meters
	05 = 5 meters
	10 = 10 meters



Manifold layout configuration



1
AIR DISTRIBUTION

Series 2200 OPTYMA-Sc solenoid valve manifolds managed by multipoint connection are "well tried components"

	<p>Well-tryed component</p>	<ul style="list-style-type: none"> - The product is well-tryed product for a safety-related application according to ISO 13849-1. - The relevant basic and well-tryed safety principles according ISO 13849-2 for this product are fulfilled. - The suitability of the product for a precise application must be verified and confirmed by the user.
	<p>B_{10d} 50.000.000</p>	



Example shown : CMP9E68P0
Manifold with external supply, 9 poles multipolar, base Ø6, base Ø8



To be completed with solenoid valves before use



Example shown : CMP1E666P0
Manifold with external supply, 15 poles multipolar, base Ø6, base Ø6, base Ø6



To be completed with solenoid valves before use



Example shown : CMP1E6CA6CC6FFP0
Manifold with external supply, 15 poles multipolar, base Ø6 with solenoid valves, base Ø6 with solenoid valves, base Ø6 with solenoid valves



Two signals per position, independently of the mounted solenoid valve

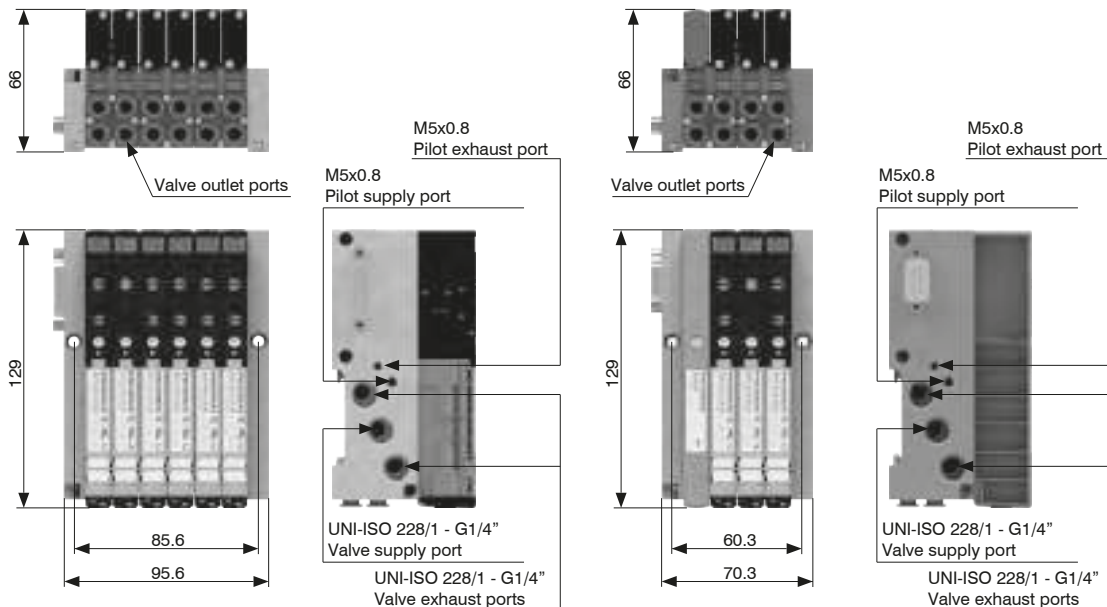


Example shown : CMP9E6TF6ACP0
Manifold with external supply, 9 poles multipolar, base Ø6 with solenoid valves, base Ø6 with solenoid valves



Two signals per position, independently of the mounted solenoid valve

Supply ports and maximum possible size according to valves used





Series 2500 "OPTYMA-F"

General

The solenoid valves base mounted line including electrical connection into the manifold.
Many technical features make the new product interesting:

- Flow rate of 1000 Nl/min
- Low consumption coils placed all in one side of the valve
- Quick mounting of the valve to the base using just one screw
- Quick connection of the bases thanks to 180 degree rotating pins
- Possibility to use different pressures along the manifold (including vacuum)
- IP65 environmental protection
- Electrical connection directly integrated into the base, 32 electrical signals available (can be used to build up a manifold of 32 monostable valves, 16 bistable valves or any combination within that limit).
- The electrical connection is made via 37 pin D-SUB connector.
- It is also available a 25-pole connector that is able to manage a maximum number of 22 electrical signals.

Possibility to integrate with Field Bus modules CANopen®, PROFIBUS DP, DeviceNet, EtherNet/IP, PROFINET IO RT/IRT, EtherCAT®, Powerlink and Modbus/TCP.

Possibility to connect input modules, even on the base that does not have the Field Bus module. Large use of technopolymer material reduces the overall weight of the manifold.

"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power-Directional control valves-Measurement of shifting time"

Main characteristics

Integrated and optimized electrical connection system.
IP65 protection degree.
Only one 19mm size
Electrical line connections on one side
Monostable and bistable solenoid valves with the same size dimensions.
Easy and fast manifold assembly

Construction characteristics

Body	Technopolymer
Operators	Technopolymer
Spacers	NBR
Spacer	Technopolymer
Spools	Nickel - plated steel / Technopolymer
Springs	AISI 302 stainless steel
Pistons	Technopolymer
Piston seals	NBR

Functions

SV 5/2 MONOSTABLE SOLENOID-SPRING
SV 5/2 MONOSTABLE SOLENOID-DIFFERENTIAL
SV 5/2 BISTABLE SOLENOID-SOLENOID
SV 5/3 C.C. SOLENOID-SOLENOID
SV 2x3/2 N.C.-N.C. (=5/3 O.C.) SOLENOID-SOLENOID
SV 2x3/2 N.O.-N.O. (=5/3 P.C.) SOLENOID-SOLENOID
SV 2x3/2 N.C.-N.O. SOLENOID-SOLENOID

Technical characteristics

Voltage	24VDC ±10% PNP (NPN and AC on request)
Pilot consumption	1,3 Watt
Pilot working pressure (12-14)	From 3 to 7 bar max.
Valve working pressure [1]	from vacuum up to 10 bar
Operating temperature	-5°C +50°C
Protection degree	IP65
Life (standard operating conditions)	50000000
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous



1 AIR DISTRIBUTION

Solenoid - Spring

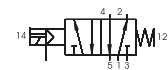
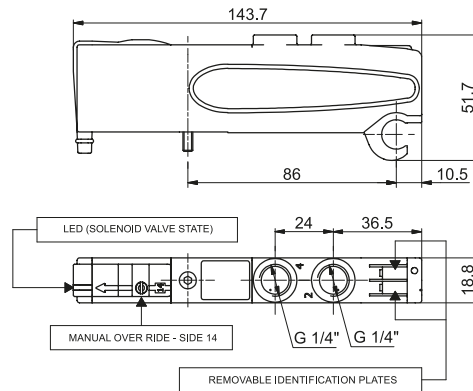
Coding: 2531.52.00.39. ✓

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	3 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1000
Response time according to ISO 12238, activation time (ms)	14
Response time according to ISO 12238, deactivation time (ms)	40

VOLTAGE
02 = 24 VDC PNP
12 = 24 VDC NPN
05 = 24 VAC

SHORT FUNCTION CODE "A"
Weight 123 g

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Solenoid-Differential

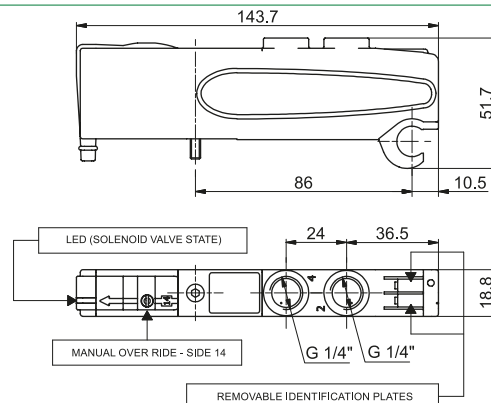
Coding: 2531.52.00.36. ✓

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	3 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1000
Response time according to ISO 12238, activation time (ms)	20
Response time according to ISO 12238, deactivation time (ms)	29

VOLTAGE
02 = 24 VDC PNP
12 = 24 VDC NPN
05 = 24 VAC

SHORT FUNCTION CODE "B"
Weight 120 g

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Solenoid-Solenoid

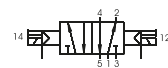
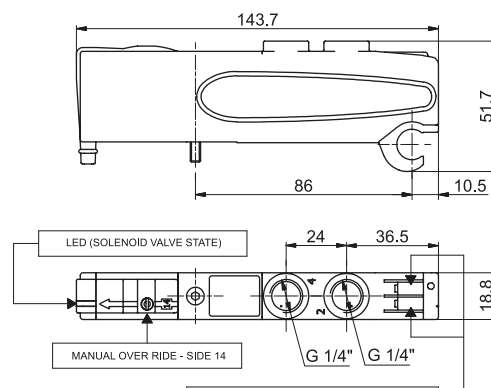
Coding: 2531.52.00.35. ✓

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	3 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1000
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	14

VOLTAGE
02 = 24 VDC PNP
12 = 24 VDC NPN
05 = 24 VAC

SHORT FUNCTION CODE "C"
Weight 128 g

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Solenoid-Solenoid 5/3

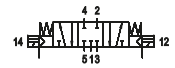
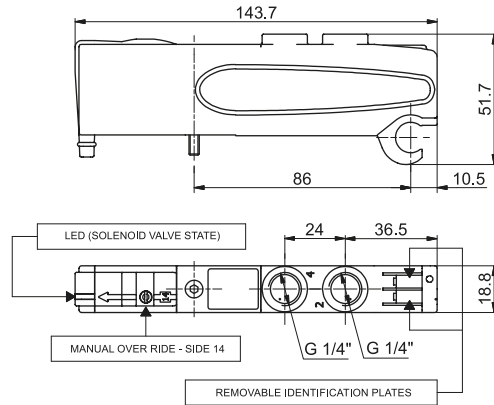
Coding: 2531.53.31.35. **V**

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	3 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	600
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	20

VOLTAGE	
V	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE "E"
Weight 126 g

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Solenoid-Solenoid 2x3/2

Coding: 2531.62. **F**.35. **V**

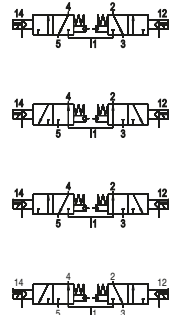
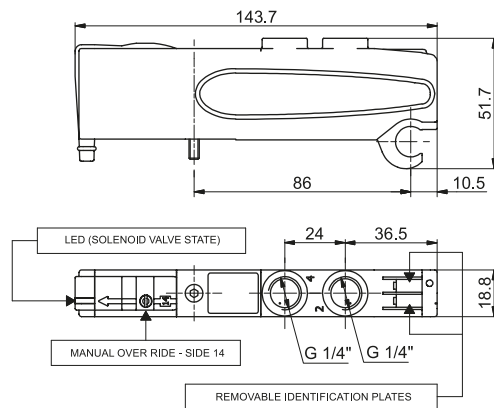
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	≥2,5+(0,2xP.alim.)
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	700
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	25

FUNCTION	
F	44 = NC-NC (5/3 Open centres)
	55 = NO-NO (5/3 Pressured centres)
	45 = N.C.-N.O. (normally closed-normally open)
	54 = N.O.-N.C. (normally open-normally closed)

VOLTAGE	
V	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE:
NC-NC (5/3 Open centres) = "F"
NO-NO (5/3 Pressured centres) = "G"
NC-NO = "H"
NO-NC = "I"
Weight 115,5 g

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



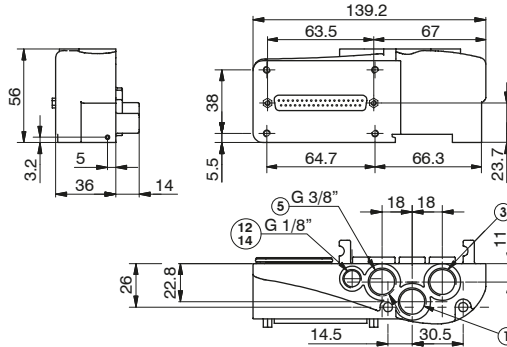


Left Endplates

Coding: 2530.V.C

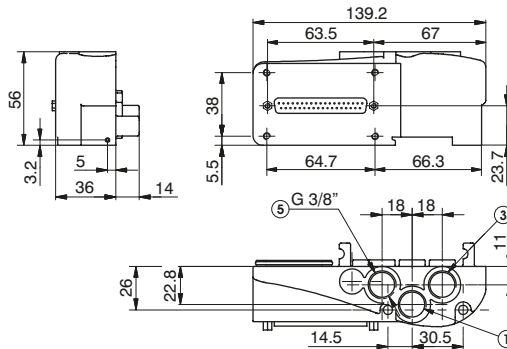
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10 (External pilot base only)
Pressure range (bar)	3 ÷ 7
Temperature °C	-5 ÷ +50

VERSION	
V	02 = External feeding
	12 = Self-feeding
ELECTRICAL CONNECTION	
37P	= Connectors 37 poles
PNP	
25P	= Connectors 25 poles
PNP	
37N	= Connectors 37 poles
NPN	
C	25N = Connectors 25 poles
NPN	
37A	= Connectors 37 poles
AC	
25A	= Connectors 25 poles
AC	
C16	= Terminal 16 signals
PNP	



Weight 206 g

2530.02.C



Weight 206 g

2530.12.C

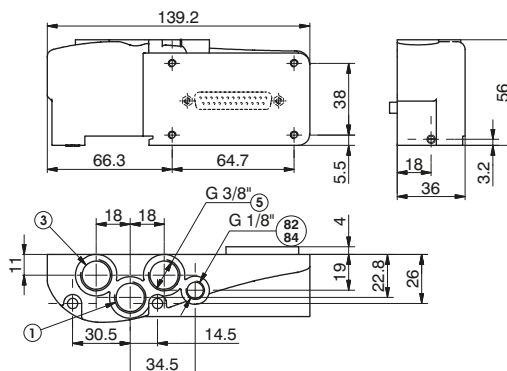
Right Endplates

Coding: 2530.03.C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50

ELECTRICAL CONNECTION	
C	00 = Electrical connection
25P	= Connectors 25 poles

Weight 181,5 g



PORT 82/84= DO NOT PRESSURIZE, SOLENOID PILOTS EXHAUST

AIR DISTRIBUTION

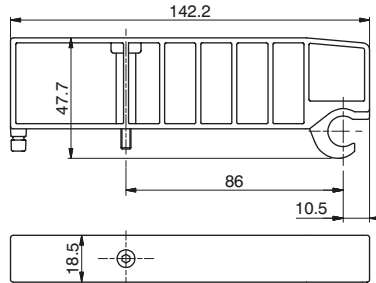
1

Closing plate

Coding: 2530.00

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50

SHORT FUNCTION CODE "T"
Weight 53,5 g



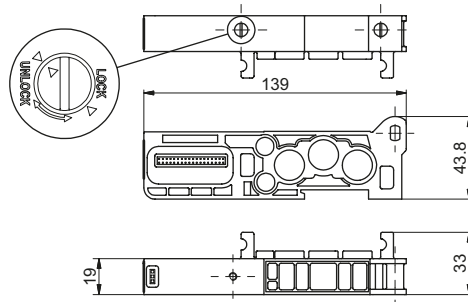
Modular base

Coding: 2530.01

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50

VERSION	
✓	M = for Monostable SV
	B = for Bistable SV

SHORT CODE "1" (per EV Monostabile)
SHORT CODE "2" (per EV Bistabile)
Weight 91,5 g

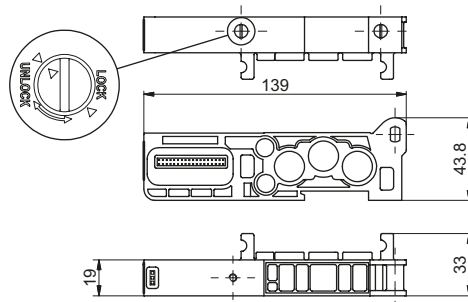


Intermediate Inlet/Exhaust module

Coding: 2530.10

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50

SHORT FUNCTION CODE "W"
Weight 110 g

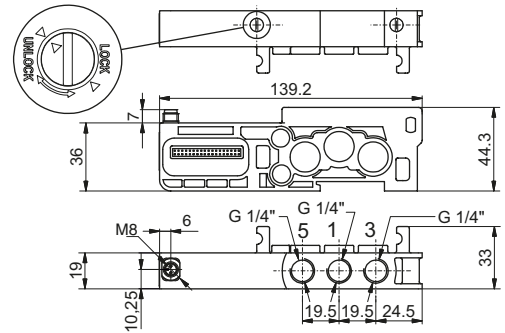


General :

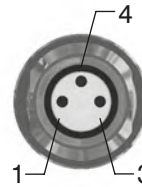
Each Optyma-F manifold lets to manage 32 command signals for the valves. Optyma-F serial nodes (CANopen®, DeviceNet, PROFIBUS DP, EtherCAT®, PROFINET IO RT, EtherNet/IP and Powerlink) have a single pin for the power supply of the solenoid valves. So if you want to interrupt the power supply of one valve it is necessary to interrupt all the valves. The additional power supply module lets to interrupt at the same time the first 2 available command signals for the valves after the module itself. The additional power supply module is particularly useful also when you use control signals that block the valves. This application is effective both with serial management and multi-pole connection of the manifolds. This module is inserted directly into the Optyma-F solenoid valves manifold.

Ordering code

2530.10.2A



In particular this module is fitted with a M8 3 pins connector: +24V, not connected, GND.



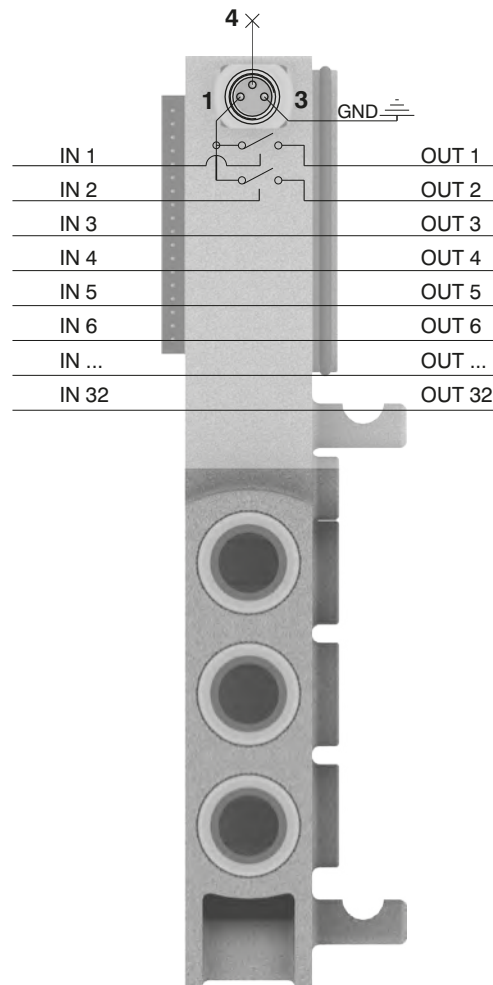
PIN	DESCRIPTION
1	+24 VDC
4	NOT CONNECTED
3	GND

WORKING PRINCIPLE / SIMPLIFIED FUNCTIONAL DIAGRAM

This module uses an external power supply (+24VDC) to manage the solenoid valves.

The output signal from serial node / multi-pole connection is used as command signal: when it is high the +24VDC will be present at the module output.

If you want to cut off the power supply to a group of 2 valves it is sufficient to take away the +24VDC provided to the module by the M8 connector.



Please note: It is possible to use more modules to interrupt all the command signals, simply by inserting them before the signals to interrupt and after the signals already interrupted.

1 AIR DISTRIBUTION

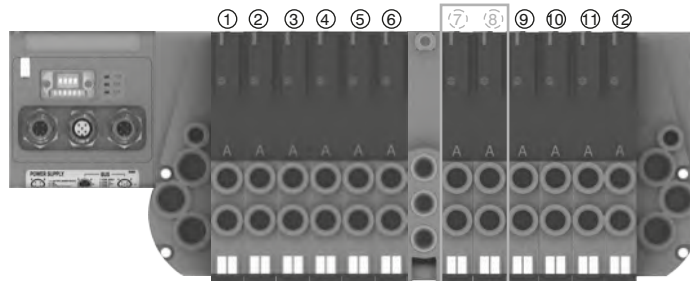
Usage examples:

EXAMPLE 1:

Manifold of 12 monostable valves on which you want to interrupt signals 7-8

Assembly:

- 6 monostable valves (not interruptible because before the module),
- 1 additional power supply module,
- 6 monostable valves. Please note: the first 2 monostable of these are interruptible by the module, while the following 4 will work correctly managed directly by the corresponding command signals.

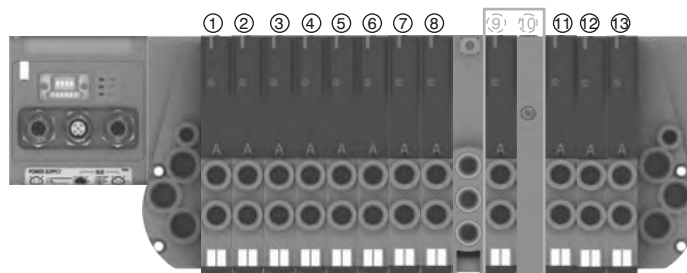


EXAMPLE 2:

Manifold of 12 monostable valves on which you want to interrupt signal 9

Assembly:

- 8 monostable valves (not interruptible because before the module),
- 1 additional power supply module,
- 1 monostable valve (interruptible),
- 1 closing plate mounted on a monostable base,
- 3 monostable valves (work correctly managed directly by the corresponding command signals).



Please note: Each additional power supply module interrupts always 2 electrical signals.



If you need to interrupt less than 2 signals you can:

- assemble the valves to interrupt in the last positions of the manifold, so you don't need to worry about the interrupted exceeding signals;
- use a bistable base and mount a monostable valve (for each signal less than the 2 standard);
- use a monostable base and mount a closing plate (for each signal less than the 2 standard).

EXAMPLE 3:

Manifold of 7 monostable e 3 bistable valves on which you want to interrupt signals 2-3 and 8-9.

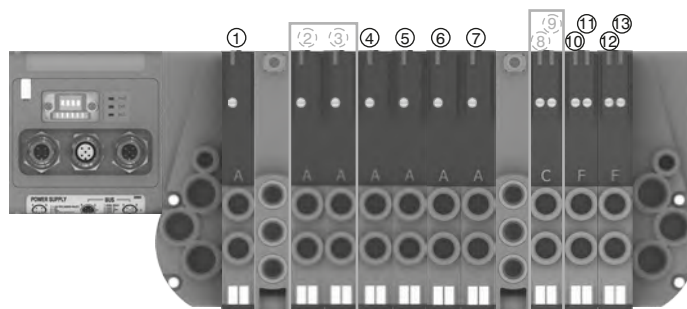
Assembly:

- 1 monostable valve (not interruptible because before the module),
- 1 additional power supply module,
- 6 monostable valves.

Please note: the first 2 monostable of these are interruptible by the module, while the following 4 will work correctly managed directly by the corresponding command signals.

- 1 additional power supply module,
- 3 bistable valves.

Please note: the first bistable of these valves is interruptible by the module, while the following 2 will work correctly managed directly by the corresponding command signals.

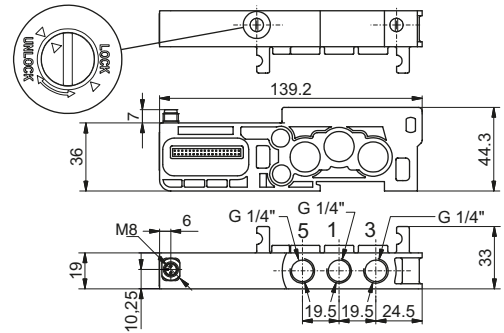


General :

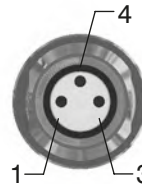
Each Optyma-F manifold lets to manage 32 command signals for the valves. Optyma-F serial nodes (CANopen®, DeviceNet, PROFIBUS DP, EtherCAT®, PROFINET IO RT, EtherNet/IP and Powerlink) have a single pin for the power supply of the solenoid valves. So if you want to interrupt the power supply of one valve it is necessary to interrupt all the valves. The additional power supply module lets to interrupt at the same time the first 4 available command signals for the valves after the module itself. The additional power supply module is particularly useful also when you use control signals that block the valves. This application is effective both with serial management and multi-pole connection of the manifolds. This module is inserted directly into the Optyma-F solenoid valves manifold.

Ordering code

2530.10.4A



In particular this module is fitted with a M8 3 pins connector: +24V, not connected, GND.



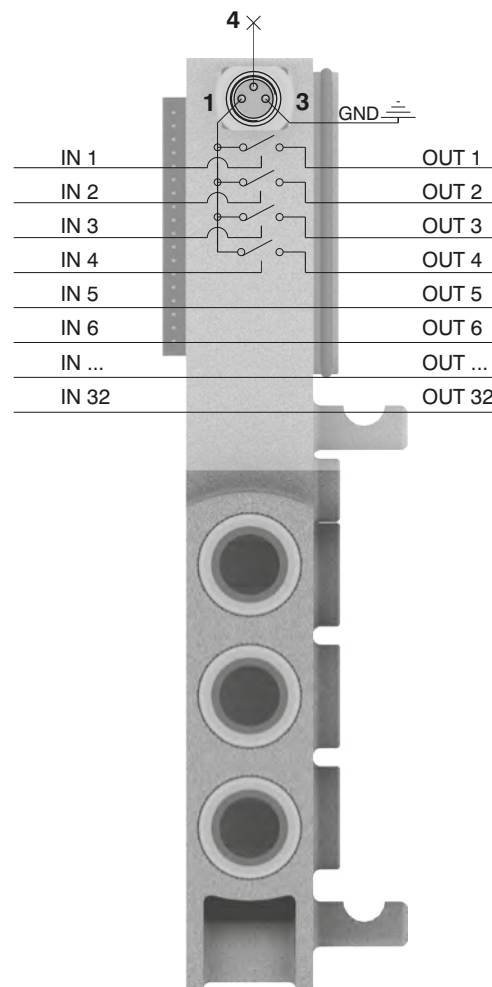
PIN	DESCRIPTION
1	+24 VDC
4	NOT CONNECTED
3	GND

WORKING PRINCIPLE / SIMPLIFIED FUNCTIONAL DIAGRAM

This module uses an external power supply (+24VDC) to manage the solenoid valves.

The output signal from serial node / multi-pole connection is used as command signal: when it is high the +24VDC will be present at the module output.

If you want to cut off the power supply to a group of 4 valves it is sufficient to take away the +24VDC provided to the module by the M8 connector.



Please note: It is possible to use more modules to interrupt all the command signals, simply by inserting them before the signals to interrupt and after the signals already interrupted.

1 AIR DISTRIBUTION

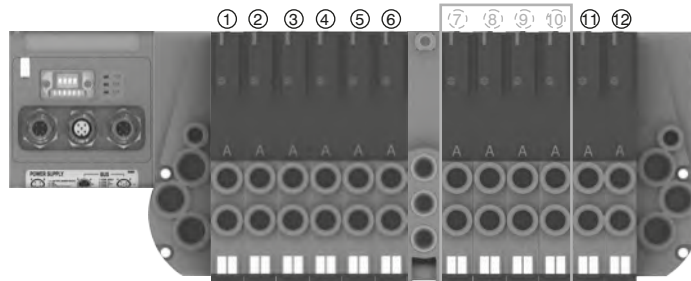
Usage examples:

EXAMPLE 1:

Manifold of 12 monostable valves on which you want to interrupt signals 7-8-9-10

Assembly:

- 6 monostable valves (not interruptible because before the module),
- 1 additional power supply module,
- 6 monostable valves. Please note: the first 4 monostable of these are interruptible by the module, while the following 2 will work correctly managed directly by the corresponding command signals.

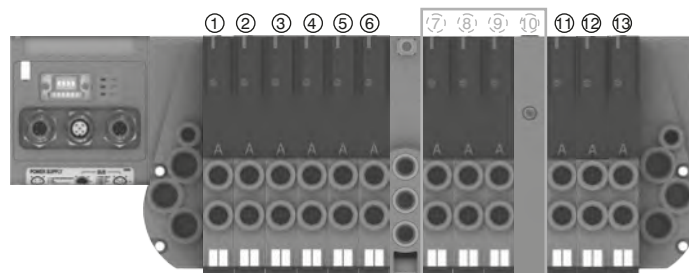


EXAMPLE 2:

Manifold of 12 monostable valves on which you want to interrupt signals 7-8-9

Assembly:

- 6 monostable valves (not interruptible because before the module),
- 1 additional power supply module,
- 3 monostable valves (interruptible),
- 1 closing plate mounted on a monostable base,
- 3 monostable valves (work correctly managed directly by the corresponding command signals).



Please note: Each additional power supply module interrupts always 4 electrical signals.



If you need to interrupt less than 4 signals you can:

- assemble the valves to interrupt in the last positions of the manifold, so you don't need to worry about the interrupted exceeding signals;
- use a bistable base and mount a monostable valve (for each signal less than the 4 standard);
- use a monostable base and mount a closing plate (for each signal less than the 4 standard).

EXAMPLE 3:

Manifold of 7 monostable e 3 bistable valves on which you want to interrupt signals 2-3-4-5 and 8-9-10-11.

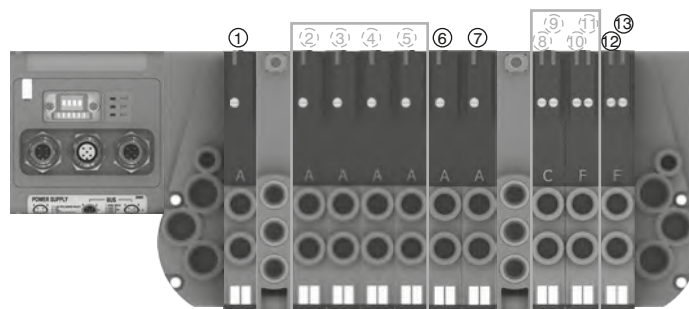
Assembly:

- 1 monostable valve (not interruptible because before the module),
- 1 additional power supply module,
- 6 monostable valves.

Please note: the first 4 monostable of these are interruptible by the module, while the following 2 will work correctly managed directly by the corresponding command signals.

- 1 additional power supply module,
- 3 bistable valves.

Please note: the first 2 bistable of these valves are interruptible by the module, while the following will work correctly managed directly by the corresponding command signals.





1
AIR DISTRIBUTION

Polyethylene Silencer Series SPL-P

Coding: SPLP.**D**



TUBE DIAMETER	
D	18 = 1/8"
	14 = 1/4"
	38 = 3/8"

Diaphragm plug

Coding: 2530.17



Cable complete with connector, 25 Poles IP65

Coding: 2300.25.**L.C**



CABLE LENGTH	
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres

Cable complete with connector, 37 Poles IP65

Coding: 2400.37.**L.C**



CABLE LENGTH	
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres

Cable complete with connector, 25 Poles IP65

Coding: 2400.25.**L.25**



CABLE LENGTH	
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters



The electrical connection is achieved by a 37 pin connector and can manage up to 32 solenoid pilots.

It is also possible use a 25 sub-D pin connector and, in this case, it is possible to manage a maximum of 22 outputs. It is also available a terminal, able to manage a maximum of 16 outputs.

The management and distribution of the electrical signals between each valve is obtained thanks to an electrical connector which receives the signals from the previous module, uses one, two or none depending on the type, and carries forward to the next module the remaining.

Bistable valves, 5/3 and 2x3/2 valves which have two solenoid pilots built in, use two signals; the first is directed to the pilot side 14 the second to the pilot side 12. Modular bases can be fitted with two type of electrical connector: the monostable version uses only one signal (connected to the pilot side 14) and carries forward the remaining, the bistable version which always uses two signals.

This solution allows the modification of the manifold (replacement of monostable valves without bistable for example) without having to reset the PLC output layout.

On other hand this solution limits the maximum number of valves to 16 when it is used a 37 pin connector or 11 when it is used a 25 pin connector. When using a Endplates with terminal, the maximum number of valves are 8.

Intermediate supply/exhaust module uses an electrical connector directly forwarding signals to the next one without any kind of modification.

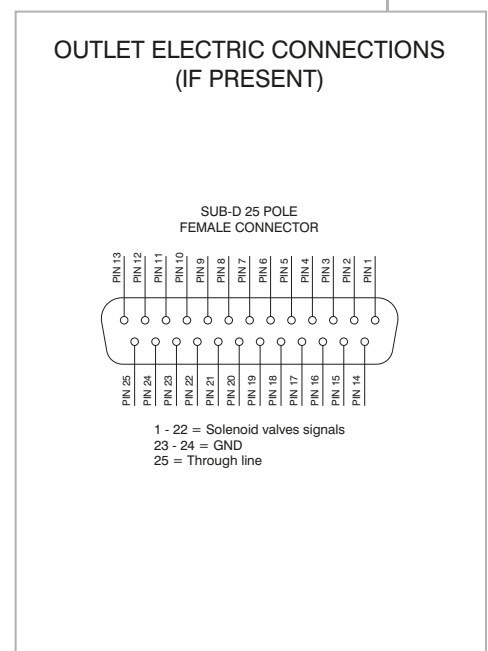
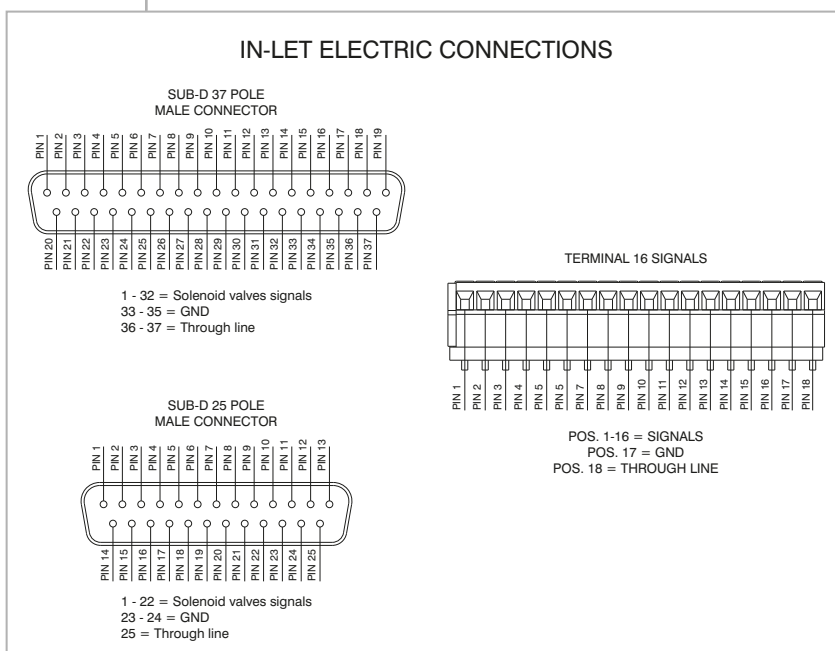
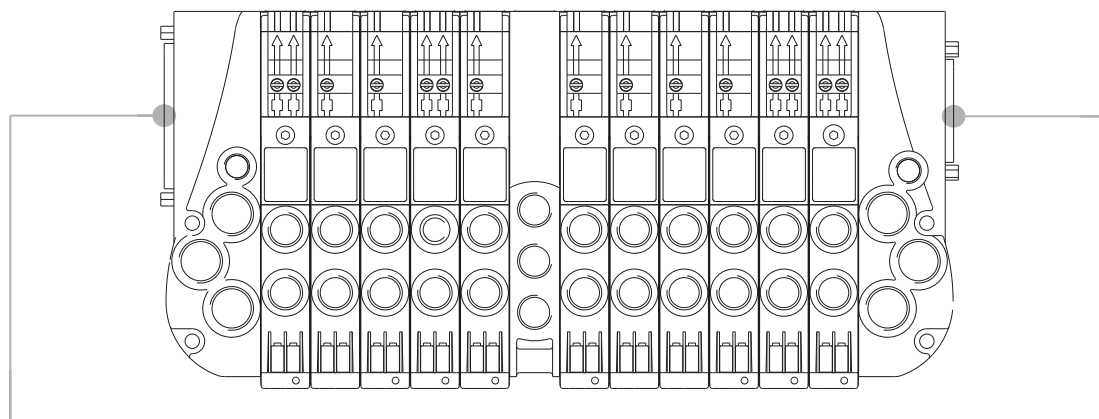
This allows the use of intermediate modules in any position of the manifold.

All the electrical signals that have not been used on the manifold can be used placing at the end of the manifold the end plate complete with the 25 sub-D female connector.

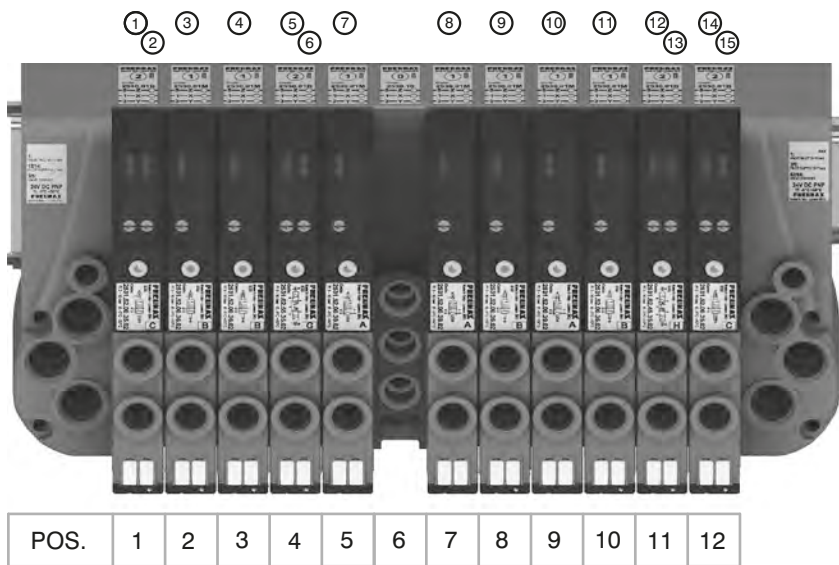
The number of available signals depends of the connector used to the type of the left end plate and by the total signals used along the manifold:

37 pin connector	nr of output = 32 – (total of used signals)
25 pin connector	nr of output = 22 – (total of used signals)
Terminal	nr of output = 16 – (total of used signals)

Following we show some examples of possible combination and the relative pin assignment.

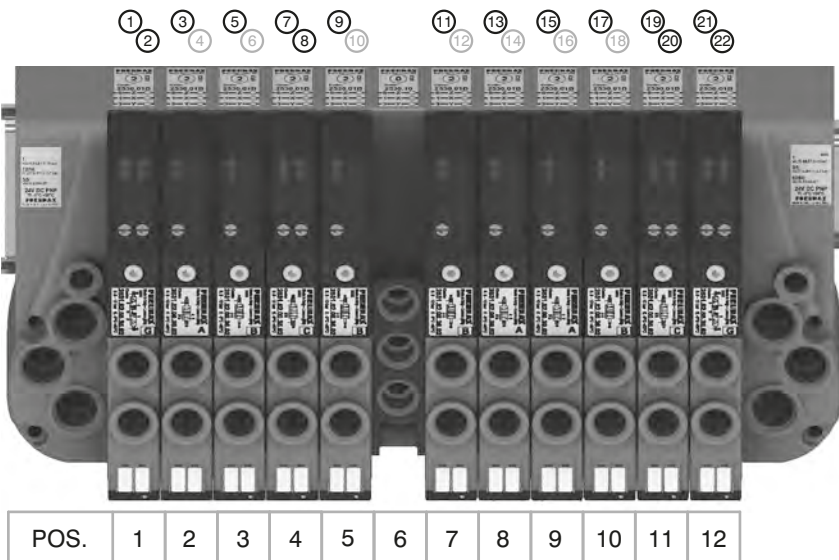


37 PIN Connector correspondence for valves assembled on mixed bases



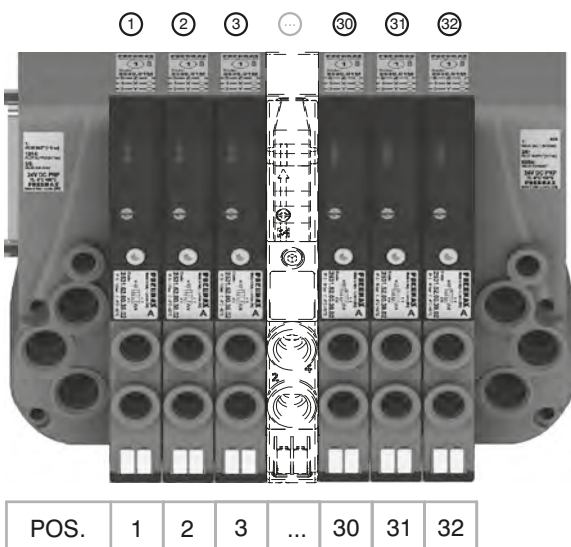
- PIN 1 = PILOT 14 SV POS.1
- PIN 2 = PILOT 12 SV POS.1
- PIN 3 = PILOT 14 SV POS.2
- PIN 4 = PILOT 14 SV POS.3
- PIN 5 = PILOT 14 SV POS.4
- PIN 6 = PILOT 12 SV POS.4
- PIN 7 = PILOT 14 SV POS.5
- PIN 8 = PILOT 14 SV POS.7
- PIN 9 = PILOT 14 SV POS.8
- PIN 10 = PILOT 14 SV POS.9
- PIN 11 = PILOT 14 SV POS.10
- PIN 12 = PILOT 14 SV POS.11
- PIN 13 = PILOT 12 SV POS.11
- PIN 14 = PILOT 14 SV POS.12
- PIN 15 = PILOT 12 SV POS.12

37 PIN Connector correspondence for manifold mounted on bases for bistable valves

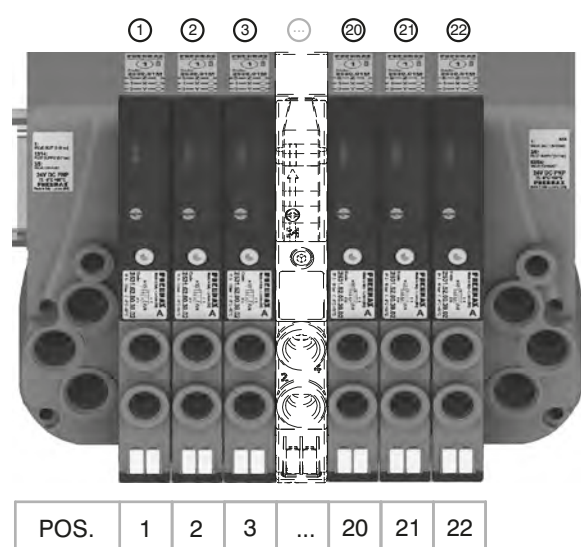


- PIN 1 = PILOT 14 SV POS.1
- PIN 2 = PILOT 12 SV POS.1
- PIN 3 = PILOT 14 SV POS.2
- PIN 4 = NOT CONNECTED
- PIN 5 = PILOT 14 SV POS.3
- PIN 6 = NOT CONNECTED
- PIN 7 = PILOT 14 SV POS.4
- PIN 8 = PILOT 12 SV POS.4
- PIN 9 = PILOT 14 SV POS.5
- PIN 10 = NOT CONNECTED
- PIN 11 = PILOT 14 SV POS.7
- PIN 12 = NOT CONNECTED
- PIN 13 = PILOT 14 SV POS.8
- PIN 14 = NOT CONNECTED
- PIN 15 = PILOT 14 SV POS.9
- PIN 16 = NOT CONNECTED
- PIN 17 = PILOT 14 SV POS.10
- PIN 18 = NOT CONNECTED
- PIN 19 = PILOT 14 SV POS.11
- PIN 20 = PILOT 12 SV POS.11
- PIN 21 = PILOT 14 SV POS.12
- PIN 22 = PILOT 12 SV POS.12

37 PIN Connector correspondence for manifold for 32 position manifold with monostable valves on base



25 PIN Connector correspondence for manifold for 22 position manifold with monostable valves on base



1 AIR DISTRIBUTION



General :

Using the 2530.03.25P output terminal it is possible to make any electrical signals not used by valves available on a 25 sub-D female connector at the right end of the manifold.
It is possible to then join a multi-core cable to link to the next manifold, or connect directly to one or two I/O modules.
The I/O modules can accept input or output signals, depending upon what is connected.

Please note: If the manifold is connected by a multi-core connection, each connection can be used as either an input or an output, while if the manifold is connected to a serial node the connections can only be used as an output.

It is possible to connect the manifold to up to two I/O modules.

Each I/O module includes 8 diagnostic LEDs which indicate the presence of an Input / Output signal for each connector.

Please note: For an LED to function, a signal of at least +15VDC must be present on pin 4 of the connector. If this signal is lower, the LED will not light, this does not compromise the normal Input / Output function of the unit.

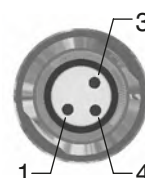
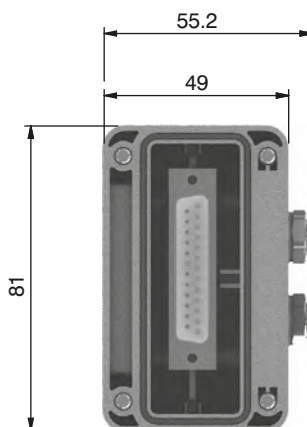
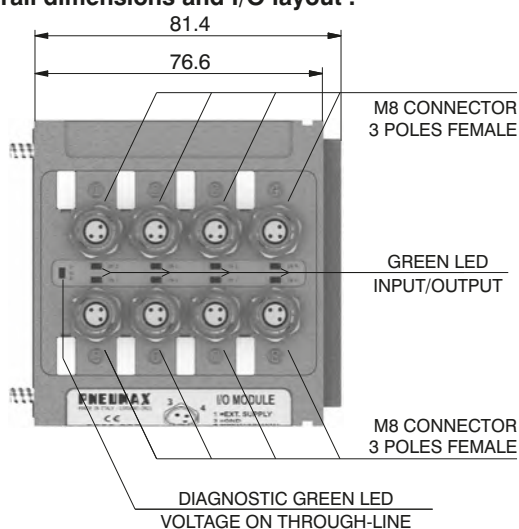
Ordering code

2530.08F



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Overall dimensions and I/O layout :



PIN	DESCRIPTION
1	+24 VDC
4	INPUT/OUTPUT
3	GND

Input features:

Each connection can accept either two wire (switches, magnetic switches, pressure switches, etc.) or three wire connections (photocells, electronic end of stroke sensors, etc.) If +24VDC is required on at Pin 1 of each connector, it is possible to provide this via the through-line pin of the multi-pole connector.

I.E :

Pin 25 of the 25 pin multi-pole connector (code 2530.02.25P or 2530.12.25P)

Pin 36-37 of the 37 pin multi-pole connector (code 2530.02.37P or 2530.12.37P)

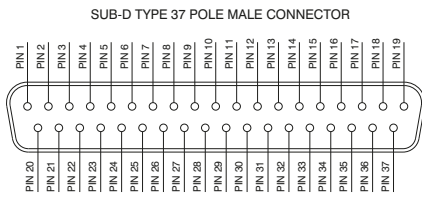
Output features:



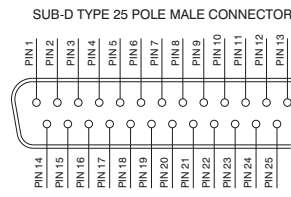
Attention: The output connections are not protected against short-circuit. Please pay attention when wiring (avoid Pin 4 being connected to Pin 3 or Pin 1).

General characteristics	Model	2530.08F
	Case	Reinforced technopolymer
	I/O Connector	M8 connector 3 poles female (IEC 60947-5-2)
	PIN1 voltage (connector used as Input)	By the user
	PIN 4 voltage diagnosis	Green LED
	Node consumption (Outlets excluded)	7mA per each LED with 24 VDC signal
	Outlets voltage	+23,3 VDC (serial) /by the user (multipolar)
	Input voltage	Depend by the using
	Maximum outlet current	100 mA (serial) / 400 mA (multipolar)
	Maximum Input/Output	8 per module
	Multiconnector max. Current	100 mA
	Connections to manifold	Direct connection to 25 poles connector
	Maximum n. of moduls	2
	Protection degree	IP65 when assembled
Ambient temperature	from -0° to +50° C	

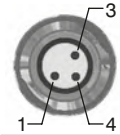
CORRESPONDENCE BETWEEN MULTI-POLE SIGNAL AND CONNECTOR



1 - 32 = SIGNALS
 33 - 35 = GND
 36 - 37 = THROUGH LINE



1 - 22 = SIGNALS
 23 - 24 = GND
 25 = THROUGH LINE



PIN DESCRIPTION	
1	THROUGH LINE
4	SIGNAL
3	GND

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Connection modes:

The I/O module changes its operation depending on the way the manifold is controlled. There are two possible modes:

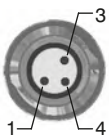
- A) Control via multi-pole connection
- B) Control via fieldbus

A) Control via multi-pole :

M8 connector used as Input:



Attention: Voltage applied to each connector is passed to multi-pole connector pin.



PIN DESCRIPTION	
1	THROUGH LINE
4	SIGNAL
3	GND

In order to use the I/O module, the correct right hand endplate with 25 pole female outlet connector must be used. (Code 2530.03.25P).

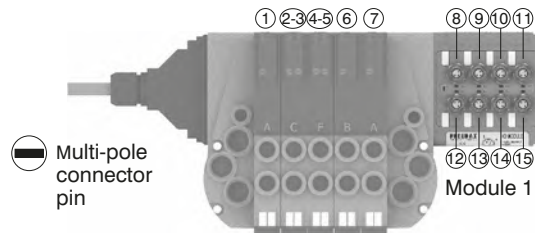


M8 connector used as Output:

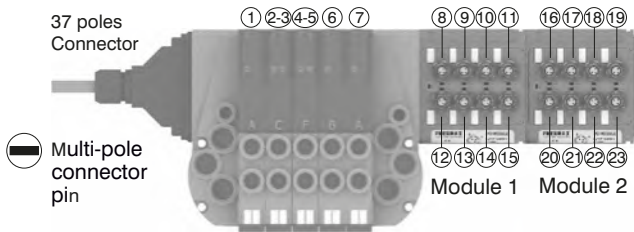
Output voltage will be the same as is applied at the multi-pole connector pin. The maximum output current depends upon the power unit used, but we recommend no more than 250mA.



Attention: Since every cable has a degree of resistance, there will always be a voltage drop depending on the cable's length, sectional area and the current.

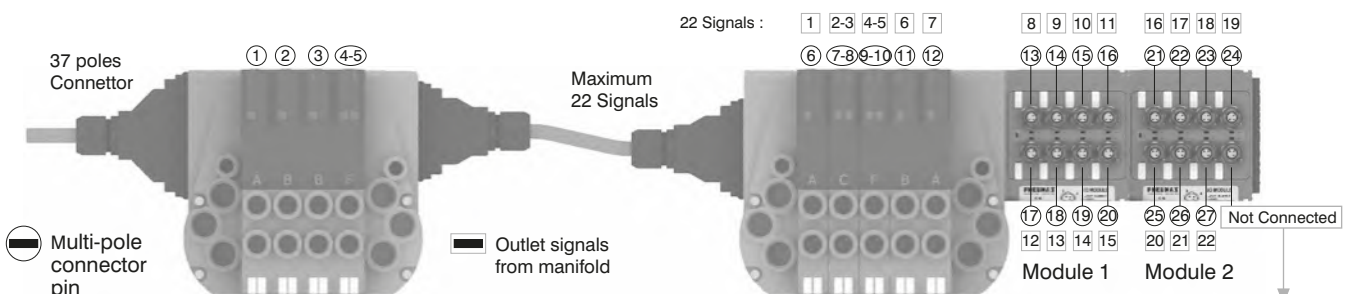


Attention: Only one more I/O module can be added.



