

Section 02

Air treatment

Components for compressed air treatment

Air service units

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

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Proportional technology

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

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Measuring devices

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

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Pressure booster

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

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Product overview

PRODUCT	VERSION	SIZE				MAX. PRESSURE		MIN - MAX AMBIENT TEMPERATURE		ATEX
		Size 1	Size 2	Size 3	Size 4	Technopolymer body or bowl	Metal body and bowl	Technopolymer body or bowl	Metal body and bowl	
FILTER (F)	T : Technopolymer body and thread	●	●	●		13 bar - 10 bar (automatic drain)	/ 20 bar - 16 bar (automatic drain)	-5°C +50°C	/ -30°C +80°C -40°C +80°C	●
	N : Technopolymer body and metal inserts	●	●	●						
	P : Aluminum body		●	●	●					
	L : Aluminum body, low temperature		●	●	●					
COALESCING FILTER (D)	T : Technopolymer body and thread	●	●	●		13 bar - 10 bar (automatic drain)	/ 20 bar - 16 bar (automatic drain)	-5°C +50°C	/ -30°C +80°C -40°C +80°C	●
	N : Technopolymer body and metal inserts	●	●	●						
	P : Aluminum body		●	●	●					
	L : Aluminum body, low temperature		●	●	●					
OIL REMOVAL FILTER (DBV) (DCV) (DAV)	T : Technopolymer body and thread			●		10 bar	/	-5°C +50°C	/	●
	N : Technopolymer body and metal inserts			●						
	P : Aluminum body			●	●					
	L : Aluminum body, low temperature									
CARBON FILTER (DD)	T : Technopolymer body and thread			●		13 bar	/ 20 bar	-5°C +50°C	/ -30°C +80°C -40°C +80°C	●
	N : Technopolymer body and metal inserts			●						
	P : Aluminum body			●	●					
	L : Aluminum body, low temperature			●	●					
REGULATOR (R) (RM) (RW)	T : Technopolymer body and thread	●	●	●		13 bar	20 bar	-5°C +50°C	/ -30°C +80°C -40°C +80°C	●
	N : Technopolymer body and metal inserts	●	●	●						
	P : Aluminum body		●	●	●					
	L : Aluminum body, low temperature		●	●	●					
PRESSURE REGULATOR FOR MANIFOLD (B) (M)	T : Technopolymer body and thread	●				13 bar	/	-5°C +50°C	/ /	●
	N : Technopolymer body and metal inserts	●								
	P : Aluminum body									
	L : Aluminum body, low temperature									
PILOTED PRESSURE REGULATOR (RP) (RMP) (RPP)	T : Technopolymer body and thread					/	/	/	/	●
	N : Technopolymer body and metal inserts					/	20 bar	/	-30°C +80°C	
	P : Aluminum body				●	/		/	/	
	L : Aluminum body, low temperature					/		/	/	
PILOTED PRESSURE REGULATOR WITH DIGITAL PRESSURE SWITCH (RPP) (RPZ)	T : Technopolymer body and thread					/	/	/	/	
	N : Technopolymer body and metal inserts					/	20 bar	/	0°C +50°C	
	P : Aluminum body				●	/		/	/	
	L : Aluminum body, low temperature					/		/	/	
FILTER REGULATOR (E) (EM) (EW)	T : Technopolymer body and thread	●	●	●		13 bar - 10 bar (automatic drain)	20 bar - 16 bar (automatic drain)	-5°C +50°C	/ -30°C +80°C -40°C +80°C	●
	N : Technopolymer body and metal inserts	●	●	●						
	P : Aluminum body		●	●	●					
	L : Aluminum body, low temperature		●	●	●					
REGULATOR WITH DIGITAL PRESSURE SWITCH (RP) (RZ)	T : Technopolymer body and thread	●	●	●		13 bar	20 bar	0°C +50°C		
	N : Technopolymer body and metal inserts	●	●	●						
	P : Aluminum body		●	●	●					
	L : Aluminum body, low temperature		●	●	●					
FILTER REGULATOR WITH DIGITAL PRESSURE SWITCH (E) (EP) (EZ)	T : Technopolymer body and thread	●	●	●		13 bar - 10 bar (automatic drain)	20 bar - 16 bar (automatic drain)	0°C +50°C		
	N : Technopolymer body and metal inserts	●	●	●						
	P : Aluminum body		●	●	●					
	L : Aluminum body, low temperature		●	●	●					
LUBRICATOR (L)	T : Technopolymer body and thread	●	●	●		13 bar	/	-5°C +50°C	/	●
	N : Technopolymer body and metal inserts	●	●	●						
	P : Aluminum body		●	●	●					
	L : Aluminum body, low temperature									

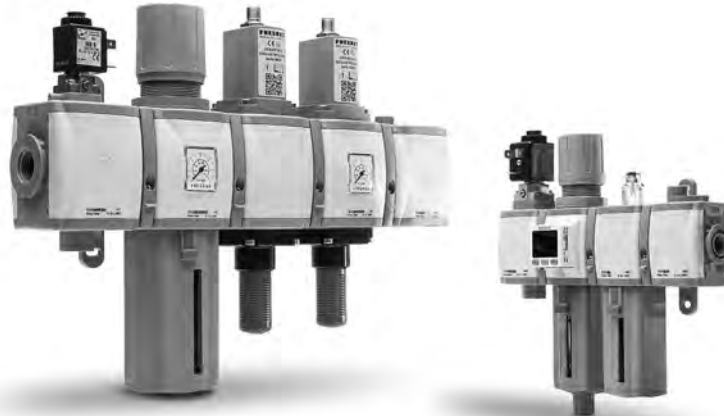
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PRODUCT	VERSION	SIZE				MAX. PRESSURE		MIN - MAX AMBIENT TEMPERATURE		ATEX
		Size 1	Size 2	Size 3	Size 4	Technopolymer body or bowl	Metal body and bowl	Technopolymer body or bowl	Metal body and bowl	
LUBRICATOR WITH ELECTRICAL MINIMUM LEVEL SENSOR (LA) (LC)	T: Technopolymer body and thread	●	●	●		13 bar		-5°C +50°C		
	N: Technopolymer body and metal inserts	●	●	●						
	P: Aluminum body		●	●	●					
	L: Aluminum body, low temperature									
SHUT OFF VALVE (VL)	T: Technopolymer body and thread	●	●	●		13 bar - 10 bar (for size 4)		-5°C +50°C	/	●
	N: Technopolymer body and metal inserts	●	●	●						
	P: Aluminum body		●	●	●					
	L: Aluminum body, low temperature		●	●	●					
PNEUMATIC SHUT OFF VALVE (VP)	T: Technopolymer body and thread	●	●	●		13 bar	20 bar	-5°C +50°C	/	●
	N: Technopolymer body and metal inserts	●	●	●						
	P: Aluminum body		●	●	●					
	L: Aluminum body, low temperature		●	●	●					
ELECTRIC SHUT OFF VALVE (VE)	T: Technopolymer body and thread	●	●	●		10 bar		-5°C +50°C		●
	N: Technopolymer body and metal inserts	●	●	●						
	P: Aluminum body		●	●	●					
	L: Aluminum body, low temperature									
PROGRESSIVE START-UP VALVE (AP)	T: Technopolymer body and thread	●	●	●		13 bar - 10 bar (for size 4)		-5°C +50°C		●
	N: Technopolymer body and metal inserts	●	●	●						
	P: Aluminum body		●	●	●					
	L: Aluminum body, low temperature		●	●	●					
AIR INTAKE (PA)	T: Technopolymer body and thread	●	●	●		13 bar	20 bar	-5°C +50°C	/	●
	N: Technopolymer body and metal inserts	●	●	●						
	P: Aluminum body		●	●	●					
	L: Aluminum body, low temperature									
PRESSURE SWITCH (PP)	T: Technopolymer body and thread	●	●	●		13 bar	20 bar	-5°C +50°C		
	N: Technopolymer body and metal inserts	●	●	●						
	P: Aluminum body		●	●	●					
	L: Aluminum body, low temperature									
AIR INTAKE WITH INTEGRATED PRESSURE GAUGE (PM-PW)	T: Technopolymer body and thread	●	●	●		13 bar		-5°C +50°C	/	●
	N: Technopolymer body and metal inserts	●	●	●						
	P: Aluminum body		●	●	●					
	L: Aluminum body, low temperature									
AIR INTAKE WITH INTEGRATED DIGITAL PRESSURE SWITCH (PP-PZ)	T: Technopolymer body and thread	●	●	●		13 bar		0°C +50°C		
	N: Technopolymer body and metal inserts	●	●	●						
	P: Aluminum body		●	●	●					
	L: Aluminum body, low temperature									

Air service units, series AIRPLUS



- **Modular system**
- **Compact and linear design**
- **Maximum flexibility and reliability**
- **Plug-n-play connection thru couplig flanges**
- **Integral safety elements in assembled group**
- **Available in 4 sizes with connections from 1/8" to 1"**
- **ATEX certification (II 2GD or II 3GD)**

Construction and working characteristics

Pneumax AIRPLUS air treatment units have been designed and developed to increase reliability, modularity and user-friendly operation and installation.

Thanks to a wide range of modules with different functions and characteristics, together with a wide choice of materials selection, make the Pneumax AIRPLUS air treatment units a robust, reliable and extremely flexible modular system, adaptable to many applications.

AIRPLUS units correctly assembled are modular with unlimited configurations and solutions, capable of fulfilling all functions of compressed air treatment such as filtration, regulation, lubrication, interception and distribution.

Filters, including coalescing and active carbon elements as well as oil separators provide adequate media filtration. Precise and reliable pressure regulation is provided by the regulators or filter-regulators which are also available with a built in pressure gauge or integral digital pressure switch. The lubricators provide oil mist lubrication in proportion to air being consumed whilst the shut-off valves, which can be operated pneumatic, electro-pneumatic or manually will effectively manage the supply and exhaust of the compressed air system.

The range is completed by a series of complementary modules, such as pneumatic connection by-pass, pressure switch and progressive start-up. The complete assembly is built up using the individual modules connected together via quick coupling flanges which provide a 'plug & play' assembly. This provides quick and easy installation or replacement.

Pneumax Airplus air treatment units can be integrated with safety elements that comply with EN-ISO 13849-1 and CE marking according to EU Machinery Directive, Annex V.

AIRPLUS air treatment units are available in 4 different sizes, with connections from 1/8" to 1" and flow rates performances up to 8000NI/min.

Instruction for installation and operation

The FRL unit should be installed as close as possible to the 'point of use'. The air flow direction should follow the direction indicated on the individual modules, following threaded connections (IN and OUT). Units fitted with a bowl should be mounted vertically with the bowl facing down.

All units should be operated in accordance to the specified pressure and temperature ranges and should never exceed 0.2 Hz max frequency whether pulsing inlet pressure occur.

Fittings shall be mounted according to the maximum torque specified.

Maintenance

To carry out maintenance which involves the removal of the caps or supports above the body and where the retaining screws are present, it is necessary to remove the cover plates beforehand. If you attempt to dis-assemble the caps or supports without removing the cover plates and retaining screws, the integrity and function of the device could be compromised.

Bowls, plugs and supports are assembled with a bayonet type mechanism. In order to remove them, rotate anti-clockwise until the mechanical stop is reached and then remove from the body (for the bowls firstly press down the green safety button).

Bowls and transparent parts can be cleaned with water and neutral soap. Do not use solvents or alcohol.

Filtering elements (present in filters and filter regulators) made of HDPE can be regenerated by washing and blowing them.

In order to remove them it is necessary to remove the bowl unscrew the filter element and replace it with a new one or clean it.

Lubricator oil recharge might be performed during normal operation (apart TG1 size) depressurizing the bowl thru dedicated plug.

Pneumax suggest refilling oil directly into the bowl.

No others maintenance operation shall be carried out by client itself, due to complexity of the assembly and Pneumax dedicated post-maintenance testing activities.



FILTRATION



Filter pore sizes
from 50 μm to 5 μm

Coalescing filter with
retention efficiency of 99,97%
particle removal down to 0,01 μm

Coalescing/oil removal filter
with oil residual up to 0,01 ppm

Carbon filter
with oil residual up to < 0,003 ppm

REGULATION



Regulators and filter regulators
Pressure regulation range up to 12 bar

Available with
integrated pressure gauge,
pressure switch or G1/8" connection

LUBRICATION



Manual adjustment of oil quantity
complete with visual indicator

Oil refilled with
pressurized circuit

Oil mist lubrication

SHUT OFF



Manual, pneumatic
or electropneumatic
operation availability
Manual version lockable
up to 3 padlock

COMPLEMENTARY MODULES

- Pressure switch
- Air intake
- Progressive start-up valve



SAFETY

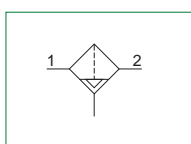
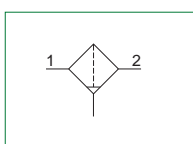
- Integrated diagnostic system
 - Single version CAT.2
in accordance with
ISO EN 13849 up to PL=C
 - Double version CAT.4
in accordance with
ISO EN 13849 up to PL=E
 - In accordance with
EU Machinery directive,
annex V



Filters (F)



- ▶ Double filter action: air flow centrifugation and filter element
- ▶ Available in 4 sizes with flow rates up to 14000 NI/min and connections from 1/8" to 1"
- ▶ Filtering cartridge made of HDPE available in three different filtration grades (5µm, 20µm, 50µm)
- ▶ Filter cartridge can be regenerated by washing / blowing it or replaced
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button
- ▶ Semi-automatic or automatic drain
- ▶ Atex certification (II 2GD or II 3GD)
- ▶ Inlet pressures up to 20 bar



Note

In order to ensure that any fluid discharged by the auto drain assembly is adequately drained away, it is recommended you use a 6mm fitting and tube.

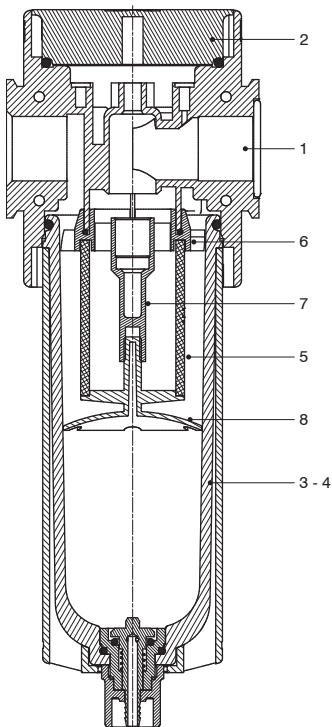
Technical characteristics		Size	Size 1	Size 2	Size 3	Size 4	
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)				/	/
Protection and bowl type		Technopolymer protection - PC bowl Technopolymer protection - PA bowl		Aluminium body, integrated aluminium connections (P - L versions)			
IN / OUT connections		T version	G1/4"	G3/8"	G1/2"	not available	
		N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT		
		P and L version	not available	G3/8" - 1/4" NPT	G1/2" - 1/2" NPT	G1" - 1" NPT	
Assembly configuration		Stand alone				Panel mounted	
Assembly positions		Vertical ±5°					
Filter pore size		5 µm 20 µm 50 µm					
Bowl capacity		18 cm ³		34 cm ³		90 cm ³	
Condensation drain		Semi-automatic Automatic					
Max. fittings torque IN / OUT connections		G1/8" metal: 15Nm G1/4" metal: 20Nm G1/4" technopolymer: 9Nm		G1/4" metal: 20Nm G3/8" metal: 25Nm G3/8" technopolymer: 16Nm		G3/8" metal: 25Nm G1/2" metal: 30Nm G1/2" technopolymer: 22Nm G1" metal: 35Nm	

Operational characteristics								
Size	Size 1	Size 2	Size 3	Size 4	Size 1	Size 2	Size 3	Size 4
Condensation drain	Semi-automatic				Automatic			
Maximum working pressure	13 bar		20 bar (only with body and metal bowl)		10 bar		16 bar (only with body and metal bowl)	
Minimum working pressure	0,5 bar				0,5 bar			
Working temperature	-5°C +50°C		-30°C +80°C (only for P version and metal bowl) -40°C +80°C (only for L version and metal bowl)		-5°C +50°C			

Weights	Size	Size 1	Size 2	Size 3	Size 4
Fully technopolymer version		129 g	226 g	355 g	/
Technopolymer body version, aluminium bowl protection and technopolymer bowl		/	257 g	393 g	/
Technopolymer body version, aluminium bowl		/	301 g	465 g	/
Aluminium body version, technopolymer protection and bowl		/	314 g	477 g	1163 g
Aluminium body version, aluminium bowl protection and technopolymer bowl		/	344 g	514 g	1306 g
Aluminium body version and aluminium bowl		/	389 g	587 g	1330 g

Materials

Exploded sectioned

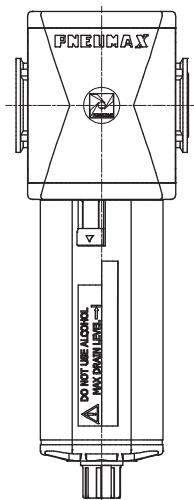


Filter		
1	Body	Polyamide Die-cast aluminium
2	Plug	Polyamide
3	Technopolymer bowl	Polycarbonate Polyamide
4	Metal bowl Bowl protection	Die-cast aluminium Polyamide - Die-cast aluminium
5	Filtering element	Polyethylene
6	Baffle	Acetal resin
7	Spool support	Acetal resin
8	Filtering element support	Acetal resin

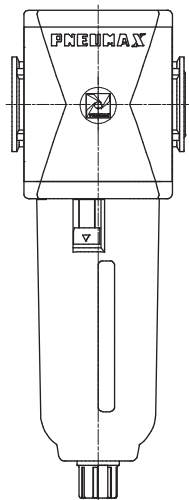
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Design

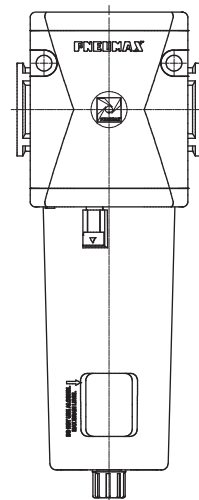
Size 1 - Size 2 - Size 3
Technopolymer protection



Size 1 - Size 2 - Size 3
Protection / Metal bowl



Size 4
All versions



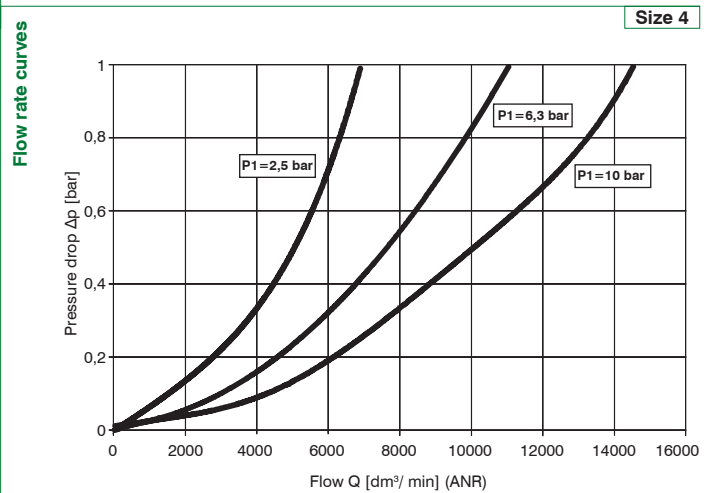
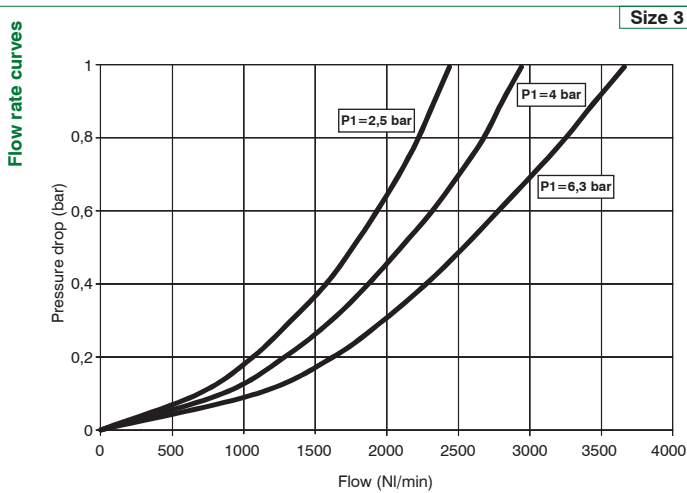
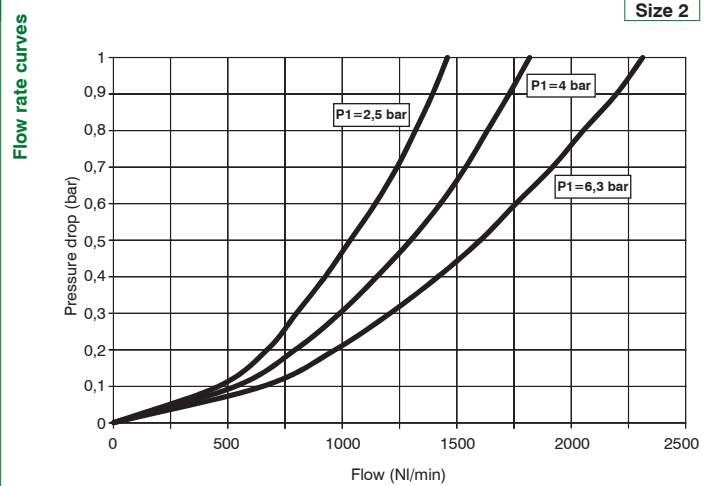
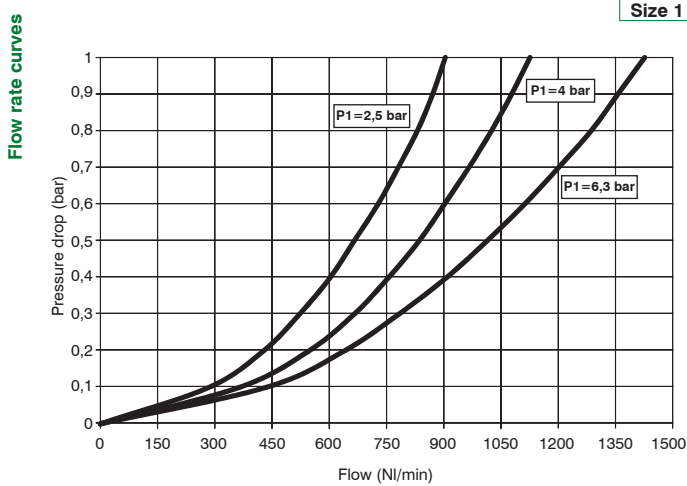


Order codes

	T	17	3B	F	B	S	T
Version							
N : Technopolymer body and metal inserts (not available for size 4)							
T : Technopolymer body and thread (not available for size 4)							
P : Aluminum body (not available for size 1)							
L : Aluminum body, low temperature (not available for size 1)							
Size and connections							
1A : Size 1 - G1/8" only for N version							
1B : Size 1 - G1/4" only for T - N versions							
1C : Size 1 - 1/4" NPT only for N version							
2A : Size 2 - G1/4" only for N version							
2B : Size 2 - G3/8" for all versions							
2C : Size 2 - 3/8" NPT only for N version - 1/4" NPT only for P - L versions							
3A : Size 3 - G3/8" only for N version							
3B : Size 3 - G1/2" for all versions							
3C : Size 3 - 1/2" NPT only for N - P - L versions							
4B : Size 4 - G1" only for P - L versions							
4C : Size 4 - 1" NPT only for P - L versions							
Filter pore size							
A : 5 μm							
B : 20 μm							
C : 50 μm							
Condensation drain							
: Semi-automatic drain							
S : Automatic drain							
Bowl options							
: Technopolymer protection - PC bowl							
N : Technopolymer protection - PA bowl							
P : Metal protection - PC bowl (not available for size 1)							
R : Metal protection - PA bowl (not available for size 1)							
T : Metal bowl (not available for size 1)							

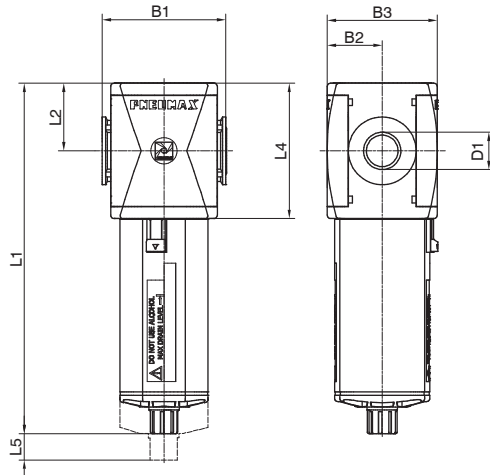
Example : T173BFBST : Size 3 filter G1/2" 20 μm, automatic drain and metal bowl

Characteristic curves

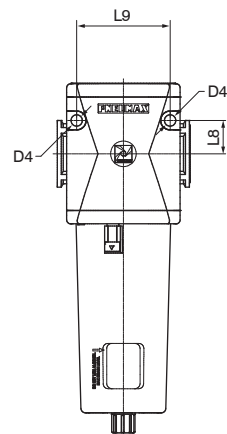


Dimensions

Semi-automatic drain version



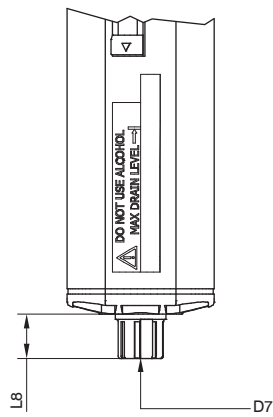
Fixing holes dimension detail (only for size 4)



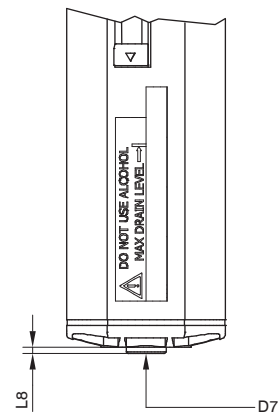
Model	B1	B2	B3	D1	D4	L1 - Bowl material		L2	L4	L5	L8	L9
						Technopolymer	Metal					
#171..	48	21	42	G1/8" G1/4" 1/4" NPT	/	148	/	27,5	55	40	/	/
#172..	62	28,5	57	G1/4" G3/8" 1/4" NPT 3/8" NPT	/	169,1	171,5	34	68	50	/	/
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	/	207,2	209,5	40	80	65	/	/
#174..	99	44	88	G1" 1" NPT	8,5	262	264,5	52,5	105	103	25	70

Variable dimensions

Semi-automatic drain version



Automatic drain version



Model	L8 - Bowl material		D7
	Technopolymer	Metal	
Semi-automatic drain	15,7	18	Plastic hose connector
Automatic drain	2	4,5	G1/8"

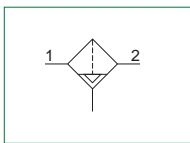
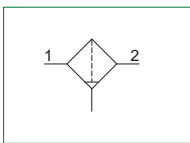
► **Coalescing filters (DA)**



- Coalescing filter
- Available in 4 sizes with flow rates up to 8000 NI/min and connections from 1/8" to 1"
- Filtering cartridge with filtration grade of 0,01 μm
- Filtering performances 99.97% (particles up to 0.01 μm)
- Bowl assembly via bayonet type quick coupling mechanism with safety button
- Semi-automatic or automatic drain
- Atex certification (II 2GD or II 3GD)
- Inlet pressures up to 20 bar

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Note

In order to ensure the high level of filtration, it is recommended that a 5μ filter is installed before the coalescing filter. In order to ensure that any fluid discharged by the auto drain assembly is adequately drained away, it is recommended you use a 6mm fitting and tube.

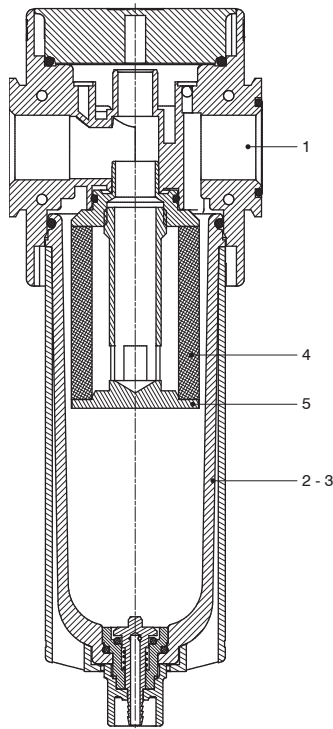
Technical characteristics		Size	Size 1	Size 2	Size 3	Size 4
Body and connections type			Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)	Aluminium body, integrated aluminium connections (P - L versions)		/ /
Protection and bowl type			Technopolymer protection - PC bowl Technopolymer protection - PA bowl	Metal protection - PC bowl Metal protection - PA bowl Metal bowl (blind metal bowl)		
IN / OUT connections	T version		G1/4"	G3/8"	G1/2"	not available
	N version		G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P and L version		not available	G3/8"	G1/2"	G1"
Assembly configuration			Stand alone			Panel mounted
Assembly positions			Vertical ±5°			
Filter pore size			0,01 μm, efficiency of 99,97%			
Bowl capacity			18 cm ³	34 cm ³	68 cm ³	90 cm ³
Condensation drain			Semi-automatic Automatic			
Max. fittings torque IN / OUT connections			G1/8" metal: 15Nm G1/4" metal: 20Nm G1/4" technopolymer: 9Nm	G1/4" metal: 20Nm G3/8" metal: 25Nm G3/8" technopolymer: 16Nm	G3/8" metal: 25Nm G1/2" metal: 30Nm G1/2" technopolymer: 22Nm	G1"metal: 35Nm

Operational characteristics								
Size	Size 1	Size 2	Size 3	Size 4	Size 1	Size 2	Size 3	Size 4
Condensation drain	Semi-automatic				Automatic			
Maximum working pressure	13 bar	20 bar (only with body and metal bowl)			10 bar	16 bar (only with body and metal bowl)		
Minimum working pressure	0,5 bar				0,5 bar			
Working temperature	-5°C +50°C		-30°C +80°C (only for P version and metal bowl) -40°C +80°C (only for L version and metal bowl)		-5°C +50°C			

Weights					
	Size	Size 1	Size 2	Size 3	Size 4
Fully technopolymer version		130 g	224 g	366 g	/
Technopolymer body version, aluminium bowl protection and technopolymer bowl		/	251 g	402 g	/
Technopolymer body version, aluminium bowl		/	293 g	475 g	/
Aluminium body version, technopolymer protection and bowl		/	309 g	493 g	1197 g
Aluminium body version, aluminium bowl protection and technopolymer bowl		/	337 g	529 g	1340 g
Aluminium body version and aluminium bowl		/	378 g	603 g	1365 g

Materials

Exploded sectioned

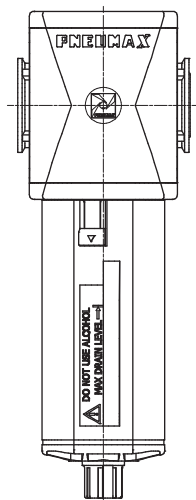


Coalescing filter		
1	Body	Polyamide Die-cast aluminium
2	Technopolymer bowl	Polycarbonate Polyamide
3	Metal bowl Bowl protection	Die-cast aluminium Polyamide - Die-cast aluminium
4	Filtering element	Borosilicate glass fiber
5	Filtering element support	Aluminium

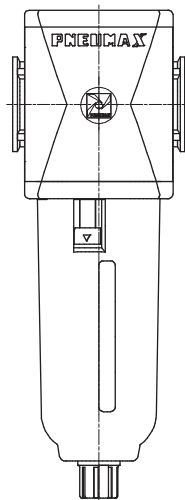
2
AIR TREATMENT

Design

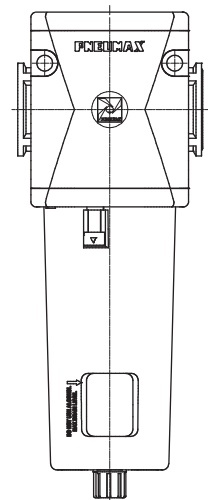
Size 1 - Size 2 - Size 3
Technopolymer protection



Size 1 - Size 2 - Size 3
Protection / Metal bowl



Size 4
All versions





Order codes

T 17 3B DA S T

Version
N : Technopolymer body and metal inserts (not available for size 4)
T : Technopolymer body and thread (not available for size 4)
P : Aluminum body (not available for size 1)
L : Aluminum body, low temperature (not available for size 1)

Size and connections
1A : Size 1 - G1/8" only for N version
1B : Size 1 - G1/4" only for T - N versions
1C : Size 1 - 1/4" NPT only for N version
2A : Size 2 - G1/4" only for N version
2B : Size 2 - G3/8" for all versions
2C : Size 2 - 3/8" NPT only for N version
3A : Size 3 - G3/8" only for N version
3B : Size 3 - G1/2" for all versions
3C : Size 3 - 1/2" NPT only for N version
4B : Size 4 - G1" only for P - L versions

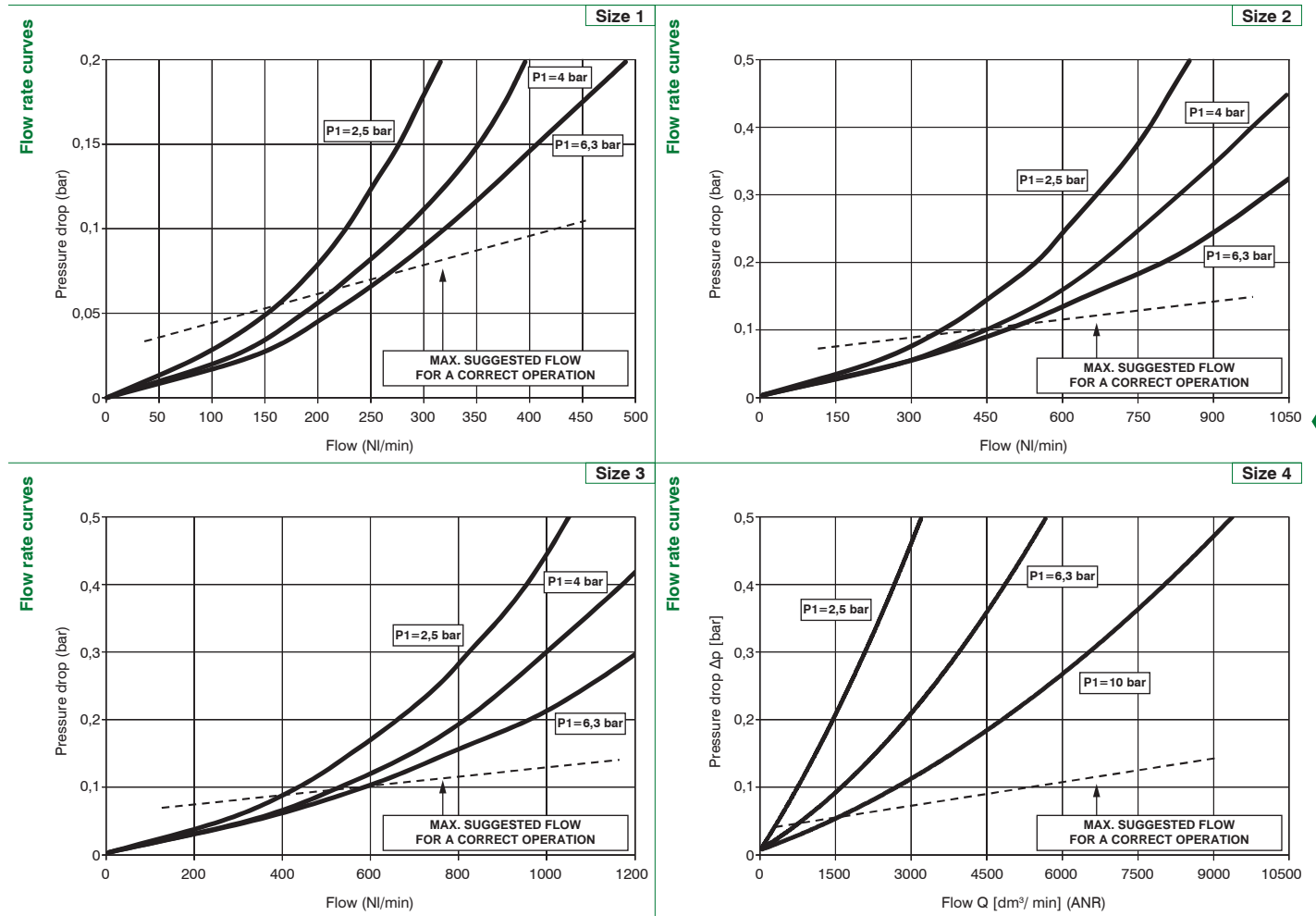
Condensation drain
: Semi-automatic drain
S : Automatic drain

Bowl options
: Technopolymer protection - PC bowl
N : Technopolymer protection - PA bowl
P : Metal protection - PC bowl (not available for size 1)
R : Metal protection - PA bowl (not available for size 1)
T : Metal bowl (not available for size 1)

Example : T173BDAST : Size 3 coalescing filter G1/2" 0,01 µm, automatic drain and metal bowl

2
AIR TREATMENT

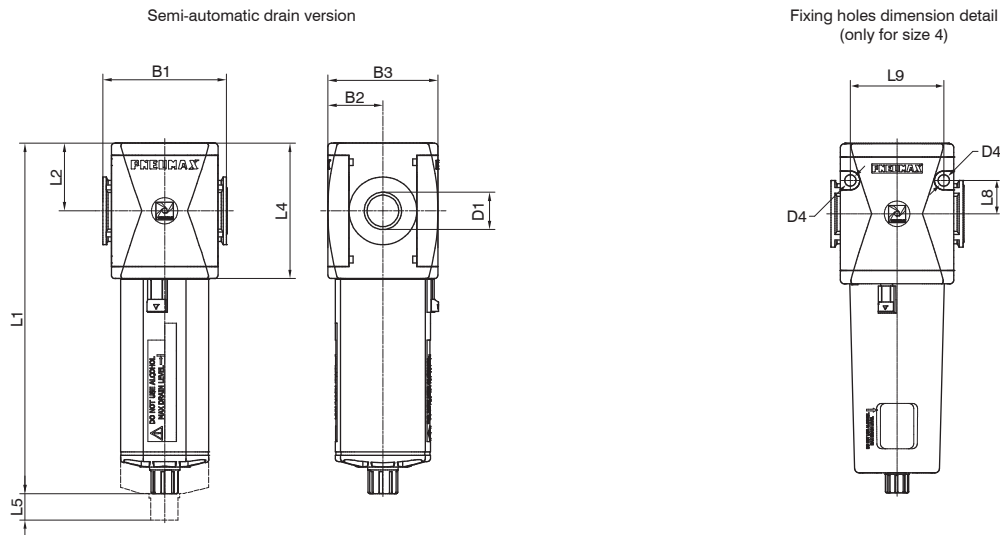
Characteristic curves



2

AIR TREATMENT

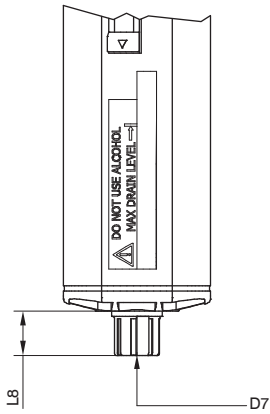
Dimensions



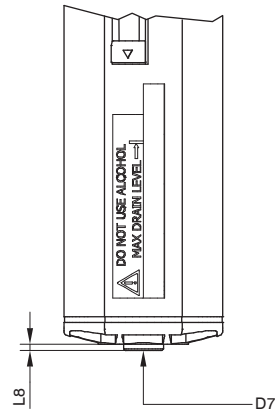
Model	B1	B2	B3	D1	D4	L1 - Bowl material		L2	L4	L5	L8	L9
						Technopolymer	Metal					
#171..	48	21	42	G1/8" G1/4" 1/4" NPT	/	148	/	27,5	55	40	/	/
#172..	62	28,5	57	G1/4" G3/8" 1/4" NPT 3/8" NPT	/	169,1	171,5	34	68	50	/	/
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	/	207,2	209,5	40	80	65	/	/
#174..	99	44	88	G1" 1" NPT	8,5	262	264,5	52,5	105	103	25	70

Variable dimensions

Semi-automatic drain version



Automatic drain version



2

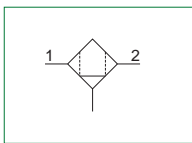
AIR TREATMENT

Model	L8 - Bowl material		D7
	Technopolymer	Metal	
Semi-automatic drain	15,7	18	Plastic hose connector
Automatic drain	2	4,5	G1/8"

Oil removal filters (DBV - DCV - DAV)



- ▶ Oil removal filter with coalescing filter element
- ▶ Available in 2 sizes with connections from 3/8" to 1"
- ▶ Particle removal up to 0,01 μm
- ▶ Oil residual 0,01 ppm
- ▶ Cartridge clogging level display:
 - green color - ok
 - red color - warning ($\Delta p > 0,5$ bar)
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button
- ▶ Automatic drain mounted as standard
- ▶ Atex certification (II 2GD or II 3GD)



Note

In order to ensure the high level of filtration, it is recommended that a 5μ filter is installed before the coalescing filter. In order to ensure that any fluid discharged by the auto drain assembly is adequately drained away, it is recommended you use a 6mm fitting and tube.

Technical characteristics			
Size		Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)	Aluminium body, integrated aluminium connections (P version)
Protection and bowl type		Technopolymer protection - PC bowl Technopolymer protection - PA bowl Metal protection - PC bowl Metal protection - PA bowl Metal bowl (blind metal bowl)	
IN / OUT connections	T version	G1/2"	not available
	N version	G3/8" - G1/2" - 1/2" NPT	
	P version	G1/2"	G1"
Assembly configuration		Stand alone	Panel mounted
Assembly positions		Vertical ±5°	
Filter pore size		Particle removal up to 0,01 μm Oil residual 0,01 ppm	
Bowl capacity		30 cm ³	90 cm ³
Condensation drain		Automatic	
Max. fittings torque IN / OUT connections		G3/8" metal: 25Nm G1/2" metal: 30Nm G1/2" technopolymer: 22Nm	G1" metal: 35Nm

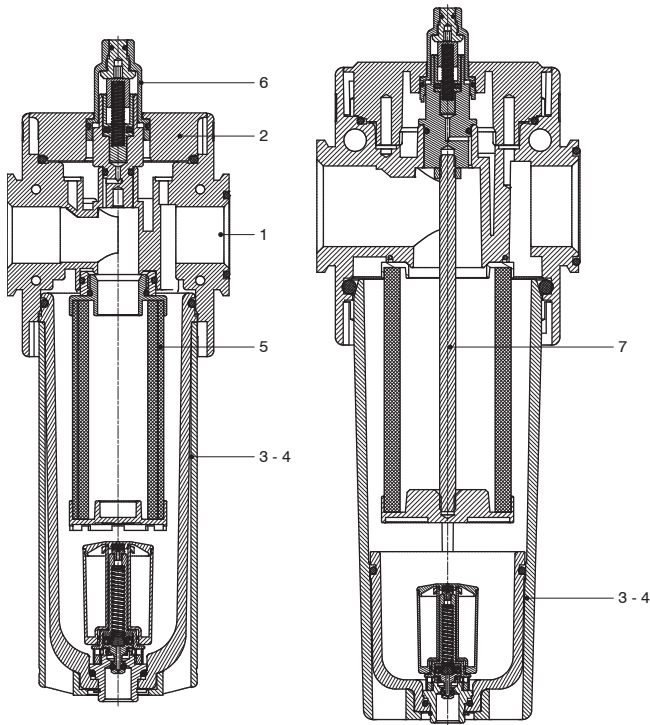
Operational characteristics		
Size	Size 3	Size 4
Condensation drain	Automatic	
Maximum working pressure	10 bar	
Minimum working pressure	0,5 bar	
Working temperature	-5°C +50°C	

2
AIR TREATMENT

Weights				
	Size	Size 3 Standard cartridge	Size 3 Oversize cartridge	Size 4
Fully technopolymer version		416 g	634 g	/
Technopolymer body version, aluminium bowl protection and technopolymer bowl		453 g	671 g	/
Technopolymer body version, aluminium bowl		526 g	742 g	/
Aluminium body version, technopolymer protection and bowl		538 g	661 g	1230 g
Aluminium body version, aluminium bowl protection and technopolymer bowl		575 g	698 g	1374 g
Aluminium body version and aluminium bowl		647 g	769 g	1398 g

Materials

Exploded sectioned

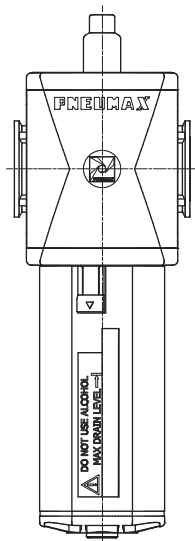


Oil removal filter		
1	Body	Polyamide Die-cast aluminium
2	Upper plug	Polyamide
3	Technopolymer bowl	Polycarbonate Polyamide
4	Metal bowl Bowl protection	Die-cast aluminium Polyamide - Die-cast aluminium
5	Filtering element	/
6	Visual indicator	Polycarbonate
7	Tie rod	Steel (only for size 4)
8	Automatic drain	/

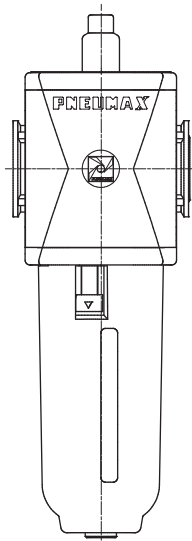
2
AIR TREATMENT

Design

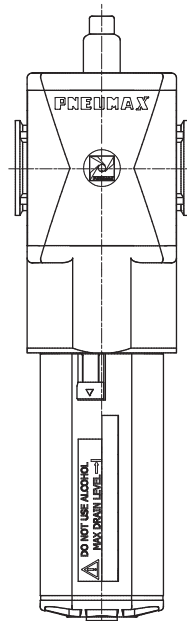
Size 3
Technopolymer protection



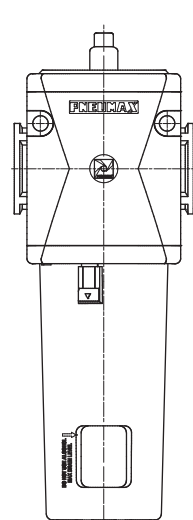
Size 3
Protection / Metal bowl



Size 3 - Oversize cartridge
Technopolymer protection



Size 4
All versions



Order codes

T 17 3BDBV T

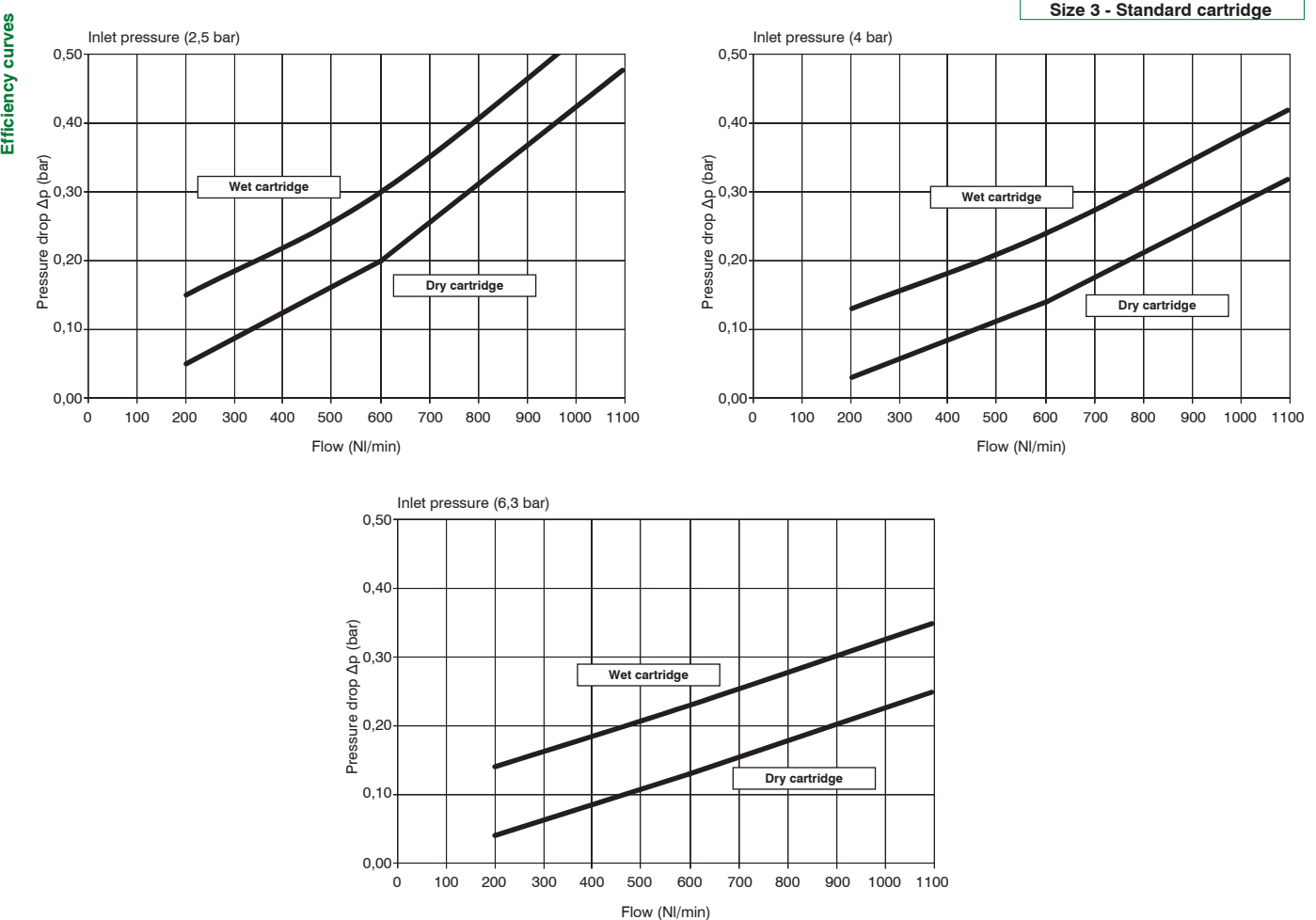
Version
N : Technopolymer body and metal inserts (not available for size 4)
T : Technopolymer body and thread (not available for size 4)
P : Aluminium body

Size and connections
3ADBV : Size 3 - G3/8" standard cartridge only for N version
3BDBV : Size 3 - G1/2" standard cartridge for all versions
3CDBV : Size 3 - 1/2" NPT standard cartridge only for N version
3BDCV : Size 3 - G1/2" oversize cartridge only for P version
4BDAV : Size 4 - G1" standard cartridge only for P version

Bowl options
: Technopolymer protection - PC bowl
N : Technopolymer protection - PA bowl
P : Metal protection - PC bowl
R : Metal protection - PA bowl
T : Metal bowl

Example : T173BDBVT : Size 3 oil removal filter G1/2", standard cartridge, metal bowl

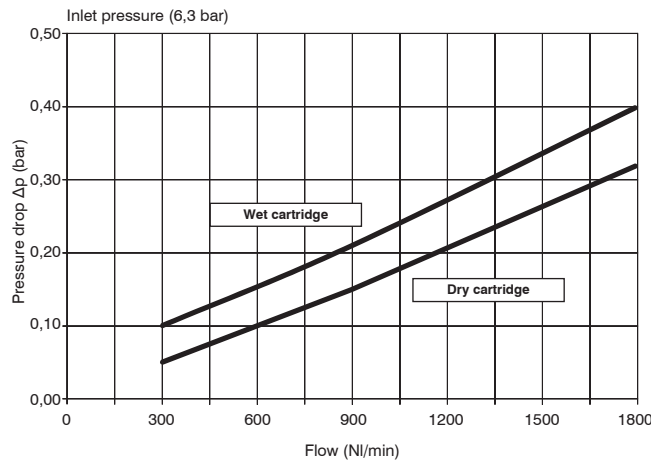
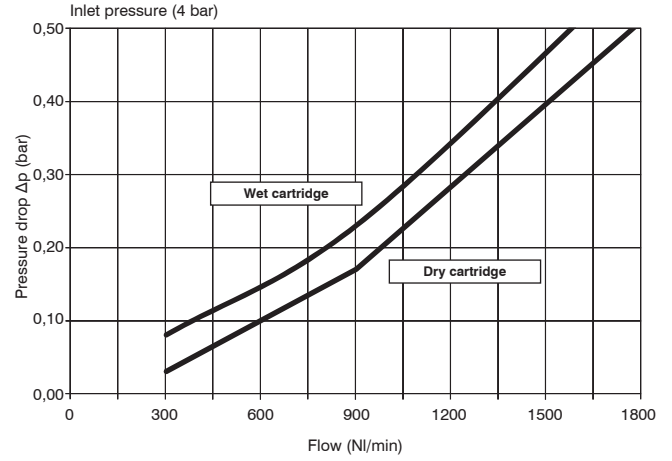
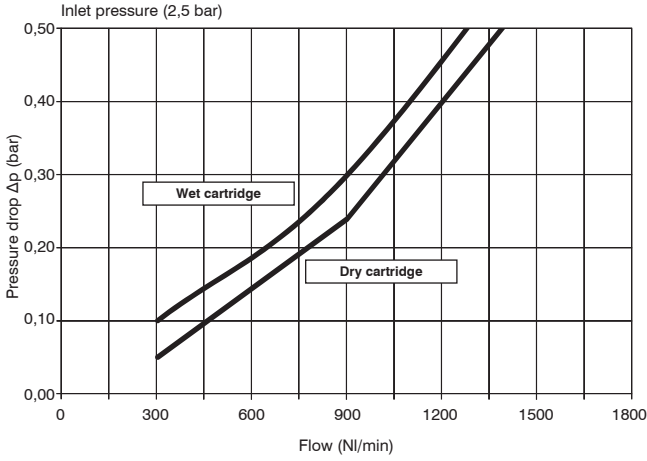
Characteristic curves





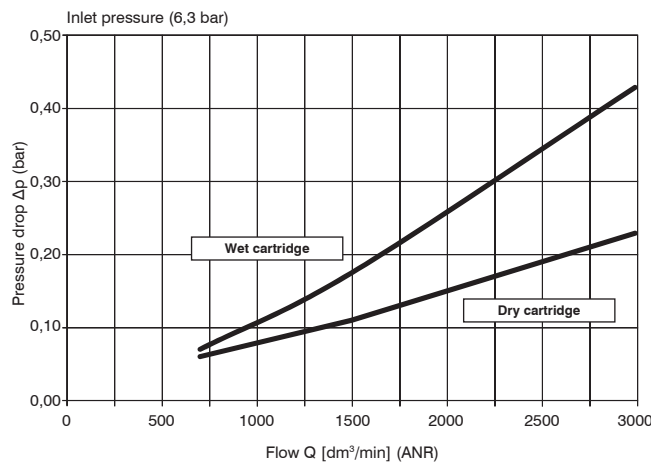
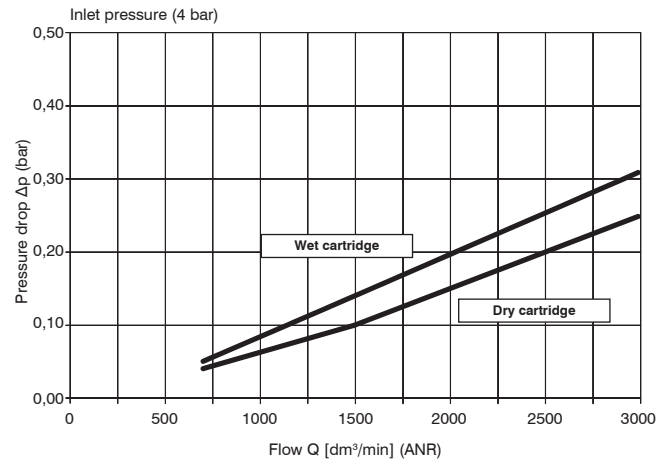
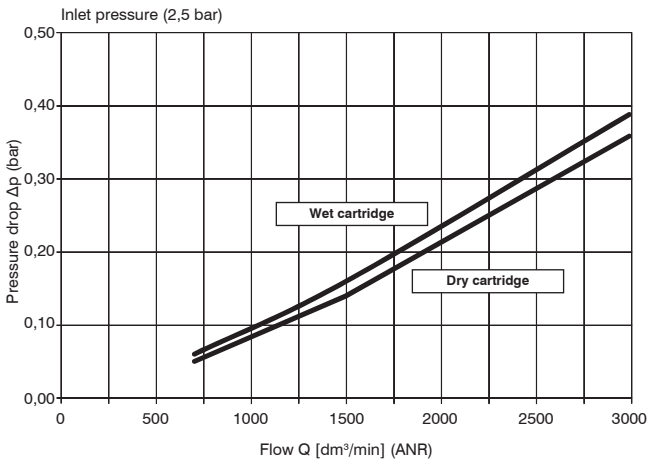
Size 3 - Oversize cartridge

Efficiency curves

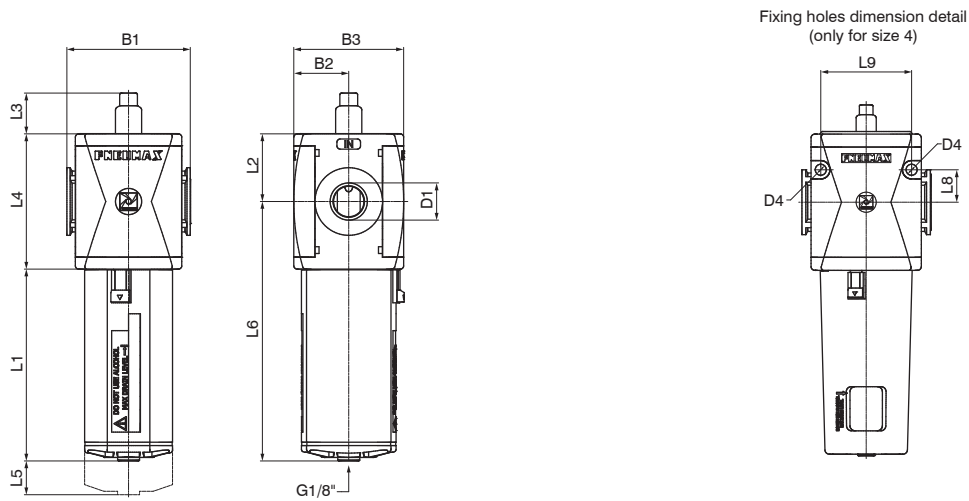


Size 4 - Standard cartridge

Efficiency curves



Dimensions



Model	B1	B2	B3	D1		L1 - Bowl material		L3	L4		L5	L8	L9
				Standard cartridge	Oversize cartridge	Technopolymer	Metal		Standard cartridge	Oversize cartridge			
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	G1/2"	113,5	116	24,1	80	118	65	/	/
#174..	99	44	88	G1"	/	143	145,5	22,5	105	/	103	25	70

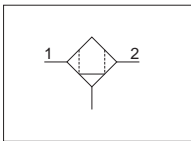
► Carbon filters (DD)



- ▶ Carbon filter
- ▶ Available in 2 sizes with connections from 3/8" to 1"
- ▶ Active carbon cartridge with built in particulate filter
- ▶ Used to remove oil vapours, hydrocarbons, odours and particles
- ▶ Oil residue up to <0,003 ppm (max input aerosol 0.01 ppm)
- ▶ High absorption capacity, with low differential pressure
- ▶ Filtering performances 99.97% (particles up to 0.01 μm)
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button
- ▶ Semi-automatic drain
- ▶ Atex certification (II 2GD or II 3GD)
- ▶ Inlet pressures up to 20 bar

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AIR TREATMENT



Note

A 5μ filter, coalescing filter and oil removing filter must be installed prior to the carbon filter, this is to ensure that the carbon filter operates correctly and safeguard the life of the active carbon element. It may also be necessary to replace the carbon element at fixed intervals.