Attention: No more additions are possible

Attention : Optyma 32-F solenoid valve manifolds permit up to 22 electrical signals that are not used by manifolds to be made available: these signals can be managed by another manifold and / or by I/O modules. The I/O module will manage these unused signals. Connections that are not managing useful signals will remain unconnected.



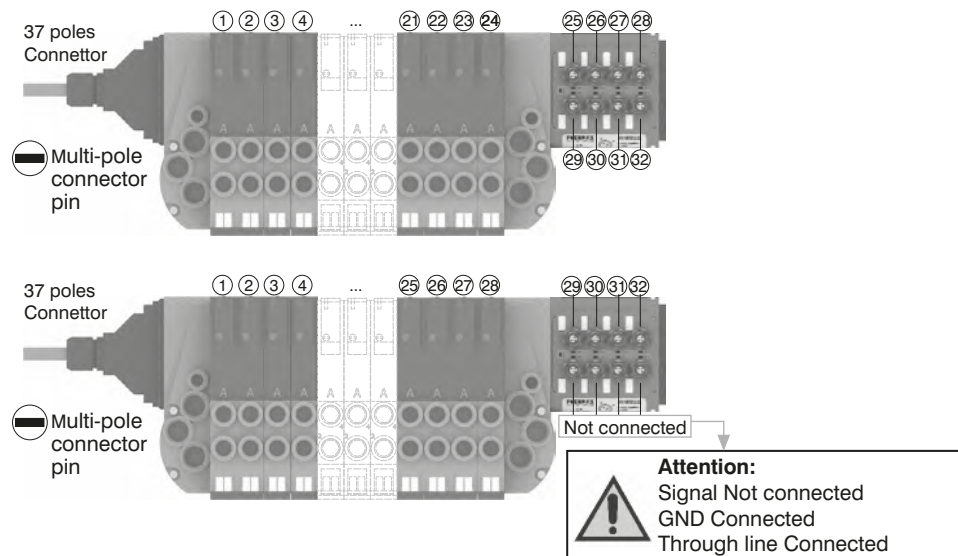
Multi-pole connector pin

Outlet signals from manifold

Attention: Signal Not connected
 GND Connected
 Through line Connected

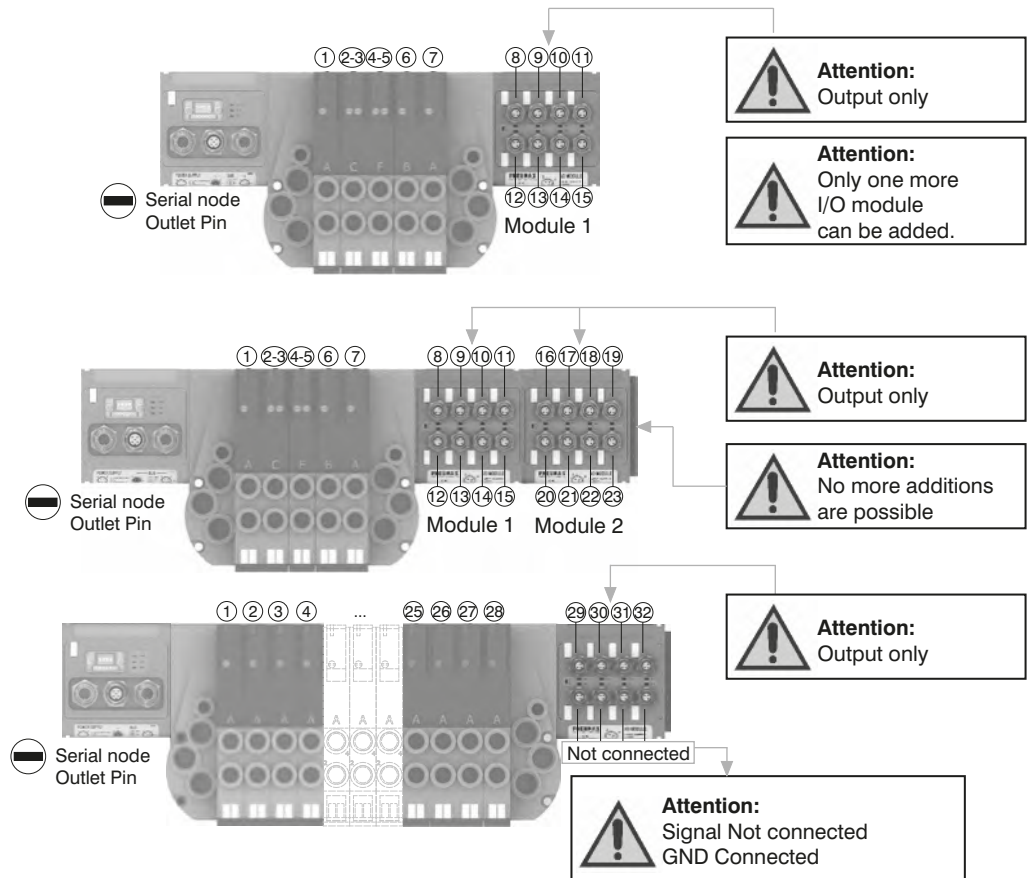
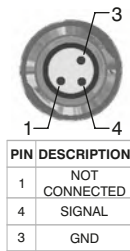


Please note: Optyima 32-F solenoid valve manifolds manage up to 32 signals. If the manifold uses more than 24 signals the I/O module will manage only the remainder. Connections that are not managing useful signals will remain unconnected.

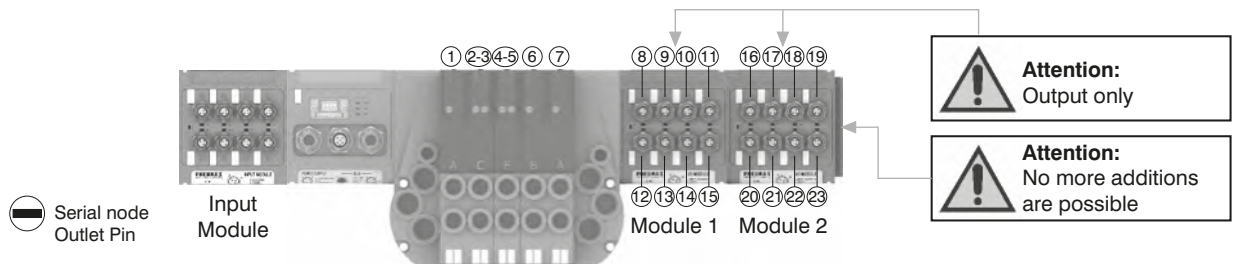


B) Control via fieldbus:

With this kind of control the I/O module can only be used as an output. Pin 1 of each connector is not connected. The output voltage will be 0.7V lower than that applied to Pin 4 of the connector. The maximum output current for each output is 100mA. The correspondence between control byte and each single output depends on how many electrical signals are used by the manifold and by the relative position of the I/O module.

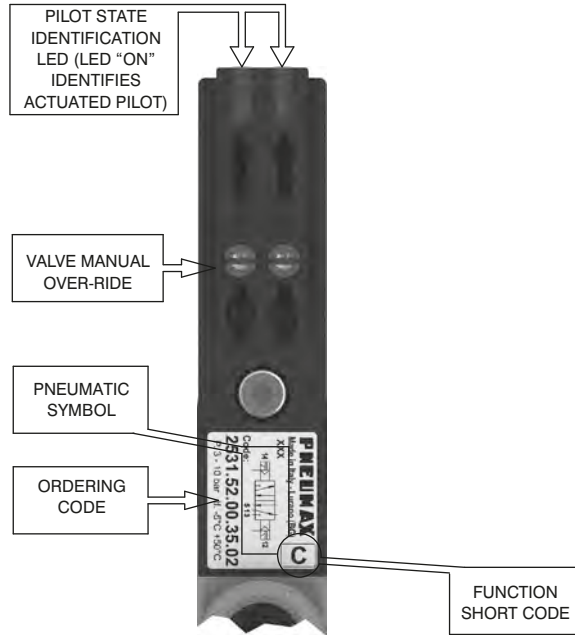
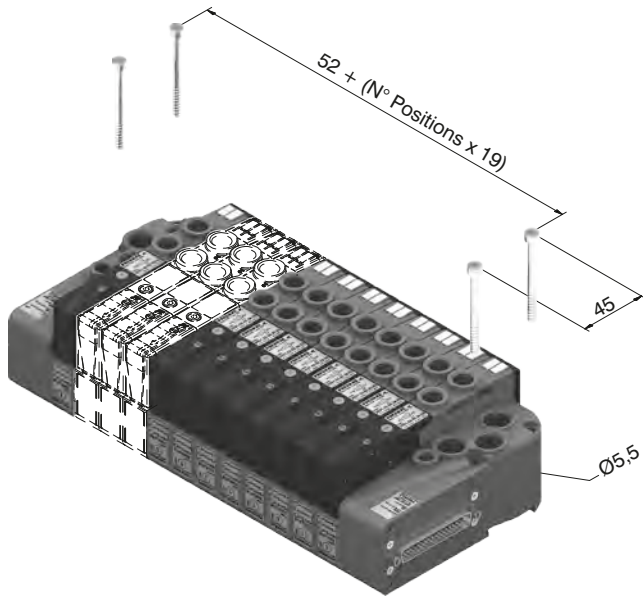


Please note: I/O modules don't allow to connect any additional valves manifold after them.

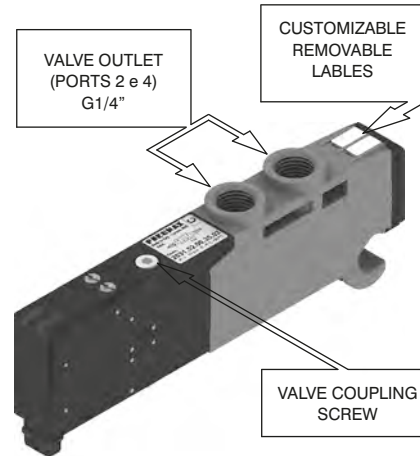
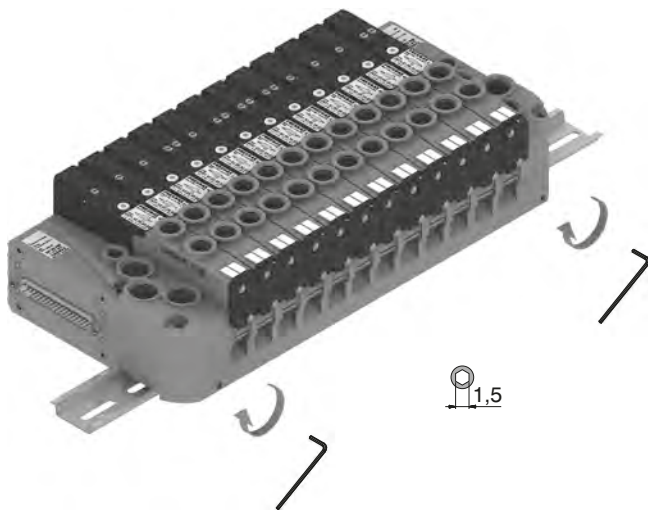


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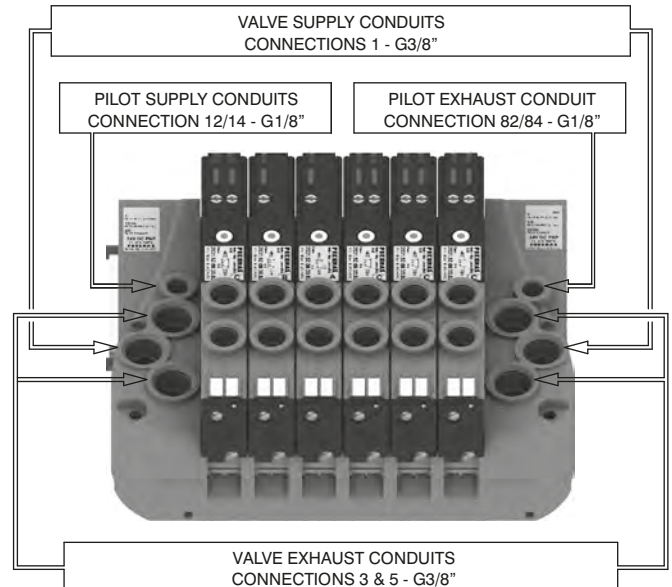
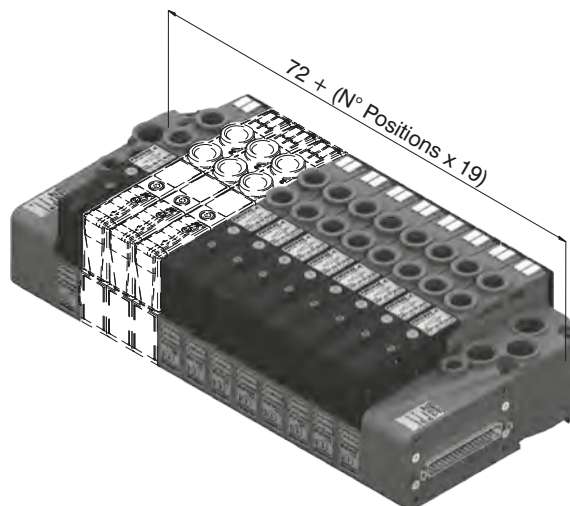
From the top



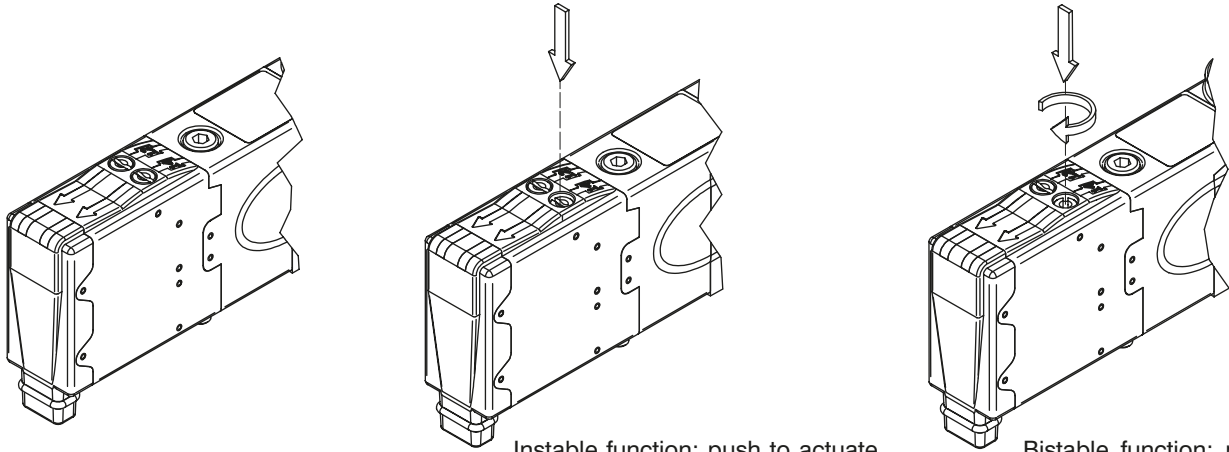
DIN rail fixing



Maximum possible size according to valves seats



Manual override actuation

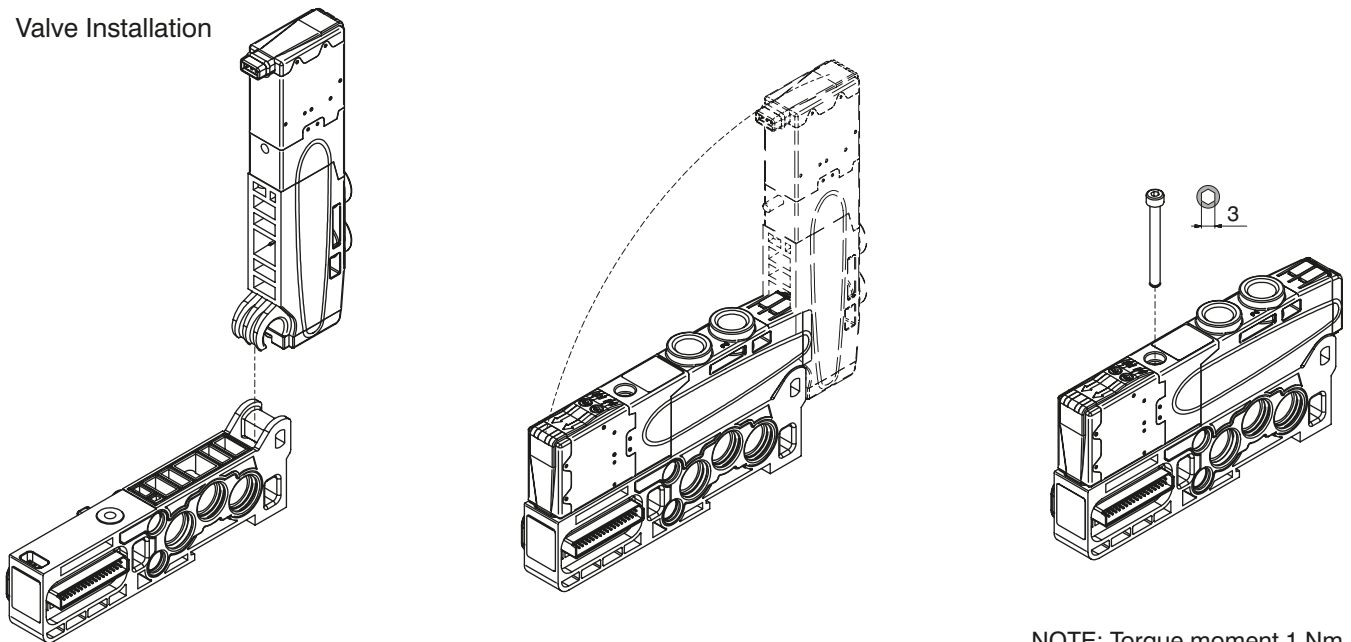


Instable function: push to actuate (when released it moves back to the original position).

Bistable function: push and turn to get the bistable function

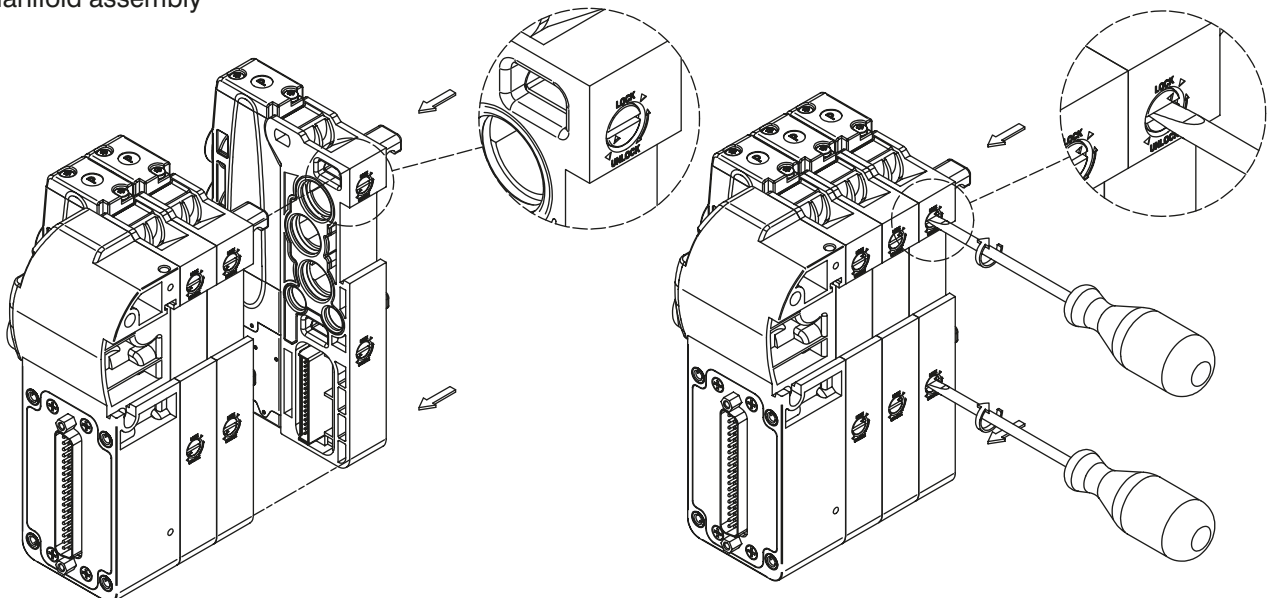
NOTE : It is strongly suggested to replace the original position after using

Valve Installation



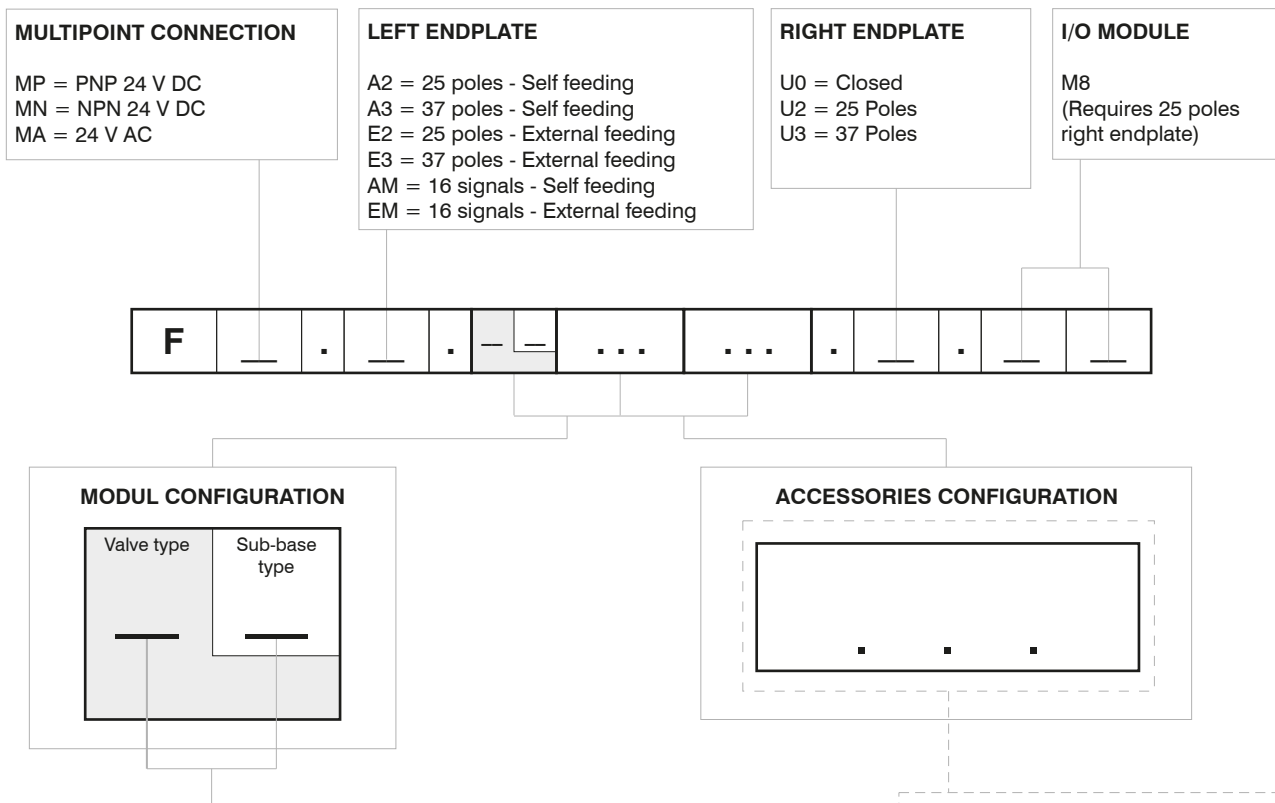
NOTE: Torque moment 1 Nm

Manifold assembly



Manifold Layout configuration

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SHORT CODE FUNCTION / CONNECTION :

A1= 5/2 SOL.-SPRING + BASE TYPE 1 (1 electrical signal occupied)
A2= 5/2 SOL.-SPRING + BASE TYPE 2 (2 electrical signals occupied)
B1= 5/2 SOL.-DIFFERENTIAL + BASE TYPE 1 (1 electrical signal occupied)
B2= 5/2 SOL.-DIFFERENTIAL + BASE TYPE 2 (2 electrical signals occupied)
C2= 5/2 SOL.-SOL. + BASE TYPE 2 (2 electrical signals occupied)
E2= 5/3 CC SOL.-SOL. + BASE TYPE 2 (2 electrical signals occupied)
F2= 2x3/2 NC-NC (= 5/3 OC) SOL.-SOL.+BASE TYPE 2 (2 electrical signals occupied)
G2= 2x3/2 NO-NO (= 5/3 PC) SOL.-SOL.+BASE TYPE 2 (2 electrical signals occupied)
H2= 2x3/2 NC-NO SOL.-SOL. + BASE TYPE 2 (2 electrical signals occupied)
I2= 2x3/2 NO-NC SOL.-SOL. + BASE TYPE 2 (2 electrical signals occupied)
T1= FREE VALVE SPACE PLUG + BASE FOR MONOSTABLE VALVE
T2= FREE VALVE SPACE PLUG + BASE FOR BISTABLE VALVE

ACCESSORIES

U2 = Power supply 2 positions module
U4 = Power supply 4 positions module
W = Intermediate supply & exhaust module
X = Diaphragm plug on pipe 1
Y = Diaphragm plug on pipe 3
Z = Diaphragm plug on pipe 5
XY = Diaphragm plug on pipe 1 & 3
ZX = Diaphragm plug on pipe 5 & 1
ZY = Diaphragm plug on pipe 5 & 3
ZXY = Diaphragm plug on pipe 5, 1 & 3

NOTE:
While configuring the manifold always be careful that the maximum number of electrical signals available is:
32 when an input 37 poles endplate is used.
22 when an input 25 poles endplate is used.
The use of monostable valve mounted on a base type 2 (2 electrical signals occupied) causes the loss of one electric signal.
In this case the monostable valve can be replaced by a bistable valve. The diaphragms plugs are used to intercept the conduits 1,3 & 5 of the base. If it is necessary to interrupt more than one conduit in the same time then put in line the letters which identifies the position (for example : regarding the 3 & 5 conduits, put the Y & Z letters).
Should one or more conduits be cut more than one time it is necessary to add the relevant intermediate Supply/Exhaust module.

Series 2500 OPTYMA-F solenoid valve manifolds managed by multipoint connection are "well tried components"

	Well-tryed component	- The product is a well-tryed product for a safety-related application according to ISO 13849-1. - The relevant basic and well-tryed safety principles according ISO 13849-2 for this product are fulfilled.
B_{10d}	50.000.000	- The suitability of the product for a precise application must be verified and confirmed by the user.

General:

CANopen® module is directly integrated on Optyima-F solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyima-F solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08F or a max number of 2 Input modules 5225.25F.

CANopen® module recognizes automatically the presence of the Input modules on power on. Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus CANopen® is possible via 2 M12 5P male - female circular connectors; these two are connected in parallel and according to CiA Draft Recommendation 303-1 (V. 1.3 : 30 December 2004).

Transmission speed can be set by 3 dip-switches.

The node address can be set by 6 dip-switches using BCD numeration.

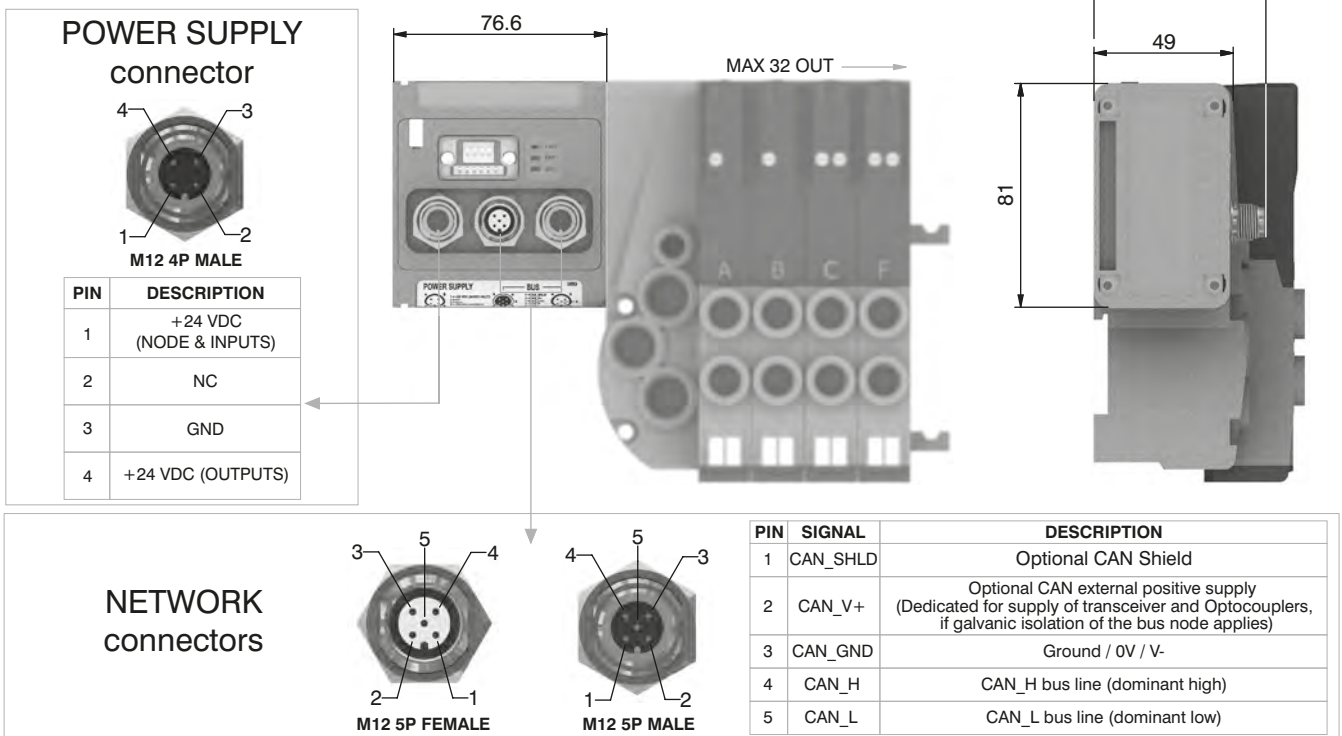
The module includes an internal terminating resistance that can be activated by a dip-switch.

Ordering code

5525.32F



Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5525.32F
	Specifications	CiA Draft Standard Proposal 301 V 4.10 (15 August 2006)
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	30 mA
	Power supply diagnosis	Green LED PWR
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 5P connectors male-female type A (IEC 60947-5-2)
	Baud rate	10 - 20 - 50 - 125 - 250 - 500 - 800 - 1000 Kbit/s
	Addresses, possible numbers	From 1 to 63
	Max nodes in net	64 (slave + master)
	Bus maximum recommended length	100 m at 500 Kbit/s
	Bus diagnosis	Green LED + Red LED
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General:

DeviceNet module is directly integrated on Optyima-F solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
 Optyima-F solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08F or a max number of 2 Input modules 5225.25F.

DeviceNet module recognizes automatically the presence of the Input modules on power on.

Regardless of the number of Input modules connected, the managable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus DeviceNet is possible via 2 M12 5P male - female circular connectors; these two are connected in parallel and according to DeviceNet Specifications Volume I, release 2.0.

Transmission speed can be set by 3 dip-switches.

The node address can be set by 6 dip-switches using BCD numeration.

The module includes an internal terminating resistance that can be activated by a dip-switch.

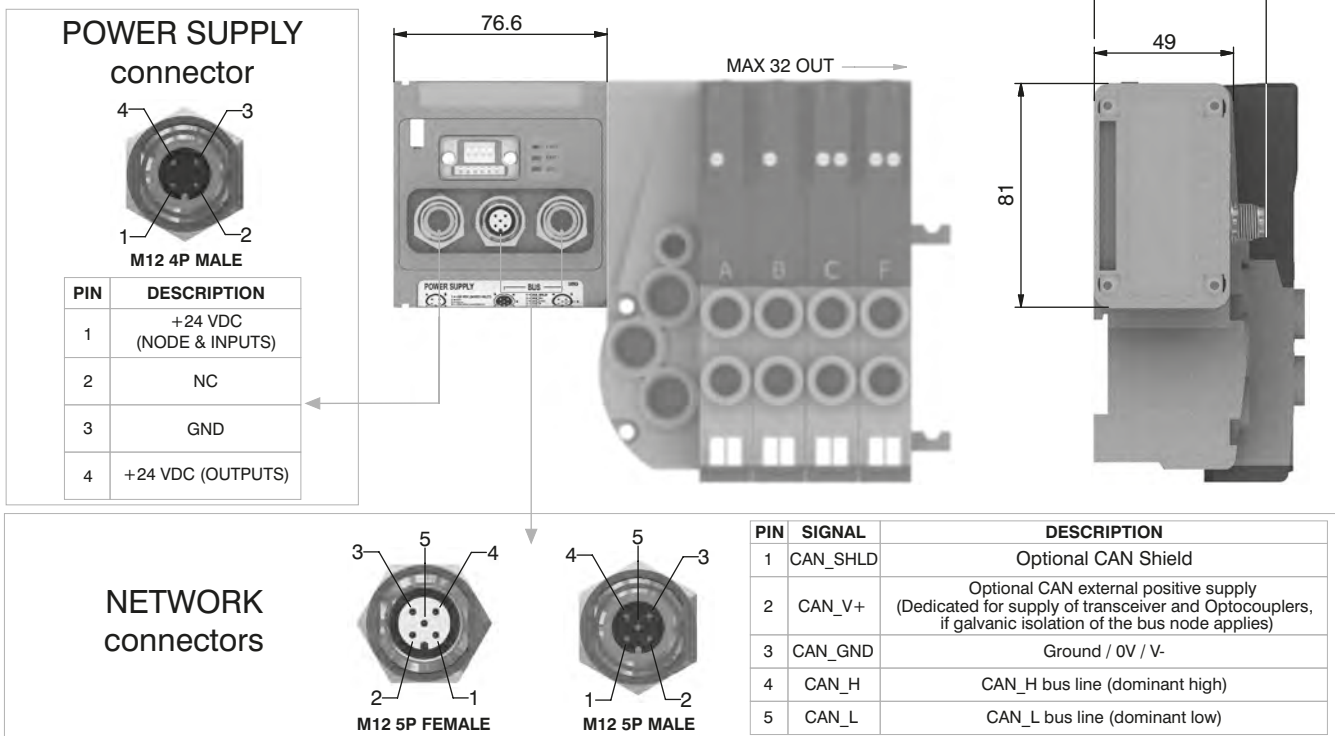
Ordering code

5425.32F



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Scheme / Overall dimensions and I/O layout :



Technical characteristics

Model	5425.32F
Specifications	DeviceNet Specifications Volume I, release 2.0.
Case	Reinforced technopolymer
Power supply	Power supply connection
	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage
	+24 VDC +/- 10%
	Node consumption (without inputs)
	30 mA
	Power supply diagnosis
	Green LED PWR
Outputs	PNP equivalent outputs
	+24 VDC +/- 10%
	Maximum current for output
	100 mA
	Maximum output number
	32
	Max output simultaneously actuated
	32
Network	Network connectors
	2 M12 5P connectors male-female type A (IEC 60947-5-2)
	Baud rate
	125 - 250 - 500 Kbit/s
	Addresses, possible numbers
	From 1 to 63
	Max nodes in net
	64 (slave + master)
	Bus maximum recommended length
	100 m at 500 Kbit/s
	Bus diagnosis
	Green LED + Red LED
	Configuration file
	Available from our web site: http://www.pneumaxspa.com
	IP protection grade
	IP65 when assembled
	Temperature range
	From 0° to +50° C



General:

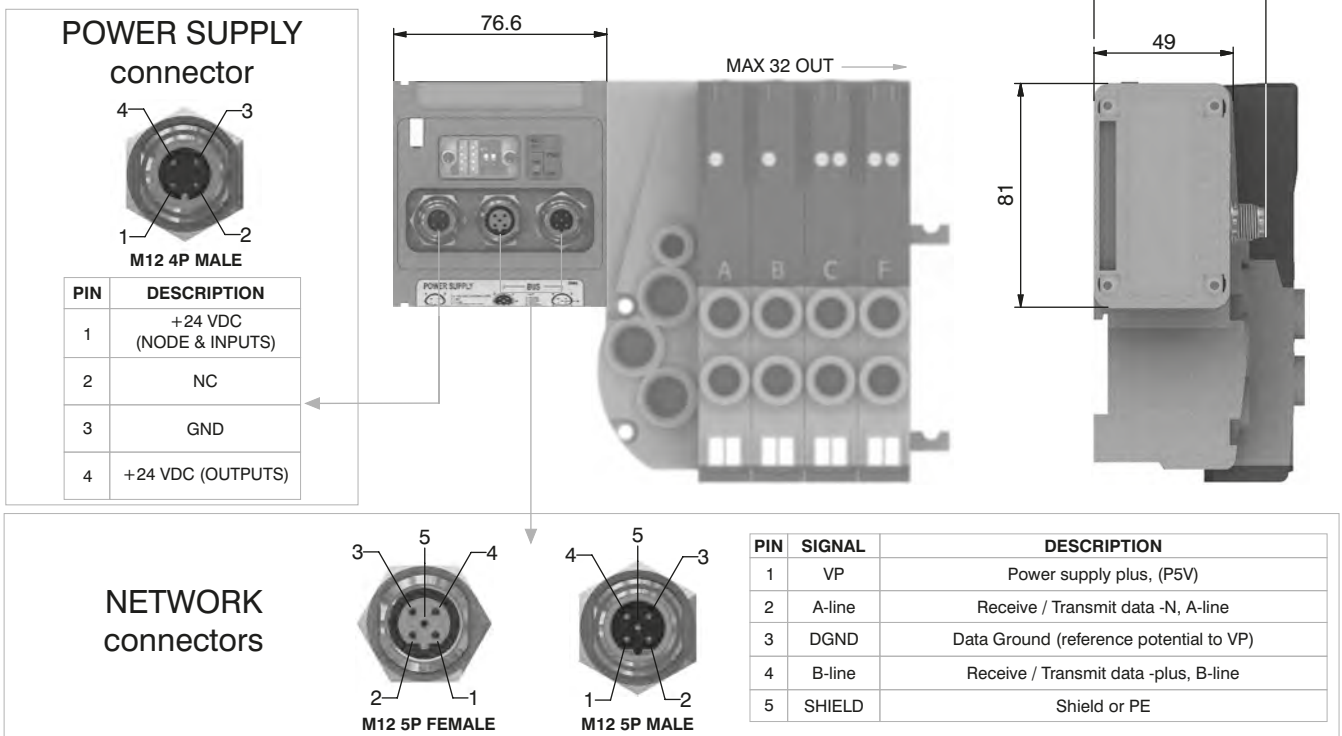
PROFIBUS DP module is directly integrated on Optyma-F solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
 Optyma-F solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
 The node can be easily installed also on solenoid valves manifold already mounted on equipment.
 Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08F or a max number of 4 Input modules 5225.25F.
 PROFIBUS DP module recognizes automatically the presence of the Input modules on power on.
 Regardless of the number of Input modules connected, the manageable solenoid valves are 32.
 Node power supply is made by a M12 4P male circular connector.
 The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.
 Connection to Bus PROFIBUS DP is possible via 2 M12 type B 5P male - female circular connectors; these two are connected in parallel and according to PROFIBUS Interconnection Technology (Version 1.1 : August 2001).
 The node address can be set using BCD numeration: 4 dip-switches for the units and 4 dip-switches for the tens.
 The module includes an internal terminating resistance that can be activated by 2 dip-switches.

Ordering code

5325.32F



Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5325.32F
	Specifications	PROFIBUS DP
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	50 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 5P male-female connectors type B
	Baud rate	9,6 - 19,2 - 93,75 - 187,5 - 500 - 1500 - 3000 - 6000 - 12000 Kbit/s
	Addresses, possible numbers	From 1 to 99
	Max nodes in net	100 (slave + master)
	Bus maximum recommended length	100 m at 12 Mbit/s - 1200 m at 9,6 Kbit/s
	Bus diagnosis	Green LED + Red LED
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General:

EtherCAT® module is directly integrated on Optyma-F solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.

Optyma-F solenoid valves connected to node must be PNP equivalent (final 02 in ordering code). The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08F or a max number of 2 Input modules 5225.25F.

The EtherCAT® module, regardless the number of Input module connected, reports to have connected 4 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus EtherCAT® is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

The node address is assigned during configuration.

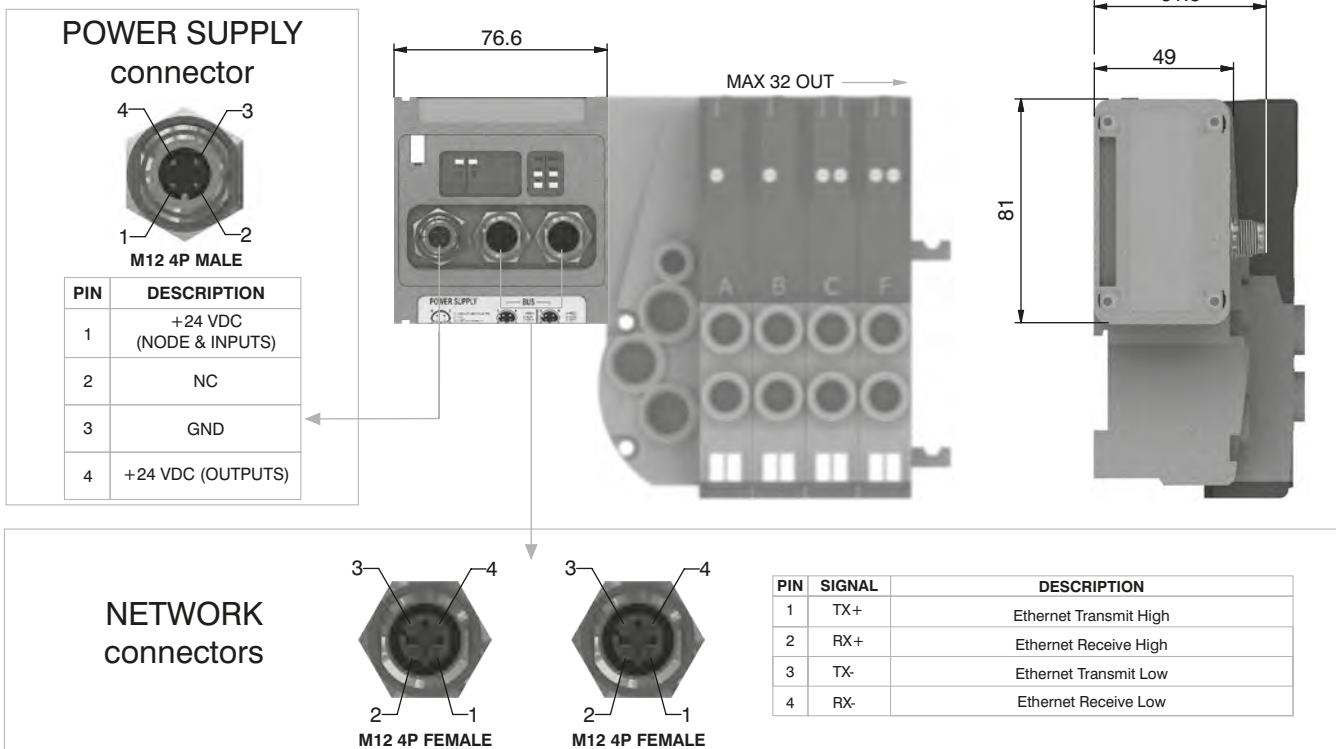
Note: 5700 series has a different configuration file from series 5600.

Ordering code

5725.32F.EC



Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5725.32F.EC
	Specifications	EtherCAT® Specifications ETG.1000 series
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	From 1 to 65535
	Max nodes in net	65536 (slave + master)
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C



General:

PROFINET IO RT module is directly integrated on Optyima-F solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyima-F solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08F or a max number of 4 Input modules 5225.25F.

The PROFINET IO RT module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus PROFINET IO RT is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

The node address is assigned during configuration.

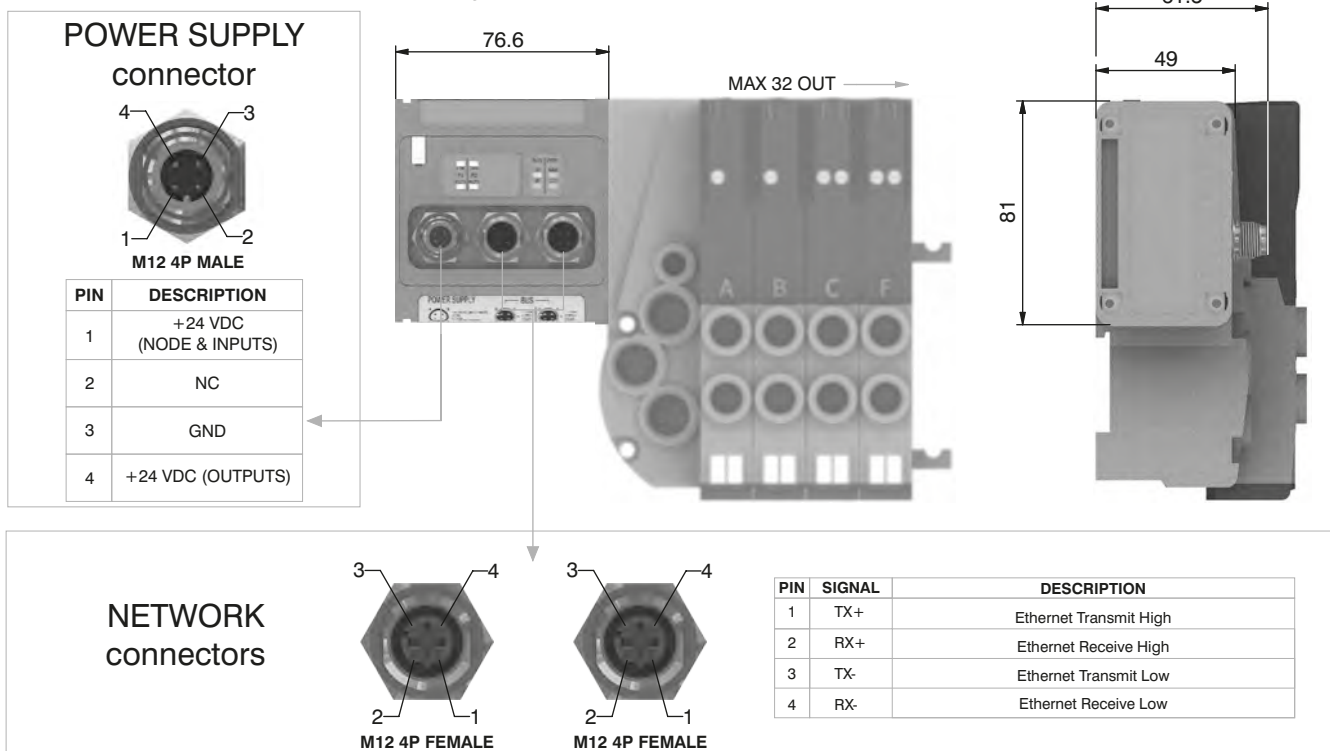
Ordering code

5725.32F.PN



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Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5725.32F.PN
	Specifications	PROFINET IO RT
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	As an IP address
	Max nodes in net	As an Ethernet Network
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 4 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General:

EtherNet/IP module is directly integrated on Optyma-F solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection. Optyma-F solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08F or a max number of 4 Input modules 5225.25F.

The EtherNet/IP module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the managable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus EtherNet/IP is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

The node address is assigned during configuration.

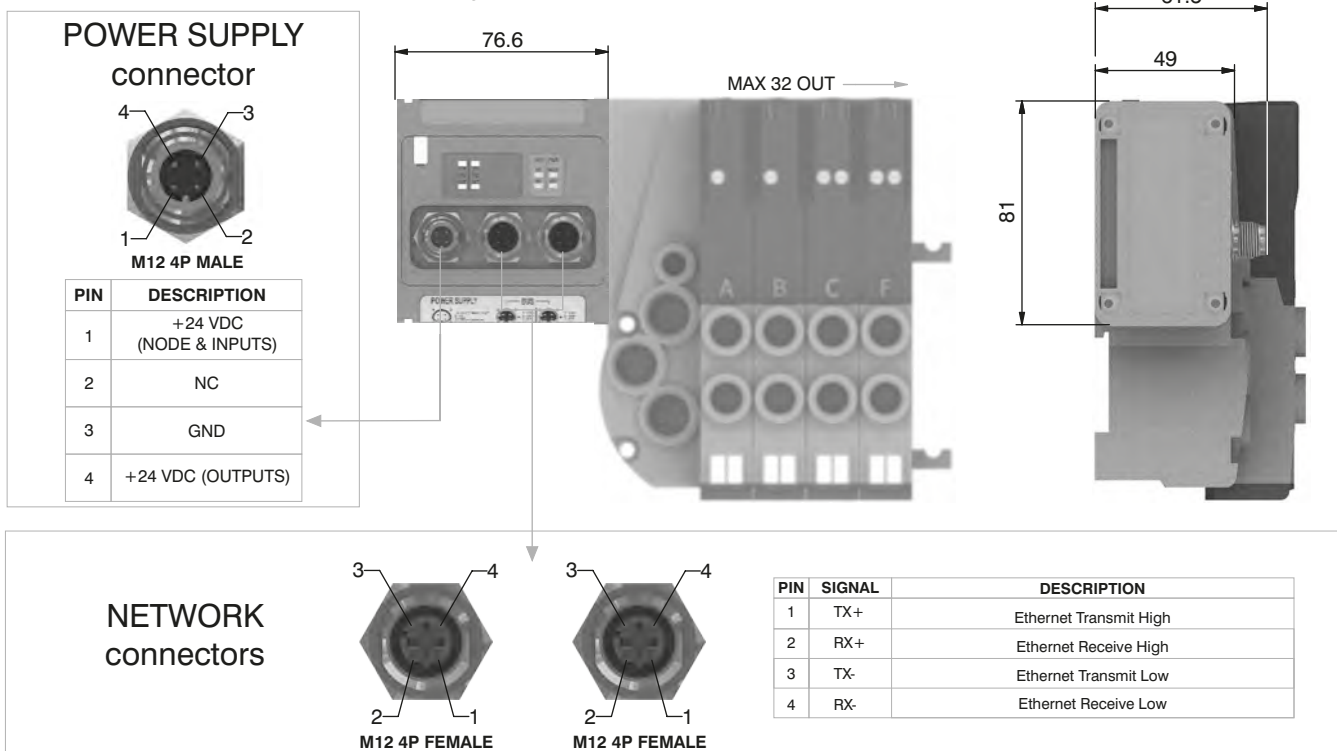
Ordering code

5725.32F.EI



1 AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5725.32F.EI
	Specifications	The EtherNet/IP Specification
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	As an IP address
	Max nodes in net	As an Ethernet Network
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 4 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General:

Powerlink module is directly integrated on Optyima-F solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyima-F solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08F or a max number of 4 Input modules 5225.25F.

The Powerlink module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus Powerlink is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

The node address is assigned during configuration.

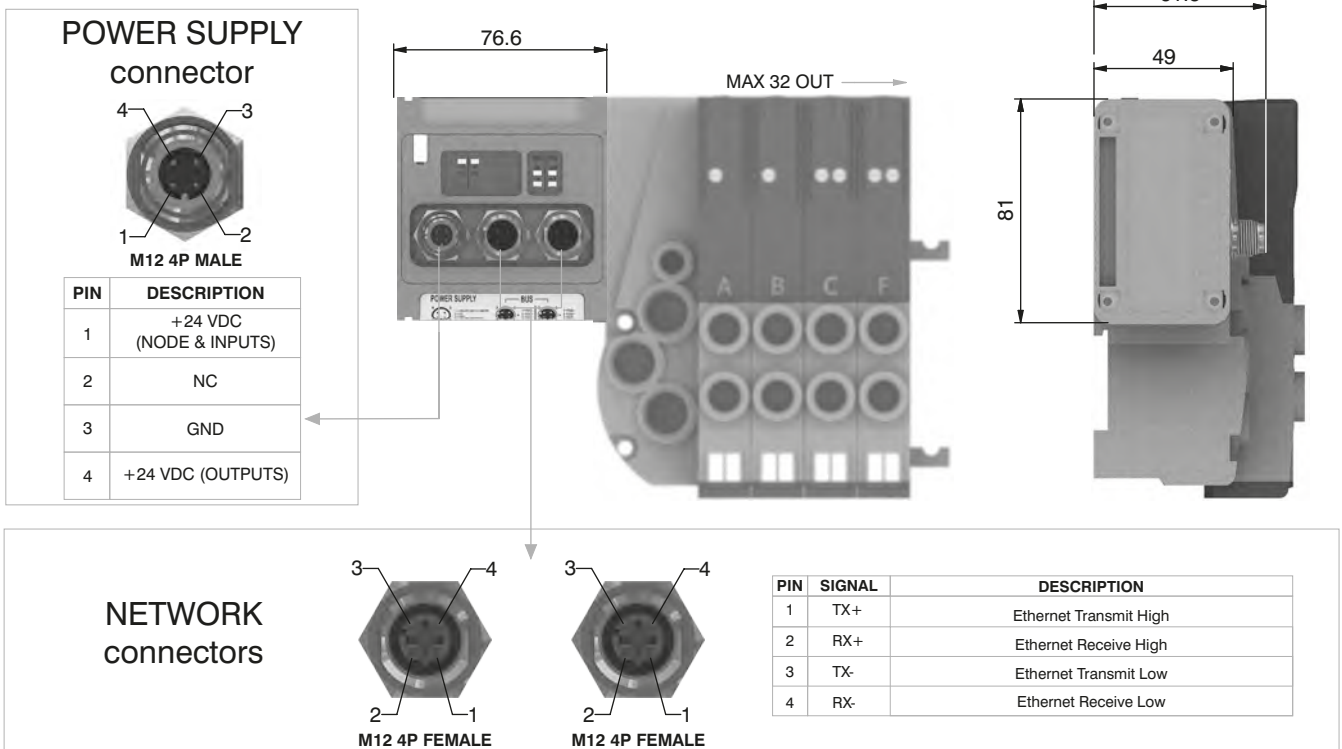
Ordering code

5725.32F.PL



1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5725.32F.PL
	Specifications	Ethernet POWERLINK Communication Profile Specifications
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	239
	Max nodes in net	240
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General:

Modbus/TCP module is directly integrated on Optyma-F solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
 Optyma-F solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08F or a max number of 4 Input modules 5225.25F.

The Modbus/TCP module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the managable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus Modbus/TCP is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

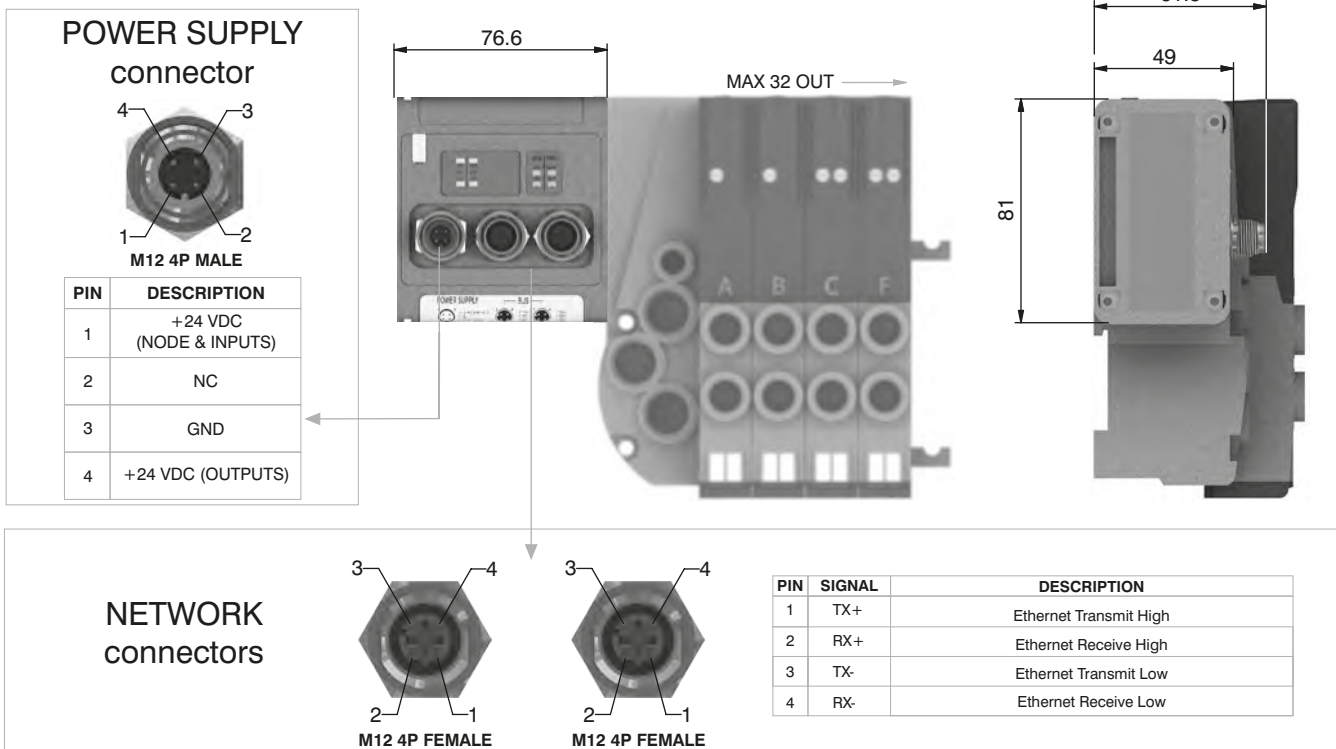
The node address is assigned during configuration.

Ordering code

5725.32F.MT



Scheme / Overall dimensions and I/O layout :



Technical characteristics

Model	5725.32F.MT
Specifications	MODBUS Application Protocol Specification V1.1a, June 4, 2004
Case	Reinforced technopolymer
Power supply	Power supply connection M12 4P male connector (IEC 60947-5-2)
	Power supply voltage +24 VDC +/- 10%
	Node consumption (without inputs) 400 mA
	Power supply diagnosis Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs +24 VDC +/- 10%
	Maximum current for output 100 mA
	Maximum output number 32
	Max output simultaneously actuated 32
Network	Network connectors 2 M12 4P female connectors type D (IEC 61076-2-101)
	Baud rate 100 Mbit/s
	Addresses, possible numbers 248
	Max nodes in net 248
	Maximum distance between 2 nodes 100 m
	Bus diagnosis 1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file Modbus/TCP nodes don't require configuration file
	IP protection grade IP65 when assembled
	Temperature range From 0° to +50° C



General:

Modules have 8 connectors M8 3P female.

The Inputs are PNP equivalent 24 VDC ±10%.

To each connector it is possible to plug both 2 wires Inputs (switches, magnetic switches pressure switches, etc.) or 3 wires Inputs (proximity, photocells, electronic sensors, etc).

The maximum current available for all 8 Inputs is 200 mA.

Each module includes a 200 mA self-mending fuse. If a short circuit or a overcharge (overall current >200mA) occur the safety device acts cutting the 24 VDC power supply to all M8 connectors on the module and switching off the green LED PWR. Any other Input module connected to the node will remain powered and will function correctly.

Once the cause of the fault disappears the green LED PWR lights up indicating the ON state and the node will re-start to operate.

The maximum number of Input modules supported is 4.

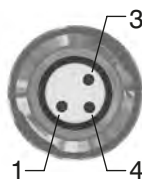
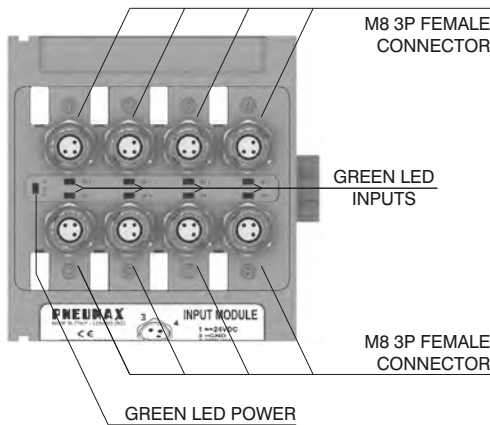
Ordering code

5225.08F

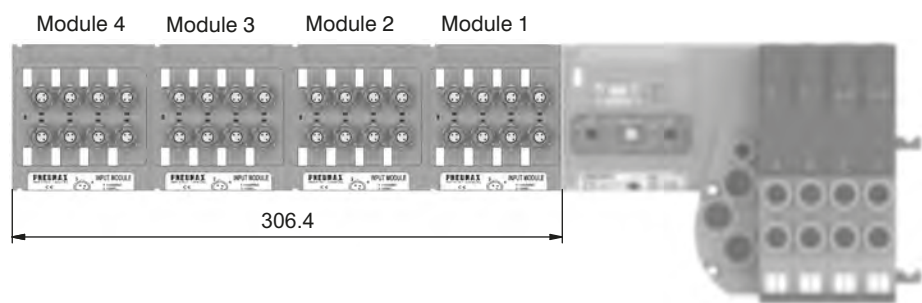
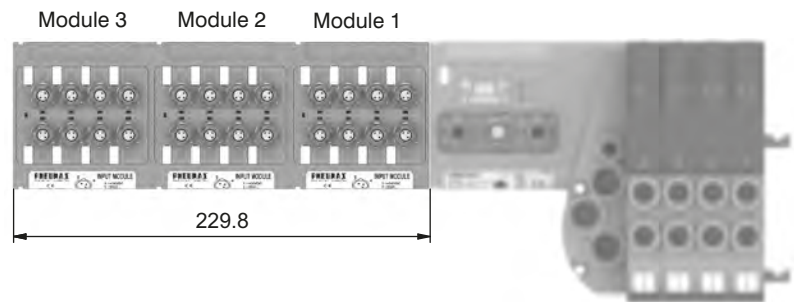
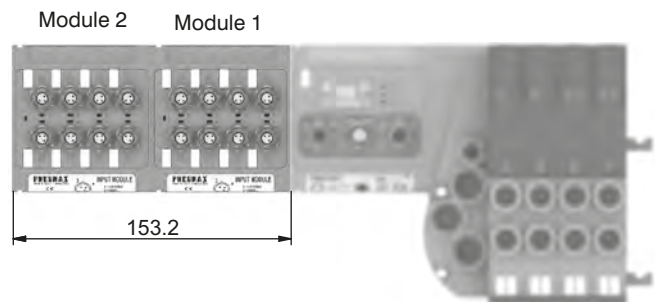
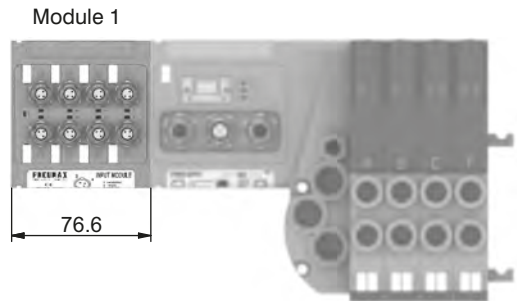


1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout :



PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND



General :

Modules are fitted with SUB-D 25 pin female connector.

The Inputs are PNP equivalent 24VDC \pm 10%.

To the connector it is possible to connect both 2 wires Inputs (switches, magnetic switches pressure switches etc.) or 3 wires (proximity, photocells, electronic end of stroke sensors etc).

The maximum current available for all 16 Inputs is 750 mA.

Each module includes a 750 mA self-mending fuse. Should a short circuit or a overcharge (overall current >750mA) occur the safety device intervenes cutting the 24VDC power supply to all pins and switching off the green LED PWR. Any other Input module connected to the node will remain powered and will function correctly.

Once the cause of the fault is removed the green LED lights up indicating the ON state and the node will re-start to operate. This 16 Inputs module is counted as two 8 Inputs modules.

The Maximum number of 16 Inputs modules supported is 2 for CANopen[®], DeviceNet and EtherCAT[®].

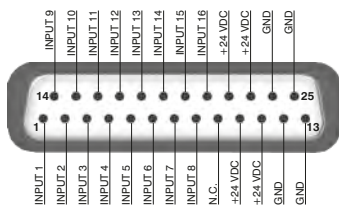
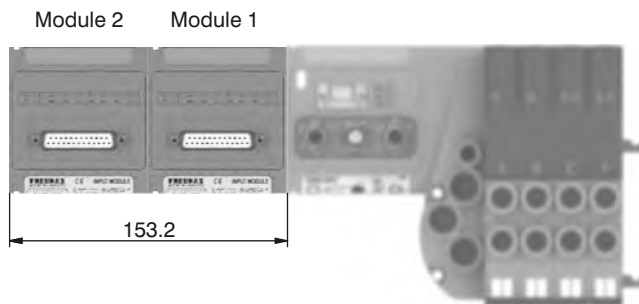
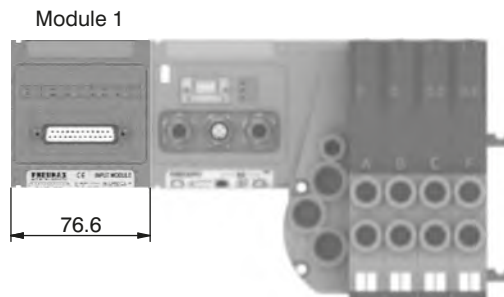
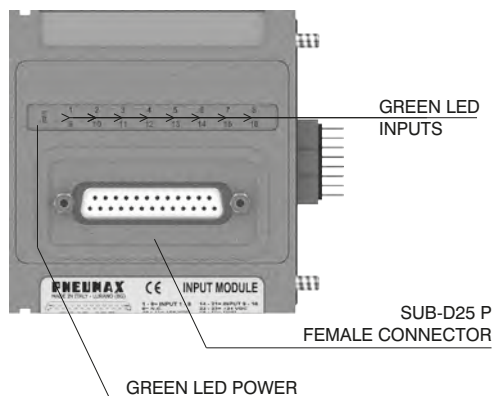
The Maximum number of 16 Inputs modules supported is 4 for PROFIBUS DP, PROFINET IO RT, EtherNet/IP and Powerlink.

Ordering code

5225.25F



Scheme / Overall dimensions and I/O layout :





General :

This module is fitted with two M8 3 pin female connectors.

With this module is possible to read two analogue inputs (voltage or current).

The inputs are sampled at 12 bit.

For practicality the sampled value is transmitted with 16 bit, of which the four less significant are fixed at zero.

Available models:

- 5225.2T.00F (voltage signal 0 - 10V);
- 5225.2T.01F (voltage signal 0 - 5V);
- 5225.2C.00F (current signal 4 - 20mA);
- 5225.2C.01F (current signal 0 - 20mA).

Each module includes a 300 mA self-mending fuse. Should a short circuit or a overcharge (overall current >300mA) occur the safety device intervenes cutting the 24VDC power supply to all M8 connectors on the module and switching off the green LED PWR. Any other Input module connected to the node will remain powered and will function correctly.

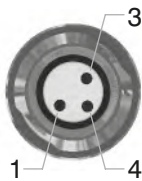
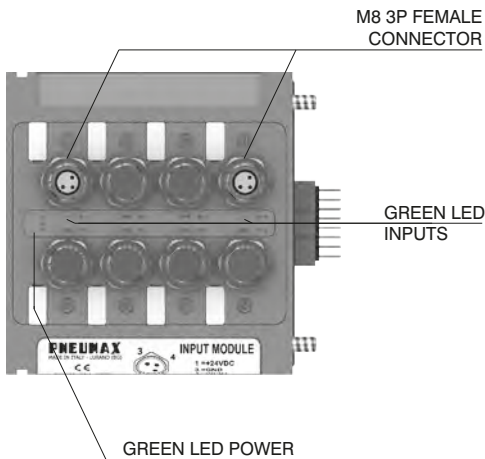
Once the cause of the fault is removed the green LED lights up indicating the ON state and the node will re-start to operate.

This module is counted as four 8 digital Inputs modules.

The Maximum number of 2 analogue Inputs modules supported is 1 for CANopen®, DeviceNet, PROFIBUS DP and EtherCAT®.

The Maximum number of 2 analogue Inputs modules supported is 2 for PROFINET IO RT, EtherNet/IP and Powerlink.

Scheme / Overall dimensions and I/O layout :



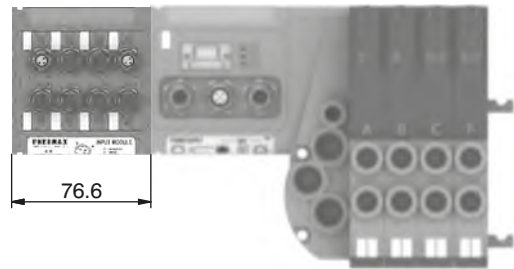
PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND

Ordering code

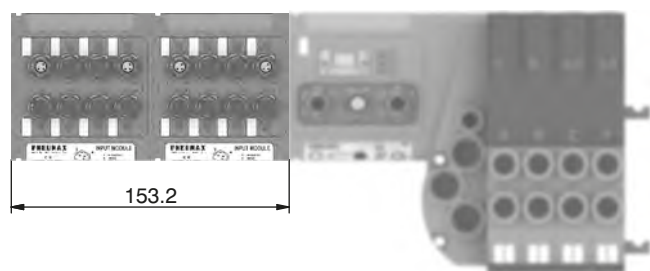
5225.2 _ . _ _ F



Module 1



Module 2 Module 1



1
AIR DISTRIBUTION

Socket for Power Supply
STRAIGHT CONNECTOR
M12A 4P FEMALE

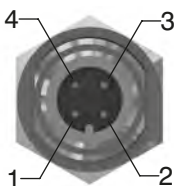
Ordering code

5312A.F04.00



POWER SUPPLY connector

Upper view
Slave connector

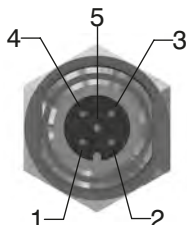


PIN	DESCRIPTION
1	+24 VDC Node
2	
3	0 V
4	+24 VDC Outputs

Socket for Bus CANopen®/DeviceNet
STRAIGHT CONNECTOR
M12A 5P FEMALE

Ordering code

5312A.F05.00



PIN	DESCRIPTION
1	(CAN_SHIELD)
2	(CAN_V+)
3	CAN_GND
4	CAN_H
5	CAN_L

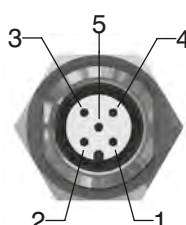
Upper view
Slave connector

NETWORK connectors

Plug for Bus CANopen®/DeviceNet
STRAIGHT CONNECTOR
M12A 5P MALE

Ordering code

5312A.M05.00



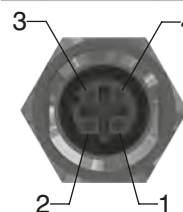
Plug for Bus EtherCAT®,
PROFINET IO RT,
EtherNet/IP and Powerlink
STRAIGHT CONNECTOR M12D 4P MALE

Ordering code

5312D.M04.00



PIN	SIGNAL	DESCRIPTION
1	TX+	Ethernet Transmit High
2	RX+	Ethernet Receive High
3	TX-	Ethernet Transmit Low
4	RX-	Ethernet Receive Low

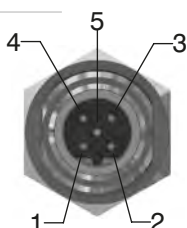


Upper view
Slave connector

Socket for Bus PROFIBUS DP
STRAIGHT CONNECTOR
M12B 5P FEMALE

Ordering code

5312B.F05.00



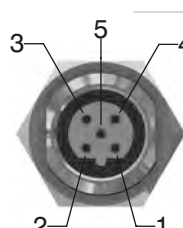
PIN	DESCRIPTION
1	Power Supply
2	A-line
3	DGND
4	B-line
5	SHIELD

Upper view
Slave connector

Plug for Bus PROFIBUS DP
STRAIGHT CONNECTOR
M12B 5P MALE

Ordering code

5312B.M05.00



Plug for Input module
STRAIGHT CONNECTOR
M8 3P MALE

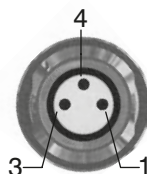
Ordering code

5308A.M03.00



INPUT connectors

Upper view
Slave connector



PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND

M12 plug

Ordering code

5300.T12



Plugs

M8 plug

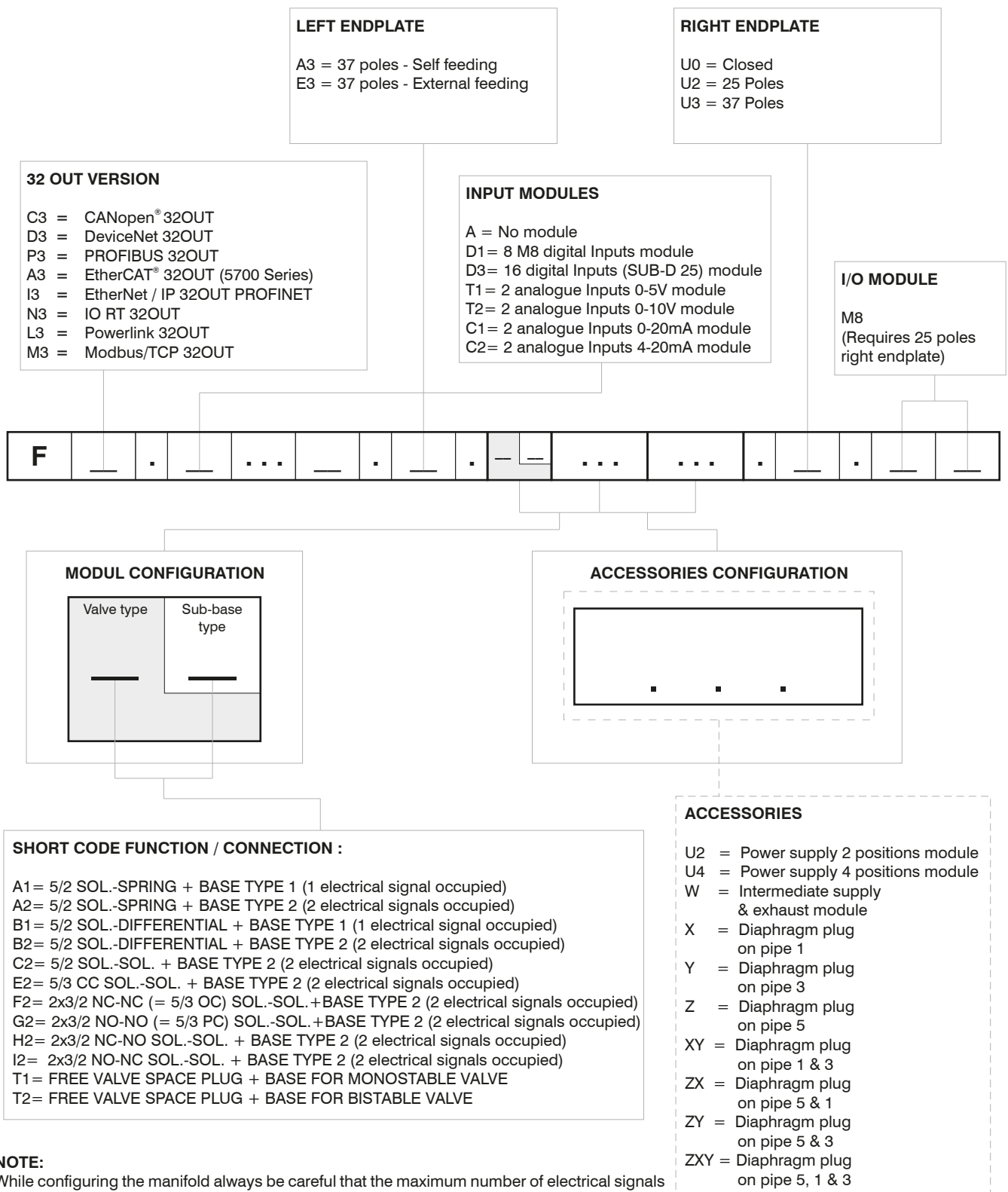
Ordering code

5300.T08





Manifold Layout configuration



1
AIR DISTRIBUTION

NOTE:

While configuring the manifold always be careful that the maximum number of electrical signals available is 32.

The use of monostable valve mounted on a base type 2 (2 electrical signals occupied) causes the loss of one electric signal. In this case the monostable valve can be replaced by a bistable valve. The diaphragms plugs are used to intercept the conduits 1,3 & 5 of the base. If it is necessary to interrupt more than one conduit in the same time then put in line the letters which identifies the position (for exemple : regarding the 3 & 5 conduits, put the Y & Z letters).

Should one or more conduits be cut more than one time it is necessary to add the relevant intermediate Supply/Exhaust module.



Series 2500 "OPTYMA-T"

General

With the introduction of the "T" configuration of solenoid valves with integrated pneumatic connections fitted directly on the sub base the 2500 series (called OPTYMA) is now richer than ever.

Many technical features make the new product interesting:

- Flow rate of 800 NI/min
- Tie rod system to hold the sub bases together
- All pneumatic connections (push-in) on the same side of the manifold
- Quick mounting of the valve to the base using just one screw
- Possibility to replace the valve without the need to disconnect the connections
- Possibility to use different pressures along the manifold (including vacuum)
- IP65 environmental protection
- Electrical connection directly integrated into the base, 32 electrical signals available (can be used to build up a manifold of 32 monostable valves, 16 bistable valves or any combination within that limit).
- The electrical connection is made via 37 pin D-SUB connector.
- It is also available a 25-pole connector that is able to manage a maximum number of 22 electrical signals.

Possibility to integrate with Field Bus modules CANopen®, PROFIBUS DP, DeviceNet, EtherNet/IP, PROFINET IO RT/IRT, EtherCAT®, Powerlink and Modbus/TCP.

Possibility to connect input modules, even on the base that does not have the Field Bus module. Large use of technopolymer material reduces the overall weight of the manifold.

"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power-Directional control valves-Measurement of shifting time"

Main characteristics

- Integrated and optimized electrical connection system.
- IP65 protection degree.
- Only one 19mm size
- Electrical line connections on one side
- Monostable and bistable solenoid valves with the same size dimensions.
- Easy and fast manifold assembly - tie rod system to hold the sub bases together
- Quick coupling connections directly integrated in sub base
- Easy and fast manifold assembling.

Construction characteristics

Body	Technopolymer
Operators	Technopolymer
Spacers	NBR
Spacer	Technopolymer
Spools	Nickel - plated steel / Technopolymer
Springs	AISI 302 stainless steel
Pistons	Technopolymer
Piston seals	NBR

Functions

- SV 5/2 MONOSTABLE SOLENOID-SPRING
- SV 5/2 MONOSTABLE SOLENOID-DIFFERENTIAL
- SV 5/2 BISTABLE SOLENOID-SOLENOID
- SV 5/3 C. C. SOLENOID-SOLENOID
- SV 2x3/2 N.C.-N.C. (=5/3 O.C.) SOLENOID-SOLENOID
- SV 2x3/2 N.O.-N.O. (=5/3 P.C.) SOLENOID-SOLENOID
- SV 2x3/2 N.C.-N.O. SOLENOID-SOLENOID

Technical characteristics

Voltage	24VDC ±10% PNP (NPN and AC on request)
Pilot consumption	1,3 Watt
Pilot working pressure (12-14)	From 3 to 7 bar max.
Valve working pressure [1]	from vacuum up to 10 bar
Operating temperature	-5°C +50°C
Protection degree	IP65
Life (standard operating conditions)	50000000
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous

1 AIR DISTRIBUTION

Solenoid - Spring

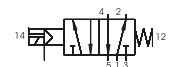
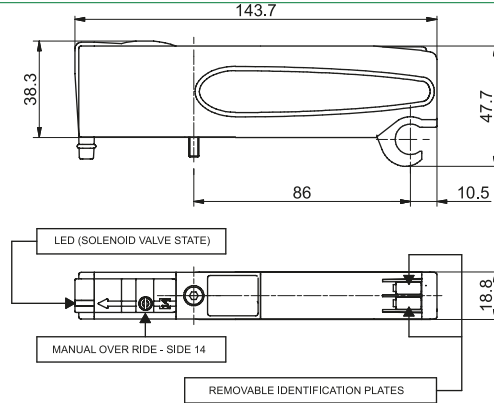
Coding: 2541.52.00.39.

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	3 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	750
Response time according to ISO 12238, activation time (ms)	14
Response time according to ISO 12238, deactivation time (ms)	40

VOLTAGE	
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

Weight 129 g
SHORT FUNCTION CODE "A"

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Solenoid-Differential

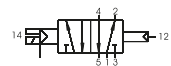
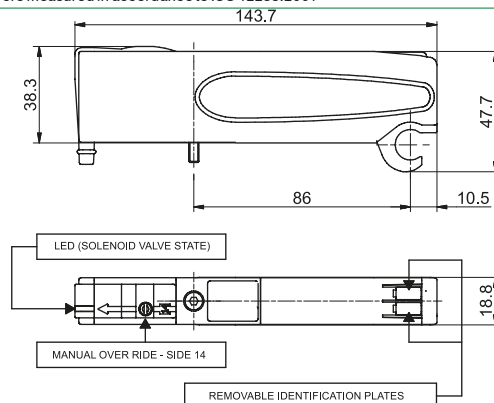
Coding: 2541.52.00.36.

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	3 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	750
Response time according to ISO 12238, activation time (ms)	20
Response time according to ISO 12238, deactivation time (ms)	29

VOLTAGE	
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

Weight 126 g
SHORT FUNCTION CODE "B"

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Solenoid-Solenoid

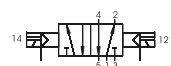
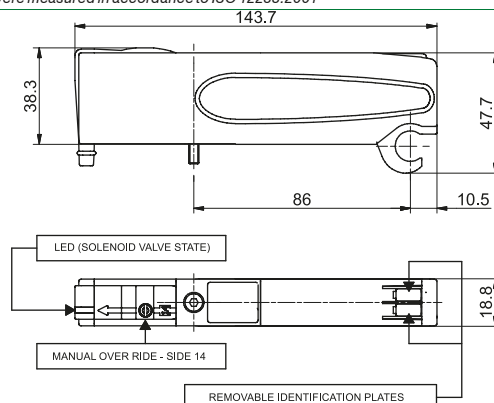
Coding: 2541.52.00.35.

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	3 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	750
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	14

VOLTAGE	
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

Weight 134 g
SHORT FUNCTION CODE "C"

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Solenoid-Solenoid 5/3

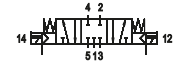
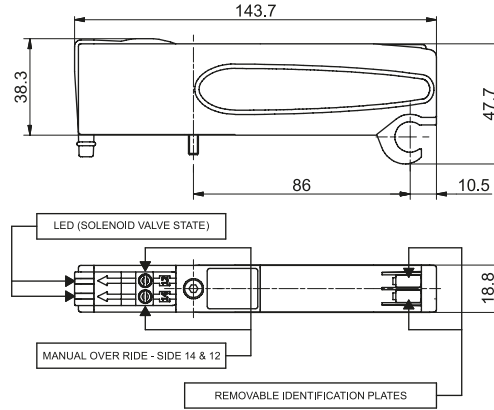
Coding: 2541.53.31.35.

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	3 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	600
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	20

VOLTAGE	
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

Weight 132 g
SHORT FUNCTION CODE "E"

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Solenoid-Solenoid 2x3/2

Coding: 2541.62. .35.

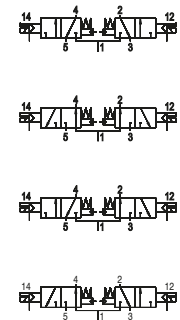
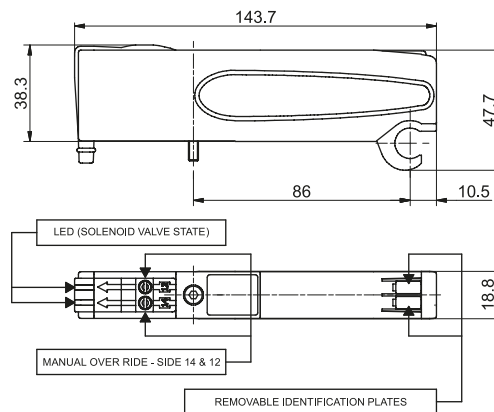
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	3 ÷ 7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	700
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	25

FUNCTION	
	44 = NC-NC (5/3 Open centres)
	55 = NO-NO (5/3 Pressured centres)
	45 = NC-NO (normally closed-normally open)
	54 = NO-NC (normally open-normally closed)

VOLTAGE	
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

Weight 122 g
*Example: If inlet pressure is set at 5bar then pilot pressure must be at least $P_p = 2,5 + (0,2 * 5) = 3,5 \text{ bar}$

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



*Example: If inlet pressure is set at 5bar then pilot pressure must be at least $P_p = 2,5 + (0,2 * 5) = 3,5 \text{ bar}$

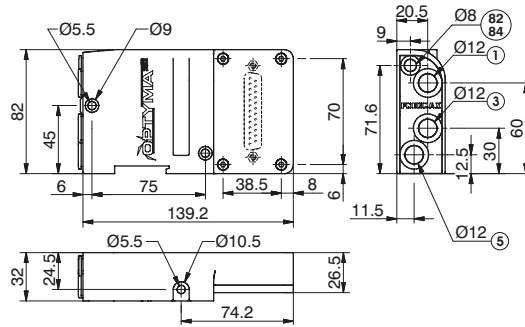
Right Endplates

Coding: 2540.03.C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50

ELECTRICAL CONNECTION	
00	= Electrical connection
25P	= Connectors 25 poles

Conduit 82/84=DO NOT PRESSURIZE, SOLENOID PILOTS EXHAUST



Weight 274 g

Left Endplates

Coding: 2540.V.C

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pressure range (bar)	3 ÷ 7
Temperature °C	-5 ÷ +50

VERSION	
02	= External feeding
12	= Self-feeding

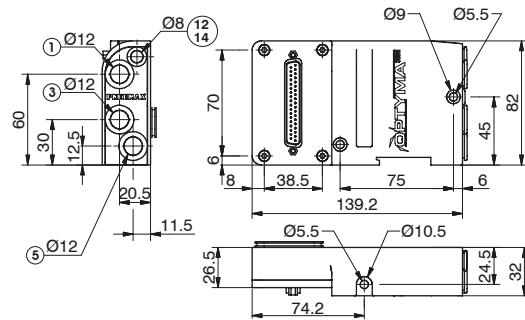
ELECTRICAL CONNECTION	
37P	= Connectors 37 poles PNP
25P	= Connectors 25 poles PNP
37N	= Connectors 37 poles NPN
25N	= Connectors 25 poles NPN
37A	= Connectors 37 poles AC
25A	= Connectors 25 poles AC



Weight 300 g

2540.02.C

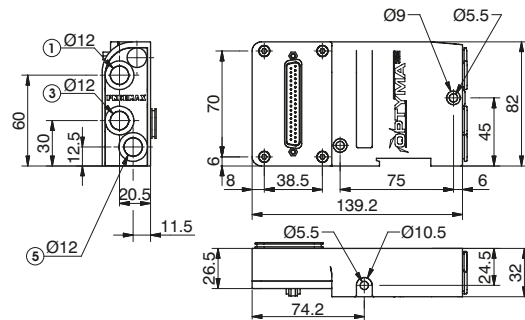
Left Endplates-External feeding base: 12/14 divided from conduct 1



Weight 300 g

2540.12.C

Left Endplates - Self-feeding Base: 12/14 connected with conduct 1

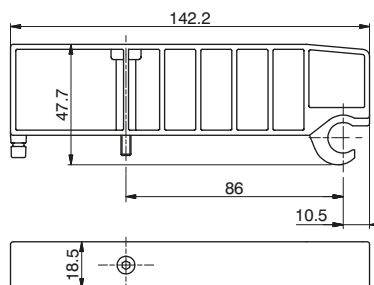


Closing plate

Coding: 2530.00

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50

SHORT FUNCTION CODE "T"



Weight 53,5 g



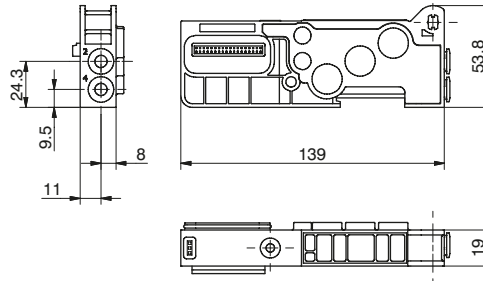
Modular base

Coding: 254C.01V

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50

WORKING PORTS SIZE	
1	= G1/8" female straight cartridge
4	= Cartridge Ø4
6	= Quick fitting tube Ø6
8	= Quick fitting tube Ø8
VERSION	
M	= for Monostable SV
B	= for Bistable SV



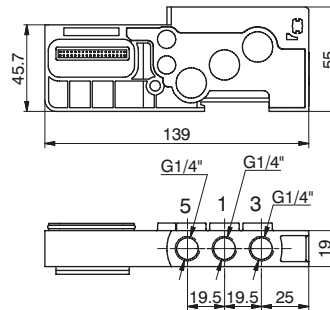
Weight 96,5 g

Intermediate Inlet/Exhaust module

Coding: 2540.10

Operational characteristics

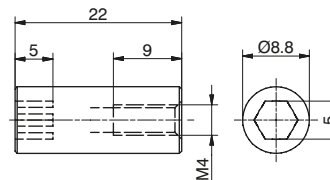
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ÷ +50



Weight 115 g
SHORT FUNCTION CODE "W"

Nut

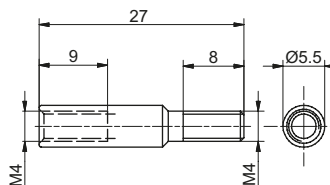
Coding: 2540.KD.00



Weight 10 g
The Kit includes 4 pieces

Extension (1 Position)

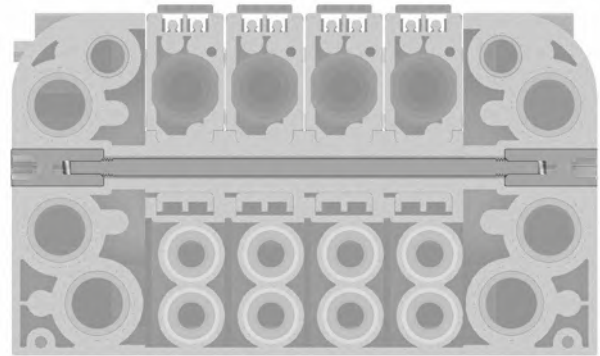
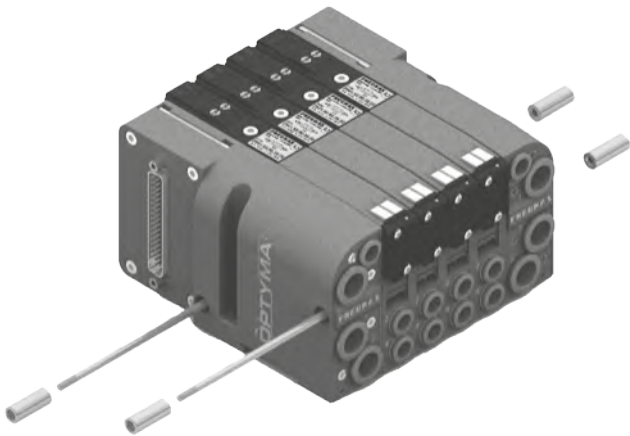
Coding: 2540.KP.01



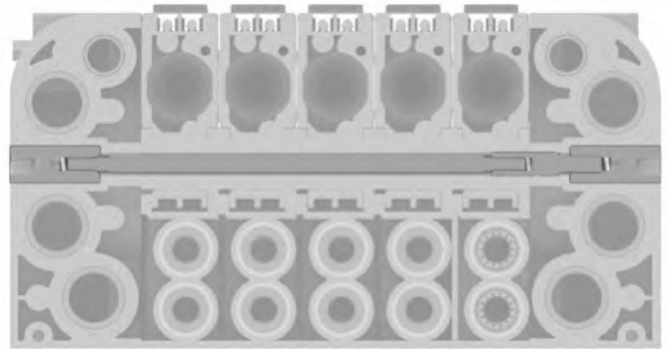
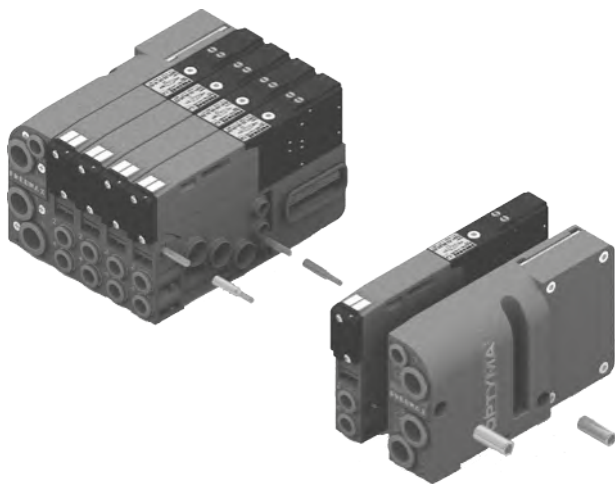
Weight 3,5 g
The Kit includes 2 pieces

1 AIR DISTRIBUTION

Set with single tie-rod (max. 32 Solenoid valves)



Set with tie-rod, more extension adding a valve



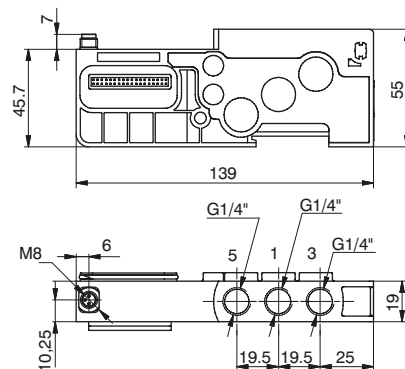
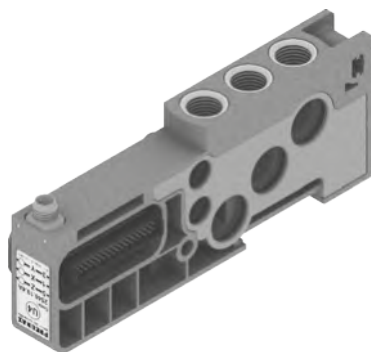
1
AIR DISTRIBUTION

General :

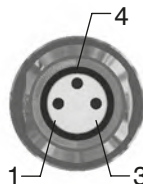
Each Optyma-T manifold lets to manage 32 command signals for the valves. Optyma-T serial nodes (CANopen®, DeviceNet, PROFIBUS DP, EtherCAT®, PROFINET I/O RT, EtherNet/IP and Powerlink) have a single pin for the power supply of the solenoid valves. So if you want to interrupt the power supply of one valve it is necessary to interrupt all the valves. The additional power supply module lets to interrupt at the same time the first 2 available command signals for the valves after the module itself. The additional power supply module is particularly useful also when you use control signals that block the valves. This application is effective both with serial management and multi-pole connection of the manifolds. This module is inserted directly into the Optyma-T solenoid valves manifold.

Ordering code

2540.10.2A



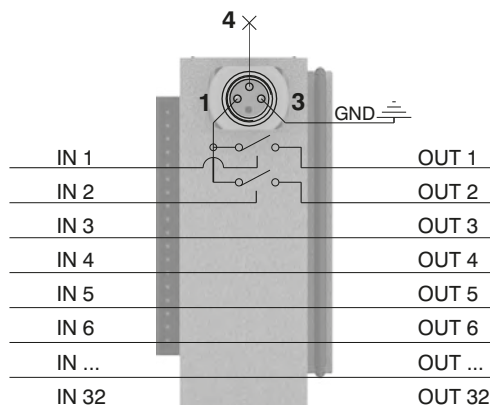
In particular this module is fitted with a M8 3 pins connector: +24V, not connected, GND.



PIN	DESCRIPTION
1	+24 VDC
4	NOT CONNECTED
3	GND

WORKING PRINCIPLE / SIMPLIFIED FUNCTIONAL DIAGRAM

This module uses an external power supply (+24VDC) to manage the solenoid valves.



The output signal from serial node / multi-pole connection is used as command signal: when it is high the +24VDC will be present at the module output.

If you want to cut off the power supply to a group of 2 valves it is sufficient to take away the +24VDC provided to the module by the M8 connector.



Please note: It is possible to use more modules to interrupt all the command signals, simply by inserting them before the signals to interrupt and after the signals already interrupted.

1 AIR DISTRIBUTION

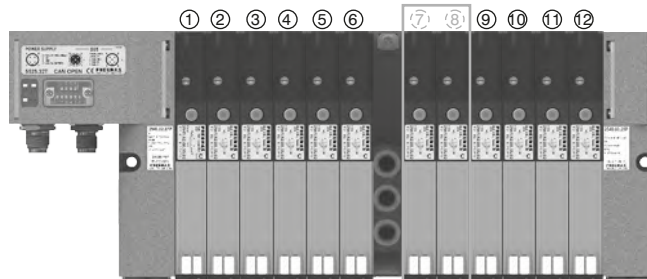
Usage examples:

EXAMPLE 1:

Manifold of 12 monostable valves on which you want to interrupt signals 7-8

Assembly:

- 6 monostable valves (not interruptible because before the module),
- 1 additional power supply module,
- 6 monostable valves. Please note: the first 2 monostable of these are interruptible by the module, while the following 4 will work correctly managed directly by the corresponding command signals.

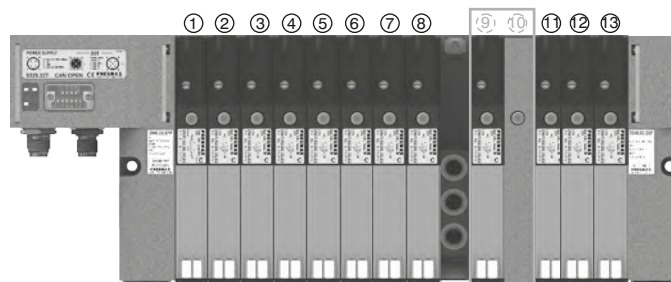


EXAMPLE 2:

Manifold of 12 monostable valves on which you want to interrupt signal 9

Assembly:

- 8 monostable valves (not interruptible because before the module),
- 1 additional power supply module,
- 1 monostable valve (interruptible),
- 1 closing plate mounted on a monostable base,
- 3 monostable valves (work correctly managed directly by the corresponding command signals).



Please note: Each additional power supply module interrupts always 2 electrical signals.



If you need to interrupt less than 2 signals you can:

- assemble the valves to interrupt in the last positions of the manifold, so you don't need to worry about the interrupted exceeding signals;
- use a bistable base and mount a monostable valve (for each signal less than the 2 standard);
- use a monostable base and mount a closing plate (for each signal less than the 2 standard).

EXAMPLE 3:

Manifold of 7 monostable e 3 bistable valves on which you want to interrupt signals 2-3 and 8-9.

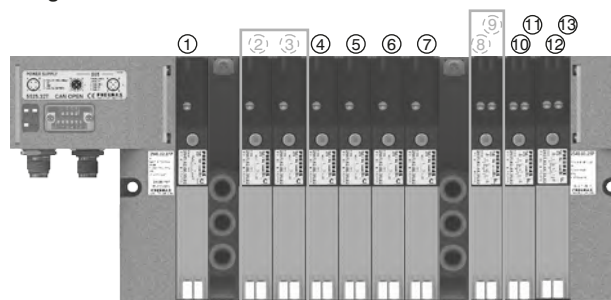
Assembly:

- 1 monostable valve (not interruptible because before the module),
- 1 additional power supply module,
- 6 monostable valves.

Please note: the first 2 monostable of these are interruptible by the module, while the following 4 will work correctly managed directly by the corresponding command signals.

- 1 additional power supply module,
- 3 bistable valves.

Please note: the first bistable of these valves is interruptible by the module, while the following 2 will work correctly managed directly by the corresponding command signals.

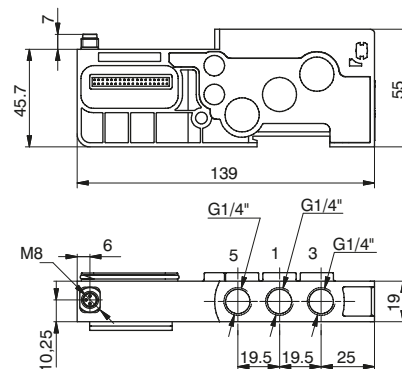
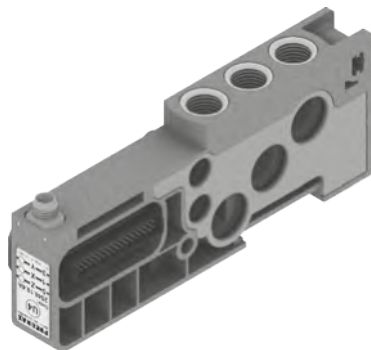


General :

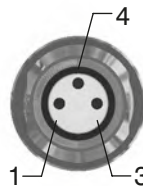
Each Optyma-T manifold lets to manage 32 command signals for the valves. Optyma-T serial nodes (CANopen®, DeviceNet, PROFIBUS DP, EtherCAT®, PROFINET IO RT, EtherNet/IP and Powerlink) have a single pin for the power supply of the solenoid valves. So if you want to interrupt the power supply of one valve it is necessary to interrupt all the valves. The additional power supply module lets to interrupt at the same time the first 4 available command signals for the valves after the module itself. The additional power supply module is particularly useful also when you use control signals that block the valves. This application is effective both with serial management and multi-pole connection of the manifolds. This module is inserted directly into the Optyma-T solenoid valves manifold.

Ordering code

2540.10.4A



In particular this module is fitted with a M8 3 pins connector: +24V, not connected, GND.



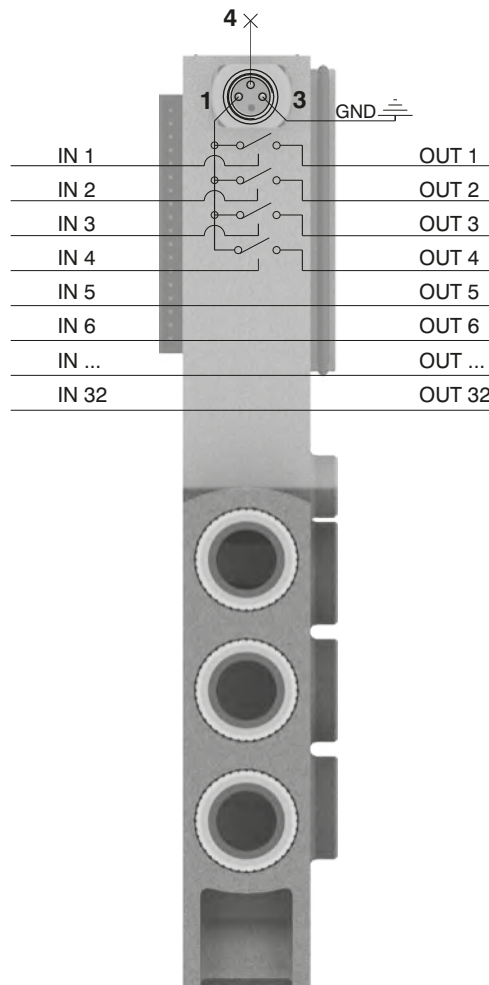
PIN	DESCRIPTION
1	+24 VDC
4	NOT CONNECTED
3	GND

WORKING PRINCIPLE / SIMPLIFIED FUNCTIONAL DIAGRAM

This module uses an external power supply (+24VDC) to manage the solenoid valves.

The output signal from serial node / multi-pole connection is used as command signal: when it is high the +24VDC will be present at the module output.

If you want to cut off the power supply to a group of 4 valves it is sufficient to take away the +24VDC provided to the module by the M8 connector.



Please note: It is possible to use more modules to interrupt all the command signals, simply by inserting them before the signals to interrupt and after the signals already interrupted.