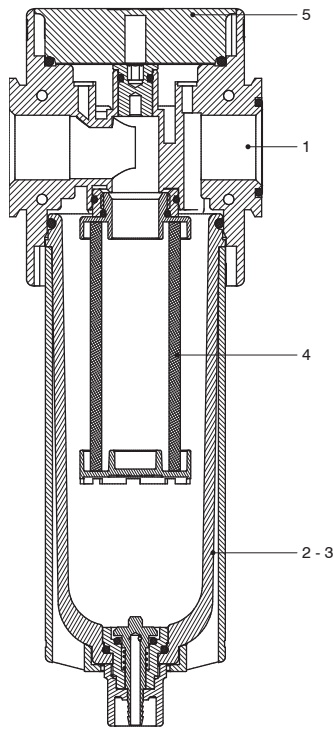
Technical characteristics			
	Size	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)	/ / Aluminium body, integrated aluminium connections (P - L versions)
Protection and bowl type		Technopolymer protection - PC bowl Technopolymer protection - PA bowl Metal protection - PC bowl Metal protection - PA bowl Metal bowl (blind metal bowl)	
IN / OUT connections	T version	G1/2"	not available
	N version	G3/8" - G1/2" - 1/2" NPT	
	P and L version	G1/2"	G1"
Assembly configuration		Stand alone	Panel mounted
Assembly positions		Vertical ±5°	
Oil residue		< 0,003 ppm (max input aerosol 0.01 ppm)	
Bowl capacity		68 cm ³	90 cm ³
Condensation drain		Semi-automatic	
Max. fittings torque IN / OUT connections		G3/8" metal: 25Nm G1/2" metal: 30Nm G1/2" technopolymer: 22Nm	G1"metal: 35Nm

Operational characteristics			
	Size	Size 3	Size 4
Condensation drain		Semi-automatic	
Maximum working pressure		13 bar 20 bar (only with body and metal bowl)	
Minimum working pressure		0,5 bar	
Working temperature		-5°C +50°C -30°C +80°C (only for P version and metal bowl) -40°C +80°C (only for L version and metal bowl)	
Cartridge life		2000 hours	

Weights			
	Size	Size 3	Size 4
Fully technopolymer version		395 g	/
Technopolymer body version, aluminium bowl protection and technopolymer bowl		432 g	/
Technopolymer body version, aluminium bowl		505 g	/
Aluminium body version, technopolymer protection and bowl		518 g	1201 g
Aluminium body version, aluminium bowl protection and technopolymer bowl		554 g	1344 g
Aluminium body version and aluminium bowl		628 g	1368 g

Materials

Exploded sectioned



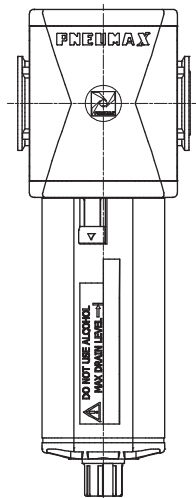
Carbon filter		
1	Body	Polyamide Die-cast aluminium
2	Technopolymer bowl	Polycarbonate Polyamide
3	Metal bowl Bowl protection	Die-cast aluminium Polyamide - Die-cast aluminium
4	Filtering element	Activated carbon
5	Plug	Polyamide Die-cast aluminium

2

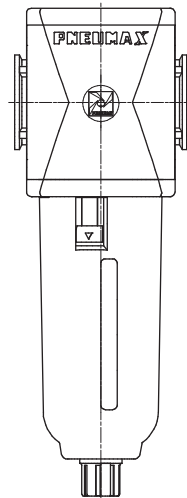
AIR TREATMENT

Design

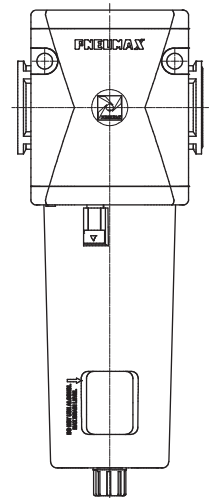
Size 3
Technopolymer protection



Size 3
Protection / Metal bowl



Size 4
All versions





Order codes

T 17 3B DD T

Version
N : Technopolymer body and metal inserts (not available for size 4)
T : Technopolymer body and thread (not available for size 4)
P : Aluminium body
L : Aluminium body, low temperature

Size and connections
3A : Size 3 - G3/8" only for N version
3B : Size 3 - G1/2" for all versions
3C : Size 3 - 1/2" NPT only for N version
4B : Size 4 - G1" only for P - L versions

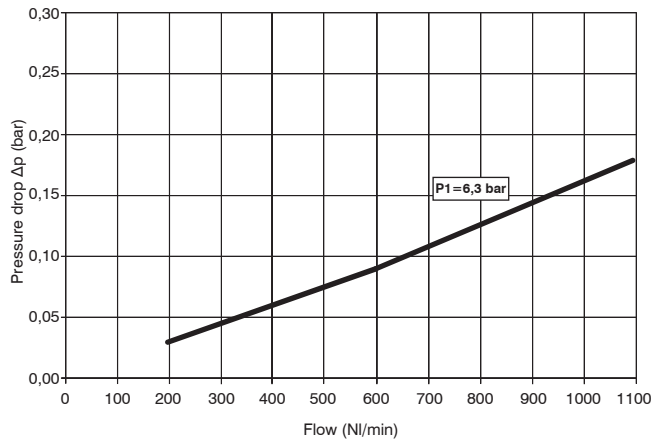
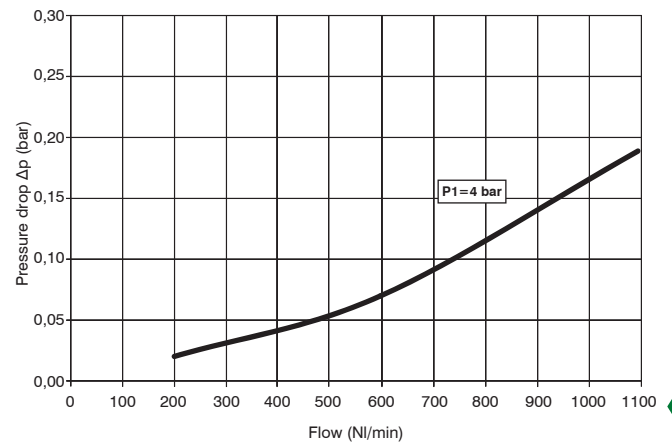
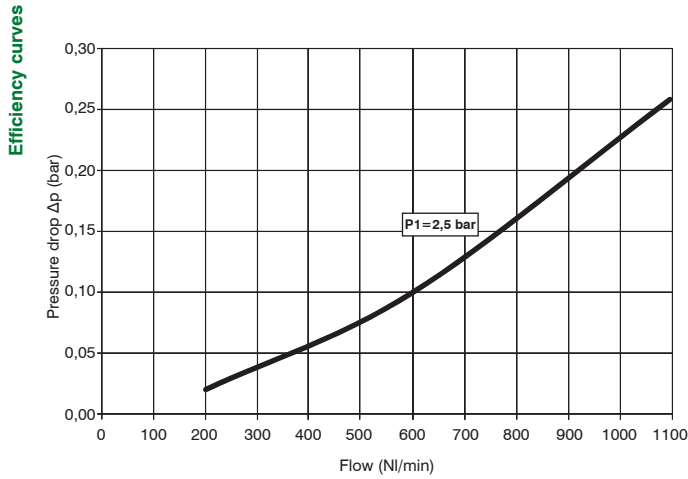
Bowl options
: Technopolymer protection - PC bowl
N : Technopolymer protection - PA bowl
P : Metal protection - PC bowl
R : Metal protection - PA bowl
T : Metal bowl

Example : T173BDDT : Size 3 carbon filter G1/2" metal bowl

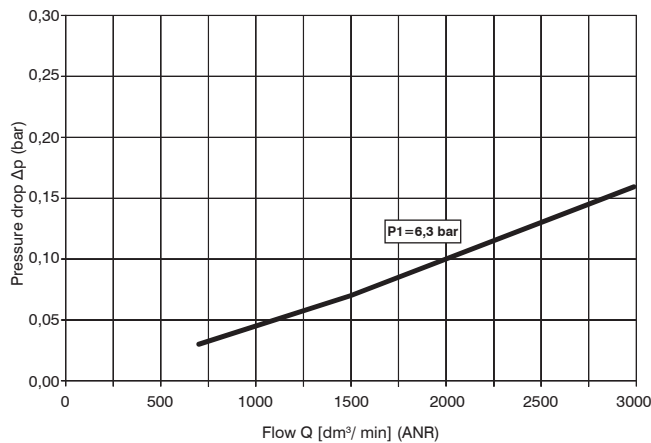
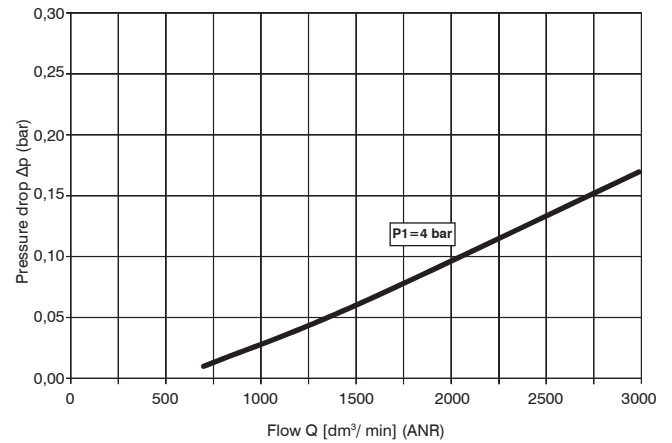
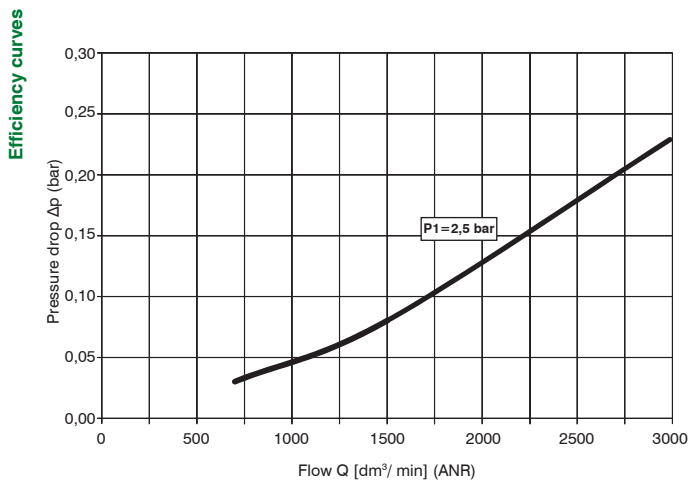
2
AIR TREATMENT

Characteristic curves

Size 3



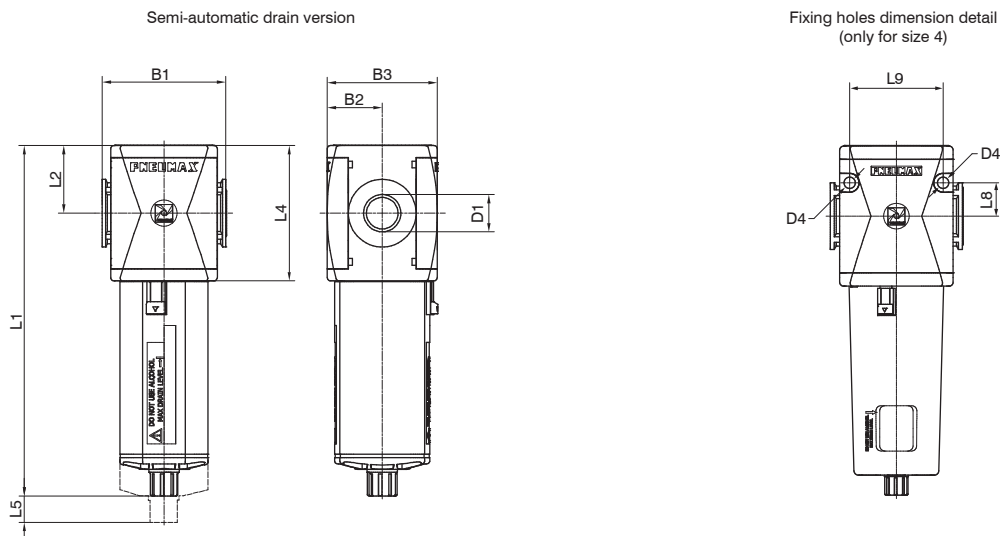
Size 4



2

AIR TREATMENT

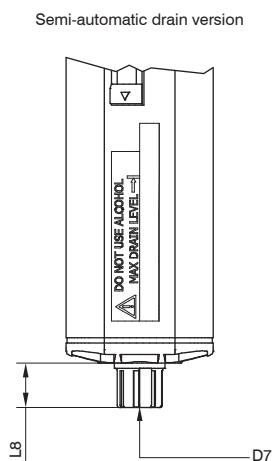
Dimensions



2 AIR TREATMENT

Model	B1	B2	B3	D1	D4	L1 - Bowl material		L2	L4	L5	L8	L9
						Technopolymer	Metal					
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	/	207,2	209,5	40	80	65	/	/
#174..	99	44	88	G1" 1" NPT	8,5	262	264,5	52,5	105	103	25	70

Variable dimensions



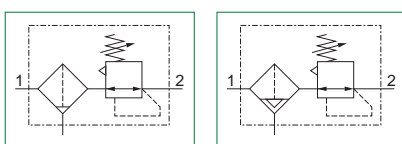
Model	L8 - Bowl material		D7
	Technopolymer	Metal	
Semi-automatic drain	15,7	18	Plastic hose connector



Filter regulators (E - EM - EW - EP - EZ)



- ▶ Filter - diaphragm pressure regulator with relieving
- ▶ Available in 4 sizes with flow rates up to 8000 NI/min and connections from 1/8" to 1"
- ▶ Low hysteresis rolling diaphragm and balanced spool
- ▶ Filtering element made of HDPE available in 3 different filtration grades (5µm, 20µm and 50µm)
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button
- ▶ Semi-automatic or automatic drain
- ▶ Available in four pressure ranges up to 12 bar
- ▶ Fitted with panel mounting locking ring
- ▶ Available with pressure gauge or digital pressure switch integrated
- ▶ Atex certification (II 2GD or II 3GD)
- ▶ Inlet pressures up to 20 bar



Note
For installations where a more accurate and constant pressure is required, the unit should be installed as close as possible to the point of use. In order to ensure that any fluid discharged by the auto drain assembly is adequately drained away, it is recommended you use a 6mm fitting and tube.

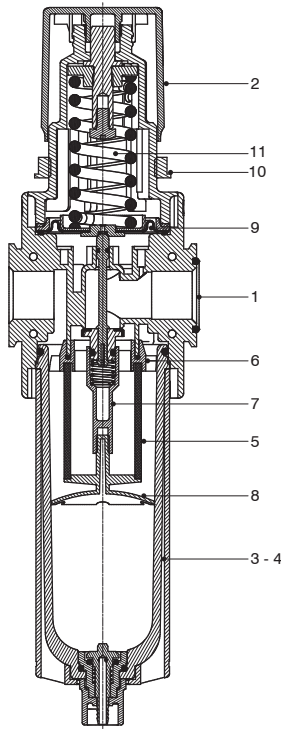
Technical characteristics		Size	Size 1	Size 2	Size 3	Size 4
Body and connections type			Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)	Aluminium body, integrated aluminium connections (P - L versions)		/
Protection and bowl type			Technopolymer protection - PC bowl Technopolymer protection - PA bowl	Metal protection - PC bowl Metal protection - PA bowl Metal bowl (blind metal bowl)		/
IN / OUT connections	T version		G1/4"	G3/8"	G1/2"	not available
	N version		G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P and L version		not available	G3/8" - 1/4" NPT	G1/2" - 1/2" NPT	G1" - 1" NPT
Assembly configuration			Stand alone Panel mounting With fixing bracket /			Panel mounted
Assembly positions			Vertical ±5°			
Filter pore size			5 µm 20 µm 50 µm			
Pressure range			0-2 bar 0-4 bar 0-8 bar 0-12 bar (P2 max 10 Bar in case of digital pressure switch selection)			
Bowl capacity			18 cm ³	34 cm ³	68 cm ³	90 cm ³
Condensation drain			Semi-automatic Automatic			
Regulation			Manual push and lock with pressure Manual lockable with accessories			
Pressure measurement			G1/8" - 1/8" NPT pressure gauge connection port (only for versions with IN / OUT NPT connections) Integrated pressure gauge (optional) Digital pressure switch (optional)			
Max. fittings torque IN / OUT connections			G1/8" metal: 15Nm G1/4" metal: 20Nm G1/4" technopolymer: 9Nm	G1/4" metal: 20Nm G3/8" metal: 25Nm G3/8" technopolymer: 16Nm	G3/8" metal: 25Nm G1/2" metal: 30Nm G1/2" technopolymer: 22Nm	G1" metal: 35Nm
Max. fitting torque pressure gauge connection port			G1/8" technopolymer: 4Nm G1/8" metal: 15Nm			

Operational characteristics								
Size	Size 1	Size 2	Size 3	Size 4	Size 1	Size 2	Size 3	Size 4
Condensation drain	Semi-automatic				Automatic			
Maximum working pressure	13 bar	20 bar (only with body and metal bowl)			10 bar	16 bar (only with body and metal bowl)		
Minimum working pressure	0,5 bar				0,5 bar			
Working temperature	-5°C +50°C		-30°C +80°C (only for P version and metal bowl) -40°C +80°C (only for L version and metal bowl)		-5°C +50°C			
Working temperature with digital pressure switch	0°C +50°C							

Weights					
	Size	Size 1	Size 2	Size 3	Size 4
Fully technopolymer version		210 g	410 g	500 g	/
Technopolymer body version, aluminium bowl protection and technopolymer bowl		/	440 g	600 g	/
Technopolymer body version, aluminium bowl		/	460 g	660 g	/
Aluminium body version, technopolymer protection and bowl		/	480 g	710 g	1460 g
Aluminium body version, aluminium bowl protection and technopolymer bowl		/	510 g	730 g	1600 g
Aluminium body version and aluminium bowl		/	560 g	790 g	1620 g

Materials

Exploded sectioned

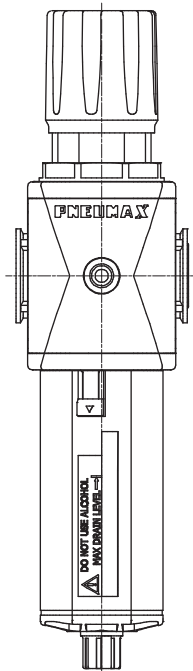


Filter regulator		
1	Body	Polyamide Die-cast aluminium
2	Adjusting knob	Polyamide
3	Technopolymer bowl	Polycarbonate Polyamide
4	Metal bowl Bowl protection	Die-cast aluminium Polyamide - Die-cast aluminium
5	Filtering element	Polyethylene
6	Baffle	Acetal resin
7	Spool support	Acetal resin
8	Filtering element support	Acetal resin
9	Diaphragm	NBR
10	Panel mounting locking ring	Polyamide
11	Adjusting spring	Steel

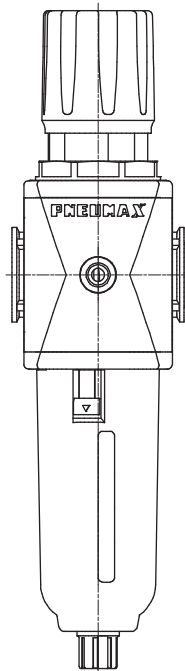
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AIR TREATMENT

Design

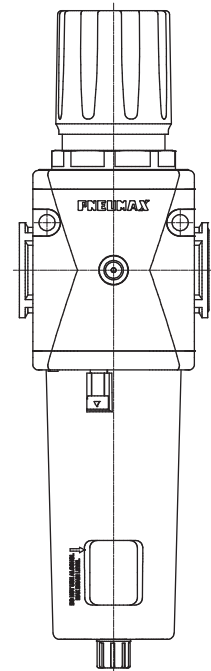
Size 1 - Size 2 - Size 3
Technopolymer protection



Size 1 - Size 2 - Size 3
Protection / Metal bowl



Size 4
All versions





Order codes

T 17 3B E M B D S [] [] [] T

Version
N : Technopolymer body and metal inserts (not available for size 4)
T : Technopolymer body and thread (not available for size 4)
P : Aluminum body (not available for size 1)
L : Aluminum body, low temperature (not available for size 1)

Size and connections
1A : Size 1 - G1/8" only for N version
1B : Size 1 - G1/4" only for T - N versions
1C : Size 1 - 1/4" NPT only for N version
2A : Size 2 - G1/4" only for N version
2B : Size 2 - G3/8" for all versions
2C : Size 2 - 3/8" NPT only for N version - 1/4" NPT only for P - L versions
3A : Size 3 - G3/8" only for N version
3B : Size 3 - G1/2" for all versions
3C : Size 3 - 1/2" NPT only for N - P - L versions
4B : Size 4 - G1" only for P - L versions
4C : Size 4 - 1" NPT only for P - L versions

Pressure measurement options
: G1/8" - 1/8" NPT thread
M : Integrated pressure gauge
W : Integrated pressure gauge Right - Left
P : Digital pressure switch
Z : Digital pressure switch Right - Left

Filter pore size
A : 5 µm
B : 20 µm
C : 50 µm

Pressure range
A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Condensation drain
: Semi-automatic drain
S : Automatic drain

Relieving options
: With relieving
L : Without relieving

Knob options
: Non-lockable version
K : Lockable version
U : Lockable version with universal key

Digital pressure switch options
A : Cable 150 mm + M8 PNP
B : Cable 150 mm + M8 NPN
C : Cable 2 m PNP
D : Cable 2 m NPN

Bowl options
: Technopolymer protection - PC bowl
N : Technopolymer protection - PA bowl
P : Metal protection - PC bowl (not available for size 1)
R : Metal protection - PA bowl (not available for size 1)
T : Metal bowl (not available for size 1)

Example : T173BEMBDST : Size 3 filter regulator G1/2" 20 µm 0 - 12 bar, automatic drain and metal bowl

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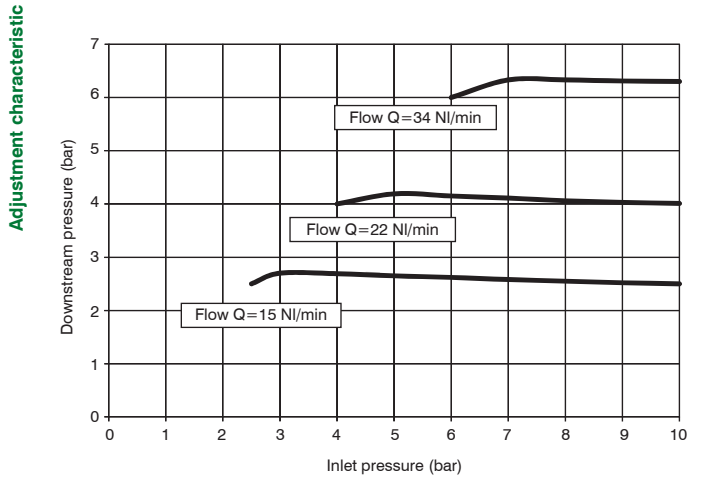
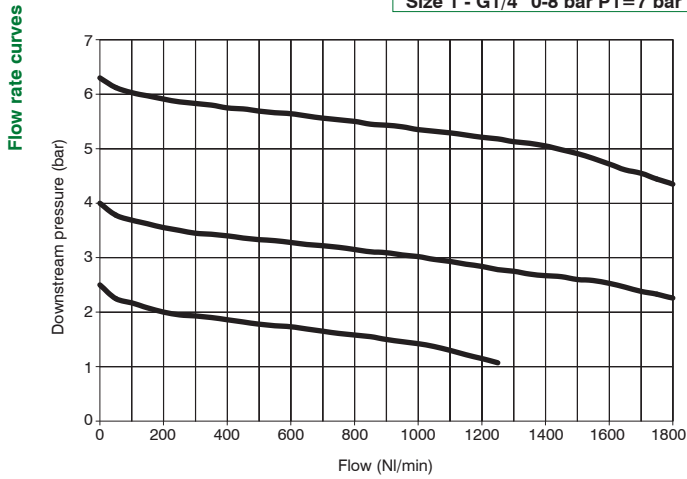


Characteristic curves

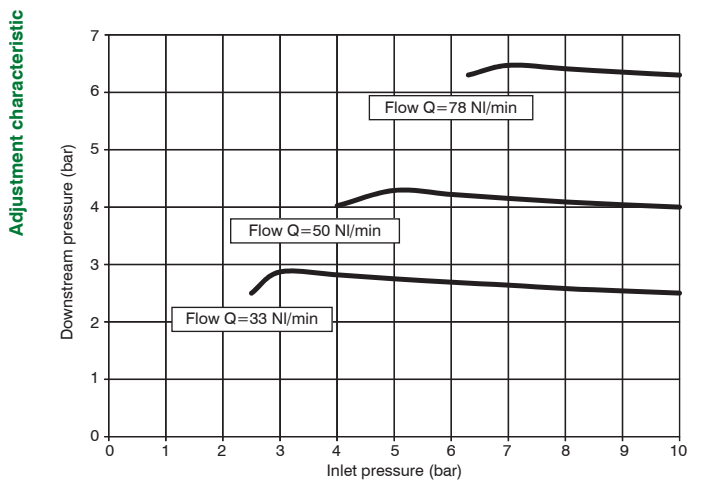
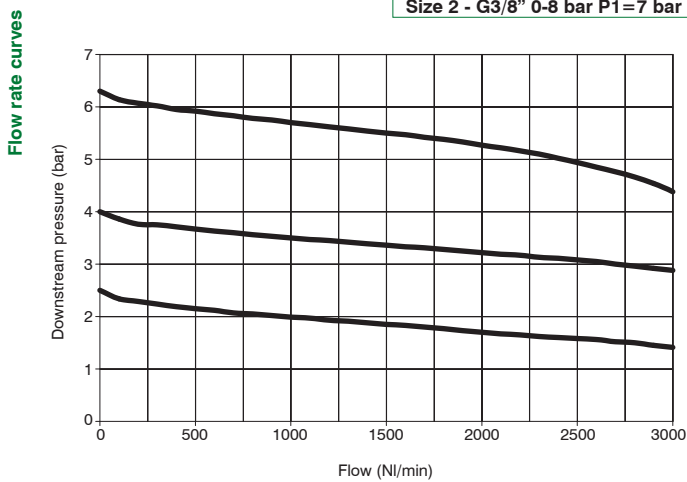
AIR TREATMENT

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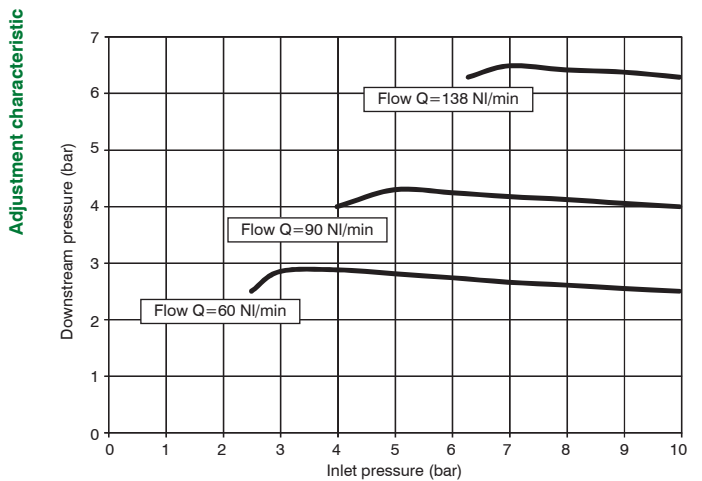
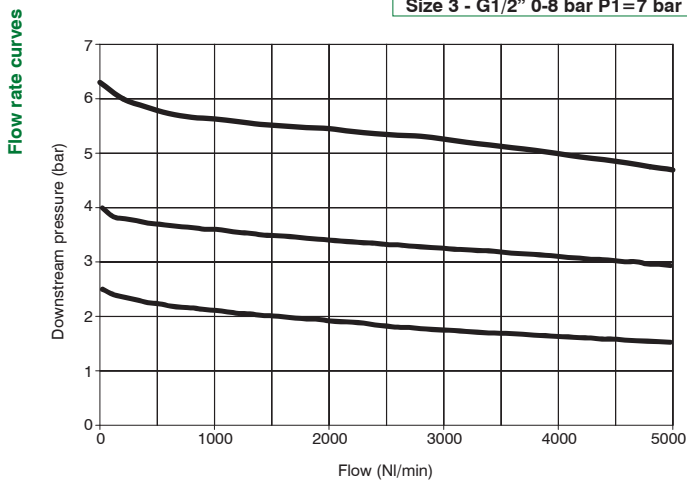
Size 1 - G1/4" 0-8 bar P1=7 bar



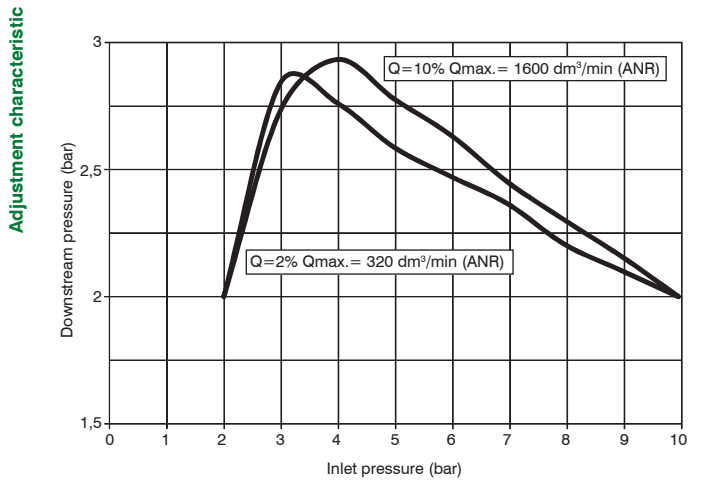
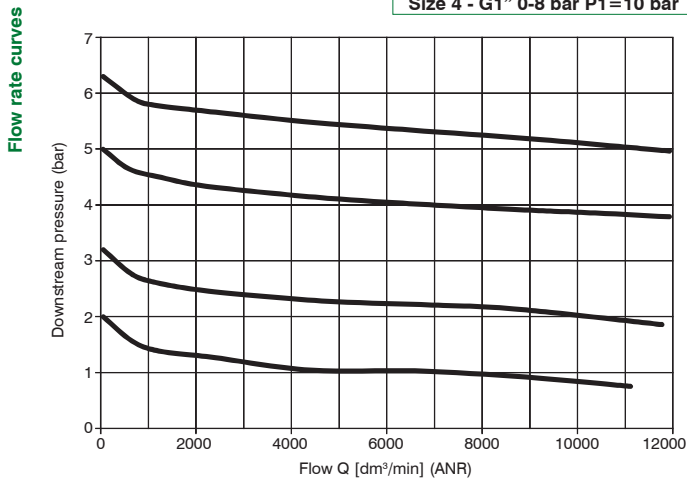
Size 2 - G3/8" 0-8 bar P1=7 bar



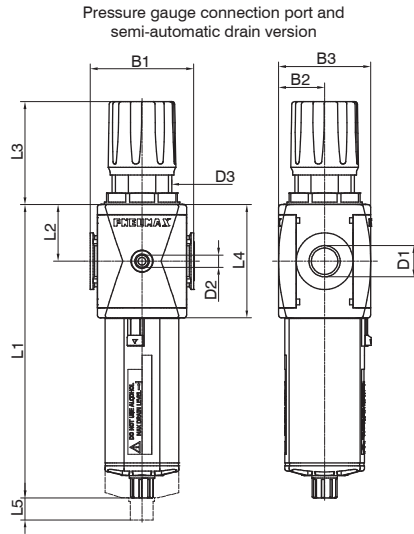
Size 3 - G1/2" 0-8 bar P1=7 bar



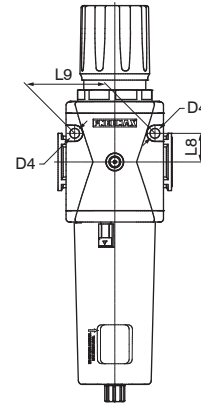
Size 4 - G1" 0-8 bar P1=10 bar



Dimensions



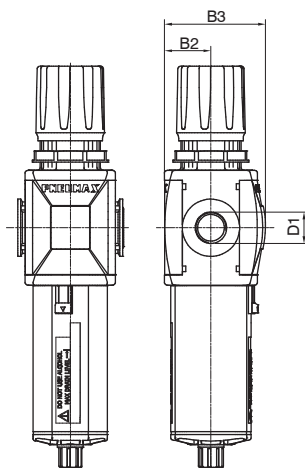
Fixing holes dimension detail (only for size 4)



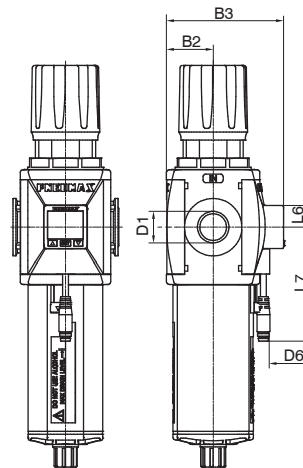
Model	B1	B2	B3	D1	D2	D3	D4	L1 - Bowl material		L2	L3	L4	L5	L8	L9
								Technopolymer	Metal						
#171..	48	21	42	G1/8" G1/4" 1/4" NPT	G1/8" 1/8" NPT	M30x1,5	/	148	/	27,5	54	55	40	/	/
#172..	62	28,5	57	G1/4" G3/8" 1/4" NPT 3/8" NPT	G1/8" 1/8" NPT	M42x1,5	/	169,1	171,5	34	71,8	68	50	/	/
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	G1/8" 1/8" NPT	M42x1,5	/	207,2	209,5	40	72,8	80	65	/	/
#174..	99	44	88	G1" 1" NPT	G1/8" 1/8" NPT	M54x1,5	8,5	262	264,5	52,5	87,5	105	103	25	70

Variable dimensions

Integrated pressure gauge version



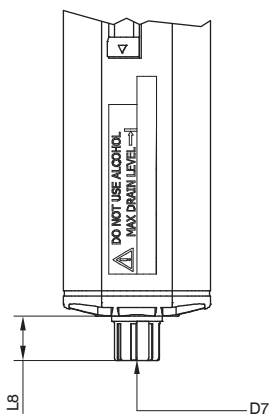
Integrated digital pressure switch version



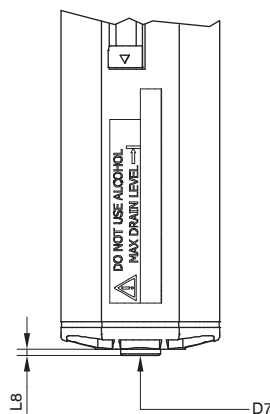
Model	B2	B3		D1	D6 - Type of digital pressure switch		L6	L7 - Type of digital pressure switch	
		With pressure gauge	With digital pressure switch		A - B	C - D		A - B	C - D
#171..	21	48,5	60	G1/8" G1/4" 1/4" NPT	M8 - 3 PIN	3 x 0,129 mm, Ø4 mm	15	150	2000
#172..	28,5	62,5	73,5	G1/4" G3/8" 1/4" NPT 3/8" NPT					
#173..	32,5	70,5	81,5	G3/8" G1/2" 1/2" NPT					
#174..	44	90,5	101,5	G1" 1" NPT					

Variable dimensions

Semi-automatic drain version



Automatic drain version



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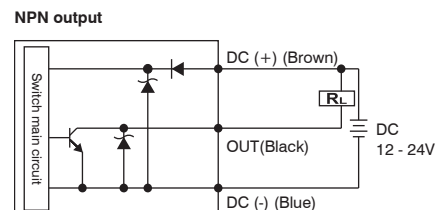
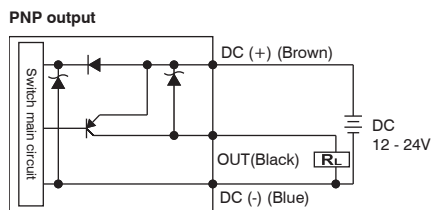
Model	L8 - Bowl material		D7
	Technopolymer	Metal	
Semi-automatic drain	15,7	18	Plastic hose connector
Automatic drain	2	4,5	G1/8"

Digital pressure switch

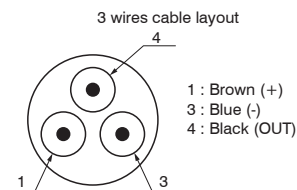
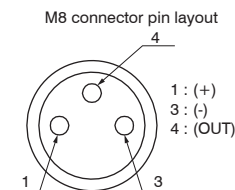


- ▶ 3 color digital LCD display, easy readout
- ▶ 4 units of measurement for pressure indication
- ▶ Optional PNP or NPN digital output
- ▶ N.O. and N.C. output contact selection directly on the digital pressure switch
- ▶ Available with M8-3PIN connector or 3 wire cable length 2 m
- ▶ Available only in combination with a filter regulator

Output circuit wiring diagrams



Digital pressure switch lay out



Cable ordering code

- MCH1** : cable 3 wires l=2,5m with M8 connector
- MCH2** : cable 3 wires l=5m with M8 connector
- MCH3** : cable 3 wires l=10m with M8 connector

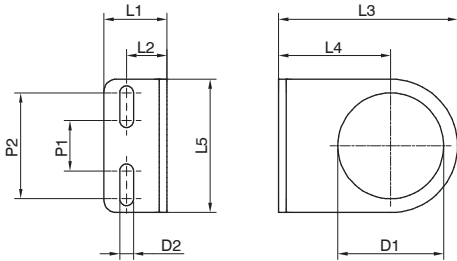


Technical characteristics	
Pressure range and display	0 - 10 bar
Max. inlet pressure	15 bar
Fluid	40µm filtered and dehumidified air
Display unit of measurement	MPa - kgf/cm ² - bar - psi
Supply voltage	12 - 24 VDC
Current consumption	≤40mA (without load)
Digital output type	PNP - NPN
Type of contact output	Normally Open - Normally Closed
Max. load current	125 mA
Digital output activation mode	single threshold with fixed hysteresis - window with fixed hysteresis - window without hysteresis
Digital output activation time	0.05s - 0.25s - 0.5s - 1s - 2s - 3s (selections for chattering-proof options)
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad
Indicator accuracy	≤±2% full scale value ± 1 digit
IP Rating	IP40
Working temperature	0°C +50°C
Cable section	3 x 0,129mm ² , Ø4 mm, PVC

► **Fixing bracket**

T172 50

Size
171 : Size 1
T172 : Size 2 - Size 3



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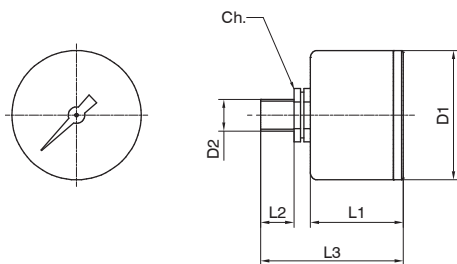
Model	L1	L2	L3	L4	L5	D1	D2	P1	P2
17150	20	13	50	30	40	30	5,5	20	30
T17250	25	16	71	44,5	53	42	5,5	20	42

► **Pressure gauge**

17070 A C

Version
A : Dial Ø40
B : Dial Ø50

Scale
A : 0 - 4 bar
B : 0 - 6 bar
C : 0 - 12 bar

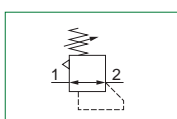


Model	L1	L2	L3	D1	D2	Ch
17070A..	26	10	44	41	Gc - 1/8"	14
17070B..	27	10	45	49	Gc - 1/8"	14

► Regulators (R - RM - RW - RP - RZ)



- ▶ Diaphragm pressure regulator with relieving
- ▶ Available in 4 sizes with flow rates up to 8000 NI/min and connections from 1/8" to 1"
- ▶ Low hysteresis rolling diaphragm and balanced spool
- ▶ Available in four pressure ranges up to 12 bar
- ▶ Fitted with panel mounting locking ring
- ▶ Available with pressure gauge or digital pressure switch integrated
- ▶ Atex certification (II 2GD or II 3GD)
- ▶ Inlet pressures up to 20 bar



Note
For installations where a more accurate and constant pressure is required, the unit should be installed as close as possible to the point of use.

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Technical characteristics		Size	Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)				/
		/		Aluminium body, integrated aluminium connections (P - L versions)		
IN / OUT connections	T version	G1/4"		G3/8"		G1/2"
	N version	G1/8" - G1/4" - 1/4" NPT		G3/8" - G1/4" - 3/8" NPT		G3/8" - G1/2" - 1/2" NPT
	P and L version	not available		G3/8" - 1/4" NPT		G1/2" - 1/2" NPT
Assembly configuration		Stand alone Panel mounting With fixing bracket /				Panel mounted
Assembly positions		Indifferent				
Pressure range		0-2 bar 0-4 bar 0-8 bar 0-12 bar (P2 max 10 Bar in case of digital pressure switch selection)				
Regulation		Manul push and lock with pressure Manual lockable with accessories				
Pressure measurement		G1/8" - 1/8" NPT pressure gauge connection port (only for versions with IN / OUT NPT connections) Integrated pressure gauge (optional) Digital pressure switch (optional)				
Max. fittings torque IN / OUT connections		G1/8" metal: 15Nm G1/4" metal: 20Nm G1/4" technopolymer: 9Nm		G1/4" metal: 20Nm G3/8" metal: 25Nm G3/8" technopolymer: 16Nm		G3/8" metal: 25Nm G1/2" metal: 30Nm G1/2" technopolymer: 22Nm G1" metal: 35Nm
Max. fitting torque pressure gauge connection port		G1/8" technopolymer: 4Nm G1/8" metal: 15Nm				

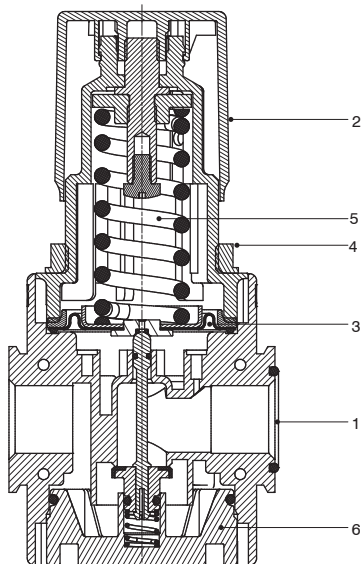
Operational characteristics		Size	Size 1	Size 2	Size 3	Size 4
Maximum working pressure		13 bar		20 bar (only for P - L versions)		
Minimum working pressure		0,5 bar				
Working temperature		-5°C +50°C		-30°C +80°C (only for P version) -40°C +80°C (only for L version)		
Working temperature with digital pressure switch		0°C +50°C				



Weights					
	Size	Size 1	Size 2	Size 3	Size 4
Technopolymer body version		150 g	310 g	390 g	/
Aluminium body version		/	400 g	560 g	1260 g

Materials

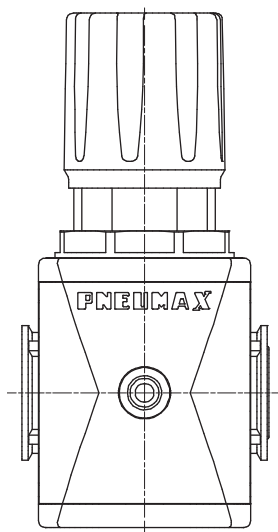
Exploded sectioned



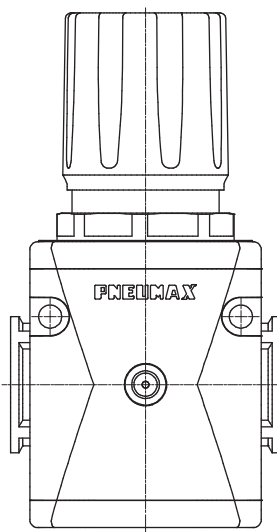
Regulator		
1	Body	Polyamide Die-cast aluminium
2	Adjusting knob	Polyamide
3	Diaphragm	NBR
4	Panel mounting locking ring	Polyamide
5	Adjusting spring	Steel
6	Rear end cap	Polyamide / Die-cast aluminium

Design

Size 1 - Size 2 - Size 3



Size 4
All versions





Order codes

T 17 3B R M D [] [] []

Version	
N	: Technopolymer body and metal inserts (not available for size 4)
T	: Technopolymer body and thread (not available for size 4)
P	: Aluminum body (not available for size 1)
L	: Aluminum body, low temperature (not available for size 1)
Size and connections	
1A	: Size 1 - G1/8" only for N version
1B	: Size 1 - G1/4" only for T - N versions
1C	: Size 1 - 1/4" NPT only for N version
2A	: Size 2 - G1/4" only for N version
2B	: Size 2 - G3/8" for all versions
2C	: Size 2 - 3/8" NPT only for N version - 1/4" NPT only for P - L versions
3A	: Size 3 - G3/8" only for N version
3B	: Size 3 - G1/2" for all versions
3C	: Size 3 - 1/2" NPT only for N - P - L versions
4B	: Size 4 - G1" only for P - L versions
4C	: Size 4 - 1" NPT only for P - L versions
Pressure measurement options	
	: G1/8" - 1/8" NPT thread
M	: Integrated pressure gauge
W	: Integrated pressure gauge Right - Left
P	: Digital pressure switch
Z	: Digital pressure switch Right - Left
Pressure range	
A	: 0 - 2 bar
B	: 0 - 4 bar
C	: 0 - 8 bar
D	: 0 - 12 bar
Relieving options	
	: With relieving
F	: Controlled refiel and improved relieving (not available for size 4)
L	: Without relieving
R	: Improved relieving
Knob options	
	: Non-lockable version
K	: Lockable version
U	: Lockable version with universal key
Digital pressure switch options	
A	: Cable 150 mm + M8 PNP
B	: Cable 150 mm + M8 NPN
C	: Cable 2 m PNP
D	: Cable 2 m NPN

Example : T173BRMD : Size 3 regulator G1/2" 0 - 12 bar

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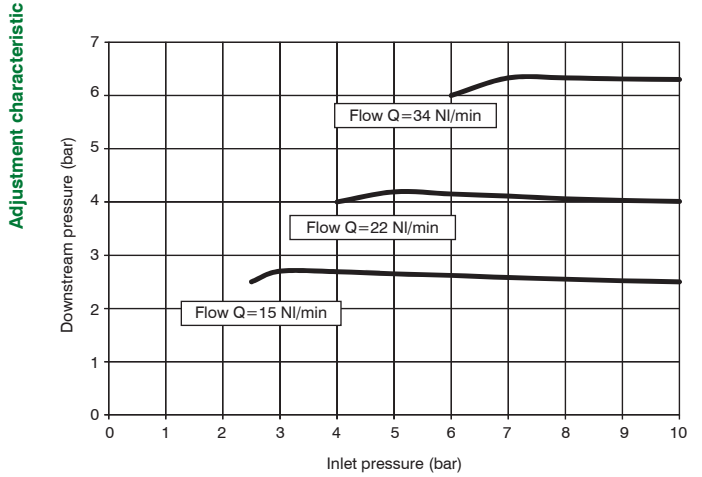
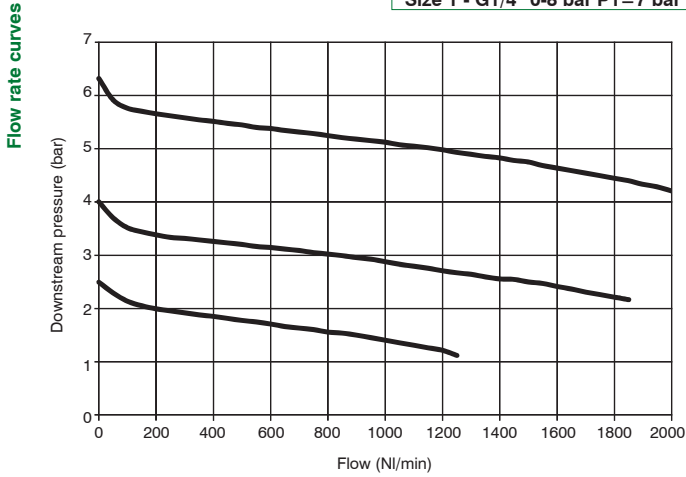


Characteristic curves

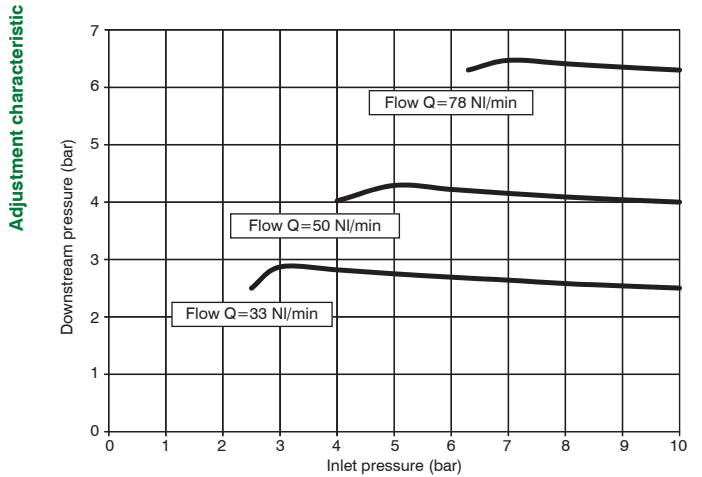
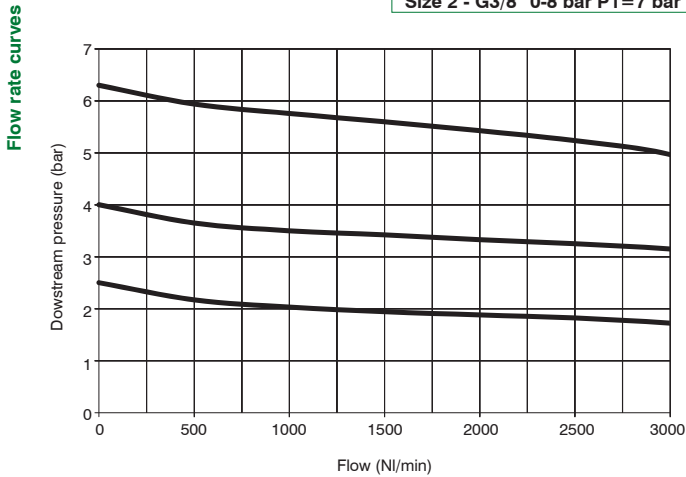
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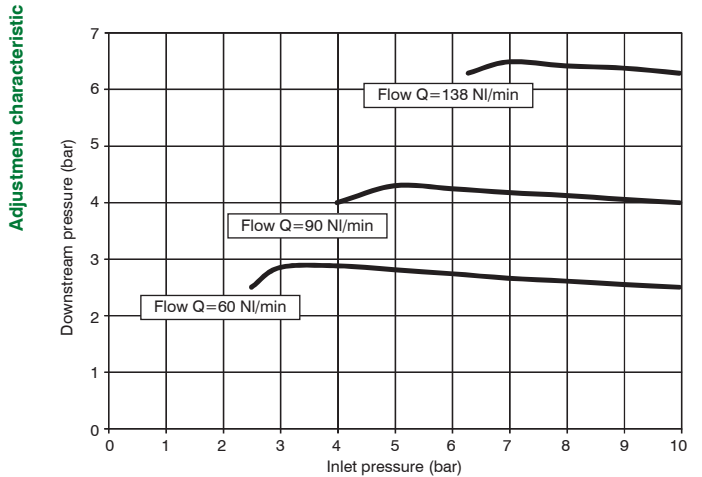
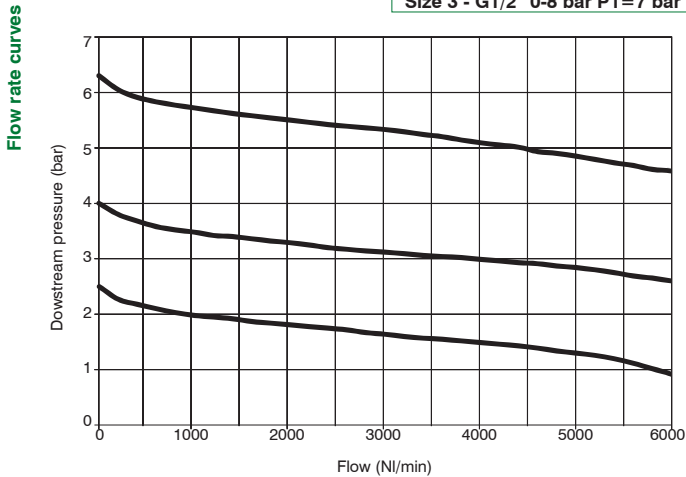
Size 1 - G1/4" 0-8 bar P1=7 bar



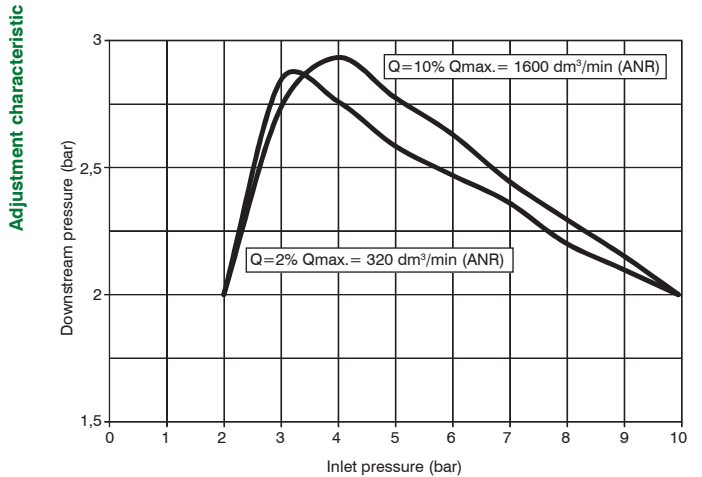
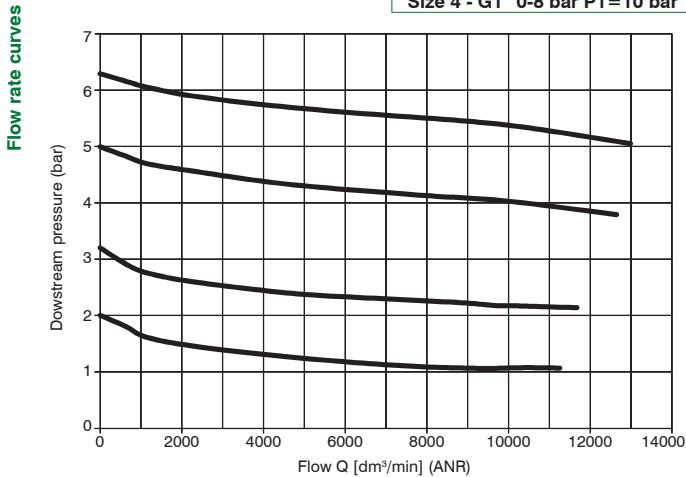
Size 2 - G3/8" 0-8 bar P1=7 bar



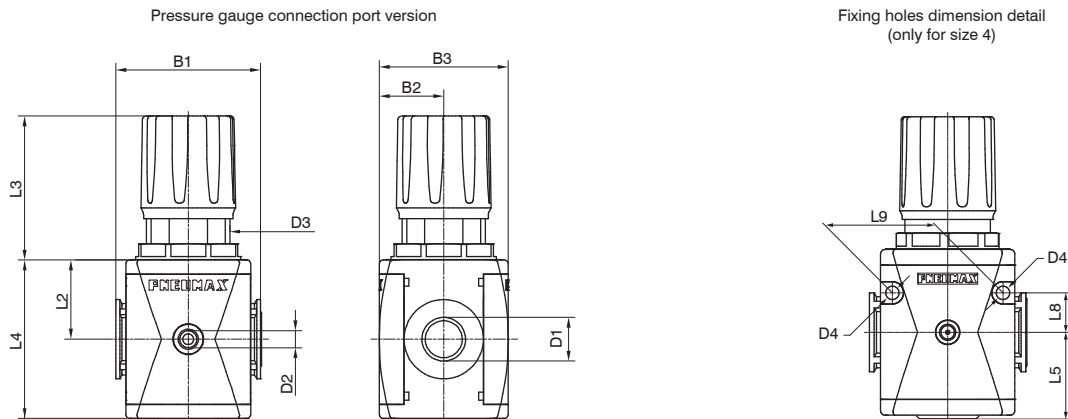
Size 3 - G1/2" 0-8 bar P1=7 bar



Size 4 - G1" 0-8 bar P1=10 bar



Dimensions

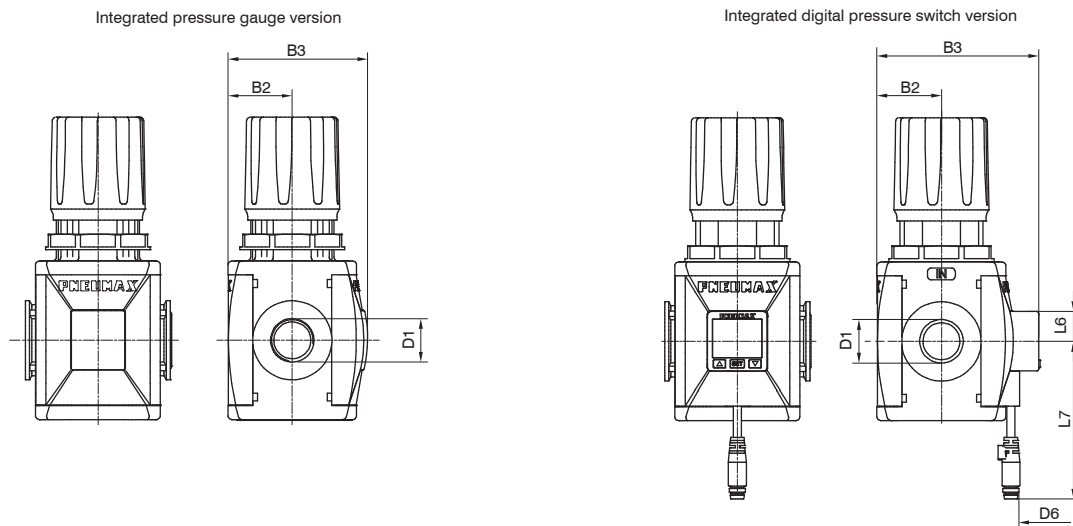


Model	B1	B2	B3	D1	D2	D3	D4	L2	L3	L4	L5	L8	L9
#171..	48	21	42	G1/8" G1/4" 1/4" NPT	G1/8" 1/8" NPT	M30x1,5	/	27,5	54	55	/	/	/
#172..	62	28,5	57	G1/4" G3/8" 1/4" NPT 3/8" NPT	G1/8" 1/8" NPT	M42x1,5	/	34	71,8	68	/	/	/
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	G1/8" 1/8" NPT	M42x1,5	/	40	72,8	80	/	/	/
#174..	99	44	88	G1" 1" NPT	G1/8" 1/8" NPT	M54x1,5	8,5	52,5	87,5	105	54,5	25	70

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Variable dimensions

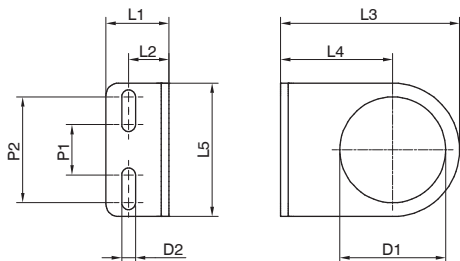


Model	B2	B3		D1	D6 - Type of digital pressure switch		L6	L7 - Type of digital pressure switch	
		With pressure gauge	With digital pressure switch		A - B	C - D		A - B	C - D
#171..	21	48,5	60	G1/8" G1/4" 1/4" NPT	M8 - 3 PIN	3 x 0,129 mm, Ø4 mm	15	150	2000
#172..	28,5	62,5	73,5	G1/4" G3/8" 1/4" NPT 3/8" NPT					
#173..	32,5	70,5	81,5	G3/8" G1/2" 1/2" NPT					
#174..	44	90,5	101,5	G1" 1" NPT					

► **Fixing bracket**

T172 50

Size
171 : Size 1
T172 : Size 2 - Size 3



2

AIR TREATMENT

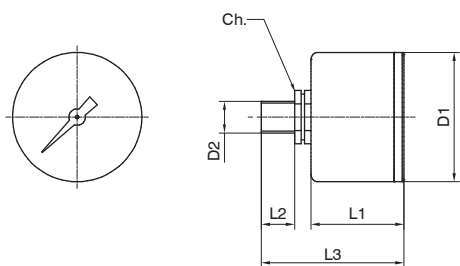
Model	L1	L2	L3	L4	L5	D1	D2	P1	P2
17150	20	13	50	30	40	30	5,5	20	30
T17250	25	16	71	44,5	53	42	5,5	20	42

► **Pressure gauge**

17070 A C

Version
A : Dial Ø40
B : Dial Ø50

Scale
A : 0 - 4 bar
B : 0 - 6 bar
C : 0 - 12 bar

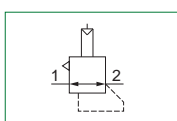


Model	L1	L2	L3	D1	D2	Ch
17070A..	26	10	44	41	Gc - 1/8"	14
17070B..	27	10	45	49	Gc - 1/8"	14

▶ Piloted pressure regulators (RP - RMP - RPP)



- ▶ Piston piloted pressure regulator
- ▶ Available with pressure gauge or digital pressure switch integrated
- ▶ Atex certification (II 2GD or II 3GD)
- ▶ Inlet pressures up to 20 bar



Note
Always regulate the rising pressure.