1 AIR DISTRIBUTION

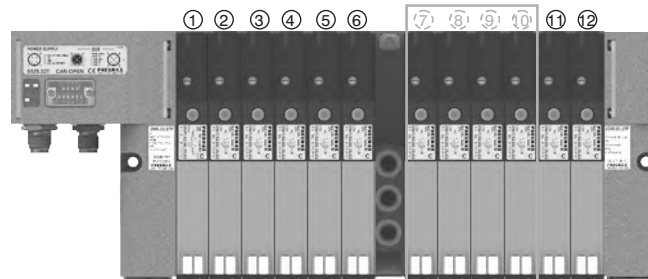
Usage examples:

EXAMPLE 1:

Manifold of 12 monostable valves on which you want to interrupt signals 7-8-9-10

Assembly:

- 6 monostable valves (not interruptible because before the module),
- 1 additional power supply module,
- 6 monostable valves. Please note: the first 4 monostable of these are interruptible by the module, while the following 2 will work correctly managed directly by the corresponding command signals.

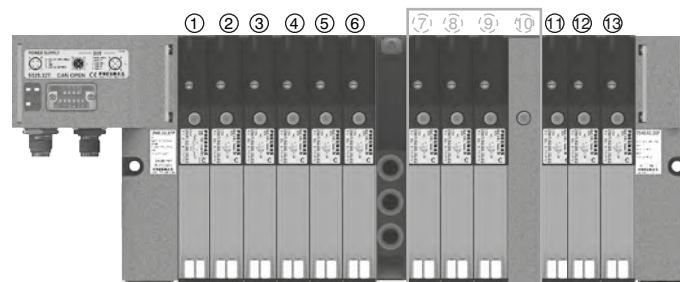


EXAMPLE 2:

Manifold of 12 monostable valves on which you want to interrupt signals 7-8-9

Assembly:

- 6 monostable valves (not interruptible because before the module),
- 1 additional power supply module,
- 3 monostable valves (interruptible),
- 1 closing plate mounted on a monostable base,
- 3 monostable valves (work correctly managed directly by the corresponding command signals).



Please note: Each additional power supply module interrupts always 4 electrical signals.

- ☞ If you need to interrupt less than 4 signals you can:
- assemble the valves to interrupt in the last positions of the manifold, so you don't need to worry about the interrupted exceeding signals;
 - use a bistable base and mount a monostable valve (for each signal less than the 4 standard);
 - use a monostable base and mount a closing plate (for each signal less than the 4 standard).

EXAMPLE 3:

Manifold of 7 monostable e 3 bistable valves on which you want to interrupt signals 2-3-4-5 and 8-9-10-11.

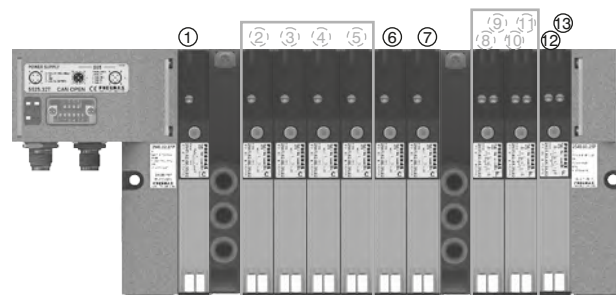
Assembly:

- 1 monostable valve (not interruptible because before the module),
- 1 additional power supply module,
- 6 monostable valves.

Please note: the first 4 monostable of these are interruptible by the module, while the following 2 will work correctly managed directly by the corresponding command signals.

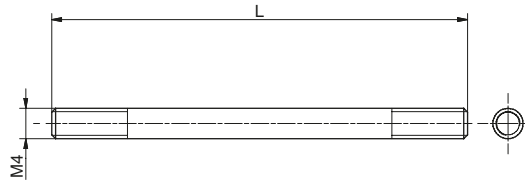
- 1 additional power supply module,
- 3 bistable valves.

Please note: the first 2 bistable of these valves are interruptible by the module, while the following will work correctly managed directly by the corresponding command signals.



1
AIR DISTRIBUTION

Coding: 2540.KT.**P**



N. POSITIONS	
01	= Nr. 1 Position
02	= Nr. 2 Positions
03	= Nr. 3 positions
04	= Nr. 4 Positions
05	= Nr. 5 positions
06	= Nr. 6 Positions
07	= Nr. 7 positions
P 08	= Nr. 8 Positions
09	= Nr. 9 positions
10	= Nr. 10 Positions
11	= Nr. 11 positions
12	= Nr. 12 Positions
13	= Nr. 13 positions
14	= Nr. 14 Positions
...	
32	= Nr. 32 Positions

Polyethylene Silencer Series SPL-R

Coding: SPLR.**D**



TUBE DIAMETER	
D 8	= 8 mm
12	= 12 mm

Diaphragm plug

Coding: 2530.17



Cable complete with connector, 25 Poles IP65

Coding: 2300.25.**L.C**



CABLE LENGTH	
L 03	= 3 meters
05	= 5 meters
10	= 10 meters
FUNCTION	
F 31	= Closed centres
32	= Open centres
33	= Pressured centres

Cable complete with connector, 37 Poles IP65

Coding: 2400.37.**L.C**



CABLE LENGTH	
L 03	= 3 meters
05	= 5 meters
10	= 10 meters
FUNCTION	
F 31	= Closed centres
32	= Open centres
33	= Pressured centres

Cable complete with connector, 25 Poles IP65

Coding: 2400.25.**L.25**



CABLE LENGTH	
L 03	= 3 meters
05	= 5 meters
10	= 10 meters



The electrical connection is achieved by a 37 pin connector and can manage up to 32 solenoid pilots. It is also possible use a 25 sub-D pin connector and, in this case, it is possible to manage a maximum of 22 outputs. The management and distribution of the electrical signals between each valve is obtained thanks to an electrical connector which receives the signals from the previous module, uses one, two or none depending on the type, and carries forward to the next module the remaining.

Bistable valves, 5/3 and 2x3/2 valves which have two solenoid pilots built in, use two signals; the first is directed to the pilot side 14 the second to the pilot side 12. Modular bases can be fitted with two type of electrical connector: the monostable version uses only one signal (connected to the pilot side 14) and carries forward the remaining, the bistable version which always uses two signals.

This solution allows the modification of the manifold (replacement of monostable valves without bistable for example) without having to reset the PLC output layout.

On other hand this solution limits the maximum number of valves to 16 when it is used a 37 pin connector or 11 when it is used a 25 pin connector.

Intermediate supply/exhaust module uses an electrical connector directly forwarding signals to the next one without any kind of modification.

This allows the use of intermediate modules in any position of the manifold.

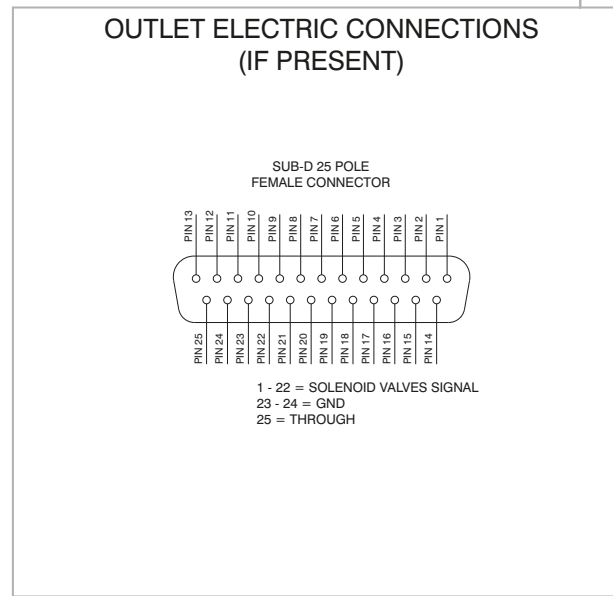
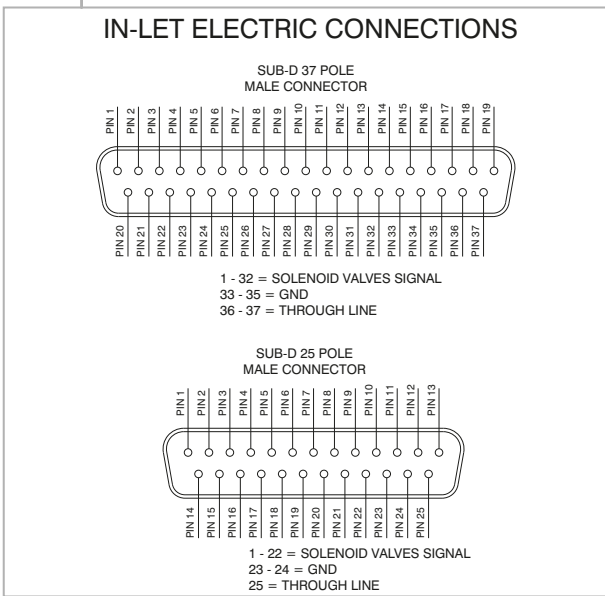
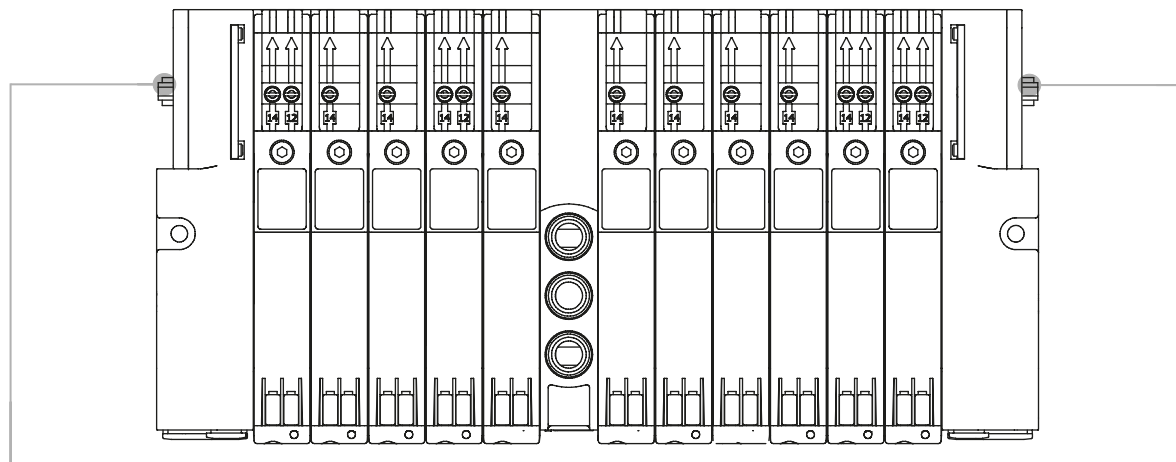
All the electrical signals that have not been used on the manifold can be used placing at the end of the manifold the end plate complete with the 25 sub-D female connector.

The number of available signals depends of the connector used to the type of the left end plate and by the total signals used along the manifold:

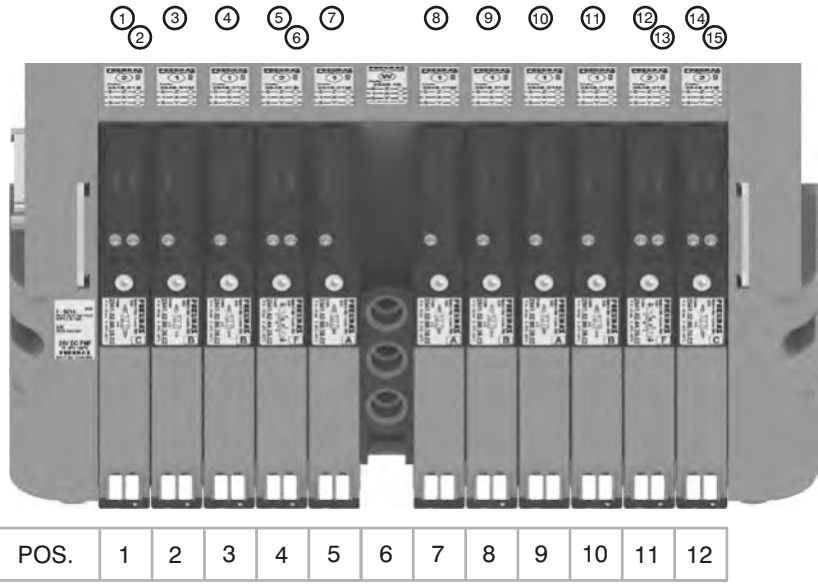
37 pin connector nr of output = 32 – (total of used signals)

25 pin connector nr of output = 22 – (total of used signals)

Following we show some examples of possible combination and the relative pin assignment.

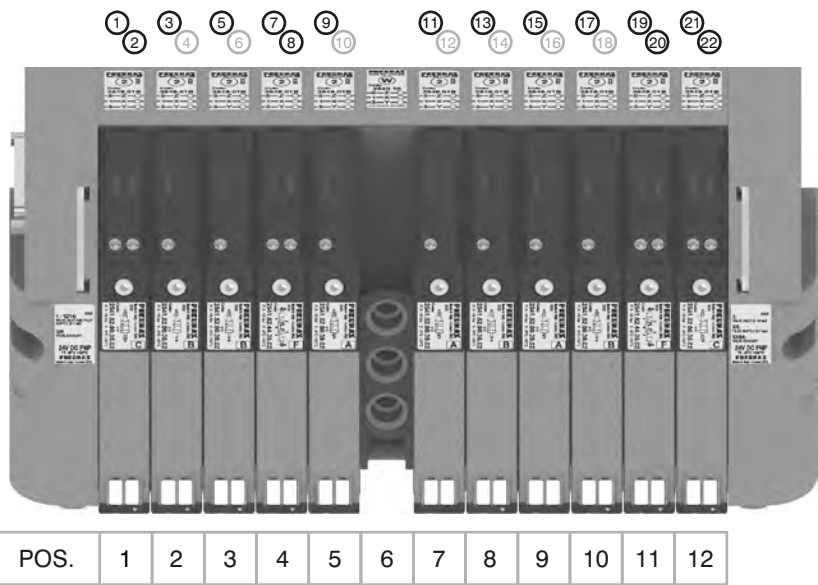


37 PIN Connector correspondence for valves assembled on mixed bases



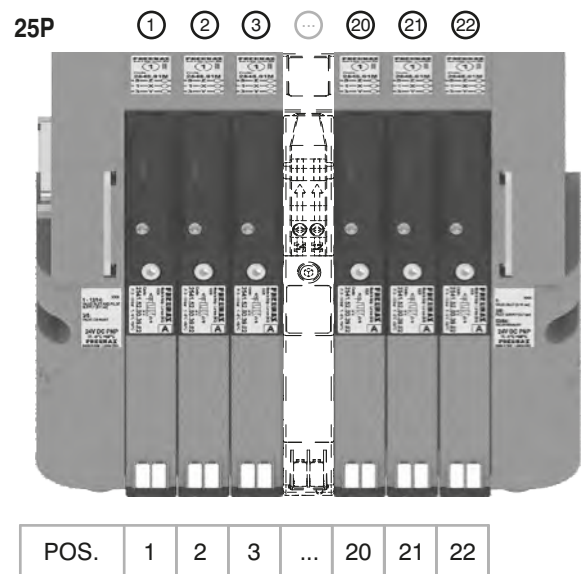
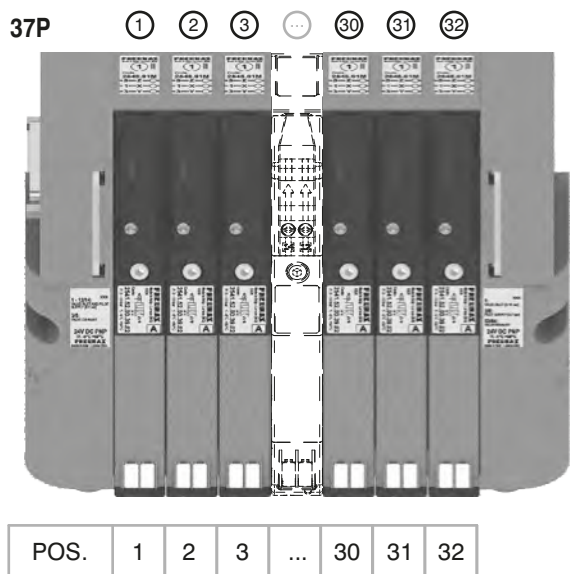
- PIN 1 = PILOT 14 SV POS.1
- PIN 2 = PILOT 12 SV POS.1
- PIN 3 = PILOT 14 SV POS.2
- PIN 4 = PILOT 14 SV POS.3
- PIN 5 = PILOT 14 SV POS.4
- PIN 6 = PILOT 12 SV POS.4
- PIN 7 = PILOT 14 SV POS.5
- PIN 8 = PILOT 14 SV POS.7
- PIN 9 = PILOT 14 SV POS.8
- PIN 10 = PILOT 14 SV POS.9
- PIN 11 = PILOT 14 SV POS.10
- PIN 12 = PILOT 14 SV POS.11
- PIN 13 = PILOT 12 SV POS.11
- PIN 14 = PILOT 14 SV POS.12
- PIN 15 = PILOT 12 SV POS.12

37 PIN Connector correspondence for manifold mounted on bases for bistable valves



- PIN 1 = PILOT 14 S POS.1
- PIN 2 = PILOT 12 SV POS.1
- PIN 3 = PILOT 14 SV POS.2
- PIN 4 = NOT CONNECTED
- PIN 5 = PILOT 14 SV POS.3
- PIN 6 = NOT CONNECTED
- PIN 7 = PILOT 14 SV POS.4
- PIN 8 = PILOT 12 SV POS.4
- PIN 9 = PILOT 14 SV POS.5
- PIN 10 = NOT CONNECTED
- PIN 11 = PILOT 14 SV POS.7
- PIN 12 = NOT CONNECTED
- PIN 13 = PILOT 14 SV POS.8
- PIN 14 = NOT CONNECTED
- PIN 15 = PILOT 14 SV POS.9
- PIN 16 = NOT CONNECTED
- PIN 17 = PILOT 14 SV POS.10
- PIN 18 = NOT CONNECTED
- PIN 19 = PILOT 14 SV POS.11
- PIN 20 = PILOT 12 SV POS.11
- PIN 21 = PILOT 14 SV POS.12
- PIN 22 = PILOT 12 SV POS.12

37 PIN Connector correspondence for manifold for 32 position manifold with monostable valves on base





General :

Using the 2540.03.25P output terminal it is possible to make any electrical signals not used by valves available on a 25 sub-D female connector at the right end of the manifold.
It is possible to then join a multi-core cable to link to the next manifold, or connect directly to one or two I/O modules.
The I/O modules can accept input or output signals, depending upon what is connected.

Ordering code

2540.08T



1
AIR DISTRIBUTION

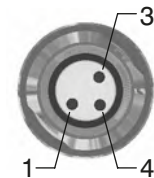
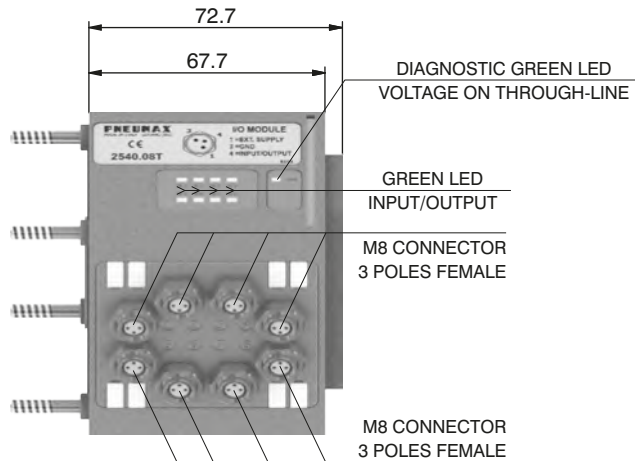
Please note: If the manifold is connected by a multi-core connection, each connection can be used as either an input or an output, while if the manifold is connected to a serial node the connections can only be used as an output.

It is possible to connect the manifold to up to two I/O modules.

Each I/O module includes 8 diagnostic LEDs which indicate the presence of an Input / Output signal for each connector.

Please note: For an LED to function, a signal of at least +15VDC must be present on pin 4 of the connector. If this signal is lower, the LED will not light, this does not compromise the normal Input / Output function of the unit.

Overall dimensions and I/O layout :



PIN	DESCRIPTION
1	+24 VDC
4	INPUT/OUTPUT
3	GND

Input features:

Each connection can accept either two wire (switches, magnetic switches, pressure switches, etc.) or three wire connections (photocells, electronic end of stroke sensors, etc.) If +24VDC is required on at Pin 1 of each connector, it is possible to provide this via the through-line pin of the multi-pole connector.

I.E :

Pin 25 of the 25 pin multi-pole connector (code 2540.02.25P or 2540.12.25P)

Pin 36-37 of the 37 pin multi-pole connector (code 2540.02.37P or 2540.12.37P)

Output features:

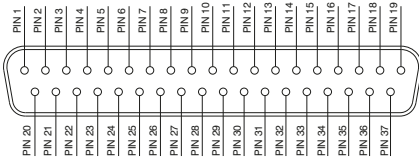


Attention: The output connections are not protected against short-circuit. Please pay attention when wiring (avoid Pin 4 being connected to Pin 3 or Pin 1).

General characteristics	Model	2540.08T
	Case	Reinforced technopolymer
	I/O Connector	M8 connector 3 poles female (IEC 60947-5-2)
	PIN 1 voltage (connector used as Input)	By the user
	PIN 4 voltage diagnosis	Green Led
	Node consumption (Outlets excluded)	7mA per each LED with 24 VDC signal
	Outlets voltage	+23,3 VDC (serial) /by the user (multipolar)
	Input voltage	Depend by the using
	Maximum outlet current	100 mA (serial) / 400 mA (multipolar)
	Maximum Input/Output	8 per module
	Multiconnector max. Current	100 mA
	Connections to manifold	Direct connection to 25 poles connector
	Maximum n. of moduls	2
	Protection degree	IP65 when assembled
Ambient temperature	from -0° to +50° C	

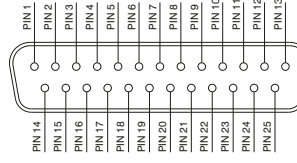
CORRESPONDENCE BETWEEN MULTI-POLE SIGNAL AND CONNECTOR

SUB-D TYPE 37 POLE MALE CONNECTOR

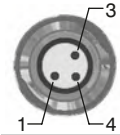


1 - 32 = SIGNALS
33 - 35 = GND
36 - 37 = THROUGH LINE

SUB-D TYPE 25 POLE MALE CONNECTOR



1 - 22 = SIGNALS
23 - 24 = GND
25 = THROUGH LINE



PIN DESCRIPTION	
1	THROUGH LINE
4	SIGNAL
3	GND

Connection modes:

The I/O module changes its operation depending on the way the manifold is controlled. There are two possible modes:

- A) Control via multi-pole connection
- B) Control via fieldbus

A) Control via multi-pole :

M8 connector used as Input:



Attention: Voltage applied to each connector is passed to multi-pole connector pin.

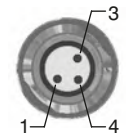
In order to use the I/O module, the correct right hand endplate with 25 pole female outlet connector must be used.
(Code 2540.03.25P).

M8 connector used as Output:

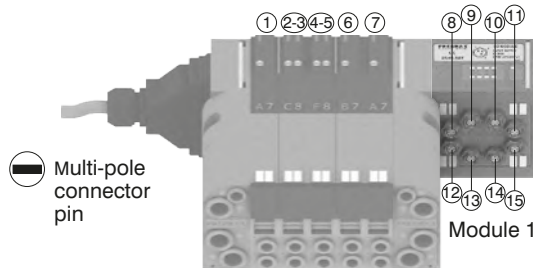
Output voltage will be the same as is applied at the multi-pole connector pin.
The maximum output current depends upon the power unit used, but we recommend no more than 250mA.



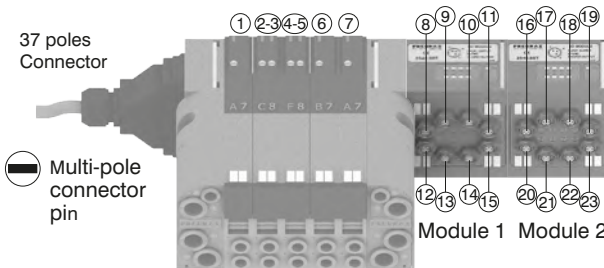
Attention: Since every cable has a degree of resistance, there will always be a voltage drop depending on the cable's length, sectional area and the current.



PIN DESCRIPTION	
1	THROUGH LINE
4	SIGNAL
3	GND

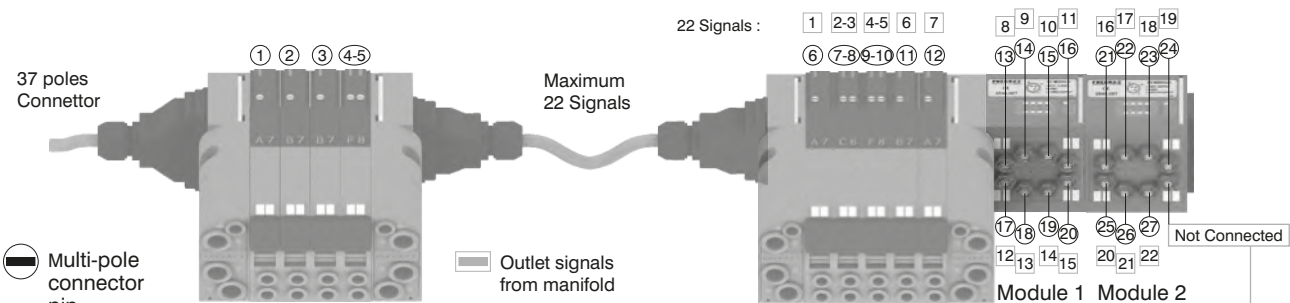


Attention:
Only one more I/O module can be added.



Attention:
No more additions are possible

Attention : Optyma 32-T solenoid valve manifolds permit up to 22 electrical signals that are not used by manifolds to be made available: these signals can be managed by another manifold and / or by I/O modules. The I/O module will manage these unused signals. Connections that are not managing useful signals will remain unconnected.

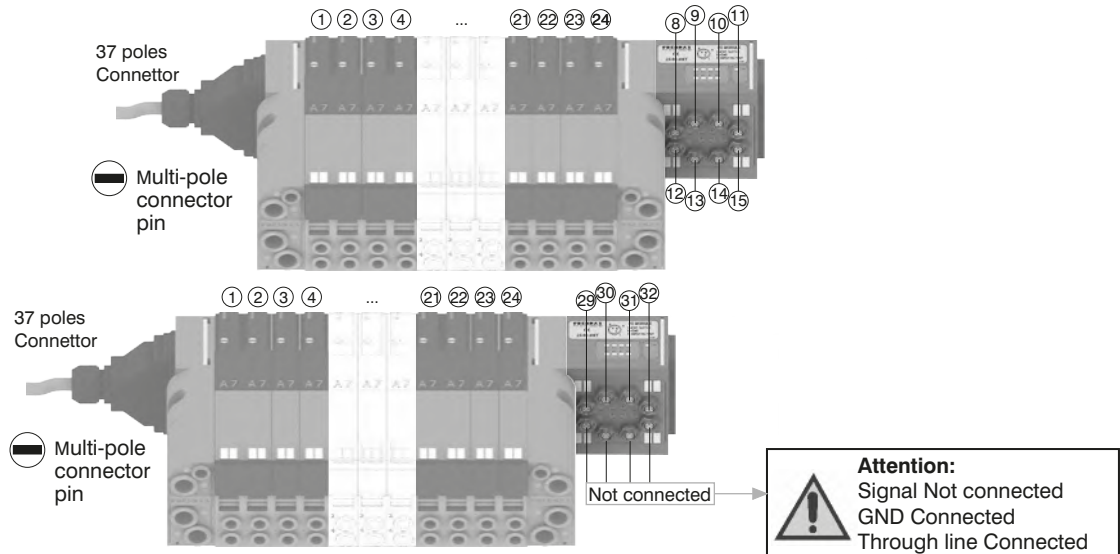


Attention:
Signal Not connected
GND Connected
Through line Connected

Please note: this example considers a 37 pin multi-pole connector. The same configuration managed by a 25 pin multi-pole connector will stop at number 22 of multi-pole connector and at number 17 of the manifold. ②①⑦

1 AIR DISTRIBUTION

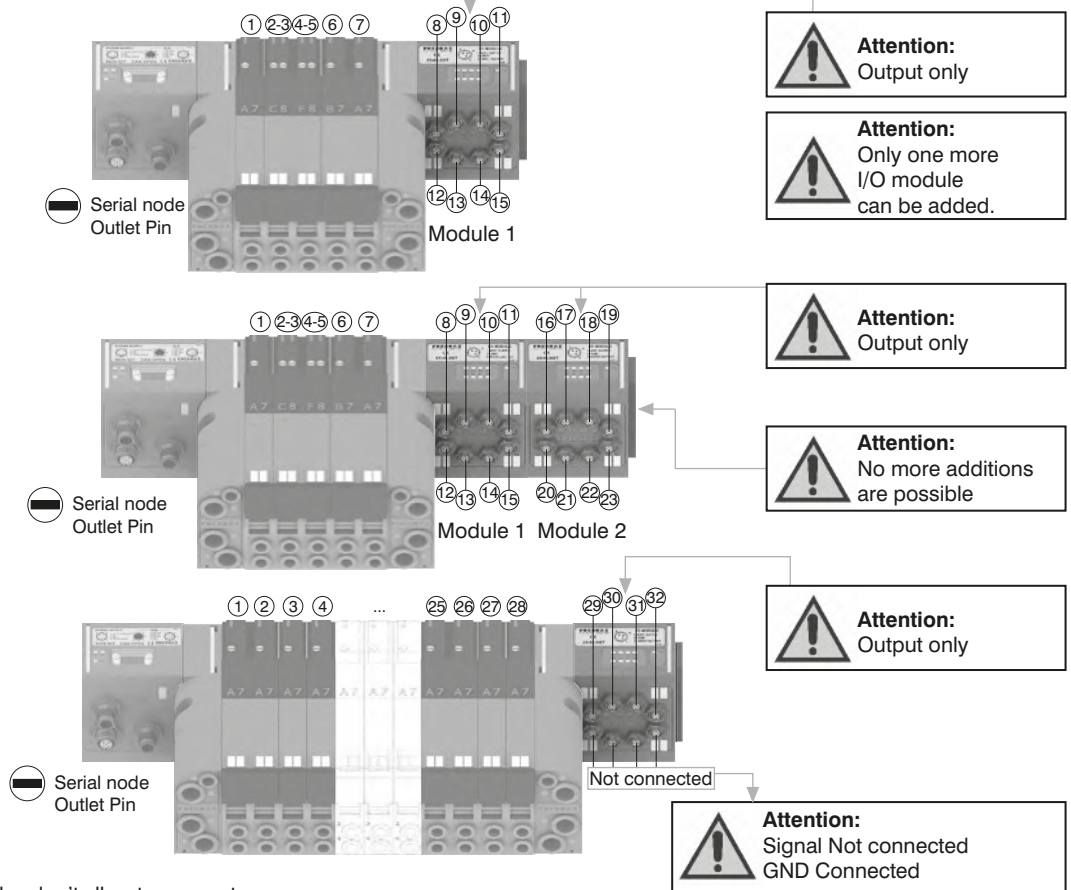
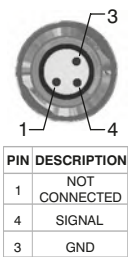
Please note: Optyima 32-T solenoid valve manifolds manage up to 32 signals. If the manifold uses more than 24 signals the I/O module will manage only the remainder. Connections that are not managing useful signals will remain unconnected.



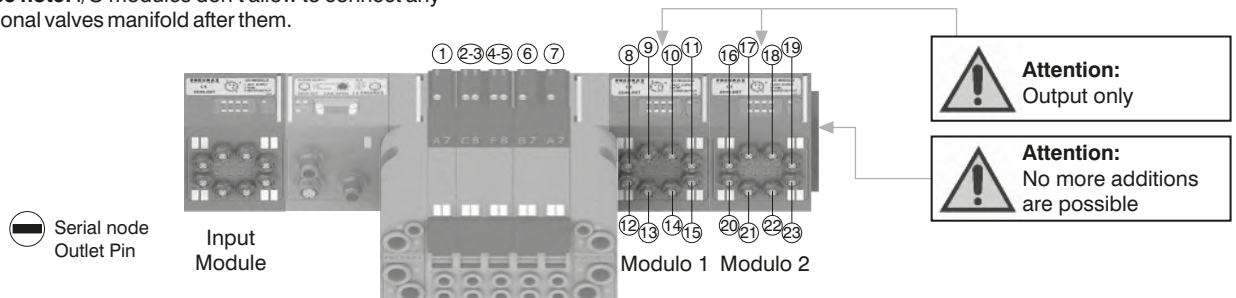
B) Control via fieldbus:

With this kind of control the I/O module can only be used as an output. Pin 1 of each connector is not connected. The output voltage will be 0.7V lower than that applied to Pin 4 of the connector.

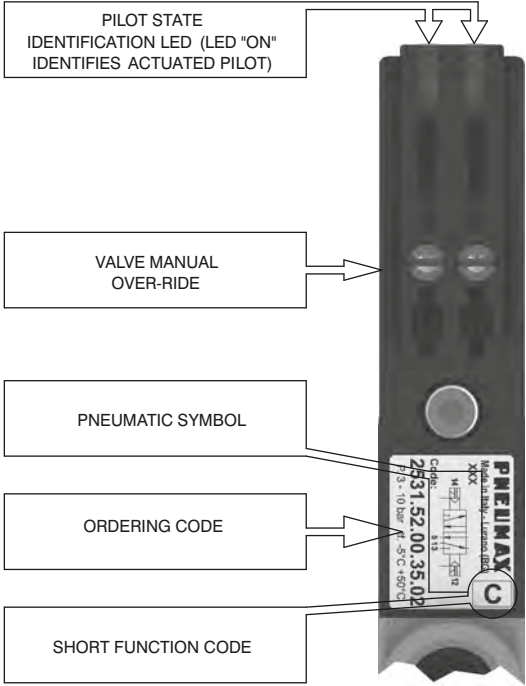
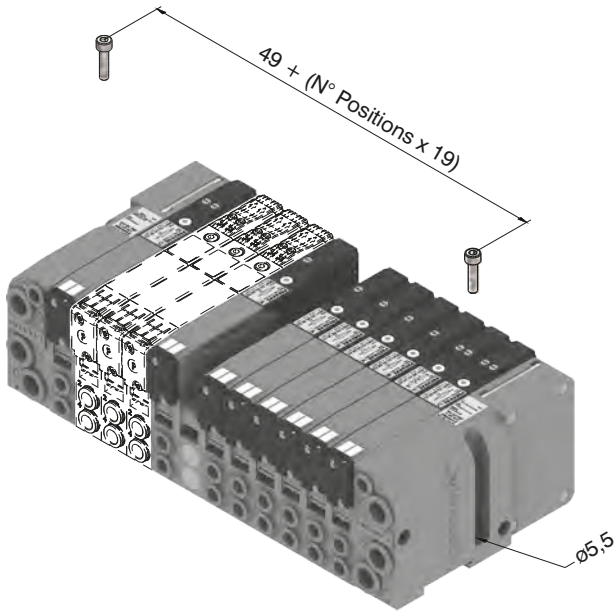
The maximum output current for each output is 100mA. The correspondence between control byte and each single output depends on how many electrical signals are used by the manifold and by the relative position of the I/O module.



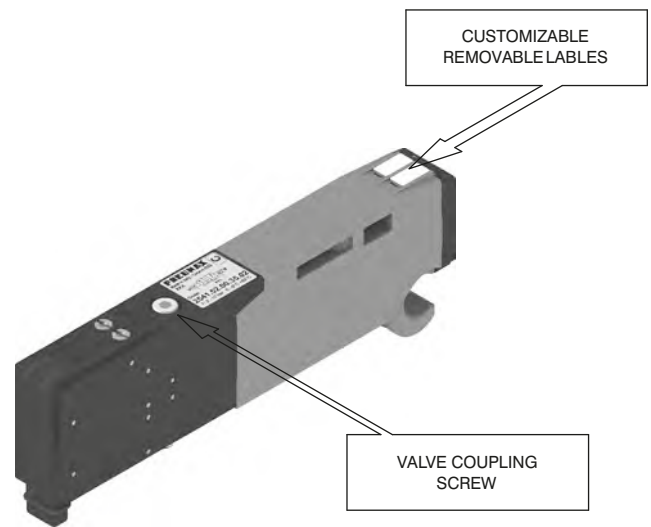
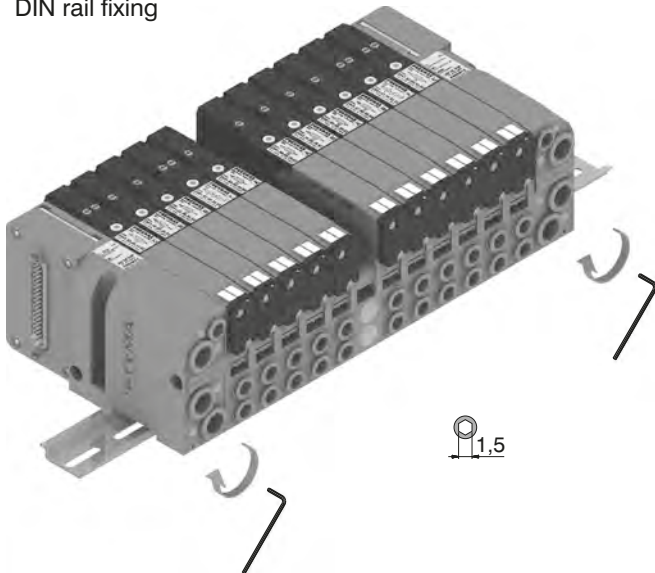
Please note: I/O modules don't allow to connect any additional valves manifold after them.



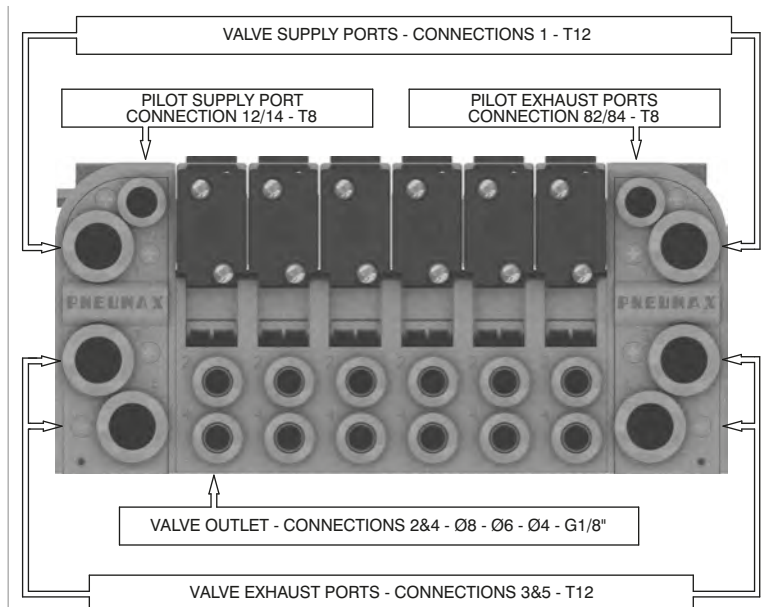
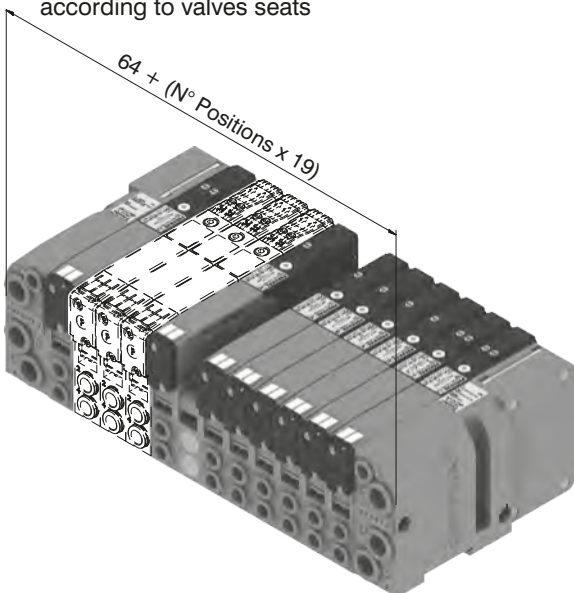
From the top



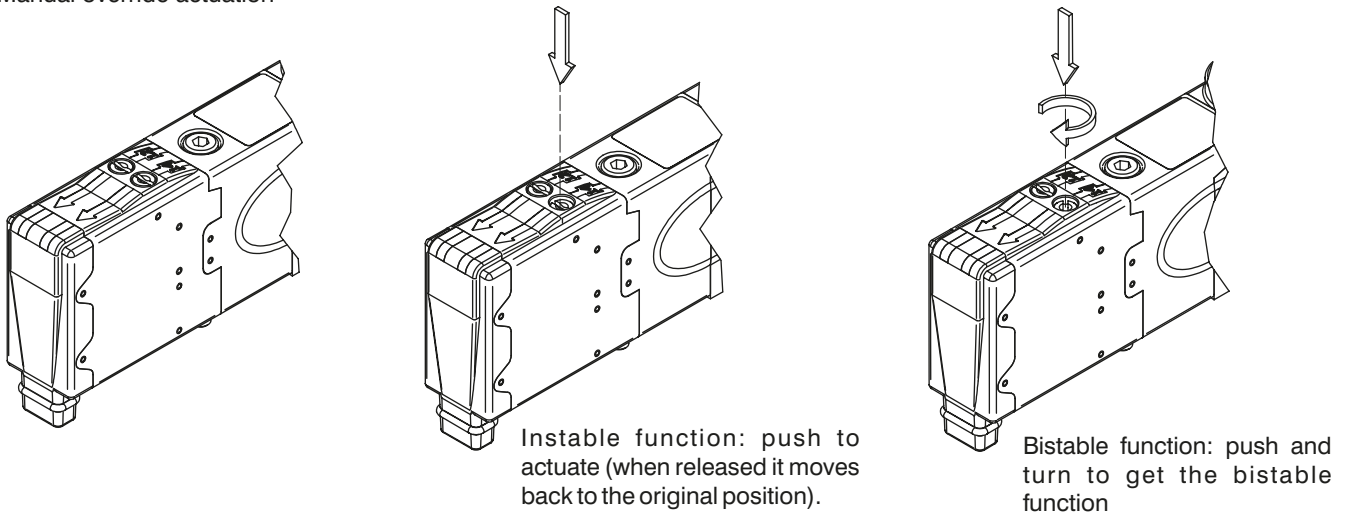
DIN rail fixing



Maximum possible size according to valves seats

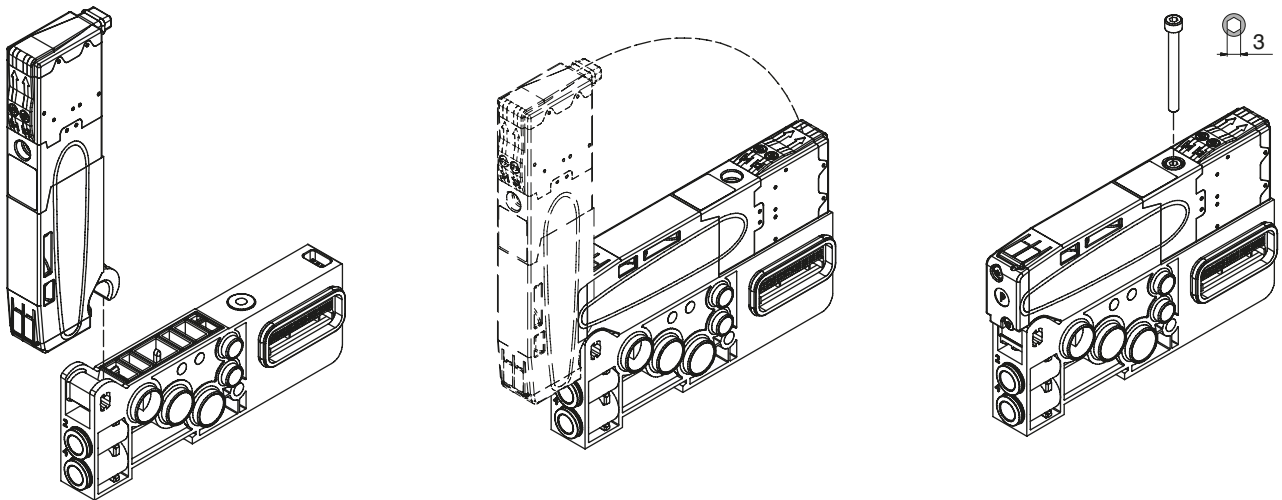


Manual override actuation



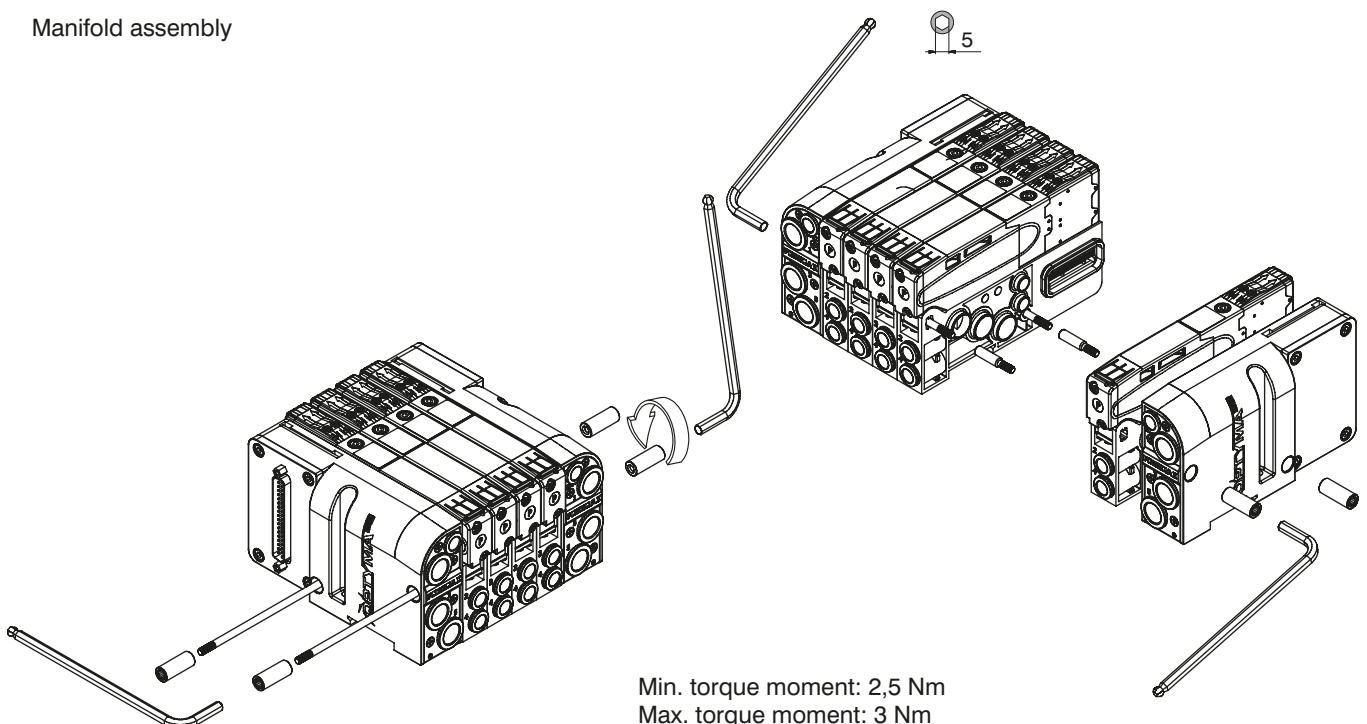
NOTE : It is strongly suggested to replace the original position after using

Valve Installation



NOTE: Torque moment 1 Nm

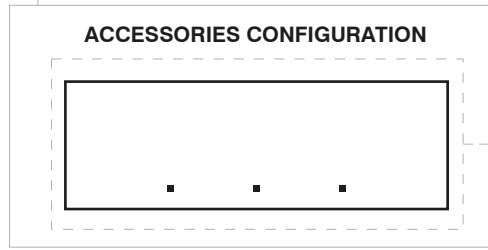
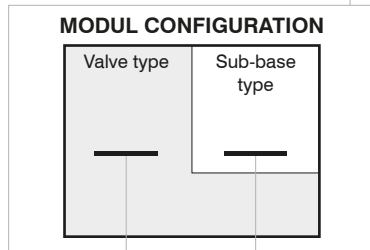
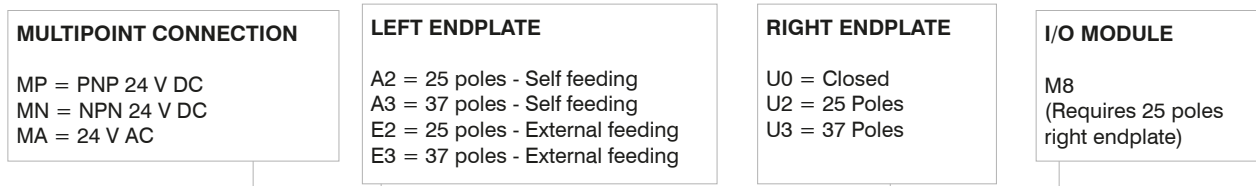
Manifold assembly



Min. torque moment: 2,5 Nm
Max. torque moment: 3 Nm

Manifold Layout configuration

1
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SHORT CODE FUNCTION / CONNECTION :

- | | |
|--|--|
| A1= 5/2 Sol.-Spring + BASE 1 - CARTR. G1/8" GAS | F2= 2x3/2 NC-NC (= 5/3 OC) Sol.-Sol. + BASE 2 - CARTR. G1/8" GAS |
| A2= 5/2 Sol.-Spring + BASE 2 - CARTR. G1/8" GAS | F4= 2x3/2 NC-NC (= 5/3 OC) Sol.-Sol. + BASE 2 - CARTR. Ø4 |
| A3= 5/2 Sol.-Spring + BASE 1 - CARTR. Ø4 | F6= 2x3/2 NC-NC (= 5/3 OC) Sol.-Sol. + BASE 2 - CARTR. Ø6 |
| A4= 5/2 Sol.-Spring + BASE 2 - CARTR. Ø4 | F8= 2x3/2 NC-NC (= 5/3 OC) Sol.-Sol. + BASE 2 - CARTR. Ø8 |
| A5= 5/2 Sol.-Spring + BASE 1 - CARTR. Ø6 | G2= 2x3/2 NO-NO (= 5/3 PC) Sol.-Sol. + BASE 2 - CARTR. G1/8" GAS |
| A6= 5/2 Sol.-Spring + BASE 2 - CARTR. Ø6 | G4= 2x3/2 NO-NO (= 5/3 PC) Sol.-Sol. + BASE 2 - CARTR. Ø4 |
| A7= 5/2 Sol.-Spring + BASE 1 - CARTR. Ø8 | G6= 2x3/2 NO-NO (= 5/3 PC) Sol.-Sol. + BASE 2 - CARTR. Ø6 |
| A8= 5/2 Sol.-Spring + BASE 2 - CARTR. Ø8 | G8= 2x3/2 NO-NO (= 5/3 PC) Sol.-Sol. + BASE 2 - CARTR. Ø8 |
| B1= 5/2 Sol.-Diff. + BASE 1 - CARTR. G1/8" GAS | H2= 2x3/2 NC-NO Sol.-Sol. + BASE 2 - CARTR. G1/8" GAS |
| B2= 5/2 Sol.-Diff. + BASE 2 - CARTR. G1/8" GAS | H4= 2x3/2 NC-NO Sol.-Sol. + BASE 2 - CARTR. Ø4 |
| B3= 5/2 Sol.-Diff. + BASE 1 - CARTR. Ø4 | H6= 2x3/2 NC-NO Sol.-Sol. + BASE 2 - CARTR. Ø6 |
| B4= 5/2 Sol.-Diff. + BASE 2 - CARTR. Ø4 | H8= 2x3/2 NC-NO Sol.-Sol. + BASE 2 - CARTR. Ø8 |
| B5= 5/2 Sol.-Diff. + BASE 1 - CARTR. Ø6 | I2= 2x3/2 NO-NC Sol.-Sol. + BASE 2 - CARTR. G1/8" GAS |
| B6= 5/2 Sol.-Diff. + BASE 2 - CARTR. Ø6 | I4= 2x3/2 NO-NC Sol.-Sol. + BASE 2 - CARTR. Ø4 |
| B7= 5/2 Sol.-Diff. + BASE 1 - CARTR. Ø8 | I6= 2x3/2 NO-NC Sol.-Sol. + BASE 2 - CARTR. Ø6 |
| B8= 5/2 Sol.-Diff. + BASE 2 - CARTR. Ø8 | I8= 2x3/2 NO-NC Sol.-Sol. + BASE 2 - CARTR. Ø8 |
| C2= 5/2 Sol.-Sol. + BASE 2 - CARTR. G1/8" GAS | T1= Free valve space plug + BASE 1 - CARTR. G1/8" GAS |
| C4= 5/2 Sol.-Sol. + BASE 2 - CARTR. Ø4 | T2= Free valve space plug + BASE 2 - CARTR. G1/8" GAS |
| C6= 5/2 Sol.-Sol. + BASE 2 - CARTR. Ø6 | T3= Free valve space plug + BASE 1 - CARTR. Ø4 |
| C8= 5/2 Sol.-Sol. + BASE 2 - CARTR. Ø8 | T4= Free valve space plug + BASE 2 - CARTR. Ø4 |
| E2= 5/3 CC Sol.-Sol. + BASE 2 - CARTR. G1/8" GAS | T5= Free valve space plug + BASE 1 - CARTR. Ø6 |
| E4= 5/3 CC Sol.-Sol. + BASE 2 - CARTR. Ø4 | T6= Free valve space plug + BASE 2 - CARTR. Ø6 |
| E6= 5/3 CC Sol.-Sol. + BASE 2 - CARTR. Ø6 | T7= Free valve space plug + BASE 1 - CARTR. Ø8 |
| E8= 5/3 CC Sol.-Sol. + BASE 2 - CARTR. Ø8 | T8= Free valve space plug + BASE 2 - CARTR. Ø8 |

NOTE:

While configuring the manifold always be careful that the maximum number of electrical signals available is 32.