Technical characteristics	
Size	Size 4
Body and connections type	Aluminium body, integrated aluminium connections
IN / OUT connections	G1" - 1" NPT
Assembly configuration	Stand alone Panel mounted
Assembly positions	Indifferent
Pressure range	0,5 - 10 bar
Regulation	Pneumatic piloting
Pressure measurement	G1/8" - 1/8" NPT pressure gauge connection port (only for versions with IN / OUT NPT connections) Integrated pressure gauge (optional) Digital pressure switch (optional)
Max. fittings torque IN / OUT connections	G1"metal: 35Nm
Max.fitting torque pressure gauge connection port	G1/8"metal: 15Nm

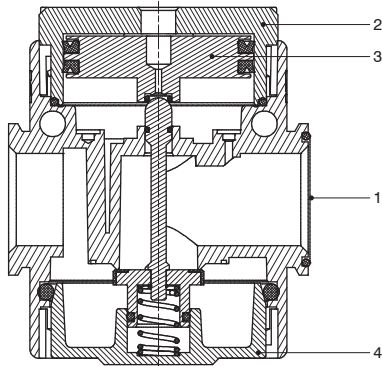
Operational characteristics	
Size	Size 4
Maximum working pressure	20 bar
Minimum working pressure	0,5 bar
Pilot pressure range	0,5 - 10 bar
Working temperature	-30°C +80°C
Working temperature with digital pressure switch	0°C +50°C



Weights	Size	Size 1	Size 2	Size 3	Size 4
Pneumatic pilot aluminum body version		/	/	/	1190 g

Materials

Exploded sectioned



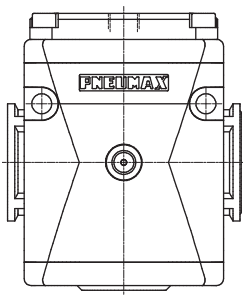
Piloted pressure regulator		
1	Body	Die-cast aluminium
2	Piloting operator	Aluminium
3	Piston	Aluminium
4	Rear end cap	Die-cast aluminium

2

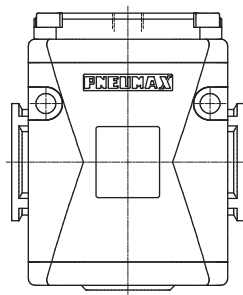
AIR TREATMENT

Design

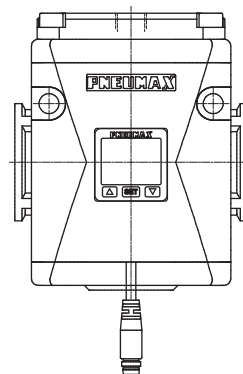
G1/8" pressure gauge connection port version



Integrated pressure gauge version



Integrated digital pressure switch version



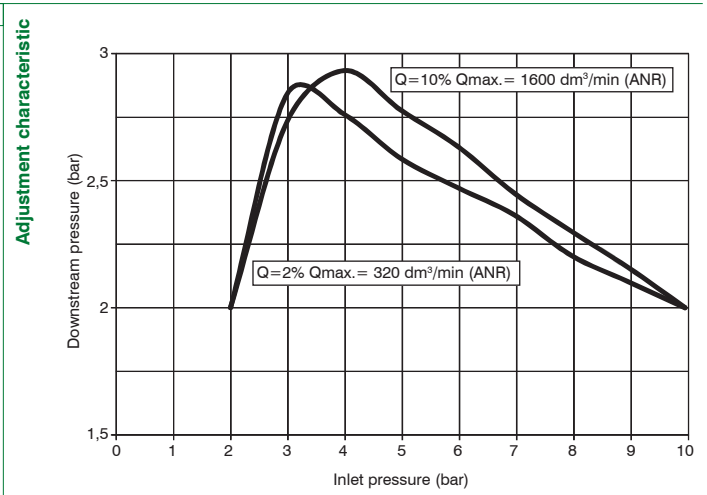
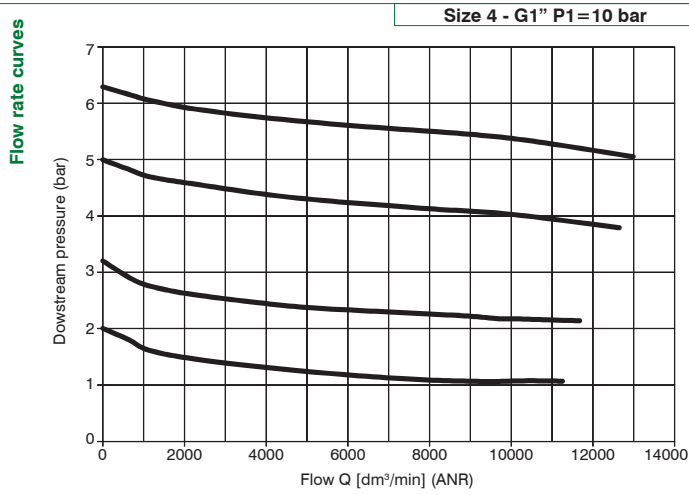
Order codes

P 17 4B R M P

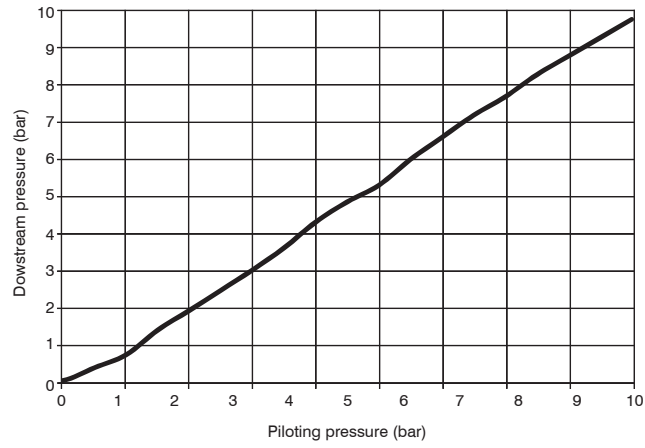
Version	P : Aluminium body
Size and connections	4B : Size 4 - G1" 4C : Size 4 - 1" NPT
Pressure measurement options	: G1/8" - 1/8" NPT thread M : Integrated pressure gauge W : Integrated pressure gauge Right - Left P : Digital pressure switch Z : Digital pressure switch Right - Left
Digital pressure switch options	A : Cable 150 mm + M8 PNP B : Cable 150 mm + M8 NPN C : Cable 2 m PNP D : Cable 2 m NPN

Example : P174BRMP : Size 4 piloted pressure regulator G1", integrated pressure gauge

Characteristic curves



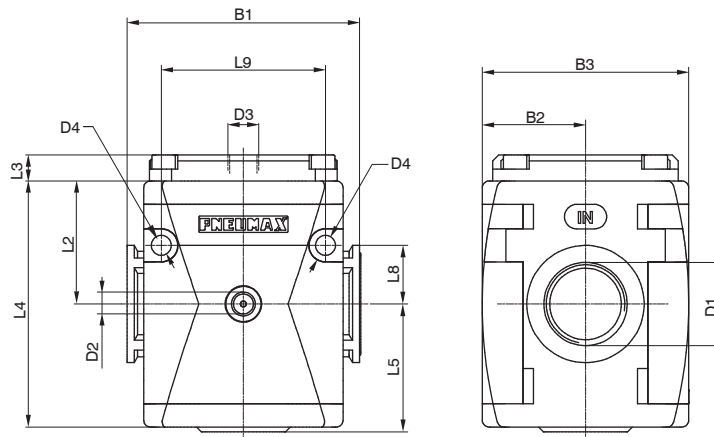
Piloting curves



2

AIR TREATMENT

Dimensions



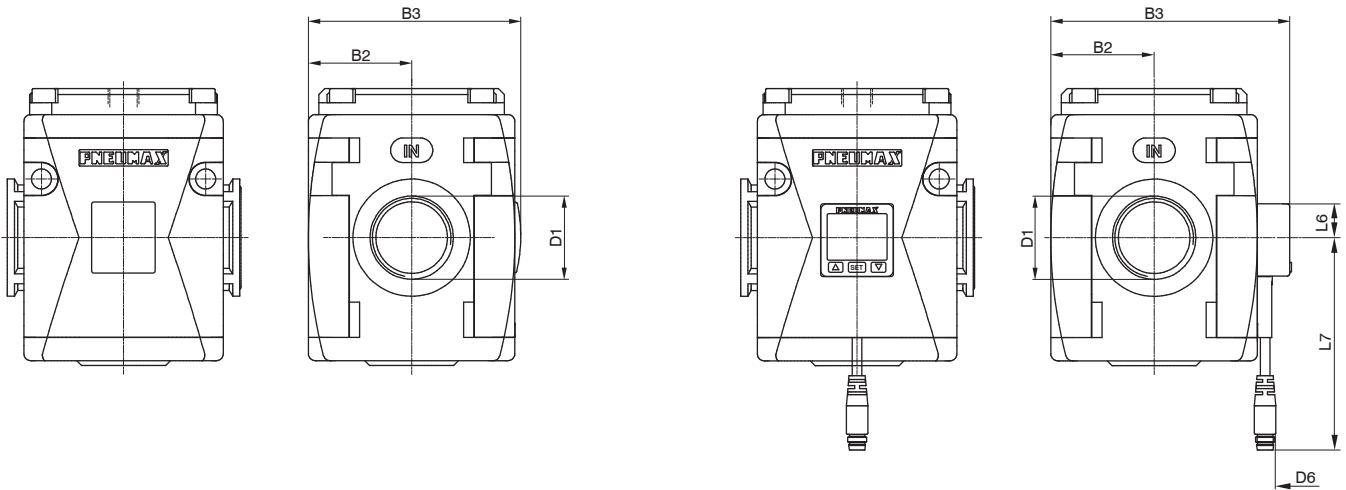
2 AIR TREATMENT

Model	B1	B2	B3	D1	D2	D3	D4	L2	L3	L4	L5	L8	L9
#174..	99	44	88	G1" 1" NPT	G1/8" 1/8" NPT	G1/4"	8,5	52,5	11	105	54,5	25	70

Variable dimensions

Integrated pressure gauge version

Integrated digital pressure switch version



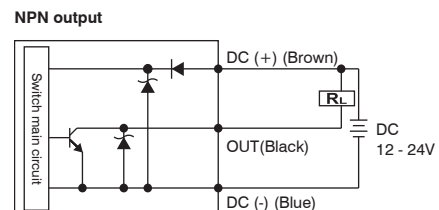
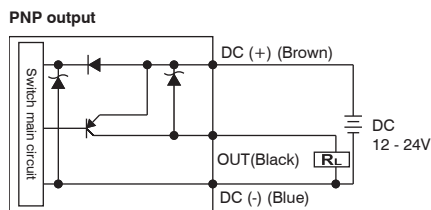
Model	B2	B3		D1	D6 - Type of digital pressure switch		L6	L7 - Type of digital pressure switch	
		With pressure gauge	With digital pressure switch		A - B	C - D		A - B	C - D
#174..	44	90,5	101,5	G1" 1" NPT	M8 - 3 PIN	3 x 0,129 mm, Ø4 mm	15	150	2000

Digital pressure switch

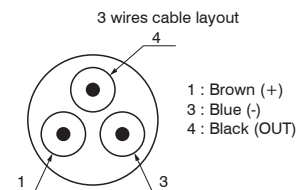
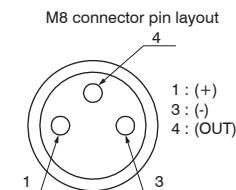


- ▶ 3 color digital LCD display, easy readout
- ▶ 4 units of measurement for pressure indication
- ▶ Optional PNP or NPN digital output
- ▶ N.O. and N.C. output contact selection directly on the digital pressure switch
- ▶ Available with M8-3PIN connector or 3 wire cable length 2 m
- ▶ Available only in combination with a regulator

Output circuit wiring diagrams



Digital pressure switch lay out



Cable ordering code

- MCH1** : cable 3 wires l=2,5m with M8 connector
- MCH2** : cable 3 wires l=5m with M8 connector
- MCH3** : cable 3 wires l=10m with M8 connector



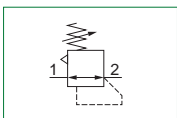
Technical characteristics	
Pressure range and display	0 - 10 bar
Max. inlet pressure	15 bar
Fluid	40µm filtered and dehumidified air
Display unit of measurement	MPa - kgf/cm² - bar - psi
Supply voltage	12 - 24 VDC
Current consumption	≤40mA (without load)
Digital output type	PNP - NPN
Type of contact output	Normally Open - Normally Closed
Max. load current	125 mA
Digital output activation mode	single threshold with fixed hysteresis - window with fixed hysteresis - window without hysteresis
Digital output activation time	0.05s - 0.25s - 0.5s - 1s - 2s - 3s (selections for chattering-proof options)
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad
Indicator accuracy	≤±2% full scale value ± 1 digit
IP Rating	IP40
Working temperature	0°C +50°C
Cable section	3 x 0,129mm², Ø4 mm, PVC

► Pressure regulators for manifold (B - M)



- ▶ Diaphragm pressure regulator with relieving
- ▶ Available with 2 front outputs connections G1/8 " or with 1 front output and integrated pressure gauge on the opposite side
- ▶ Low hysteresis rolling diaphragm and balanced spool
- ▶ Available in four pressure ranges up to 12 bar
- ▶ Fitted with panel mounting locking ring
- ▶ Available with Integrated pressure gauge
- ▶ Air supply can be applied by both directions (Right or Left)
- ▶ Max. 6off pressure regulators in manifold configuration
- ▶ Atex certification (II 3GD)

2



Note
For installations where a more accurate and constant pressure is required, the unit should be installed as close as possible to the point of use.

AIR TREATMENT

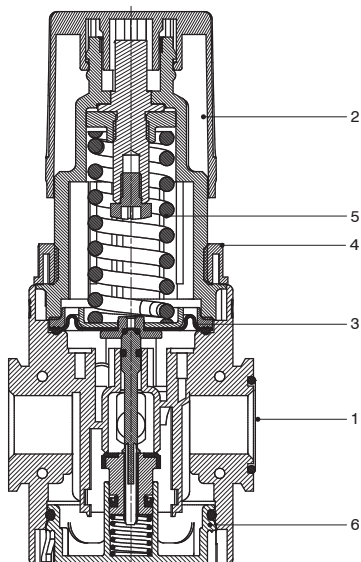
Technical characteristics		Size	Size 1
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)	
IN connections	T version	G1/4"	
	N version	G1/8" - G1/4" - 1/4" NPT	
OUT connections		G1/8"	
Assembly configuration		Stand alone Panel mounting With fixing bracket	
Assembly positions		Indifferent	
Pressure range		0-2 bar 0-4 bar 0-8 bar 0-12 bar	
Regulation		Manul push and lock with pressure Manual lockable with accessories	
Pressure measurement		G1/8" pressure gauge connection port Integrated pressure gauge (optional)	
Max. fittings torque IN / OUT connections		G1/8" metal: 15Nm G1/4" metal: 20Nm G1/4" technopolymer: 9Nm	
Max.fitting torque pressure gauge connection port		G1/8" technopolymer: 4Nm G1/8" metal: 15Nm	

Operational characteristics		Size	Size 1
Maximum working pressure		13 bar	
Minimum working pressure		0,5 bar	
Working temperature		-5°C +50°C	

Weights		
	Size	Size 1
Technopolymer body version		140 g

Materials

Exploded sectioned



Pressure regulator for manifold

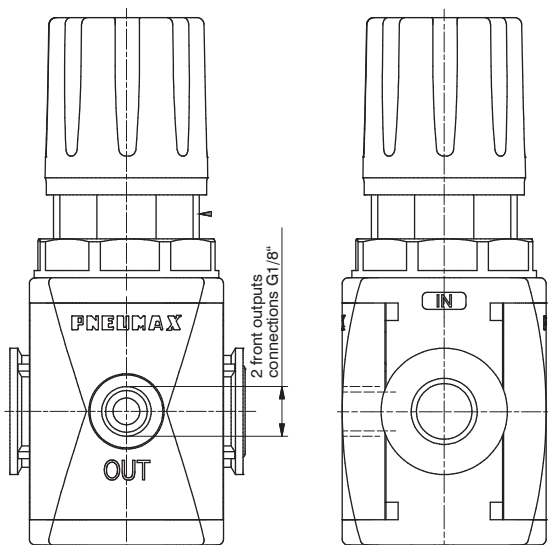
1	Body	Polyamide Die-cast aluminium
2	Adjusting knob	Polyamide
3	Diaphragm	NBR
4	Panel mounting locking ring	Polyamide
5	Adjusting spring	Steel
6	Rear end cap	Polyamide / Die-cast aluminium

2

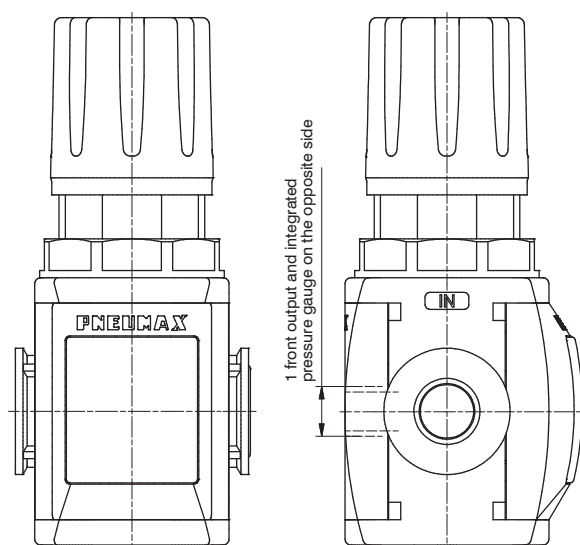
AIR TREATMENT

Design

Pressure gauge connection port version



Integrated pressure gauge version





Order codes

T 17 1B B D

Version
N : Technopolymer body and metal inserts
T : Technopolymer body and thread

Size and connections
1A : Size 1 - G1/8"
1B : Size 1 - G1/4"
1C : Size 1 - 1/4" NPT only for N version

Pressure measurement options
B : G1/8" - 1/8" NPT thread
M : Integrated pressure gauge

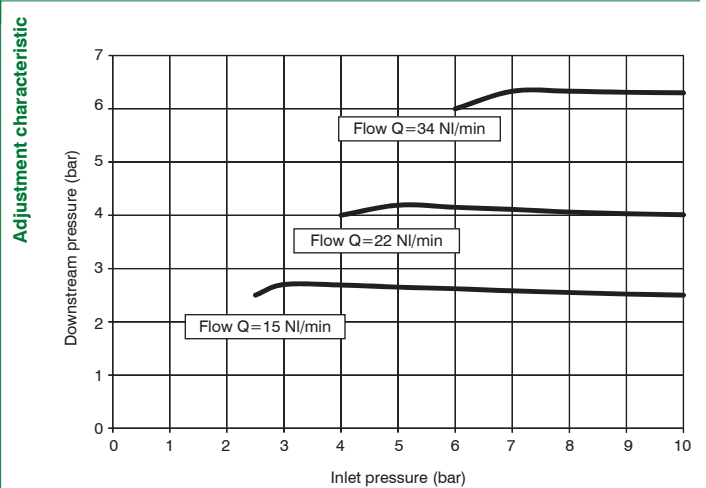
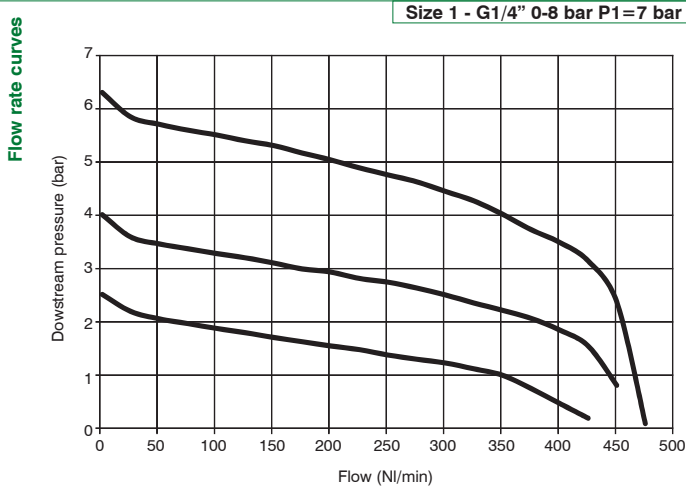
Pressure range
A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Relieving options
: With relieving
F : Controlled refuel and improved relieving
L : Without relieving
R : Improved relieving

Knob options
: Non-lockable version
K : Lockable version
U : Lockable version with universal key

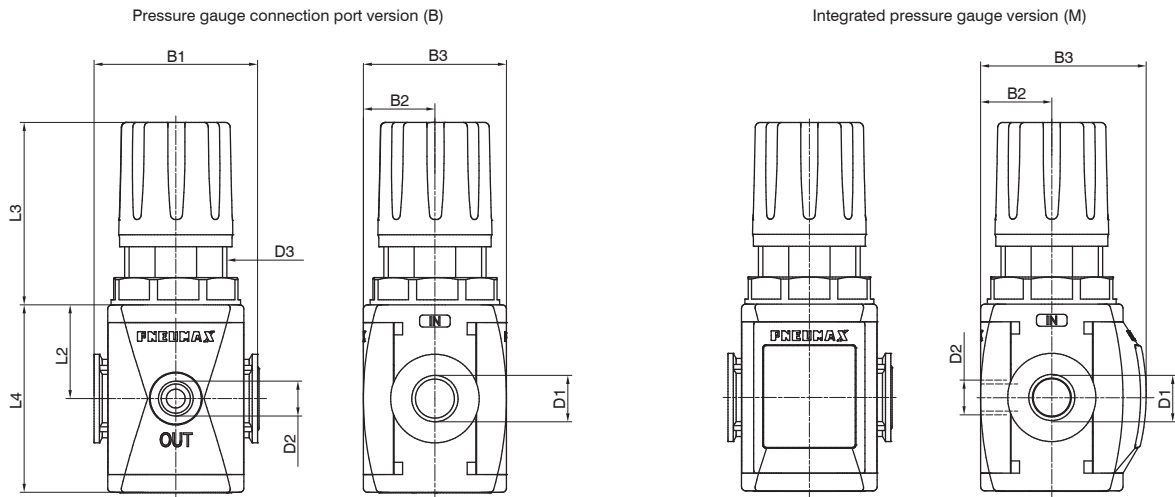
Example : T171BBD : Size 1 pressure regulator for manifold G1/4", 0 - 12 bar

Characteristic curves



2 AIR TREATMENT

Dimensions



Model	B1	B2	B3		D1	D2	D3	L2	L3	L4
			B version	M version						
#171..	48	24	42	48,5	G1/4" G1/8" 1/4" NPT	G1/8"	M30x1,5	27,5	54	55

▶ **Manifold pressure regulators**



- ▶ Manifold pressure regulators
- ▶ Available in four pressure ranges up to 12 bar
- ▶ Inlet pressure common for the whole manifold of pressure regulator
- ▶ A maximum of 6 pressure regulators can be mounted
- ▶ Atex certification (II 3GD)
- ▶ Assembly with X or Y flanges

2

AIR TREATMENT

Technical characteristics		
Size		Size 1
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)
IN connections	T version	G1/4"
	N version	G1/8" - G1/4" - 1/4" NPT
OUT connections		G1/8"
Assembly configuration		Stand alone Panel mounting With fixing bracket
Assembly positions		Indifferent
Pressure range		0-2 bar 0-4 bar 0-8 bar 0-12 bar
Regulation		Manul push and lock with pressure Manual lockable with accessories
Pressure measurement		G1/8" pressure gauge connection port Integrated pressure gauge (optional)
Max. fittings torque IN / OUT connections		G1/8" metal: 15Nm G1/4" metal: 20Nm G1/4" technopolymer: 9Nm
Max.fitting torque pressure gauge connection port		G1/8" technopolymer: 4Nm G1/8" metal: 15Nm

Operational characteristics		
Size		Size 1
Maximum working pressure		13 bar
Minimum working pressure		0,5 bar
Working temperature		-5°C +50°C



Order codes

G T 17 1B M 6 C C C C C C

Version
N : Technopolymer body and metal inserts
T : Technopolymer body and thread

Size and connections
1A : Size 1 - G1/8"
1B : Size 1 - G1/4"
1C : Size 1 - 1/4" NPT only for N version

Pressure measurement options
B : G1/8" thread with flanges X
M : Integrated pressure gauge with flanges X
P : G1/8" thread with extended flanges Y
R : Integrated pressure gauge with extended flanges Y
W : G1/8" thread with flanges Y
Z : Integrated pressure gauge with flanges Y

Number of regulators
2 : n. 2 regulators
3 : n. 3 regulators
4 : n. 4 regulators
5 : n. 5 regulators
6 : n. 6 regulators

Pressure range
A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range
A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range
A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range
A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

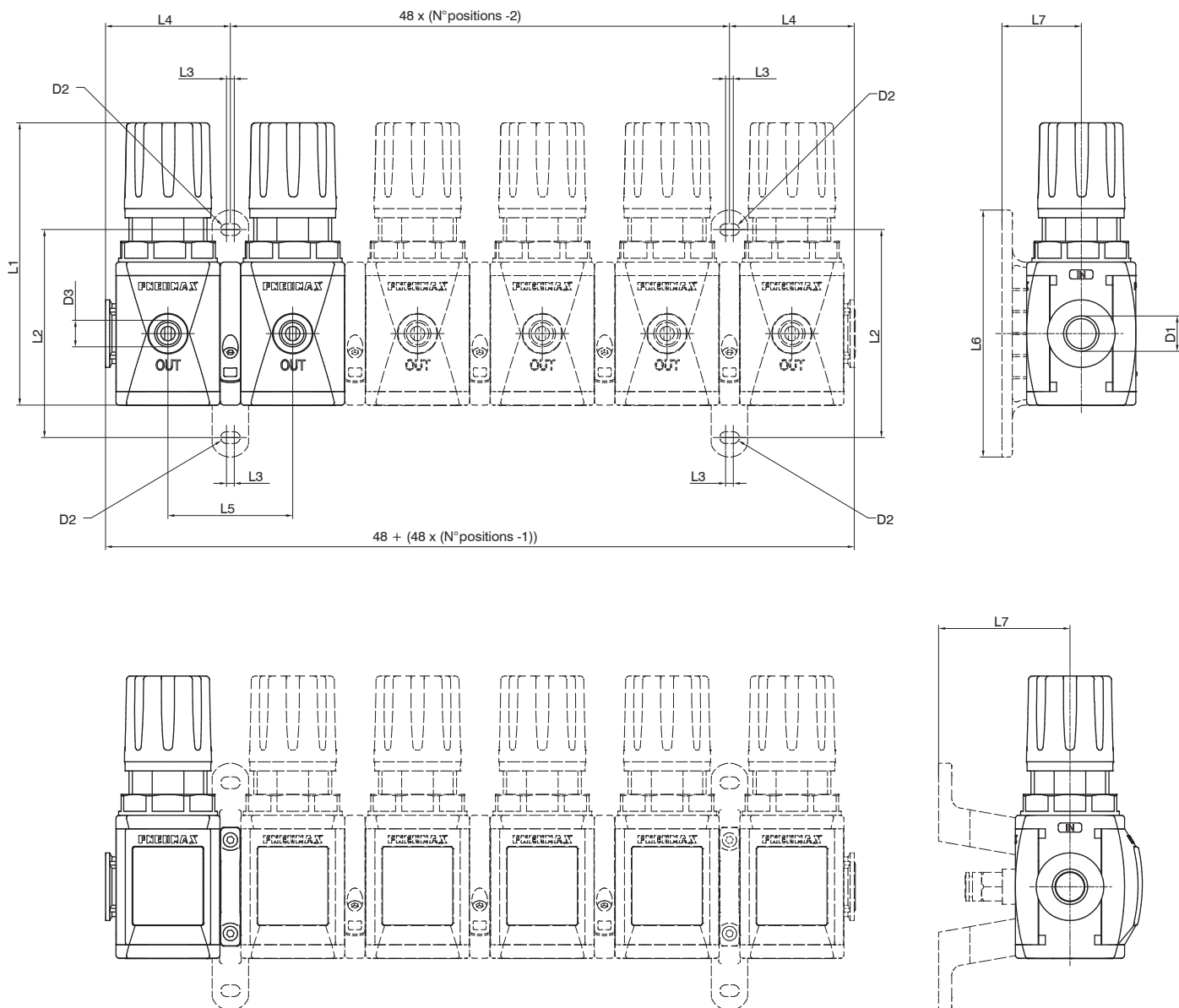
Pressure range
A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range
A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Example : T171BM6CCCCC : Size 1 manifold pressure regulators G1/4", 0 - 8 bar, integrated pressure gauge

Dimensions

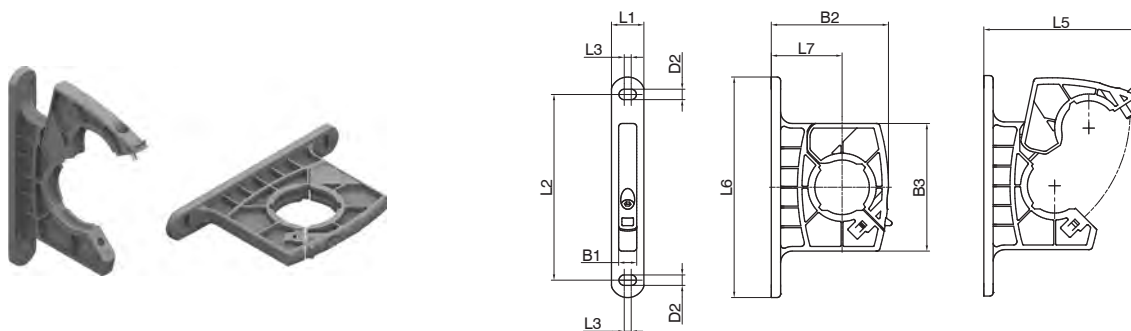
2
AIR TREATMENT



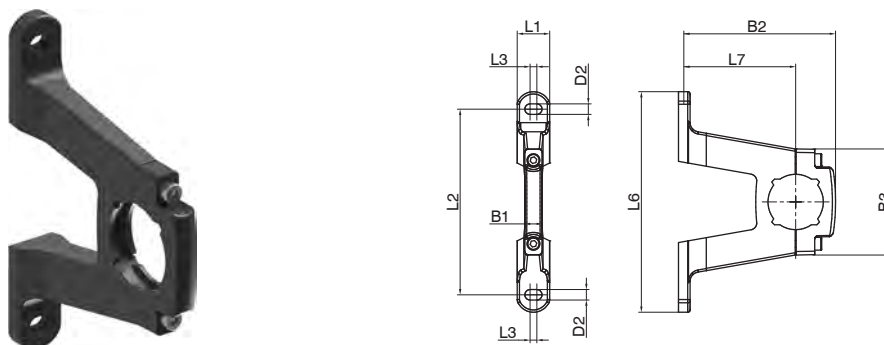
Model	D1	D2	D3	L1	L2	L3	L4	L5	L6	L7
#171..with flanges X	G1/4" G1/8" 1/4" NPT	/	G1/8"	109	/	/	48	48	/	/
#171..with flanges Y		Ø4,5			80	3			105	30,5
#171..with extended flanges Y									50,5	

► Manifold mounting flanges

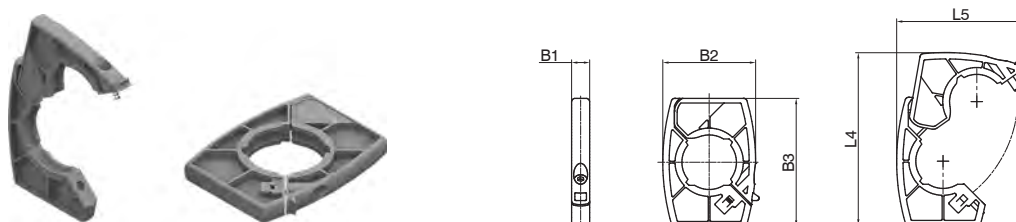
Flange Y



Extended flange Y

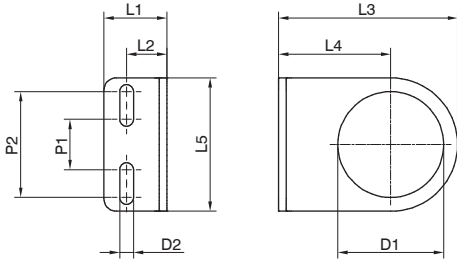


Flange X



Model	B1	B2	B3	D2	L1	L2	L3	L4	L5	L6	L7
T171Y	7,8	50,5	55	Ø4,5	14	80	3	/	66	95	30,5
N171YP		67,7	45,7	Ø4,5	14	80	3	/	66		50,5
T171X		40	55	/	/	/	/	74,5	55,5	/	/

► **Fixing bracket**



2
AIR TREATMENT

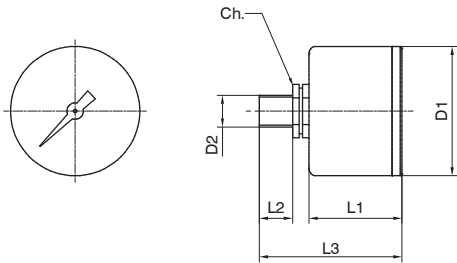
Model	L1	L2	L3	L4	L5	D1	D2	P1	P2
17150	20	13	50	30	40	30	5,5	20	30

► **Pressure gauge**

17070 **A** **C**

Version
A : Dial Ø40
B : Dial Ø50

Scale
A : 0 - 4 bar
B : 0 - 6 bar
C : 0 - 12 bar



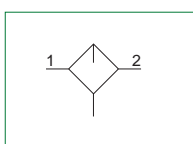
Model	L1	L2	L3	D1	D2	Ch
17070A..	26	10	44	41	Gc - 1/8"	14
17070B..	27	10	45	49	Gc - 1/8"	14



Lubricators (L)



- ▶ Oil mist lubricator
- ▶ Available in 4 sizes with flow rates up to 16000 NI/min and connections from 1/8" to 1"
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button
- ▶ Variable orifice size in function of the flow rate
- ▶ Oil quantity regulation mechanism and oil quantity visualization dome made of polycarbonate (PC)
- ▶ Oil refill plug
- ▶ Lubricator oil recharge with pressurized system
- ▶ Available with low level electrical sensor NO and NC
- ▶ Atex certification (II 2GD or II 3GD)



2

AIR TREATMENT

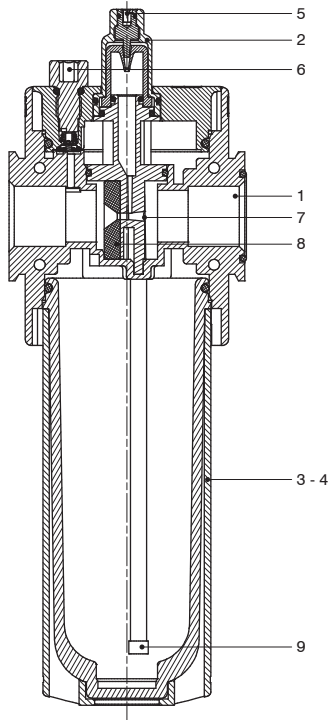
Technical characteristics		Size	Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)				/
		/		Aluminium body, integrated aluminium connections (P version)		
Protection and bowl type		Technopolymer protection - PC bowl Technopolymer protection - PA bowl			Metal protection - PC bowl Metal protection - PA bowl	
IN / OUT connections	T version	G1/4"		G3/8"	G1/2"	non disponibile
	N version	G1/8" - G1/4" - 1/4" NPT		G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P version	not available		G3/8"	G1/2"	G1"
Assembly configuration		Stand alone /				Panel mounted
Assembly positions		Vertical ±5°				
Bowl capacity		36 cm³		70 cm³	136 cm³	360 cm³
Lubrication type		Oil mist lubrication				
Oil level regulation		Manual, complete with visual indicator				
Max. fittings torque IN / OUT connections		G1/8" metal: 15Nm G1/4" metal: 20Nm G1/4" technopolymer: 9Nm		G1/4" metal: 20Nm G3/8" metal: 25Nm G3/8" technopolymer: 16Nm	G3/8" metal: 25Nm G1/2" metal: 30Nm G1/2" technopolymer: 22Nm	G1" metal: 35Nm

Operational characteristics		Size	Size 1	Size 2	Size 3	Size 4
Maximum working pressure		13 bar				
Minimum working pressure		0,5 bar				
Min. operational flow at 6,3 bar		40 NI/min		70 NI/min	100 NI/min	100 NI/min
Indicative oil drop rate		1 drope every 300/600 NI/min				
Oil type		FD22 - HG32				
Working temperature		-5°C +50°C				

Weights				
Size	Size 1	Size 2	Size 3	Size 4
Fully technopolymer version	121 g	215 g	347 g	/
Technopolymer body version, aluminium bowl protection and technopolymer bowl	/	245 g	383 g	/
Aluminium body version, technopolymer protection and bowl	/	315 g	477 g	1032 g
Aluminium body version, aluminium bowl protection and technopolymer bowl	/	345 g	513 g	1077 g

Materials

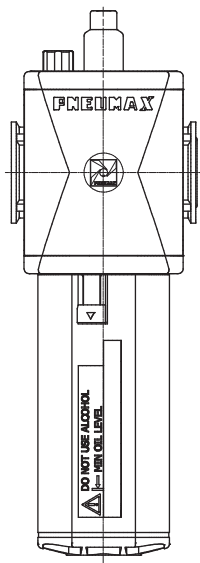
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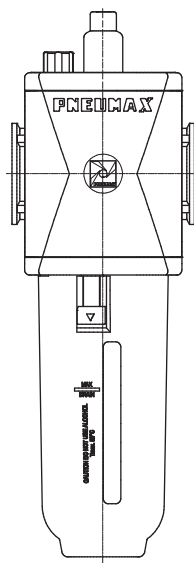
Lubricator		
1	Body	Polyamide Die-cast aluminium
2	Visual indicator	Polyamide
3	Technopolymer bowl	Polycarbonate Polyamide
4	Bowl protection	Polyamide - Die-cast aluminium
5	Oil regulation needle	Brass
6	Recharge plug	Acetal resin
7	Diaphragm support	Acetal resin
8	Diaphragm	NBR
9	Filter	Sintered brass

Design

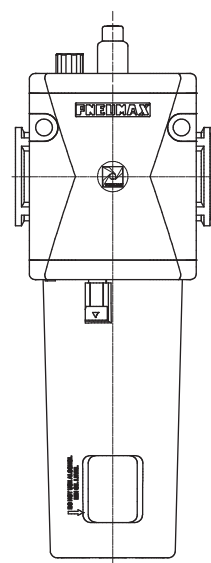
Size 1 - Size 2 - Size 3
Technopolymer protection



Size 1 - Size 2 - Size 3
Metal protection



Size 4
All versions



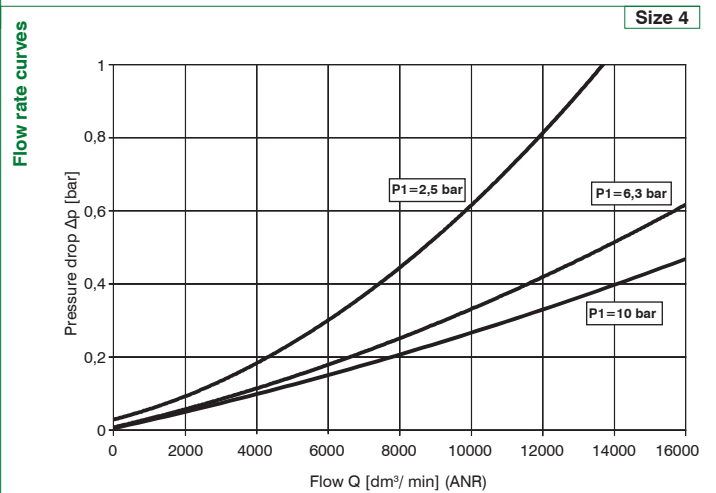
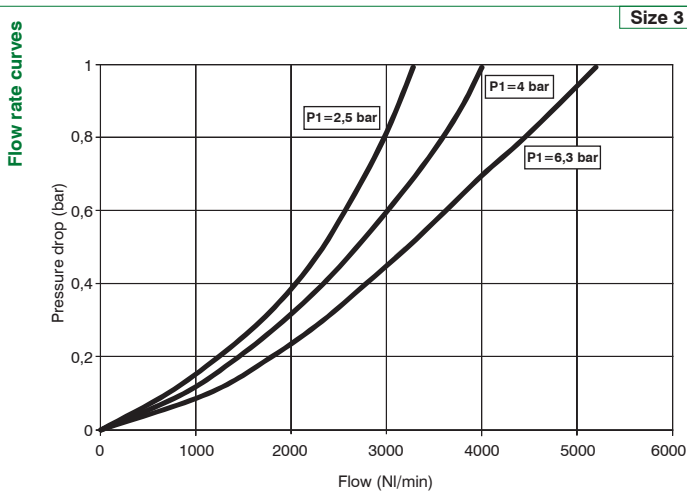
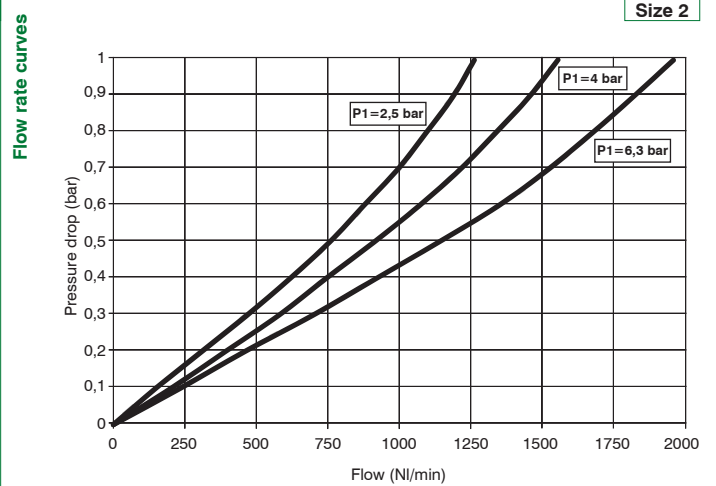
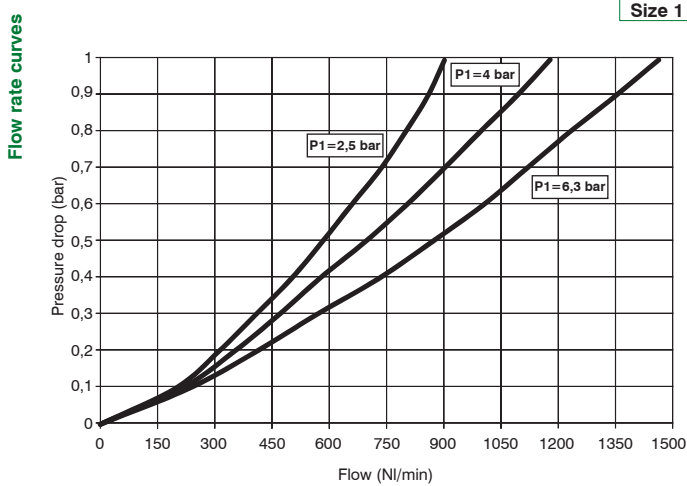


Order codes

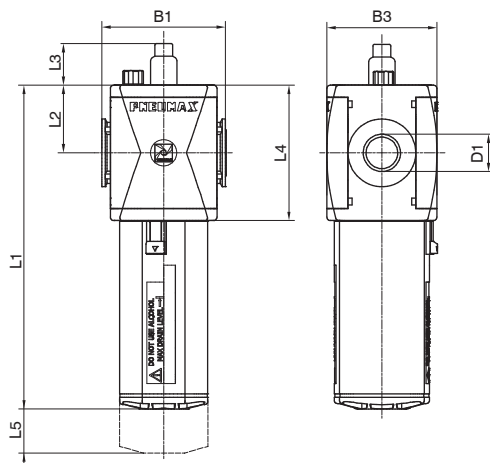
	T	17	3B	L	A	N
Version						
N : Technopolymer body and metal inserts (not available for size 4)						
T : Technopolymer body and thread (not available for size 4)						
P : Aluminium body (not available for size 1)						
Size and connections						
1A : Size 1 - G1/8" only for N version						
1B : Size 1 - G1/4" only for T - N versions						
1C : Size 1 - 1/4" NPT only for N version						
2A : Size 2 - G1/4" only for N version						
2B : Size 2 - G3/8" for all versions						
2C : Size 2 - 3/8" NPT only for N version						
3A : Size 3 - G3/8" only for N version						
3B : Size 3 - G1/2" for all versions						
3C : Size 3 - 1/2" NPT only for N version						
4B : Size 4 - G1" only for P version						
Options						
: No electric level sensor device						
A : Electrical minimum level sensor NO (not available for size 1)						
C : Electrical minimum level sensor NC (not available for size 1)						
Bowl options						
: Technopolymer protection - PC bowl						
N : Technopolymer protection - PA bowl						
P : Metal protection - PC bowl (not available for size 1)						
R : Metal protection - PA bowl (not available for size 1)						

Example : T173BLAN : Size 3 lubricator G1/2", normally open low level electrical sensor, PA bowl with technopolymer protection

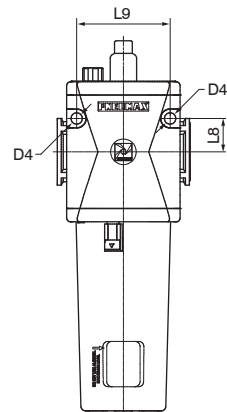
Characteristic curves



Dimensions

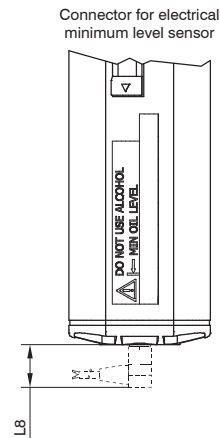


Fixing holes dimension detail (only for size 4)



Model	B1	B3	D1	D4	L1	L2	L3	L4	L5	L8	L9
#171..	48	42	G1/8" G1/4" 1/4" NPT	/	131	27,5	24	55	80	/	/
#172..	62	57	G1/4" G3/8" 3/8" NPT	/	152.7	34	24	68	90	/	/
#173..	73	65	G3/8" G1/2" 1/2" NPT	/	191.4	40	24	80	120	/	/
#174..	99	88	G1"	8,5	247	52,5	24	105	145	25	70

Variable dimensions



Model	L8	Connectors for electrical connection
Electrical minimum level sensor NO	16	C1 - C2 - C3 (see sensors section of general catalog)
Electrical minimum level sensor NC		

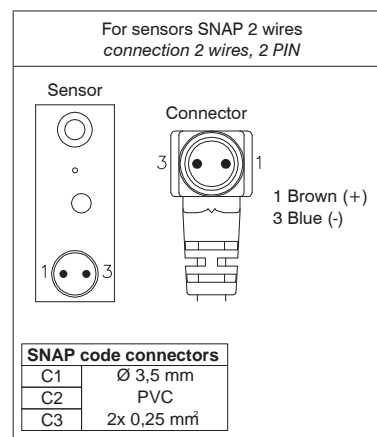
Accessories

Electrical connection details

C1 : connector with 2,5 m cable 2 wires (PVC Ø3,5 mm 2x0,25mm²)

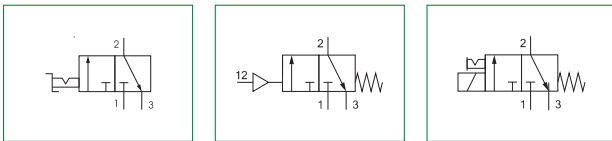
C2 : connector with 5 m cable 2 wires (PVC Ø3,5 mm 2x0,25mm²)

C3 : connector with 10 m cable 2 wires (PVC Ø3,5 mm 2x0,25mm²)



Shut off valves (VL - VP - VE)


- ▶ 3/2 N.C. shut off valve
- ▶ Suitable for system downstream pneumatic feeding or exhaust
- ▶ Manual, pneumatic and electropneumatic operation available
- ▶ Up to 3off manual operation lockable device available (closed position)
- ▶ Atex certification (II 2GD or II 3GD)

2
AIR TREATMENT


Technical characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)			/
		/	Aluminium body, integrated aluminium connections (P version)		/
Operated type		Manual Pneumatic Electropneumatic			
IN / OUT connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P and L version	not available	G3/8"	G1/2"	
Pilot connection		G1/8"			
Exhaust connection		G1/4"	G3/8"		G1/2"
Assembly configuration		Stand alone /			Panel mounted
Assembly positions		Indifferent			
Max. fittings torque IN / OUT connections		G1/8" metal: 15Nm G1/4" metal: 20Nm G1/4" technopolymer: 9Nm	G1/4" metal: 20Nm G3/8" metal: 25Nm G3/8" technopolymer: 16Nm	G3/8" metal: 25Nm G1/2" metal: 30Nm G1/2" technopolymer: 22Nm	G1/2" metal: 30Nm G1" metal: 35Nm

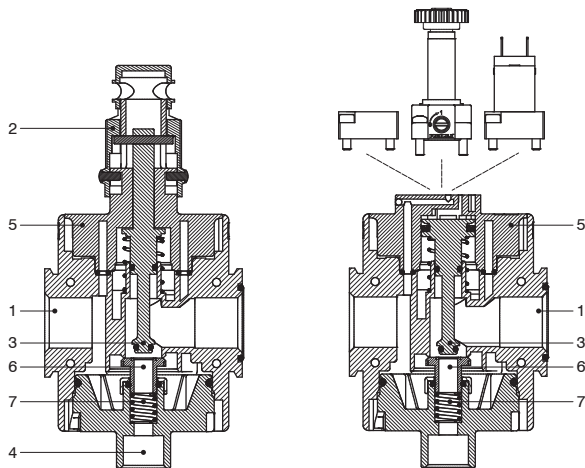
Operational characteristics								
Size	Size 1	Size 2	Size 3	Size 4	Size 1	Size 2	Size 3	Size 4
Operator	Manual				Pneumatic / Solenoid			
Maximum working pressure	13 bar			10 bar	10 bar			
Minimum working pressure	0,5 bar				2,5 bar			
Working temperature	-5°C +50°C				-5°C +50°C			
	-30°C +80°C (only for P version) -40°C +80°C (only for L version)				-30°C +80°C (only with metal body and pneumatic version) -40°C +80°C (only with metal body and pneumatic version)			
Nominal flow rate at 6 bar with Δp=1 (from 1 to 2)	1400 NI/min	2200 NI/min	3600 NI/min	15000 NI/min	1400 NI/min	2200 NI/min	3600 NI/min	15000 NI/min
Exhaust nominal flow rate at 6 bar with Δp=1 (from 2 to 3)	550 NI/min	1500 NI/min		3600 NI/min	550 NI/min	1500 NI/min		3600 NI/min
Un-conveyed exhaust nominal flow rate (from 2 to 3)	1000 NI/min	2500 NI/min		5000 NI/min	1000 NI/min	2500 NI/min		5000 NI/min

Weights								
Size Operator	Size 1				Size 2			
	Manual	Pneumatic	Solenoid M2 actuator	Solenoid 15mm coil	Manual	Pneumatic	Solenoid M2 actuator	Solenoid 15mm coil
Technopolymer body version	110 g	99 g	140 g	140 g	190 g	181 g	210 g	216 g
Aluminium body version	/	/	/	/	270 g	265 g	298 g	301 g

Size Operator	Size 3				Size 4			
	Manual	Pneumatic	Solenoid M2 actuator	Solenoid 15mm coil	Manual	Pneumatic	Solenoid M2 actuator	Solenoid 15mm coil
Technopolymer body version	250 g	270 g	310 g	310 g	/	/	/	/
Aluminium body version	400 g	398 g	429 g	432 g	1100 g	1135 g	1170 g	1180 g

Materials

Exploded sectioned



Shut off valve		
1	Body	Polyamide Die-cast aluminium
2	Manual override	Polyamide
3	Drive pin Piston	Aluminium
4	Exhaust plug	Polyamide
5	Central support	Polyamide
6	Spool	Brass + NBR
7	Repositioning spring	Steel

2

AIR TREATMENT

Design

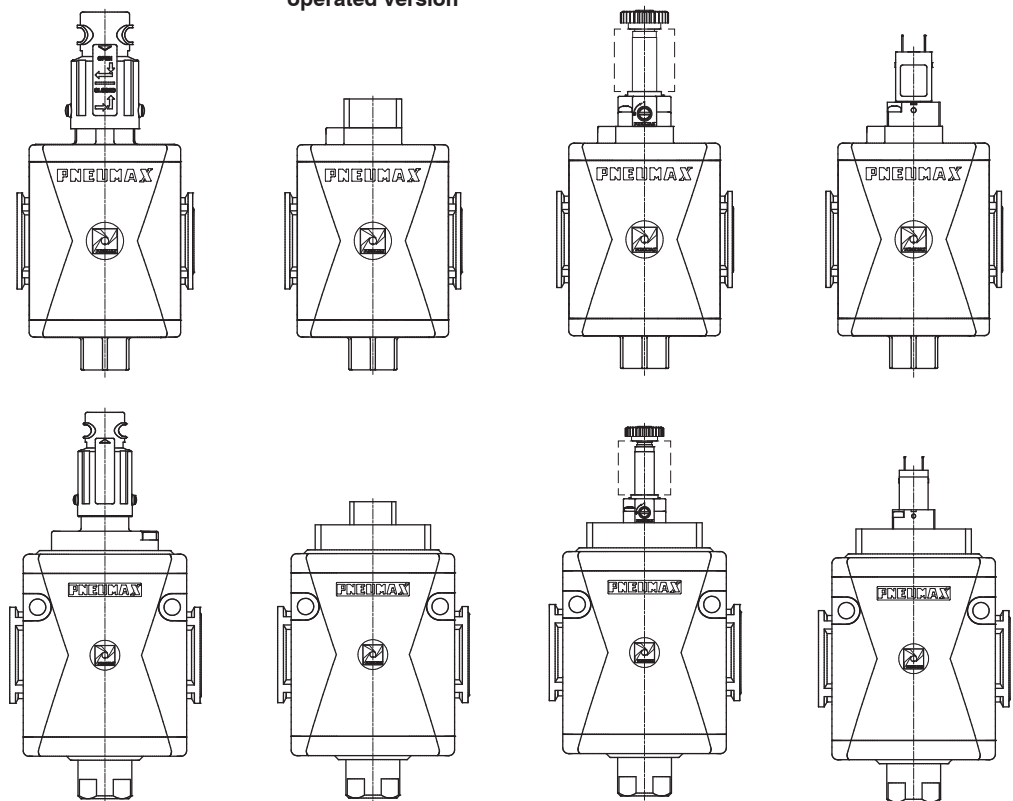
Manual operated version

Pneumatic operated version

Solenoid operated version

Size 1 - Size 2
Size 3

Size 4





Order codes

T 17 3B V E A5

Version
N : Technopolymer body and metal inserts (not available for size 4)
T : Technopolymer body and thread (not available for size 4)
P : Aluminum body (not available for size 1)
L : Aluminium body, low temperature (not available for solenoid version)

Size and connections
1A : Size 1 - G1/8" only for N version
1B : Size 1 - G1/4" only for T - N versions
1C : Size 1 - 1/4" NPT only for N version
2A : Size 2 - G1/4" only for N version
2B : Size 2 - G3/8" for all versions
2C : Size 2 - 3/8" NPT only for N version
3A : Size 3 - G3/8" only for N version
3B : Size 3 - G1/2" for all versions
3C : Size 3 - 1/2" NPT only for N version
4B : Size 4 - G1" only for P - L versions

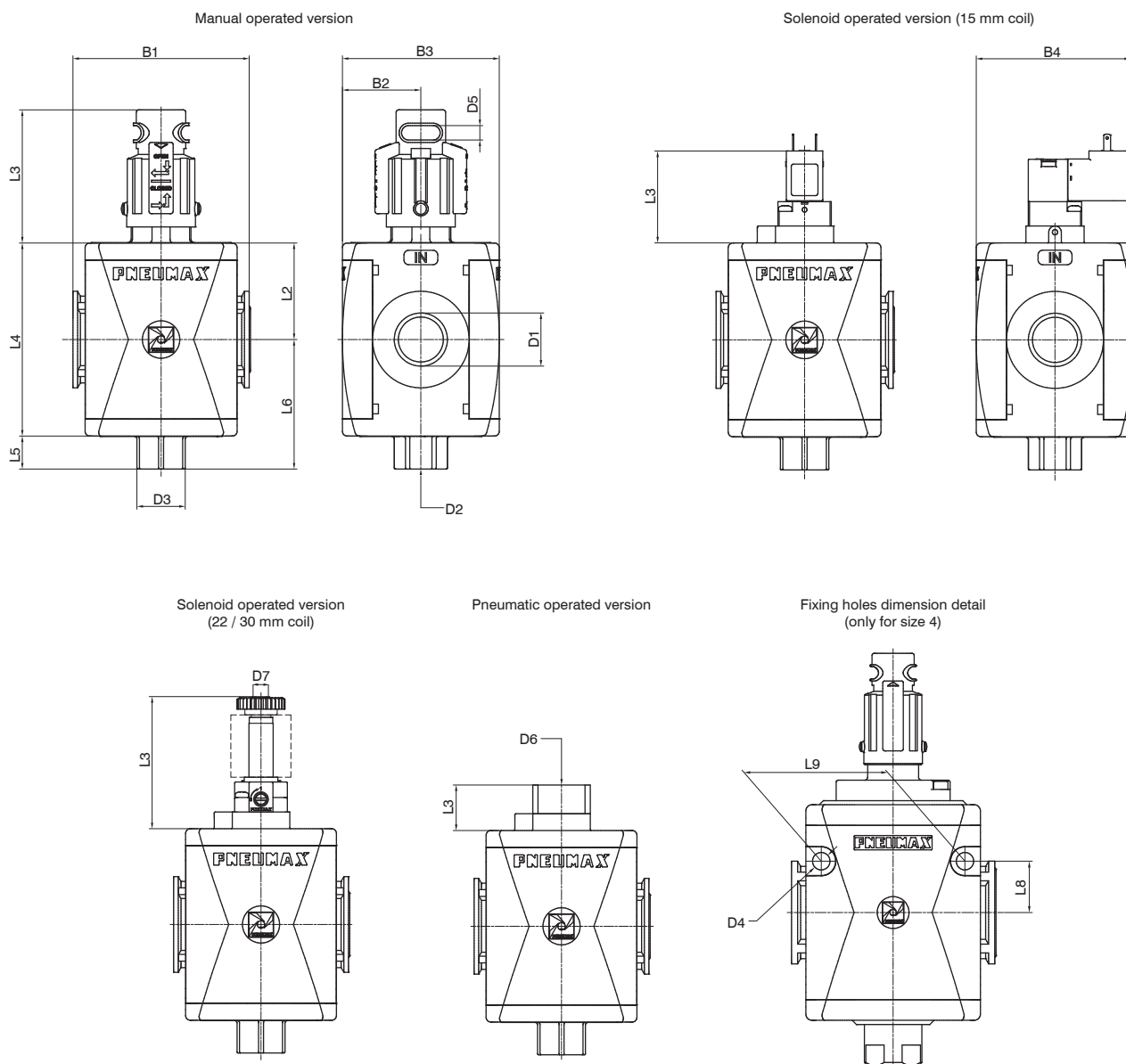
Operator
L : Manual
P : Pneumatic
E : Solenoid

Coil options
15 mm coil
A4 : 12 V DC
A5 : 24 V DC
A6 : 24 V AC (50-60 Hz)
A7 : 110 V AC (50-60 Hz)
A8 : 230 V AC (50-60 Hz)
A9 : 24 V DC (1 Watt)
22 mm coil
B2 : Mechanical M2, without coil
B4 : 12 V DC
B5 : 24 V DC
B6 : 24 V AC (50-60 Hz)
B7 : 110 V AC (50-60 Hz)
B8 : 230 V AC (50-60 Hz)
B9 : 24 V DC (2 Watt) (Atex certification not available)
30 mm coil
C5 : 24 V DC
C6 : 24 V AC (50-60 Hz)
C7 : 110 V AC (50-60 Hz)
C8 : 230 V AC (50-60 Hz)
C9 : 24 V DC (2 Watt) (Atex certification not available)

Example : T173BVEA5 : Size 3 electric shut off valve G1/2", 15 mm coil, 24VDC

2 AIR TREATMENT

Dimensions



2
AIR TREATMENT

Model	B1	B2	B3	B4	D1	D2	D3	D4	D5	D6	D7	L2	L3				L4	L5	L6	L8	L9
													Manual	Pneumatic	Solenoid coil 22 or 30mm	Solenoid 15mm coil					
#171..	48	21	42	52	G1/8" G1/4" 1/4" NPT	G1/4"	Ch.17	/	6	G1/8"	M5	27,5	55	19	57	37,5	55	11	38,5	/	/
#172..	62	28,5	57	59,6	G1/4" G3/8" 3/8" NPT	G3/8"	Ch.20	/	6	G1/8"	M5	34	54,2	22	60	40,3	68	14	48	/	/
#173..	73	32,5	65	63,6	G3/8" G1/2" 1/2" NPT	G3/8"	Ch.20	/	6	G1/8"	M5	40	55	19	57	37,4	80	14	54	/	/
#174..	99	44	88	75	G1"	G1/2"	Ch.25	8,5	6	G1/8"	M5	52,5	71,5	27	67	45,5	105	22	74,5	25	70

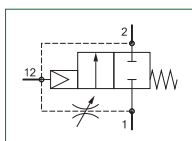
▶ **Progressive start-up valve (AP - APW)**



- ▶ Progressive start-up valve
- ▶ Available in 4 sizes with flow rates up to 15000 NI/min and connections from 1/8" to 1"
- ▶ Suitable for downstream system gradual pressurization
- ▶ Downstream circuit filling time regulated via a built in flow regulator
- ▶ Full pressure is allowed once the down stream circuit pressure reaches 50% of the inlet pressure
- ▶ ATEX certification (II 2GD or II 3GD)