The use of monostable valve mounted on a base type 2 (2 electrical signals occupied) causes the loss of one electric signal. In this case the monostable valve can be replaced by a bistable valve. The diaphragms plugs are used to intercept the conduits 1,3 & 5 of the base. If it is necessary to interrupt more than one conduit in the same time then put in line the letters which identifies the position (for exemple : regarding the 3 & 5 conduits, put the Y & Z letters).

Should one or more conduits be cut more than one time it is necessary to add the relevant intermediate Supply/Exhaust module.

ACCESSORIES

- | | |
|---|--|
| U2 = Power supply
2 positions module | Z = Diaphragm plug
on pipe 5 |
| U4 = Power supply
4 positions module | XY = Diaphragm plug
on pipe 1 & 3 |
| W = Intermediate supply
& exhaust module | ZX = Diaphragm plug
on pipe 5 & 1 |
| X = Diaphragm plug
on pipe 1 | ZY = Diaphragm plug
on pipe 5 & 3 |
| Y = Diaphragm plug
on pipe 3 | ZXY = Diaphragm plug
on pipe 5, 1 & 3 |

Series 2500 OPTYMA-T solenoid valve manifolds managed by multipoint connection are "well tried components"

	Well-tried component	- The product is a well-tried product for a safety-related application according to ISO 13849-1.
B_{10d}	50.000.000	- The relevant basic and well-tried safety principles according ISO 13849-2 for this product are fulfilled.
		- The suitability of the product for a precise application must be verified and confirmed by the user.

General:

CANopen® module is directly integrated on Optyma-T solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyma-T solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08T or a max number of 4 Input modules 5225.12T.

CANopen® module recognizes automatically the presence of the Input modules on power on.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus CANopen® is possible via 2 M12 5P male - female circular connectors; these two are connected in parallel and according to CiA Draft Recommendation 303-1 (V. 1.3 : 30 December 2004).

Transmission speed can be set by 3 dip-switches.

The node address can be set by 6 dip-switches using BCD numeration.

The module includes an internal terminating resistance that can be activated by a dip-switch.

Ordering code

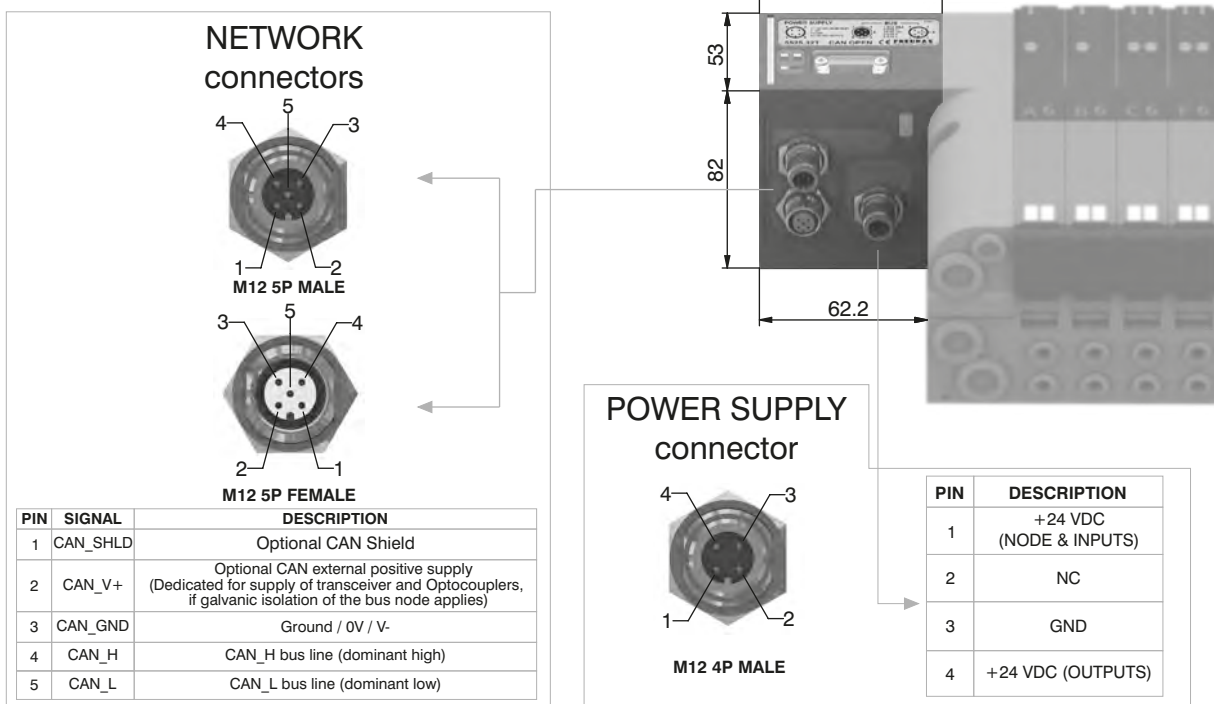
5525.32T



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Scheme / Overall dimensions and I/O layout :



PIN	SIGNAL	DESCRIPTION
1	CAN_SHLD	Optional CAN Shield
2	CAN_V+	Optional CAN external positive supply (Dedicated for supply of transceiver and Optocouplers, if galvanic isolation of the bus node applies)
3	CAN_GND	Ground / 0V / V-
4	CAN_H	CAN_H bus line (dominant high)
5	CAN_L	CAN_L bus line (dominant low)

PIN	DESCRIPTION
1	+24 VDC (NODE & INPUTS)
2	NC
3	GND
4	+24 VDC (OUTPUTS)

Technical characteristics

	Model	5525.32T
	Specifications	CiA Draft Standard Proposal 301 V 4.10 (15 August 2006)
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	30 mA
	Power supply diagnosis	Green LED PWR
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 5P connectors male-female Type A (IEC 60947-5-2)
	Baud rate	10 - 20 - 50 - 125 - 250 - 500 - 800 - 1000 Kbit/s
	Addresses, possible numbers	From 1 to 63
	Max nodes in net	64 (slave + master)
	Bus maximum recommended length	100 m at 500 Kbit/s
	Bus diagnosis	Green LED + Red LED
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General:

DeviceNet module is directly integrated on Optyma-T solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
 Optyma-T solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08T or a max number of 4 Input modules 5225.12T.

DeviceNet module recognizes automatically the presence of the Input modules on power on.

Regardless of the number of Input modules connected, the managable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus DeviceNet is possible via 2 M12 5P male - female circular connectors; these two are connected in parallel and according to DeviceNet Specifications Volume I, release 2.0.

Transmission speed can be set by 3 dip-switches.

The node address can be set by 6 dip-switches using BCD numeration.

The module includes an internal terminating resistance that can be activated by a dip-switch.

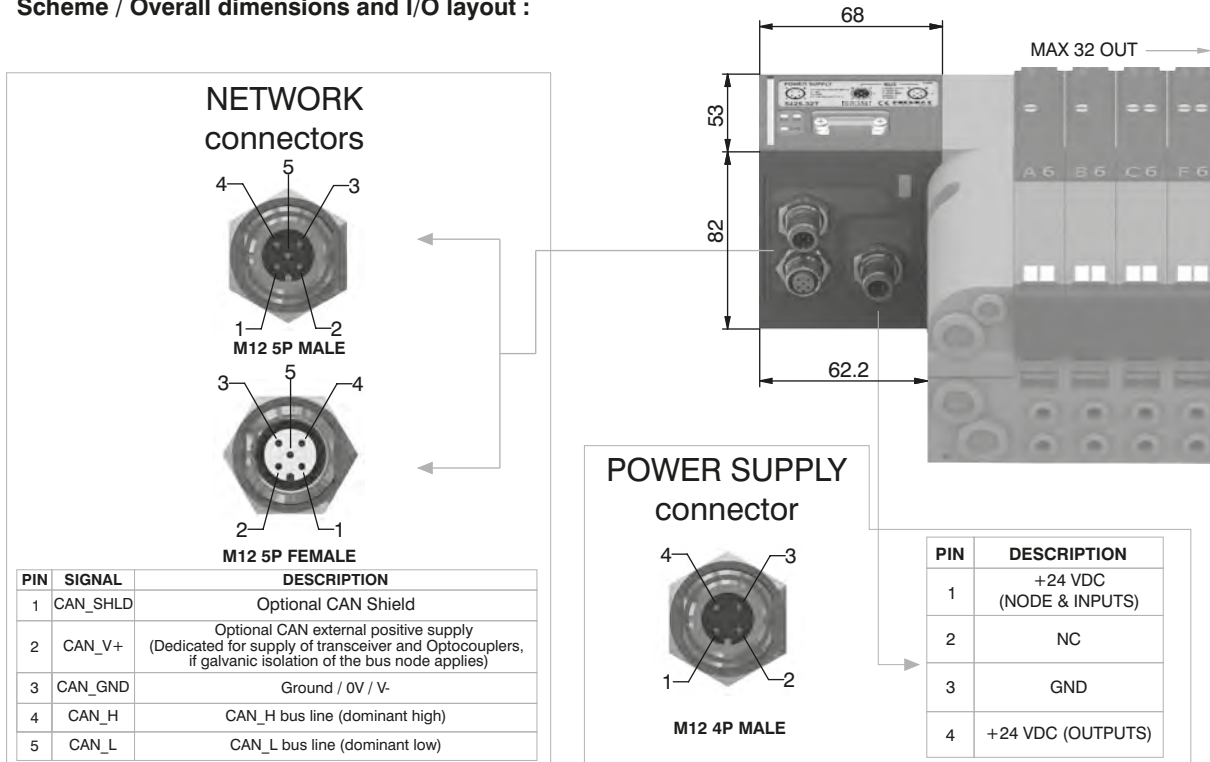
Ordering code

5425.32T



AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5425.32T
	Specifications	DeviceNet Specifications Volume I, release 2.0.
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	30 mA
	Power supply diagnosis	Green LED PWR
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 5P connectors male-female Type A (IEC 60947-5-2)
	Baud rate	125 - 250 - 500 Kbit/s
	Addresses, possible numbers	From 1 to 63
	Max nodes in net	64 (slave + master)
	Bus maximum recommended length	100 m at 500 Kbit/s
	Bus diagnosis	Green LED + Red LED
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C



General:

PROFIBUS DP module is directly integrated on Optyma-T solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.

Optyma-T solenoid valves connected to node must be PNP equivalent (final 02 in ordering code). The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 8 Input modules 5225.08T or a max number of 8 Input modules 5225.12T.

PROFIBUS DP module recognizes automatically the presence of the Input modules on power on. Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

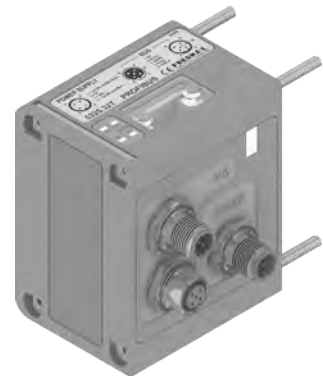
Connection to Bus PROFIBUS DP is possible via 2 M12 type B 5P male - female circular connectors; these two are connected in parallel and according to PROFIBUS Interconnection Technology (Version 1.1 : August 2001).

The node address can be set using BCD numeration: 4 dip-switches for the units and 4 dip-switches for the tens.

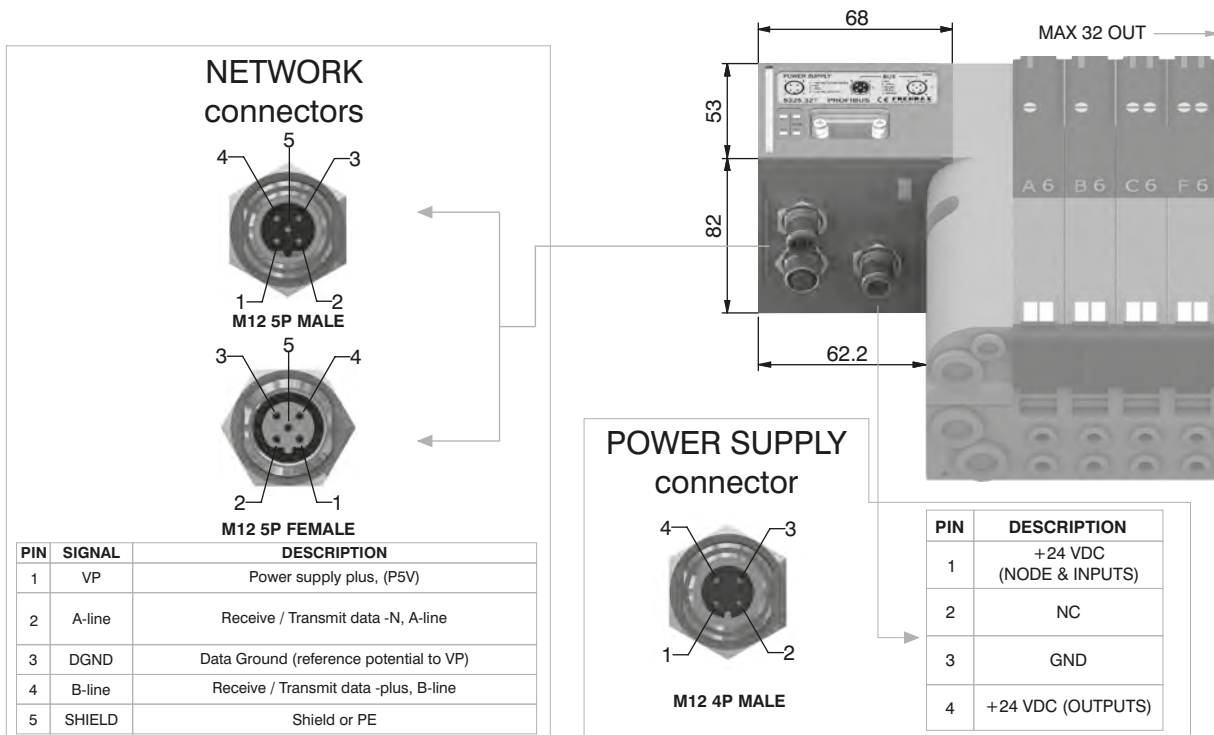
The module includes an internal terminating resistance that can be activated by 2 dip-switches.

Ordering code

5325.32T



Scheme / Overall dimensions and I/O layout :



PIN	SIGNAL	DESCRIPTION
1	VP	Power supply plus, (P5V)
2	A-line	Receive / Transmit data -N, A-line
3	DGND	Data Ground (reference potential to VP)
4	B-line	Receive / Transmit data -plus, B-line
5	SHIELD	Shield or PE

PIN	DESCRIPTION
1	+24 VDC (NODE & INPUTS)
2	NC
3	GND
4	+24 VDC (OUTPUTS)

Technical characteristics

	Model	5325.32T
	Specifications	PROFIBUS DP
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	50 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 5P male-female connectors Type B
	Baud rate	9,6 - 19,2 - 93,75 - 187,5 - 500 - 1500 - 3000 - 6000 - 12000 Kbit/s
	Addresses, possible numbers	From 1 to 99
	Max nodes in net	100 (slave + master)
	Bus maximum recommended length	100 m at 12 Mbit/s - 1200 m at 9,6 Kbit/s
	Bus diagnosis	Green LED + Red LED
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General:

EtherCAT® module is directly integrated on Optyima-T solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection. Optyima-T solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5225.08T or a max number of 4 Input modules 5225.12T.

The EtherCAT® module, regardless the number of Input module connected, reports to have connected 4 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

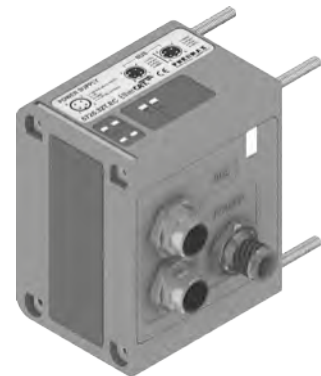
Connection to Bus EtherCAT® is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

The node address is assigned during configuration.

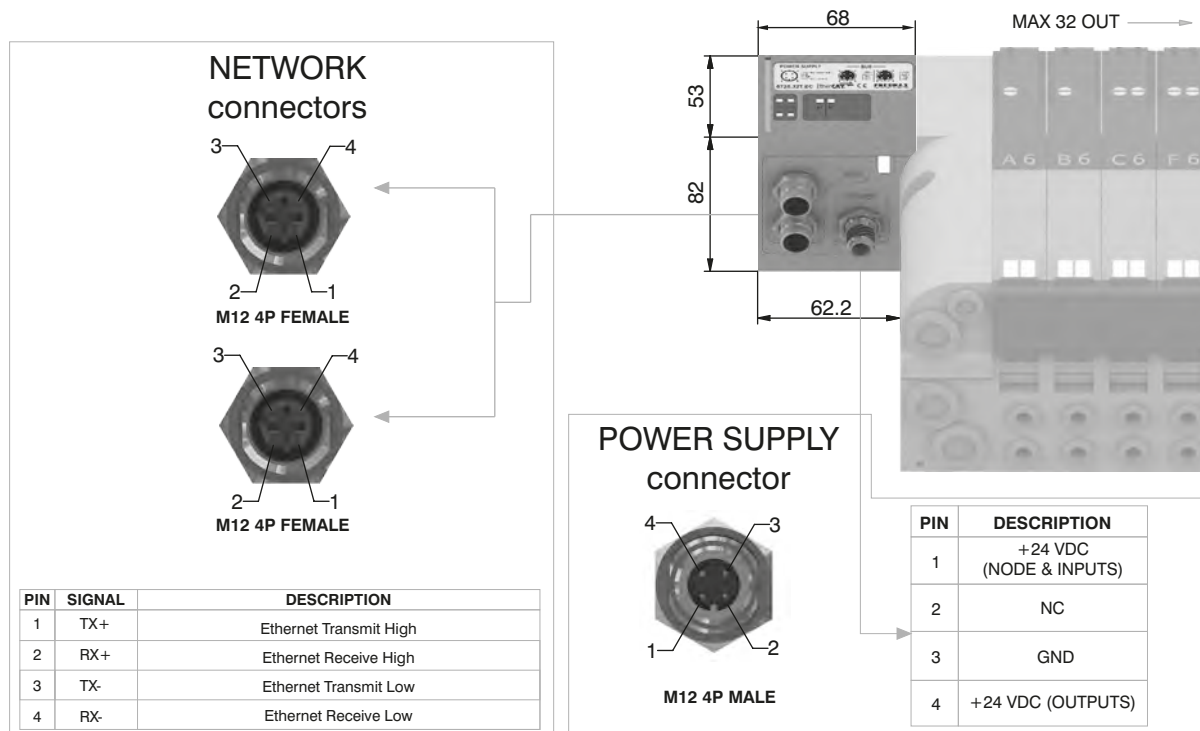
Note: 5700 series has a different configuration file from series 5600.

Ordering code

5725.32T.EC



Scheme / Overall dimensions and I/O layout :



Technical characteristics

Model	5725.32T.EC	
Specifications	EtherCAT® Specifications ETG.1000 series	
Case	Reinforced technopolymer	
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LEDPWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	From 1 to 65535
	Max nodes in net	65536 (Master + Slave)
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General :

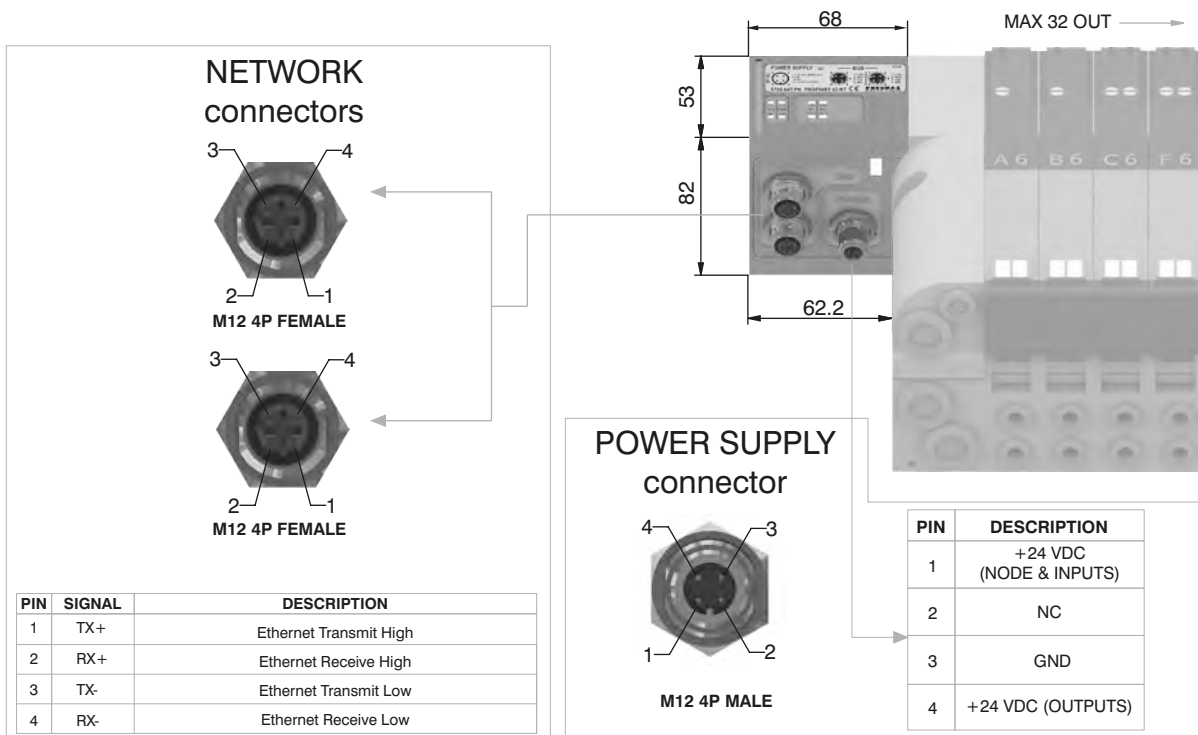
PROFINET IO RT module is directly integrated on Optyima-T solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
 Optyima-T solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
 The node can be easily installed also on solenoid valves manifold already mounted on equipment.
 Module can manage up to 32 solenoid valves, and, in the same time, a max number of 8 Input modules 5225.08T or a max number of 8 Input modules 5225.12T.
 The PROFINET IO RT module, regardless the number of Input module connected, reports to have connected 8 Input modules.
 Regardless of the number of Input modules connected, the manageable solenoid valves are 32.
 Node power supply is made by a M12 4P male circular connector.
 The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.
 Connection to Bus PROFINET IO RT is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.
 The node address is assigned during configuration.

Ordering code

5725.32T.PN



Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5725.32T.PN
	Specifications	PROFINET IO RT
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	As an IP address
	Max nodes in net	As an Ethernet Network
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 4 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
Temperature range	From 0° to +50° C	

General :

EtherNet/IP module is directly integrated on Optyma-T solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection. Optyma-T solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 8 Input modules 5225.08T or a max number of 8 Input modules 5225.12T.

The EtherNet/IP module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the managable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

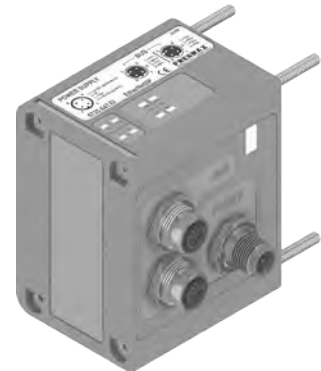
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs mantaning powered the node and inputs, if present.

Connection to Bus EtherNet/IP is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

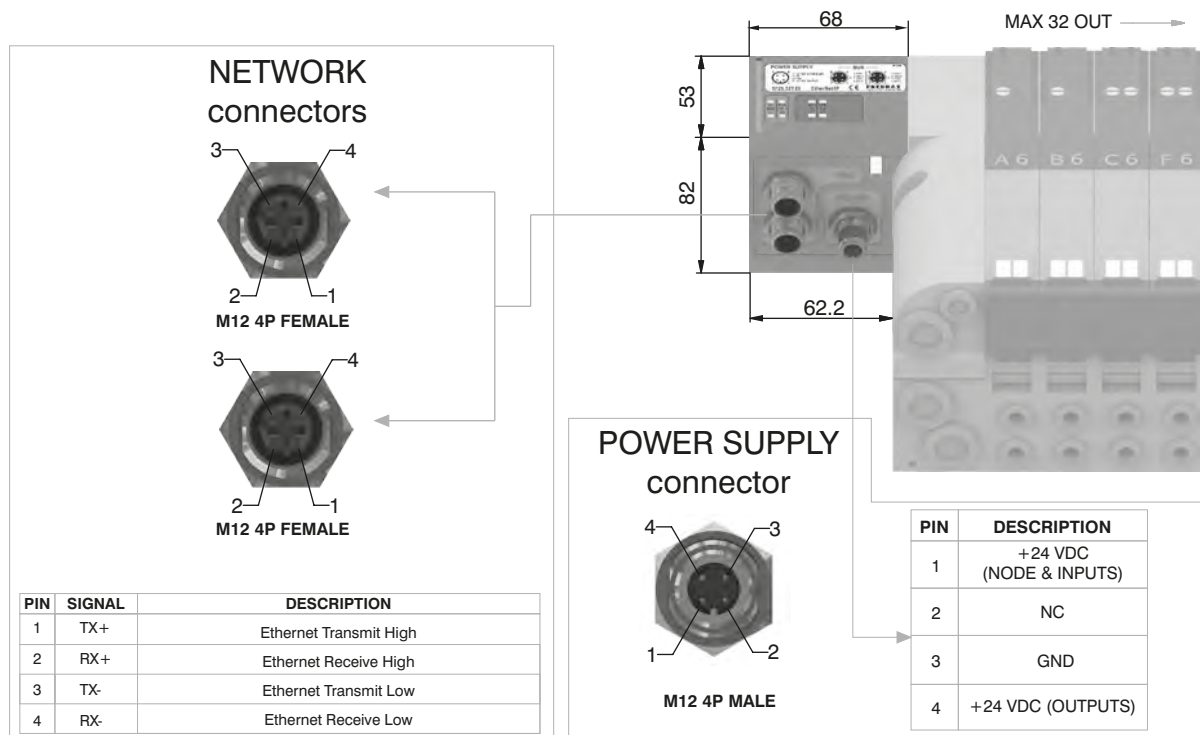
The node address is assigned during configuration.

Ordering code

5725.32T.EI



Scheme / Overall dimensions and I/O layout :



Technical characteristics

Model	5725.32T.EI
Specifications	The EtherNet/IP Specification
Case	Reinforced technopolymer
Power supply	Power supply connection M12 4P male connector (IEC 60947-5-2)
	Power supply voltage +24 VDC +/- 10%
	Node consumption (without inputs) 400 mA
	Power supply diagnosis Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs +24 VDC +/- 10%
	Maximum current for each output 100 mA
	Maximum output number 32
	Max output simultaneously actuated 32
Network	Network connectors 2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate 100 Mbit/s
	Addresses, possible numbers As an IP address
	Max nodes in net As an Ethernet Network
	Maximum distance between 2 nodes 100 m
	Bus diagnosis 1 green and 1 red LED for status + 4 LEDs for link & activity
	Configuration file Available from our web site: http://www.pneumaxspa.com
	IP protection grade IP65 when assembled
	Temperature range From 0° to +50° C

General :

Powerlink module is directly integrated on Optyima-T solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyima-T solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 8 Input modules 5225.08T or a max number of 8 Input modules 5225.12T.

The Powerlink module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

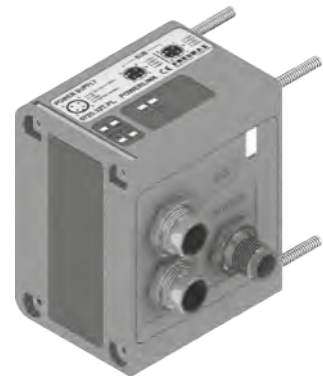
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus Powerlink is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

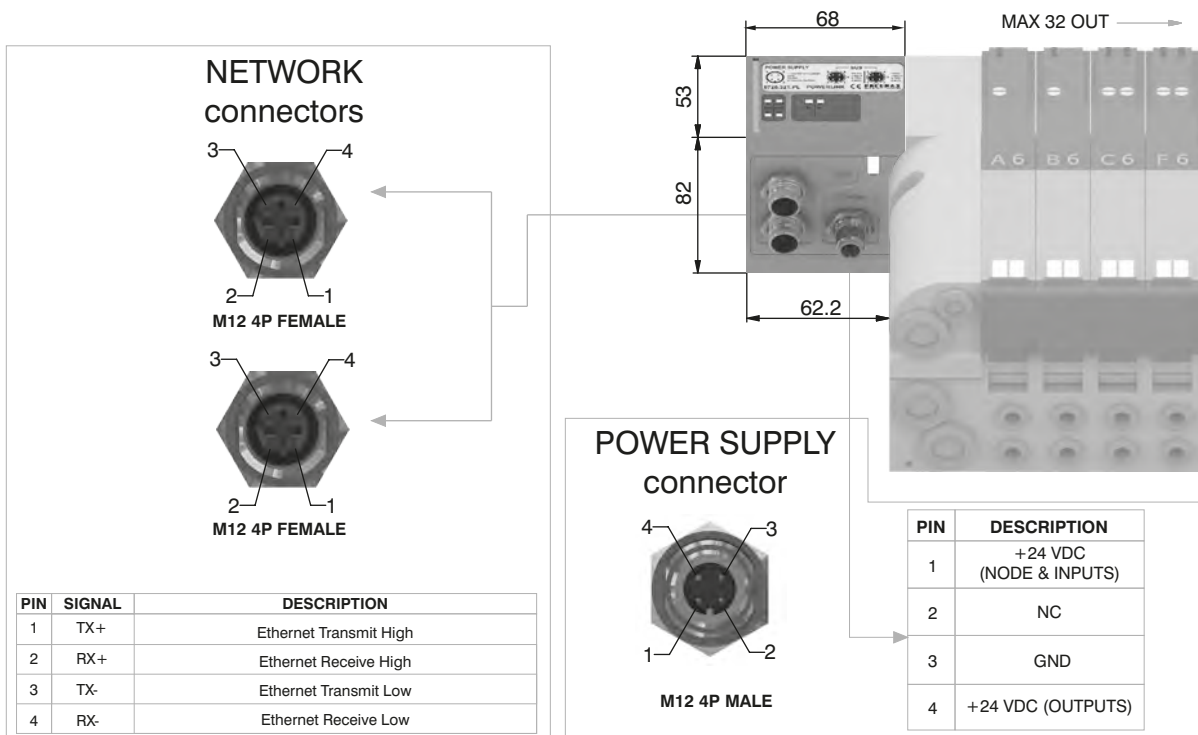
The node address is assigned during configuration.

Ordering code

5725.32T.PL



Scheme / Overall dimensions and I/O layout :



Technical characteristics

	Model	5725.32T.PL
	Specifications	Ethernet POWERLINK Communication Profile Specifications
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	239
	Max nodes in net	240
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General :

Modbus/TCP module is directly integrated on Optyma-T solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
 Optyma-T solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).

The node can be easily installed also on solenoid valves manifold already mounted on equipment.

Module can manage up to 32 solenoid valves, and, in the same time, a max number of 8 Input modules 5225.08T or a max number of 8 Input modules 5225.12T.

The Modbus/TCP module, regardless the number of Input module connected, reports to have connected 8 Input modules.

Regardless of the number of Input modules connected, the manageable solenoid valves are 32.

Node power supply is made by a M12 4P male circular connector.

The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaining powered the node and inputs, if present.

Connection to Bus Modbus/TCP is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.

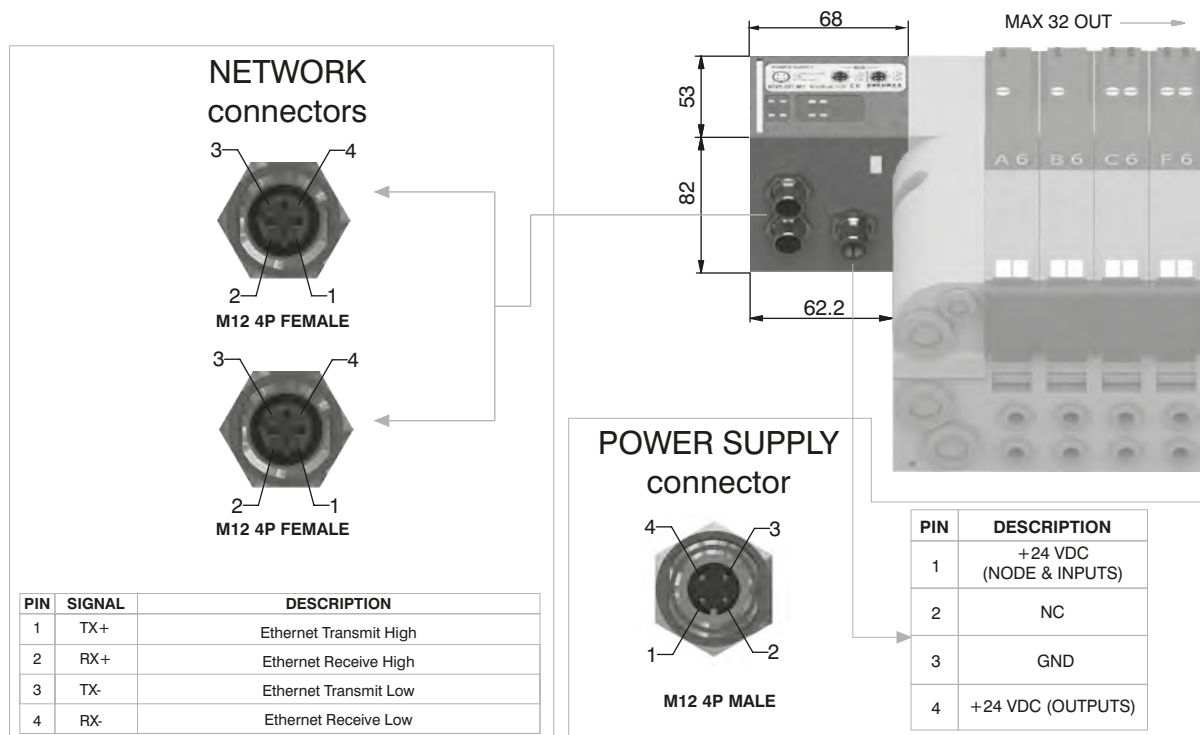
The node address is assigned during configuration.

Ordering code

5725.32T.MT



Scheme / Overall dimensions and I/O layout :



Technical characteristics

Model	5725.32T.MT
Specifications	MODBUS Application Protocol Specification V1.1a, June 4, 2004
Case	Reinforced technopolymer
Power supply	Power supply connection M12 4P male connector (IEC 60947-5-2)
	Power supply voltage +24 VDC +/- 10%
	Node consumption (without inputs) 400 mA
	Power supply diagnosis Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs +24 VDC +/- 10%
	Maximum current for each output 100 mA
	Maximum output number 32
	Max output simultaneously actuated 32
Network	Network connectors 2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate 100 Mbit/s
	Addresses, possible numbers 248
	Max nodes in net 248
	Maximum distance between 2 nodes 100 m
	Bus diagnosis 1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file Modbus/TCP nodes don't require configuration file
	IP protection grade IP65 when assembled
	Temperature range From 0° to +50° C



General :

Modules have 8 connectors M8 3P female.

The Inputs are PNP equivalent 24 VDC ±10%.

To each connector it is possible to plug both 2 wires Inputs (switches, magnetic switches pressure switches, etc) or 3 wires Inputs (proximity, photocells, electronic sensors, etc).

The maximum current available for all 8 Inputs is 300 mA.

Each module includes a 300 mA self-mending fuse. If a short circuit or a overcharge (overall current >300mA) occur the safety device acts cutting the 24 VDC power supply to all M8 connectors on the module and switching off the green led PWR. Any other Input module connected to the node will remain powered and will function correctly.

Once the cause of the fault disappears the green LED PWR lights up indicating the ON state and the node will re-start to operate.

The maximum number of Input modules supported is 4 for CANopen®, DeviceNet and EtherCAT®.

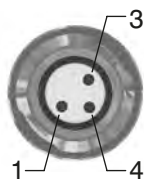
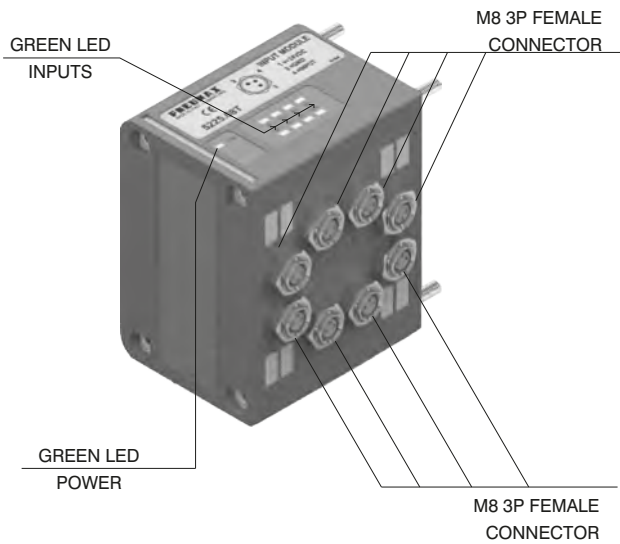
The maximum number of Input modules supported is 8 for PROFIBUS DP, PROFINET IO RT EtherNet/IP and Powerlink.

Ordering code

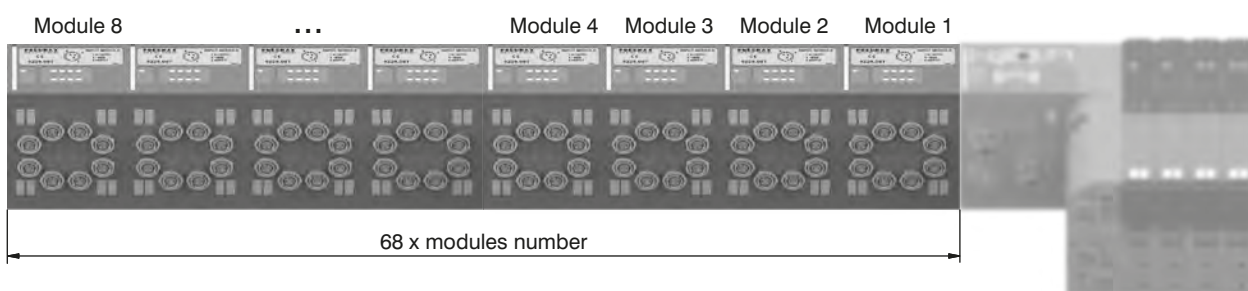
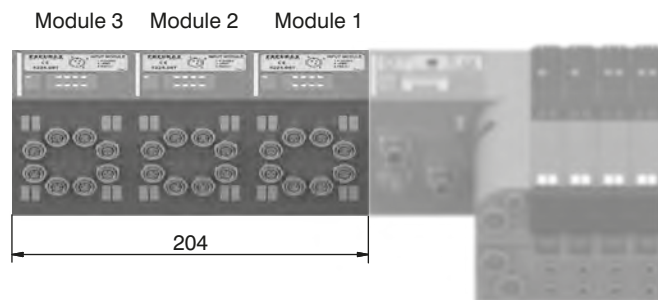
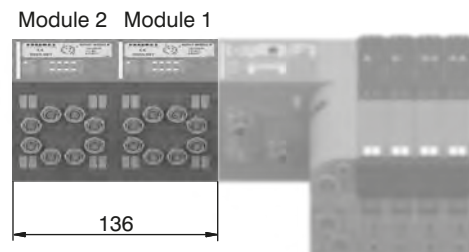
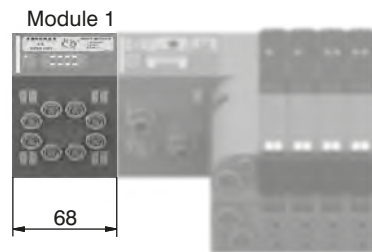
5225.08T



Scheme / Overall dimensions and I/O layout :



PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND



1
AIR DISTRIBUTION

General :

Modules have 4 connectors M12 5P female.

The Inputs are PNP equivalent 24 VDC ±10%.

To each connector it is possible to plug both 2 wires Inputs (switches, magnetic switches pressure switches, etc) or 3 wires Inputs (proximity, photocells, electronic sensors, etc).

The maximum current available for all 8 Inputs is 300 mA.

Each module includes a 300 mA self-mending fuse. If a short circuit or a overcharge (overall current >300mA) occur the safety device acts cutting the 24 VDC power supply to all M8 connectors on the module and switching off the green led PWR. Any other Input module connected to the node will remain powered and will function correctly.

Once the cause of the fault disappears the green LED PWR lights up indicating the ON state and the node will re-start to operate.

The maximum number of Input modules supported is 4 for CANopen®, DeviceNet and EtherCAT®.

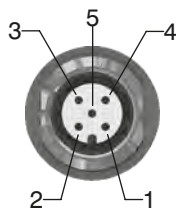
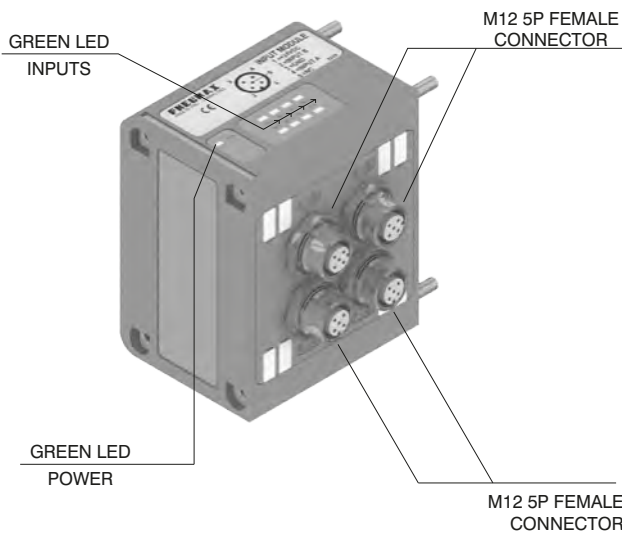
The maximum number of Input modules supported is 8 for PROFIBUS DP, PROFINET IO RT EtherNet/IP and Powerlink.

Ordering code

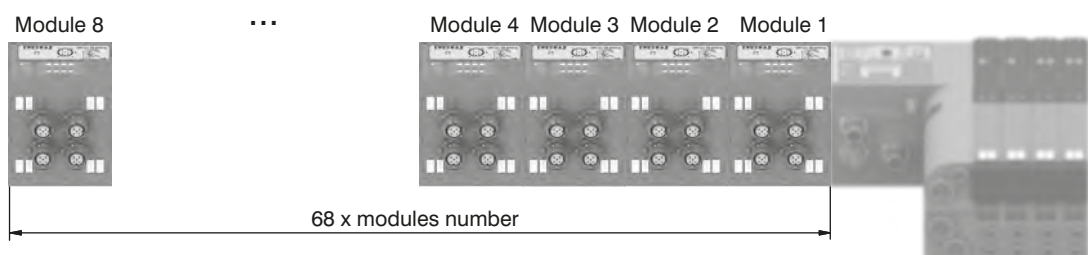
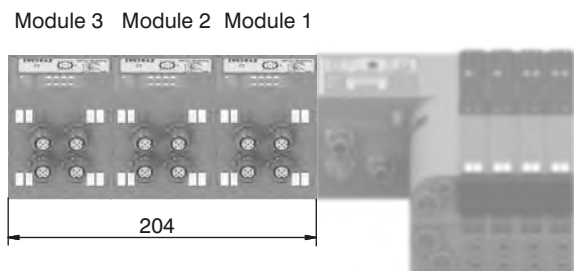
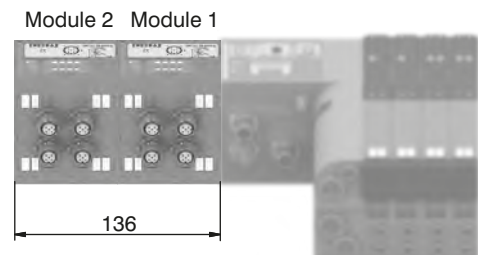
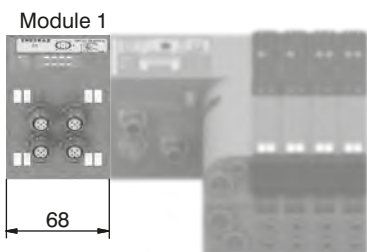
5225.12T



Scheme / Overall dimensions and I/O layout :



PIN	DESCRIPTION
1	+24 VDC
2	INPUT B
3	GND
4	INPUT A
5	NC





General :

This module is fitted with two M8 3 pin female connectors.

With this module is possible to read two analogue inputs (voltage or current).

The inputs are sampled at 12 bit.

For practicality the sampled value is transmitted with 16 bit, of which the four less significant are fixed at zero.

Available models:

- 5225.2T.00T (voltage signal 0 - 10V);
- 5225.2T.01T (voltage signal 0 - 5V);
- 5225.2C.00T (current signal 4 - 20mA);
- 5225.2C.01T (current signal 0 - 20mA).

Each module includes a 300 mA self-mending fuse. Should a short circuit or a overcharge (overall current >300mA) occur the safety device intervenes cutting the 24VDC power supply to all M8 connectors on the module and switching off the green LED PWR. Any other Input module connected to the node will remain powered and will function correctly. Once the cause of the fault is removed the green LED lights up indicating the ON state and the node will re-start to operate.

This module is counted as four 8 digital Inputs modules.

The Maximum number of 2 analogue Inputs modules supported is 1 for CANopen®, DeviceNet®, PROFIBUS DP and EtherCAT®.

The Maximum number of 2 analogue Inputs modules supported is 2 for PROFINET IO RT, EtherNet/IP and Powerlink.

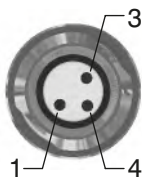
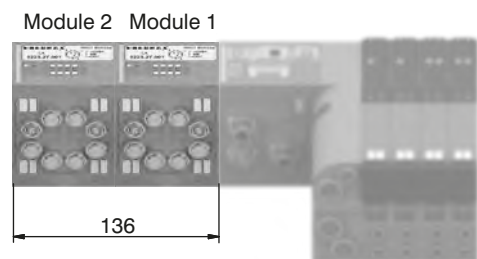
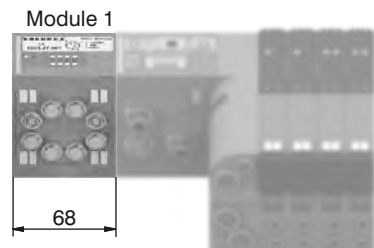
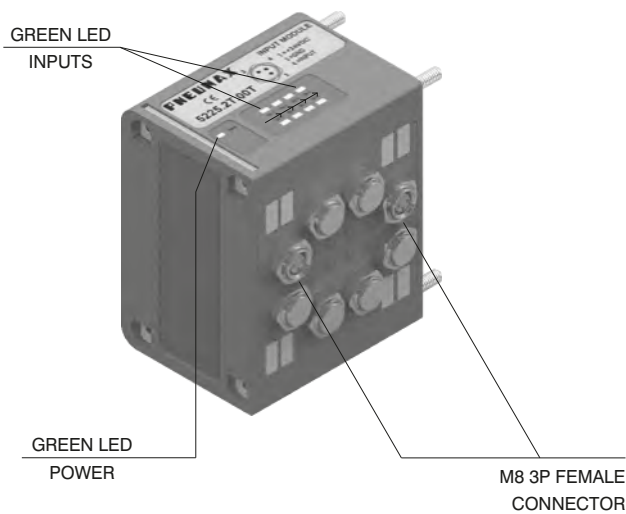
Ordering code

5225.2 _ . _T



1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout :



PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND

General :

This module is fitted with two M8 3 pin female connectors.
 With this module is possible to read two Pt100 probes.
 The inputs are sampled at 12 bit.
 For practicality the sampled value is transmitted with 16 bit, of which the four less significant are fixed at zero.
 It is possible to plug 3-wires probes or 2-wires probes.
 The temperature is expressed in tenths of degree.
 The temperature range is 0 – 250°C, beyond which the green LED for probe presence doesn't light on.
 The module returns a value correspondent to 250°C when the probe is not connected.

Available models:
 5225.2P00T (2-wires probes);
 5225.2P01T (3-wires probes).

Each module includes a 300 mA self-mending fuse. Should a short circuit or a overcharge (overall current >300mA) occur the safety device intervenes cutting the 24VDC power supply to all M8 connectors on the module and switching off the green LED PWR. Any other Input module connected to the node will remain powered and will function correctly.
 Once the cause of the fault is removed the green LED lights up indicating the ON state and the node will re-start to operate.
 This module is counted as four 8 digital Inputs modules.

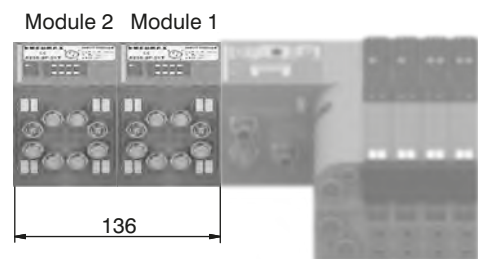
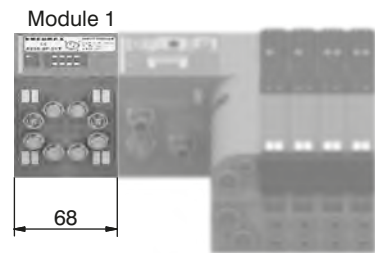
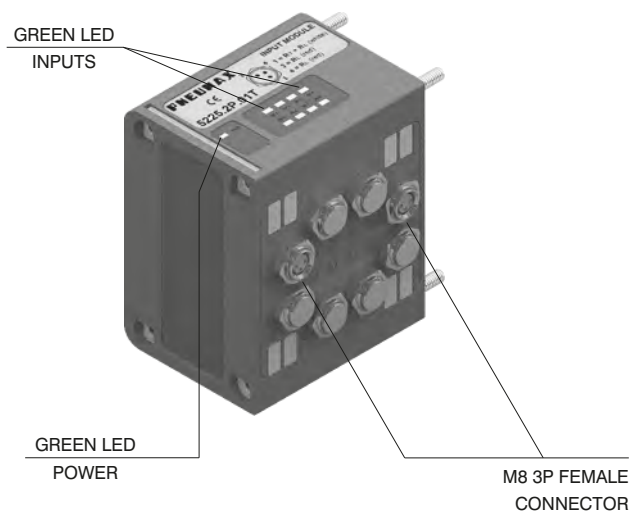
The Maximum number of 2 Pt100 Inputs modules supported is 1 for CANopen®, DeviceNet, PROFIBUS DP and EtherCAT®.
 The Maximum number of 2 Pt100 Inputs modules supported is 2 for PROFINET IO RT, EtherNet/IP and Powerlink.