2

AIR TREATMENT



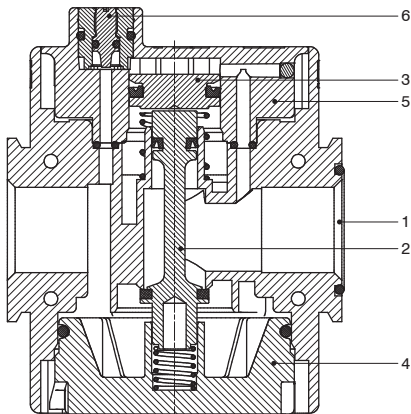
Technical characteristics		Size	Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)				/
		/		Aluminium body, integrated aluminium connections (P version)		
IN / OUT connections	T version	G1/4"		G3/8"		G1/2"
	N version	G1/8" - G1/4" - 1/4" NPT		G3/8" - G1/4" - 3/8" NPT		G3/8" - G1/2" - 1/2" NPT
	P version	not available		G3/8"		G1/2"
Assembly configuration		Stand alone /				Panel mounted
Assembly positions		Indifferent				
Max. fittings torque IN / OUT connections		G1/8" metal: 15Nm G1/4" metal: 20Nm G1/4" technopolymer: 9Nm		G1/4" metal: 20Nm G3/8" metal: 25Nm G3/8" technopolymer: 16Nm		G3/8" metal: 25Nm G1/2" metal: 30Nm G1/2" technopolymer: 22Nm G1" metal: 35Nm

Operational characteristics		Size	Size 1	Size 2	Size 3	Size 4
Maximum working pressure		13 bar				10 bar
Minimum working pressure		2,5 bar				
Working temperature		-5°C +50°C				
Nominal flow rate at 6 bar with Δp=1 (from 1 to 2)		1400 NI/min		2200 NI/min	3600 NI/min	15000 NI/min
Fully open flow control device maximum flow rate		75 NI/min		200 NI/min	200 NI/min	1000 NI/min

Weights					
	Size	Size 1	Size 2	Size 3	Size 4
Technopolymer body version		80 g	150 g	240 g	/
Aluminium body version		/	235 g	370 g	1100 g

Materials

Exploded sectioned



Progressive start-up valve

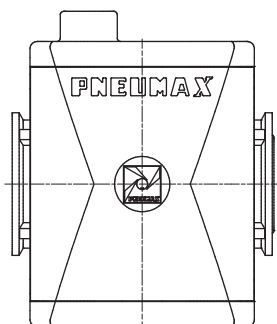
1	Body	Polyamide Die-cast aluminium
2	Drive pin	Aluminium
3	Piston	Aluminium
4	Rear end cap	Polyamide / Die-cast aluminium
5	Central support	Polyamide / Aluminium
6	Modulating needle	Brass

2

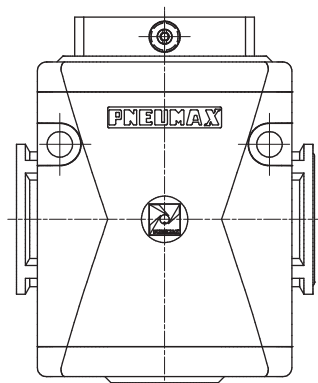
AIR TREATMENT

Design

Size 1 - Size 2 - Size 3



Size 4





Order codes

T 17 3B AP

Version
N : Technopolymer body and metal inserts (not available for size 4)
T : Technopolymer body and thread (not available for size 4)
P : Aluminum body (not available for size 1)

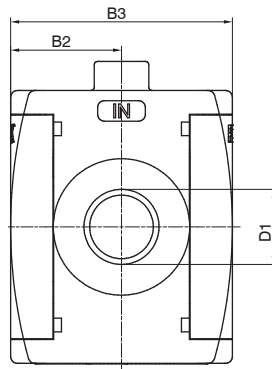
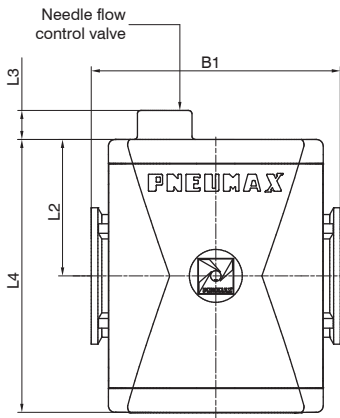
Size and connections
1A : Size 1 - G1/8" only for N version
1B : Size 1 - G1/4" only for T - N versions
1C : Size 1 - 1/4" NPT only for N version
2A : Size 2 - G1/4" only for N version
2B : Size 2 - G3/8" for all versions
2C : Size 2 - 3/8" NPT only for N version
3A : Size 3 - G3/8" only for N version
3B : Size 3 - G1/2" for all versions
3C : Size 3 - 1/2" NPT only for N version
4B : Size 4 - G1" only for P version

Flow direction (only for size 4)
: : From left to right
W : From right to left

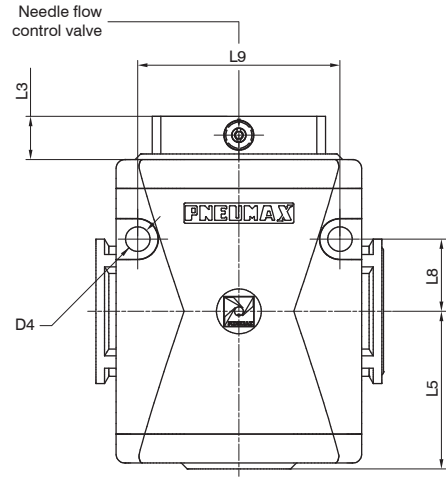
Example : T173BAP : Size 3 progressive start-up valve G1/2"

2 AIR TREATMENT

Dimensions



Fixing holes dimension detail (only for size 4)

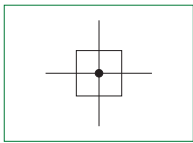


Model	B1	B2	B3	D1	D4	L2	L3	L4	L5	L8	L9
#171..	48	21	42	G1/8" G1/4"	/	27,5	12	55	/	/	/
#172..	62	28,5	57	G1/4" G3/8"	/	34	9,2	68	/	/	/
#173..	73	32,5	65	G3/8" G1/2"	/	40	8,7	80	/	/	/
#174..	99	44	88	G1"	8,5	52,5	13	105	54,5	25	70

Air intake (PA)



- ▶ Pneumatic by-pass
- ▶ Available with 2 threaded connections
- ▶ Atex certification (II 2GD or II 3GD)



2
AIR TREATMENT

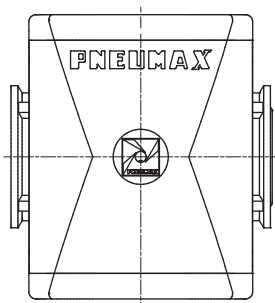
Technical characteristics		Size	Size 1	Size 2	Size 3	Size 4
Body and connections type			Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)			/
			/	Aluminium body, integrated aluminium connections (P version)		/
IN / OUT / INTAKE connections	T version		G1/4"	G3/8"	G1/2"	not available
	N version		G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P version		not available	G3/8"	G1/2"	G1"
Assembly configuration			Stand alone /			Panel mounted
Assembly positions			Indifferent			
Max. fittings torque IN / OUT / INTAKE connections			G1/8" metal: 15Nm G1/4" metal: 20Nm G1/4" technopolymer: 9Nm	G1/4" metal: 20Nm G3/8" metal: 25Nm G3/8" technopolymer: 16Nm	G3/8" metal: 25Nm G1/2" metal: 30Nm G1/2" technopolymer: 22Nm	G1"metal: 35Nm

Operational characteristics		Size	Size 1	Size 2	Size 3	Size 4
Maximum working pressure				13 bar		20 bar
Working temperature				-5°C +50°C		-30°C +80°C (only for P version)

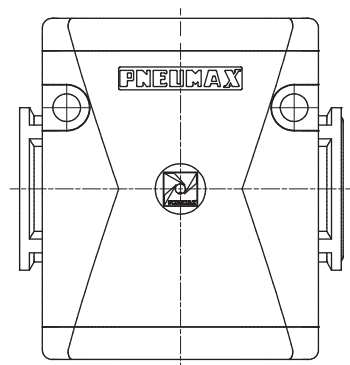
Weights		Size	Size 1	Size 2	Size 3	Size 4
Technopolymer body version			52 g	95,5 g	151 g	/
Aluminium body version			/	248 g	370 g	720 g

Design

Size 1 - Size 2 - Size 3



Size 4





Order codes

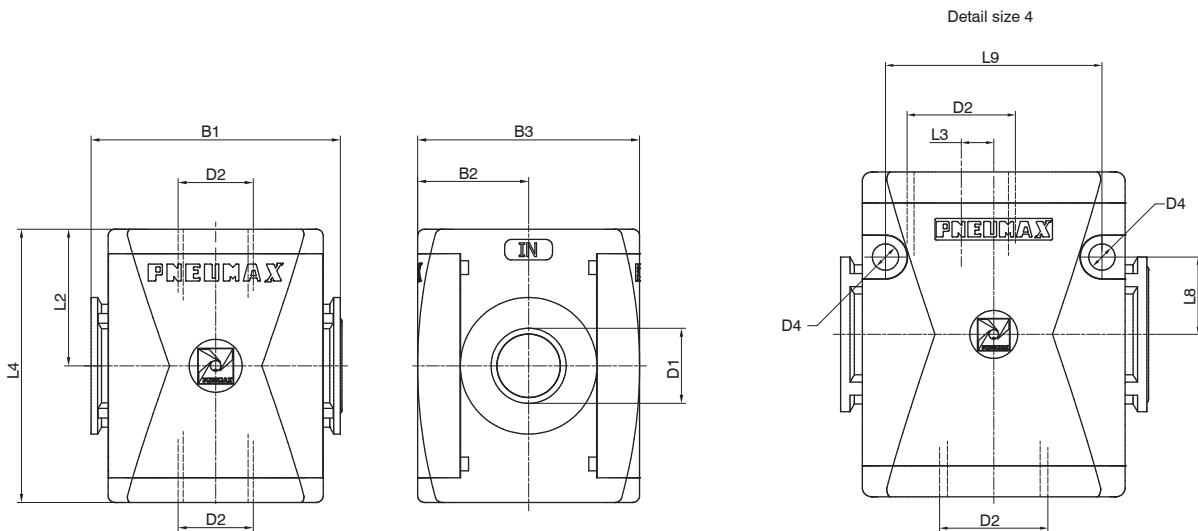
T 17 3B PA

Version
N : Technopolymer body and metal inserts (not available for size 4)
T : Technopolymer body and thread (not available for size 4)
P : Aluminium body (not available for size 1)

Size and connections
1A : Size 1 - G1/8" only for N version
1B : Size 1 - G1/4" only for T - N versions
1C : Size 1 - 1/4" NPT only for N version
2A : Size 2 - G1/4" only for N version
2B : Size 2 - G3/8" for all versions
2C : Size 2 - 3/8" NPT only for N version
3A : Size 3 - G3/8" only for N version
3B : Size 3 - G1/2" for all versions
3C : Size 3 - 1/2" NPT only for N version
4B : Size 4 - G1" only for P version

Example : T173BPA : Size 3 air intake G1/2"

Dimensions



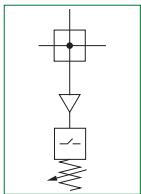
Model	B1	B2	B3	D1	D2	D4	L2	L3	L4	L8	L9
#171..	48	21	42	G1/8" G1/4" 1/4" NPT	/	/	27,5	/	55	/	/
#172..	62	28,5	57	G3/8" G1/4" 3/8" NPT	/	/	34	/	68	/	/
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	/	/	40	/	80	/	/
#174..	99	44	88	G1"	8,5	8,5	52,5	10,5	105	25	70

2 AIR TREATMENT

► Pressure switch (PP)



- 2 to 10 bar adjustable pressure switch with electrical connection
- The electrical connection is made by mean of a 15 mm connector (DIN 43650 type C)
- The microswitch contact could be normally closed or open (change overswitch)



Technical characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections (T version) Technopolymer body, metal connections (N version)			/
		/	Aluminium body, integrated aluminium connections (P version)		
IN / OUT / INTAKE connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P version	not available	G3/8"	G1/2"	G1"
Assembly configuration		Stand alone /			Panel mounted
Assembly positions		Indifferent			
Microswitch capacity		1A			
Microswitch maximum tension		250 VAC			
Microswitch IP Rating		IP65 (with connector installed)			
Max. fitting torque IN / OUT / INTAKE connections		G1/8" metal: 15Nm G1/4" metal: 20Nm G1/4" technopolymer: 9Nm	G1/4" metal: 20Nm G3/8" metal: 25Nm G3/8" technopolymer: 16Nm	G3/8" metal: 25Nm G1/2" metal: 30Nm G1/2" technopolymer: 22Nm	G1" metal: 35Nm

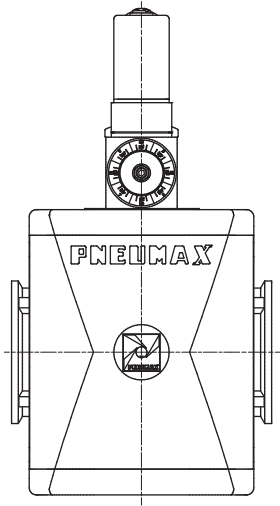
Operational characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Maximum working pressure		13 bar			
Working temperature		-5°C +50°C			
Operating pressure range		2 - 10 bar			



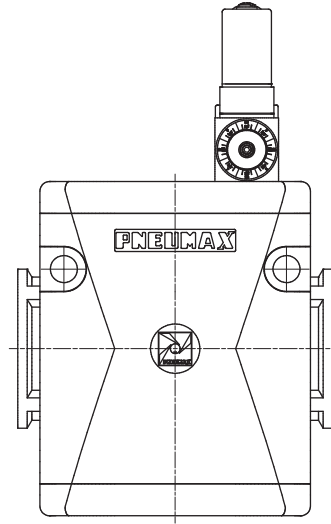
Weights					
	Size	Size 1	Size 2	Size 3	Size 4
Technopolymer body version		138 g	179 g	235 g	/
Aluminium body version		/	330 g	780 g	800 g

Design

Size 1 - Size 2 - Size 3



Size 4



2
AIR TREATMENT

Order codes

T 17 3B PP

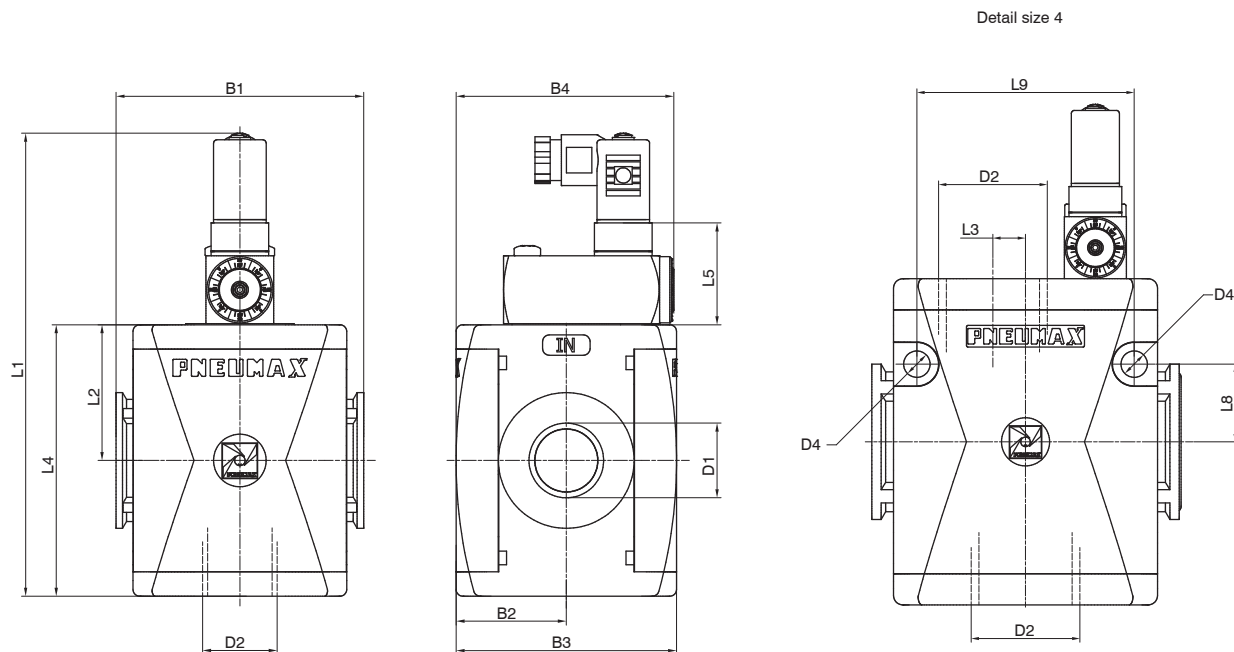
Version
N : Technopolymer body and metal inserts (not available for size 4)
T : Technopolymer body and thread (not available for size 4)
P : Aluminum body (not available for size 1)

Size and connections
1A : Size 1 - G1/8" only for N version
1B : Size 1 - G1/4" only for T - N versions
1C : Size 1 - 1/4" NPT only for N version
2A : Size 2 - G1/4" only for N version
2B : Size 2 - G3/8" for all versions
2C : Size 2 - 3/8" NPT only for N version
3A : Size 3 - G3/8" only for N version
3B : Size 3 - G1/2" for all versions
3C : Size 3 - 1/2" NPT only for N version
4B : Size 4 - G1" only for P version

Flow direction (only for P version)
: : From left to right
W : From right to left

Example : T173BPP : Size 3 pressure switch G1/2"

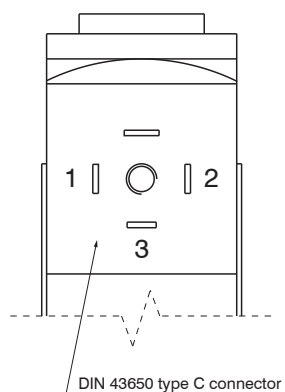
Dimensions



Model	B1	B2	B3	D1	D2	D4	L1	L2	L3	L4	L5	L8	L9
#171..	48	21	42	G1/8" G1/4" 1/4" NPT	/	/	114,7	27,5	/	55	32,7	/	/
#172..	62	28,5	57	G3/8" G1/4" 3/8" NPT	/	/	125	34	/	68	30	/	/
#173..	73	32,5	65	G3/8" G1/2" 1/2" NPT	/	/	137	40	/	80	30	/	/
#174..	99	44	88	G1"	8,5	162	52,5	10,5	105	30	25	70	

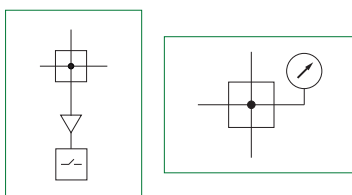
Electrical connection

- 1 = neutral
- 2 = N.C. contact
- 3 = N.O. contact



Air intake with pressure gauge or digital pressure switch integrated (PM-PW-PP-PZ)


- ▶ Available with pressure gauge or digital pressure switch integrated
- ▶ Air intake connection device available
- ▶ Material and version wide selection
- ▶ Available in 4 sizes with connections from 1/8" to 1"
- ▶ Atex certification (II 2GD or II 3GD)
for Integrated pressure gauge version

2
AIR TREATMENT


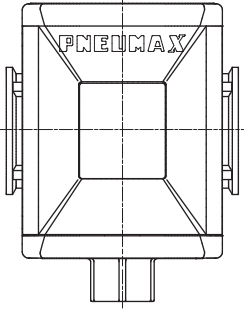
Technical characteristics					
Size		Size 1	Size 2	Size 3	Size 4
Body and connections type		Technopolymer body, integrated technopolymer connections Technopolymer body, metal connections			/ /
		/	Aluminium body, integrated aluminium connections		
IN / OUT connections	T version	G1/4"	G3/8"	G1/2"	not available
	N version	G1/8" - G1/4" - 1/4" NPT	G3/8" - G1/4" - 3/8" NPT	G3/8" - G1/2" - 1/2" NPT	
	P version	not available	G3/8"	G1/2"	G1"
Air intake connection		G1/4"	G3/8"	G3/8"	G1/2"
Assembly configuration		Stand alone /			Panel mounted
Assembly positions		Indifferent			
Pressure measurement		Integrated pressure gauge Digital pressure switch			
Max. fittings torque IN / OUT connections		G1/8" metal: 15Nm G1/4" metal: 20Nm G1/4" technopolymer: 9Nm	G1/4" metal: 20Nm G3/8" metal: 25Nm G3/8" technopolymer: 16Nm	G3/8" metal: 25Nm G1/2" metal: 30Nm G1/2" technopolymer: 22Nm	G1"metal: 35Nm

Operational characteristics				
Size	Size 1	Size 2	Size 3	Size 4
Maximum working pressure	13 bar			
Working temperature with integrated pressure gauge	-5°C +50°C		-30°C +80°C (only with metal body)	
Working temperature with digital pressure switch	0°C +50°C			

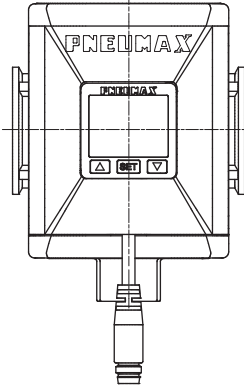
Weights					
	Size	Size 1	Size 2	Size 3	Size 4
Technopolymer body version with Integrated pressure gauge		83 g	161 g	249 g	/
Technopolymer body version with integrated digital pressure switch		111 g	189 g	277 g	/
Aluminium body version with Integrated pressure gauge		/	245 g	373 g	947 g
Aluminium body version with integrated digital pressure switch		/	273 g	401 g	963 g

Design

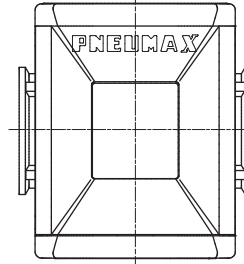
Size 1 - Size 2 - Size 3
Technopolymer body and
integrated pressure
gauge



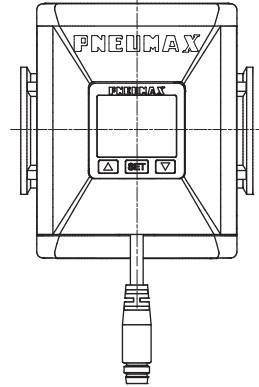
Size 1 - Size 2 - Size 3
Technopolymer body and
integrated digital
pressure switch



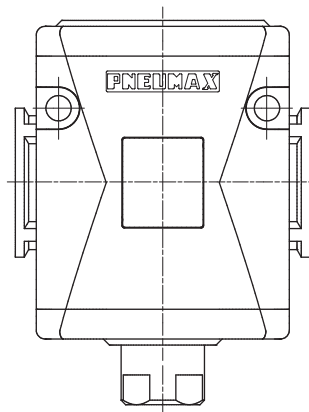
Size 2 - Size 3
Aluminium body and
integrated pressure
gauge



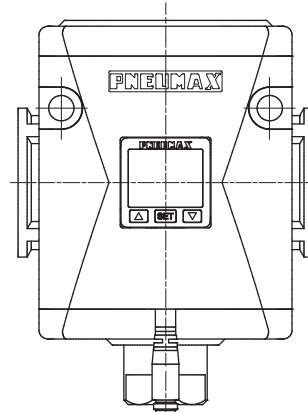
Size 2 - Size 3
Aluminium body and
integrated digital
pressure switch



Size 4
Integrated pressure
gauge version



Size 4
Integrated digital
pressure switch version





Order codes

T 17 3B P P A

Version
N : Technopolymer body and metal inserts (not available for size 4)
T : Technopolymer body and thread (not available for size 4)
P : Aluminum body (not available for size 1)

Size and connections
1A : Size 1 - G1/8" only for N version
1B : Size 1 - G1/4" only for T - N versions
1C : Size 1 - 1/4" NPT only for N version
2A : Size 2 - G1/4" only for N version
2B : Size 2 - G3/8" for all versions
2C : Size 2 - 3/8" NPT only for N version
3A : Size 3 - G3/8" only for N version
3B : Size 3 - G1/2" for all versions
3C : Size 3 - 1/2" NPT only for N version
4B : Size 4 - G1" only for P version

Pressure measurement options
M : Integrated pressure gauge
W : Integrated pressure gauge Right - Left
P : Digital pressure switch
Z : Digital pressure switch Right - Left

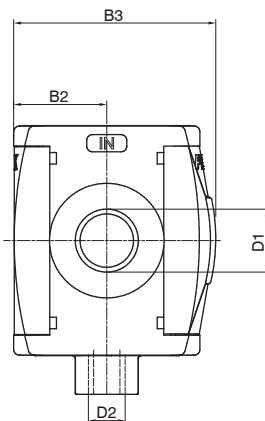
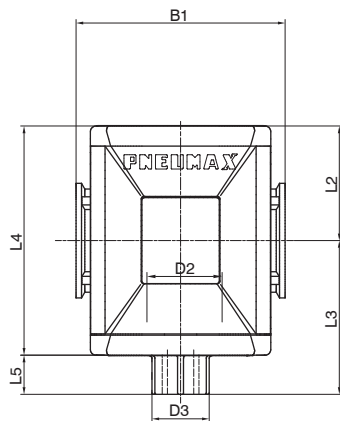
Digital pressure switch options
A : Cable 150 mm + M8 PNP
B : Cable 150 mm + M8 NPN
C : Cable 2 m PNP
D : Cable 2 m NPN

Example : T173BPPA : M8 PNP digital pressure switch, size 3 G1/2"

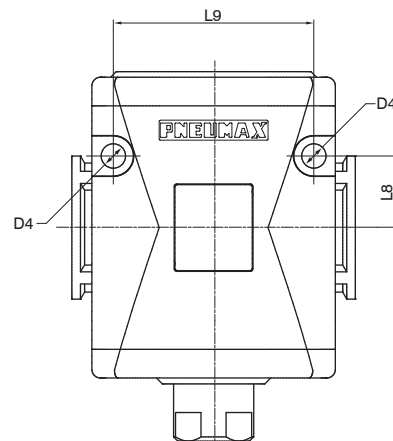
2 AIR TREATMENT

Dimensions - Integrated pressure gauge version

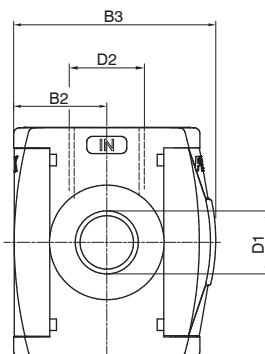
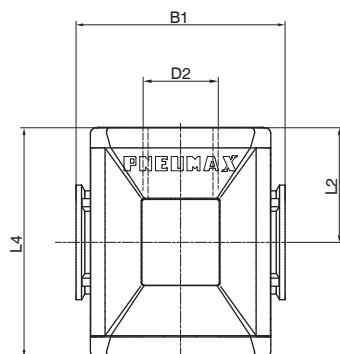
Technopolymer body version



Fixing holes dimension detail (only for size 4)

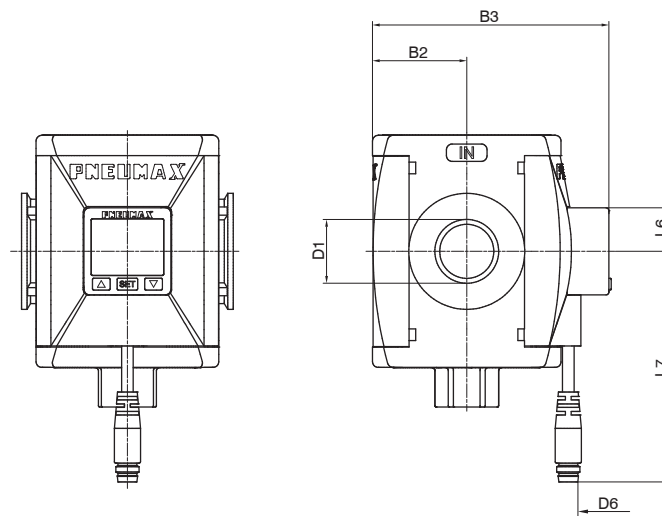


Aluminium body version (Size 2 - Size 3)



Model	B1	B2	B3	D1	D2	D3	D4	L2	L3	L4	L5	L8	L9
#171..	48	21	48,5	G1/8" G1/4" 1/4" NPT	G1/4"	Ch. 17	/	27,5	38,5	55	11	/	/
#172..	62	28,5	62,5	G1/4" G3/8" 3/8" NPT	G3/8"	Ch. 20	/	34	48	68	14	/	/
#173..	73	32,5	70,5	G3/8" G1/2" 1/2" NPT	G3/8"	Ch. 20	/	40	54	80	14	/	/
#174..	99	44	90,5	G1"	G1/2"	Ch. 25	8,5	52,5	74,5	105	22	25	70

Variable dimensions - Digital pressure switch version



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AIR TREATMENT

Model	B2	B3	D1	D6 - Type of digital pressure switch		L6	L7 - Type of digital pressure switch	
				A - B	C - D		A - B	C - D
#171..	21	60	G1/8" G1/4" 1/4" NPT	M8 - 3 PIN	3 x 0,129 mm, Ø4 mm	15	150	2000
#172..	28,5	73,5	G1/4" G3/8" 3/8" NPT					
#173..	32,5	81,5	G3/8" G1/2" 1/2" NPT					
#174..	44	101,5	G1"					

► **Digital pressure switch**

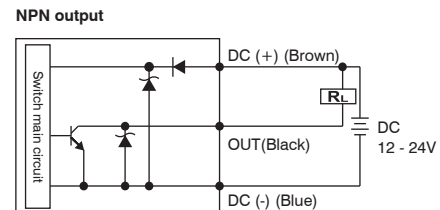
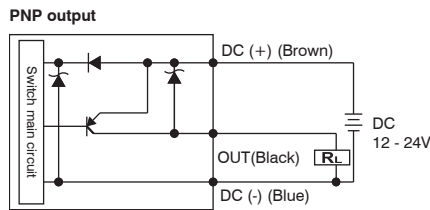


- 3 color digital LCD display, easy readout
- 4 units of measurement for pressure indication
- Optional PNP or NPN digital output
- N.O. and N.C. output contact selection directly on the digital pressure switch
- Available with M8-3PIN connector or 3 wire cable length 2 m
- Available only in combination with a air intake

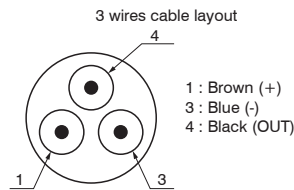
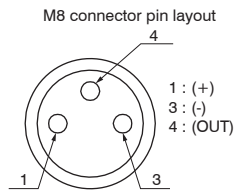
2

AIR TREATMENT

Output circuit wiring diagrams



Digital pressure switch lay out



Cable ordering code

- MCH1** : cable 3 wires l=2,5m with M8 connector
- MCH2** : cable 3 wires l=5m with M8 connector
- MCH3** : cable 3 wires l=10m with M8 connector

Connector



Technical characteristics	
Pressure range and display	0 - 10 bar
Max. inlet pressure	15 bar
Fluid	40µm filtered and dehumidified air
Display unit of measurement	MPa - kgf/cm ² - bar - psi
Supply voltage	12 - 24 VDC
Current consumption	≤40mA (without load)
Digital output type	PNP - NPN
Type of contact output	Normally Open - Normally Closed
Max. load current	125 mA
Digital output activation mode	single threshold with fixed hysteresis - window with fixed hysteresis - window without hysteresis
Digital output activation time	0.05s - 0.25s - 0.5s - 1s - 2s - 3s (selections for chattering-proof options)
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad
Indicator accuracy	≤ ±2% full scale value ± 1 digit
IP Rating	IP40
Working temperature	0°C + 50°C
Cable section	3 x 0,129mm ² , Ø4 mm, PVC

Supply and discharge valves SAFELINE



2

AIR TREATMENT

General

Upon implementation of the AIRPLUS TG3 series, air-treatment units, PNEUMAX develops a supply and discharge valve, with an electropneumatic control and spring-return, fitted with a diagnostic system regarding the state of the valve, with the possibility of creating a double channel to determine the system's redundancy. The valve, as a safety feature, provides the interruption of the air supply and the exhaust of the air circuit it is connected to. The version with one single channel emphasises the features of an EV 3/2 NC, monostable with electropneumatic control and spring-return, whose operation involves:

- condition of the VALVE AT REST, with a DE-ENERGISED coil; Port 1 (air supply) is not been connected to Port 2 (downstream air circuit). Port 2 is discharged out of Port 3;
- condition of the VALVE ACTIVATED, with an ENERGISED coil; Port 1 (air supply) is connected to Port 2 (downstream air circuit), with Port 3 (Discharge) closed.

By de-energising the coil, the system resets the condition of VALVE AT REST by means of the return spring, which repositions the spool. Once again Port 2 (downstream air circuit), discharges via Port 3. The state of the valve is constantly monitored by a diagnostic system, using a Hall effect sensor, which reads the position of the spool and consequently takes note of the valve's position.

The sensor is in the ON position when the valve is at rest (DE-ENERGISED coil), while it is in the OFF position when the valve is activated (ENERGISED coil).

The sensor is in the OFF position under conditions of an activated valve (DE-ENERGISED coil), indicating a possible problem.

The SAFELINE supply and discharge valve in the single version is a classified component in CATEGORY 2 according to ISO EN 13849 and is appropriate for use in safety circuits until PL=C.

The version with a double redundant channel is made using two single solenoid valves 3/2 NC provided with diagnostics, mounted in series so that the Port 2 of the first solenoid valve is linked to the Port 1 of the second solenoid valve. It is sufficient that only one of the EV is de-energised to guarantee the discharge of the air circuit. If one of the two EV must remain blocked due to a malfunction, the other one ensures the discharge function of the pneumatic installation. Even in this case, the diagnostic system of both solenoid valves constantly monitors the state of the 2 single EV.

The SAFELINE supply and discharge valve in the double version is a classified component in CATEGORY 4 according to ISO EN 13849 and is appropriate for use in safety circuits until PL=E.

Both single and double solenoid valves are provided with the following certifications released by BUREAU VERITAS:

- TYPE APPROVAL certificate according to the EN ISO 13849 regulations
- certification of examination of compliance in accordance to the machinery directive 2006/42/CE

The AIRPLUS SAFELINE are solenoid valves marked as ATEX →

II 3G Ex nA IIC T6 Gc (X) II 3D Ex tc IIIC T=80°C Dc (X) IP65
--



Construction characteristics

Body	Aluminium
Operatore Solenoide	Technopolymer
Rear end cap	Aluminium
Spool	Aluminium
Spool seals	Polyurethane
Piston	Aluminium
Spring	EN 10270-1 DH steel
Electrical Interface	Male MP12 4 PIN TYPE A connector

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.
Working temperature	-10°C +50°C
Minimum working pressure	2,5 bar
Maximum working pressure	10 bar

ASSEMBLY AND INSTALLATION:

Undertake the installation respecting the safety requirements with regards to the system and components for hydraulic and pneumatic transmissions. Install the device as close as possible to the point of use. Its assembly is possible in any position. Pay attention to the flow direction, indicated on the main body with the labels IN and OUT. During the components discharge, high levels of noise occur. The use of a silencer on the discharge port is recommended. Ensure there is sufficient space for assembly during the installation process. Please ensure that the discharge area is always clear, and in case a silencer is used, periodically verify that it is not obstructed. It is possible to integrate and install the device in an existing AIRPLUS group or in a new installation, or else to use the device individually attaching it by aligning the assembled unit with the relevant fastening flange for the supply and discharge valve, or to use the device individually attaching it by aligning the assembled unit with the type "Y" fastening flange for the double supply and discharge valve.

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AIR TREATMENT



WARNING!

Pay particular attention to external factors such as the nearness of live wires, magnetic fields, metallic objects providing magnetic conduction very close to the device, which may influence and disturb the diagnostic system.



WARNING!

The electrical connection must be made exclusively by specialized personnel, using components that have no voltage present. Only use power supplies which can guarantee a safe electrical isolation of the working voltage in accordance to IEC/EN 60204-1. Additionally, observe the requirements anticipated by the PELV circuits in accordance to IEC/EN 60204-1.

CARE AND MAINTENANCE



WARNING!

Do not connect or disconnect the device when energised! Do not open and/or disassemble the parts that are included in the energised valve. Once the power supply is disconnected, wait for a few minutes before opening or disassembling parts of the valve that result in its disassembly.

Before carrying out any operation, it is essential to remove the pneumatic and power supply to the device and wait for the residual pressure to be completely discharged.

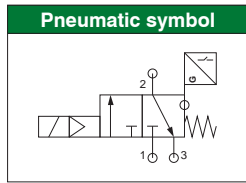
Please ensure that the discharge is always clear, and in case a silencer is used, periodically verify that it is not obstructed.

Periodically remove any dust deposits from the valve using a damp cloth. Use soapy water to clean the device.

Do not use corrosive or alcohol-based products.

For maintenance operations on internal components, please consult with PNEUMAX SPA.

Supply and discharge valve single (VS)

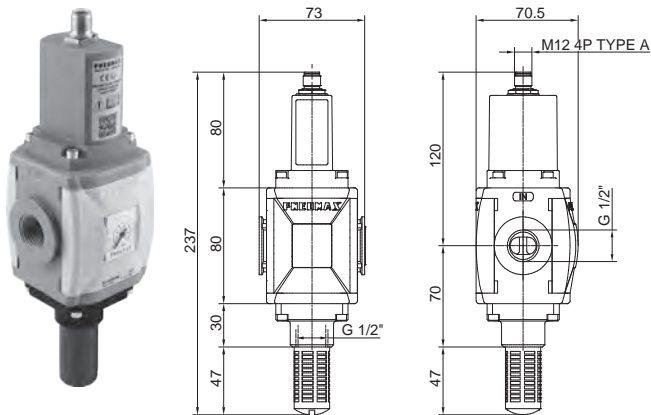
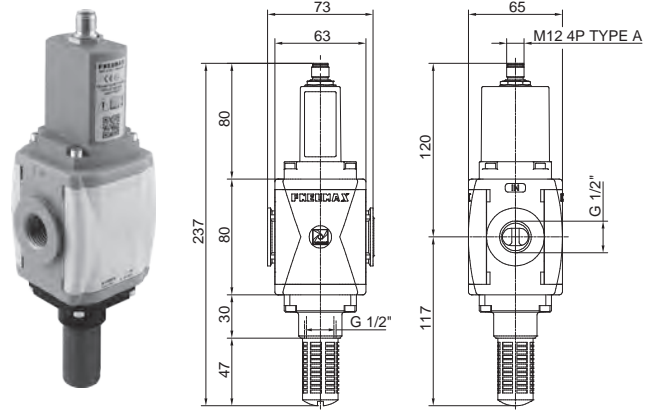
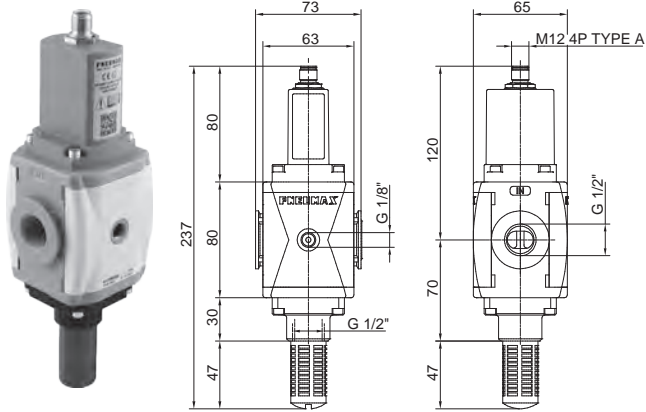


ATEX CE II
II 3G Ex nA IIC T6 Gc (X)
II 3D Ex tc IIIC T=80°C Dc (X) IP65

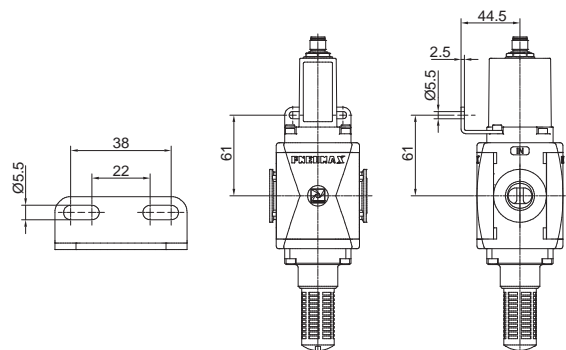


Electrical connection

PIN	Description
1	+24 VDC (Sensor)
2	+24 VDC (EV)
3	GND (Sensor+EV)
4	SENSOR OUTPUT



Dimensions with fixing bracket mounted



2
AIR TREATMENT

Electrical characteristics		Technical characteristics		Ordering code
Electrical connection	Male M12 4 PIN TYPE A connector	Connections	G1/2" UNI-ISO 228/1	N173BVS00
Coil Features	24VDC, 1 Watt	Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.	
Suppressor diode for coil reverse voltage spike	Present	Function	3/2 N.C. monostable	V = Standard* (without connections) M = Integrated pressure gauge W = Integrated pressure gauge (Right-Left) G = G1/8" pressure gauge connection
Supply voltage allowance	-5% +10%	Minimum working pressure	2,5 bar	
Electrical characteristics of sensor		Maximum working pressure	10 bar	FIXING = Without fixing* 01 = Fixing bracket mounted (Left-Right) 02 = Fixing bracket mounted (Right-Left)
Sensor characteristics	10 - 30V DC	Working temperature	-10°C +50°C	
Operating principle	Hall effect	Flow rate at 6bar Δp (from 1 to 2)	3500 NL/min	0 * no additional letter required
Contact type	N.O.	Flow rate at 6bar Δp (from 2 to 3)	2000 NL/min	
Output type	PNP	Flow rate at 6bar (from 2 to 3) with free discharge	3800 NL/min	
Permanent maximum current	100 mA	Type of installation	Stand alone	
Permanent maximum power	3 Watt	Assembly positions	Indifferent	
Voltage drop max.	2 V	Noise level	90 dB	
Safety characteristics		Response time ON ISO 12238	36 ms	
Regulatory compliance	EN ISO 13849-1	Response time OFF ISO 12238	76 ms	
Safety function fulfilled	Interruption of supply and unloading of the downstream pneumatic circuit	IP Rating	IP65 (with connector installed)	
Performance Level (PL)	c			
UNI EN 13849 category	2			
Safety Integrity Level (SIL)	1			
PFH _d	1,7*10 ⁻⁶			
CE marking	In accordance with the EU Machinery Directive, annex V			

Installation tip of a safety system by means of a single valve

Please note: the safety valve is not sufficient alone to guarantee the safety function. Its setup requires the use of a monitoring device.

In this setup, the SIEMENS® 3SK1112-1BB40 monitoring device has been indicated, activated by an S2 start / reset pushbutton, blocked by an S1 emergency shutdown key.

Said monitoring device, by means of the readings of the sensor placed inside the valve (reading made by means of the K1 relay), operates the activation of the valve itself. The monitoring device transmits the safety status as an output.

The preliminary estimate and the final verification of the achieved PL are the responsibility of the designer of the part of the system dedicated to providing the safety function.

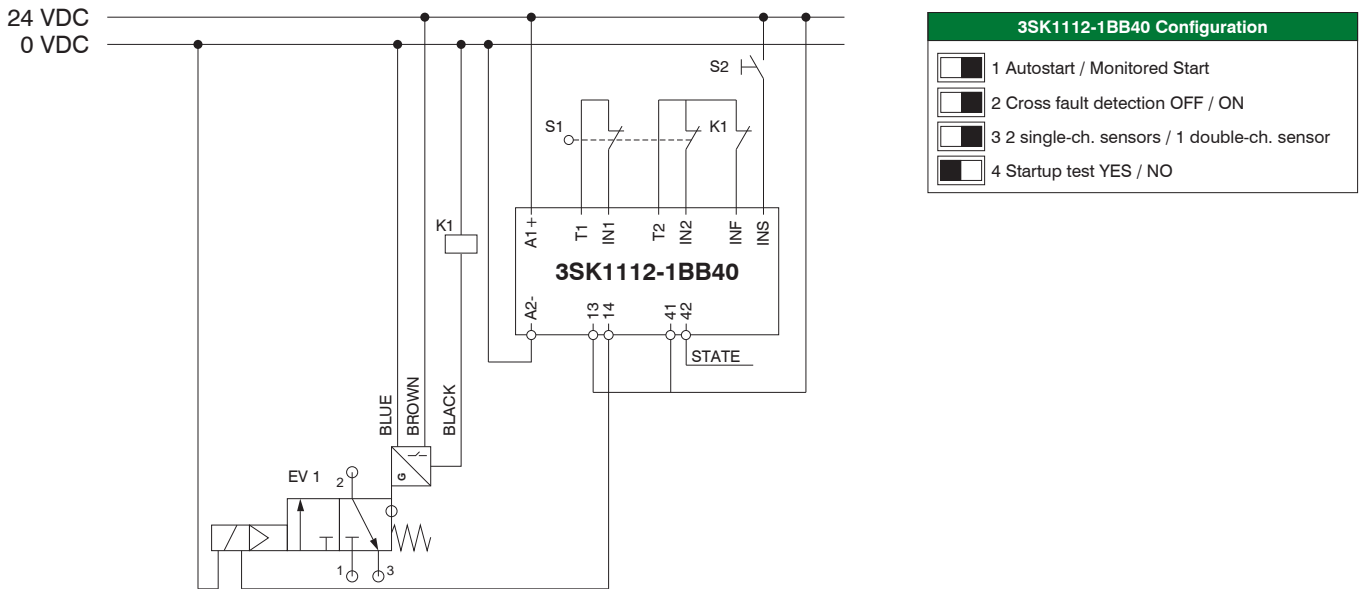
Note: with a single valve, it is not possible to obtain a PL greater than “c”.

Setup suggestions

- The double stop pushbutton is connected to clamps T1-IN1 and T2-IN2 of 3SK1112-1BB40.
- The start / reset pushbutton is connected between +24 V and the INS clamp of 3SK1112-1BB40.
- The valve is supplied between 0 V (Pin 3 of the supply connector) and the 14 clamp of 3SK1112-1BB40 (Pin 2 of the supply connector).
- The HALL effect sensor is supplied between 0 V (Pin 3 of the supply connector) and 24 V (Pin 1 of the supply connector).
- The HALL effect sensor drives (Pin 4 of the supply connector) the K1 relay, whose N.A. contact will be connected between the monitoring device's clamp T2 and INF.

The circuit diagram of the **suggested** configuration is provided, along with the configuration of 3SK1112-1BB40.

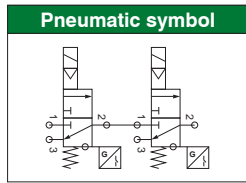
2 AIR TREATMENT



Analysis of malfunctions

The diagnostic system (monitoring device plus sensor) has the purpose of verifying the appearance of malfunctions within the valve that undermine the safety function. In particular, (with 3SK1112-1BB40 configured as in the illustration), the K1 relay prevents resetting the system by means of S2 when the coil is de-energised, but the sensor remains in the OFF position (K1 remains de-energised).

Supply and discharge valve double (V2S)

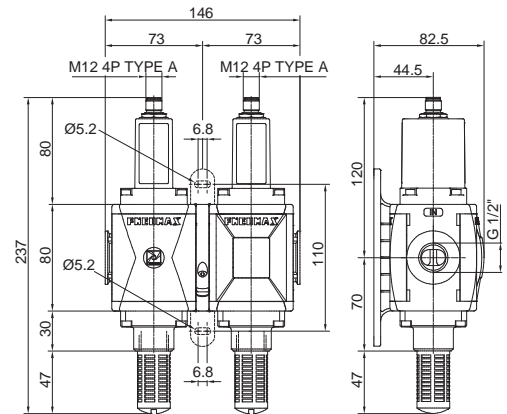
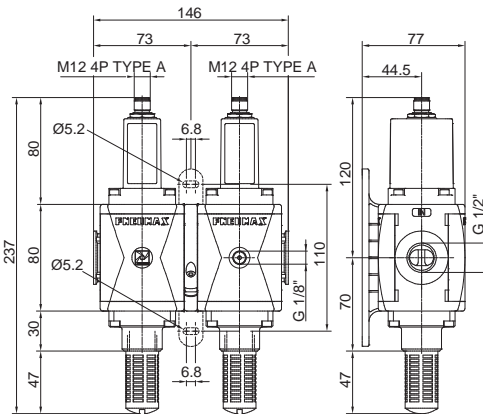
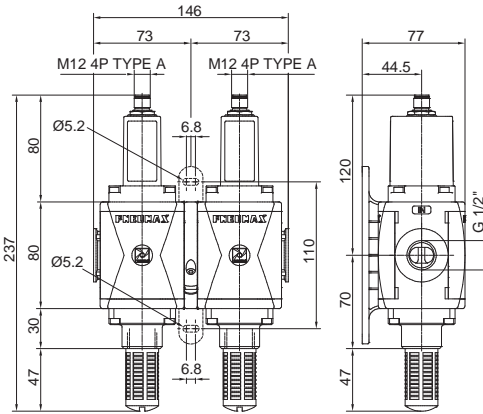


ATEX CE Ex
II 3G Ex nA IIC T6 Gc (X)
II 3D Ex tc IIIC T=80°C Dc (X) IP65



Electrical connection

PIN	Description
1	+24 VDC (Sensor)
2	+24 VDC (EV)
3	GND (Sensor+EV)
4	SENSOR OUTPUT



2

AIR TREATMENT

Electrical characteristics		Technical characteristics		Ordering code
Electrical connection	Male M12 4 PIN TYPE A connector	Connections	G1/2" UNI-ISO 228/1	N173BV2S000
Coil Features	24VDC, 1 Watt + 1 Watt	Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.	VERSIONS
Suppressor diode for coil reverse voltage spike	Present			V = Standard* (without connections) M = Integrated pressure gauge G = G1/8" pressure gauge connection
Supply voltage allowance	-5% +10%	Function	3/2 N.C. monostable	FIXING
Electrical characteristics of sensor		Minimum working pressure	2,5 bar	X = Flange X
Sensor characteristics	10 - 30V DC	Maximum working pressure	10 bar	Y = Flange Y
Operating principle	Hall effect	Working temperature	-10°C +50°C	K = Aluminium flange Y
Contact type	N.O.	Flow rate at 6bar Δp (from 1 to 2)	2500 NL/min	Z = Aluminium flange X
Output type	PNP	Flow rate at 6bar Δp (from 2 to 3)	2000 NL/min	FLOW RATE DIRECTION
Permanent maximum current	100 mA + 100 mA	Flow rate at 6bar (from 2 to 3) with free discharge	3800 NL/min	0 = Standard* (Left-Right) W = (Right-Left)
Permanent maximum power	3 Watt + 3 Watt	Type of installation	Stand alone	* no additional letter required
Voltage drop max.	2 V + 2 V	Assembly positions	Indifferent	
Safety characteristics		Noise level	90 dB	
Regulatory compliance	EN ISO 13849-1	Response time ON ISO 12238	68 ms	
Safety function fulfilled	Interruption of supply and unloading of the downstream pneumatic circuit	Response time OFF ISO 12238	79 ms	
Performance Level (PL)	e	IP Rating	IP65 (with connector installed)	
UNI EN 13849 category	4			
Safety Integrity Level (SIL)	3			
PFH _d	4,7*10 ⁻⁶			
CE marking	In accordance with the EU Machinery Directive, annex V			

Installation tip of a safety system by means of a double valve

Please note: the safety valve is not sufficient alone to guarantee the safety function. Its setup requires the use of a monitoring device.

In this setup, the SIEMENS 3SK2112 monitoring device has been indicated, activated by an S2 start / reset pushbutton, blocked by an S1 emergency shutdown key. Said monitoring device, by means of the readings of the sensors placed inside the double valve, operates the activation of the valve itself. The preliminary estimate and the final verification of the achieved PL are the responsibility of the designer of the part of the system dedicated to provide the safety function.

Setup suggestions

- The double stop pushbutton is connected to clamps T1-F-IN1 and T2-F-IN2 of 3SK2112.
- The start /reset pushbutton is connected between +24 V and the F-IN10 clamp of 3SK2112.

The double valve, for notation simplicity, is indicated as consisting of 2 valves: EV1 and Ev2

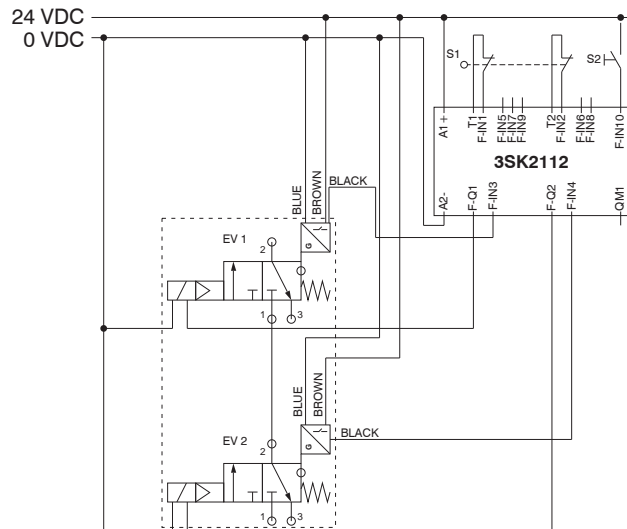
EV1

- The valve is supplied between 0 V (Pin 3 of the supply connector) and the F-Q1 clamp of 3SK2112 (Pin 2 of the supply connector).
- The HALL effect sensor is supplied between 0 V (Pin 3 of the supply connector) and 24 V (Pin 1 of the supply connector).
- The HALL effect sensor is attached (Pin 4 of the supply connector) to the monitoring device's F-IN3 clamp.

EV2

- The valve is supplied between 0 V (Pin 3 of the supply connector) and the F-Q2 clamp of 3SK2112 (Pin 2 of the supply connector).
- The HALL effect sensor is supplied between 0 V (Pin 3 of the supply connector) and 24 V (Pin 1 of the supply connector).
- The HALL effect sensor is attached (Pin 4 of the supply connector) to the monitoring device's F-IN4 clamp.

The circuit diagram of the **suggested** configuration is provided.



Analysis of malfunctions

The diagnostic system (monitoring device plus sensors) has the purpose of verifying the appearance of malfunctions within the valves, which undermine the safety function. In particular, the monitoring device must be appropriately programmed to avoid the system's reset by means of S2 when both coils are de-energised and at least one sensor remains in an OFF position.

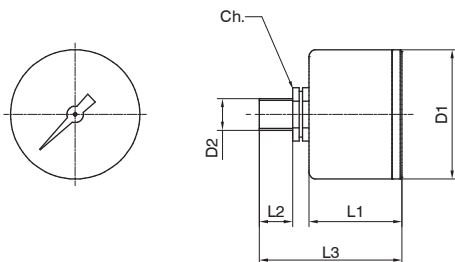
Accessories

Pressure gauge

17070 **A** **C**

Version	
A	Dial Ø40
B	Dial Ø50

Scale	
A	0 - 4 bar
B	0 - 6 bar
C	0 - 12 bar



Model	L1	L2	L3	D1	D2	Ch
17070A..	26	10	44	41	Gc - 1/8"	14
17070B..	27	10	45	49	Gc - 1/8"	14



Regulatory Framework

The purpose of the EU's Machinery Directive is to define the health and safety requirements in the framework of designing and constructing machinery. Since 2009, the new Machinery Directive has become effective in the European Union. Member countries of the EU are required to implement this standard.

The manufacturers of machinery can comply with the Machinery Directive applying the harmonised standards listed in the Official Journal of the European Union.

The design and manufacture of safety controls are developed in compliance with one of the two important harmonised standards:

UNI EN ISO 13849-1
Safety of machinery Safety-related parts of control systems Part 1: General design principles

EN 62061
Safety of machinery Functional safety of electrical, electronic and programmable control systems regarding safety

The UNI EN ISO 13849-1 standard is one of the most important harmonised standards, which has been widely used; it is intended to provide a guide to principles for design and integration of safety-related parts of the control system.

Each safety-related control system must be designed and constructed in accordance with the principles of ISO 12100 and ISO 14121 by which the possible risks are considered and assessed, in view of the intended uses and the reasonably anticipated incorrect uses.

The parts of a machinery's control system are called "Safety-related parts of control systems". Their capacity to perform a safety function under predictable conditions is assigned by means of five possible levels called "performance levels" (PL). These levels are defined in terms of probability of dangerous malfunction per hour.

PL - Performance Level	Average probability of dangerous malfunction per hour (1/h)
a	$\geq 10^{-5}$ to $< 10^{-4}$
b	$\geq 3 \times 10^{-6}$ to $< 10^{-4}$
c	$\geq 10^{-6}$ to $< 3 \times 10^{-6}$
d	$\geq 10^{-7}$ to $< 10^{-6}$
e	$\geq 10^{-8}$ to $< 10^{-10}$

The calculated PL must be greater or equal to the necessary value, which arises from the calculation of the risk correlated to one single function and to the need to reduce it to an acceptable level.

S1 Slight danger	F1 Occasional danger and brief exposure	P1 - possibly avoidable danger P2 - largely unavoidable danger	PL= a PL= b
	F2 Frequent danger and long exposure	P1 - possibly avoidable danger P2 - largely unavoidable danger	
S2 Serious danger	F1 Occasional danger and brief exposure	P1 - possibly avoidable danger P2 - largely unavoidable danger	PL= c PL= d
	F2 Frequent danger and long exposure	P1 - possibly avoidable danger P2 - largely unavoidable danger	

► **Manifold unit**



- Modular system
- Compact and linear design
- Maximum flexibility and reliability
- Up to 10 items assembly with unlimited configuration
- Flange coupling plug-n-play configuration
- Maintenance possible without completely disassembling the group
- Manifold integrated safety function elements
- Material and version wide selection
- Available in 4 sizes with connections from 1/8" to 1"
- Atex certification (II 2GD or II 3GD)

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AIR TREATMENT

Operational characteristics		Size	Size 1	Size 2	Size 3	Size 4
Maximum working pressure *		10 bar / 13 bar / 16 bar / 20 bar				
Minimum working pressure *		0,5 bar / 2,5 bar				
Working temperature *		-5°C +50°C / -30°C +80°C / -40°C +80°C				
IN / OUT connections	T version	G1/4"		G3/8"		not available
	N version	G1/8" - G1/4" - 1/4" NPT		G3/8" - G1/4" - 3/8" NPT		
	P and L version	not available		G3/8" - 1/4" NPT		G1" - 1" NPT
Assembly configuration		Stand alone Panel mounted thru fixing elements				
Assembly positions		Vertical ±5° with no restriction in case of elements without bowl				
Max. fittings torque IN / OUT connections		G1/8" metal: 15Nm G1/4" metal: 20Nm G1/4" technopolymer: 9Nm	G1/4" metal: 20Nm G3/8" metal: 25Nm G3/8" technopolymer: 16Nm	G3/8" metal: 25Nm G1/2" metal: 30Nm G1/2" technopolymer: 22Nm	G1" metal: 35Nm	
Max. fittings torque G1/8" pressure gauge connection		G1/8" metal: 15Nm G1/8" technopolymer: 4Nm				



* Module configuration shall be identified according to individual technical details of each items included in applicable manifold

Manifold assembly

The assembly operation of selected items (module) is carried out thru dedicated quick connection flanges.
Both aluminum and techno polymer materials selection available, with fixing holes in case of panel mounting configuration.
Due to its design, Pneumax connection flanges allow user-friendly maintenance activities with no need of entire manifold disassembling procedure.



Thanks to a wide range of modules with different functions and characteristics, together with a wide choice of materials selection, make the Pneumax AIRPLUS air treatment units a robust, reliable and extremely flexible modular system, adaptable to different applications. AIRPLUS units properly assembled are modular with unlimited configurations and solutions and capable to satisfy and fulfill all their functions of compressed air treatment. Pneumax Airplus air treatment units can be integrated with safety elements that comply with EN-ISO 13849-1 and CE marking according to EU Machinery Directive, Annex V. Simple instruction provides an easy manifold configuration.



Configuration instructions

Manifold configuration as per following instructions.
As a result, a dedicated code will be provided, and the two main parameters will be identified, as follow:
Features applicable to all items included in manifold (i.e. version, size, connection, flow direction)
Assembly sequence of the single item + coupling flanges
Note: Max 10 items for each manifold.

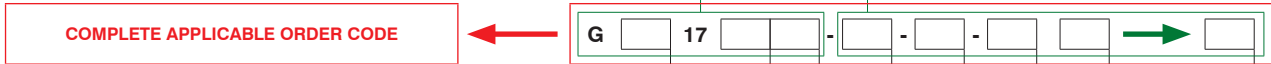
The group can be configured by consulting the Pneumax catalog here:
<http://pneumax.partcommunity.com/3d-cad-models/>
also reachable through a special link available on the home page of the Pneumax website



Order codes

Initial code that identifies the main characteristics of the group such as:
- version
- size and connections
- flow direction
These will be the same for all the modules included in manifold, in accordance with the characteristics of the individual items available

Code that identifies the succession of individual modules and related coupling flanges included in manifold from module 1 to 10



Version	
N	Technopolymer body and metal inserts (not available for size 4)
T	Technopolymer body and thread (not available for size 4)
P	Aluminum body (not available for size 1)
L	Aluminum body, low temperature (not available for size 1)

Size and connections	
1A	Size 1 - G1/8" only for N version
1B	Size 1 - G1/4" only for T - N versions
1C	Size 1 - 1/4" NPT only for N version
2A	Size 2 - G1/4" only for N version
2B	Size 2 - G3/8" for all versions
2C	Size 2 - 3/8" NPT only for N version - 1/4" NPT only for P - L versions
3A	Size 3 - G3/8" only for N version
3B	Size 3 - G1/2" for all versions
3C	Size 3 - 1/2" NPT only for N - P - L versions
4B	Size 4 - G1" only for P - L versions
4C	Size 4 - 1" NPT only for P - L versions

Flow direction	
:	From left to right
W	From right to left

Module 1	
See list of modules	

Mounting hardware 1	
X	Technopolymer flange X
Y	Technopolymer flange Y
K	Aluminium flange X
T	Aluminium flange Y

Module 2	
See list of modules	

Mounting hardware 1	
X	Technopolymer flange X
Y	Technopolymer flange Y
K	Aluminium flange X
T	Aluminium flange Y

Module 10	
See list of modules	



2 AIR TREATMENT

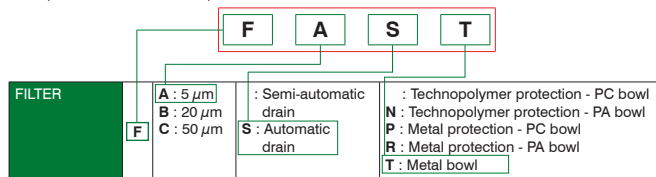


List of modules

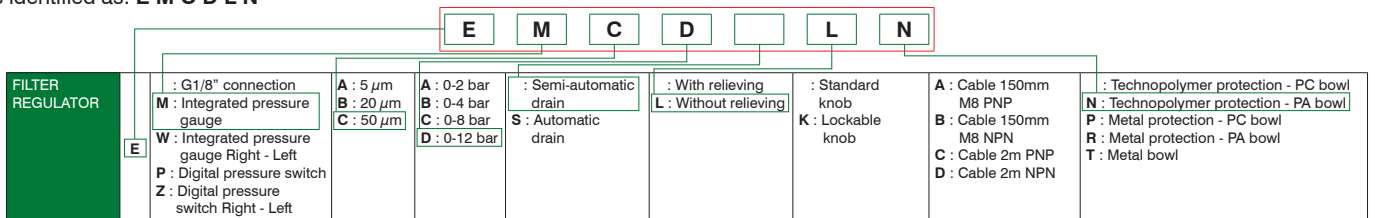
Below the list of modules available for assembly of the manifold

FILTER	F	A : 5 µm B : 20 µm C : 50 µm	: Semi-automatic drain S : Automatic drain	: Technopolymer protection - PC bowl N : Technopolymer protection - PA bowl P : Metal protection - PC bowl R : Metal protection - PA bowl T : Metal bowl					
COALESCING FILTER	DA		: Semi-automatic drain S : Automatic drain	: Technopolymer protection - PC bowl N : Technopolymer protection - PA bowl P : Metal protection - PC bowl R : Metal protection - PA bowl T : Metal bowl					
OIL REMOVAL FILTER	D	AV : Size 4 BV : Size 3 CV : Size 3 oversize cartridge	: Semi-automatic drain S : Automatic drain	: Technopolymer protection - PC bowl N : Technopolymer protection - PA bowl P : Metal protection - PC bowl R : Metal protection - PA bowl T : Metal bowl					
CARBON FILTER	DD			: Technopolymer protection - PC bowl N : Technopolymer protection - PA bowl P : Metal protection - PC bowl R : Metal protection - PA bowl T : Metal bowl					
REGULATOR	R	: G1/8" connection M : Integrated pressure gauge W : Integrated pressure gauge Right - Left P : Digital pressure switch Z : Digital pressure switch Right - Left	A : 0-2 bar B : 0-4 bar C : 0-8 bar D : 0-12 bar	: With relieving and improved relieving L : Without relieving R : Improved relieving	: Standard knob K : Lockable knob	A : Cable 150mm M8 PNP B : Cable 150mm M8 NPN C : Cable 2m PNP D : Cable 2m NPN			
FILTER REGULATOR	E	: G1/8" connection M : Integrated pressure gauge W : Integrated pressure gauge Right - Left P : Digital pressure switch Z : Digital pressure switch Right - Left	A : 5 µm B : 20 µm C : 50 µm	A : 0-2 bar B : 0-4 bar C : 0-8 bar D : 0-12 bar	: Semi-automatic drain S : Automatic drain	: With relieving L : Without relieving	: Standard knob K : Lockable knob	A : Cable 150mm M8 PNP B : Cable 150mm M8 NPN C : Cable 2m PNP D : Cable 2m NPN	: Technopolymer protection - PC bowl N : Technopolymer protection - PA bowl P : Metal protection - PC bowl R : Metal protection - PA bowl T : Metal bowl
LUBRICATOR	L		: No electric level sensor device A : Electrical minimum level sensor NO C : Electrical minimum level sensor NC					: Technopolymer protection - PC bowl N : Technopolymer protection - PA bowl P : Metal protection - PC bowl R : Metal protection - PA bowl	
SHUT OFF VALVE	V	L : Manual P : Pneumatic E : Solenoid		15mm coil A4 : 12 V DC A5 : 24 V DC A6 : 24 V AC (50-60 Hz) A7 : 110 V AC (50-60 Hz) A8 : 230 V AC (50-60 Hz) A9 : 24 V DC (1 Watt) 22mm coil B2 : Mechanical M2, without coil B4 : 12 V DC B5 : 24 V DC B6 : 24 V AC (50-60 Hz) B7 : 110 V AC (50-60 Hz) B8 : 230 V AC (50-60 Hz) B9 : 24 V DC (2 Watt) 30mm coil C5 : 24 V DC C6 : 24 V AC (50-60 Hz) C7 : 110 V AC (50-60 Hz) C8 : 230 V AC (50-60 Hz) C9 : 24 V DC (2 Watt)					
SAFETY VALVE	V	S : Single 2S : Double		: Without connection M : Integrated pressure gauge W : Integrated pressure gauge (Right - Left) G : G1/8" pressure gauge connection			X = Flange X Y = Flange Y K = Aluminium flange Y Z = Aluminium flange X		
PROGRESSIVE START-UP VALVE	AP	: Size 1 - Size 2 - Size 3 W : Size 4 - flow direction Right - Left							
AIR INTAKE	PA								
AIR INTAKE WITH PRESSURE GAUGE OR DIGITAL PRESSURE SWITCH INTEGRATED	P		M : Integrated pressure gauge W : Integrated pressure gauge (Right - Left) P : Integrated digital pressure switch Z : Integrated digital pressure switch (Right - Left)				A : Cable 150mm M8 PNP B : Cable 150mm M8 NPN C : Cable 2m PNP D : Cable 2m NPN		
PRESSURE SWITCH	PP	: Size 1 - Size 2 - Size 3 W : TG4 - flow direction Right - Left							

Examples of module identification: 5µm filter, automatic drain, metal bowl is identified as: **F A S T**



- Filter regulator with pressure gauge 50µm, 0-12 bar semi-automatic drain, without relieving, technopolymer bowl protection, PA bowl, is identified as: **E M C D L N**

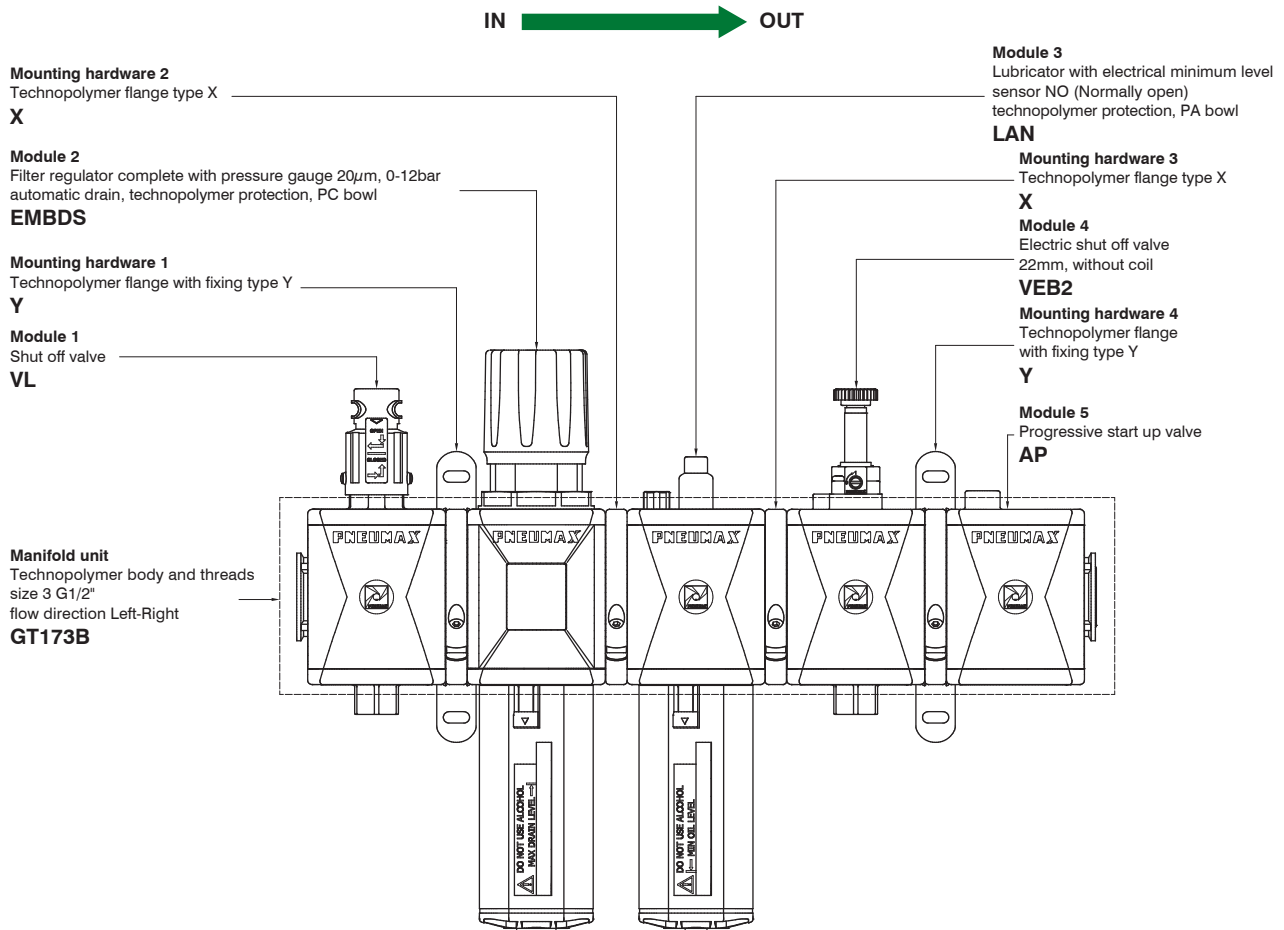


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AIRPLUS assembled groups configuration

Configuration sample:

- Shut off valve
- Filter regulator, 20µm, 0-12bar, automatic drain
- Lubricator with electrical minimum level sensor NO
- Electric shut off valve, 22mm, without coil
- Progressive start-up valve



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AIR TREATMENT

Applicable order code:

Initial code that identifies the main characteristics of the group such as:
- version
- size and connections
- flow direction
These will be the same for all the modules included in manifold, in accordance with the characteristics of the individual items available

Code that identifies the succession of individual modules and related coupling flanges included in manifold from module 1 to 10

G T 17 3B - VL - Y - EMBDS - X - LAN - X - VEB2 - Y - AP



GT173 - VL - Y - EMBDS - X - LAN - X - VEB2 - Y - AP



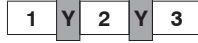
Flanges positioning schematic

Here below some indications related to flanges positioning according to the number of seats. Pneumax recommend configuration in compliance with the following schematic:

Group 2 seats



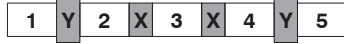
Group 3 seats



Group 4 seats



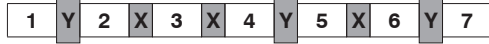
Group 5 seats



Group 6 seats



Group 7 seats



Group 8 seats



Group 9 seats



Group 10 seats



Y: Y type flange (Aluminium or technopolymer)
X: X type flange (Aluminium or technopolymer)
1 - 10 : AIRPLUS modules

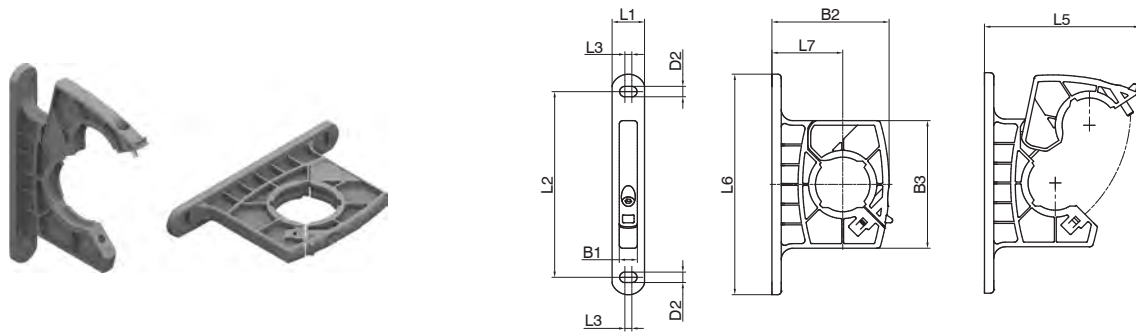
2
AIR TREATMENT

Quick coupling flanges

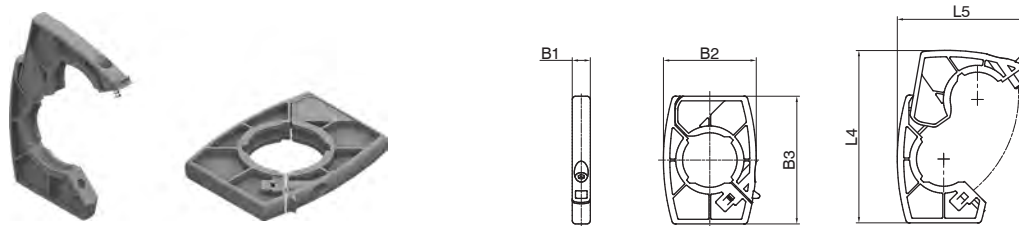
Pneumax Airplus quick coupling flanges series allow both module rapid fixing and panel mounted configuration. Due to its design, Pneumax connection flanges allow user-friendly maintenance activities with no need of entire manifold disassembling procedure. Two types of flange are available: X type flange for assembling the modules together, and Y type flange suitable for panel mounted also. Both types are made of technopolymer or die-cast aluminum.

► **Technopolymer flanges**

Flange Y



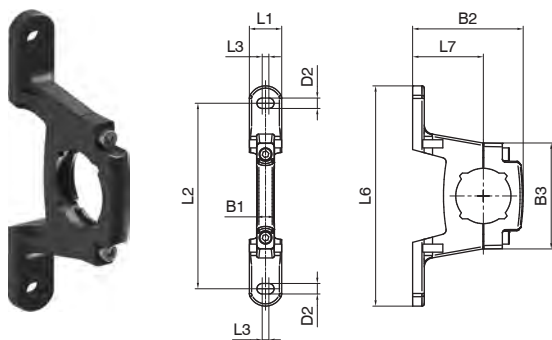
Flange X



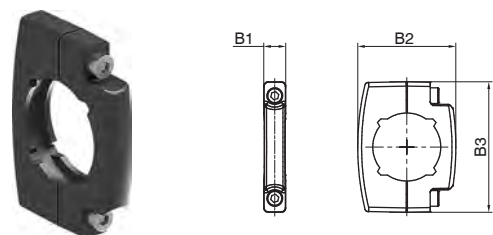
Model	B1	B2	B3	D2	L1	L2	L3	L4	L5	L6	L7
T171Y	7,8	50,5	55	Ø4,5	14	80	3	/	66	95	30,5
T171X		40		/	/	/	/	74,5	55,5	/	/
T172Y	9,7	67,6	68	Ø5,2	18	95	6,8	/	86,5	117,9	40,5
T172X		53,6		/	/	/	/	96,5	72,5	/	/
T173Y	9,7	75,5	80	Ø5,2	18	110	6,8	/	98,3	133	44,5
T173X		62		/	/	/	/	112,8	85	/	/
T174Y	13,7	106,5	105	Ø8,5	25	148	6,5	/	133,5	175	64
T174X		85		/	/	/	/	153,5	112	/	/

► **Aluminium flanges**

Flange Y



Flange X



Model	B1	B2	B3	D2	L1	L2	L3	L4	L5	L6	L7
N171Y	7,8	47,7	45,7	Ø4,5	14	80	3	/	66	95	30,5
N171X		34,4		/	/	/	/	74,5	55,5	/	/
N172Y	9,7	64,6	55,6	Ø5,2	18	95	6,8	/	86,5	117,9	40,5
N172X		55,6		/	/	/	/	96,5	72,5	/	/
N173Y	9,7	75,5	56	Ø5,2	18	110	6,8	/	98,3	133	44,5
N173X		62		/	/	/	/	112,8	85	/	/
N174Y	13,7	106,5	102	Ø8,5	25	148	6,5	/	133,5	175	64
N174X		85		/	/	/	/	153,5	112	/	/



Product overview

2 AIR TREATMENT

PRODUCT	BODY MATERIAL	SIZES AND CONNECTIONS			
		SIZE 1	SIZE 2	SIZE 3	SIZE 4
FILTER	Zinc alloy	G1/8" - G1/4"	/	/	/
	Technopolymer	G1/8" - G1/4"	/	/	/
	Aluminum	/	G1/4" - G3/8"	G3/8" - G1/2" - G 3/4"	G1"
DYNAMIC DRIER	Aluminum	/	/	/	G1"
FILTER REGULATORS	Zinc alloy	G1/8" - G1/4"	/	/	/
	Technopolymer	G1/8" - G1/4"	/	/	/
	Aluminum	/	G1/4" - G3/8"	G3/8" - G1/2" - G 3/4"	/
REGULATORS	Zinc alloy	G1/8" - G1/4"	/	/	/
	Technopolymer	G1/8" - G1/4"	/	/	/
	Aluminum	/	G1/4" - G3/8"	G3/8" - G1/2" - G 3/4"	G1"
REGULATORS WITH INTEGRATED PRESSURE GAUGE	Zinc alloy	G1/8" - G1/4"	/	/	/
	Technopolymer	G1/8" - G1/4"	/	/	/
	Aluminum	/	G1/4" - G3/8"	G3/8" - G1/2"	/
HIGH SENSITIVE AIR PRESSURE REGULATORS WITH HIGH FLOW RATE RELIEVING	Aluminum	G1/4"	/	G1/2"	/
HIGH SENSITIVE PRESSURE REGULATOR WITH PNEUMATIC PILOT	Aluminum	/	/	G1/2"	/
PILOTED PRESSURE REGULATORS	Aluminum	/	G1/4" - G3/8"	G3/8" - G1/2"	G1"
PANEL MOUNTING PRESSURE REGULATOR	Technopolymer	G1/8" - G1/4"	/	/	/
PRESSURE REGULATORS FOR MANIFOLD	Zinc alloy	G1/8" - G1/4"	/	/	/
MANIFOLD PRESSURE REGULATORS	Zinc alloy	G1/8" - G1/4"	/	/	/
LUBRICATORS	Zinc alloy	G1/8" - G1/4"	/	/	/
	Technopolymer	G1/8" - G1/4"	/	/	/
	Aluminum	/	G1/4" - G3/8"	G3/8" - G1/2" - G 3/4"	G1"
SHUT-OFF VALVE	Zinc alloy	G1/4"	/	/	/
	Technopolymer	G1/4"	/	/	/
	Aluminum	/	G3/8"	G1/2"	G1"
ELECTRIC SHUT-OFF VALVE	Zinc alloy	G1/4"	/	/	/
	Technopolymer	G1/4"	/	/	/
	Aluminum	/	G3/8"	G1/2"	/
PNEUMATIC SHUT-OFF VALVE	Zinc alloy	G1/4"	/	/	/
	Technopolymer	G1/4"	/	/	/
	Aluminum	/	G3/8"	G1/2"	/
PROGRESSIVE START-UP VALVE	Aluminum	G1/4"	G3/8"	G1/2"	G1"
AIR INTAKE	Aluminum	G1/4"	G3/8"	G1/2"	G1"
AIR INTAKE -"H" PROFILE	Aluminum	G1/4"	G3/8"	G1/2"	/
PRESSURE SWITCH COMPLETE WITH ADAPTER	Aluminum	G1/8"	G3/8"	G1/2"	Ø36

Air service units, series 1700

- Modular sistem
- Available for 4 sizes with connections from 1/8" to 1"
- ATEX certification (II 2GD o II 3GD) on request



Construction and working characteristics

1700 air treatment series includes a wide range of elements for individual use or modular assembling.

Available in 4 sizes e connections from 1/8" to 1".

The bowls are made in zinc alloy body with zinc alloy integrated connections, technopolymer with integrated metal connections for size 1 and aluminium with integrated aluminium connections for sizes 2, 3 and 4.

The bowls are in Nylon, with technopolymer protection for sizes 1, 2, 3 (also available for size 1 without protection). The bowls are in metal with condensation drain display for size 4.

Filters can be equipped with manual or semiautomatic condensation drain; furthermore it's possible to install the automatic draining device inside the bowl.

Wall mounting by means of screws directly through the body and hidden by protective covers.

The pressure regulator handle is lockable in the desired position, the shut-off valves are lockable with a maximum of three pad-locks to prevent accidents or damages due to unauthorized operation.

The lubricator oil flow is adjustable with proper handle and it is visibly checked through the sight dome.

The progressive start-up valve, pneumatically or electropneumatically controlled, allows air supply to the circuit progressively and with adjustable time. The accessories like panel mounted brackets, pressure gauges with different scales and diameters and the air intake blocks are completing the range. They are assembled between the elements to get filtered or filtered non-lubricated air in the system.

Instruction for installation and operation

Pay attention to install a group or a single component with air flow direction according to the arrows and to the following sequence: filter, pressure regulator, lubricator and with bowls downwards. The group can be fixed to the wall by removing the covers, which can be installed again after fixing for covering the screws. Do not exceed the recommended torque while assembling the connectors.

Do not exceed the recommended air pressure and temperature limits. The moisture should not exceed the level marked on the bowl and it can be drawn off and carried by a flexible tube of Ø 6/4 directly connected to the discharge valve handle.

The pressure should be set from minimum to maximum, rotating the adjusting handle clockwise.

As lubricant, we suggest to use oil class FD22 or HG32. Verify that the lubricator is not fed with a flow lower than the minimum operational.

To set the oil flow rotate the proper adjusting handle in order to get one drop of oil every 300-600 liters of air.

The oil flow will be kept automatically and proportionally to the air flow. The oil can be refilled by mean of proper plug or directly into the bowl after having de-pressurized the system. Do not exceed the maximum level indicated on the bowl. For opening the shut-off valve push and rotate clockwise the operating handle. For closing it and consequently discharging the down stream line, rotate the handle counter-clockwise.

Maintenance

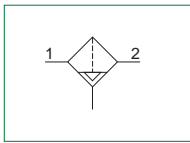
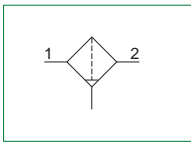
Clean the bowls with water and detergent. Do not use alcohol.

The filter element made with HPDE is reusable by blowing and cleaning it with proper detergent. For replacing or cleaning it, remove the bowl and unscrew the baffle spins.

Replace the pressure regulator diaphragm whenever the operation is not correct or there is a continuous air leaking through the relieving (over pressure discharge); reinstall the adjusting mechanism support, locking it with about 8 Nm torque. In case it is necessary to replace the lubricator transparent dome, tight it at 5 Nm torque maximum.



- ▶ Double filter action: air flow centrifugation and filter element
- ▶ Available in 4 sizes with flow rates up to 10000 NI/min and connections from 1/8" to 1"
- ▶ Filtering cartridge made of HDPE available in three different filtration grades (5µm, 20µm, 50µm)
- ▶ Filter cartridge can be regenerated by washing / blowing it or replaced
- ▶ Bowls screwed to the body (Size 1)
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button (Size 2 - Size 3 - Size 4)
- ▶ Semi-automatic or automatic condensation drain
- ▶ Atex certification (II 2GD o II 3GD) on request

2
AIR TREATMENT

Note

In order to ensure that any fluid discharged by the auto drain assembly is adequately drained away, it is recommended you to use a 6mm fitting and tube

Technical characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Body and connections type	Zinc alloy body, Zinc alloy integrated connections Technopolymer body, metal connections	Aluminium body, integrated aluminium connections		
Protection and bowl type	Technopolymer protection - PA bowl (Size 1 available without protection)			Metal bowl with blind metal bowl
IN / OUT connections	G1/8" - G1/4"	G1/4" - G3/8"	G3/8" - G1/2", G3/4"	G1"
Assembly configuration	Stand alone Panel mounted with M4 screws	Stand alone Panel mounted with M5 screws	Stand alone Panel mounted with M6 screws	Stand alone Panel mounted with M8 screws
Assembly position	Vertical ±5°			
Filter pore size (µm)	5 / 20 / 50			
Bowl capacity (cm³)	20	30	48	178
Condensation drain	Semi-automatic Automatic			
Max. fittings torque IN / OUT connections	G1/8" metal: 15 G1/4" metal: 20	G1/4" metal: 20 G3/8" metal: 25	G3/8" metal: 25 G1/2" metal: 30 G3/4" metal: 35	G1" metal: 35

Operational characteristics	Size							
	Size 1	Size 2	Size 3	Size 4	Size 1	Size 2	Size 3	Size 4
	Semi-automatic condensation drain				Automatic condensation drain			
Maximum working pressure (bar)	13				10			
Minimum working pressure (bar)	0,5							
Working temperature (°C)	-5 ÷ +50							

Weights	Size			
	Size 1	Size 2	Size 3	Size 4
Zinc alloy body version (g)	218	/	/	/
Technopolymer body version (g)	103	/	/	/
Aluminium body version (g)	/	255	405	1700



Order codes

17 301A . A . S

Size, body and connections

001A : Zinc alloy body, connections G1/8" (only for size 1)
001B : Zinc alloy body, connections G1/4" (only for size 1)
101A : Technopolymer body, connections G1/8" (only for size 1)
101B : Technopolymer body, connections G1/4" (only for size 1)
201A : Aluminium body, connections G1/4" (only for size 2)
201B : Aluminium body, connections G3/8" (only for size 2)
301A : Aluminium body, connections G3/8" (only for size 3)
301B : Aluminium body, connections G1/2" (only for size 3)
301E : Aluminium body, connections G3/4" (only for size 3)
401B : Aluminium body, connections G1" (only for size 4)

Filter pore size

A : 5 μm
B : 20 μm
C : 50 μm

Type

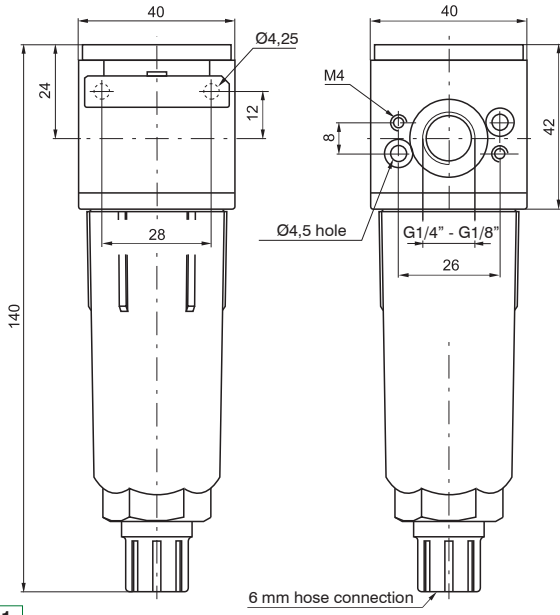
P : Bowl protection (only for size 1)
S : Automatic drain (for all sizes)
PS : Bowl protection and automatic drain (only for size 1)

Example: 17301A.A.S

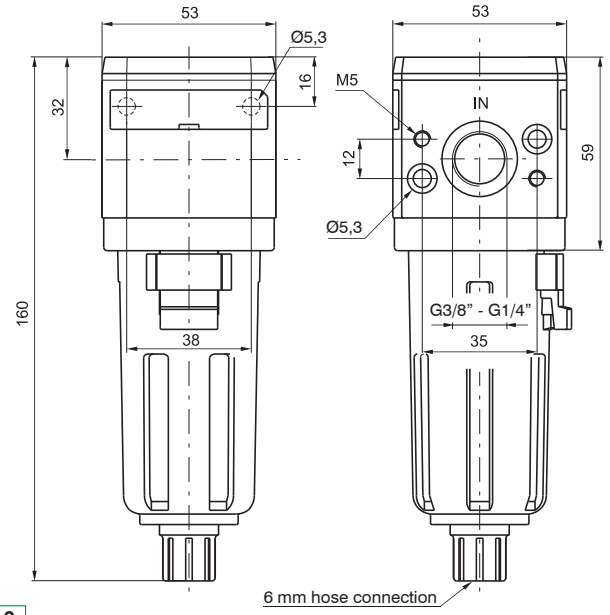
Size 3 filter, aluminium body, G3/8" connections, filter pore size 5 μm , automatic drain

Dimensions

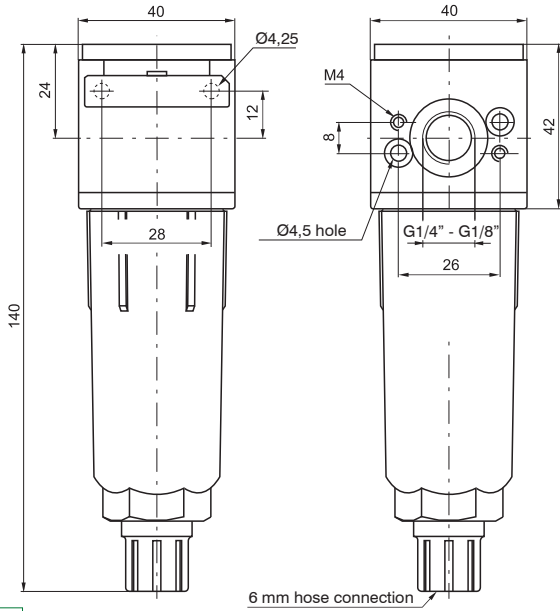
2
AIR TREATMENT



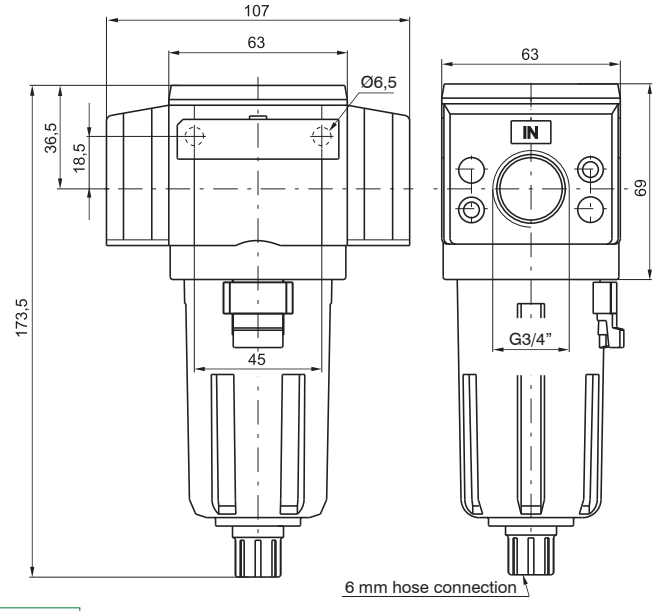
Size 1



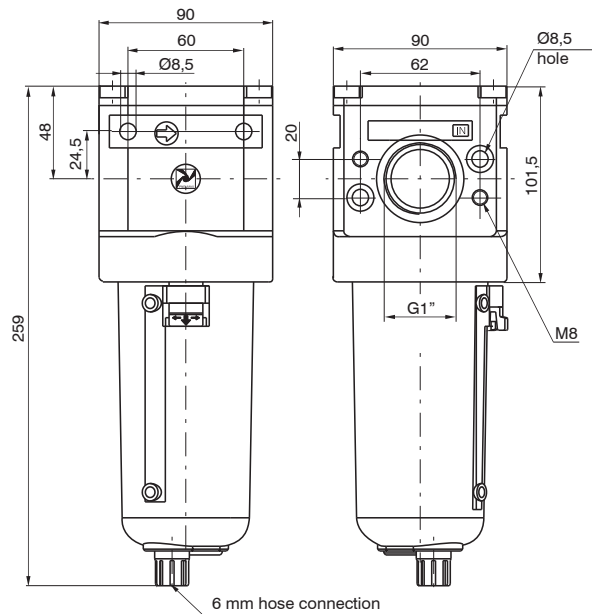
Size 2



Size 3



Size 3 3/4"

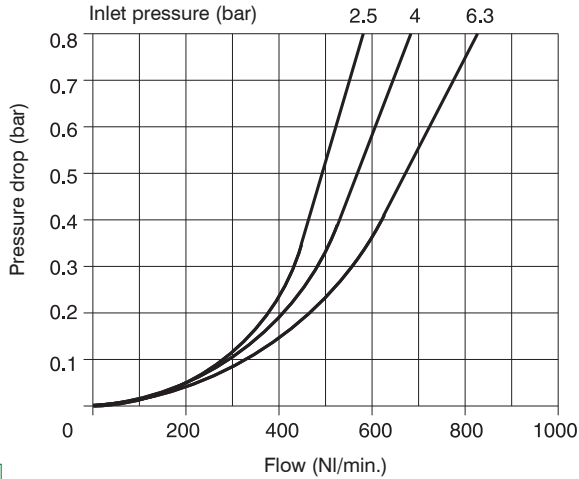


Size 4



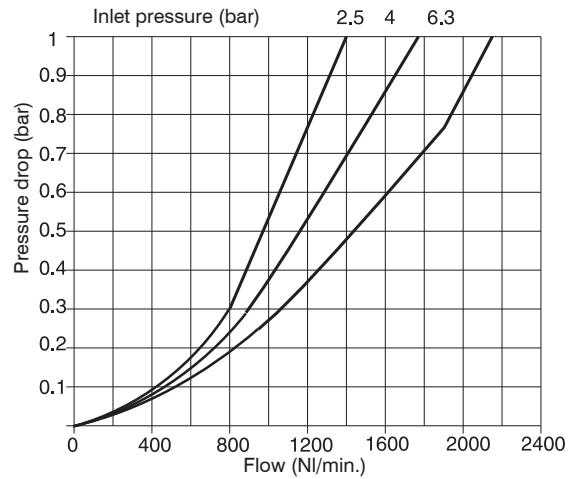
Characteristic curves

Flow rate curves



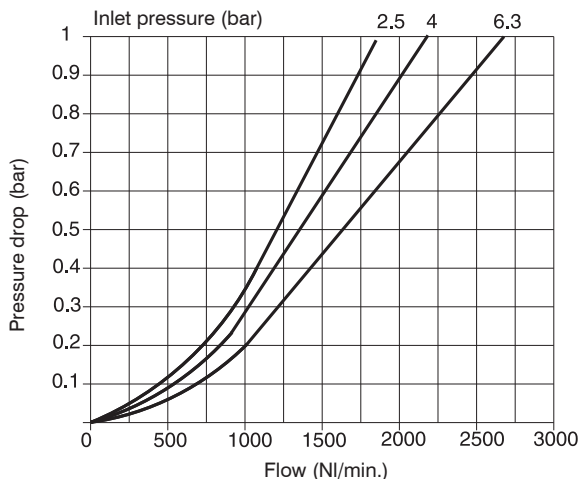
Size 1

Flow rate curves



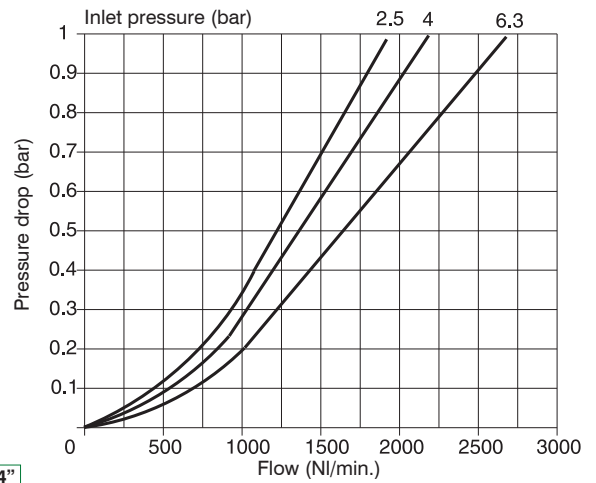
Size 2

Flow rate curves



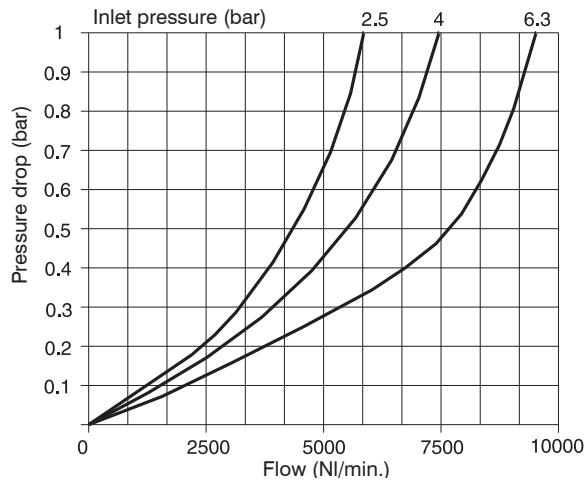
Size 3

Flow rate curves



Size 3 3/4"

Flow rate curves



Size 4

2

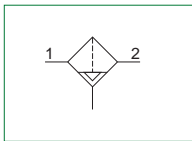
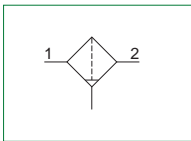
AIR TREATMENT

► **Coalescing filters**



- Coalescing filter
- Available in 4 sizes with flow rates up to 3000 NI/min and connections from 1/8" to 1"
- Filtering cartridge with filtration grade of 0,01 μm
- Filtering performances 99.97% (particles up to 0.01 μm)
- Bowls screwed to the body (Size 1)
- Bowl assembly via bayonet type quick coupling mechanism with safety button (Size 2 - Size 3 - Size 4)
- Semi-automatic or automatic drain
- Atex certification (II 2GD o II 3GD) on request

2 AIR TREATMENT



Note
In order to ensure the high level of filtration, it is recommended that a 5μ filter is installed before the coalescing filter. In order to ensure that any fluid discharged by the auto drain assembly is adequately drained away, it is recommended you use a 6mm fitting and tube.

Technical characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Body and connections type	Zinc alloy body, Zinc alloy integrated connections Technopolymer body, metal connections	Aluminium body, integrated aluminium connections		
Protection and bowl type	Technopolymer protection - PA bowl (Size 1 available without protection)			Metal bowl with blind metal bowl
IN / OUT connections	G1/8" - G1/4"	G1/4" - G3/8"	G3/8" - G1/2", G3/4"	G1"
Assembly configuration	Stand alone Panel mounted with M4 screws	Stand alone Panel mounted with M5 screws	Stand alone Panel mounted with M6 screws	Stand alone Panel mounted with M8 screws
Assembly position	Vertical ±5°			
Filter pore size (μm)	0,01, efficiency of 99,97%			
Bowl capacity (cm³)	20	30	48	178
Condensation drain	Semi-automatic Automatic			
Max. fittings torque IN / OUT connections	G1/8" metal: 15 G1/4" metal: 20	G1/4" metal: 20 G3/8" metal: 25	G3/8" metal: 25 G1/2" metal: 30 G3/4" metal: 35	G1"metal: 35

Operational characteristics	Size							
	Size 1	Size 2	Size 3	Size 4	Size 1	Size 2	Size 3	Size 4
	Semi-automatic condensation drain				Automatic condensation drain			
Maximum working pressure (bar)	13				10			
Minimum working pressure (bar)	0,5							
Working temperature (°C)	-5 ÷ +50							

Weights	Size			
	Size 1	Size 2	Size 3	Size 4
Zinc alloy body version (g)	225	/	/	/
Technopolymer body version (g)	110	/	/	/
Aluminium body version (g)	/	255	405	1700



Order codes

17 308A . E . S

Size, body and connections
008A : Zinc alloy body, connections G1/8" (only for size 1)
008B : Zinc alloy body, connections G1/4" (only for size 1)
108A : Technopolymer body, connections G1/8" (only for size 1)
108B : Technopolymer body, connections G1/4" (only for size 1)
208A : Aluminium body, connections G1/4" (only for size 2)
208B : Aluminium body, connections G3/8" (only for size 2)
308A : Aluminium body, connections G3/8" (only for size 3)
308B : Aluminium body, connections G1/2" (only for size 3)
308E : Aluminium body, connections G3/4" (only for size 3)
408B : Aluminium body, connections G1" (only for size 4)

Filter efficiency
E : 0,01 µm, efficiency of 99,97%

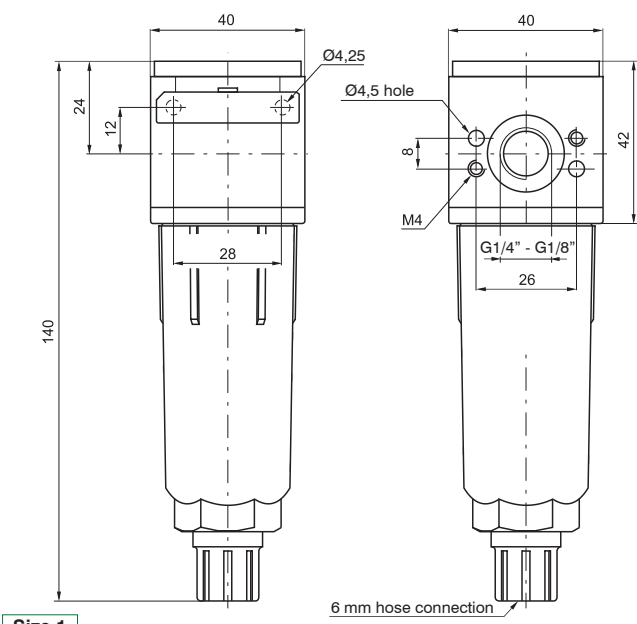
Type
P : Bowl protection (only for size 1)
S : Automatic drain (for all sizes)
PS : Bowl protection and automatic drain (only for size 1)

Example: 17308A.E.S

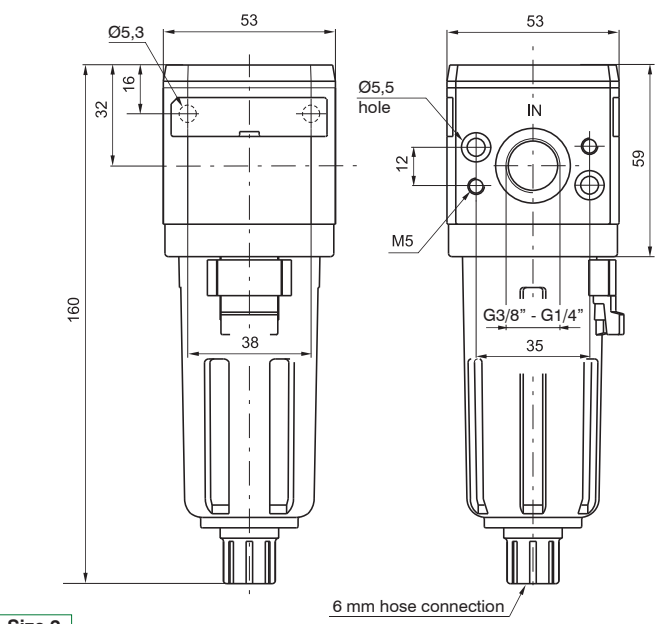
Size 3 coalescing filter, aluminium body, G3/8" connections, filter efficiency of 99,97%, automatic drain

Dimensions

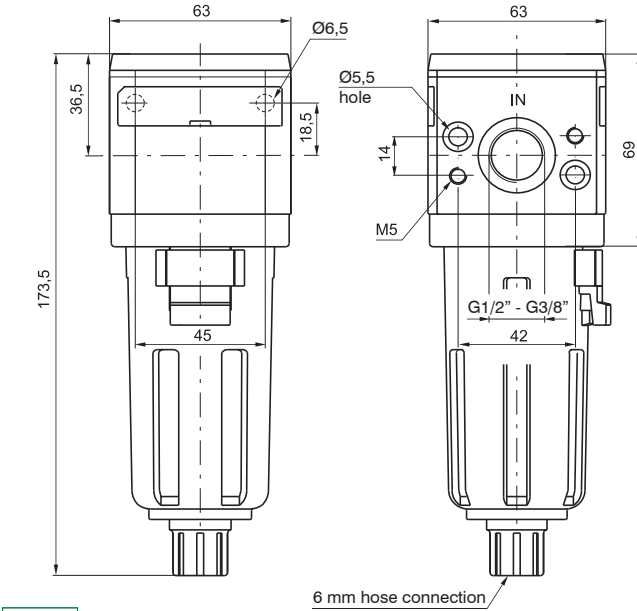
2
AIR TREATMENT



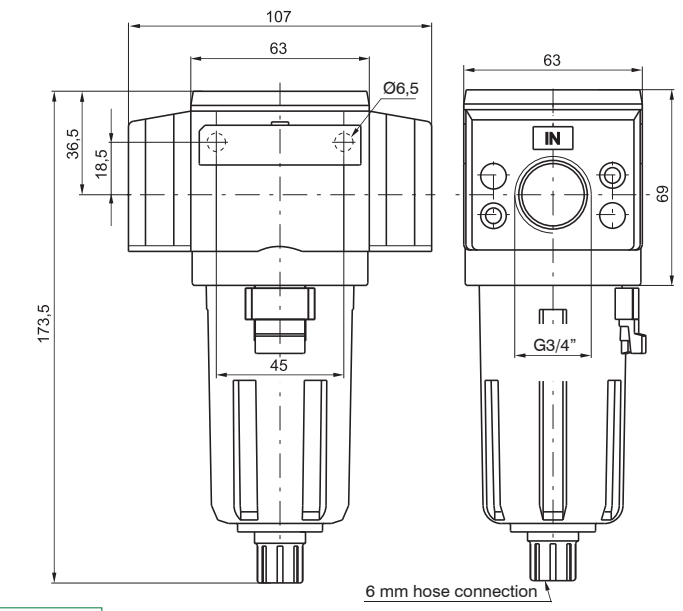
Size 1



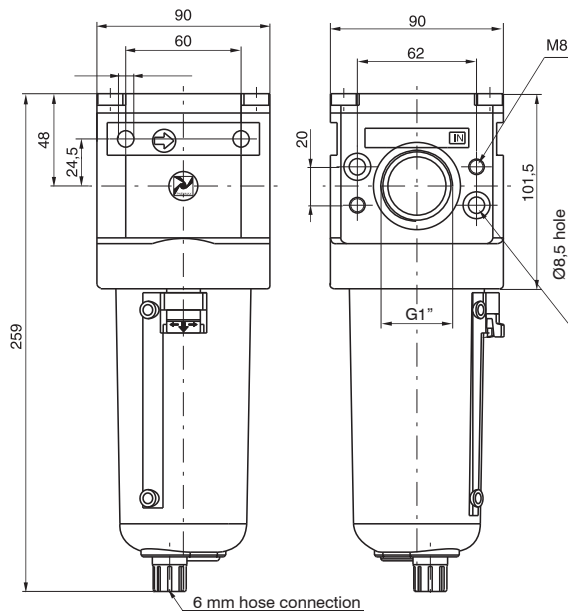
Size 2



Size 3



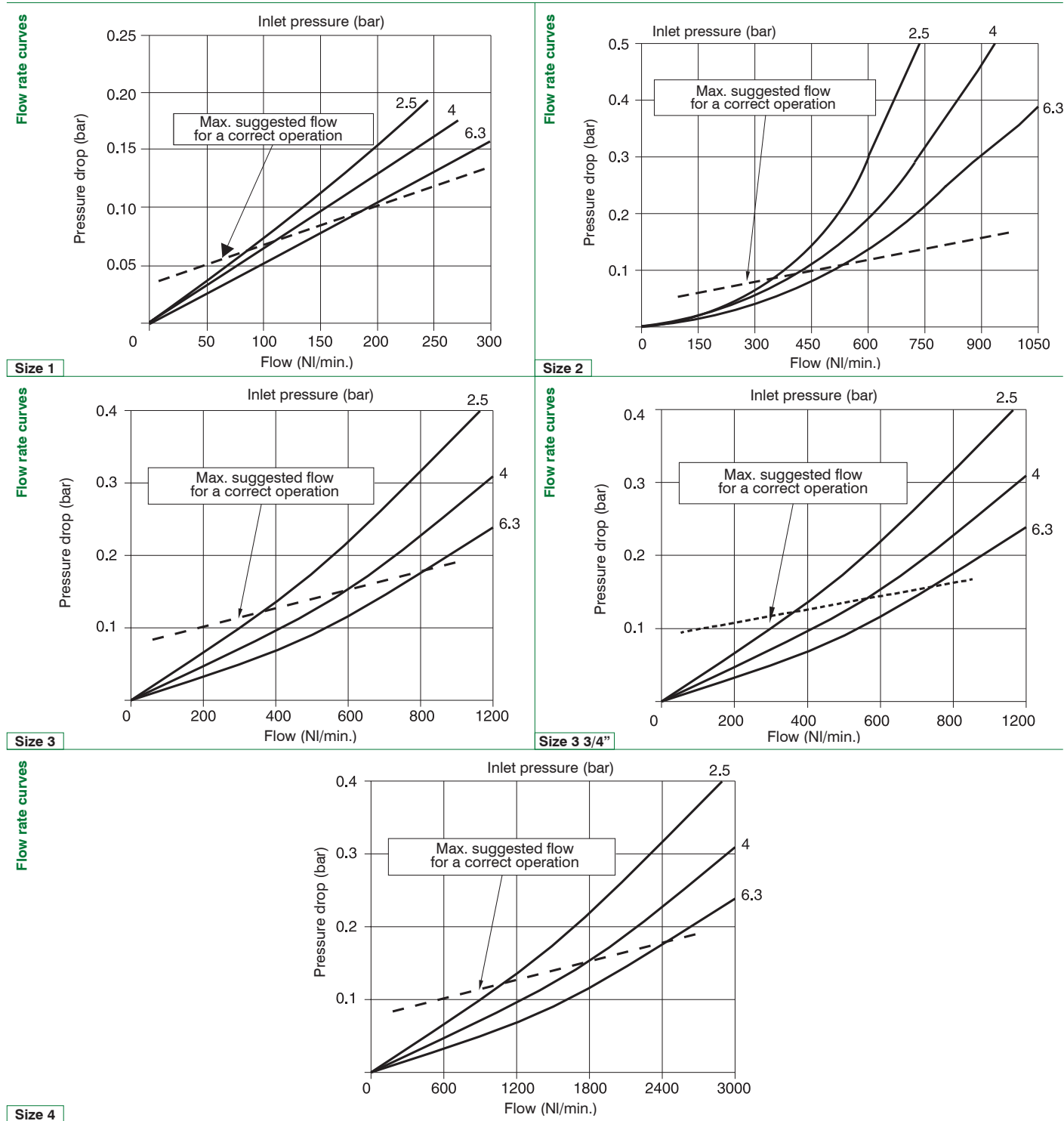
Size 3 3/4"



Size 4



Characteristic curves



2

AIR TREATMENT

► **Dynamic drier**



- ▶ Aluminium body
- ▶ Wall mounting possibility with M8 screws
- ▶ Filtering cartridge made of HDPE available in three different filtration grades (5µm, 20µm, 50µm)
- ▶ Filter cartridge can be regenerated by washing / blowing it or replaced
- ▶ With blind metal bowl
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button
- ▶ Automatic condensation drain

2
AIR TREATMENT

Technical characteristics	Size
	Size 4
Body and connections type	Aluminium body with integrated aluminium connections
Protection and bowl type	Metal bowl with blind metal bowl
IN / OUT connections	G1"
Assembly configuration	Stand alone Panel mounted with M8 screws
Assembly position	Vertical ±5°
Filter pore size (µm)	5 / 20 / 50
Filter efficiency at flow rate 1500 NI/min	96,00%
Bowl capacity (cm³)	160
Condensation drain	Automatic
Max. fittings torque IN / OUT connections	G1"metal: 35

Operational characteristics	Size
	Size 4
	Automatic condensation drain
Maximum working pressure (bar)	13
Minimum working pressure (bar)	0,5
Nominal flow rate at 6 bar with Δp=1 (NI/min)	2500
Working temperature (°C)	-5 ÷ +50

Weights	Size
	Size 4
Aluminium body version (g)	1700

Order codes

17 40EB . A . S

Size, body and connections

40EB : Aluminium body, connections G1" (only for size 4)

Filter pore size

A : 5 µm

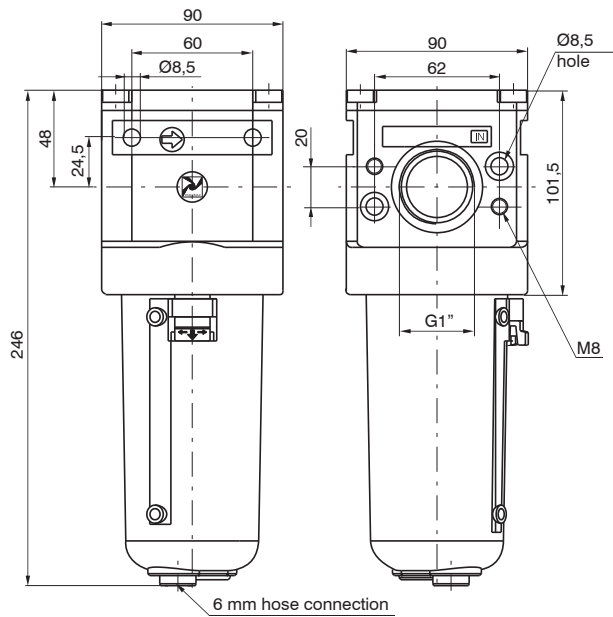
B : 20 µm

C : 50 µm

Example: 1740EB.A.S

Dynamic direr Size 4, aluminium body, G1" connections, filter pore size 5 µm

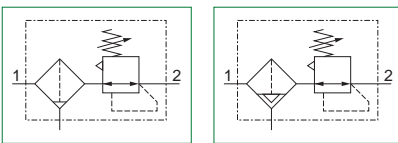
Dimensions



Size 4

Filter regulators


- ▶ Filter - diaphragm pressure regulator with relieving
- ▶ Available in 3 sizes with flow rates up to 3500 NI/min and connections from 1/8" to 3/4"
- ▶ Low hysteresis rolling diaphragm and balanced spool
- ▶ Filtering element made of HDPE available in 3 different filtration grades (5µm, 20µm and 50µm)
- ▶ Bowls screwed to the body (Size 1)
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button (Size 2 - Size 3)
- ▶ Semi-automatic or automatic drain
- ▶ Available in four pressure ranges up to 12 bar
- ▶ Fitted with panel mounting locking ring
- ▶ Atex certification (II 2GD o II 3GD) on request


Note

For installations where a more accurate and constant pressure is required, the unit should be installed as close as possible to the point of use. In order to ensure that any fluid discharged by the auto drain assembly is adequately drained away, it is recommended you to use a 6mm fitting and tube.