Ordering code

5225.2P . 0_T



Scheme / Overall dimensions and I/O layout :



3 WIRES

PIN	DESCRIPTION
1	RT (white)
4	RL (red)
3	RL (red)

2 WIRES

PIN	DESCRIPTION
1	RT (white)
4	NC
3	RL (red)



General :

This module is fitted with two M8 3 pin female connectors.

With this module is possible to read two Pt100 probes.

The inputs are sampled at 12 bit.

For practicality the sampled value is transmitted with 16 bit, of which the four less significant are fixed at zero.

It is possible to plug 3-wires probes or 2-wires probes.

The temperature is expressed in points according to the formula

$$\text{Temperature} = \left(\frac{\text{Points}}{4095} \times 600 \right) - 200$$

The temperature range is -200 to +400°C, beyond which the green LED for probe presence doesn't light on.

The module returns a value correspondent to 400°C when the probe is not connected.

Available models:

5225.2P.10T (2-wires probes);

5225.2P.11T (3-wires probes).

Each module includes a 300 mA self-mending fuse. Should a short circuit or a overcharge (overall current >300mA) occur the safety device intervenes cutting the 24VDC power supply to all M8 connectors on the module and switching off the green LED PWR. Any other INPUT module connected to the node will remain powered and will function correctly.

Once the cause of the fault is removed the green LED lights up indicating the ON state and the node will re-start to operate.

This module is counted as four 8 digital Inputs modules.

The Maximum number of 2 Pt100 Inputs modules supported is 1 for CANopen®, DeviceNet, PROFIBUS DP and EtherCAT®.

The Maximum number of 2 Pt100 Inputs modules supported is 2 for PROFINET IO RT, EtherNet/IP and Powerlink.

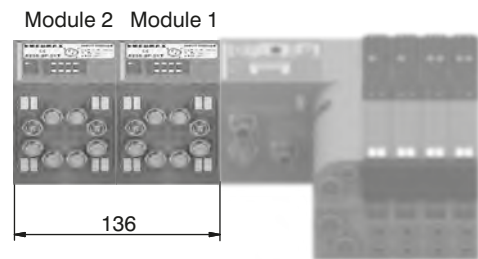
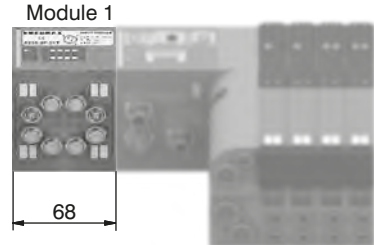
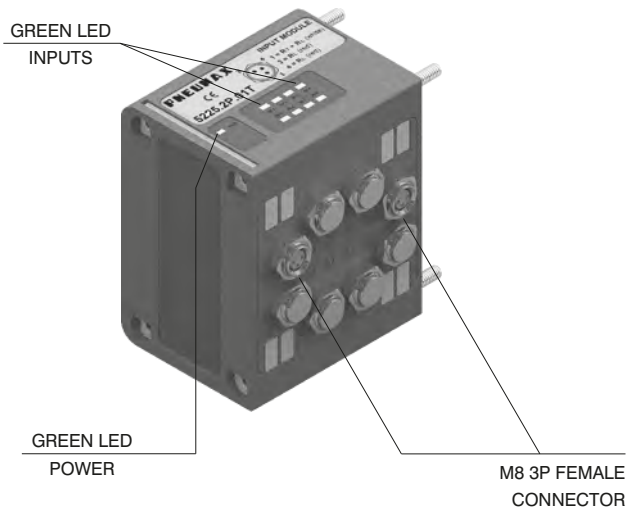
Ordering code

5225.2P . 1_T



1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout :



3 WIRES

PIN	DESCRIPTION
1	RT (white)
4	RL (red)
3	RL (red)

2 WIRES

PIN	DESCRIPTION
1	RT (white)
4	NC
3	RL (red)

Socket for Power Supply
STRAIGHT CONNECTOR
M12A 4P FEMALE

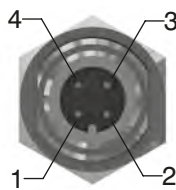
Ordering code

5312A.F04.00



POWER SUPPLY connector

Upper view
Slave connector

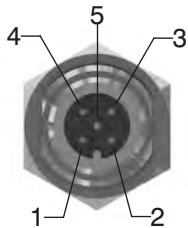


PIN	DESCRIPTION
1	+24 VDC Node
2	
3	0 V
4	+24 VDC Outputs

Socket for Bus CANopen®/DeviceNet
STRAIGHT CONNECTOR
M12A 5P FEMALE

Ordering code

5312A.F05.00



PIN	DESCRIPTION
1	(CAN_SHIELD)
2	(CAN_V+)
3	CAN_GND
4	CAN_H
5	CAN_L

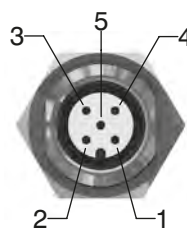
Upper view
Slave connector

NETWORK connectors

Plug for Bus CANopen®/DeviceNet
STRAIGHT CONNECTOR
M12A 5P MALE

Ordering code

5312A.M05.00



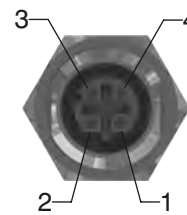
Plug for Bus EtherCAT®,
PROFINET IO RT,
EtherNet/IP and Powerlink
STRAIGHT CONNECTOR M12D 4P MALE

Ordering code

5312D.M04.00



PIN	SIGNAL	DESCRIPTION
1	TX+	Ethernet Transmit High
2	RX+	Ethernet Receive High
3	TX-	Ethernet Transmit Low
4	RX-	Ethernet Receive Low

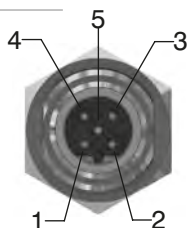


Upper view
Slave connector

Socket for Bus PROFIBUS DP
STRAIGHT CONNECTOR
M12B 5P FEMALE

Ordering code

5312B.F05.00



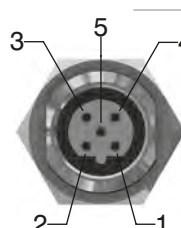
PIN	DESCRIPTION
1	Power Supply
2	A-line
3	DGND
4	B-line
5	SHIELD

Upper view
Slave connector

Plug for Bus PROFIBUS DP
STRAIGHT CONNECTOR
M12B 5P MALE

Ordering code

5312B.M05.00



Plug for Input module
STRAIGHT CONNECTOR
M8 3P MALE

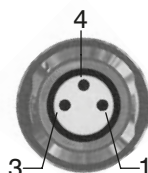
Ordering code

5308A.M03.00



INPUT connectors

Upper view
Slave connector



PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND

Plug for Input module
STRAIGHT CONNECTOR
M12A 5P MALE

Ordering code

5312A.M05.00



M12 plug

Ordering code

5300.T12

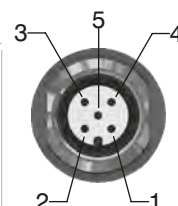


Plugs

M8 plug

Ordering code

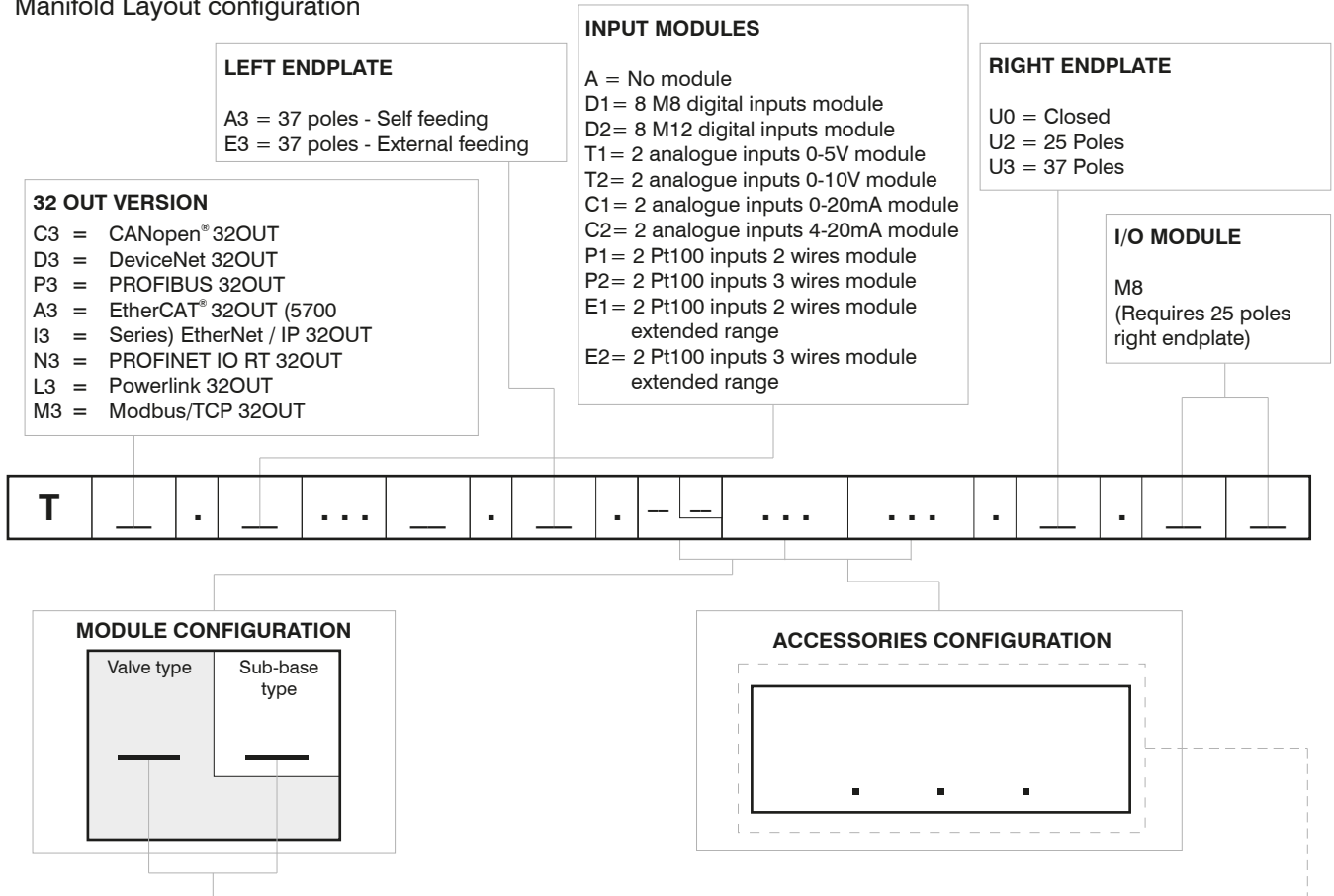
5300.T08



PIN	DESCRIPTION
1	+24 VDC
2	INPUT B
3	GND
4	INPUT A
5	NC



Manifold Layout configuration



SHORT CODE FUNCTION / CONNECTION :

- | | |
|---|---|
| A1 = 5/2 Sol.-Spring + BASE 1 - CARTR. G1/8" GAS | F2 = 2x3/2 NC-NC (= 5/3 OC) Sol.-Sol. + BASE 2 - CARTR. G1/8" GAS |
| A2 = 5/2 Sol.-Spring + BASE 2 - CARTR. G1/8" GAS | F4 = 2x3/2 NC-NC (= 5/3 OC) Sol.-Sol. + BASE 2 - CARTR. Ø4 |
| A3 = 5/2 Sol.-Spring + BASE 1 - CARTR. Ø4 | F6 = 2x3/2 NC-NC (= 5/3 OC) Sol.-Sol. + BASE 2 - CARTR. Ø6 |
| A4 = 5/2 Sol.-Spring + BASE 2 - CARTR. Ø4 | F8 = 2x3/2 NC-NC (= 5/3 OC) Sol.-Sol. + BASE 2 - CARTR. Ø8 |
| A5 = 5/2 Sol.-Spring + BASE 1 - CARTR. Ø6 | G2 = 2x3/2 NO-NO (= 5/3 PC) Sol.-Sol. + BASE 2 - CARTR. G1/8" GAS |
| A6 = 5/2 Sol.-Spring + BASE 2 - CARTR. Ø6 | G4 = 2x3/2 NO-NO (= 5/3 PC) Sol.-Sol. + BASE 2 - CARTR. Ø4 |
| A7 = 5/2 Sol.-Spring + BASE 1 - CARTR. Ø8 | G6 = 2x3/2 NO-NO (= 5/3 PC) Sol.-Sol. + BASE 2 - CARTR. Ø6 |
| A8 = 5/2 Sol.-Spring + BASE 2 - CARTR. Ø8 | G8 = 2x3/2 NO-NO (= 5/3 PC) Sol.-Sol. + BASE 2 - CARTR. Ø8 |
| B1 = 5/2 Sol.-Diff. + BASE 1 - CARTR. G1/8" GAS | H2 = 2x3/2 NC-NO Sol.-Sol. + BASE 2 - CARTR. G1/8" GAS |
| B2 = 5/2 Sol.-Diff. + BASE 2 - CARTR. G1/8" GAS | H4 = 2x3/2 NC-NO Sol.-Sol. + BASE 2 - CARTR. Ø4 |
| B3 = 5/2 Sol.-Diff. + BASE 1 - CARTR. Ø4 | H6 = 2x3/2 NC-NO Sol.-Sol. + BASE 2 - CARTR. Ø6 |
| B4 = 5/2 Sol.-Diff. + BASE 2 - CARTR. Ø4 | H8 = 2x3/2 NC-NO Sol.-Sol. + BASE 2 - CARTR. Ø8 |
| B5 = 5/2 Sol.-Diff. + BASE 1 - CARTR. Ø6 | I2 = 2x3/2 NO-NC Sol.-Sol. + BASE 2 - CARTR. G1/8" GAS |
| B6 = 5/2 Sol.-Diff. + BASE 2 - CARTR. Ø6 | I4 = 2x3/2 NO-NC Sol.-Sol. + BASE 2 - CARTR. Ø4 |
| B7 = 5/2 Sol.-Diff. + BASE 1 - CARTR. Ø8 | I6 = 2x3/2 NO-NC Sol.-Sol. + BASE 2 - CARTR. Ø6 |
| B8 = 5/2 Sol.-Diff. + BASE 2 - CARTR. Ø8 | I8 = 2x3/2 NO-NC Sol.-Sol. + BASE 2 - CARTR. Ø8 |
| C2 = 5/2 Sol.-Sol. + BASE 2 - CARTR. G1/8" GAS | T1 = Free valve space plug + BASE 1 - CARTR. G1/8" GAS |
| C4 = 5/2 Sol.-Sol. + BASE 2 - CARTR. Ø4 | T2 = Free valve space plug + BASE 2 - CARTR. G1/8" GAS |
| C6 = 5/2 Sol.-Sol. + BASE 2 - CARTR. Ø6 | T3 = Free valve space plug + BASE 1 - CARTR. Ø4 |
| C8 = 5/2 Sol.-Sol. + BASE 2 - CARTR. Ø8 | T4 = Free valve space plug + BASE 2 - CARTR. Ø4 |
| E2 = 5/3 CC Sol.-Sol. + BASE 2 - CARTR. G1/8" GAS | T5 = Free valve space plug + BASE 1 - CARTR. Ø6 |
| E4 = 5/3 CC Sol.-Sol. + BASE 2 - CARTR. Ø4 | T6 = Free valve space plug + BASE 2 - CARTR. Ø6 |
| E6 = 5/3 CC Sol.-Sol. + BASE 2 - CARTR. Ø6 | T7 = Free valve space plug + BASE 1 - CARTR. Ø8 |
| E8 = 5/3 CC Sol.-Sol. + BASE 2 - CARTR. Ø8 | T8 = Free valve space plug + BASE 2 - CARTR. Ø8 |

NOTE:

While configuring the manifold always be careful that the maximum number of electrical signals available is 32.
The use of monostable valve mounted on a base type 2 (2 electrical signals occupied) causes the loss of one electric signal. In this case the monostable valve can be replaced by a bistable valve. The diaphragms plugs are used to intercept the conduits 1,3 & 5 of the base. If it is necessary to interrupt more than one conduit in the same time then put in line the letters which identifies the position (for example : regarding the 3 & 5 conduits, put the Y & Z letters).
Should one or more conduits be cut more than one time it is necessary to add the relevant intermediate Supply/Exhaust module.

ACCESSORIES

- | | |
|--|---------------------------------------|
| U2 = Power supply 2 positions module | Z = Diaphragm plug on pipe 5 |
| U4 = Power supply 4 positions module | XY = Diaphragm plug on pipe 1 & 3 |
| W = Intermediate supply & exhaust module | ZX = Diaphragm plug on pipe 5 & 1 |
| X = Diaphragm plug on pipe 1 | ZY = Diaphragm plug on pipe 5 & 3 |
| Y = Diaphragm plug on pipe 3 | ZXY = Diaphragm plug on pipe 5, 1 & 3 |

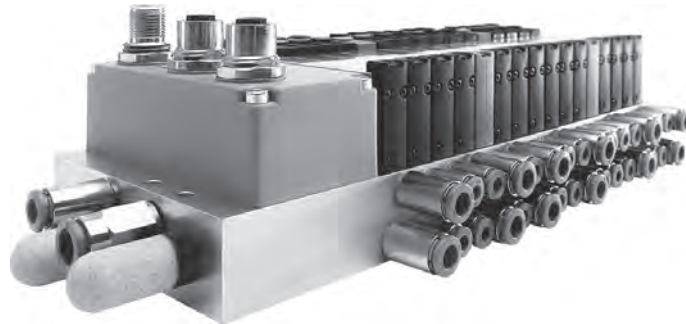
1 AIR DISTRIBUTION



AIR DISTRIBUTION



Solenoid valves series 3000



- 10 mm size
- Nominal flow rate up to 200 NI/min
- Available sub-base mounted or with M5 threaded ports
- The ability to replace valves without disconnecting the pipework
- Available with a wide range of serial system protocols
- Wide range of accessories
- Stand-alone or manifold mounted versions
- Suitable for use with pressure or vacuum

Versatility and maximum reliability: With these prerogatives in mind, new products are being developed dedicated to control in a smarter context. Having the flexibility to be configured within control systems to provide optimal management through a constant interface and communication with the machines control system. The Pneumax 3000 series solenoid valve range has been developed with this in mind and has been developed to suit both stand-alone and manifold mounted applications.

Both stand alone and manifold mounted versions are available in the most commonly used types, capable of working with positive pressures up to 10 Bar or vacuum. The valves have aluminum bodies with integrated electrical connections, manual override and an LED that indicates when the valve is actuated. The Pneumax 3000 series is another addition to the extensive range of solenoid valve systems designed for applications from assembly to automotive.

Construction characteristics	
Body	Aluminium
Operators	Technopolymer
Spool	Aluminium
Seals	NBR
Piston seals	NBR
Springs	AISI 302 stainless steel
Pistons	Aluminium
Operational characteristics	
Voltage	24 VDC \pm 10%
Pilot power consumption	1.3W nominal in the STAND ALONE version (M8 version 1.3W with energy saving) 1.3W nominal in energy saving mode in the MANIFOLD version.
Valve working pressure [1]	from vacuum to 10 bar max.
Pilot working pressure [12-14]	from 2,5 to 7 bar max.
Operating temperature	from -5°C to +50°C
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous



STAND ALONE solenoid valves version



1
AIR DISTRIBUTION

General

The 10mm solenoid valves range with a flow of 200 NI/min, is available in STAND ALONE self-feeding or external feeding versions and realised with point to point connections in three different types of interface: with miniature connector type H, with 300mm leads and with an M8 connector with an integrated snap-on fitting.

Main characteristics

10 mm size thick.
Multi-position sub-bases in different lengths.

Functions

- S.V. 5/2 Monostable Solenoid-Spring
- S.V. 5/2 Monostable Solenoid-Differential (only self feeding)
- S.V. 5/2 Bistable Solenoid-Solenoid
- S.V. 5/3 C.C. Solenoid-Solenoid
- S.V. 2x3/2 N.C.-N.C. (= 5/3 O.C.) Solenoid-Solenoid
- S.V. 2x3/2 N.O.-N.O. (= 5/3 P.C.) Solenoid-Solenoid
- S.V. 2x3/2 N.C.-N.O. Solenoid-Solenoid
- S.V. 2x3/2 N.O.-N.C. Solenoid-Solenoid

Solenoid valve ordering code

3115. 52.00 . 39 . 02

Function
52.00: Solenoid valve 5/2
53.31: Solenoid valve 5 way 3 positions
62.44: 2x Solenoid valve 3/2 N.C.-N.C.
62.55: 2x Solenoid valve 3/2 N.O.-N.O.
62.45: 2x Solenoid valve 3/2 N.C.-N.O.
62.54: 2x Solenoid valve 3/2 N.O.-N.C.

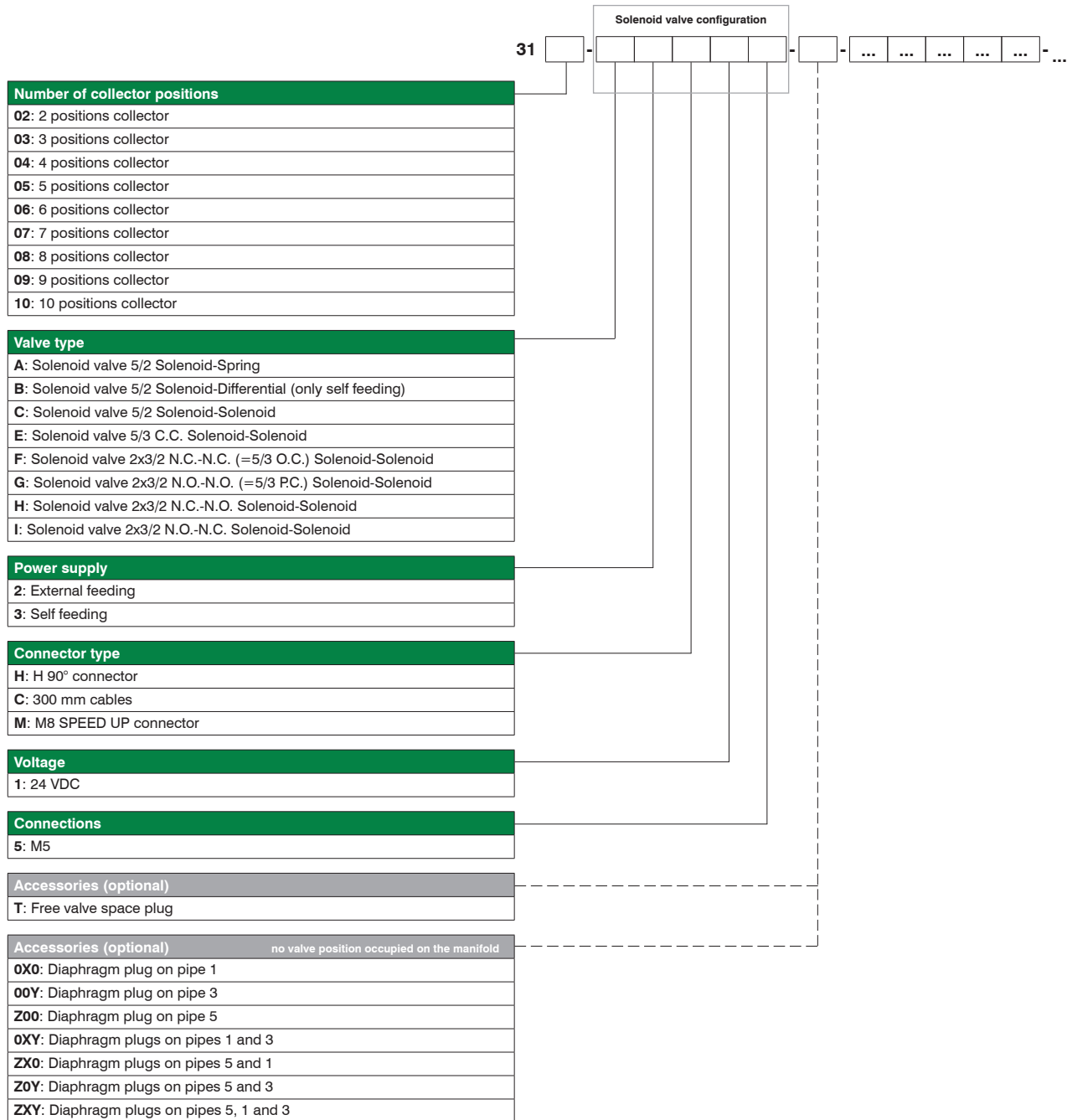
Valves type
36: Solenoid - Differential self-feeding
39: Solenoid - Spring self-feeding
35: Solenoid - Solenoid self-feeding
29: Solenoid - Spring external feeding
25: Solenoid - Solenoid external feeding

Connection
02: H 90° connector
32: 300 mm cables
82: M8 SPEED-UP connector

Example in the table : 3115.52.00.39.02 : Solenoid valve 5/2 solenoid-spring self-feeding, H 90° connector



Configurator



Example in the table : 3104-C2H15-T-0X0-A3H15-F3M15

Four-position manifold composed of:

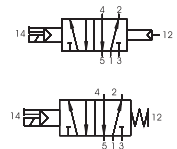
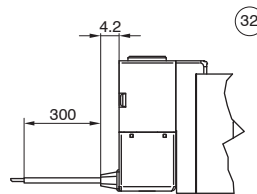
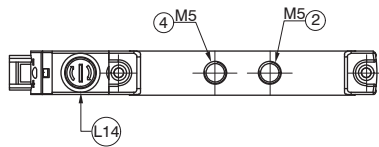
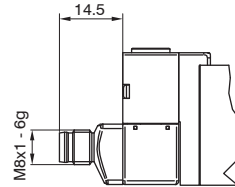
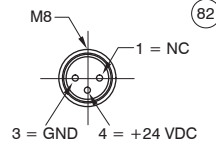
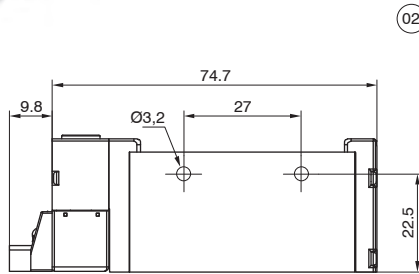
- Solenoid valve 5/2 solenoid-solenoid external feeding, H90° connector, 24 VDC
- Free valve space plug
- Diaphragm plug on pipe 1
- Solenoid valve 5/2 solenoid-spring self-feeding, H90° connector, 24 VDC
- Solenoid valve 2x3/2 N.C.-N.C. (=5/3 O.C.) solenoid-solenoid, M8 SPEED UP connector, 24 VDC



Solenoid valves manifold Series 3000 STAND ALONE - 10mm, M5 - Self feeding

Solenoid-Spring / Solenoid-Differential

Coding: 3115.52.00. **F** **C**



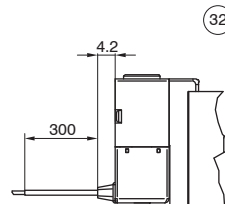
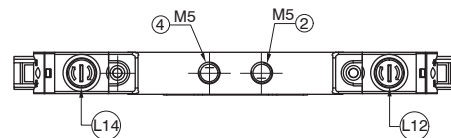
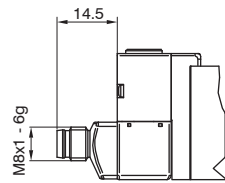
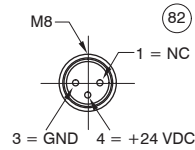
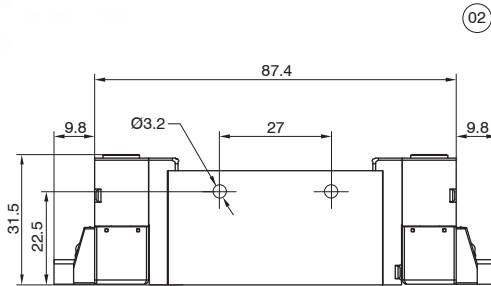
SHORT FUNCTION CODE "A" (39)
SHORT FUNCTION CODE "B" (36)

L14 = Manual over ride - Side 14

Operational characteristics		"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001"					
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Piloting pressure (bar)	Temperature °C	Weight (g)
3115.52.00.39. C Solenoid-Spring	Filtered air. No lubrication needed, if applied it shall be continuous	160	10	20	2.5 - 7	-5 - +50	49
3115.52.00.36. C Solenoid-Differential				15			

Solenoid - Solenoid

Coding: 3115.52.00.35. **C**



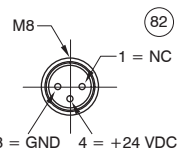
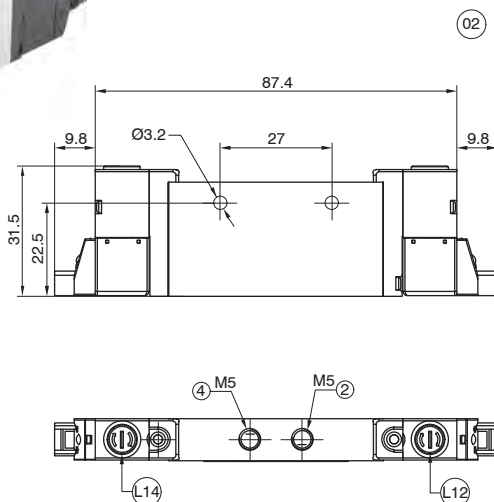
SHORT FUNCTION CODE "C"

L12 = Manual over ride - Side 12
L14 = Manual over ride - Side 14

Operational characteristics		"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001"					
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Piloting pressure (bar)	Temperature °C	Weight (g)
3115.52.00.35. C Solenoid-Differential	Filtered air. No lubrication needed, if applied it shall be continuous	160	10	20	2.5 - 7	-5 - +50	59

Solenoid - Solenoid (Closed centres)

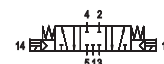
Coding: 3115.53.31.35. **C**



CONNECTIONS	
02	H 90° connector, 24 VDC
32	300mm cable, 24 VDC
82	M8 SPEED UP connector 24VDC

SHORT FUNCTION CODE "E"

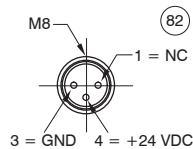
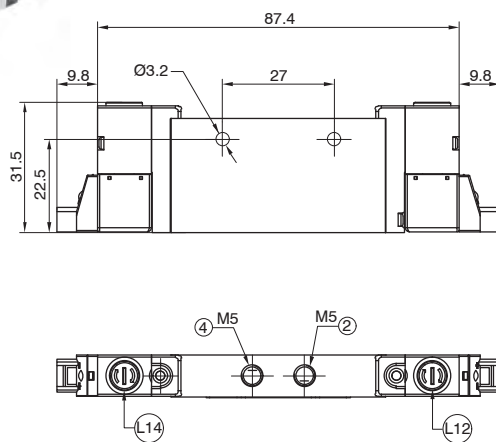
L12 = Manual over ride - Side 12
L14 = Manual over ride - Side 14



Operational characteristics		*Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001*					
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Piloting pressure (bar)	Temperature °C	Weight (g)
3115.53.31.35. C Solenoid-Solenoid (Closed centres)	Filtered air. No lubrication needed, if applied it shall be continuous	150	10	20	2.5 - 7	- 5 - +50	59

Solenoid - Solenoid 2x3/2

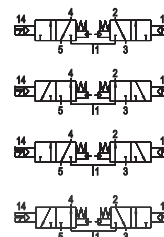
Coding: 3115.62. **F**.35. **C**



FUNCTION	
44	NC-NC (5/3 Open centres)
F 45	NC-NO
55	NO-NO (5/3 Pressured centres)
54	NO-NC
CONNECTIONS	
02	H 90° connector, 24 VDC
C 32	300mm cable, 24 VDC
82	M8 SPEED UP connector 24VDC

SHORT FUNCTION CODE:
NC-NC (5/3 Open centres) = "F"
NO-NAO (5/3 Pressured centres) = "G"
NC-NO = "H"
NO-NC = "I"

L12 = Manual over ride - Side 12
L14 = Manual over ride - Side 14



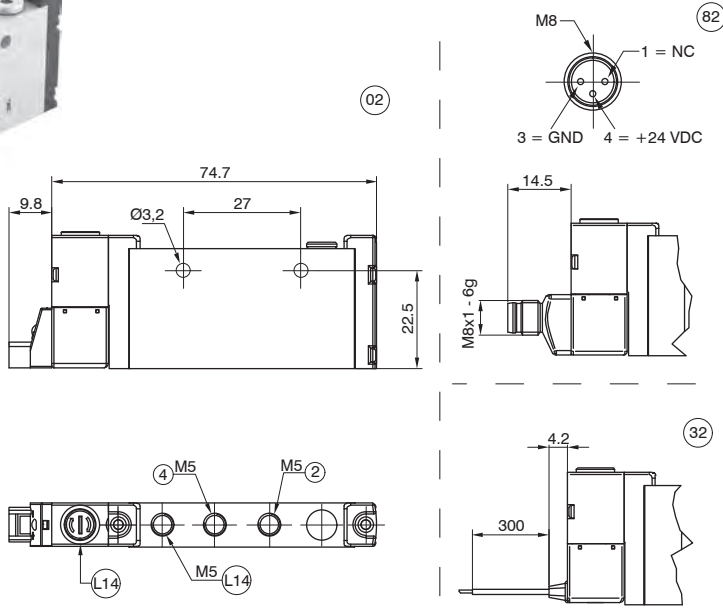
Operational characteristics		*Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001*					
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Piloting pressure (bar)	Temperature °C	Weight (g)
3115.62.44.35. C NC-NC (5/3 Open centres)	Filtered air. No lubrication needed, if applied it shall be continuous	150	10	15	2.5 - 7	- 5 - +50	59,4
3115.62.55.35. C NO-NO (5/3 Pressured centres)							
3115.62.45.35. C NC-NO							
3115.62.54.35. C NO-NC							



Solenoid valves manifold Series 3000 STAND ALONE - 10mm, M5 - External feeding

Solenoid-Spring

Coding: 3115.52.00.29. **C**



CONNECTIONS	
02	H 90° connector, 24 VDC
32	300mm cable, 24 VDC
82	M8 SPEED UP connector 24VDC

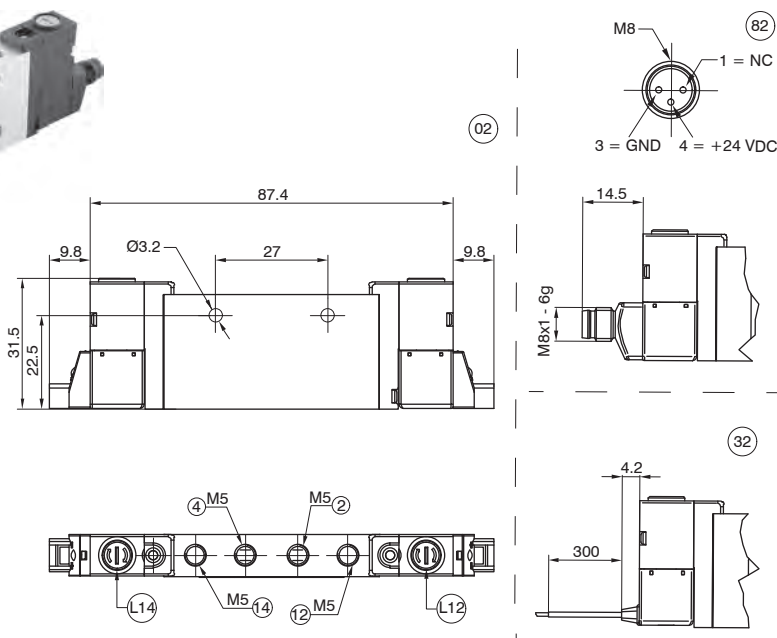
SHORT FUNCTION CODE "A" (29)

L12 = Manual over ride - Side 12
L14 = Manual over ride - Side 14

Operational characteristics		*Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001*						
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature °C	Weight (g)
3115.52.00.29. C Solenoid-Spring	Filtered air. No lubrication needed, if applied it shall be continuous	160	10	20	From vacuum to 10	2,5 - 7	-5 - +50	49

Solenoid - Solenoid

Coding: 3115.52.00.25. **C**



CONNECTIONS	
02	H 90° connector, 24 VDC
32	300mm cable, 24 VDC
82	M8 SPEED UP connector 24VDC

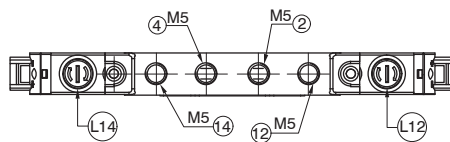
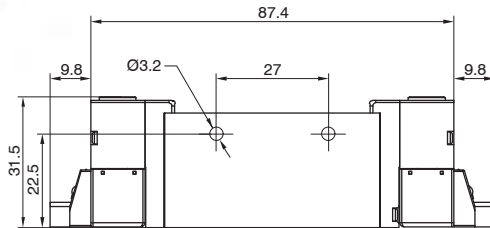
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L12 = Manual over ride - Side 12
L14 = Manual over ride - Side 14

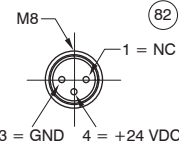
Operational characteristics		*Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001*						
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature °C	Weight (g)
3115.52.00.25. C Solenoid-Solenoid	Filtered air. No lubrication needed, if applied it shall be continuous	160	10	10	From vacuum to 10	2,5 - 7	-5 - +50	59

Solenoid - Solenoid 5/3 (Closed centres)

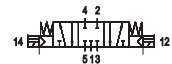
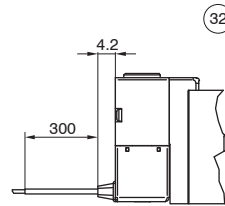
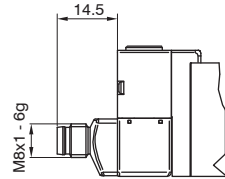
Coding: 3115.53.31.25. **C**



L12 = Manual over ride - Side 12
L14 = Manual over ride - Side 14



CONNECTIONS	
02	H 90° connector, 24 VDC
32	300mm cable, 24 VDC
82	M8 SPEED UP connector 24VDC

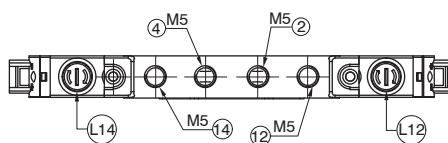
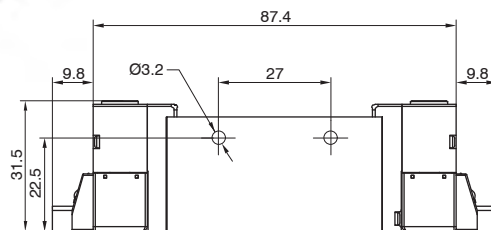


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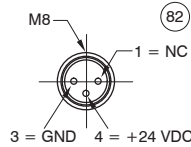
Operational characteristics		*Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001*						
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature °C	Weight (g)
3115.53.31.25. C Solenoid-Solenoid 5/3 (Closed centres)	Filtered air. No lubrication needed, if applied it shall be continuous	150	10	20	From vacuum to 10	2,5 - 7	-5 - +50	59

Solenoid - Solenoid 2x3/2

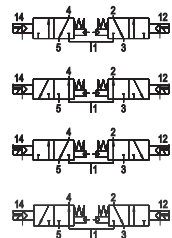
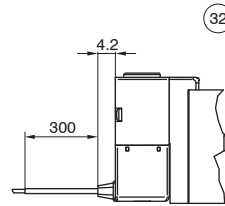
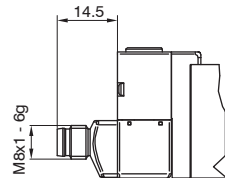
Coding: 3115.62.F.25. **C**



L12 = Manual over ride - Side 12
L14 = Manual over ride - Side 14



FUNCTION	
44	NC-NC (5/3 Open centres)
F	45=NC-NO
55	NO-NO (5/3 Pressured centres)
54	NO-NC
CONNECTIONS	
02	H 90° connector, 24 VDC
C	32=300mm cable, 24 VDC
82	M8 SPEED UP connector 24VDC



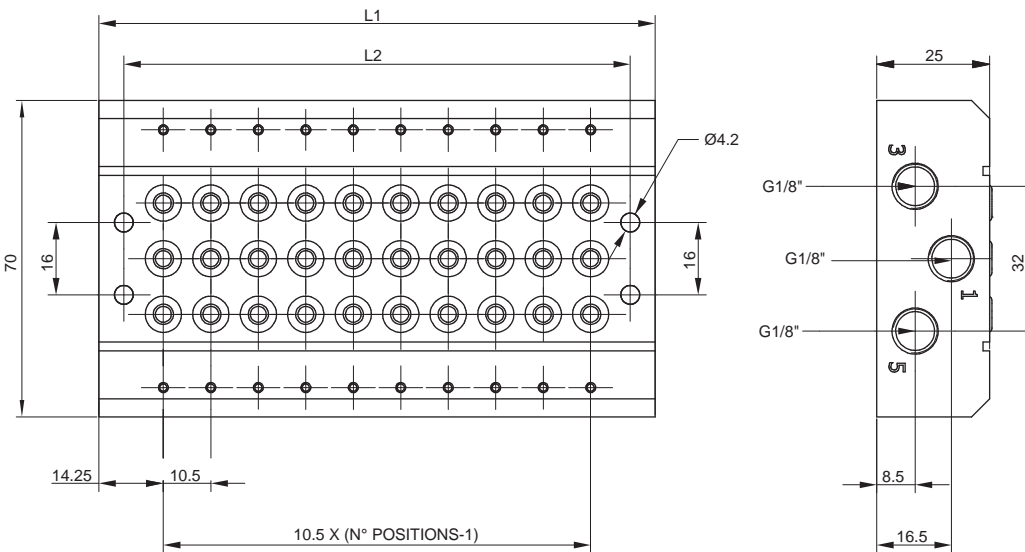
SHORT FUNCTION CODE:
NC-NC (5/3 Open centres) = "F"
NO-NO (5/3 Pressured centres) = "G"
NC-NO = "H"
NO-NC = "I"

Operational characteristics		*Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001*						
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature °C	Weight (g)
3115.62.44.25. C NC-NC (5/3 Open centres)	Filtered air. No lubrication needed, if applied it shall be continuous	150	10	15	From vacuum to 10	≥3+ (02x Inlet press.)	-5 - +50	59,4
3115.62.55.25. C NO-NO (5/3 Pressured centres)								
3115.62.45.25. C NC-NO								
3115.62.54.25. C NO-NC								



Solenoid valves manifold
Series 3000 STAND ALONE - 10mm, M5 - Accessories

Manifold



Coding: 3115.P

POSITIONS	L1	L2
02=2 POSITIONS (weight 150 g)	39	29
03=3 POSITIONS (weight 200 g)	49,5	39,5
04=4 POSITIONS (weight 250 g)	60	50
05=5 POSITIONS (weight 300 g)	70,5	60,5
P 06=6 POSITIONS (weight 350 g)	81	71
07=7 POSITIONS (weight 400 g)	91,5	81,5
08=8 POSITIONS (weight 450 g)	102	92
09=9 POSITIONS (weight 500 g)	112,5	102,5
10=10 POSITIONS (weight 550 g)	123	113

AIR DISTRIBUTION

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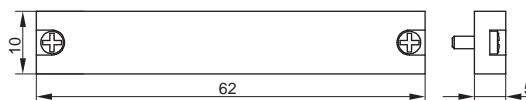
Assembling kit



Coding: 3115.KV

Weight 2 g

Closing plate



Coding: 3115.00

Weight 10 g

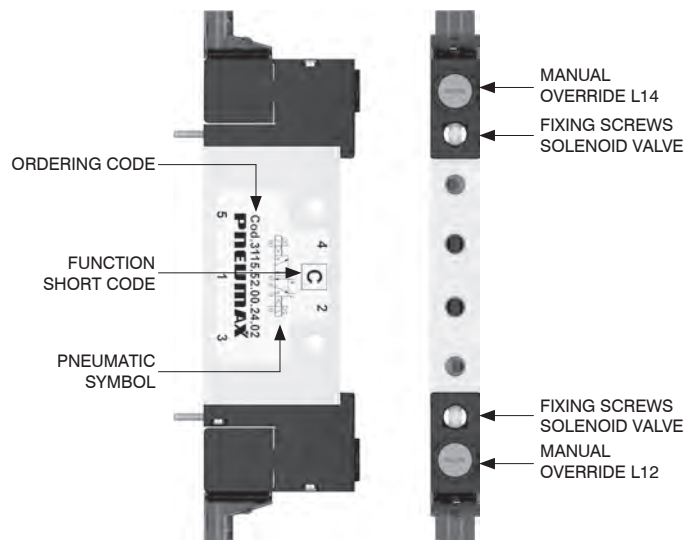
Diaphragm plug



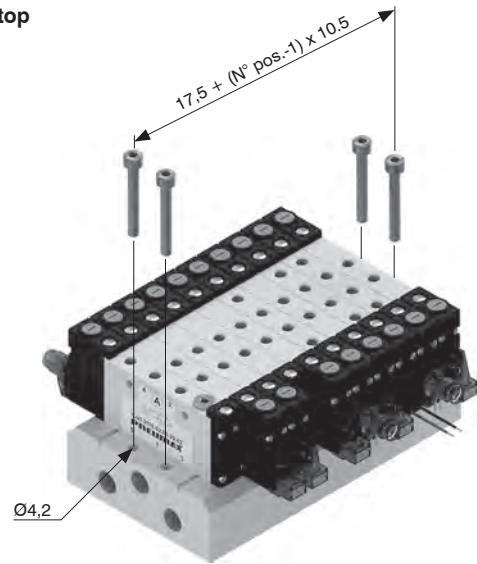
Coding: 3130.17

Weight 1,5 g

Solenoid valve description

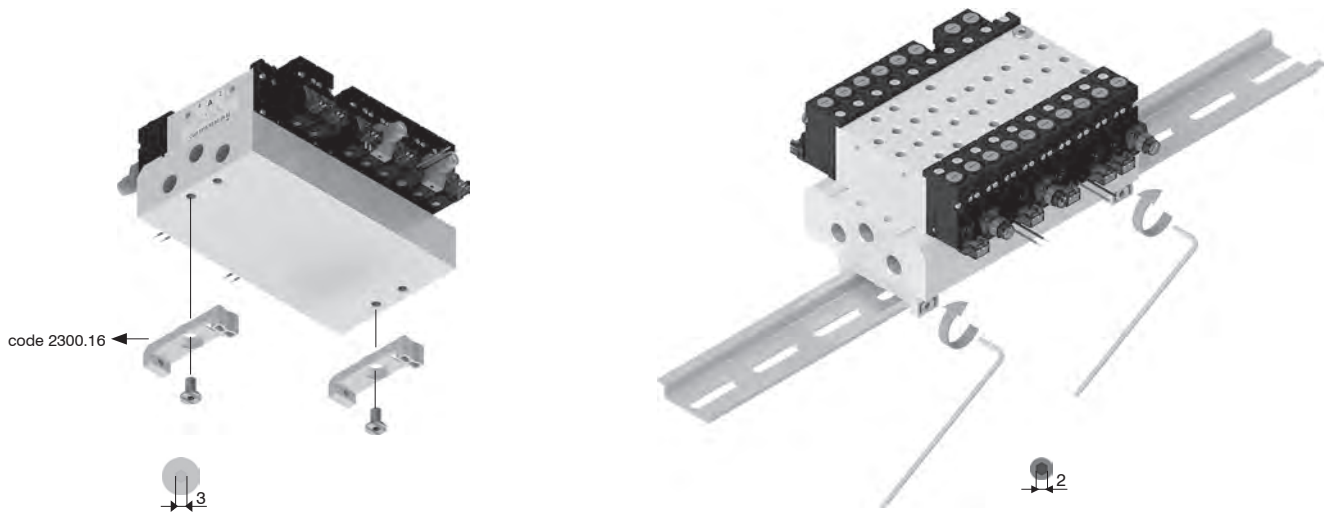


From the top

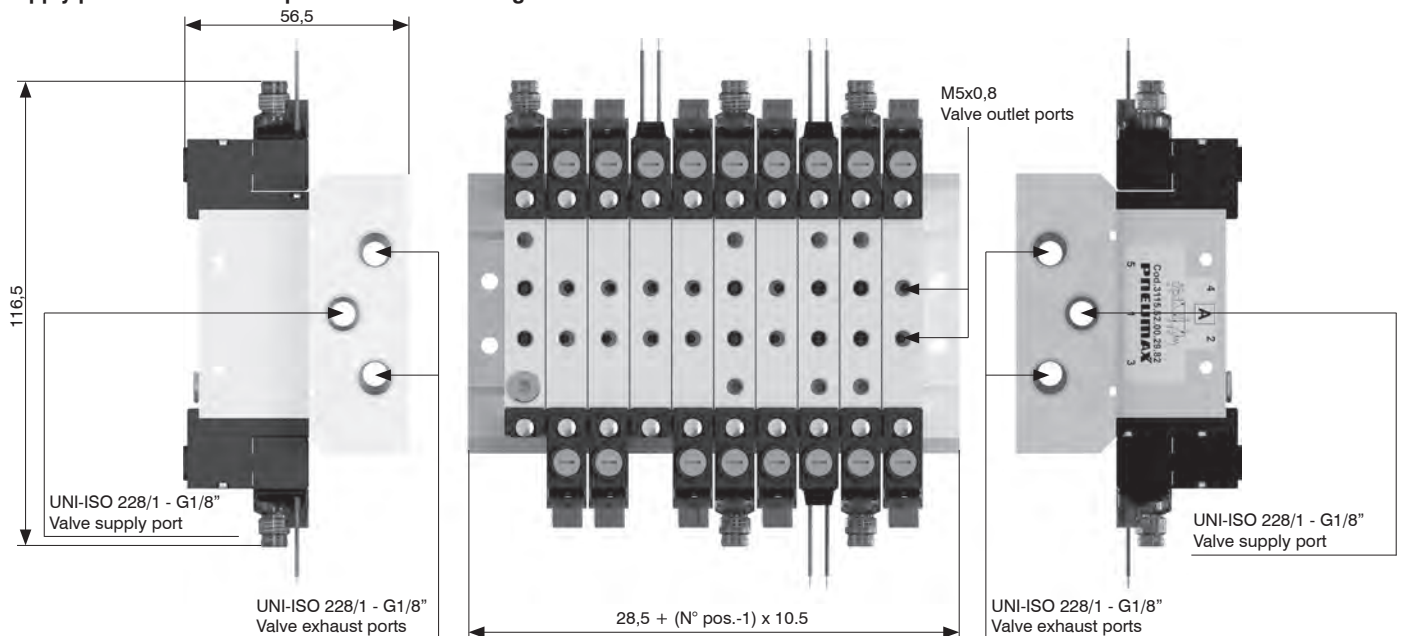


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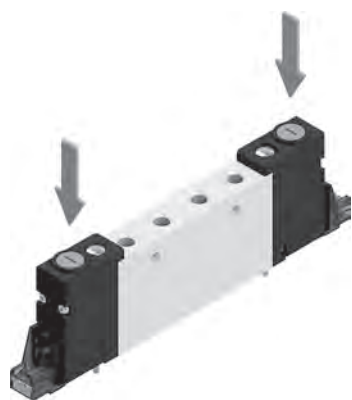
DIN rail fixing



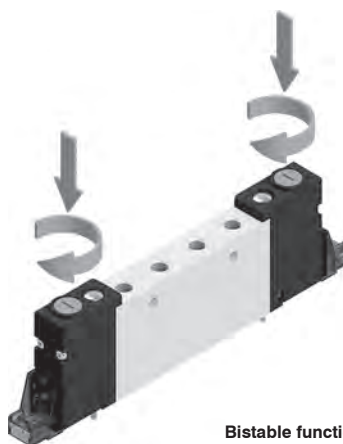
Supply ports and maximum possible size according to valves used



Manual override actuation



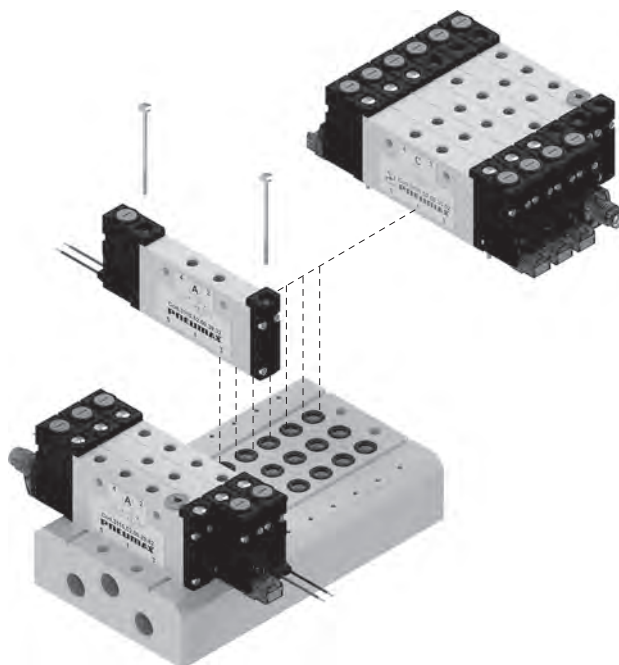
Instable function:
Push to actuate
(when released it moves back
to the original position)



Bistable function:
Push and turn to get the bistable
function

Note: it is strongly suggested to replace the original position after using

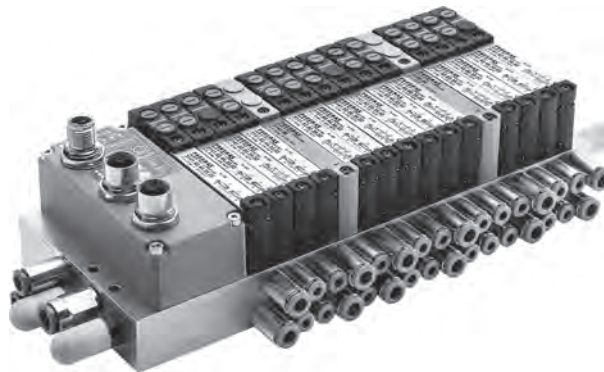
Solenoid valves installation



Max. torque moment: 0,2 Nm

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MANIFOLD version



General

The range of solenoid valves, dedicated to the assembly sector in pre-configured manifold, is available in multipolar and serial versions, thanks to a vast choice of connectors and analogue and digital input and output accessories. The compact and clean design of both the valve body and the manifold, each one produced in aluminium, allows their use in applications requiring space optimisation and weight reduction without sacrificing the reliability and the characteristics of aluminium. The multipolar version is available in three different types of connections:

- SUB-D 25 poles equipped with 24 outputs and configurable in different lengths up to manifolds with a maximum of 12 bistable valve positions
- SUB-D 37 poles equipped with 32 outputs and configurable in different lengths up to manifolds with a maximum of 16 bistable valve positions
- SUB-D 25 poles HD (44 poles) equipped with 40 outputs and configurable in different lengths up to manifolds with a maximum of 20 bistable valve positions

Every one of these options covers the wide range of application requirements and provides electronic management by default capable of energy saving on individual coils and managing PNP and NPN connections automatically without any difference in installation for the end user.