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AIR TREATMENT

Technical characteristics	Size		
	Size 1	Size 2	Size 3
Body and connections type	Zinc alloy body, Zinc alloy integrated connections Technopolymer body, metal connections	Aluminium body, integrated aluminium connections	
Protection and bowl type	Technopolymer protection - PA bowl (Size 1 available without protection)		
IN / OUT connections	G1/8" - G1/4"	G1/4" - G3/8"	G3/8" - G1/2", G3/4"
Assembly configuration	Stand alone Panel mounting Panel mounted with M4 screws With fixing bracket	Stand alone Panel mounting Panel mounted with M5 screws With fixing bracket	Stand alone Panel mounting Panel mounted with M6 screws With fixing bracket
Assembly position	Vertical ±5°		
Filter pore size (µm)	5 / 20 / 50		
Pressure range (bar)	0 - 2 / 0 - 4 / 0 - 8 / 0 - 12		
Bowl capacity (cm³)	20	30	48
Condensation drain	Semi-automatic Automatic		
Regulation	Manual push and lock with pressure Manual lockable with accessories		
Pressure measurement	G1/8" Pressure gauge connection port		
Max. fittings torque IN / OUT connections	G1/8" metal: 15 G1/4" metal: 20	G1/4" metal: 20 G3/8" metal: 25	G3/8" metal: 25 G1/2" metal: 30 G3/4" metal: 35

Operational characteristics	Size					
	Size 1	Size 2	Size 3	Size 1	Size 2	Size 3
	Semi-automatic condensation drain			Automatic condensation drain		
Maximum working pressure (bar)	13			10		
Minimum working pressure (bar)	0,5					
Working temperature (°C)	-5 ÷ +50					

Weights	Size		
	Size 1	Size 2	Size 3
Zinc alloy body version (g)	295	/	/
Technopolymer body version (g)	180	/	/
Aluminium body version (g)	/	450	645



Order codes

17 304A . B . D . S . K

Size, body and connections

004A : Zinc alloy body, connections G1/8" (only for size 1)

004B : Zinc alloy body, connections G1/4" (only for size 1)

104A : Technopolymer body, connections G1/8" (only for size 1)

104B : Technopolymer body, connections G1/4" (only for size 1)

204A : Aluminium body, connections G1/4" (only for size 2)

204B : Aluminium body, connections G3/8" (only for size 2)

304A : Aluminium body, connections G3/8" (only for size 3)

304B : Aluminium body, connections G1/2" (only for size 3)

304E : Aluminium body, connections G3/4" (only for size 3)

Filter pore size

A : 5 µm

B : 20 µm

C : 50 µm

Pressure range

A : 0 - 2 bar

B : 0 - 4 bar

C : 0 - 8 bar

D : 0 - 12 bar

Type

P : Bowl protection (only for size 1)

S : Automatic drain (for all sizes)

PS : Bowl protection and automatic drain (only for size 1)

Options

: Standard

K : Lockable version

U : Lockable version with universal key

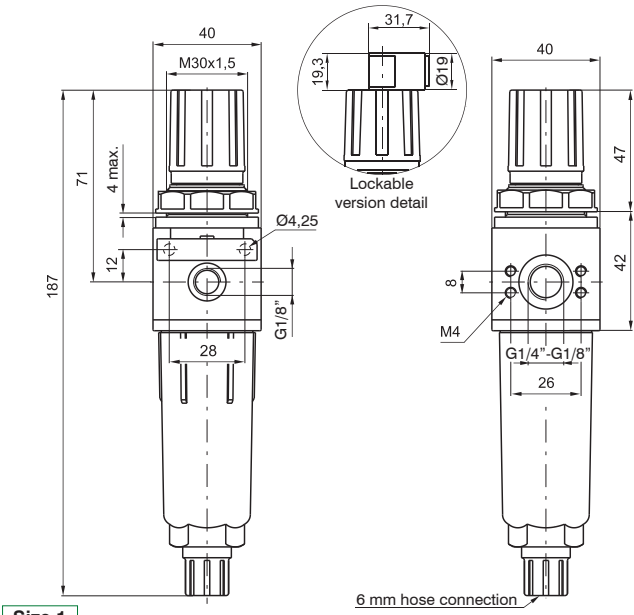
Example: 17304A.B.D.S.K

Filter regulator size 3, aluminium body, G3/8" connections, filter pore size 20 µm 0 - 12 bar, automatic drain lockable version

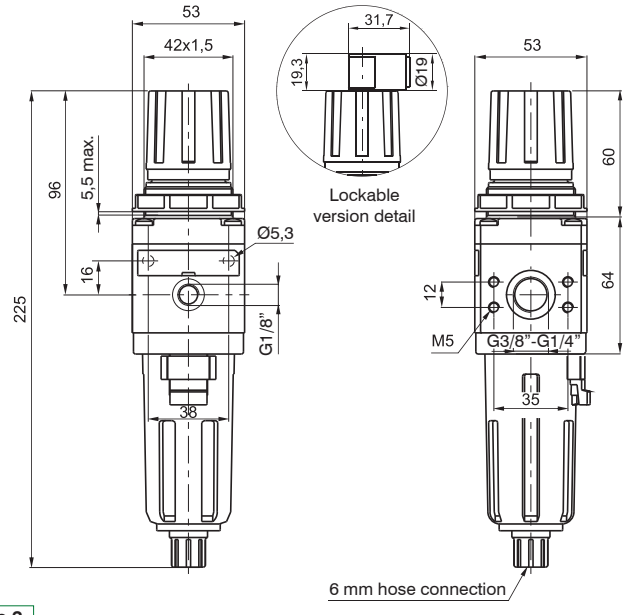
Dimensions

2

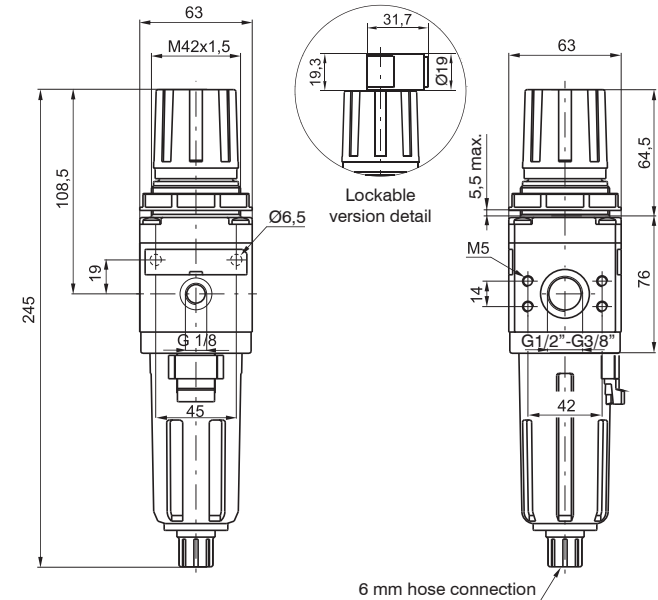
AIR TREATMENT



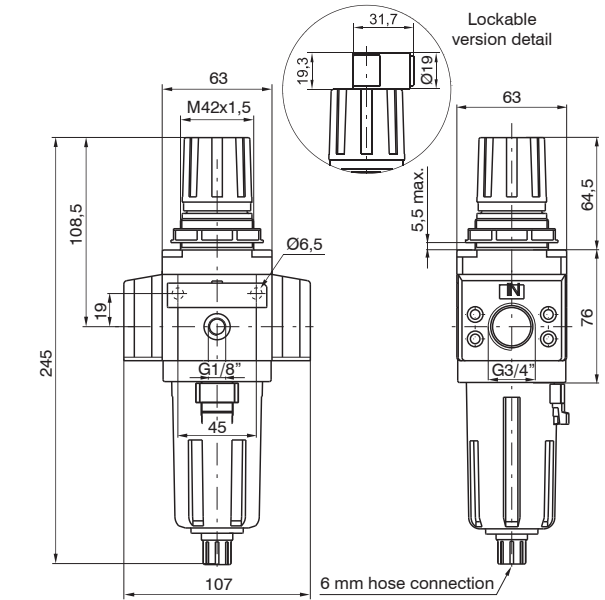
Size 1



Size 2



Size 3

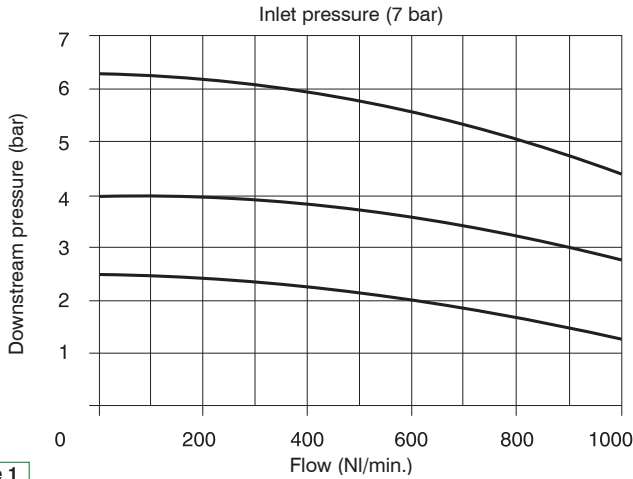


Size 3 3/4"



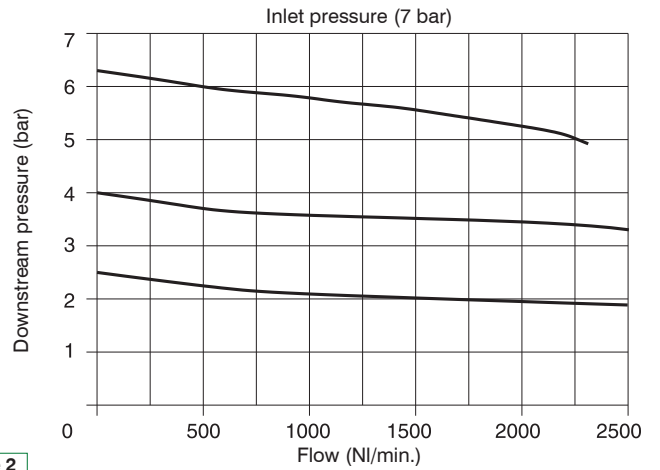
Characteristic curves

Flow rate curves



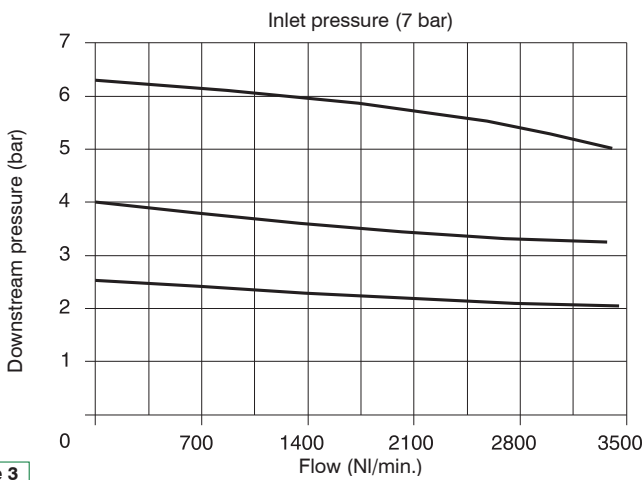
Size 1

Flow rate curves



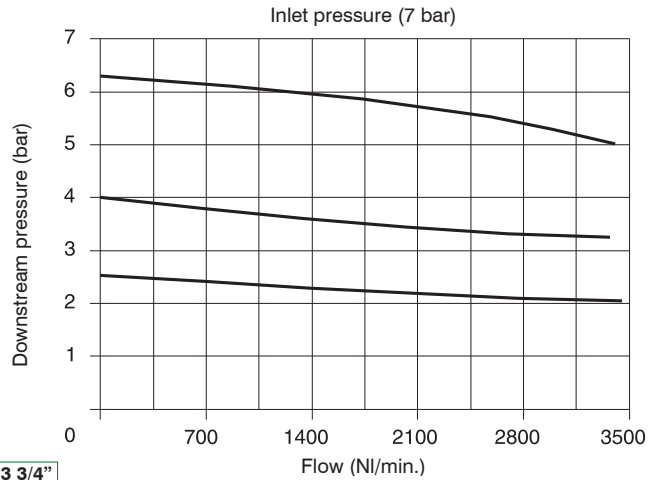
Size 2

Flow rate curves



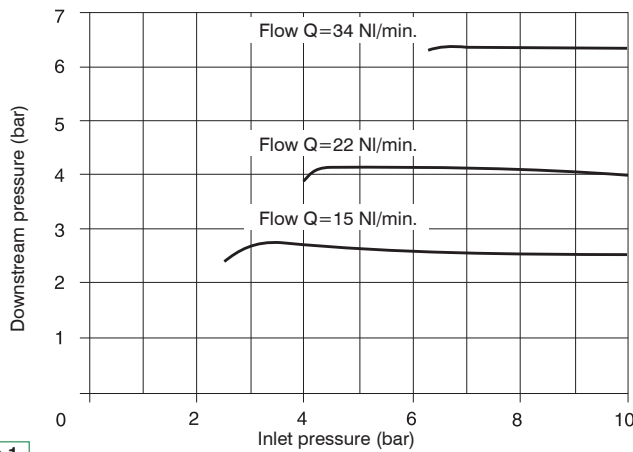
Size 3

Flow rate curves



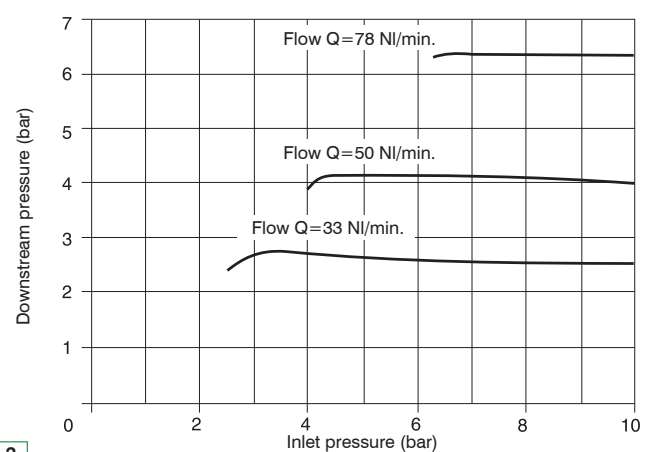
Size 3 3/4"

Adjustment characteristic



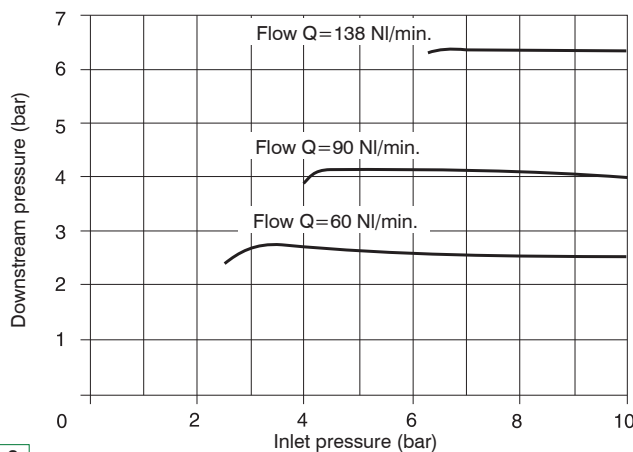
Size 1

Adjustment characteristic



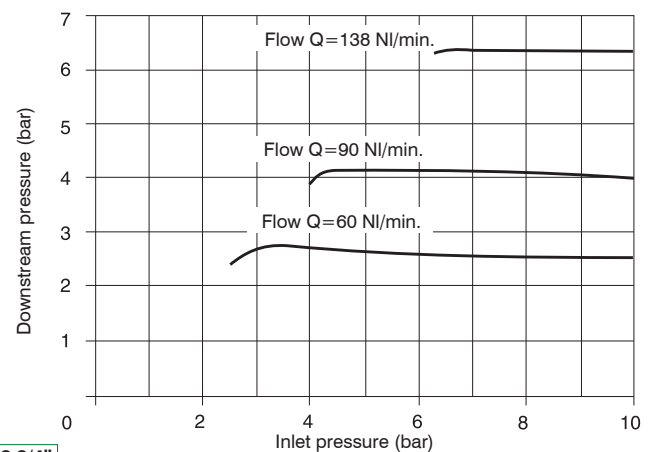
Size 2

Adjustment characteristic



Size 3

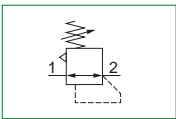
Adjustment characteristic



Size 3 3/4"

Regulators


- ▶ Diaphragm pressure regulator with relieving
- ▶ Available in 4 sizes with flow rates up to 8000 NI/min and connections from 1/8" to 1"
- ▶ Low hysteresis rolling diaphragm and balanced spool
- ▶ Available in four pressure ranges up to 12 bar
- ▶ Fitted with panel mounting locking ring
- ▶ High flow rate of the discharge valve for the downstream overpressure (Size 4)
- ▶ Atex certification (II 2GD o II 3GD) on request

2
AIR TREATMENT

Note

For installations where a more accurate and constant pressure is required, the unit should be installed as close as possible to the point of use.

Technical characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Body and connections type	Zinc alloy body, Zinc alloy integrated connections Technopolymer body, metal connections	Aluminium body, integrated aluminium connections		
IN / OUT connections	G1/8" - G1/4"	G1/4" - G3/8"	G3/8" - G1/2", G3/4"	G1"
Assembly configuration	Stand alone Panel mounting Panel mounted with M4 screws With fixing bracket	Stand alone Panel mounting Panel mounted with M5 screws With fixing bracket	Stand alone Panel mounting Panel mounted with M6 screws With fixing bracket	Stand alone Panel mounting Panel mounted with M8 screws
Assembly position	Indifferent			
Pressure range (bar)	0 - 2 / 0 - 4 / 0 - 8 / 0 - 12			
Regulation	Manual push and lock with pressure Manual lockable with accessories			
Pressure measurement	G1/8" Pressure gauge connection port			
Max. fittings torque IN / OUT connections	G1/8" metal: 15 G1/4" metal: 20	G1/4" metal: 20 G3/8" metal: 25	G3/8" metal: 25 G1/2" metal: 30 G3/4" metal: 35	G1" metal: 35

Operational characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Maximum working pressure (bar)	13			
Minimum working pressure (bar)	0,5			
Working temperature (°C)	-5 ÷ +50			

Weights	Size			
	Size 1	Size 2	Size 3	Size 4
Zinc alloy body version (g)	250	/	/	/
Technopolymer body version (g)	135	/	/	/
Aluminium body version (g)	/	390	550	1900



Order codes

17 302A . D . L . K

Size, body and connections
002A : Zinc alloy body, connections G1/8" (only for size 1)
002B : Zinc alloy body, connections G1/4" (only for size 1)
102A : Technopolymer body, connections G1/8" (only for size 1)
102B : Technopolymer body, connections G1/4" (only for size 1)
202A : Aluminium body, connections G1/4" (only for size 2)
202B : Aluminium body, connections G3/8" (only for size 2)
302A : Aluminium body, connections G3/8" (only for size 3)
302B : Aluminium body, connections G1/2" (only for size 3)
302E : Aluminium body, connections G3/4" (only for size 3)
402NB : Aluminium body, connections G1" (only for size 4)

Pressure range
A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Type
L : Without relieving
SM : Improved relieving (not available for Size 4)

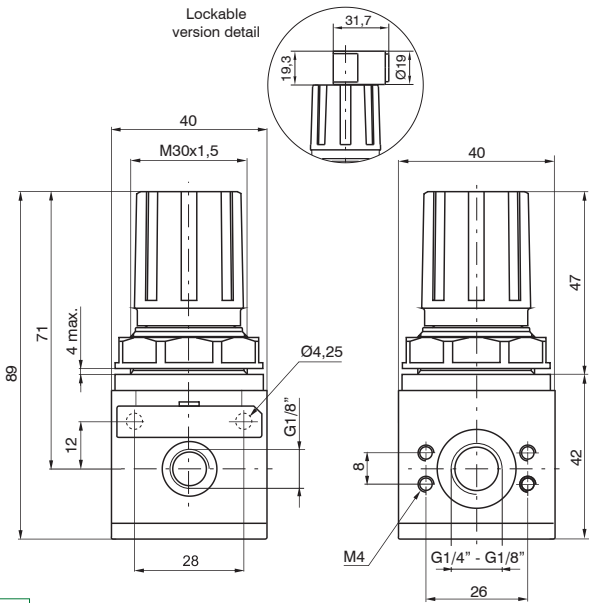
Options
: Standard
K : Lockable version
U : Lockable version with universal key

Example: 17302A.D.L.K

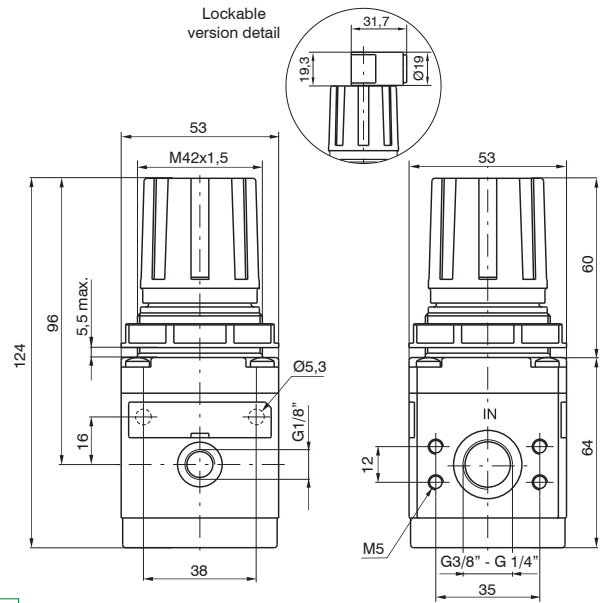
Regulator size 3, body in light aluminium alloy, G3/8"connections, 0 - 12 bar, without relieving, lockable version

Dimensions

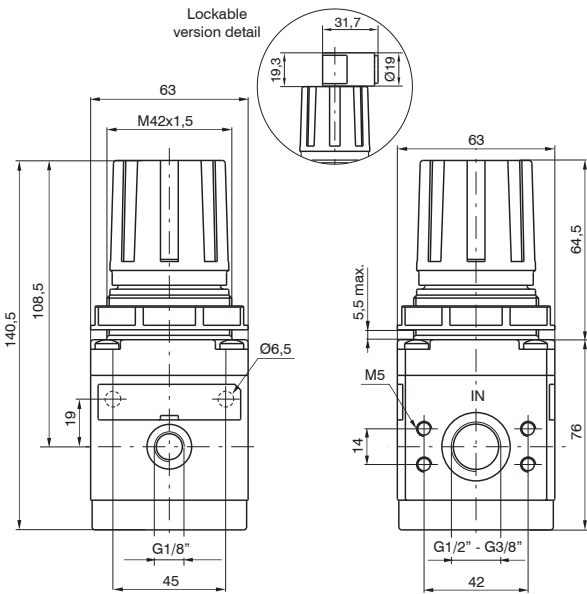
2
AIR TREATMENT



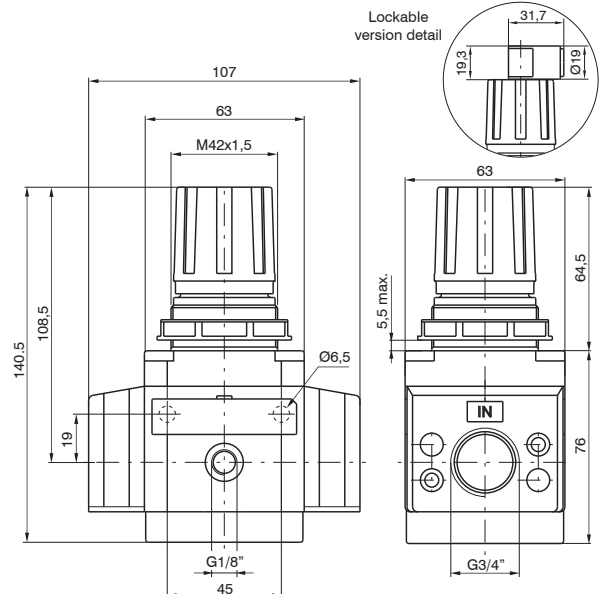
Size 1



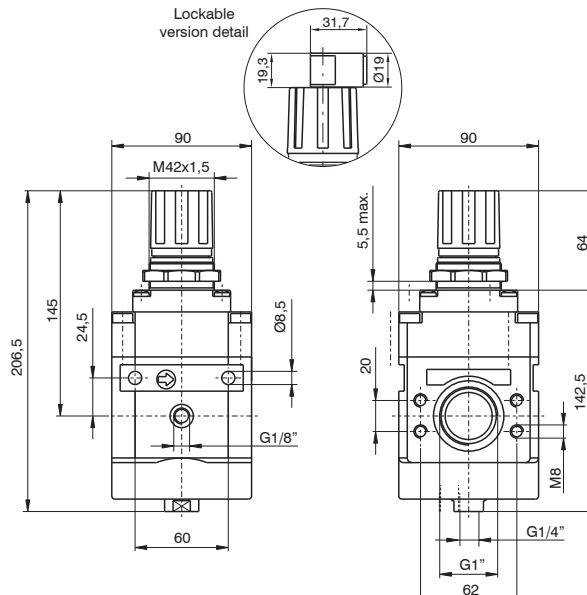
Size 2



Size 3



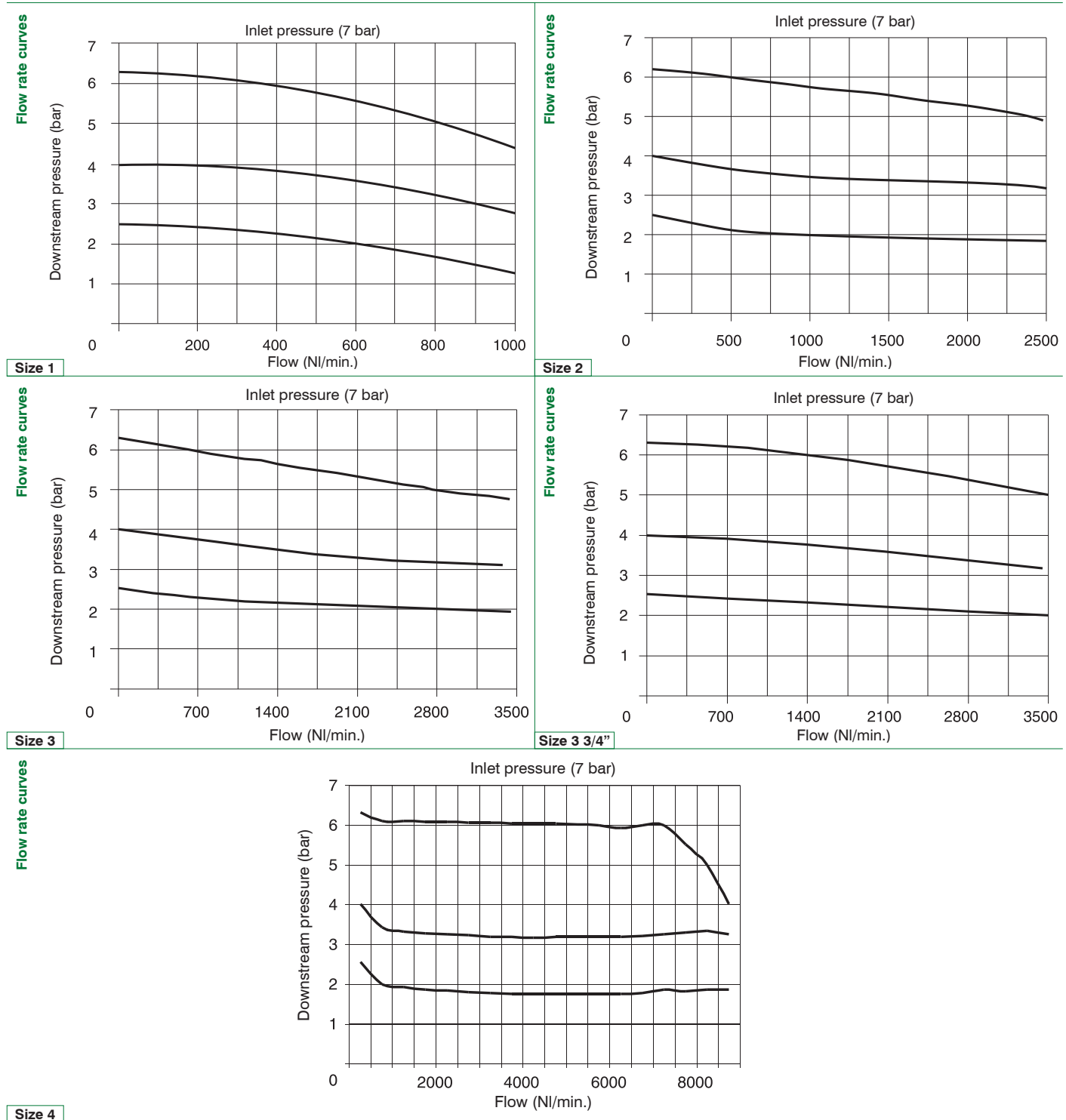
Size 3 3/4"



Size 4



Characteristic curves

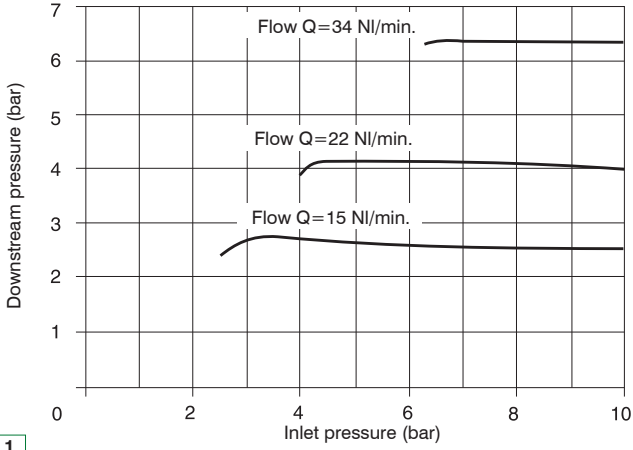


2

AIR TREATMENT

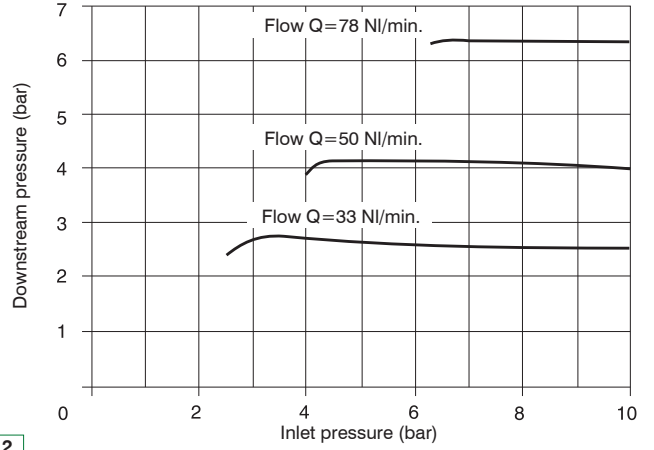


Adjustment characteristic



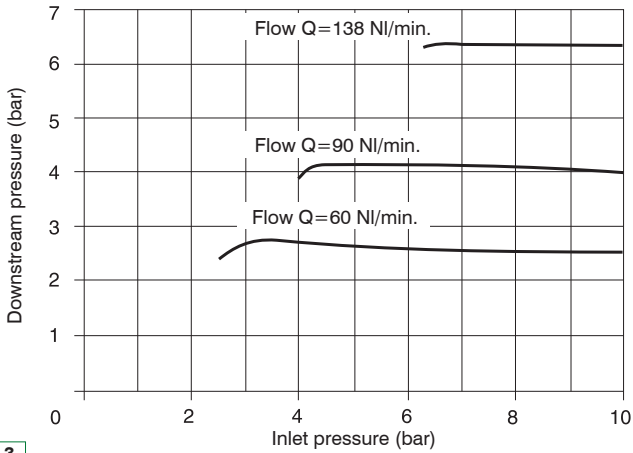
Size 1

Adjustment characteristic



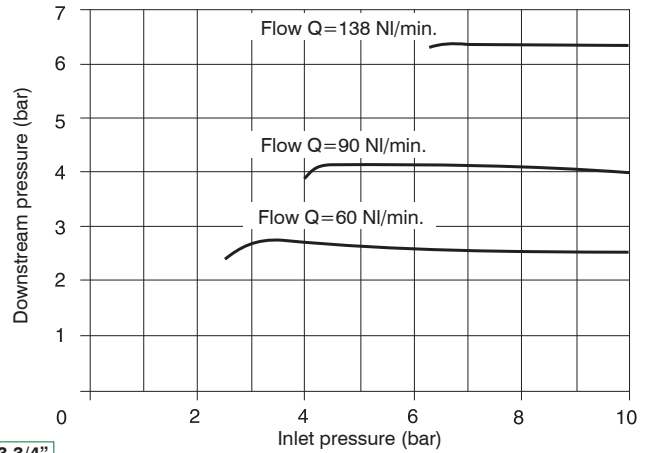
Size 2

Adjustment characteristic



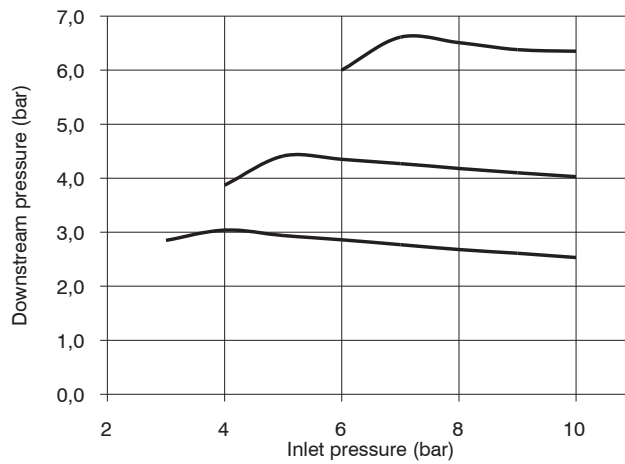
Size 3

Adjustment characteristic



Size 3 3/4"

Adjustment characteristic

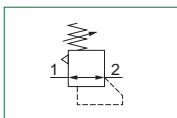


Size 4

▶ Regulators with integrated pressure gauge



- ▶ Diaphragm pressure regulator with relieving
- ▶ Available in 4 sizes with flow rates up to 3500 NI/min and connections from 1/8" to 1/2"
- ▶ Low hysteresis rolling diaphragm and balanced spool
- ▶ Available in four pressure ranges up to 12 bar
- ▶ Fitted with panel mounting locking ring
- ▶ Pressure gauge included on the top of adjusting knob
- ▶ Atex certification (II 2GD o II 3GD) on request



Note

For installations where a more accurate and constant pressure is required, the unit should be installed as close as possible to the point of use.

Technical characteristics	Size		
	Size 1	Size 2	Size 3
Body and connections type	Zinc alloy body, Zinc alloy integrated connections Technopolymer body, metal connections	Aluminium body, integrated aluminium connections	
IN / OUT connections	G1/8" - G1/4"	G1/4" - G3/8"	G3/8" - G1/2"
Assembly configuration	Stand alone Panel mounting Panel mounted with M4 screws With fixing bracket	Stand alone Panel mounting Panel mounted with M5 screws With fixing bracket	Stand alone Panel mounting Panel mounted with M6 screws With fixing bracket
Assembly position	Indifferent		
Pressure range (bar)	0 - 2 / 0 - 4 / 0 - 8 / 0 - 12		
Regulation	Manual push and lock with pressure		
Pressure measurement	G1/8" Pressure gauge connection port is included on the top of adjusting knob		
Max. fittings torque IN / OUT connections	G1/8" metal: 15 G1/4" metal: 20	G1/4" metal: 20 G3/8" metal: 25	G3/8" metal: 25 G1/2" metal: 30

Operational characteristics	Size		
	Size 1	Size 2	Size 3
Maximum working pressure (bar)	13		
Minimum working pressure (bar)	0,5		
Working temperature (°C)	-5 ÷ +50		

Weights	Size		
	Size 1	Size 2	Size 3
Zinc alloy body version (g)	380	/	/
Technopolymer body version (g)	250	/	/
Aluminium body version (g)	/	440	600

2
AIR TREATMENT

Order codes

17 322A . D

Size, body and connections

022A : Zinc alloy body, connections G1/8" (only for size 1)

022B : Zinc alloy body, connections G1/4" (only for size 1)

122A : Technopolymer body, connections G1/8" (only for size 1)

122B : Technopolymer body, connections G1/4" (only for size 1)

222A : Aluminium body, connections G1/4" (only for size 2)

222B : Aluminium body, connections G3/8" (only for size 2)

322A : Aluminium body, connections G3/8" (only for size 3)

322B : Aluminium body, connections G1/2" (only for size 3)

Pressure range

A : 0 - 2 bar

B : 0 - 4 bar

C : 0 - 8 bar

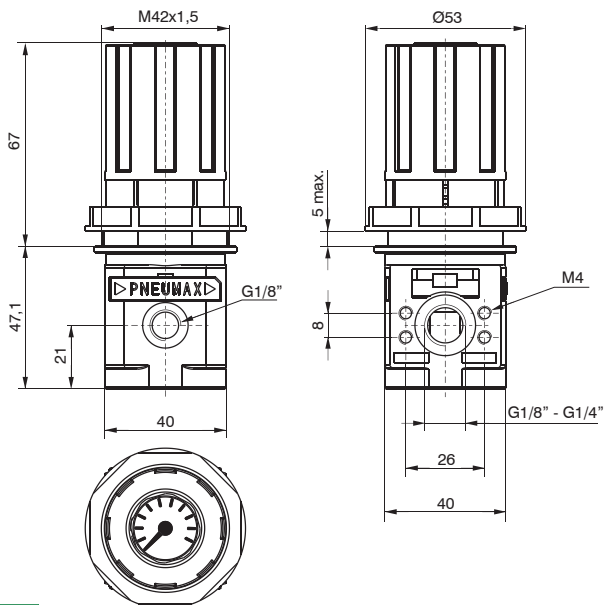
D : 0 - 12 bar

Example: 17322A.D

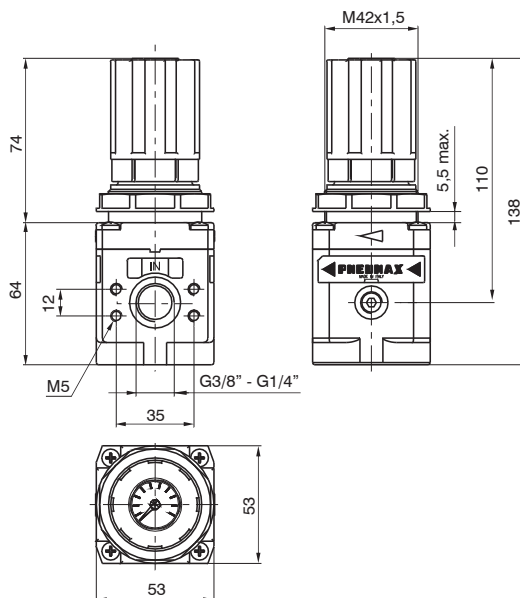
Size 3 regulator with integrated pressure gauge, Aluminium body, G3/8" connections, 0 - 12 bar

Dimensions

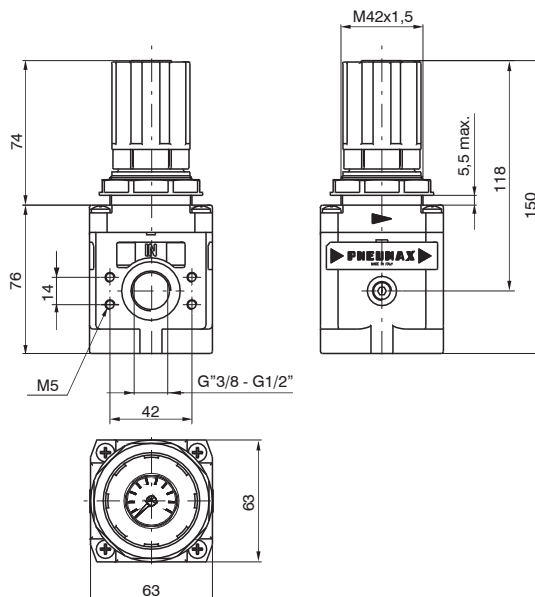
AIR TREATMENT



Size 1



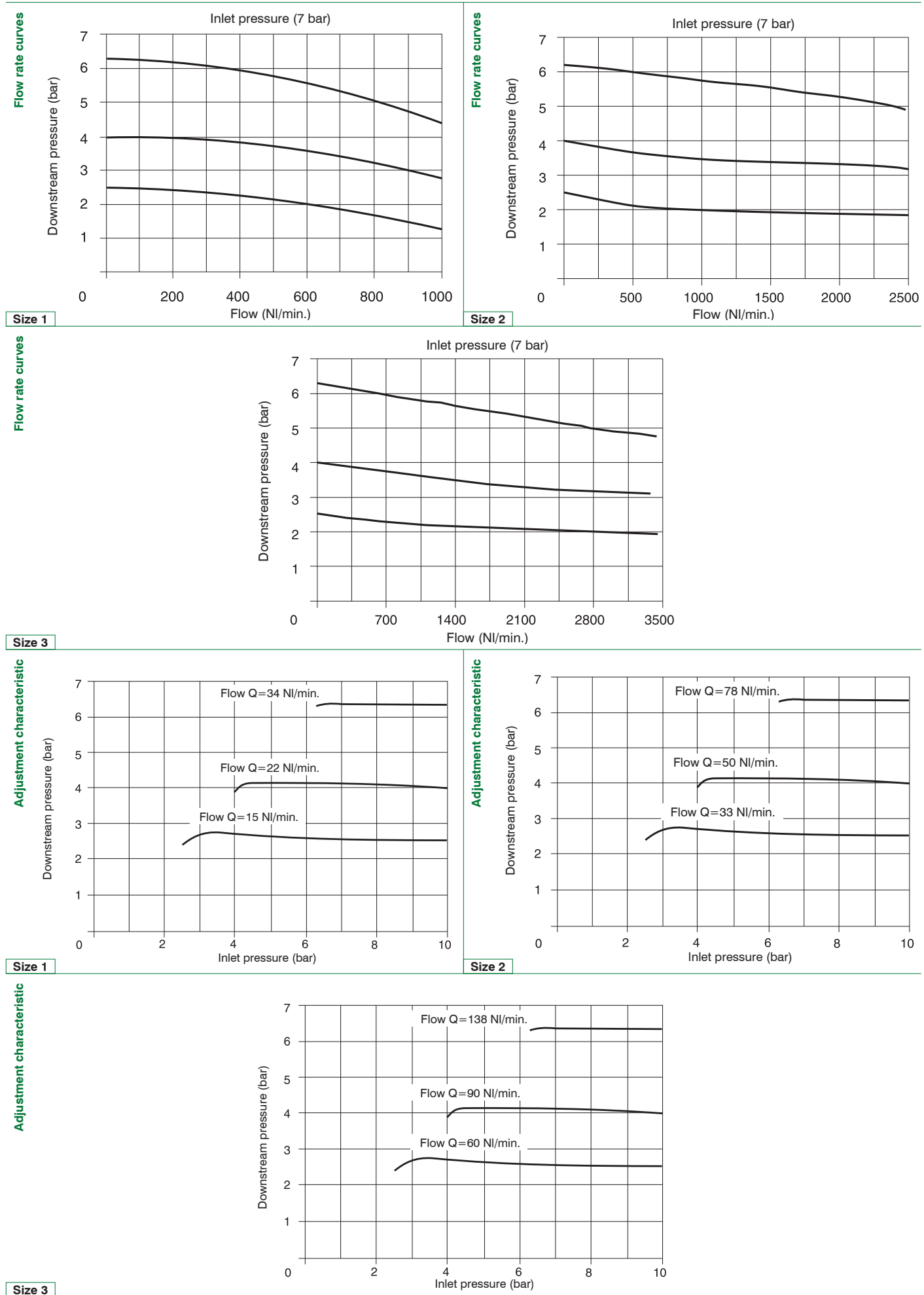
Size 2



Size 3



Characteristic curves



2

AIR TREATMENT



▶ High sensitive air pressure regulators with high flow rate relieving



- ▶ Accurate capacity to maintain set pressure
- ▶ Sensitivity combined with high relieving rates
- ▶ High flow rate with extremely low pressure drop
- ▶ Pressure adjusting lockable handle by simply pressing it downwards in the desired position
- ▶ Aluminium body
- ▶ Ring nut for panel mounting
- ▶ Construction with controlled relief
- ▶ Atex certification (II 2GD) on request

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AIR TREATMENT

Technical characteristics	Size	
	Size 1	Size 3
Body and connections type	Aluminium body, integrated aluminium connections	
IN / OUT connections	G1/4"	G1/2"
Assembly configuration	Stand alone Panel mounting With fixing bracket	Stand alone Panel mounting With fixing bracket
Assembly position	Indifferent	
Fluid	20µ filtered air and preferably non lubricated	
Air flow with inlet pressure 10 bar (NI/min)	5	
Pressure range (bar)	0,1 - 2 / 0,1 - 4 / 0,1 - 7 / 0,1 - 10	
Regulation	Manual push and lock with pressure Manual lockable with accessories	
Pressure measurement	G1/8" Pressure gauge connection port	
Max. fittings torque IN / OUT connections	G1/4" metal: 20	G1/2" metal: 30

Operational characteristics	Size	
	Size 1	Size 3
Maximum working pressure (bar)	10	
Minimum working pressure (bar)	0,5	
Working temperature (°C)	-5 ÷ +50	

Weights	Size	
	Size 1	Size 3
Aluminium body version (g)	380	970

Order codes

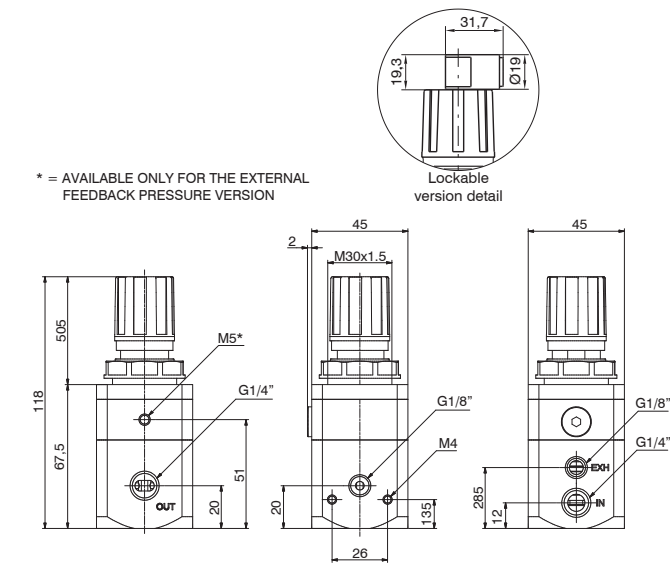
17 3S2B . 0010 . E . K

Size, body and connections
1S2B : Aluminium body, connections G1/4" (only for size 1)
3S2B : Aluminium body, connections G1/2" (only for size 3)
Pressure range
0002 : 0,1 - 2 bar
0004 : 0,1 - 4 bar
0007 : 0,1 - 7 bar
0010 : 0,1 - 10 bar
Type
: Standard
E : External pressure feedback
Options
: Standard
K : Lockable version
U : Lockable version with universal key

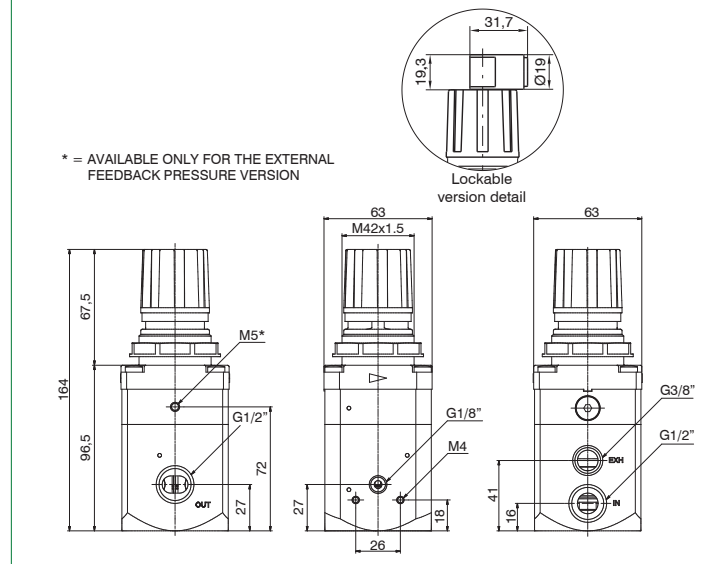
Example: 173S2B.0010.E.K

Size 3 high sensitive air pressure regulator with high flow rate relieving, aluminium body, G1/2" connections, 0,1 - 10 bar, external pressure feedback, lockable version

Dimensions



Size 1



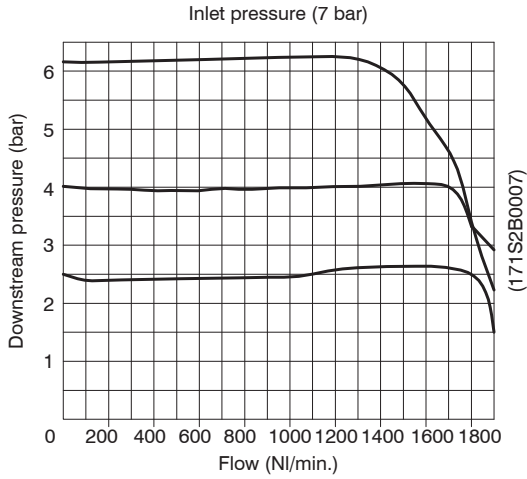
Size 3



Characteristic curves

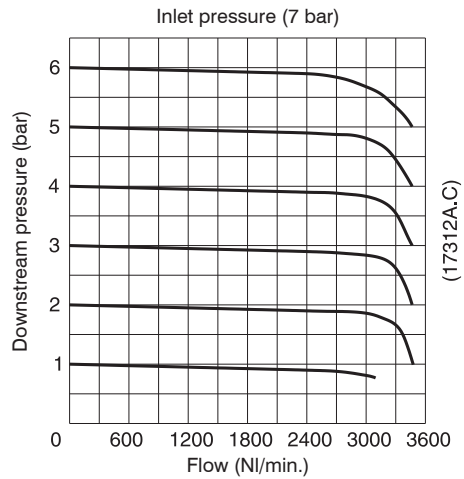
2

Flow rate curves



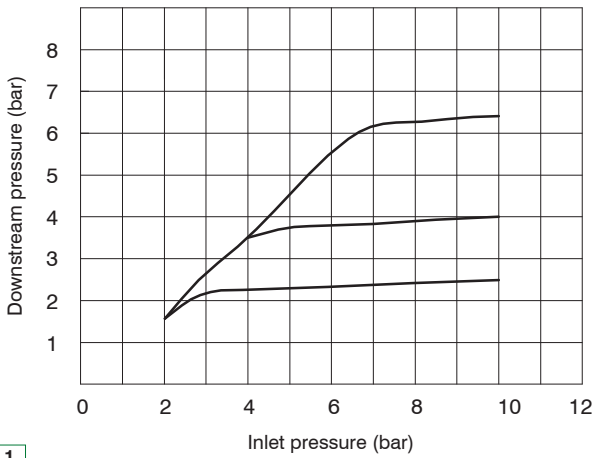
Size 1

Flow rate curves



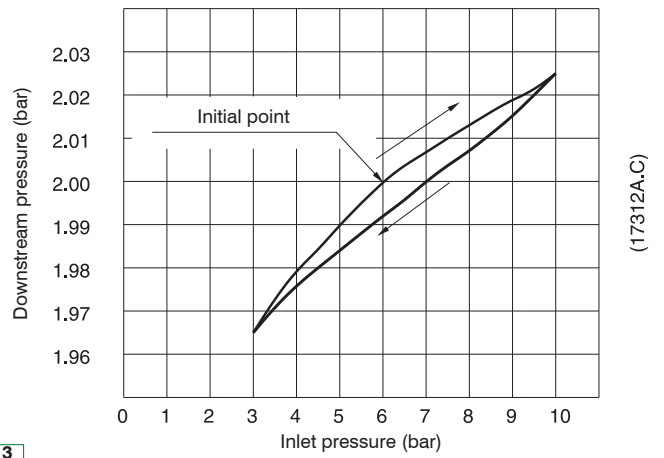
Size 3

Adjustment characteristic



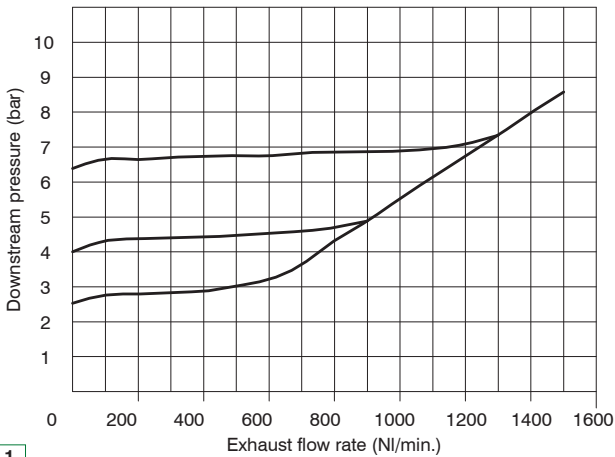
Size 1

Adjustment characteristic



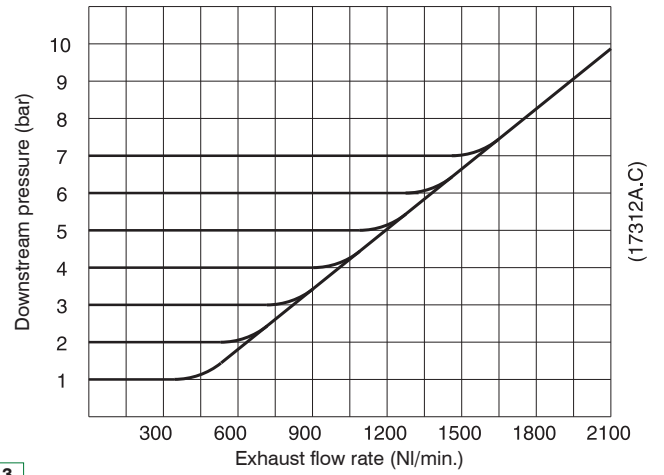
Size 3

Exhaust flow rate curves



Size 1

Exhaust flow rate curves

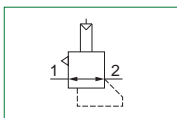


Size 3

► Piloted pressure regulators



- Diaphragm piloted pressure regulator
- Available in 3 sizes with flow rates up to 3500 NI/min and connections from 1/4" a 1"
- Atex certification (II 2GD o II 3GD) on request



Note
Always regulate the rising pressure.

Technical characteristics	Size		
	Size 2	Size 3	Size 4
Body and connections type	Aluminium body, integrated aluminium connections		
IN / OUT connections	G1/4" - G3/8"	G3/8" - G1/2"	G1"
Assembly configuration	Stand alone Panel mounted with M5 screws	Stand alone Panel mounted with M5 screws	Stand alone Panel mounted with M8 screws
Assembly position	Indifferent		
Pressure range (bar)	0,5 ÷ 10		
Regulation	Pneumatic piloting		
Pressure measurement	G1/8" Pressure gauge connection port		
Max. fittings torque IN / OUT connections	G1/4" metal: 20 G3/8" metal: 25	G3/8" metal: 25 G1/2" metal: 30	G1" metal: 35

Operational characteristics	Size		
	Size 2	Size 3	Size 4
Maximum working pressure (bar)	13		
Minimum working pressure (bar)	0,5		
Pilot pressure range (bar)	0,5 ÷ 10		
Working temperature (°C)	-5 ÷ +50		

Weights	Size		
	Size 2	Size 3	Size 4
Aluminium body version (g)	313	510	1638

2
AIR TREATMENT

Order codes

17 **302A** . P . **L**

Size, body and connections

202A : Aluminium body, connections G1/4" (only for size 2)
202B : Aluminium body, connections G3/8" (only for size 2)
302A : Aluminium body, connections G3/8" (only for size 3)
302B : Aluminium body, connections G1/2" (only for size 3)
402NB : Aluminium body, connections G1" (only for size 4)

Options

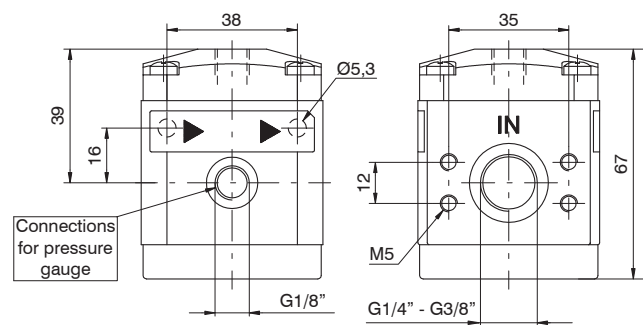
: Standard
L : Without relieving (not available for Size 4)

Example: 17302A.PL

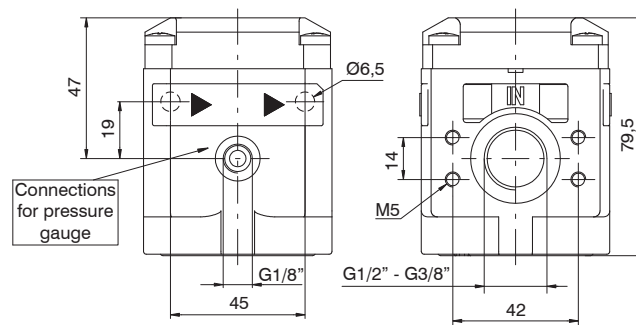
Size 3 piloted pressure regulator, aluminium body, G3/8" connections, without relieving

AIR TREATMENT

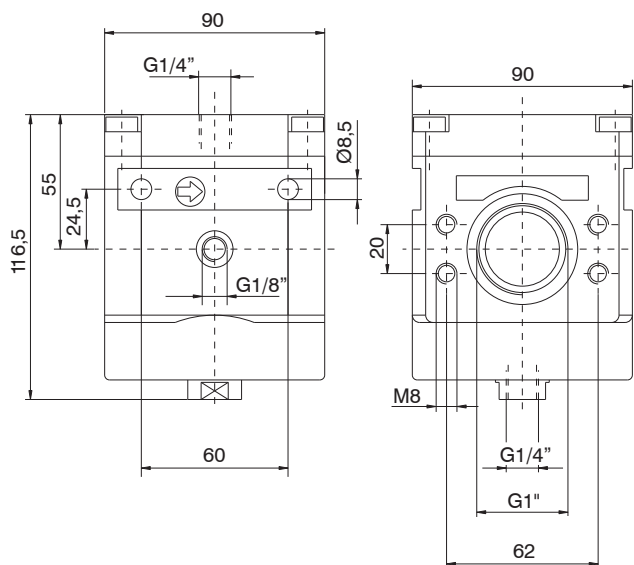
2 Dimensions



Size 2



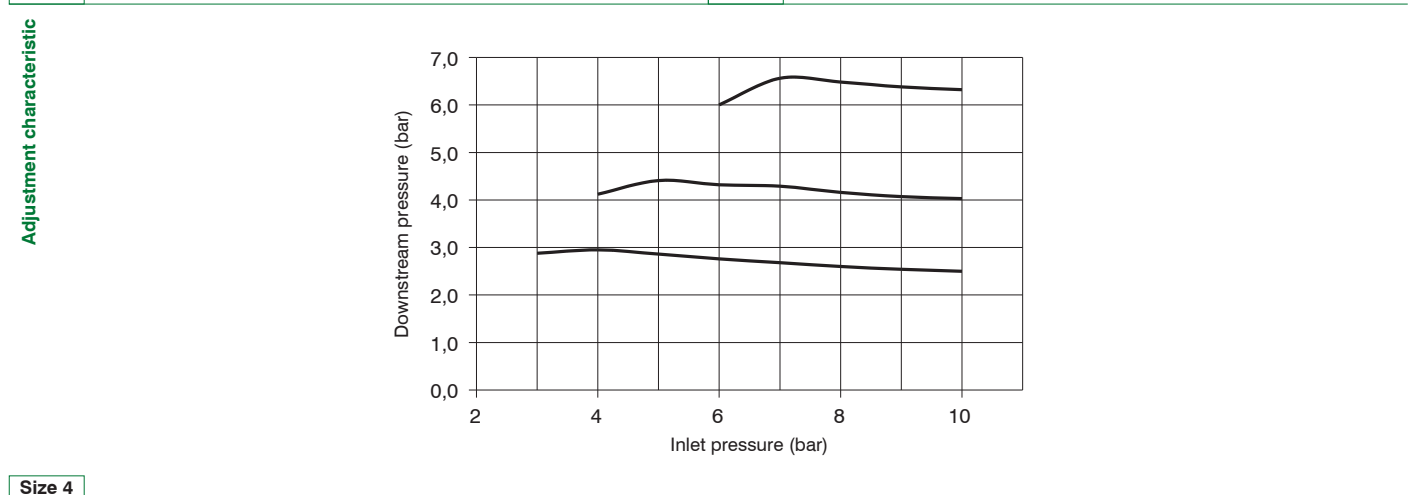
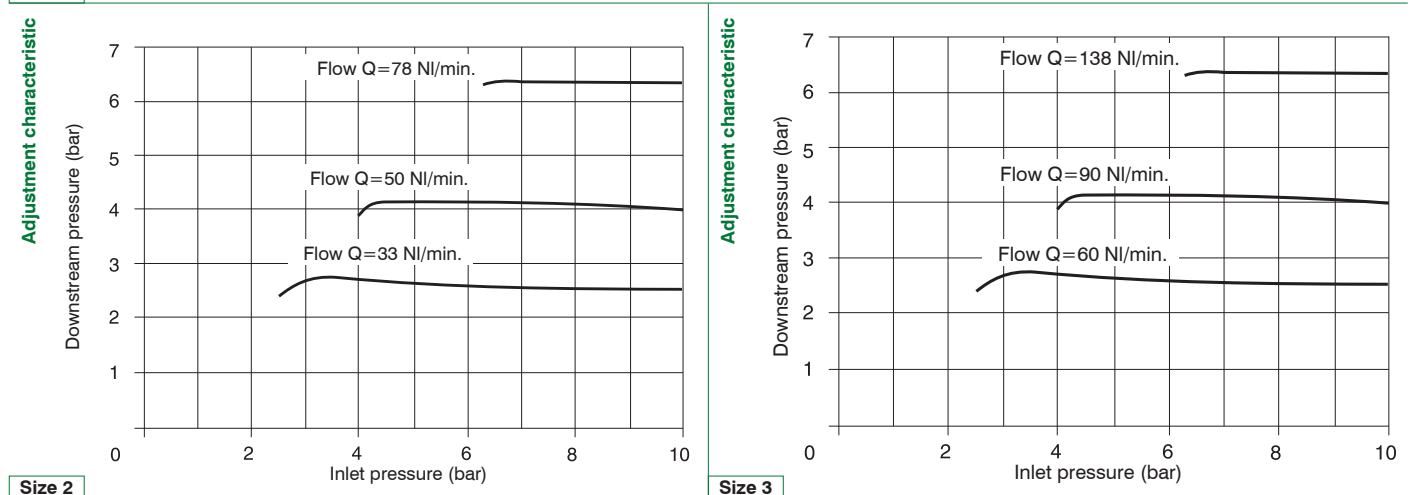
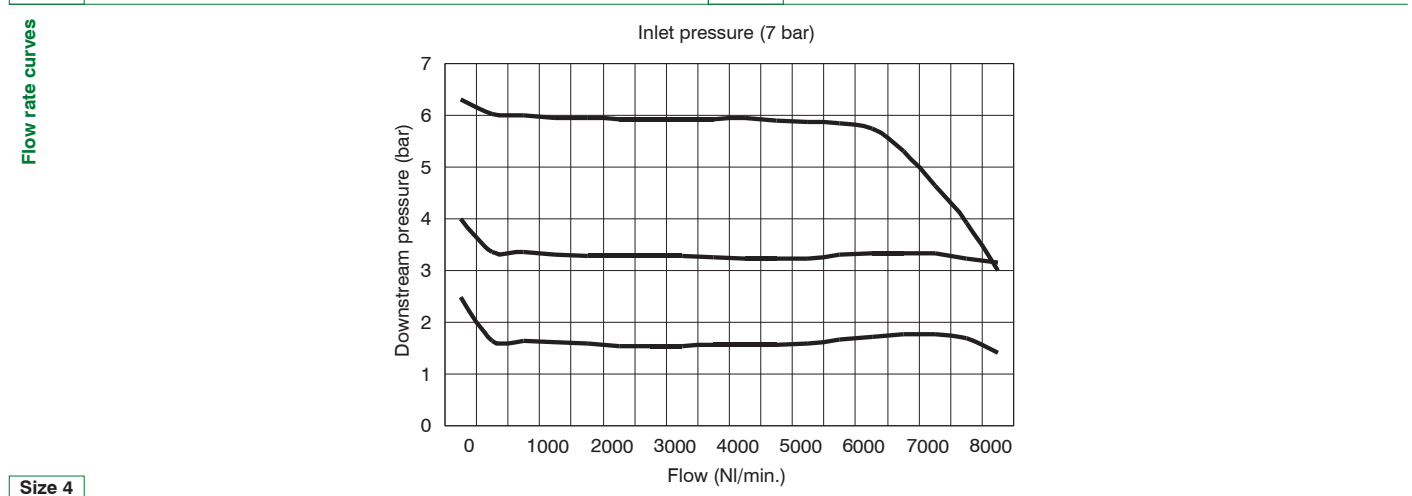
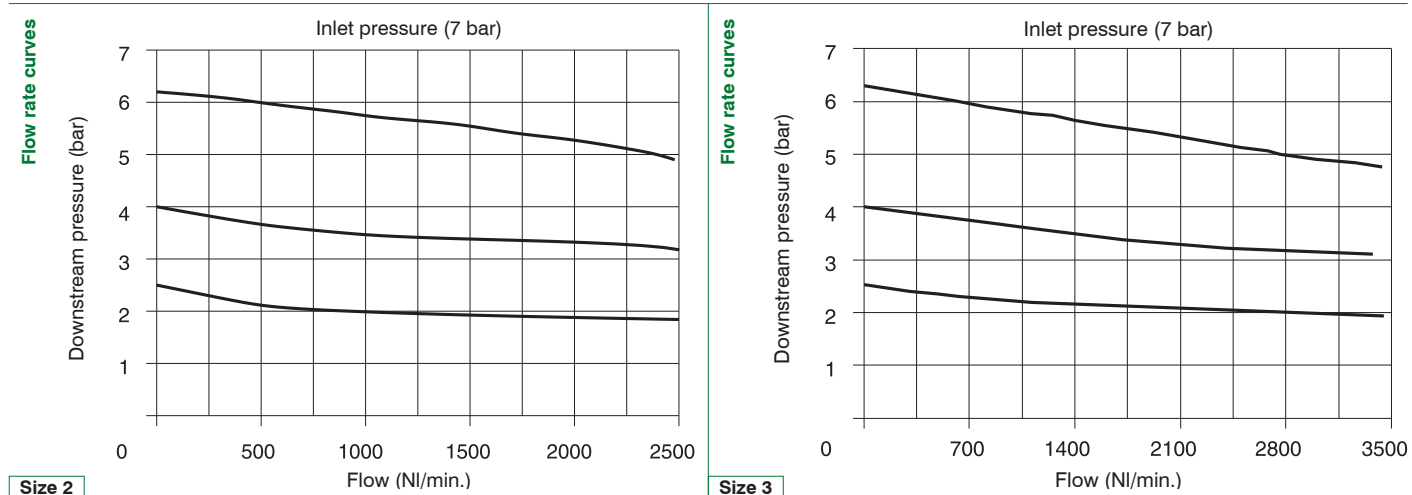
Size 3



Size 4



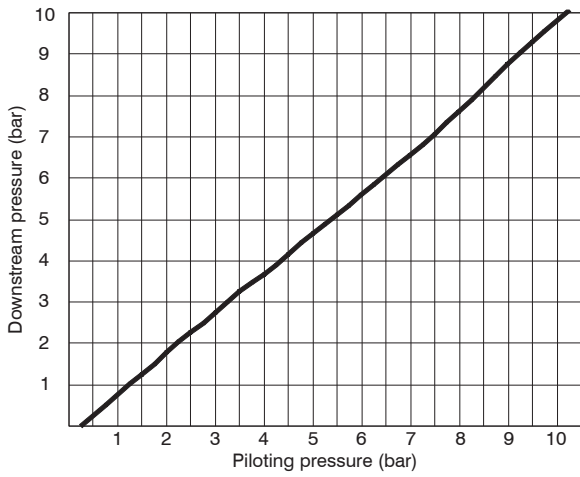
Characteristic curves



2
AIR TREATMENT

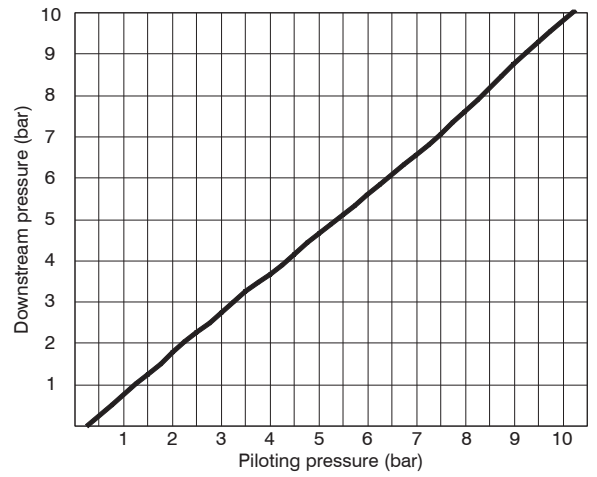


Curve di pilotaggio



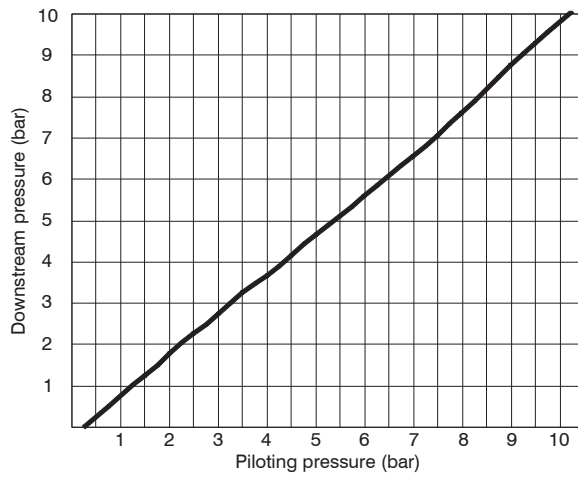
Size 2

Curve di pilotaggio



Size 3

Curve di pilotaggio



Size 4

► High sensitive pressure regulator with pneumatic pilot



- Accurate capacity to maintain set pressure
- Sensitivity combined with high relieving rates
- High flow rate with extremely low pressure drop
- Aluminium body
- Construction with controlled relief
- Atex certification (II 2GD) on request

Technical characteristics	Size
	Size 3
Body and connections type	Aluminium body, integrated aluminium connections
IN / OUT connections	G1/2"
Assembly configuration	Stand alone
Assembly position	Indifferent
Fluid	20µ filtered air and preferably non lubricated
Air flow with inlet pressure 10 bar (NI/min)	5
Pressure measurement	G1/8" Pressure gauge connection port
Max. fittings torque IN / OUT connections	G1/2" metal: 30

Operational characteristics	Size
	Size 3
Maximum working pressure (bar)	10
Minimum working pressure (bar)	0,5
Working temperature (°C)	-5 ÷ +50

Weights	Size
	Size 3
Aluminium body version (g)	970

2
AIR TREATMENT



Order codes

17 **3P2B** .0010

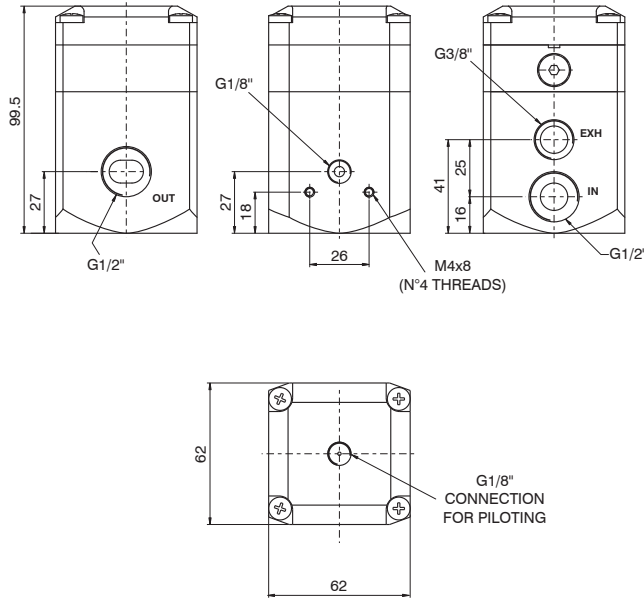
Size, body and connections

3P2B : Aluminium body, connections G1/2" (only for size 3)

Example: 173P2B.0010

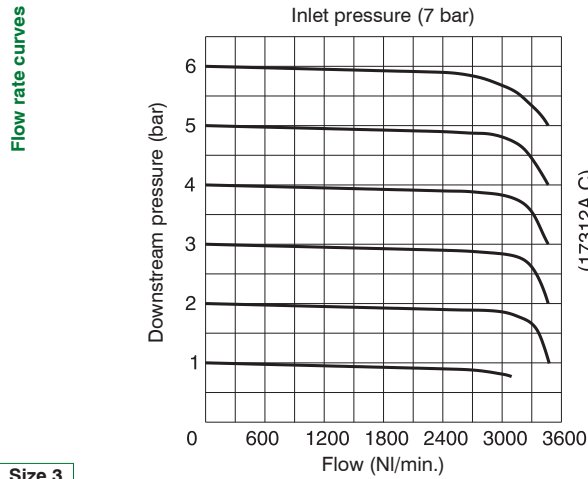
Size 3 high sensitive pressure regulator with pneumatic pilot, aluminium body, G1/2" connections

Dimensions

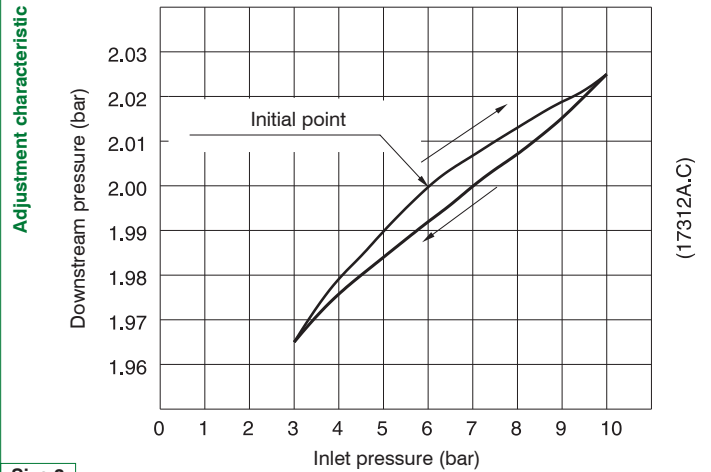


Size 3

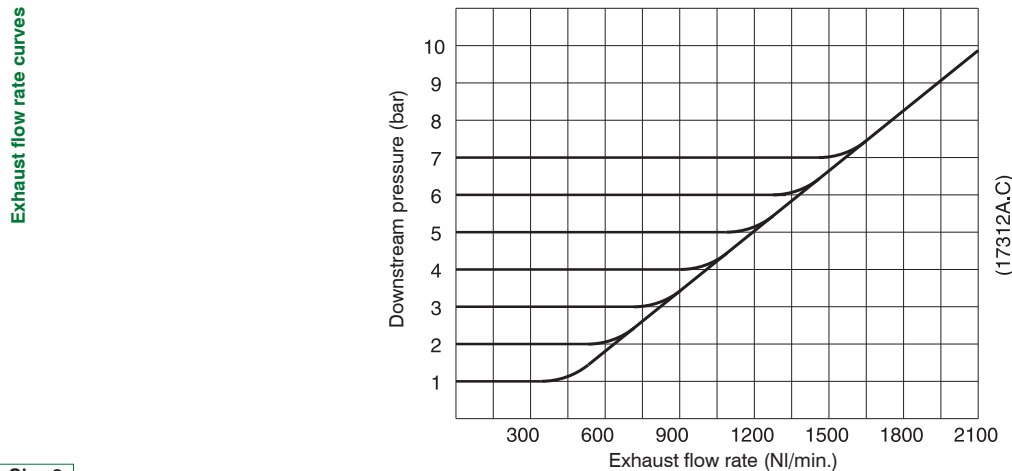
Characteristic curves



Size 3



Size 3

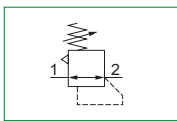


Size 3

▶ Panel mounting pressure regulator



- ▶ Diaphragm pressure regulator with relieving
- ▶ Balanced poppet
- ▶ Technopolymer body, metal connections
- ▶ Pressure adjusting lockable handle by simply pressing it downwards in the desired position
- ▶ Ring nut for panel mounting
- ▶ Atex certification (II 3GD) on request



Technical characteristics	Size
	Size 1
Body and connections type	Technopolymer body, integrated metal connections
IN / OUT connections	G1/8" - G1/4"
Assembly configuration	Stand alone Panel mounting With fixing bracket
Assembly position	indifferent
Pressure range (bar)	0 - 2 / 0 - 4 / 0 - 8 / 0 - 12
Regulation	Manual push and lock with pressure Manual lockable with accessories
Pressure measurement	G1/8" Pressure gauge connection port
Max. fittings torque IN / OUT connections	G1/8" metal: 15 G1/4" metal: 20

Operational characteristics	Size
	Size 1
Maximum working pressure (bar)	13
Minimum working pressure (bar)	0,5
Working temperature (°C)	-5 ÷ +50

Weights	Size
	Size 1
Technopolymer body version (g)	110

Order codes

17 109A . D . L . K

Size, body and connections

109A : Technopolymer body, connections G1/8"
109B : Technopolymer body, connections G1/4"

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Type

L : Without relieving
SM : Improved relieving
SR : Quick exhaust (Unbalanced poppet)
SRM : Quick exhaust with improved relieving
SMF : Improved relieving with controlled relief

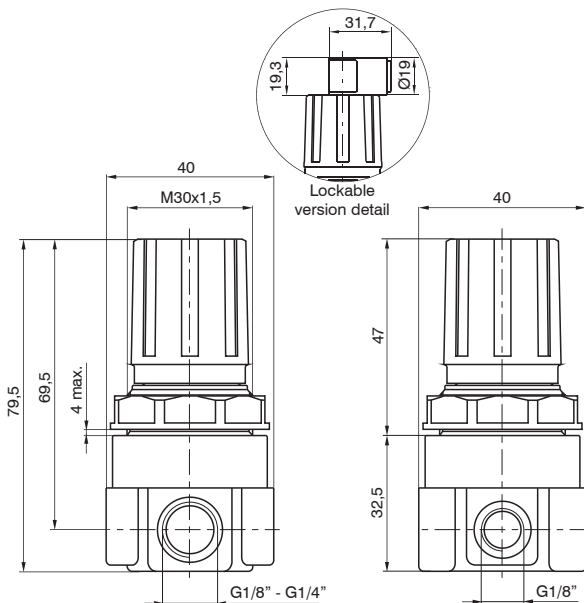
Options

: Standard
K : Lockable version
U : Lockable version with universal key

Example: 17109A.D.L.K

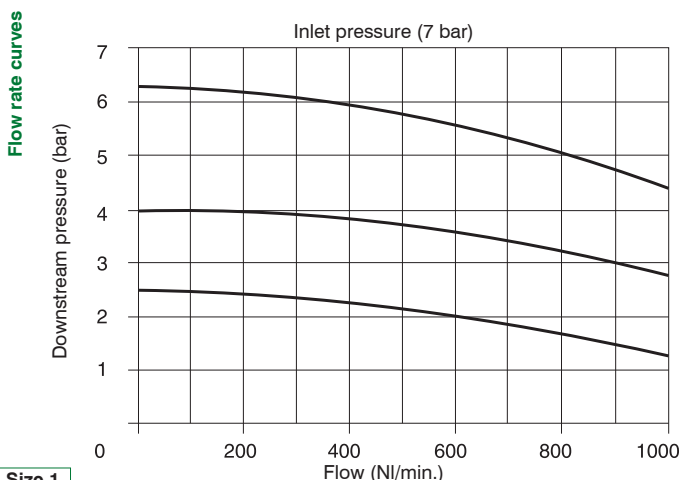
Size 1 Panel mounting pressure regulator, technopolymer body, G1/8" connections, 0 - 12 bar, without relieving, Lockable version

Dimensions

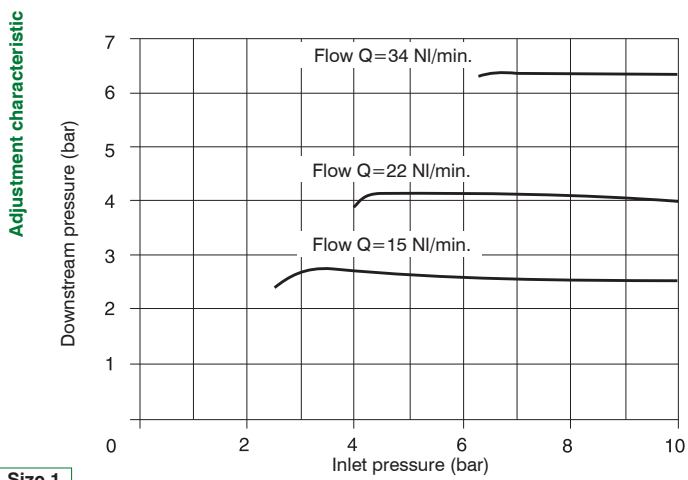


Size 1

Characteristic curves



Size 1



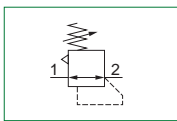
Size 1

AIR TREATMENT 2

▶ Panel mounting pressure regulator including pressure gauge



- ▶ Diaphragm pressure regulator with relieving
- ▶ Balanced poppet
- ▶ Technopolymer body with aluminum reinforced threaded connections
- ▶ Pressure adjusting lockable handle by simply pressing it downwards in the desired position
- ▶ Including pressure gauge integrated on the knob
- ▶ Ring nut for panel mounting
- ▶ Atex certification (II 3GD) on request



2
AIR TREATMENT

Technical characteristics	Size
	Size 1
Body and connections type	Technopolymer body, aluminum reinforced threaded connections
IN / OUT connections	G1/8" - G1/4"
Assembly configuration	Stand alone Panel mounting With fixing bracket
Assembly position	Indifferent
Pressure range (bar)	0 - 2 / 0 - 4 / 0 - 8 / 0 - 12
Regulation	Manual push and lock with pressure
Pressure measurement	G1/8" Pressure gauge connection port integrated on the knob
Max. fittings torque IN / OUT connections	G1/8" metal: 15 G1/4" metal: 20

Operational characteristics	Size
	Size 1
Maximum working pressure (bar)	13
Minimum working pressure (bar)	0,5
Working temperature (°C)	-5 ÷ +50

Weights	Size
	Size 1
Technopolymer body version (g)	250



Order codes

17 129A . D

Size, body and connections

129A : Technopolymer body, connections G1/8"
129B : Technopolymer body, connections G1/4"

Pressure range

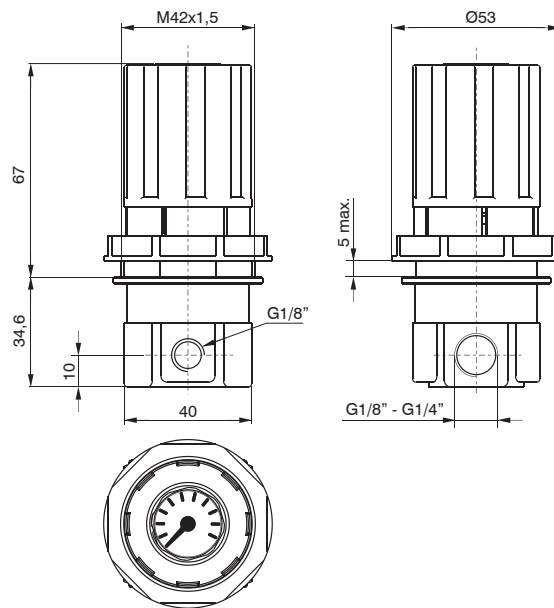
A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Example: 17129A.D

Size 1 panel mounting pressure regulator including pressure gauge, technopolymer body, G1/8" connections, 0 - 12 bar

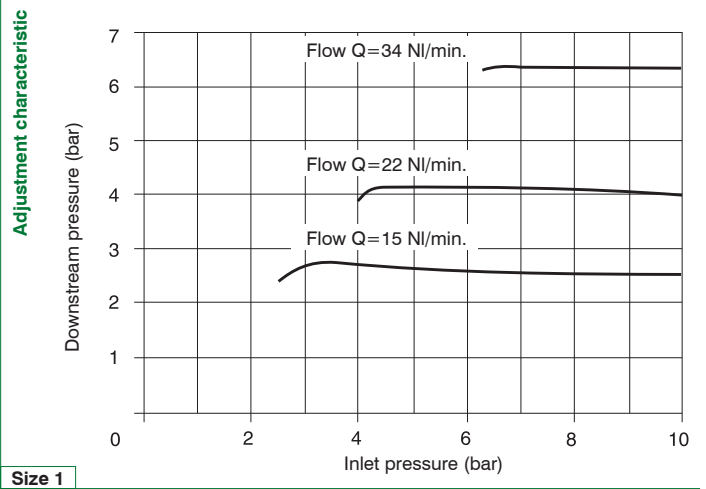
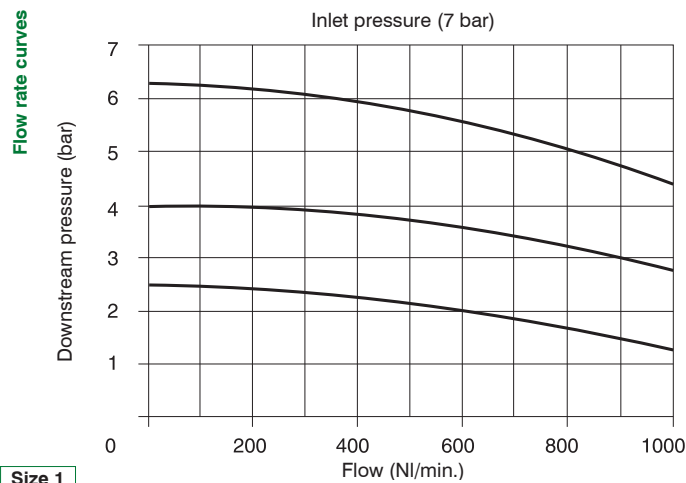
2 Dimensions

AIR TREATMENT



Size 1

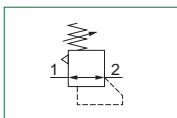
Characteristic curves



► Pressure regulators for manifold



- Diaphragm pressure regulator with relieving.
- Available with 2 front outputs connections G1/8"
- Available in four pressure ranges up to 12 bar
- Ring nut for panel mounting
- Available with integrated pressure gauge on the top of adjusting knob
- Air supply can be applied by both directions (Right or Left)
- Max. 6off pressure regulators in manifold configuration
- Atex certification (II 2GD) on request



Note

For installations where a more accurate and constant pressure is required, the unit should be installed as close as possible to the point of use.

Technical characteristics	Size
	Size 1
Body and connections type	Zinc alloy body, integrated zinc alloy connections
IN / OUT connections	G1/8" - G1/4"
Assembly configuration	Stand alone Panel mounting Panel mounted with M4 screws With fixing bracket
Assembly position	Indifferent
Pressure range (bar)	0 - 2 / 0 - 4 / 0 - 8 / 0 - 12
Regulation	Manual push and lock with pressure Manual lockable with accessories (only for version without pressure gauge)
Pressure measurement	Integrated pressure gauge on the top of adjusting knob (optional)
Max. fittings torque IN / OUT connections	G1/8" metal: 15 G1/4" metal: 20

Operational characteristics	Size
	Size 1
Maximum working pressure (bar)	13
Minimum working pressure (bar)	0,5
Working temperature (°C)	-5 ÷ +50

Weights	Size
	Size 1
Zinc alloy body version (g)	380

2
AIR TREATMENT



Order codes

17 **OB2A** . **D** . **K**

Size, body and connections

OB2A : Zinc alloy body, connections G1/8"
OB2B : Zinc alloy body, connections G1/4"
OM2A : Zinc alloy body, connections G1/8" with integrated pressure gauge
OM2B : Zinc alloy body, connections G1/4" with integrated pressure gauge

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

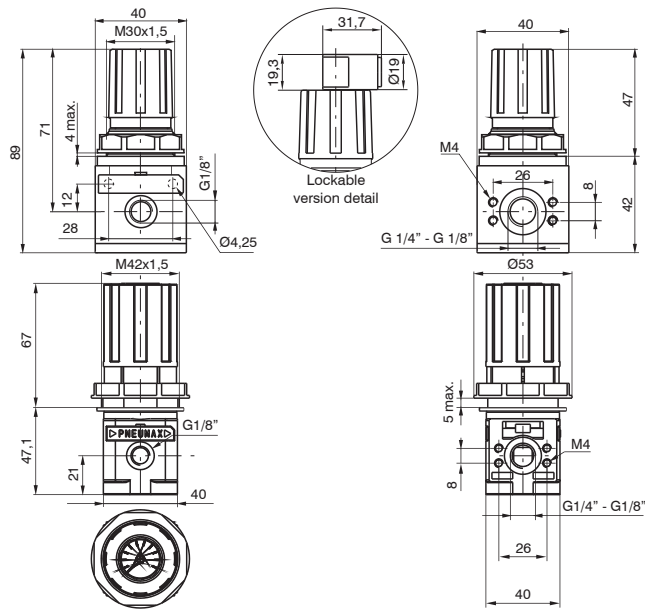
Options

: Standard
K : Lockable version (only for version without pressure gauge)
U : Lockable version with universal key (only for version without pressure gauge)

Example: 17OB2A.D.K

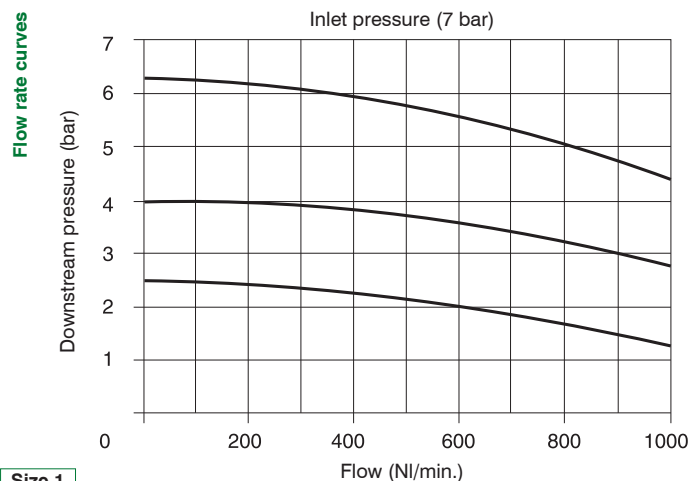
Size 1 pressure regulators for manifold, Zinc alloy body, G1/8" connections, 0 - 12 bar, without pressure gauge, Lockable version

Dimensions

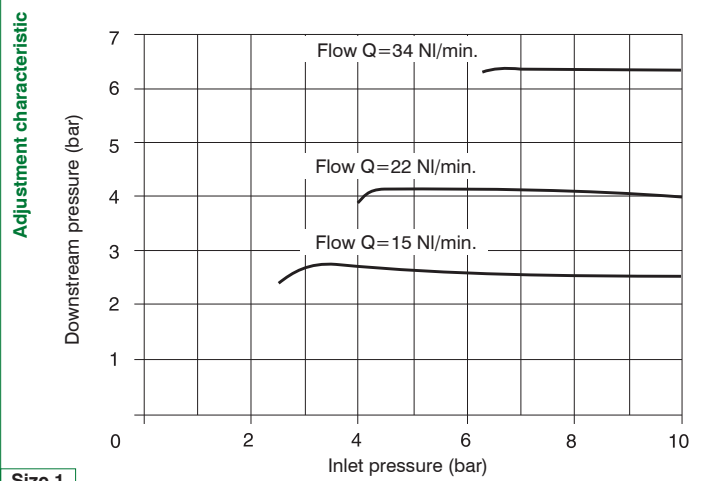


Size 1

Characteristic curves



Size 1



Size 1

▶ Manifold pressure regulators



- ▶ Manifold pressure regulators
- ▶ Available in four pressure ranges up to 12 bar
- ▶ Inlet pressure common for the whole manifold of pressure regulator
- ▶ A maximum of 6 pressure regulators can be mounted
- ▶ Atex certification (II 2GD) on request

Technical characteristics	Size
	Size 1
Body and connections type	Zinc alloy body, integrated zin alloy connections
IN / OUT connections	G1/8" - G1/4"
Assembly configuration	Stand alone Panel mounting Panel mounted with M4 screws With fixing bracket
Assembly position	indifferent
Pressure range (bar)	0 - 2 / 0 - 4 / 0 - 8 / 0 - 12
Regulation	Manual push and lock with pressure Manual lockable with accessories (only for version without pressure gauge)
Pressure measurement	G1/8" Pressure gauge connection port
Max. fittings torque IN / OUT connections	G1/8" metal: 15 G1/4" metal: 20

Operational characteristics	Size
	Size 1
Maximum working pressure (bar)	13
Minimum working pressure (bar)	0,5
Working temperature (°C)	-5 ÷ +50

2
AIR TREATMENT



Order codes

17 **BB2A** . **6** . **C** . **C** . **C** . **C** . **C** . **C** . **C** . **K**

Size, body and connections

BB2A : Zinc alloy body, connections G1/8"
BB2B : Zinc alloy body, connections G1/4"
BM2A : Zinc alloy body, connections G1/8" with integrated pressure gauge
BM2B : Zinc alloy body, connections G1/4" with integrated pressure gauge

Number of regulators

2 : n. 2 Regulators
3 : n. 3 Regulators
4 : n. 4 Regulators
5 : n. 5 Regulators
6 : n. 6 Regulators

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

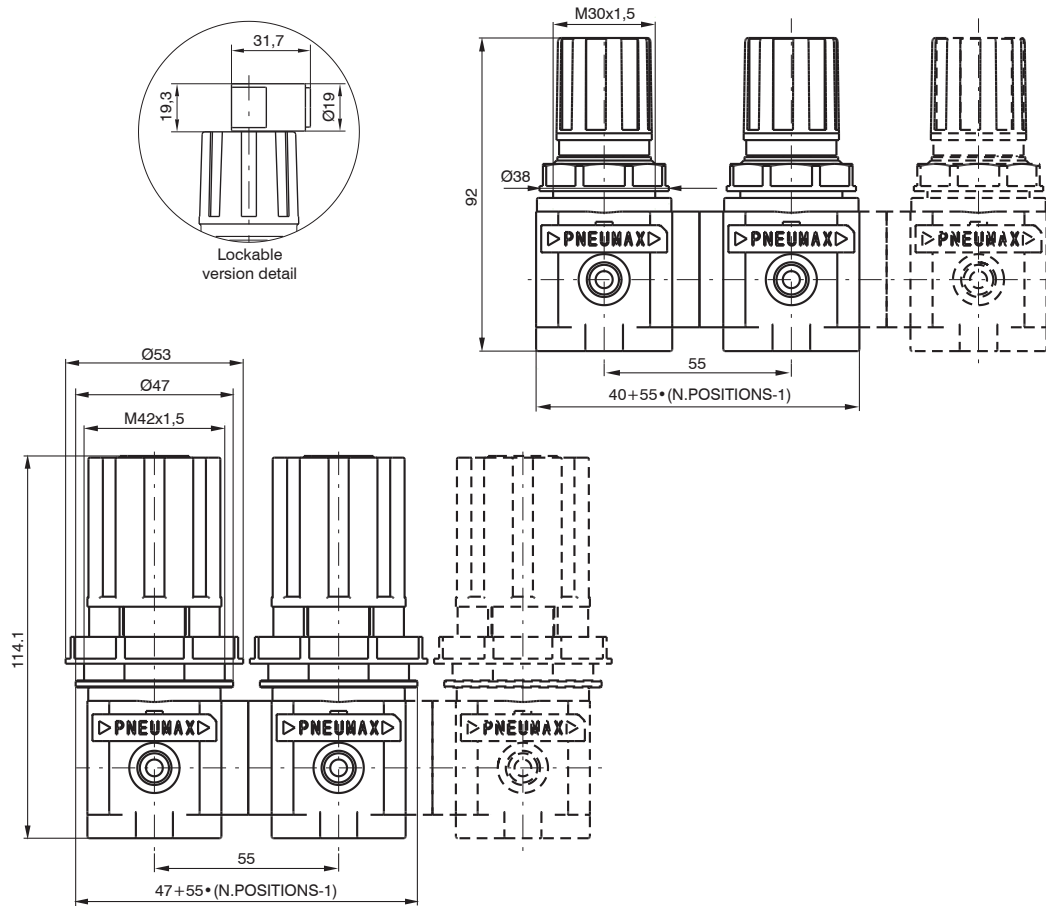
Options

: Standard
K : Lockable version (only for version without pressure gauge)
U : Lockable version with universal key (only for version without pressure gauge)

Example : 17BB2A.6.C.C.C.C.C.C.K : Size 1 manifold pressure regulators G1/8", 0 - 8 bar, without pressure gauge, Lockable version

2 AIR TREATMENT

Dimensions

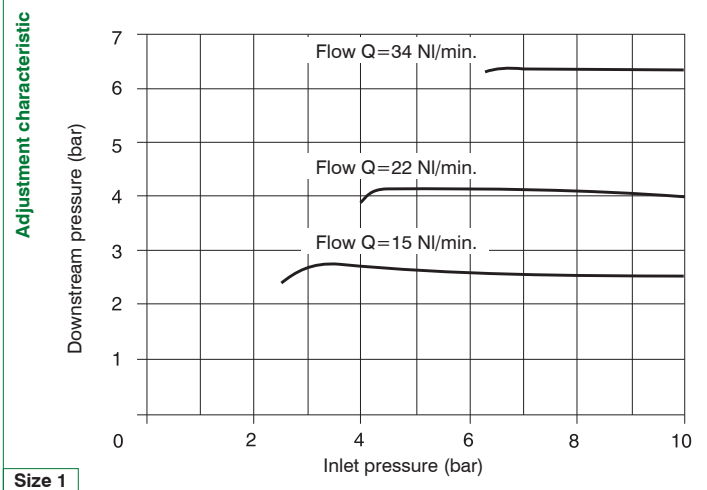
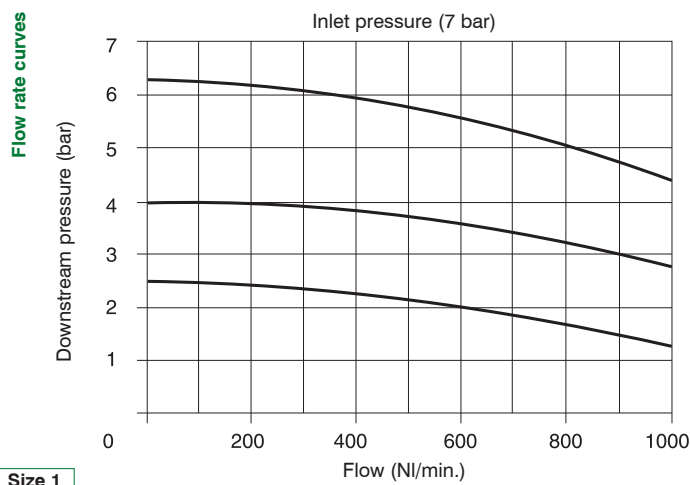


2

AIR TREATMENT

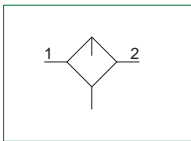
Size 1

Characteristic curves





- ▶ Oil mist lubricator
- ▶ Available in 4 sizes with flow rates up to 10000 NI/min and connections from 1/8" to 1"
- ▶ Bowls screwed to the body (Size 1)
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button (Size 2 - Size 3 - Size 4)
- ▶ Variable orifice size in function of the flow rate
- ▶ Oil quantity regulation mechanism and oil quantity visualization dome made of polycarbonate (PC)
- ▶ Oil refill plug
- ▶ Available with low level electrical sensor NO and NC
- ▶ Atex certification (II 2GD o II 3GD) on request

2
AIR TREATMENT


Technical characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Body and connections type	Zinc alloy body, Zinc alloy integrated connections Technopolymer body, metal connections	Aluminium body, integrated aluminium connections		
Protection and bowl type	Technopolymer protection - PA bowl (Size 1 available without protection)			Metal bowl with blind metal bowl
IN / OUT connections	G1/8" - G1/4"	G1/4" - G3/8"	G3/8" - G1/2", G3/4"	G1"
Assembly configuration	Stand alone Panel mounted with M4 screws	Stand alone Panel mounted with M5 screws	Stand alone Panel mounted with M6 screws	Stand alone Panel mounted with M8 screws
Assembly position	Vertical ±5°			
Bowl capacity (cm³)	36	52	62	300
Lubrication type	Oil mist			
Oil level regulation	Manual, complete with visual indicator			
Max. fittings torque IN / OUT connections	G1/8" metal: 15 G1/4" metal: 20	G1/4" metal: 20 G3/8" metal: 25	G3/8" metal: 25 G1/2" metal: 30 G3/4" metal: 35	G1" metal: 35

Operational characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Maximum working pressure (bar)	13			
Minimum working pressure (bar)	0,5			
Min. operational flow at 6,3 bar (NI/min)	10	20	100	
Indicative oil drop rate (NI/min)	1 drope every 300/600			
Oil type	FD22 - HG32			
Working temperature (°C)	-5 ÷ +50			

Weights	Size			
	Size 1	Size 2	Size 3	Size 4
Zinc alloy body version (g)	258	/	/	/
Technopolymer body version (g)	108	/	/	/
Aluminium body version (g)	/	280	435	1500



Order codes

17 303A . MA

Size, body and connections
003A : Zinc alloy body, connections G1/8" (only for size 1)
003B : Zinc alloy body, connections G1/4" (only for size 1)
103A : Technopolymer body, connections G1/8" (only for size 1)
103B : Technopolymer body, connections G1/4" (only for size 1)
203A : Aluminium body, connections G1/4" (only for size 2)
203B : Aluminium body, connections G3/8" (only for size 2)
303A : Aluminium body, connections G3/8" (only for size 3)
303B : Aluminium body, connections G1/2" (only for size 3)
303E : Aluminium body, connections G3/4" (only for size 3)
403B : Aluminium body, connections G1" (only for size 4)

Type
P : Protected bowl (only for size 1)
MA : Electrical minimum level sensor NO (not available for Size 1)
MC : Electrical minimum level sensor NC (not available for Size 1)

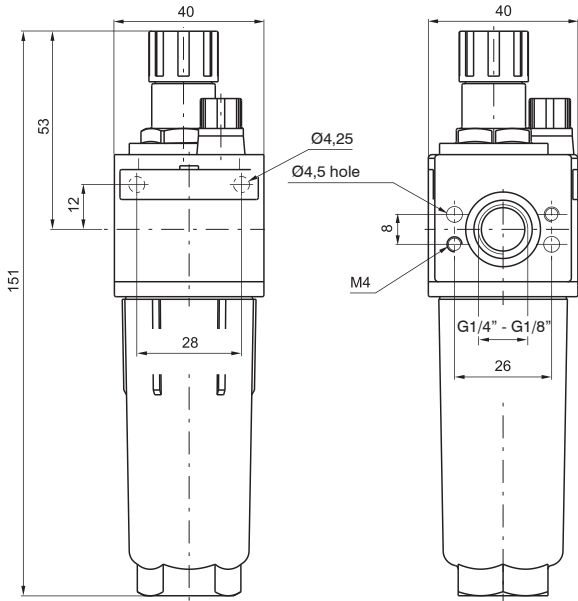
Example: 17303A.MA

Size 3 Lubricator, Aluminium body, G3/8" connections, normally open low level electrical sensor

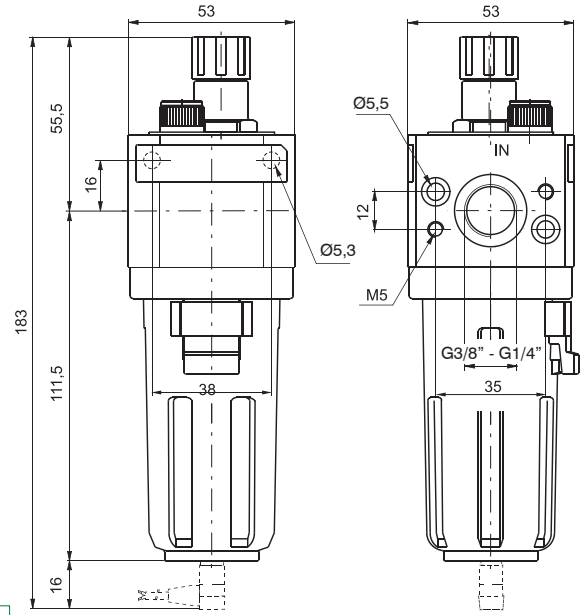
Dimensions

2

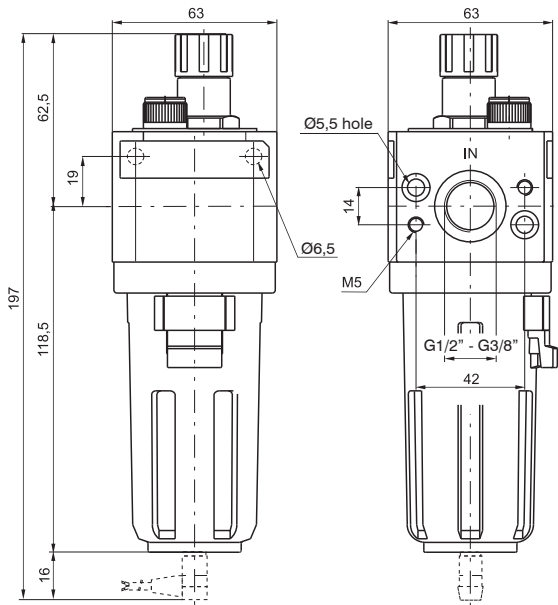
AIR TREATMENT



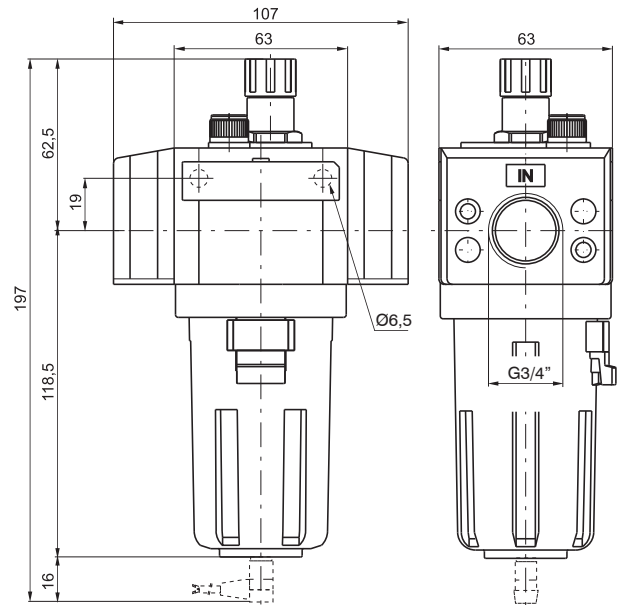
Size 1



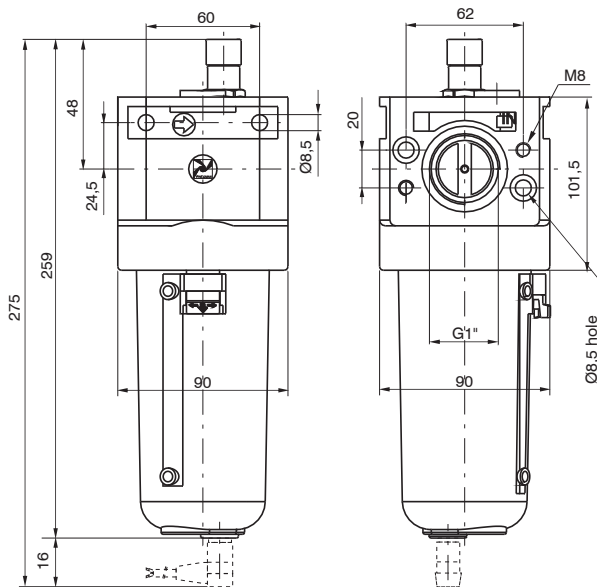
Size 2



Size 3



Size 3 3/4"

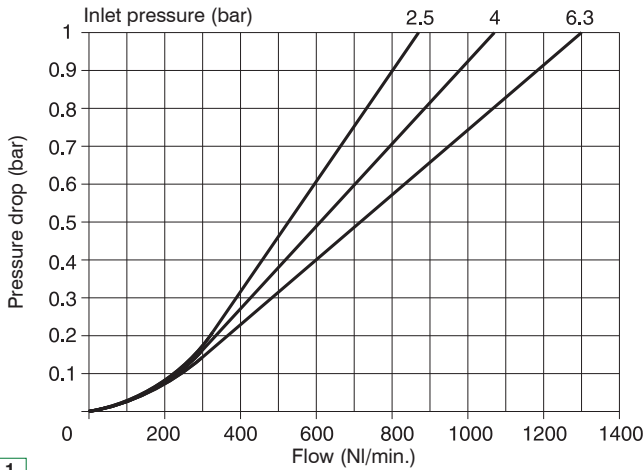


Size 4



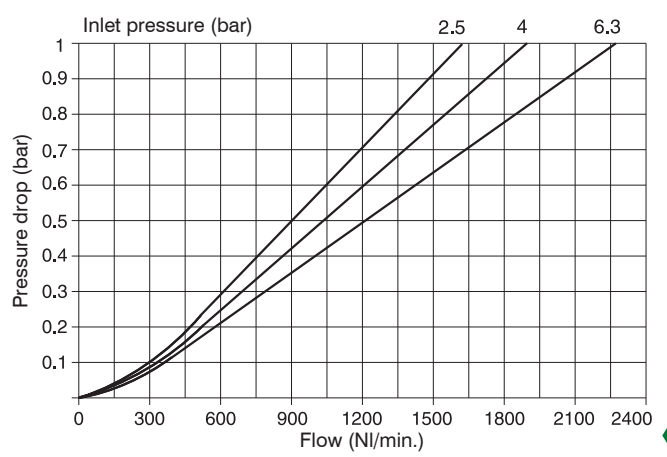
Characteristic curves

Flow rate curves



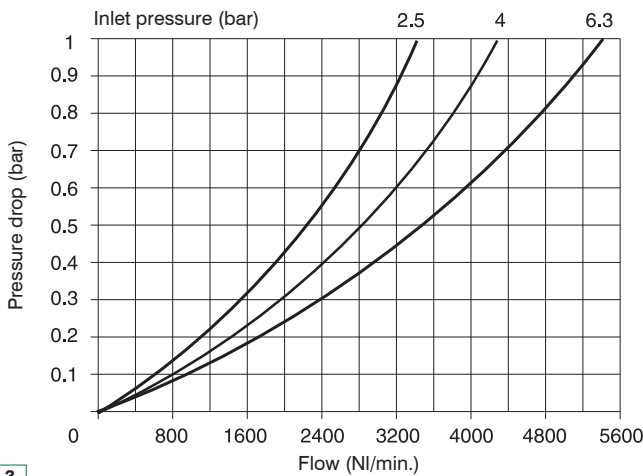
Size 1

Flow rate curves



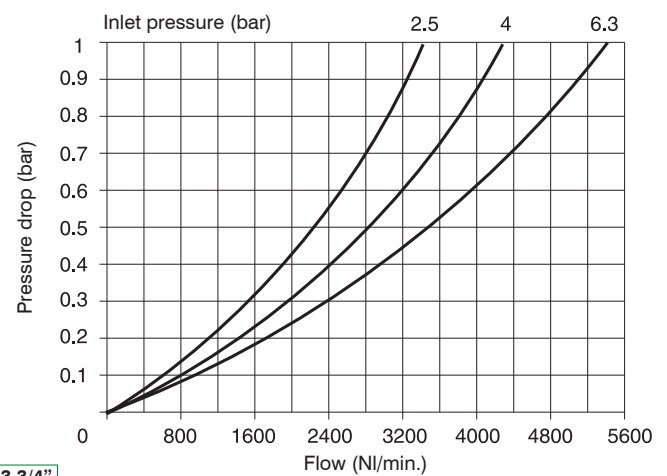
Size 2

Flow rate curves



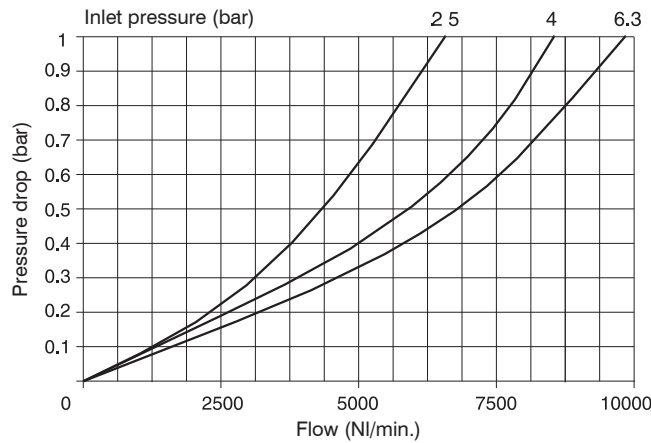
Size 3

Flow rate curves



Size 3 3/4"

Flow rate curves



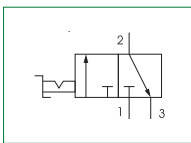
Size 4

2

AIR TREATMENT

Shut-off valve


- ▶ 3/2 N.C. poppet valve for opening and exhausting the circuit
- ▶ Allows to pneumatically supply the part of the system downstream of the valve
- ▶ Manual adjusting lockable handle (in shut-off position) with a maximum of three pad-locks
- ▶ Atex certification (II 2GD o II 3GD) on request

2
AIR TREATMENT


Technical characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Body and connections type	Zinc alloy body, Zinc alloy integrated connections Technopolymer body, metal connections	Aluminium body, integrated aluminium connections		
Operated type	Manual			
IN / OUT connections	G1/4"	G3/8"	G1/2"	G1"
Discharge connections	G1/8"	G1/4"	G3/8"	G1/4"
Assembly configuration	Stand alone Panel mounted with M4 screws	Stand alone Panel mounted with M5 screws	Stand alone Panel mounted with M6 screws	Stand alone Panel mounted with M8 screws
Assembly position	Indifferent			
Max. fittings torque IN / OUT connections	G1/4" metal: 20	G3/8" metal: 25	G1/2" metal: 30	G1" metal: 35

Operational characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Maximum working pressure (bar)	13			10
Minimum working pressure (bar)	0,5			
Nominal flow rate at 6 bar with Δp=1 (NI/min)	1000	2100	2500	8000
Working temperature (°C)	-5 ÷ +50			

Weights	Size			
	Size 1	Size 2	Size 3	Size 4
Zinc alloy body version (g)	280	/	/	/
Technopolymer body version (g)	155	/	/	/
Aluminium body version (g)	/	380	550	1600

Order codes

17 330 . A

Size, body and connections

030 : Zinc alloy body, connections G1/4" (only for size 1)
130 : Technopolymer body, connections G1/4" (only for size 1)
230 : Aluminium body, connections G3/8" (only for size 2)
330 : Aluminium body, connections G1/2" (only for size 3)
430 : Aluminium body, connections G1" (only for size 4)

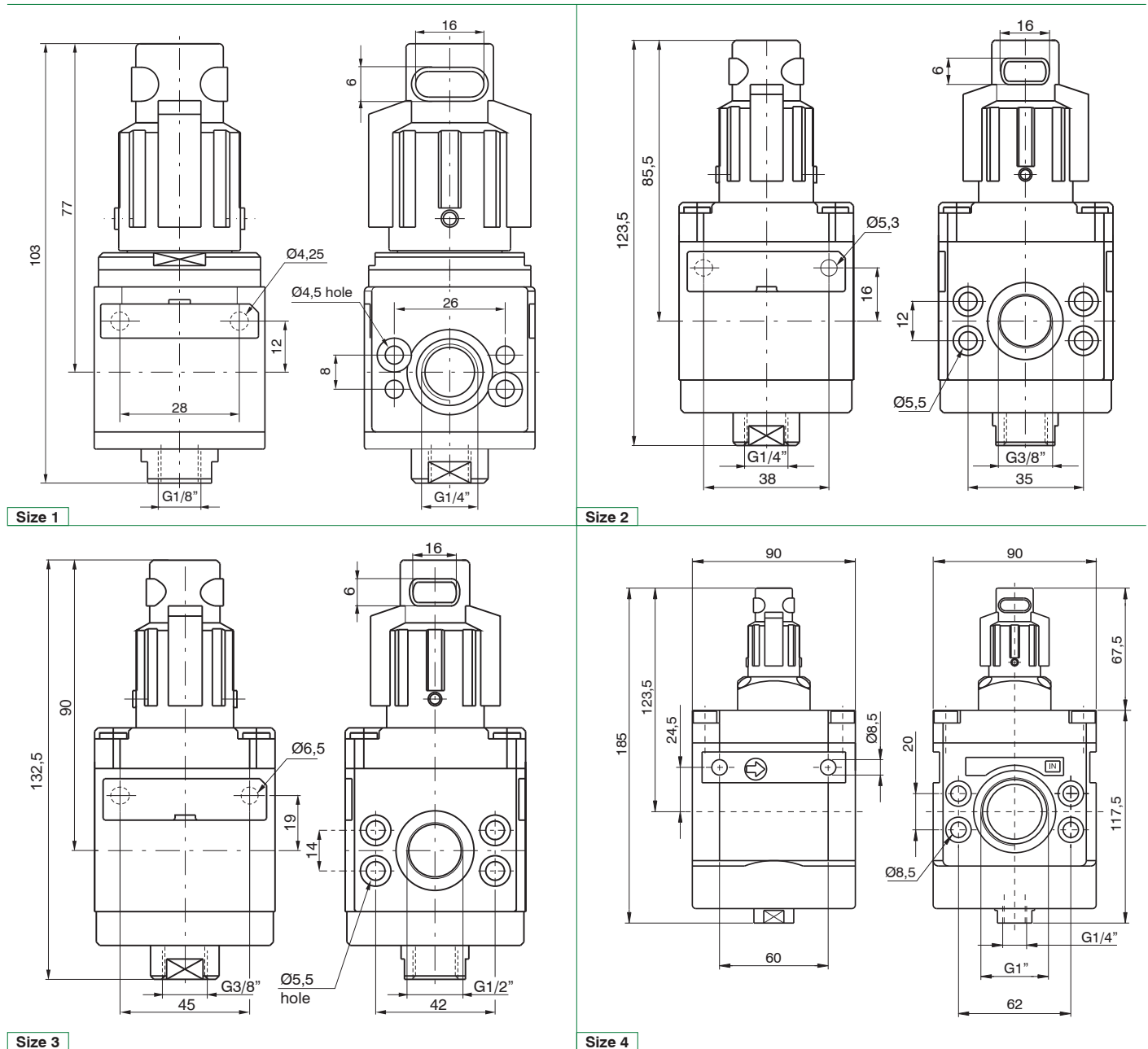
Type

A : Not lockable handle
B : Lockable handle

Example: 17330.A

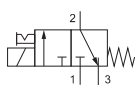
Shut-off valve Size 3, Aluminium body, G1/2" connections, with not lockable handle

Dimensions



Electric shut-off valve


- ▶ 3/2 N.C. poppet valve for entering and exhausting the circuit
- ▶ It allows to pneumatically supply the part of the system downstream of the valve
- ▶ Opening and closing of the valve via solenoid operator
- ▶ The supply pressure must be minimum 2 bars or higher
- ▶ It is possible to produce the external supplied solenoid version by mounting the 305.10.05 between the valve main body and the solenoid pilot valve.
- ▶ The air supply can only be done via port 1
- ▶ Ensure that the downstream air consumption will not cause a pressure drop which could result in the pressure falling below the minimum operating values.
- ▶ If the pressure inside the valve falls below 2 bars , the valve might shut off.
- ▶ Atex certification (II 2GD o II 3GD) on request


AIR TREATMENT

Technical characteristics	Size		
	Size 1	Size 2	Size 3
Body and connections type	Zinc alloy body, Zinc alloy integrated connections Technopolymer body, metal connections	Aluminium body, integrated aluminium connections	
Operated type	Electric		
IN / OUT connections	G1/4"	G3/8"	G1/2"
Discharge connections	G1/8"	G1/4"	G3/8"
Assembly configuration	Stand alone Panel mounted with M4 screws	Stand alone Panel mounted with M5 screws	Stand alone Panel mounted with M6 screws
Assembly position	Indifferent		
Max. fittings torque IN / OUT connections	G1/4" metal: 20	G3/8" metal: 25	G1/2" metal: 30

Operational characteristics	Size		
	Size 1	Size 2	Size 3
Maximum working pressure (bar)	10		
Minimum working pressure (bar)	2		
Nominal flow rate at 6 bar with Δp=1 (NI/min)	1000	2100	3200
Working temperature (°C)	-5 ÷ +50		

Weights	Size		
	Size 1	Size 2	Size 3
Zinc alloy body version (g)	345	/	/
Technopolymer body version (g)	215	/	/
Aluminium body version (g)	/	440	680

Order codes

17 330 . M2

Size, body and connections

- 030 : Zinc alloy body, connections G1/4" (only for size 1)
- 130 : Technopolymer body, connections G1/4" (only for size 1)
- 230 : Aluminium body, connections G3/8" (only for size 2)
- 330 : Aluminium body, connections G1/2" (only for size 3)

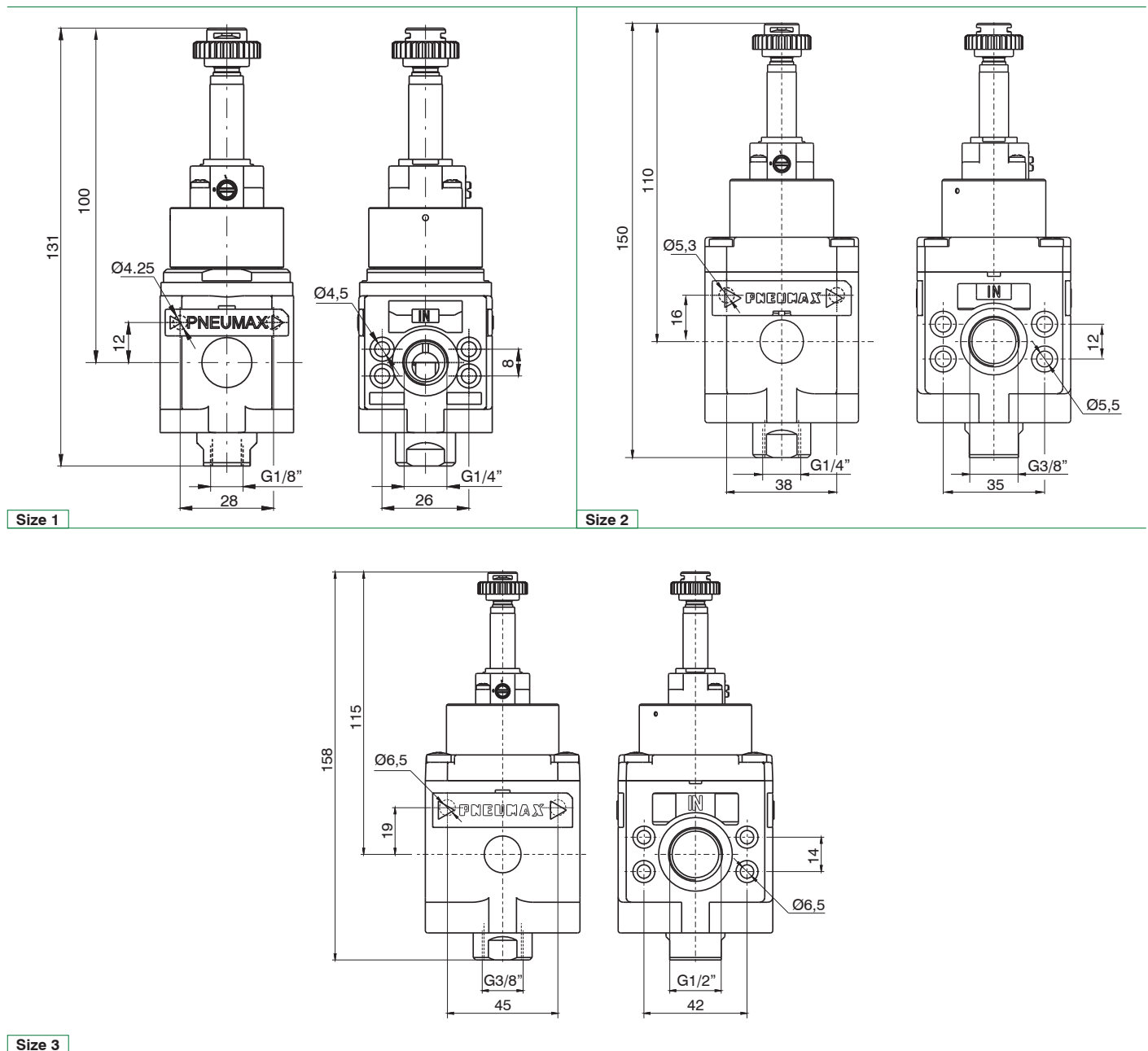
Type

- M2 : Electric with M2
- M2/9 : Electric with M2/9

Example: 17330.M2

Electric shut-off valve Size 3, Aluminium body, G1/2" connections, electric with M2

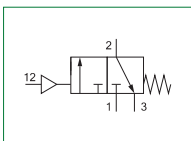
Dimensions



2 AIR TREATMENT

Pneumatic shut-off valve


- ▶ 3/2 N.C. poppet valve for entering and exhausting the circuit
- ▶ It allows to pneumatically supply the part of the system downstream of the valve
- ▶ Opening and closing of the valve via pneumatic operator
- ▶ The piloting pressure must be minimum 2 bar or higher
- ▶ The air supply can only be done via port 1
- ▶ Ensure that the downstream air consumption will not cause a pressure drop which could result in the pressure falling below the minimum operating values
- ▶ If the pressure inside the valve falls below 2 bars , the valve might shut off
- ▶ Atex certification (II 2GD o II 3GD) on request

2
AIR TREATMENT


Technical characteristics	Size		
	Size 1	Size 2	Size 3
Body and connections type	Zinc alloy body, Zinc alloy integrated connections Technopolymer body, metal connections	Aluminium body, integrated aluminium connections	
Operated type	Pneumatic		
IN / OUT connections	G1/4"	G3/8"	G1/2"
Discharge connections	G1/8"	G1/4"	G3/8"
Pilot connections	G1/8"		
Assembly configuration	Stand alone Panel mounted with M4 screws	Stand alone Panel mounted with M5 screws	Stand alone Panel mounted with M6 screws
Assembly position	Indifferent		
Max. fittings torque IN / OUT connections	G1/4" metal: 20	G3/8" metal: 25	G1/2" metal: 30

Operational characteristics	Size		
	Size 1	Size 2	Size 3
Maximum working pressure (bar)	13		
Minimum working pressure (bar)	2		
Piloting pressure (bar)	2		
Nominal flow rate at 6 bar with Δp=1 (NI/min)	1000	2100	3200
Working temperature (°C)	-5 ÷ +50		

Weights	Size		
	Size 1	Size 2	Size 3
Zinc alloy body version (g)	310	/	/
Technopolymer body version (g)	180	/	/
Aluminium body version (g)	/	405	645

Order codes

17 **330** .PN

Size, body and connections

030 : Zinc alloy body, connections G1/4" (only for size 1)

130 : Technopolymer body, connections G1/4" (only for size 1)