Precisely in order to guarantee maximum versatility in integration in different machines and applications, the 3000 series valves in the serial version are designed to interface with all the main communication protocols: CANopen®, EtherCAT®, PROFINET IO RT/IRT, EtherNet/IP, Powerlink, PROFIBUS DP and IO-Link.

Each manifold has also been thought out in order to be extremely flexible in the management or addition of further outputs through the use of a sub-base system that expands the main manifold.

This system of sub-bases can be connected through the use of a specific kit of connecting pins which can be repeated modularly until reaching the maximum number of outputs managed by the serial protocol used.

Taking advantage of the expansion of the output signals it is possible to connect other components to manage, for example, proportional pressure regulation or to control other solenoid valves.

With the same system it is also possible to connect a series of modules to the main manifold dedicated to the management of input signals up to the maximum number of inputs manageable by the specific serial node used.

In fact, input modules with different interfaces and different technologies have been provided, that is: modules with eight digital inputs with M8 or M12 connection or; analogue or voltage input modules with M8 connection interface.

The strong point of this system is the possibility to configure the series of input and output modules freely giving the advantage of installation flexibility.

Main characteristics

10 mm size thick.

Multi-position sub-bases in different lengths.

Integrated and optimized electrical connection as standard

Functions

S.V. Monostable Solenoid-Spring

S.V. Monostable Solenoid-Differential

S.V. 5/2 Bistable Solenoid-Solenoid

S.V. 5/3 C.C. Solenoid-Solenoid

S.V. 2x3/2 N.C.-N.C. (= 5/3 O.C.) Solenoid-Solenoid

S.V. 2x3/2 N.O.-N.O. (= 5/3 P.C) Solenoid-Solenoid

S.V. 2x3/2 N.C.-N.O. Solenoid-Solenoid

S.V. 2x3/2 N.O.-N.C. Solenoid-Solenoid



Configurator

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Power supply	
A:	Self-feeding
E:	External feeding

Electric connection	
MP2:	25 poles multipoint module
MP3:	37 poles multipoint module
MP4:	44 poles HD multipoint module
C3:	CANopen® module 64 IN - 64 OUT (32 fixed)
C4:	CANopen® module 64 IN - 64 OUT (48 fixed)
P3:	PROFIBUS DP module 64 IN - 64 OUT (32 fixed)
P4:	PROFIBUS DP module 64 IN - 64 OUT (48 fixed)
I4:	EtherNet/IP module 128 IN - 128 OUT (48 fixed)
A4:	EtherCAT® module 128 IN - 128 OUT (48 fixed)
N4:	PROFINET IO RT/IRT module 128 IN - 128 OUT (48 fixed)
K3:	IO-Link module 64 IN - 64 OUT (32 fixed)
K4:	IO-Link module 64 IN - 64 OUT (48 fixed)

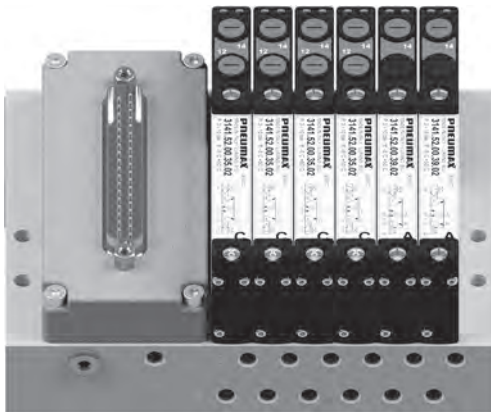
Inputs module - Analog / Digital (Optional)	
D8:	8 M8 digital inputs module
D12:	8 M12 digital inputs module
D3:	32 digital inputs SUB-D 37 pins
T1:	2 analogue inputs 0-5V module (voltage signal)
T2:	2 analogue inputs 0-10V module (voltage signal)
T3:	4 analogue inputs 0-5V module (voltage signal)
T4:	4 analogue inputs 0-10V module (voltage signal)
C1:	2 analogue inputs 0-20mA module (current signal)
C2:	2 analogue inputs 4-20mA module (current signal)
C3:	4 analogue inputs 0-20mA module (current signal)
C4:	4 analogue inputs 4-20mA module (current signal)
P1:	2 Pt100 2 wires inputs module
P2:	2 Pt100 3 wires inputs module
P3:	2 Pt100 4 wires inputs module
P4:	4 Pt100 2 wires inputs module
P5:	4 Pt100 3 wires inputs module
P6:	4 Pt100 4 wires inputs module

Outputs module - Analog / Digital (Optional)	
M8:	8 M8 digital outputs module
M12:	8 M12 digital outputs module
M3:	32 digital outputs SUB-D 37 pins
V1:	2 analogue outputs 0-5V module (voltage signal)
V2:	2 analogue outputs 0-10V module (voltage signal)
V3:	4 analogue outputs 0-5V module (voltage signal)
V4:	4 analogue outputs 0-10V module (voltage signal)
L1:	2 analogue outputs 0-20mA module (current signal)
L2:	2 analogue outputs 4-20mA module (current signal)
L3:	4 analogue outputs 0-20mA module (current signal)
L4:	4 analogue outputs 4-20mA module (current signal)

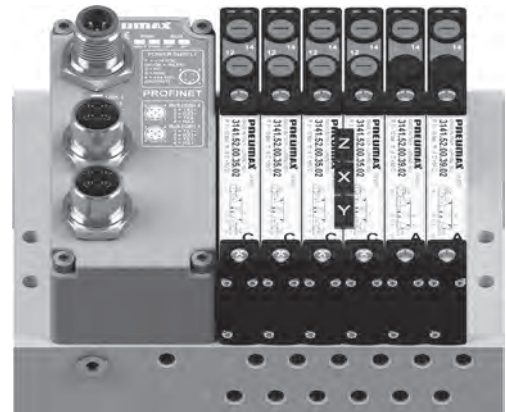
Additional power supply module (Optional)	
P12:	M12 additional power supply module
J0:	Optional position module

Valves type	
A:	Solenoid valve 5/2 Solenoid - Spring
B:	Solenoid valve 5/2 Solenoid - Differential
C:	Solenoid valve 5/2 Solenoid - Solenoid
E:	Solenoid valve 5/3 C.C. Solenoid - Solenoid
F:	Solenoid valve 2X3/2 N.C.-N.C. (=5/3 O.C.) Solenoid - Solenoid
G:	Solenoid valve 2X3/2 N.O.-N.O. (=5/3 P.C.) Solenoid - Solenoid
H:	Solenoid valve 2X3/2 N.C.-N.O. Solenoid - Solenoid
I:	Solenoid valve 2X3/2 N.O.-N.C. Solenoid - Solenoid
T:	Closing plate
X:	Diaphragm plug on pipe 1
Y:	Diaphragm plug on pipe 3
Z:	Diaphragm plug on pipe 5
W:	Intermediate supply and exhaust module

Configuration examples

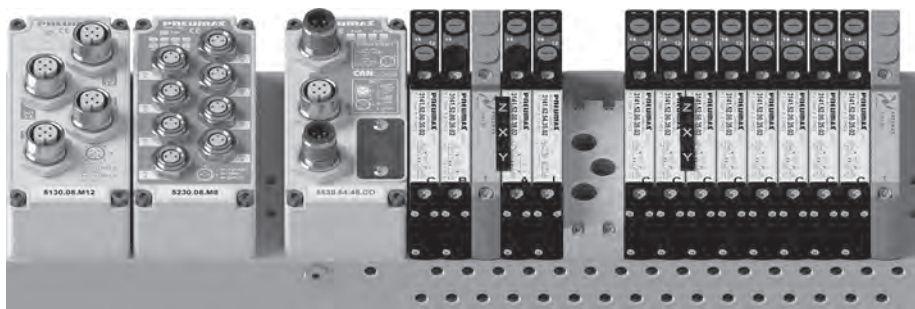


Example shown : 31EMP3CCCCAA
Manifold with external feeding, multipolar; 37 poles and solenoid valves.



Example shown : 31EN4CCCXYZCAA
Manifold with external feeding, serial module, solenoid valves and diaphragm plugs.

1
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Example shown : 31EC4D8M12CBTXYZAIWCCXYZCCCCCT
Manifold with external feeding, serial module, M8 input module, M12 output module; solenoid valves, multi-position diaphragm plugs, additional power supply module.

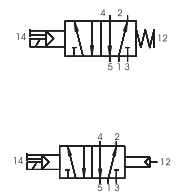
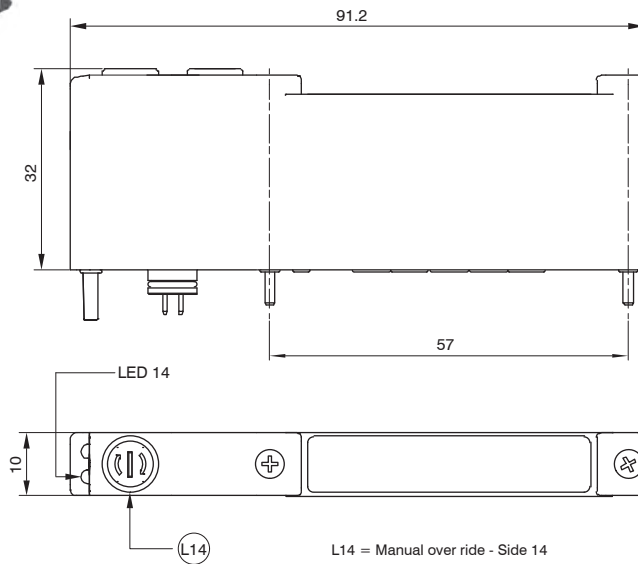


Example shown : 31AC4D8D8M12J0CBIIIITT
Self-feeding manifold with serial module, M8 input module, M12 output module, optional position module, solenoid valves.

Solenoid - Spring / Solenoid - Differential

Coding: 3141.52.00. **F** **C**

FUNCTION	
F	36= Solenoid - Differential
	39= Solenoid-Spring
CONNECTIONS	
C	02=24VDC



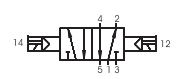
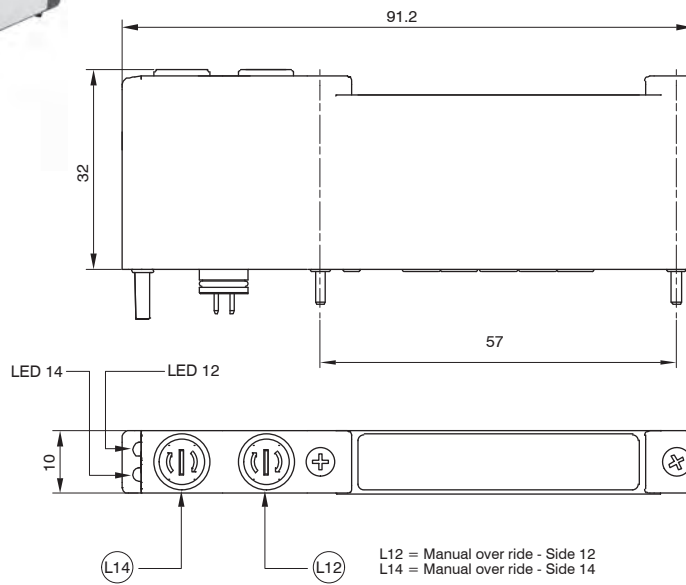
SHORT FUNCTION CODE "A" (39)
SHORT FUNCTION CODE "B" (36)

Operational characteristics		"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001"						
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature °C	Weight (g)
3141.52.00.39. C Solenoid-Spring	Filtered air. No lubrication needed, if applied it shall be continuous	200	10	20	From vacuum to 10	2,5 - 7	-5 - +50	55,7
3141.52.00.36. C Solenoid-Differential								

Solenoid - Solenoid

Coding: 3141.52.00.35. **C**

CONNECTIONS	
C	02=24VDC



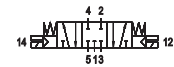
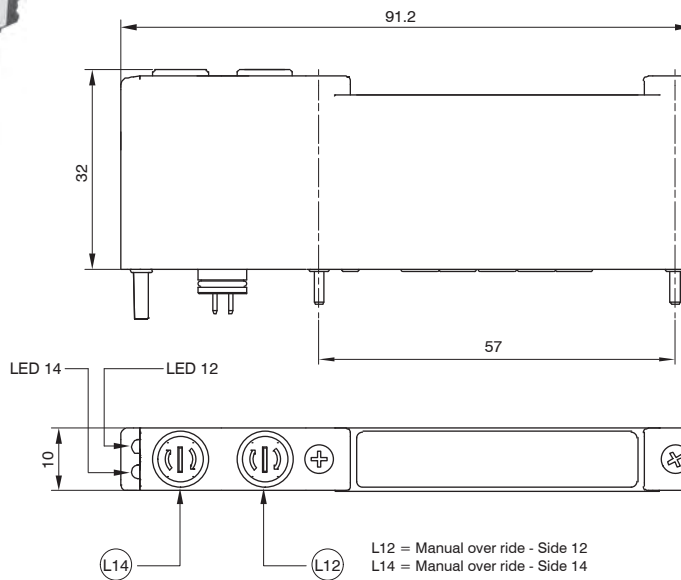
SHORT FUNCTION CODE "C"

Operational characteristics		"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001"						
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature °C	Weight (g)
3141.52.00.35. C Solenoid-Solenoid	Filtered air. No lubrication needed, if applied it shall be continuous	200	10	10	From vacuum to 10	2,5 - 7	-5 - +50	55,7

Solenoid - Solenoid 5/3 (Closed centres)

Coding: 3141.53.31.35. **C**

C	CONNECTIONS
	02=24VDC



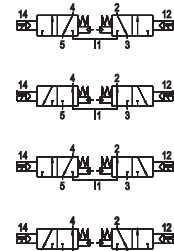
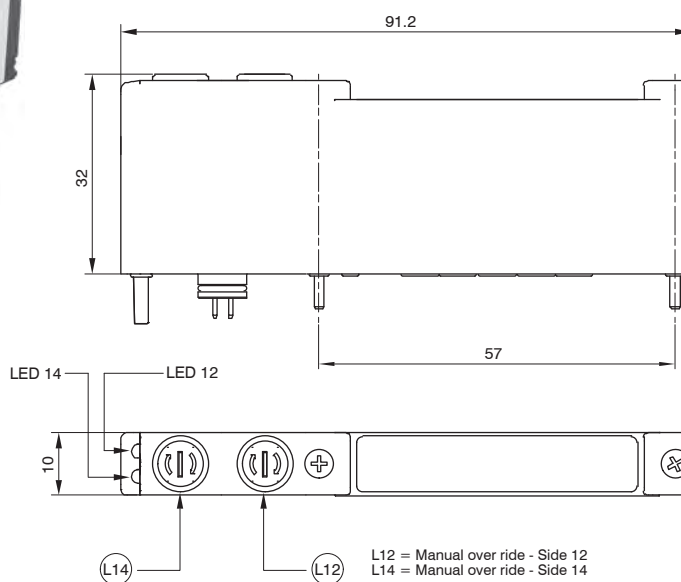
SHORT FUNCTION CODE "E"

Operational characteristics		*Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001*						
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature °C	Weight (g)
3141.53.31.35. C Solenoid-Solenoid 5/3 (Closed centres)	Filtered air. No lubrication needed, if applied it shall be continuous	170	10	20	From vacuum to 10	2,5 - 7	-5 - +50	60,3

Solenoid - Solenoid 2x3/2

Coding: 3141.62. **F**.35. **C**

F	FUNCTION
	44=NC-NC (5/3 Open centres)
	45=NC-NO
	55=NO-NO 5/3 (Pressured centres)
	54=NO-NC
C	CONNECTIONS
	02=24VDC



SHORT FUNCTION CODE:
NC-NC (5/3 Open centres) = "F"
NO-NO (5/3 Pressured centres) = "G"
NC-NO = "H"
NO-NC = "I"

Operational characteristics		*Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001*						
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature °C	Weight (g)
3141.62.44.35. C NC-NC (5/3 Open centres)	Filtered air. No lubrication needed, if applied it shall be continuous	170	10	15	From vacuum to 10	$\geq 3+$ (02x Inlet press.)	-5 - +50	60,7
3141.62.45.35. C NC-NO								
3141.62.55.35. C NO-NO (5/3 Pressured centres)								
3141.62.54.35. C NO-NC								

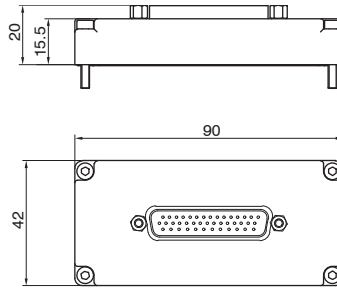


Multipoint module

Codifica: 3140.00.C

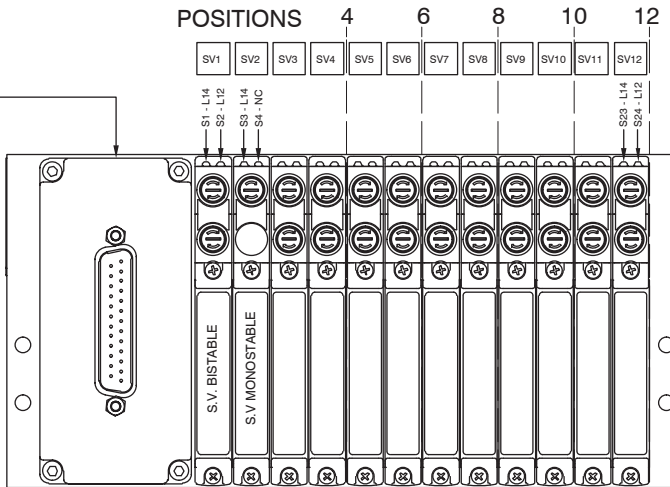
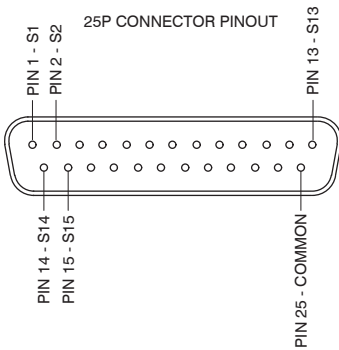
Operational characteristics			
Code	3140.00.25P (25 poles)	3140.00.37P (37 poles)	3140.00.44P (44 poles)
Temperature °C	-5 - +50		
Weight (g)	47,4	51,3	49,1

ELECTRICAL CONNECTIONS	
25P=Connector 25 poles	
37P=Connector 37 poles	
44P=Connector 44 poles	

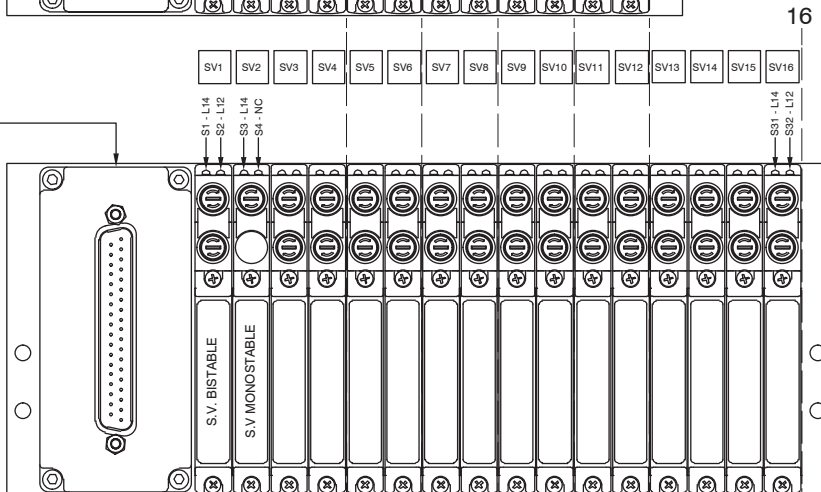
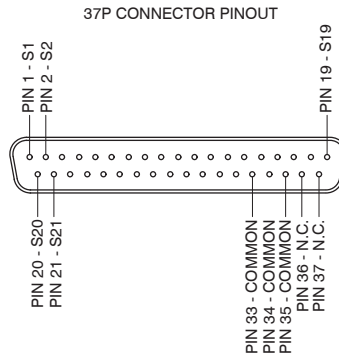


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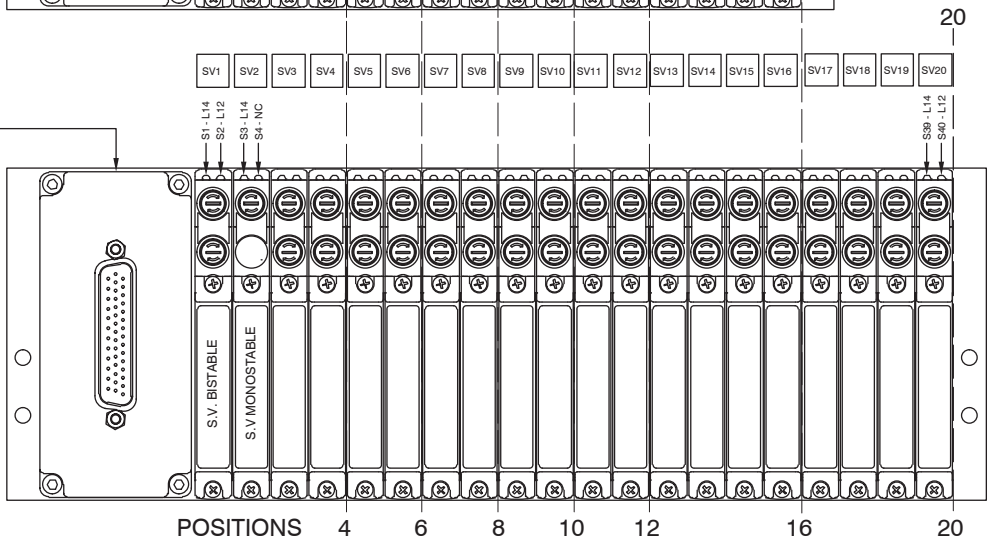
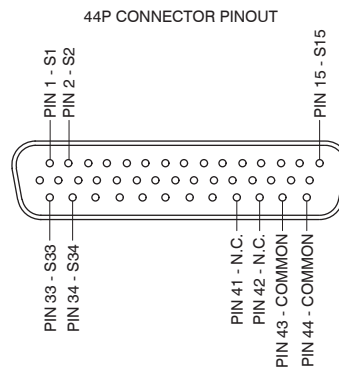
25 POLES MULTIPOINT MODULE
12 SOLENOID VALVES
PNP OR NPN SELF CONFIGURING
ENERGY SAVING



37 POLES MULTIPOINT MODULE
16 SOLENOID VALVES
PNP OR NPN SELF CONFIGURING
ENERGY SAVING

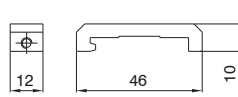


44 POLES MULTIPOINT MODULE
20 SOLENOID VALVES
PNP OR NPN SELF CONFIGURING
ENERGY SAVING



DIN rail adapter

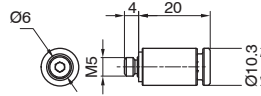
Coding: 2300.16



Weight 12 g

Fitting M5 Ø6

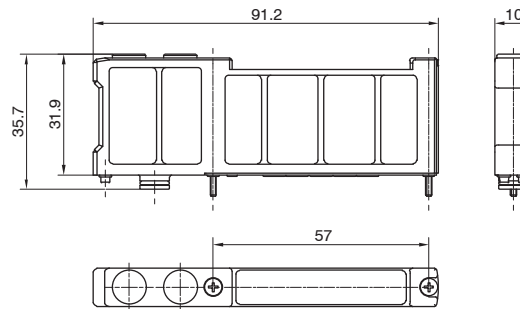
Coding: RDR560



Weight 7 g

Free valve space plug

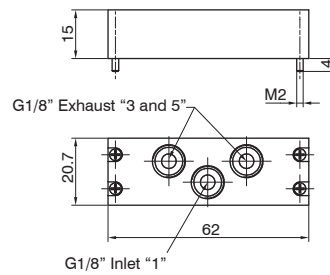
Coding: 3140.00



Weight 21 g

Inlet/Exhaust module

Coding: 3140.10



Weight 50 g

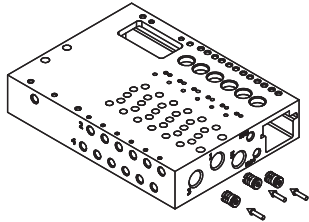
▶ Diaphragm plug

Coding: 3130.17

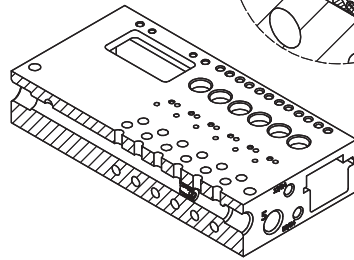
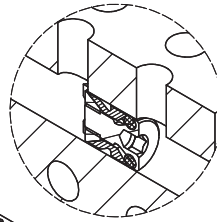
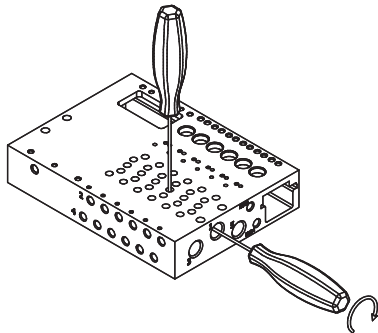


Weight 1,5 g

1 Diaphragm plug installation



Diaphragm plug fixing



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▶ Cable complete with connector, 25 poles, IP65

Coding: 2300.25.L.C



	CABLE LENGTH
L	03=3 meters
	05=5 meters
	10=10 meters
	CONNECTORS
C	10=In line
	90=90° angle

▶ Cable complete with connector 37 poles, IP65

Coding: 2400.37.L.C



	CABLE LENGTH
L	03=3 meters
	05=5 meters
	10=10 meters
	CONNECTORS
C	10=In line
	90=90° angle

▶ Cable complete with connector 44 poles, IP65

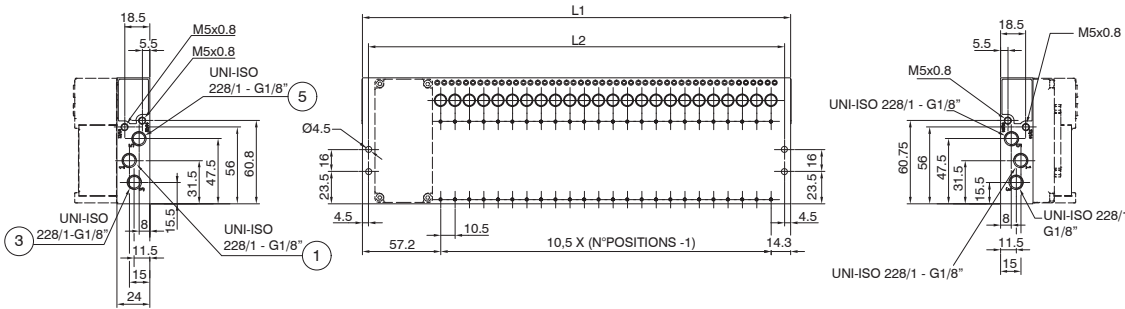
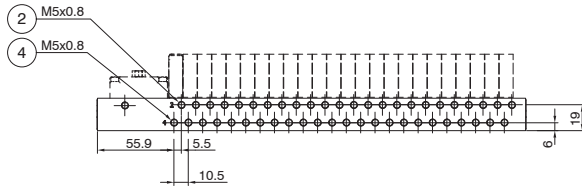
Coding: 2300.44.L.C



	CABLE LENGTH
L	03=3 meters
	05=5 meters
	10=10 meters
	CONNECTORS
C	10=In line
	90=90° angle



Manifold



Coding: 3145.V.P

VERSION		
V	02 = External feeding	
	12 = Self feeding	
POSITIONS	L1	L2
04=4 Positions (weight 432 g)	103	94
06=6 Positions (weight 518 g)	124	115
08=8 Positions (weight 604 g)	145	136
10=10 Positions (weight 690 g)	166	157
P	12=12 Positions (weight 776 g)	187
	16=16 Positions (weight 948 g)	229
	20=20 Positions (weight 1120 g)	271
	24=24 Positions (weight 1280 g)	313

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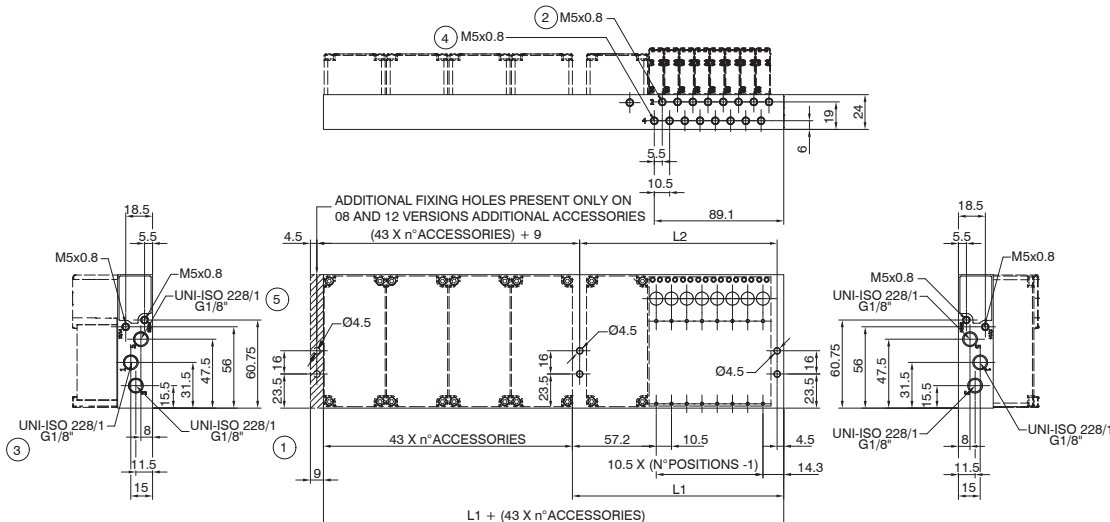
Manifold with accessories



1 = Inlet port G1/8"
2 and 4 = Outlet port M5
3 and 5 = Exhaust port G1/8"

Coding: 3145.V.P.A

VERSION		
V	02 = External feeding	
	12 = Self feeding	
POSITIONS	L1	L2
04=4 Positions (weight 432 g)	103	94
06=6 Positions (weight 518 g)	124	115
08=8 Positions (weight 604 g)	145	136
10=10 Positions (weight 690 g)	166	157
P	12=12 Positions (weight 776 g)	187
	16=16 Positions (weight 948 g)	229
	20=20 Positions (weight 1120 g)	271
	24=24 Positions (weight 1280 g)	313
ACCESSORIES		
A	01 = 1 optional position	
	02 = 2 optional positions	
	04 = 4 optional positions	
	08 = 8 optional positions	
	12 = 12 optional positions	



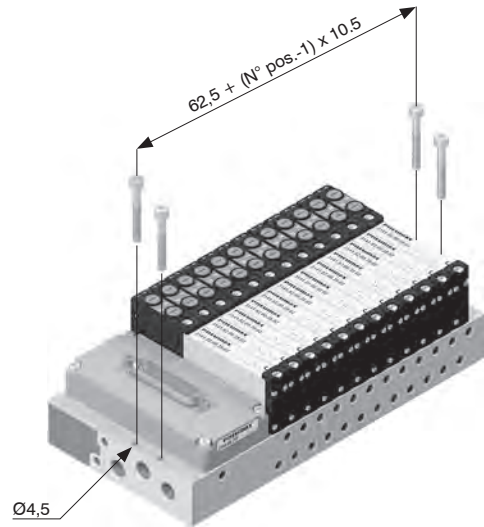
Solenoid valve description

PILOT STATE IDENTIFICATION LED L12
(LED "ON" = IDENTIFIES ACTUATED PILOT)
PILOT STATE IDENTIFICATION LED L14
(LED "ON" = IDENTIFIES ACTUATED PILOT)

- MANUAL OVERRIDE L14
- MANUAL OVERRIDE L12
- FIXING SCREWS SOLENOID VALVE
- ORDERING CODE
- PNEUMATIC SYMBOL
- FUNCTION SHORT CODE
- FIXING SCREWS SOLENOID VALVE

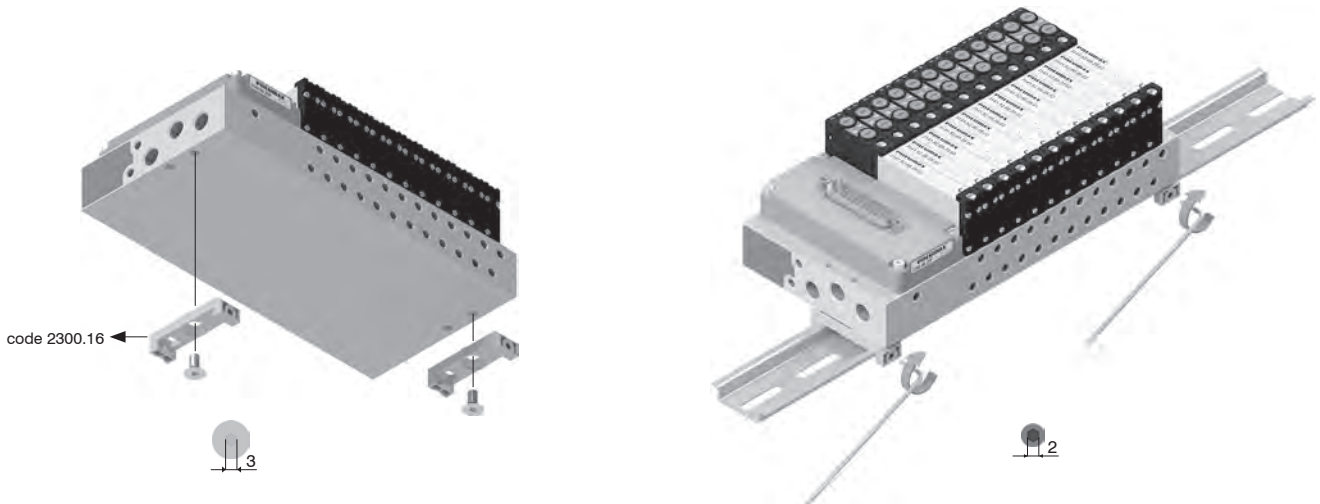


From the top

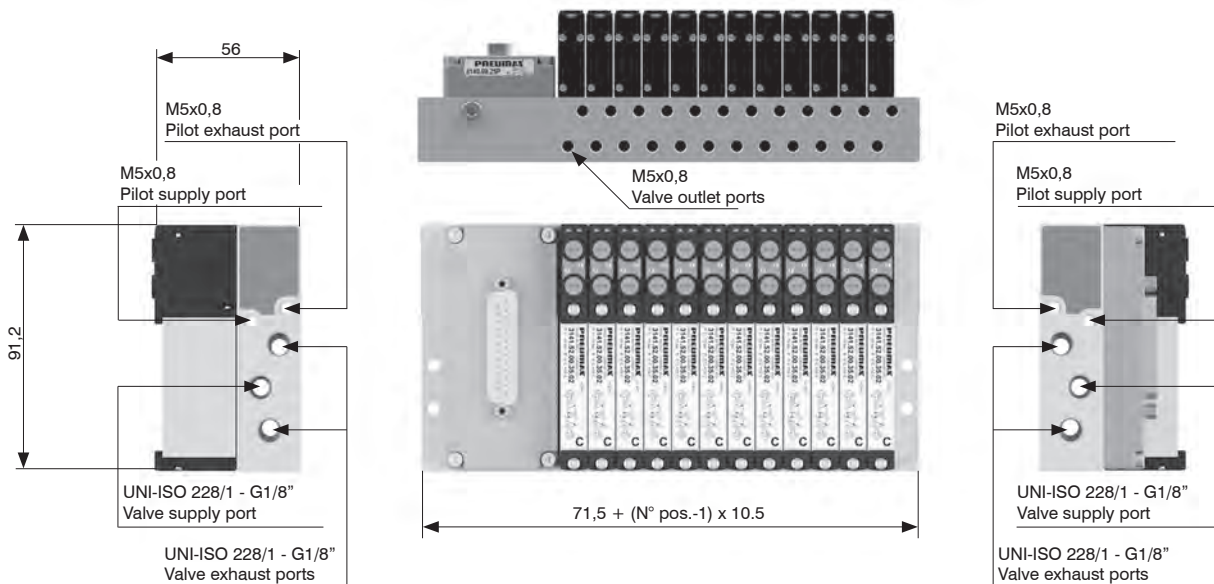


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DIN rail fixing



Supply ports and maximum possible size according to valves used



Manual override actuation



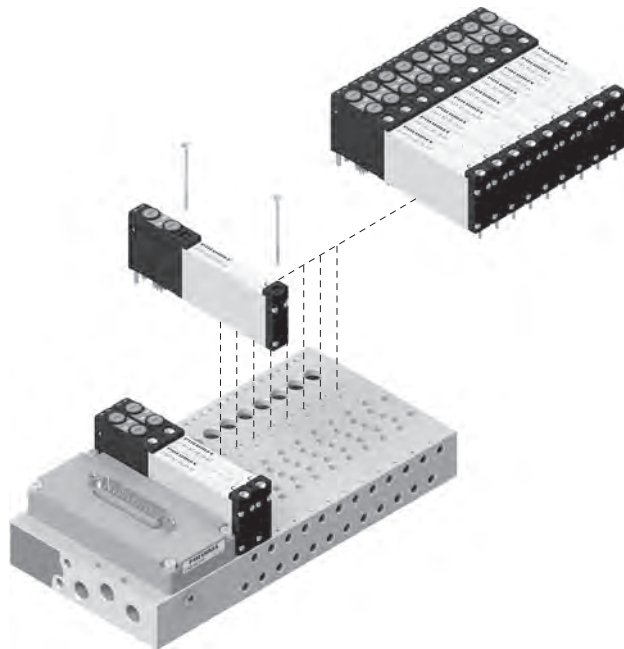
Instable function:
Push to actuate
(when released it moves back
to the original position)



Bistable function:
Push and turn to get the bistable
function

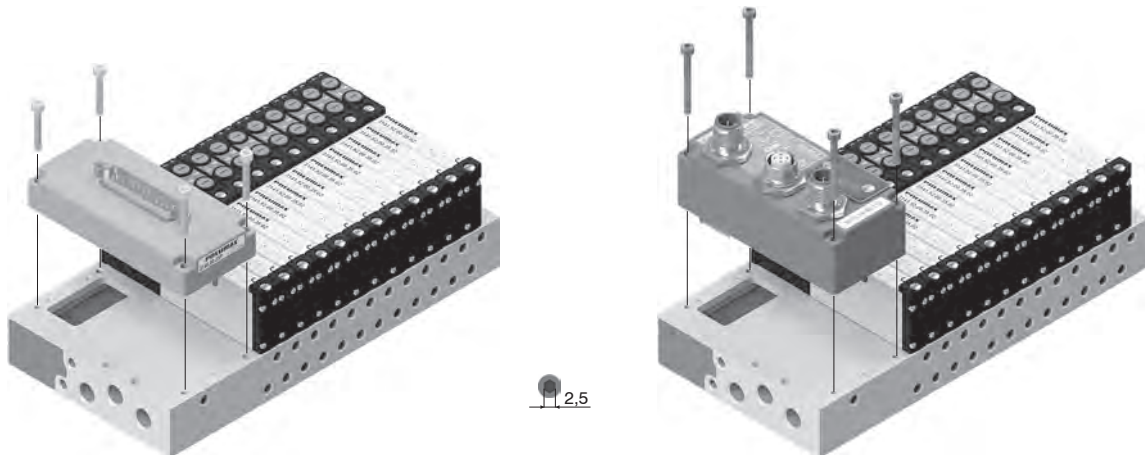
Note: it is strongly suggested to replace the original position after using

Solenoid valves installation



Max. torque moment: 0,2 Nm

Serial systems and multipoint system installation



Max. torque moment: 0,5 Nm

General - CANopen® slave modules

CANopen® node handles up to 64 inputs and outputs, both divided into 8 bytes. Output typologies include solenoid valves, digital outputs (e.g. 5130.08.M8) and analog outputs (e.g. 5130.2T.00). Connectable inputs typologies include digital inputs modules (e.g. 5230.08.M8), analog input modules (e.g. 5230.2T.00), and Pt100 inputs modules (e.g. 5230.4P.02). Optional modules can be connected to the manifold in any order and configuration, provided that modules are installed starting from the node and optional position modules left to furthest end.

Electrical power must be supplied via circular M12 4 pins type A male connector. The separation between 24VDC supply of the node and 24VDC of the outputs allows to turn off outputs leaving the node and eventual inputs operational.

CANopen® network connection is achieved via two circular male-female M12 5 pins type A connectors connected in parallel; connectors pinout is compliant to CiA Draft Recommendation 303-1 (V. 1.3 : 30 December 2004).

Transmission speed and address are set via DIP-switch.

Internal termination resistance is on-board and can be enabled via DIP-switch as well.

There are two CANopen® node versions: they differ by number of outputs directly allocated to solenoid valve positions.

5530.64.32CO part number provides the first 32 out of 64 outputs, corresponding to less significant 4 bytes, are permanently allocated to solenoid valve positions, regardless how many they physically are and how many valves are installed. The remaining 32 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

5530.64.48CO part number provides the first 48 out of 64 outputs, corresponding to less significant 6 bytes, are permanently allocated to solenoid valve positions, regardless how many they physically are and how many valves are installed. The remaining 16 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

Two part-numbers have been provided to tailor configuration on your needs. 5530.64.48CO part number is recommended in case several solenoid valves must be handled, whilst ensuring room for future expansions.

5530.64.32CO part number is recommended in case increased flexibility is needed for digital outputs.

To better understand different possibilities offered during configuration, some examples follow.

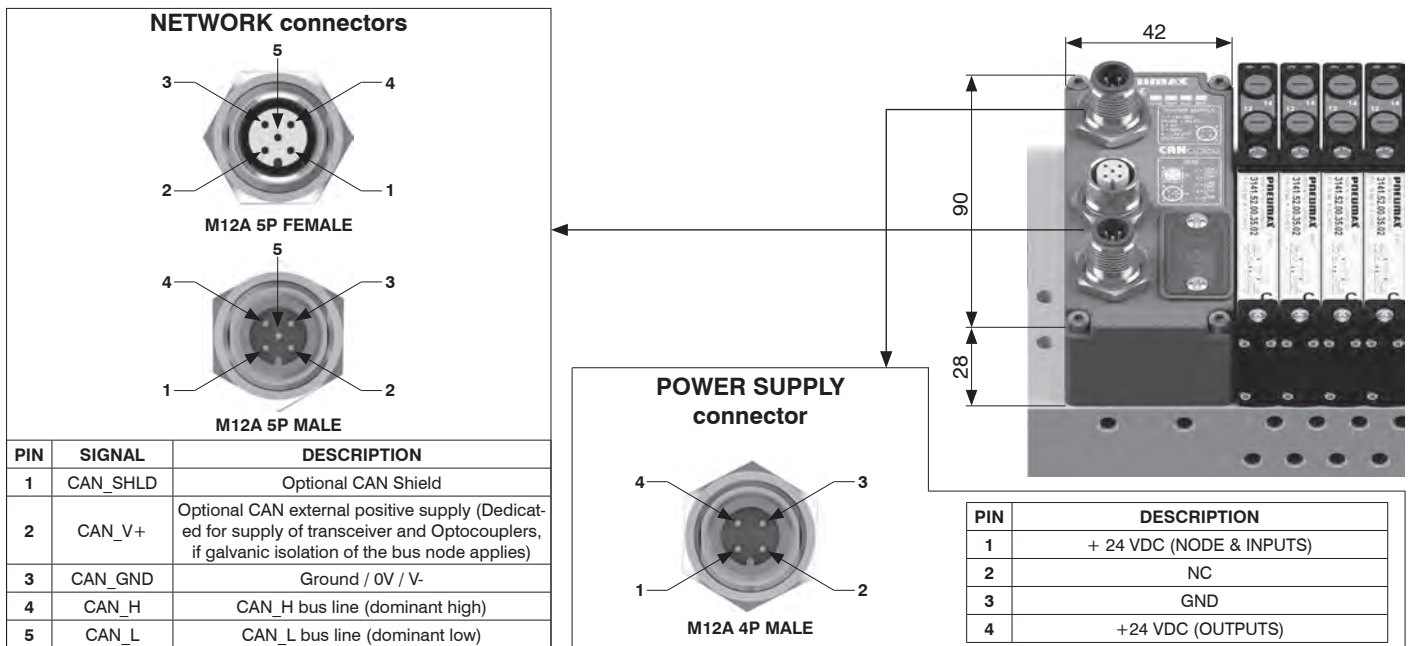
Ordering code

5530.64.32CO
5530.64.48CO



1 AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



Technical characteristics

	Specifications	CiA Draft Standard Proposal 301 V 4.10 (15 August 2006)
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4 P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	30 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
	Network	Network connectors
Baud rate		10 - 20 - 50 - 125 - 250 - 500 - 800 - 1000 Kbit/s
Addresses possible numbers		From 1 to 63
Max. node in net		64 (slave + master)
Bus maximum recommended length		100 m at 500 Kbit/s
Bus diagnosis		Green LED + red LED
Configuration file		Available from our web site http://www.pneumaxspa.com
IP Rating		IP65 when assembled
Temperature range	From 0°C to +50°C	



General - PROFIBUS DP slave modules

PROFIBUS DP node handles up to 64 inputs and outputs, both divided into 8 bytes. Output typologies include solenoid valves, digital outputs (e.g. 5130.08.M8) and analog outputs (e.g. 5130.2T.00). Connectable inputs typologies include digital inputs modules (e.g. 5230.08.M8), analog input modules (e.g. 5230.2T.00), and Pt100 inputs modules (e.g. 5230.4P02). Optional modules can be connected to the manifold in any order and configuration, provided that modules are installed starting from the node and optional position modules left to furthest end.

Electrical power must be supplied via circular M12 4 pins type A male connector. The separation between 24VDC supply of the node and 24VDC of the outputs allows to turn off outputs leaving the node and eventual inputs operational.

PROFIBUS DP network connection is achieved via two circular male-female M12 5 pins type B connectors, connected in parallel; connector pinout is PROFIBUS Interconnection Technology compliant (Version 1.1 August 2001).

Network node address is set via DIP-switch.

Internal termination resistance is on-board and can be enabled via DIP-switch as well.

There are two PROFIBUS DP node versions: they differ by number of outputs directly allocated to solenoid valve positions.

5330.64.32PB part number provides the first 32 out of 64 outputs, corresponding to less significant 4 bytes, are permanently allocated to solenoid valve positions, regardless how many they physically are and how many valves are installed. The remaining 32 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

5330.64.48PB part number provides the first 48 out of 64 outputs, corresponding to less significant 6 bytes, are permanently allocated to solenoid valve positions, regardless how many they physically are and how many valves are installed. The remaining 16 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

Two part-numbers have been provided to tailor configuration on your needs. 5330.64.48PB part number is recommended in case several solenoid valves must be handled, whilst ensuring room for future expansions. 5330.64.32PB part number is recommended in case increased flexibility is needed for digital outputs.

To better understand different possibilities offered, some configuration examples are made in the following pages.

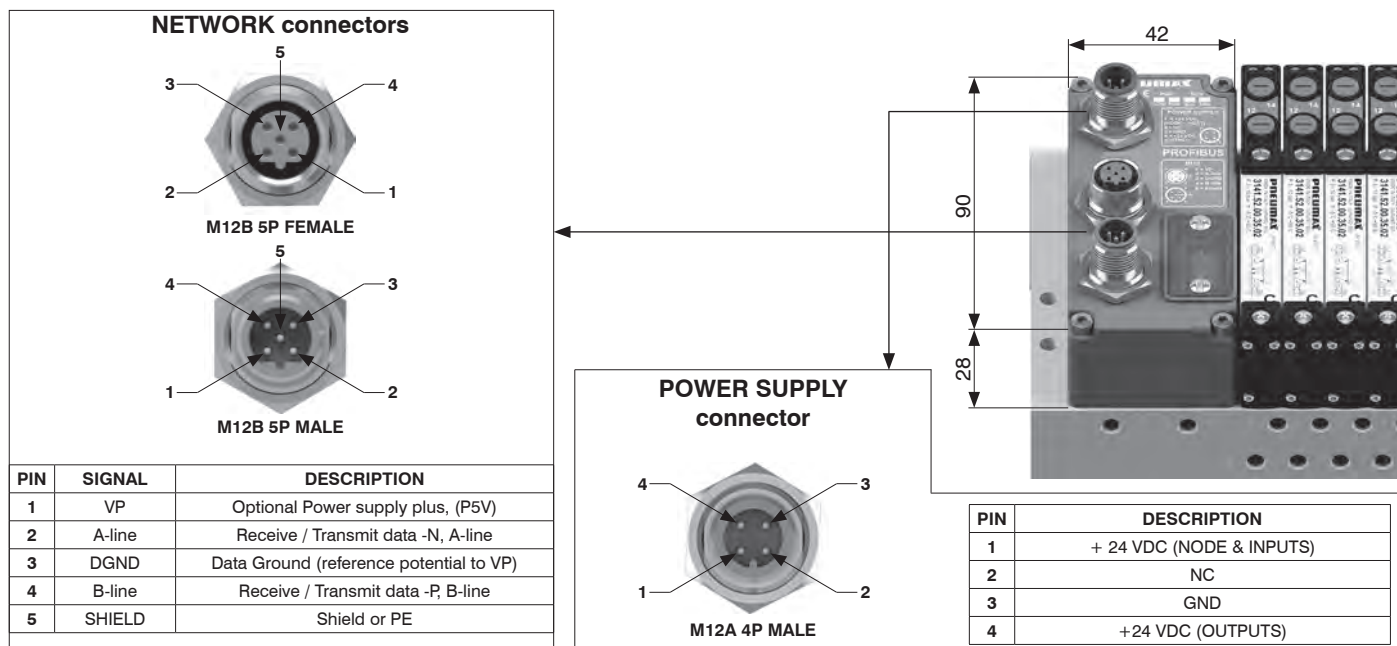
Ordering code

5330.64.32PB
5330.64.48PB



1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



Technical characteristics

	Specifications	PROFIBUS DP
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4 P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	50 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Network	Network connectors	2 M12 5 P connectors male-female type B
	Baud rate	9,6 - 19,2 - 93,75 - 187,5 - 500 - 1500 - 3000 - 6000 - 12000 Kbit/s
	Addresses possible numbers	From 1 to 99
	Max. node in net	100 (slave + master)
	Bus maximum recommended length	100 m at 12 Mbit/s - 1200 m at 9,6 Kbit/s
	Bus diagnosis	Green LED + red LED
	Configuration file	Available from our web site http://www.pneumaxspa.com
	IP Rating	IP65 when assembled
Temperature range	From 0°C to +50°C	

General - EtherNet/IP - EtherCAT® - PROFINET IO RT slave modules

5730.128.48PN, 5730.128.48EC e 5730.128.48EI nodes handle up to 128 inputs and outputs, both divided into 16 bytes. Output typologies include solenoid valves, digital outputs (e.g. 5130.08.M8) and analog outputs (e.g. 5130.2T.00). Connectable input types include digital inputs modules (e.g. 5230.08.M8), analog inputs modules (e.g. 5230.2T.00) and Pt100 inputs modules (e.g. 5230.4P.02). Optional modules can be connected to the manifold in any order and configuration, provided that modules are installed starting from the node and optional position modules left to furthest end.

Electric power must be supplied via circular M12 4 pins male type A connector. The separation between 24VDC supply of the node and 24VDC of the outputs allows to turn off outputs leaving the node and eventual inputs operational.

The network connection is achieved via two circular female connectors (M12 4 pins, type D); these two circular connectors belong to two separate communication ports; hence they are not connected in parallel.

In 5730.128.48PN, 5730.128.48EC and 5730.128.48EI part numbers the first 48 out of 128 outputs, corresponding to less significant 6 bytes, are permanently allocated to the solenoid valve positions, regardless how many they are and how many valves are installed. The remaining 80 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

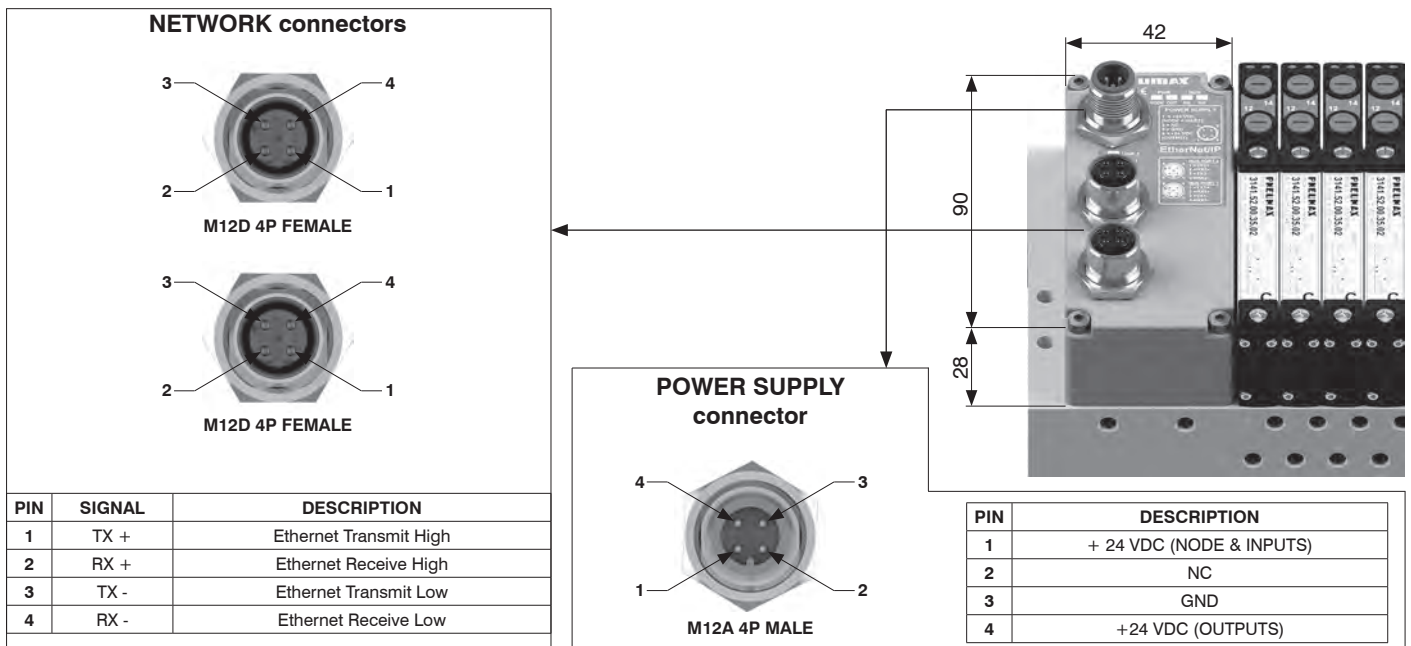
When more than 64 inputs are needed and current coming from 24VDC rail is higher than 2.5A, the use of additional power supply module (part number 5030.M12) is mandatory. 5030.M12 additional power supply module must be plugged-in upstream to the modules exceeding the above stated current limit, therefore close to the network node. On the other hand, whenever 64 outputs are used and further optional outputs modules are required, if total computed simultaneous current is higher than 2A, the 5030.M12 module is mandatory. 5030.M12 module is plugged-in upstream to additional modules; it will supply electrical power to downstream modules. If 5030.M12 module has been already integrated to supply inputs modules, it is not necessary to install a second one, since it already supplies outputs modules.

Ordering code

- 5730.128.48EI**
- 5730.128.48EC**
- 5730.128.48PN**



Scheme / Overall dimensions and I/O layout



Technical characteristics

Power supply	Case	Reinforced technopolymer
	Power supply connection	M12 4 P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	100 mA
Network	Power supply diagnosis	Green LED PWR / Green LED OUT
	Network connectors	2 M12 4 P female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses possible numbers	As an IP address
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	2 bicolor red / green LEDs + 4 LEDs for link & activity
	Configuration file	Available from our web site http://www.pneumaxspa.com
	IP Rating	IP65 when assembled
Temperature range	From 0°C to +50°C	



General - IO-Link slave modules

IO-Link node handles up to 64 inputs and outputs, both divided into 8 bytes. Output typologies include solenoid valves, digital outputs (e.g. 5130.08.M8) and analog outputs (e.g. 5130.2T.00). Connectable inputs typologies include digital inputs modules (e.g. 5230.08.M8), analog input modules (e.g. 5230.2T.00), and Pt100 inputs modules (e.g. 5230.4P02). Optional modules can be connected to the manifold in any order and configuration, provided that modules are installed starting from the node and optional position modules left to furthest end.

Electrical power and connection to IO-Link Master come through male circular connector M12, 5 poles, type A, "CLASS B" according to IO-Link specifications. L+/L- electrical power allows to supply the node while P24/N24 electrical power allows to supply inputs and outputs modules, including solenoid valves, connected to the manifold. L+/L- and P24/N24 power supplies are galvanically isolated into the IO-Link node.

IO-Link node exists in two versions: they differ by number of outputs directly allocated to solenoid valve positions. 5830.64.32IK part number provides the first 32 out of 64 outputs, corresponding to less significant 4 bytes, are permanently allocated to solenoid valve positions, regardless how many they physically are and how many valves are installed. The remaining 32 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

5830.64.48IK part number provides the first 48 out of 64 outputs, corresponding to less significant 6 bytes, are permanently allocated to solenoid valve positions, regardless how many they physically are and how many valves are installed. The remaining 16 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

Two part-numbers have been provided to tailor configuration on your needs. 5830.64.48IK part number is recommended in case several solenoid valves must be handled, whilst ensuring room for future expansions. 5830.64.32IK part number is recommended in case increased flexibility is needed for digital outputs.

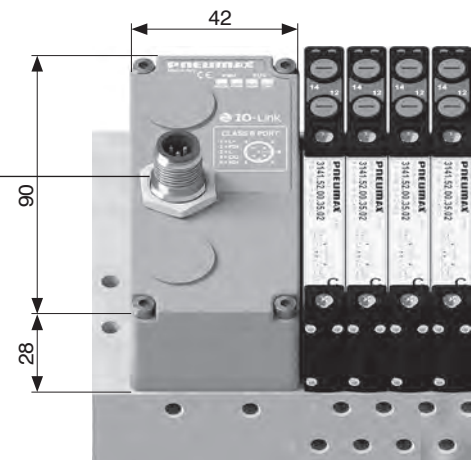
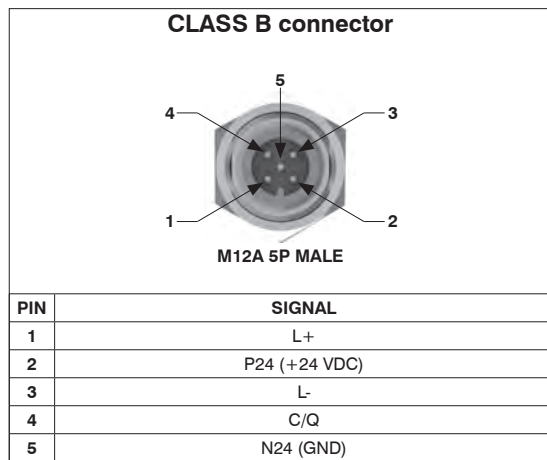
Ordering code

5830.64.32IK
5830.64.48IK



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Scheme / Overall dimensions and I/O layout



Technical characteristics

	Specifications	IO-Link Specification v1.1
	Case	Reinforced technopolymer
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum output number	64
	Maximum output simultaneously actuated	64
Network	Network connectors	Class B port
	Communication speed	COM2
	Maximum distance from Master	20 m
	Bus diagnosis	1 green and 1 red LED di stato for status
	Vendor ID / Device ID	1257 (hex 0x04E9) / 3000 (hex 0x0BB8)
	Configurations file IODD	Available from our web site http://www.pneumaxspa.com
	IP Rating	IP65 when assembled
	Temperature range	From 0°C to +50°C

General - 8 M8 digital inputs module

M8 digital inputs module provides 8 M8, 3 pins, female connectors.

Inputs have PNP logic, 24VDC ± 10%.

It is possible to connect 2 wires devices (e.g. switches, magnetic limit switches, pressure switches, etc...) as well as 3 wires devices (e.g. proximity sensors, photocells, electronic magnetic limit switches, etc.).

Inputs module power supply is provided by 24VDC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by module 5030.M12, in case it were installed upstream of the inputs module.

Maximum overall available current for all 8 inputs on 24VDC rail is 300mA, since every module is equipped with an auto-resettable fuse with 300mA threshold, thus, in case of overload or short circuit, 24VDC rail is interrupted and, as a consequence, all 8 inputs 24VDC is turned off along with green PWR LED. Other eventually connected inputs modules stays operational. Removing fault cause, green PWR LED gets back in on status and module becomes operational again.

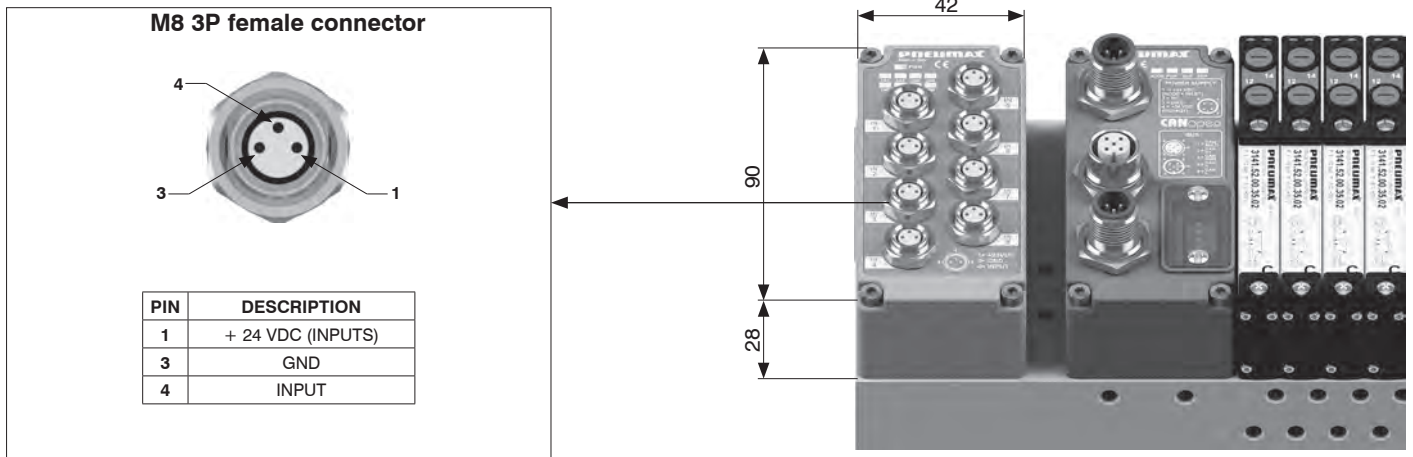
The M8 digital inputs module takes up 8 input bits of the serial node installed on the manifold.

Ordering code

5230.08.M8



Scheme / Overall dimensions and I/O layout



General - 8 M12 digital inputs module

M12 digital inputs module provides 4 M12, 5 pins, female connectors.

Inputs have PNP logic, 24VDC ± 10%.

Every connector takes two independent input channels.

It is possible to connect 2 wires devices (e.g. switches, magnetic limit switches, pressure switches, etc...) as well as 3 wires devices (e.g. proximity sensors, photocells, electronic magnetic limit switches, etc.).

Inputs module power supply is provided by 24VDC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by module 5030.M12, in case it were installed upstream of the inputs module.

Maximum overall available current for all 4 connectors on 24VDC rail is 300mA, since every module is equipped with an auto-resettable fuse with 300mA threshold, thus, in case of overload or short circuit, 24VDC rail is interrupted and as a consequence all inputs 24VDC is turned off along with green PWR LED. Other eventually connected inputs modules remains operational. Removing fault cause, green PWR LED gets back in on status and module becomes operational again.

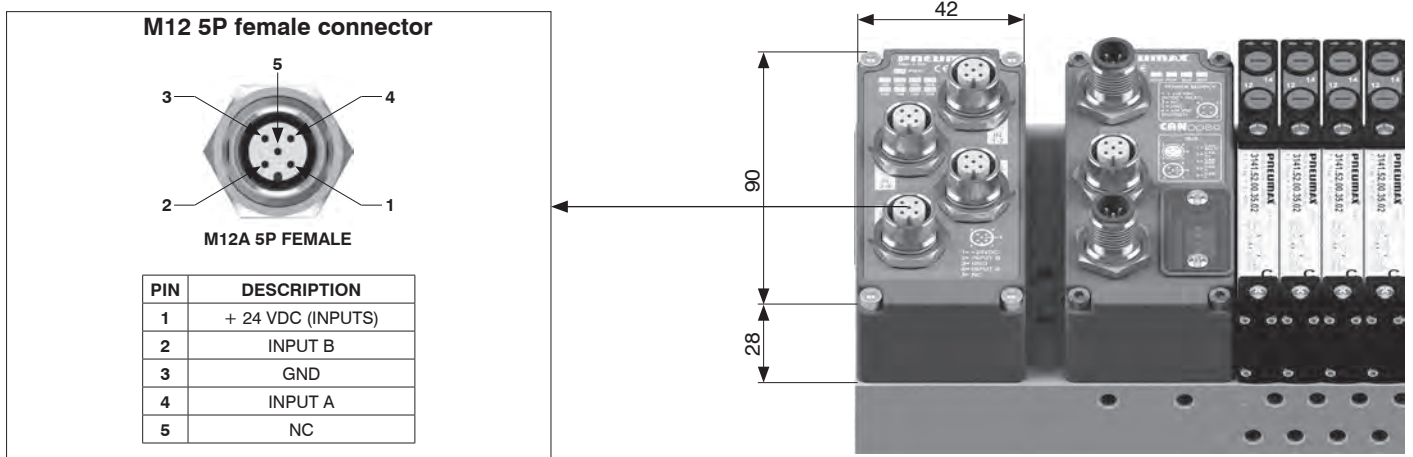
The M12 digital inputs module takes up 8 input bits of the serial node installed on the manifold.

Ordering code

5230.08.M12



Scheme / Overall dimensions and I/O layout



General - 8 M8 digital outputs module

Module has 8 M8 female connectors.

Outputs have PNP logic, 24VDC ± 10%.

Maximum available current per output is 100mA.

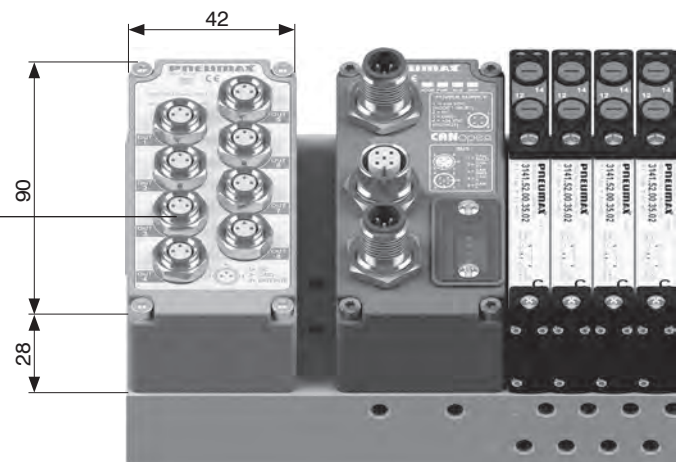
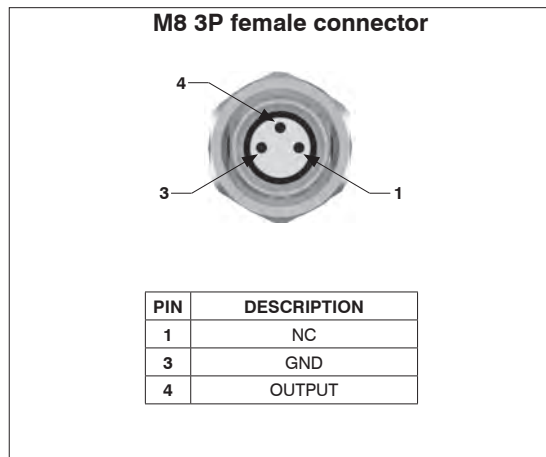
Electric power on outputs module is supplied by pin 4 of the M12 power connector on the network node or by the expansion module (5030.M12 part number). Power supply presence is displayed by "PWR OUT" green LED light-on. The module takes up 8 outputs (8 bits of the output bytes) of the serial node.

Ordering code

5130.08.M8



Scheme / Overall dimensions and I/O layout



General - 8 M12 digital outputs module

Module has 4 M12 female connectors.

Outputs have PNP logic, 24VDC ± 10%.

Maximum available current per output is 100mA.

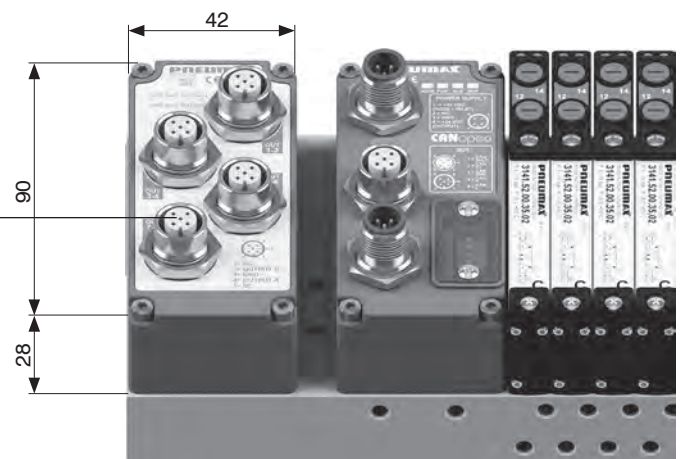
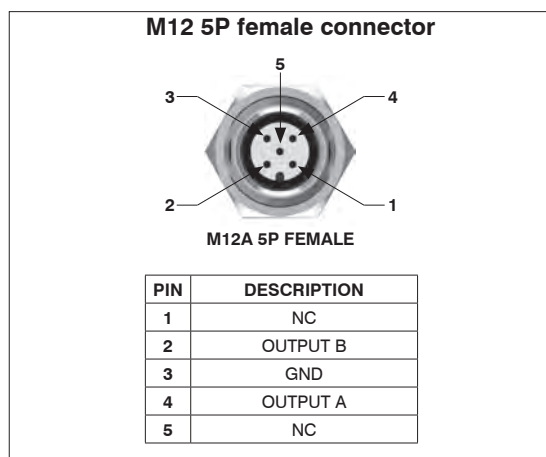
Electric power on outputs module is supplied by pin 4 of the M12 power connector on the network node or by the expansion module (5030.M12 part number). Power supply presence is displayed by "PWR OUT" green LED light-on. The module takes up 8 outputs (8 bits of the output bytes) of the serial node.

Ordering code

5130.08.M12



Scheme / Overall dimensions and I/O layout



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General - 32 digital inputs SUB-D 37 pins module

The module provides a SUB-D 37 pins female connector.

Inputs have PNP logic, 24VDC ± 10%.

It is possible to connect 2 wires devices (e.g. switches, magnetic limit switches, pressure switches, etc...) as well as 3 wires devices (e.g. proximity sensors, photocells, electronic magnetic limit switches, etc.).

Inputs module power supply is provided by 24VDC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by module 5030.M12, in case it were installed upstream of the inputs module.

Maximum overall available current for all 32 inputs on 24VDC rail is 1A, since every module is equipped with an auto-resettable fuse with 1A threshold, thus, in case of overload or short circuit, 24VDC rail is interrupted and as a consequence all 32 inputs 24VDC is turned off along with green PWR LED. Other eventually connected inputs modules stays operational. Removing fault cause, green PWR LED gets back in on status and module becomes operational again.

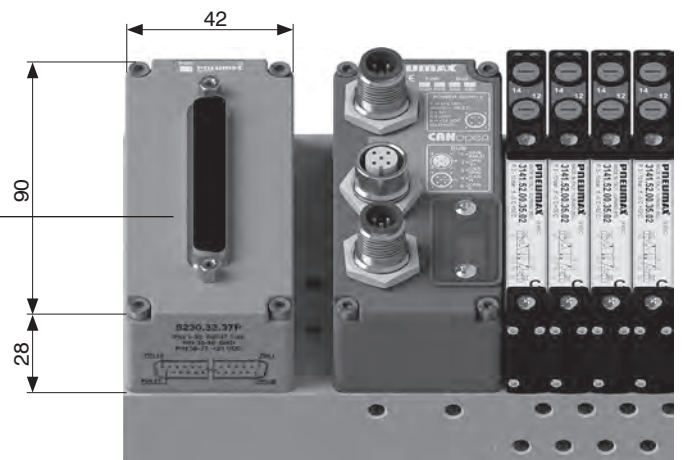
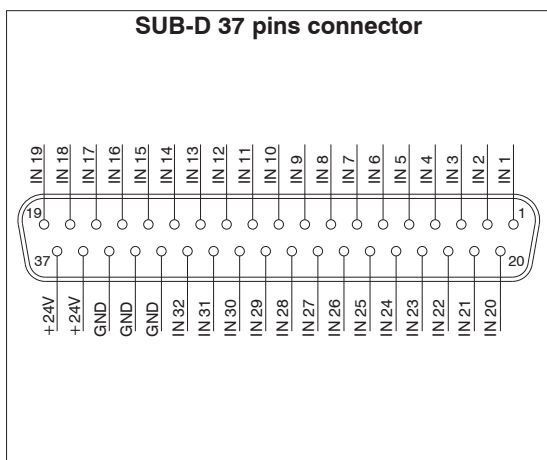
The module takes up 32 bits on the input data of the serial node installed.

Ordering code

5230.32.37P



Scheme / Overall dimensions and I/O layout



General - 32 digital outputs SUB-D 37 pins module

Module has a SUB-D 37 pins female connector.

Outputs have PNP logic, 24VDC ± 10%.

Maximum available current per output is 100mA.

Electric power on outputs module is supplied by pin 4 of the M12 power connector on the network node or by the expansion module (5030.M12 part number). Power supply presence is displayed by "PWR OUT" green LED light-on.

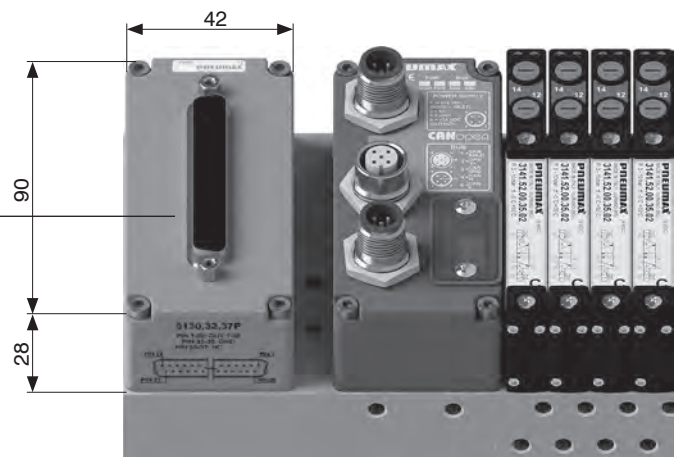
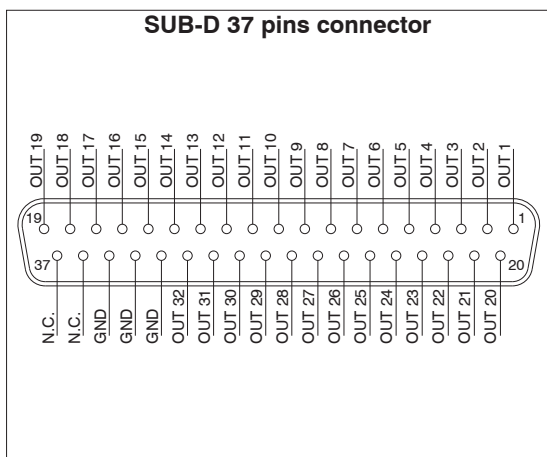
The module takes up 32 outputs (32 bits of the output bytes) of the serial node.

Ordering code

5130.32.37P



Scheme / Overall dimensions and I/O layout





General - M8 analogue inputs modules

M8 analog inputs module digitizes analog signals and transfer acquired data to field bus, via network node. Each input is sampled at 12 bits and transmitted, for convenience, at 16 bit, whose less significant bits padded to 0. Therefore, each digitized signal takes 16 inputs (2 bytes) of the serial node. During the ordering process, it is necessary to verify that the serial node has enough free inputs. Following table reports available models:

CODE	SIGNAL	ANALOGUE INPUTS	MAXIMUM CURRENT ON +24 VDC RAIL	OCCUPIED INPUTS
5230.2T.00	VOLTAGE 0-10V	2	300 mA	32 (4 Byte)
5230.2T.01	VOLTAGE 0-5V	2	300 mA	32 (4 Byte)
5230.4T.00	VOLTAGE 0-10V	4	750 mA	64 (8 Byte)
5230.4T.01	VOLTAGE 0-5V	4	750 mA	64 (8 Byte)
5230.2C.00	CURRENT 4-20mA	2	300 mA	32 (4 Byte)
5230.2C.01	CURRENT 0-20mA	2	300 mA	32 (4 Byte)
5230.4C.00	CURRENT 4-20mA	4	750 mA	64 (8 Byte)
5230.4C.01	CURRENT 0-20mA	4	750 mA	64 (8 Byte)

Power supply of the M8 analog inputs module is provided by 24VDC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by module 5030.M12, in case it were installed upstream of the inputs module. Modules provide M8 3 pins female connectors and a diagnostic LED for every analog input. The LED indicates signal presence (green) or signal out of range (red). Maximum available current for each channel on 24VDC rail (pin 1) is reported in the table. Each module provides an internal resettable fuse, which cuts 24VDC power supply to every M8 connector and turning off green PWR LED when thresholds are exceeded. Inputs of other eventual modules connected to the node continue to operate uninterrupted. By removing the cause of the threshold overrun, green PWR LED gets back in ON status and the module becomes operational again.

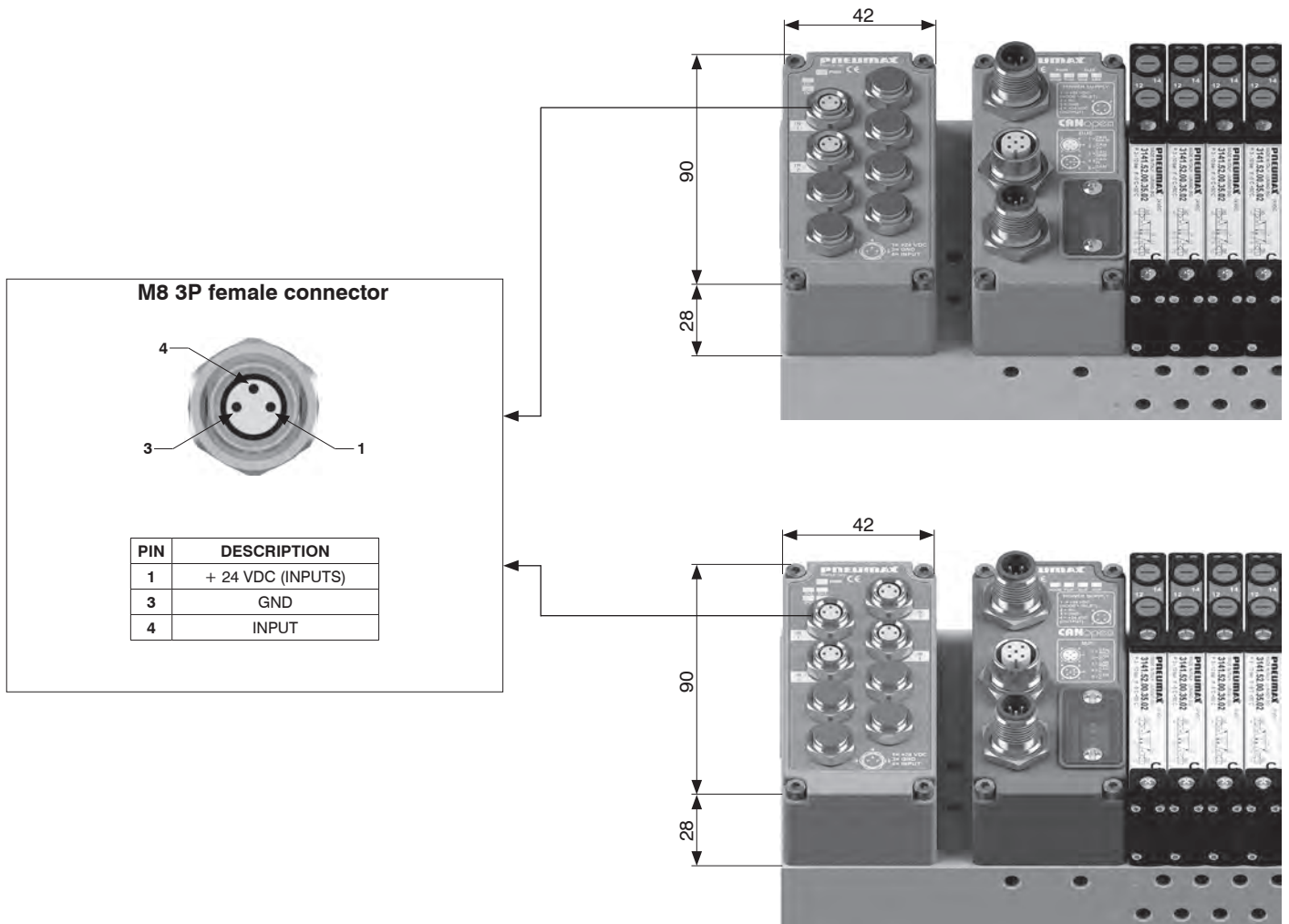
Ordering code

5230. _ _ 0 _



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Scheme / Overall dimensions and I/O layout



General - M8 analogue outputs modules

M8 analog outputs module converts output data, received from field bus via network node, into analog signal. Each analog output has a resolution of 12 bits, processed from 16 outputs (2 bytes), ignoring 4 less significant bits. During the ordering process, it is necessary to verify that the serial node has enough free outputs. Different models are available:

Ordering code

5130._._0_

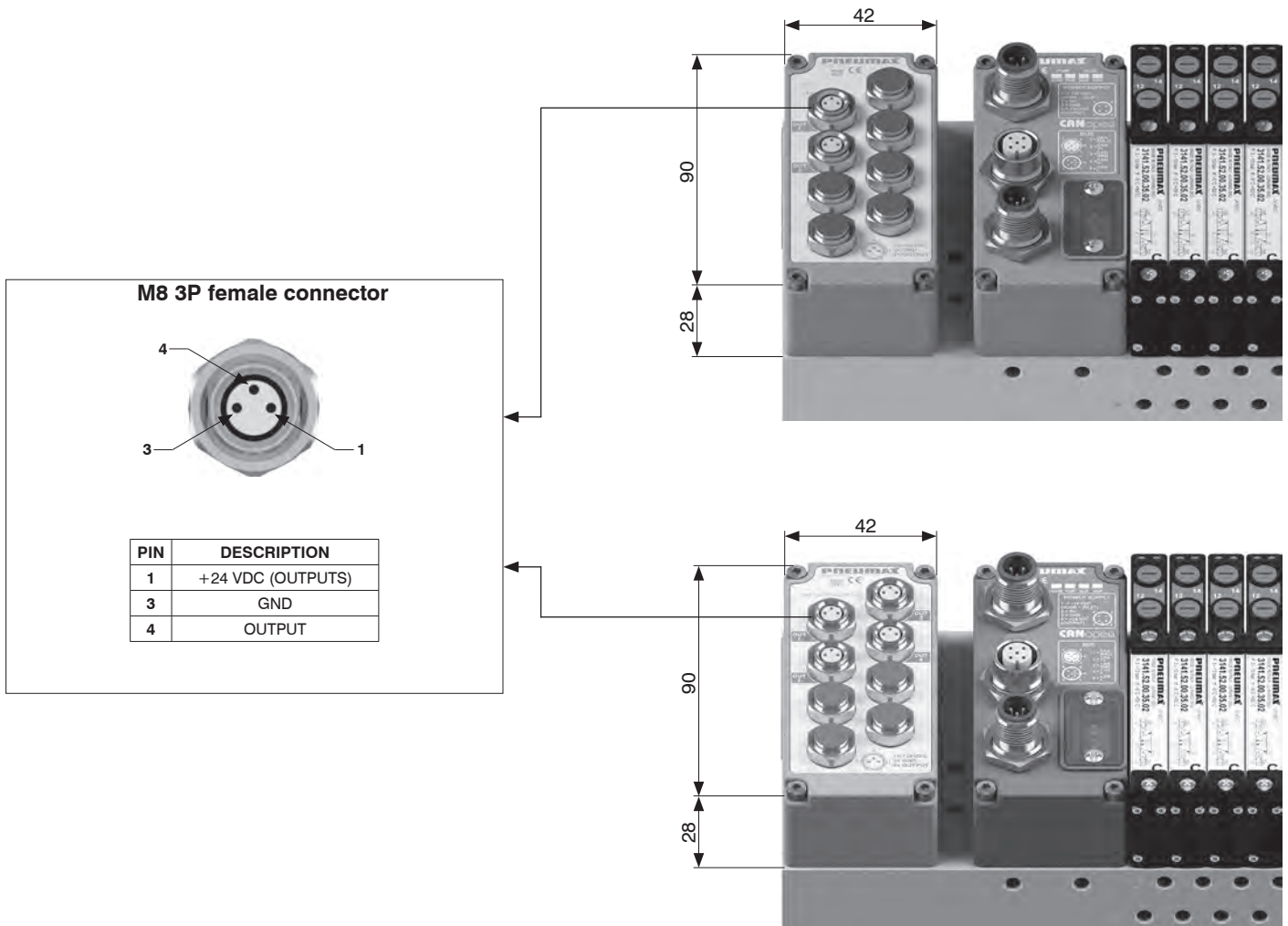


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CODE	SIGNAL	ANALOGUE OUTPUTS	MAXIMUM CURRENT ON + 24 VDC RAIL	OCCUPIED OUTPUTS
5130.2T.00	VOLTAGE 0-10V	2	1 A	32 (4 Byte)
5130.2T.01	VOLTAGE 0-5V	2	1 A	32 (4 Byte)
5130.4T.00	VOLTAGE 0-10V	4	2 A (1A for each pair of channel)	64 (8 Byte)
5130.4T.01	VOLTAGE 0-5V	4	2 A (1A for each pair of channel)	64 (8 Byte)
5130.2C.00	CURRENT 4-20mA	2	1 A	32 (4 Byte)
5130.2C.01	CURRENT 0-20mA	2	1 A	32 (4 Byte)
5130.4C.00	CURRENT 4-20mA	4	2 A (1A for each pair of channel)	64 (8 Byte)
5130.4C.01	CURRENT 0-20mA	4	2 A (1A for each pair of channel)	64 (8 Byte)

Power supply of the M8 analog outputs module is provided by 24VDC power input on the serial system (type A, 4 pin M12 power connector, pin 4) or by module 5030.M12, in case it were installed upstream of the outputs module. Modules provide M8 3 pins female connectors and a diagnostic LED for every analog input. The LED indicates signal presence (green) or overload fault (red). Maximum available current for each channel on 24VDC rail (pin 1) is reported in the table. Each module provides an internal resettable fuse, which cuts 24VDC power supply to every M8 connector and turning off green PWR LED when thresholds are exceeded. Outputs of other eventual modules connected to the node continue to operate uninterrupted. By removing the cause of the threshold overrun, green PWR LED gets back in ON status and the module becomes operational again.

Scheme / Overall dimensions and I/O layout



General - Pt100 inputs modules

Pt100 inputs module digitizes signals from Pt100 sensors and transfers acquired data to field bus, via network node. Each input is sampled at 12 bits and transmitted, for convenience, at 16 bits, whose less significant bits padded to 0. Therefore, each digitized signal takes 16 inputs (2 bytes) of the serial node. During the ordering process, it is necessary to verify that the serial node has enough free inputs.

It is possible to connect two, three or four wire sensors.
Temperature range is from -100°C to 300°C.

When sensor is not connected, it is returned a value corresponding to -100°C.

Temperature can be obtained from node read value (in points) using this formula:

$$\text{Temperature (°C)} = \left(\frac{\text{Points} \times 400}{4095} \right) - 100$$

Following table reports available models:

CODE	MODEL	INPUTS NUMBER	OCCUPIED INPUTS
5230.2P00	Pt100 2 wires	2	32 (4 Byte)
5230.2P01	Pt100 3 wires	2	32 (4 Byte)
5230.2P02	Pt100 4 wires	2	32 (4 Byte)
5230.4P00	Pt100 2 wires	4	64 (8 Byte)
5230.4P01	Pt100 3 wires	4	64 (8 Byte)
5230.4P02	Pt100 4 wires	4	64 (8 Byte)

Module provides M8 4 pins female connectors and a diagnostic LED for every input.
The LED indicates the presence of the PT100 sensor or the overcoming of set temperature threshold.

Inputs module power supply is provided by 24VDC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by module 5030.M12, in case it were installed upstream of the inputs module.
Presence of power supply +24VDC is indicated by a PWR green LED.

Ordering code

5230. _ _ 0 _



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Scheme / Overall dimensions and I/O layout

M8 4P female connector

Connection scheme 2 wires probe

PIN	DESCRIPTION
1	NC
2	SENSOR +
3	POWER SUPPLY -
4	NC

Connection scheme 3 wires probe

PIN	DESCRIPTION
1	POWER SUPPLY -
2	SENSOR +
3	POWER SUPPLY -
4	NC

Connection scheme 4 wires probe

PIN	DESCRIPTION
1	POWER SUPPLY +
2	SENSOR +
3	POWER SUPPLY -
4	SENSORE -

General - Additional power supply module

Additional power supply module 5030.M12 supplies additional electric power for downstream optional modules, where "downstream" means farther from serial node.

Electric connection of the module to external power supply unit occurs via an M12 4 pins type A male connector. M12 connector has two different pins to power up inputs (pin 1) and outputs (pin 4). Presence of each power supply rail is indicated by corresponding green LED.

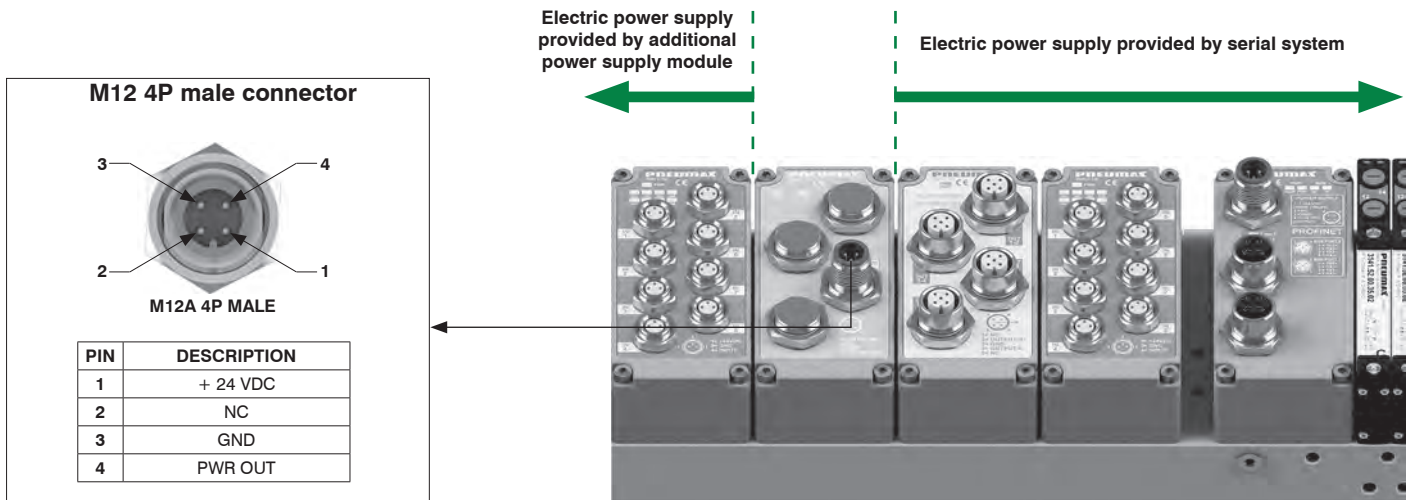
Ordering code

5030.M12



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Scheme / Overall dimensions and I/O layout



General - Optional position module

Optional position module is employed to protect manifold connections where no module has yet been installed. Optional position modules must be installed at the left end of the system, that is downstream the other modules.

Ordering code

5030.T00



Configuration example

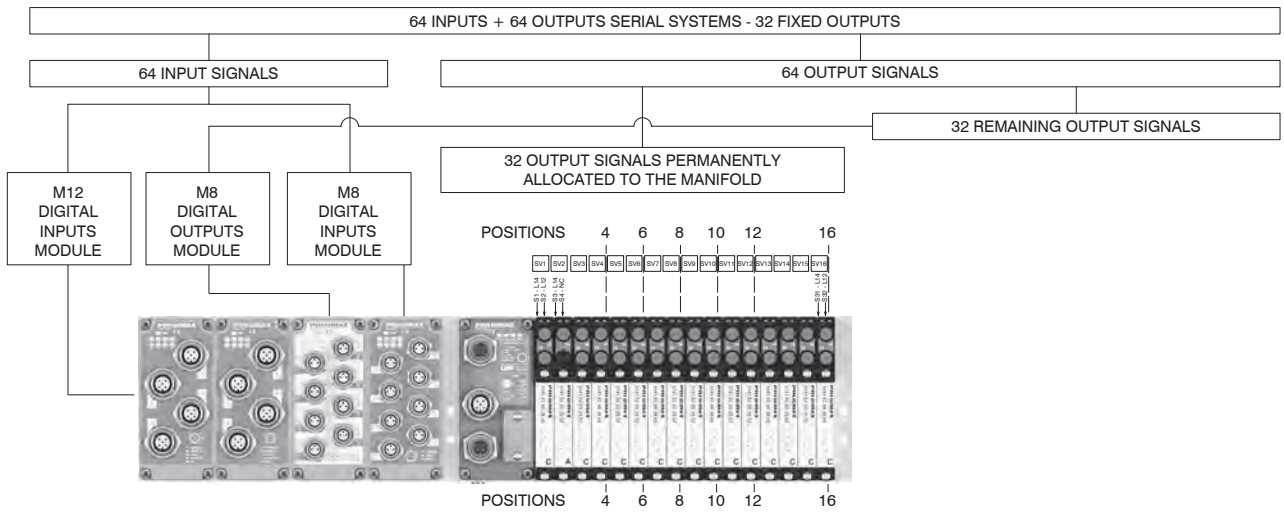
The code 5030.T00 can be replaced by any of the modules presented in the previous pages, as long as the availability of the necessary inputs or outputs is checked on the node.



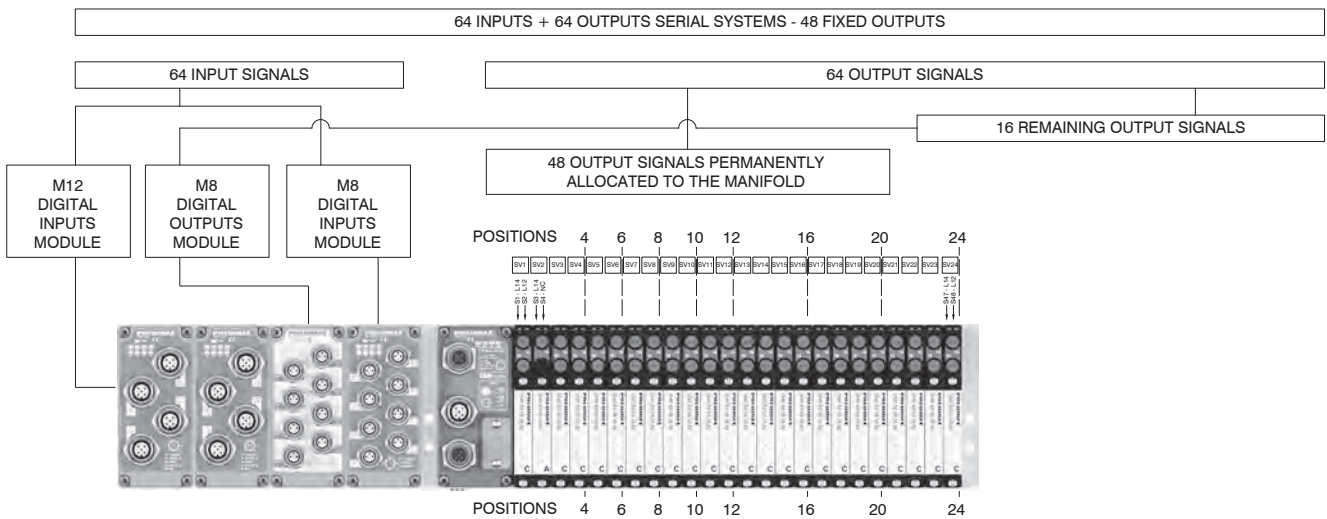


Signal management

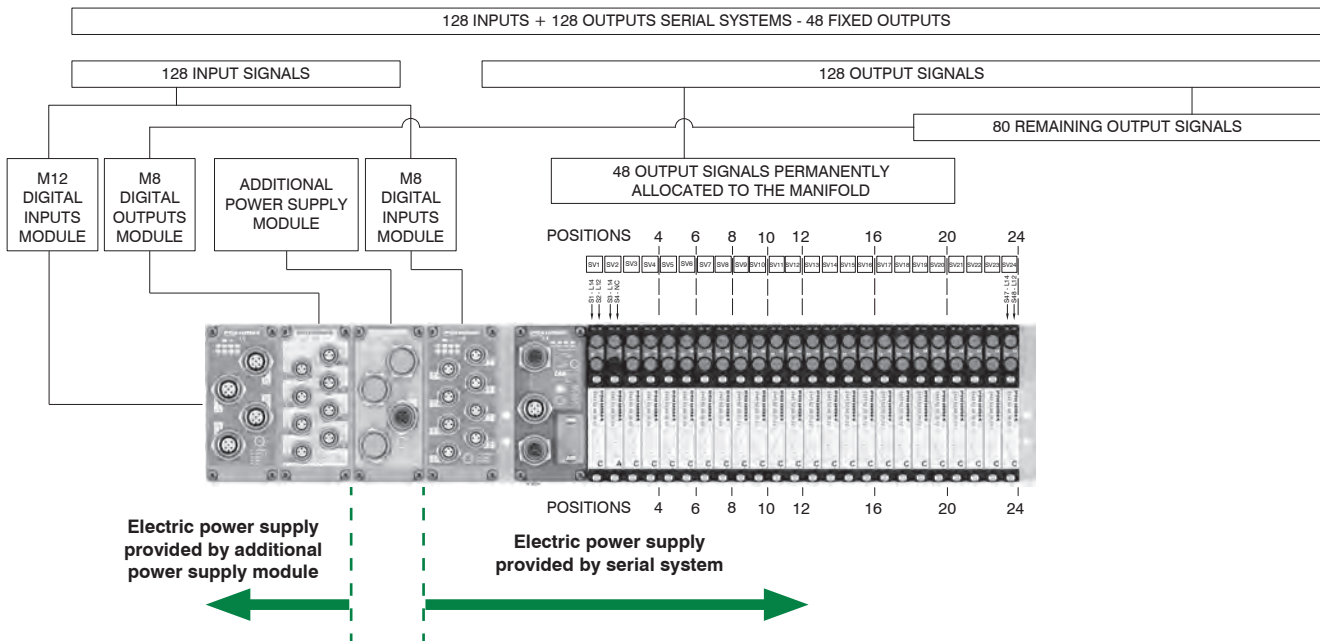
64 INPUT + 64 OUTPUT serial systems - 32 fixed OUTPUT (Ex. PROFIBUS DP and CANopen®)



64 INPUT + 64 OUTPUT serial systems - 48 fixed OUTPUT (Ex. PROFIBUS DP and CANopen®)



128 INPUT + 128 OUTPUT serial systems - 48 fixed OUTPUT (Ex. EtherNet/IP - EtherCAT® - PROFINET IO RT/IRT)



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