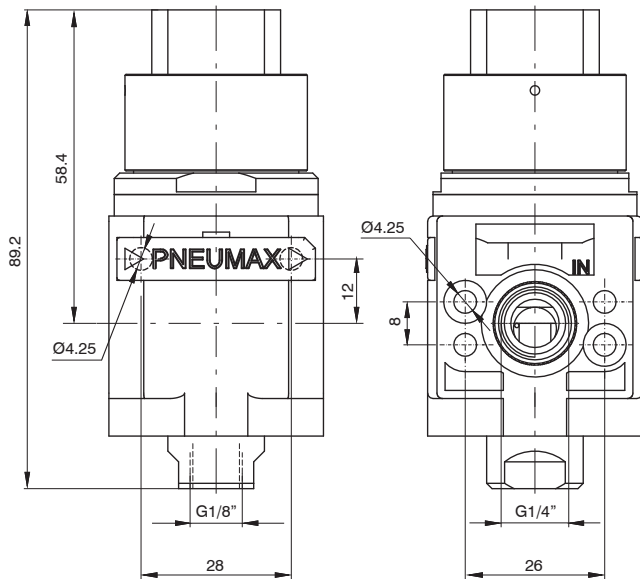
230 : Aluminium body, connections G3/8" (only for size 2)

330 : Aluminium body, connections G1/2" (only for size 3)

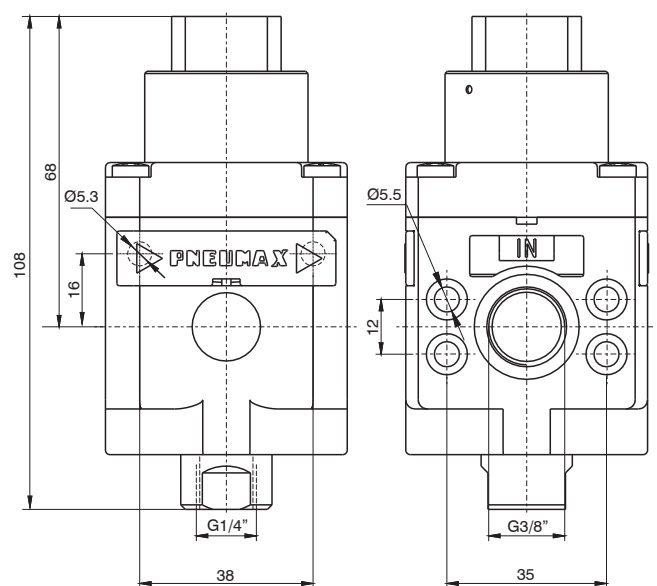
Example: 17330.PN

Pneumatic shut-off valve Size 3, Aluminium body, G1/2" connections, with pneumatic pilot

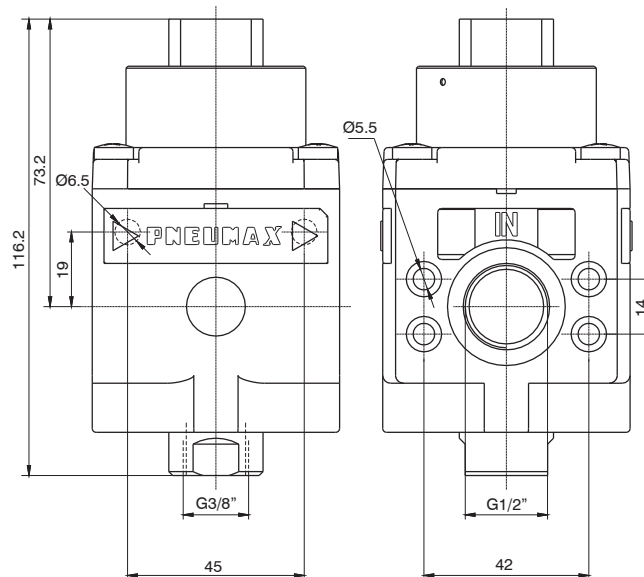
Dimensions



Size 1



Size 2



Size 3

2

AIR TREATMENT

Progressive start-up valve


- ▶ 3 way valve with double poppet
- ▶ Aluminium body
- ▶ Possibility to adjust the down stream circuit filling time by the enclosed adjustable metering screw
- ▶ Quick down stream circuit discharge
- ▶ Possibility for a pneumatic or electric piloting control
- ▶ Atex certification (II 2GD o II 3GD) on request

AIR TREATMENT
2

Technical characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Body and connections type	Aluminium body, integrated aluminium connections			
IN / OUT connections	G1/4"	G3/8"	G1/2"	G1"
Discharge connections	G1/8"	G1/4"	G3/8"	G3/4"
Assembly configuration	Stand alone Panel mounted with M4 screws	Stand alone Panel mounted with M5 screws	Stand alone Panel mounted with M6 screws	Stand alone Panel mounted with M8 screws
Assembly position	Indifferent			
Max. fittings torque IN / OUT connections	G1/4" metal: 20	G3/8" metal: 25	G1/2" metal: 30	G1" metal: 35

Operational characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Maximum working pressure (bar)	10			
Minimum working pressure (bar)	2,5			
Nominal flow rate at 6 bar with $\Delta p=1$ (NI/min)	1000	1700	2500	8000
Flow with adjustable metering screw fully open (NI/min)	150	340		3000
Working temperature (°C)	-5 ÷ +50			

Weights	Size			
	Size 1	Size 2	Size 3	Size 4
Aluminium body version (g)	365	595	1010	2300

Order codes

17 **3** **20**

Size, body and connections

- 1 : Aluminium body, connections G1/4" (only for size 1)
- 2 : Aluminium body, connections G3/8" (only for size 2)
- 3 : Aluminium body, connections G1/2" (only for size 3)
- 4 : Aluminium body, connections G1" (only for size 4)

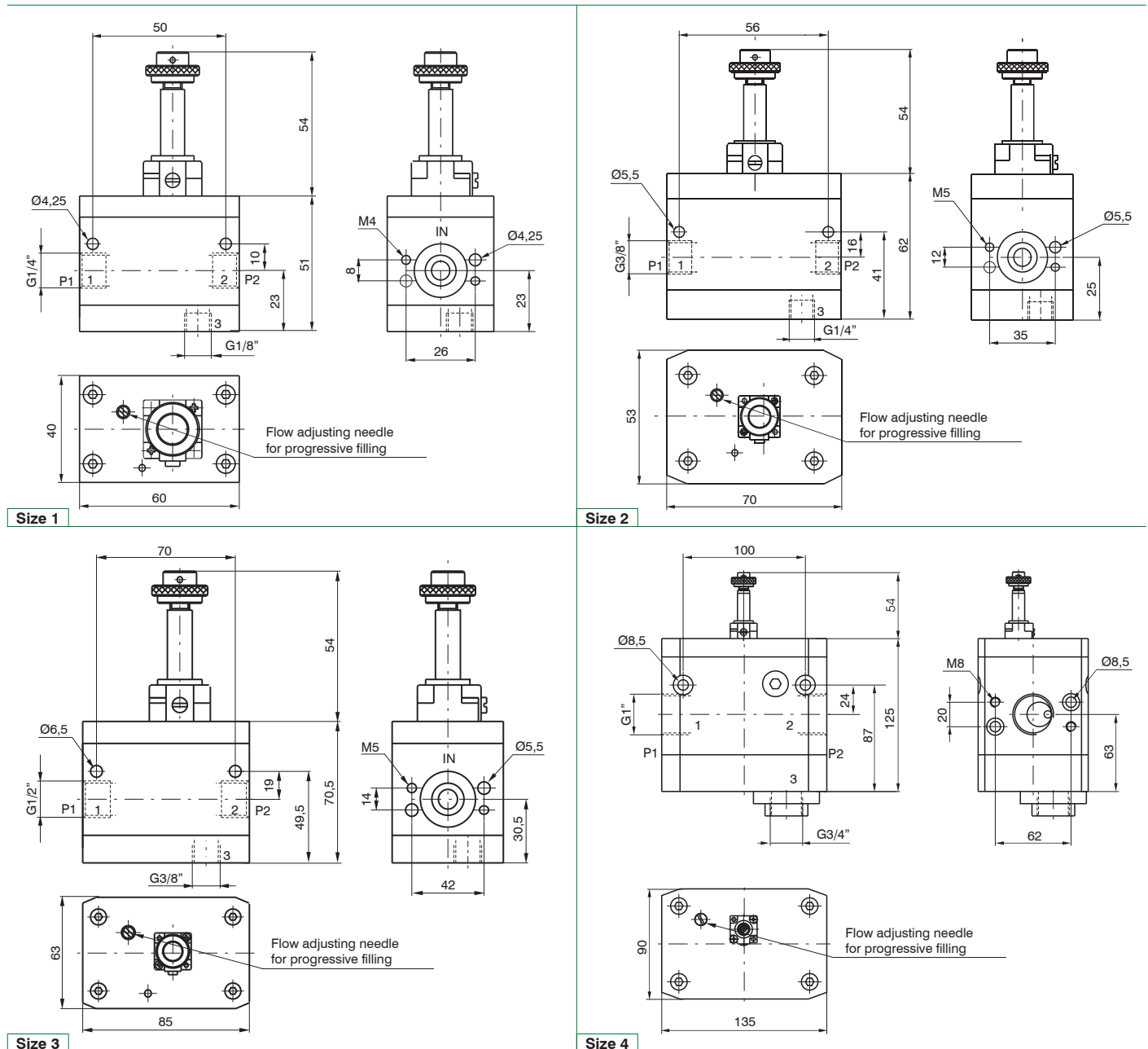
Type

- 10.M2 : Electric control complete with M2 mechanic
- 20 : Pneumatic pilot

Example: 17320

Progressive start-up valve Size 3, Aluminium body, G1/2" connections, with pneumatic pilot

Dimensions





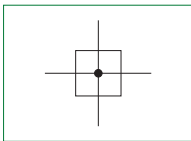
► **Air Intake**



- Pneumatic by-pass
- Available with 2 threaded connections

2

AIR TREATMENT



Technical characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Body and connections type	Aluminium body, integrated aluminium connections			
IN / OUT Connections	G1/4"	G3/8"	G1/2"	G1"
INTAKE connections	G1/8"	G1/4"	G3/8"	G3/4"
Assembly configuration	Stand alone	Stand alone	Stand alone	Stand alone
Assembly position	Indifferent			
Max. fittings torque IN / OUT connections	G1/4" metal: 20	G3/8" metal: 25	G1/2" metal: 30	G1" metal: 35

Operational characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Maximum working pressure (bar)	13			
Working temperature (°C)	-5 ÷ +50			

Weights	Size			
	Size 1	Size 2	Size 3	Size 4
Aluminium body version (g)	78	159	271	761

Order codes

17 **3** 40

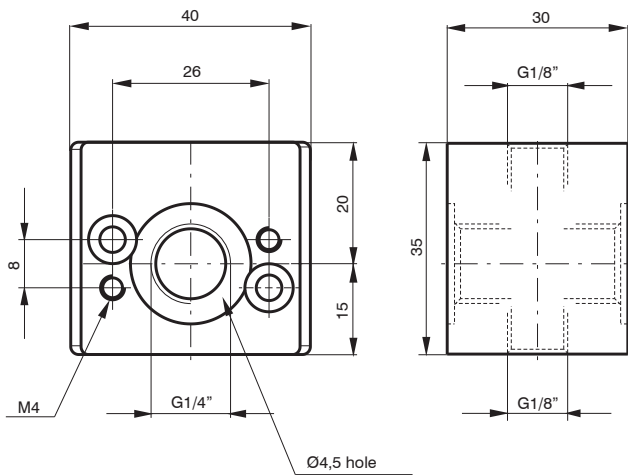
Size, body and connections

- | |
|---|
| 1 : Aluminium body, connections G1/4" (only for size 1) |
| 2 : Aluminium body, connections G3/8" (only for size 2) |
| 3 : Aluminium body, connections G1/2" (only for size 3) |
| 4 : Aluminium body, connections G1" (only for size 4) |

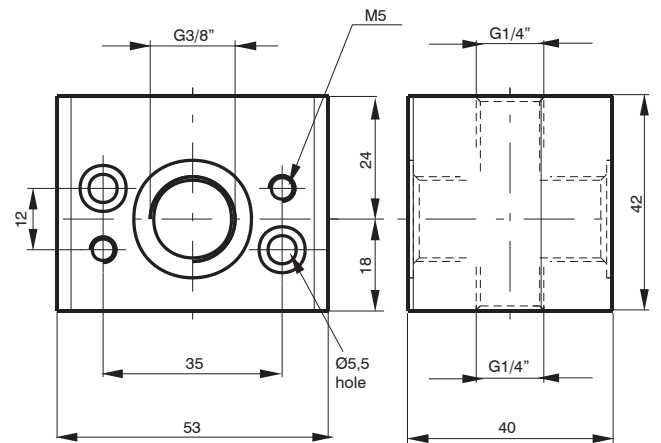
Example: 17340

Air Intake Size 3, Aluminium body, G1/2" connections

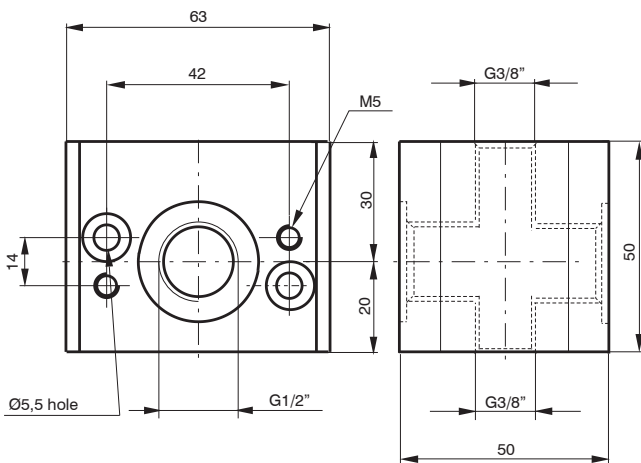
Dimensions



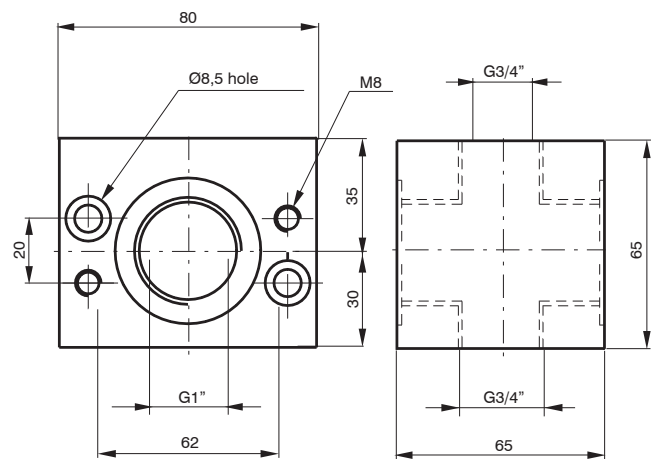
Size 1



Size 2



Size 3



Size 4



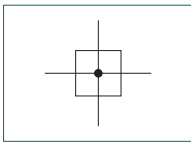
▶ **Air Intake -“H” profile**



- ▶ Pneumatic by-pass
- ▶ Available with 2 threaded connections

2

AIR TREATMENT



Technical characteristics	Size		
	Size 1	Size 2	Size 3
Body and connections type	Aluminium body		
IN / OUT Connections	G1/4"	G3/8"	G1/2"
INTAKE connections	G1/8"	G1/4"	G3/8"
Assembly configuration	Stand alone	Stand alone	Stand alone
Assembly position	Indifferent		
Max. fittings torque IN / OUT connections	G1/4" metal: 20	G3/8" metal: 25	G1/2" metal: 30

Operational characteristics	Size		
	Size 1	Size 2	Size 3
Maximum working pressure (bar)	13		
Working temperature (°C)	-5 ÷ +50		

Weights	Size		
	Size 1	Size 2	Size 3
Aluminium body version (g)	50	116	192

Order codes

17 **3** 40H

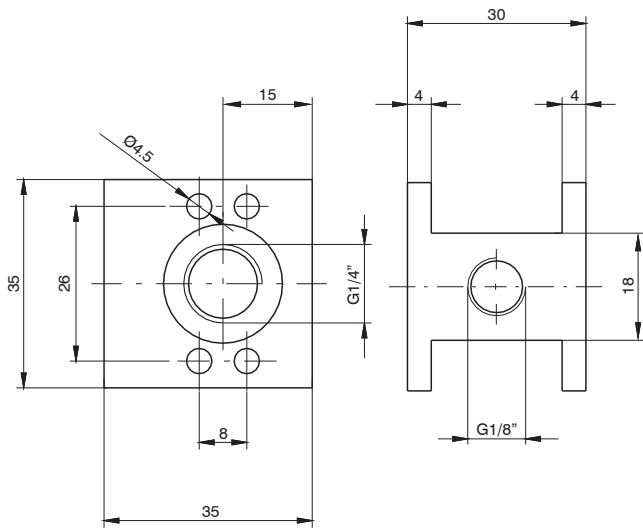
Size, body and connections

- | |
|---|
| 1 : Aluminium body, connections G1/4" (only for size 1) |
| 2 : Aluminium body, connections G3/8" (only for size 2) |
| 3 : Aluminium body, connections G1/2" (only for size 3) |

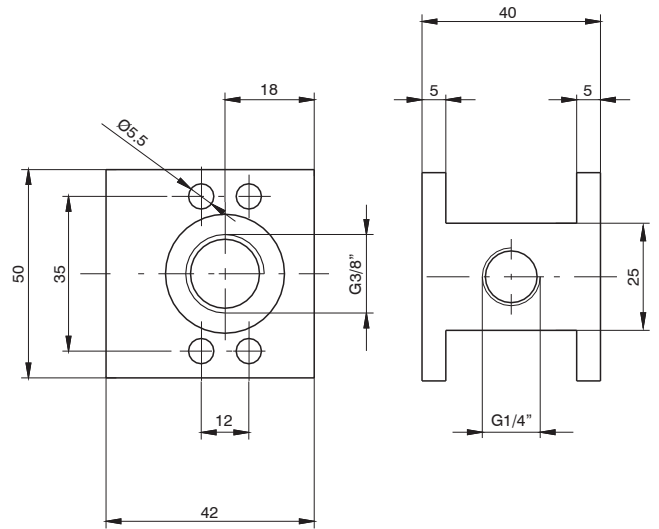
Example: 17340H

Air Intake -"H" profile Size 3, Aluminium body, G1/2" connections

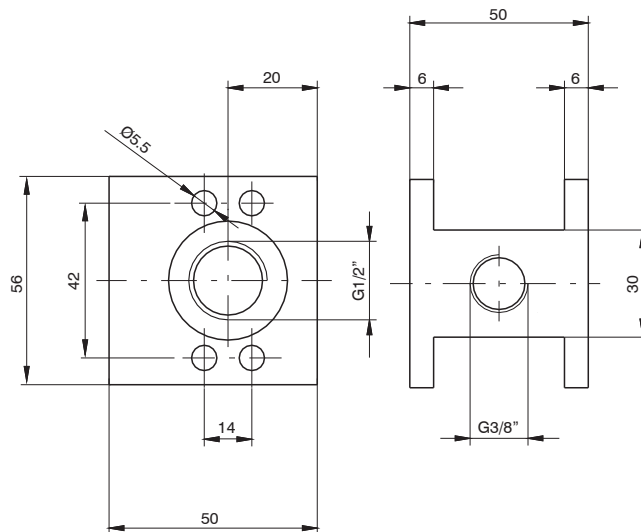
Dimensions



Size 1



Size 2



Size 3

2

AIR TREATMENT



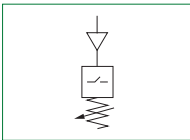
► **Pressure Switch complete with adapter**



- The pressure switch can be set at desired pressure from 2 to 10 bar with electrical connection applied
- The electrical connection is made by mean of a 15 mm connector DIN 43650 type C
- The microswitch contact could be Normally Closed or open (change over switch)

2

AIR TREATMENT



Technical characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Body and connections type	Aluminium body			
IN / OUT Connections	G1/8"	G3/8"	G1/2"	Ø36
Assembly configuration	Stand alone	Stand alone	Stand alone	Stand alone
Assembly position	Indifferent			
Microswitch capacity (A)	1			
Microswitch Maximum voltage (VAC)	250			
Grade of protection	IP65 (with connector assembled)			

Operational characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Maximum working pressure (bar)	13			
Working temperature (°C)	-5 ÷ +50			
Pressure range (bar)	2 ÷ 10			

Weights	Size			
	Size 1	Size 2	Size 3	Size 4
Aluminium body version (g)	160	200	220	450

Order codes

17 **34C**

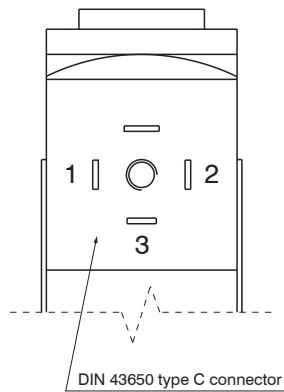
Type
14A : Pressure switch adapter (only for size 1)
14B : Pressure switch (for all sizes)
14C : Pressure switch complete with adapter (only for size 1)
24A : Pressure switch adapter (only for size 2)
24C : Pressure switch complete with adapter (only for size 2)
34A : Pressure switch adapter (only for size 3)
34C : Pressure switch complete with adapter (only for size 3)
44A : Pressure switch adapter (only for size 4)
44C : Pressure switch complete with adapter (only for size 4)

Example: 1734C

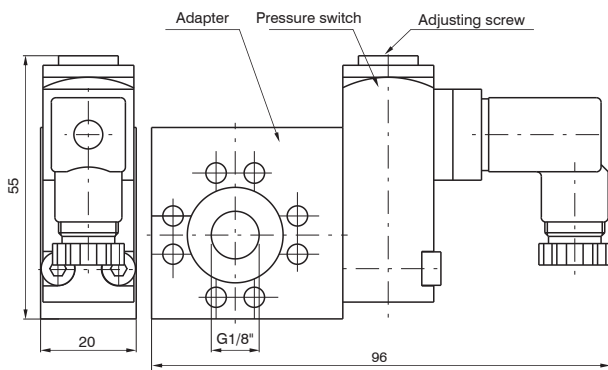
Pressure switch adapter size 3

Electrical connection

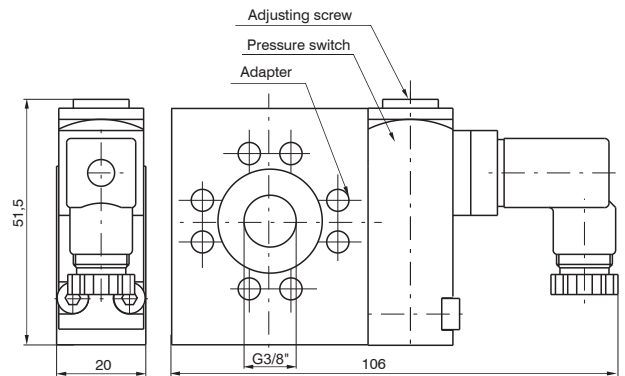
1 = neutral
2 = N.C. contact
3 = N.O. contact



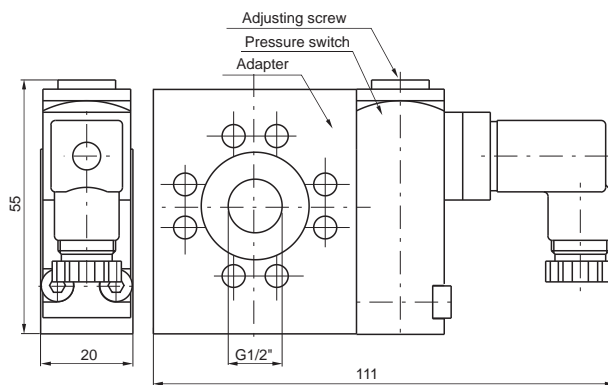
Dimensions



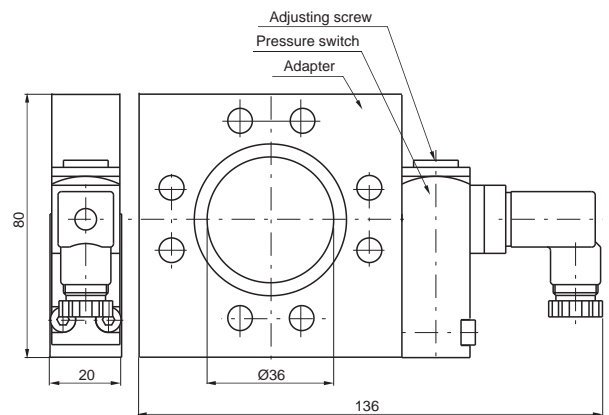
Size 1



Size 2



Size 3



Size 4

Filter pressure regulator + Lubricator


- ▶ Filter - diaphragm pressure regulator with relieving
- ▶ Low hysteresis rolling diaphragm and balanced spool
- ▶ Filtering element made of HDPE available in 3 different filtration grades (5µm, 20µm, 50µm)
- ▶ Semi-automatic or automatic drain
- ▶ Available in four pressure ranges up to 12 bar
- ▶ Oil mist lubricator
- ▶ Variable orifice size in function of the flow rate
- ▶ Oil quantity regulation mechanism and oil quantity visualization dome made of polycarbonate (PC)
- ▶ Oil refill plug
- ▶ Available with low level electrical sensor NO and NC
- ▶ Bowls screwed to the body (Size 1)
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button (Size 2 - Size 3)
- ▶ Atex certification (II 2GD o II 3GD) on request

2
AIR TREATMENT

Technical characteristics	Size		
	Size 1	Size 2	Size 3
Body and connections type	Zinc alloy body, Zinc alloy integrated connections Technopolymer body, metal connections	Aluminium body, integrated aluminium connections	
Protection and bowl type	Technopolymer protection - PA bowl (Size 1 available without protection)		
IN / OUT connections	G1/8" - G1/4"	G1/4" - G3/8"	G3/8" - G1/2", G3/4"
Assembly configuration	Stand alone Panel mounted with M4 screws	Stand alone Panel mounted with M5 screws	Stand alone Panel mounted with M6 screws
Assembly position	Vertical ±5°		
Filter pore size (µm)	5 / 20 / 50		
Pressure range (bar)	0 - 2 / 0 - 4 / 0 - 8 / 0 - 12		
Bowl capacity (cm³)	20	30	48
Condensation drain	Semi-automatic Automatic		
Regulation	Manual push and lock with pressure Manual lockable with accessories		
Pressure measurement	G1/8" Pressure gauge connection port		
Bowl capacity (cm³)	36	52	62
Lubrication type	Oil mist		
Min. operational flow at 6,3 bar (NI/min)	10	20	
Oil level regulation	Manual, complete with visual indicator		
Max. fittings torque IN / OUT connections	G1/8" metal: 15 G1/4" metal: 20	G1/4" metal: 20 G3/8" metal: 25	G3/8" metal: 25 G1/2" metal: 30 G3/4" metal: 35

Operational characteristics	Size					
	Size 1	Size 2	Size 3	Size 1	Size 2	Size 3
	Semi-automatic condensation drain			Automatic condensation drain		
Maximum working pressure (bar)	13			10		
Minimum working pressure (bar)	0,5					
Indicative oil drop rate (NI/min)	1 drope every 300/600					
Oil type	FD22 - HG32					
Working temperature (°C)	-5 ÷ +50					



Weights	Size		
	Size 1	Size 2	Size 3
Zinc alloy body version (g)	560	/	/
Technopolymer body version (g)	295	/	/
Aluminium body version (g)	/	750	1100

Order codes

17 306A . B . D . S . K

Size, body and connections
006A : Zinc alloy body, connections G1/8" (only for size 1)
006B : Zinc alloy body, connections G1/4" (only for size 1)
106A : Technopolymer body, connections G1/8" (only for size 1)
106B : Technopolymer body, connections G1/4" (only for size 1)
206A : Aluminium body, connections G1/4" (only for size 2)
206B : Aluminium body, connections G3/8" (only for size 2)
306A : Aluminium body, connections G3/8" (only for size 3)
306B : Aluminium body, connections G1/2" (only for size 3)
306E : Aluminium body, connections G3/4" (only for size 3)

Filter pore size
A : 5 µm
B : 20 µm
C : 50 µm

Pressure range
A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

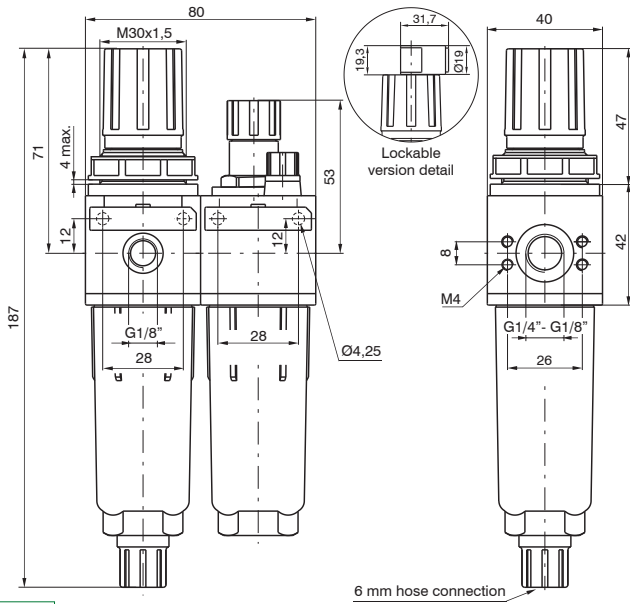
Type
P : Bowl protection (only for size 1)
S : Automatic drain (for all sizes)
PS : Bowl protection and automatic drain (only for size 1)

Options
: Standard
K : Lockable version
U : Lockable version with universal key

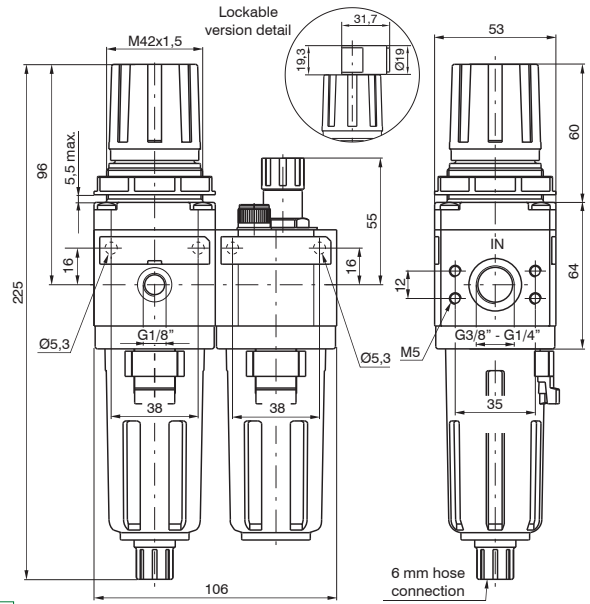
Example: 17306A.B.D.S.K
Size 3 Filter pressure regulator + Lubricator, aluminium body, G3/8" connections, filter pore size 20 µm 0 - 12 bar, automatic drain lockable version

Dimensions

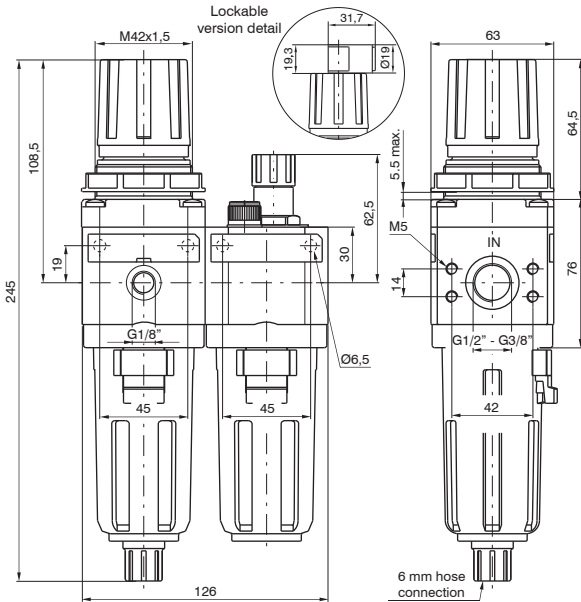
2
AIR TREATMENT



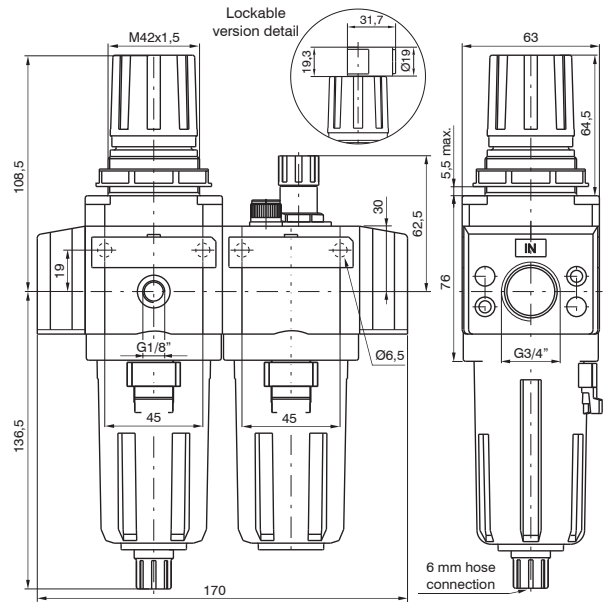
Size 1



Size 2



Size 3

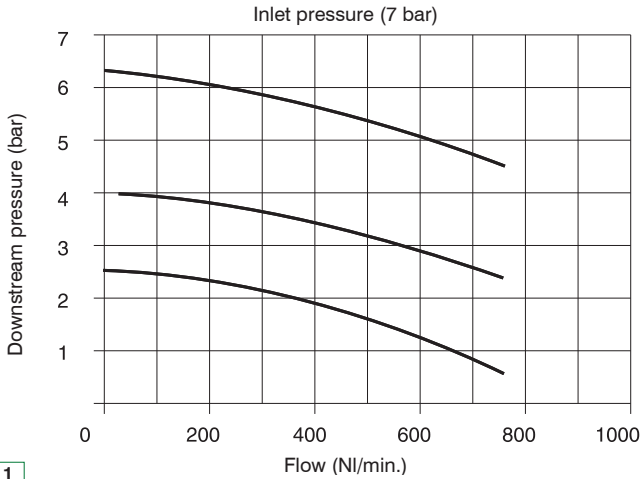


Size 3 3/4"



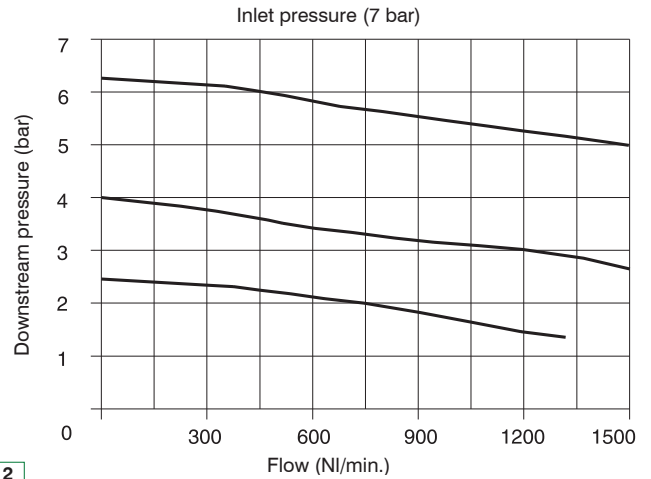
Characteristic curves

Flow rate curves



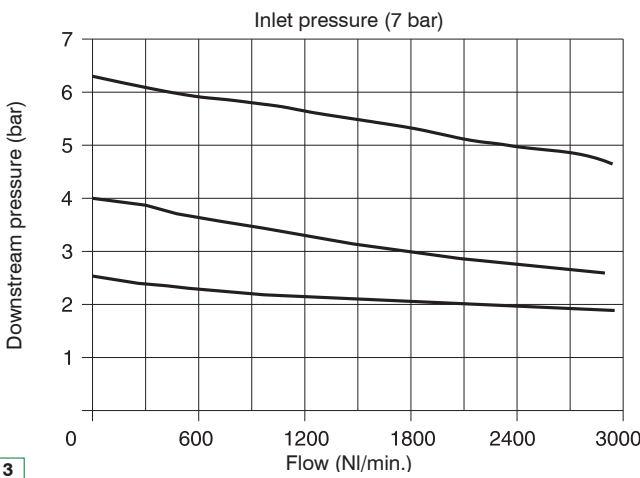
Size 1

Flow rate curves



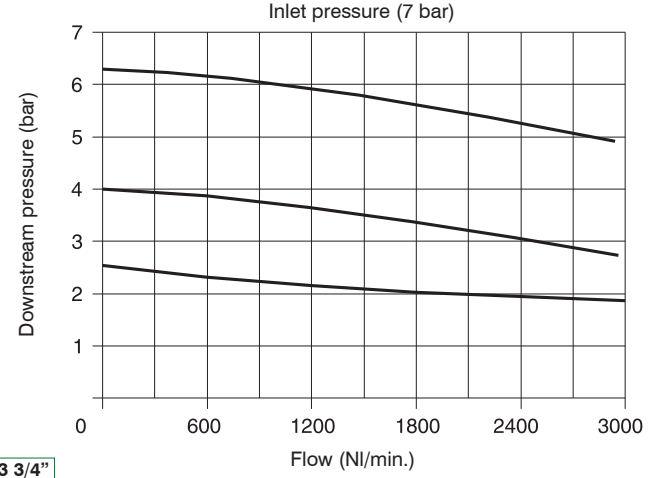
Size 2

Flow rate curves



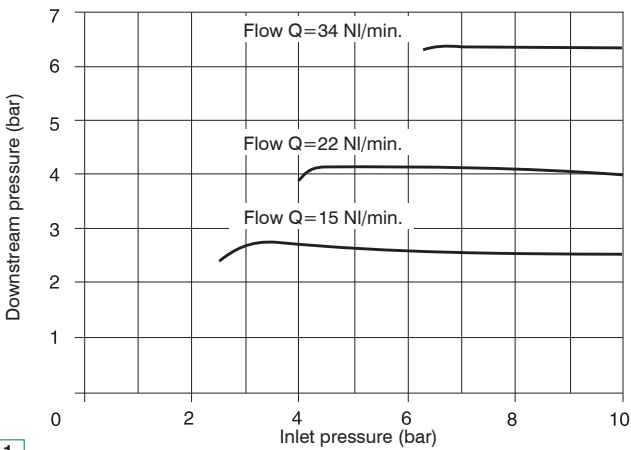
Size 3

Flow rate curves



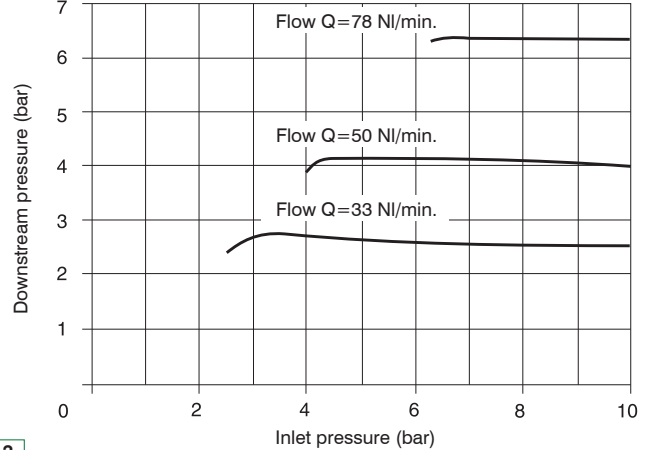
Size 3 3/4"

Adjustment characteristic



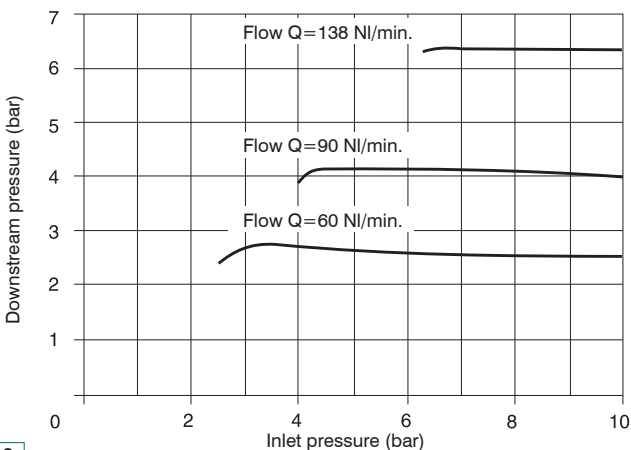
Size 1

Adjustment characteristic



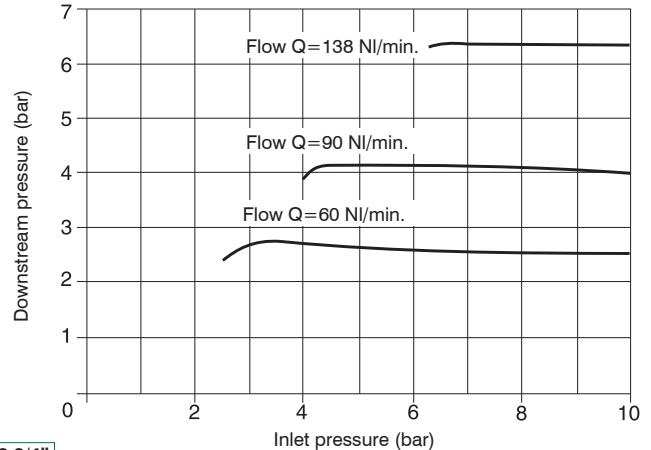
Size 2

Adjustment characteristic



Size 3

Adjustment characteristic



Size 3 3/4"

2

AIR TREATMENT

Filter + Pressure regulator + Lubricator


- ▶ Double filter action: air flow centrifugation and filter element
- ▶ Filtering cartridge made of HDPE available in three different filtration grades (5µm, 20µm, 50µm)
- ▶ Filter cartridge can be regenerated by washing / blowing it or replaced
- ▶ Semi-automatic or automatic drain
- ▶ Diaphragm pressure regulator with relieving
- ▶ Low hysteresis rolling diaphragm and balanced spool
- ▶ Available in four pressure ranges up to 12 bar
- ▶ Oil mist lubricator
- ▶ Variable orifice size in function of the flow rate
- ▶ Oil quantity regulation mechanism and oil quantity visualization dome made of polycarbonate (PC)
- ▶ Oil refill plug
- ▶ Available with low level electrical sensor NO and NC
- ▶ Bowls screwed to the body (Size 1)
- ▶ Bowl assembly via bayonet type quick coupling mechanism with safety button (Size 2 - Size 3 - Size 4)
- ▶ Atex certification (II 2GD o II 3GD) on request

2
AIR TREATMENT

Technical characteristics	Size			
	Size 1	Size 2	Size 3	Size 4
Body and connections type	Zinc alloy body, Zinc alloy integrated connections Technopolymer body, metal connections	Aluminium body, integrated aluminium connections		
Protection and bowl type	Technopolymer protection - PA bowl (Size 1 available without protection)			Metal bowl with blind metal bowl
IN / OUT connections	G1/8" - G1/4"	G1/4" - G3/8"	G3/8" - G1/2", G3/4"	G1"
Assembly configuration	Stand alone Panel mounted with M4 screws	Stand alone Panel mounted with M5 screws	Stand alone Panel mounted with M6 screws	Stand alone Panel mounted with M6 screws
Assembly position	Vertical ±5°			
Filter pore size (µm)	5 / 20 / 50			
Pressure range (bar)	0 - 2 / 0 - 4 / 0 - 8 / 0 - 12			
Bowl capacity (cm³)	20	30	48	178
Condensation drain	Semi-automatic Automatic			
Regulation	Manual push and lock with pressure Manual lockable with accessories			
Pressure measurement	G1/8" Pressure gauge connection port			
Bowl capacity (cm³)	36	52	62	300
Lubrication type	Oil mist			
Min. operational flow at 6,3 bar (NI/min)	10	20		100
Oil level regulation	Manual, complete with visual indicator			
Max. fittings torque IN / OUT connections	G1/8" metal: 15 G1/4" metal: 20	G1/4" metal: 20 G3/8" metal: 25	G3/8" metal: 25 G1/2" metal: 30 G3/4" metal: 35	G1" metal: 35

Operational characteristics	Size							
	Size 1	Size 2	Size 3	Size 4	Size 1	Size 2	Size 3	Size 4
	Semi-automatic condensation drain				Automatic condensation drain			
Maximum working pressure (bar)	13				10			
Minimum working pressure (bar)	0,5							
Indicative oil drop rate (NI/min)	1 drope every 300/600							
Oil type	FD22 - HG32							
Working temperature (°C)	-5 ÷ +50							



Weights	Size			
	Size 1	Size 2	Size 3	Size 4
Zinc alloy body version (g)	755	/	/	/
Technopolymer body version (g)	375	/	/	/
Aluminium body version (g)	/	960	1430	5300

Order codes

17 307A . B . D . S . K

Size, body and connections

007A : Zinc alloy body, connections G1/8" (only for size 1)
007B : Zinc alloy body, connections G1/4" (only for size 1)
107A : Technopolymer body, connections G1/8" (only for size 1)
107B : Technopolymer body, connections G1/4" (only for size 1)
207A : Aluminium body, connections G1/4" (only for size 2)
207B : Aluminium body, connections G3/8" (only for size 2)
307A : Aluminium body, connections G3/8" (only for size 3)
307B : Aluminium body, connections G1/2" (only for size 3)
307E : Aluminium body, connections G3/4" (only for size 3)
407NB : Aluminium body, connections G1" (only for size 4)

Filter pore size

A : 5 µm
B : 20 µm
C : 50 µm

Pressure range

A : 0 - 2 bar
B : 0 - 4 bar
C : 0 - 8 bar
D : 0 - 12 bar

Type

P : Bowl protection (only for size 1)
S : Automatic drain (for all sizes)
PS : Bowl protection and automatic drain (only for size 1)

Options

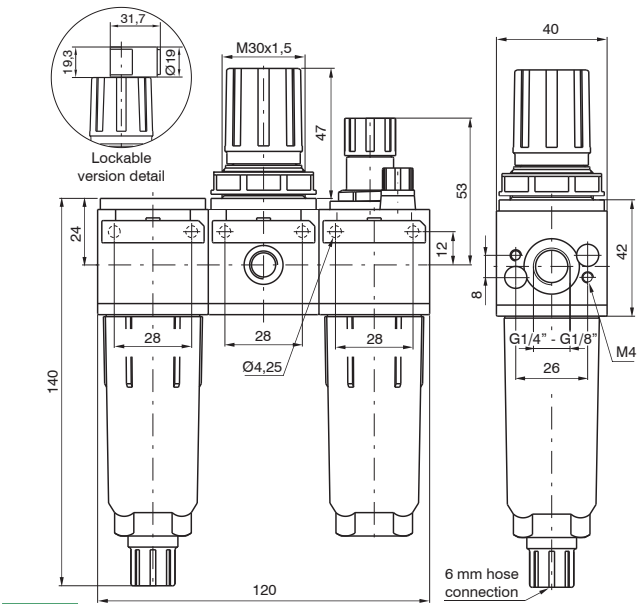
: Standard
K : Lockable version
U : Lockable version with universal key

Example: 17307A.B.D.S.K

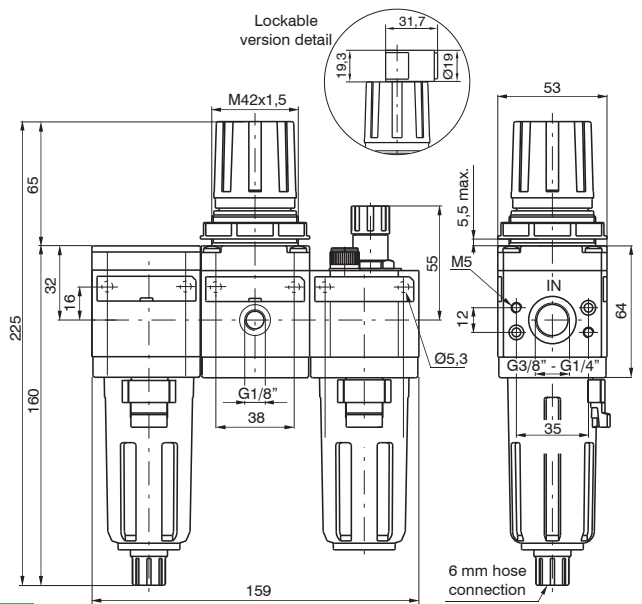
Size 3 Filter + Pressure regulator + Lubricator, aluminium body, G3/8" connections, filter pore size 20 µm 0 - 12 bar, automatic drain lockable version

Dimensions

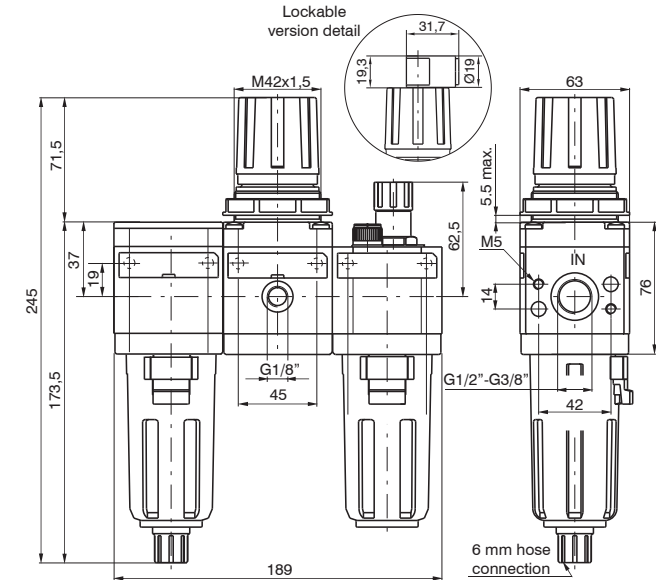
2
AIR TREATMENT



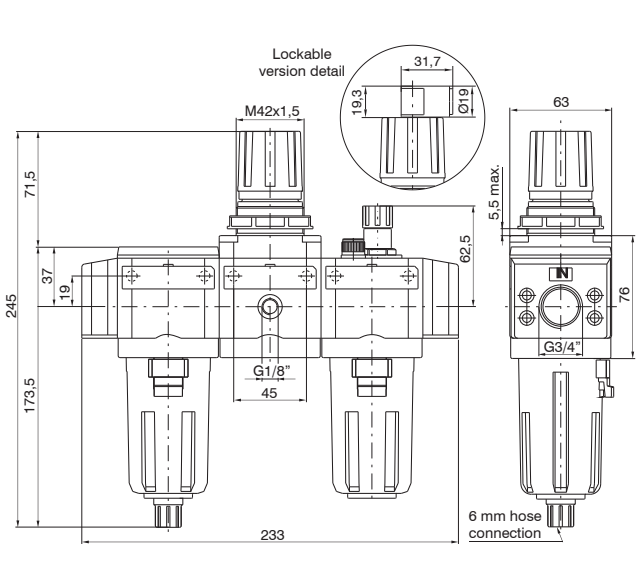
Size 1



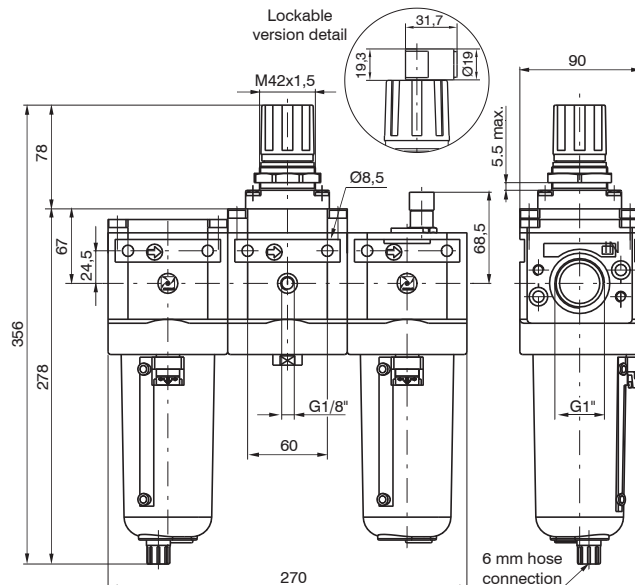
Size 2



Size 3



Size 3 3/4"

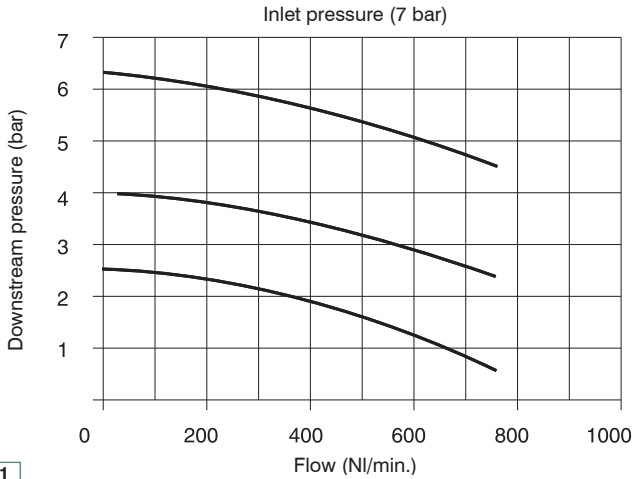


Size 4



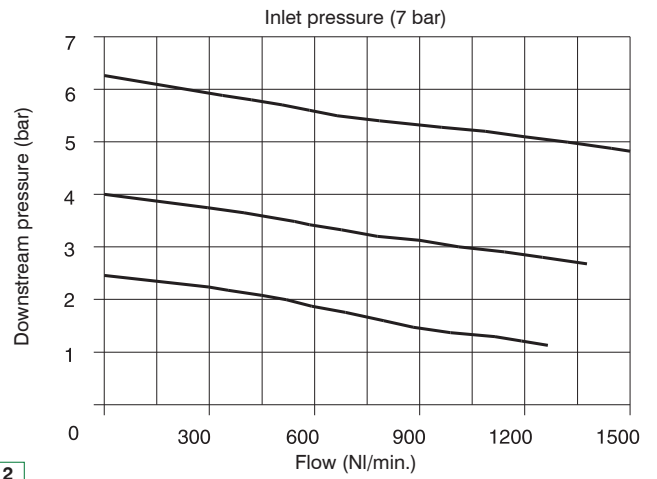
Characteristic curves

Flow rate curves



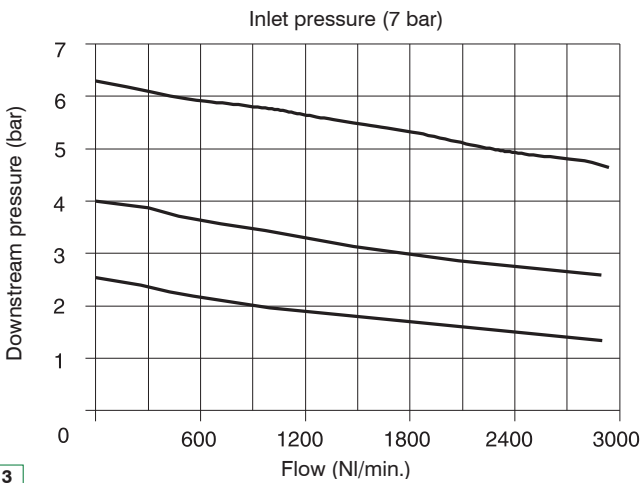
Size 1

Flow rate curves



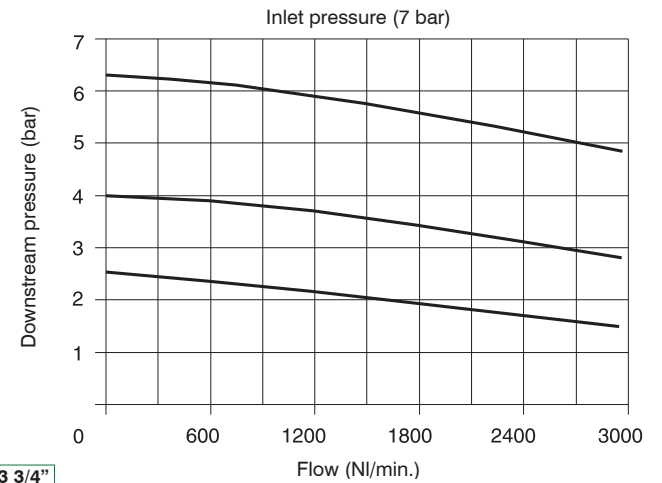
Size 2

Flow rate curves



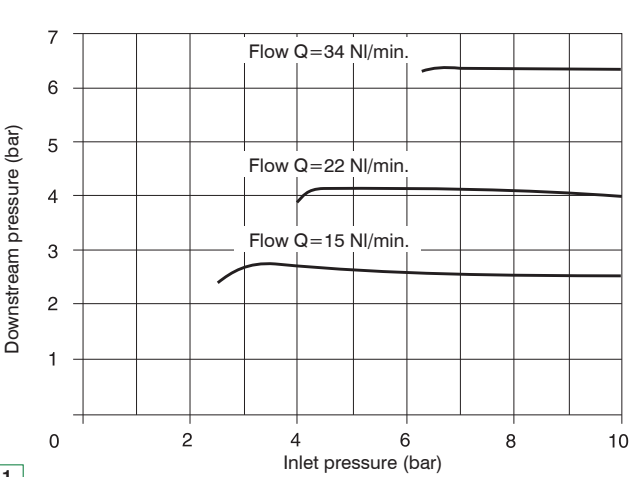
Size 3

Flow rate curves



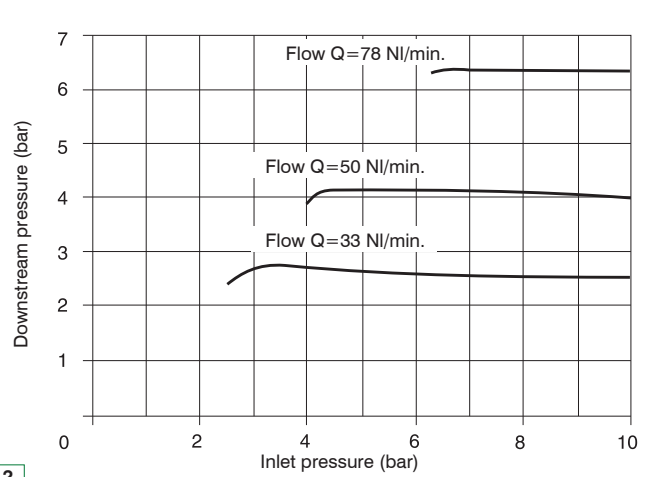
Size 3 3/4"

Adjustment characteristic



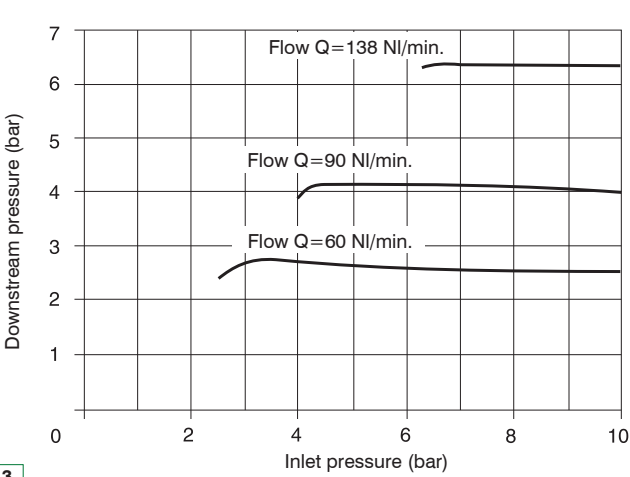
Size 1

Adjustment characteristic



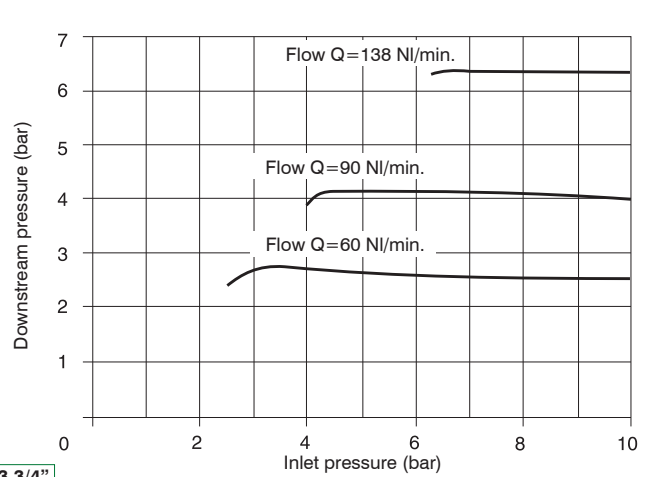
Size 2

Adjustment characteristic



Size 3

Adjustment characteristic



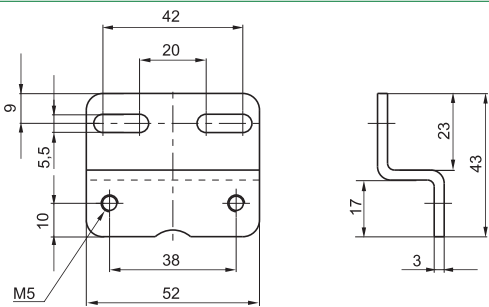
Size 3 3/4"

► **Fixing bracket for regulators**

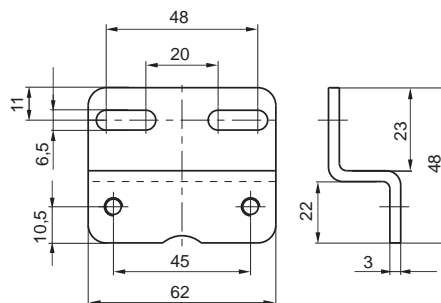
1725 **0**

Size
1725 : Size 2
1735 : Size 3

Type
0 : For standard regulators
2 : For pressure regulators



Size 2

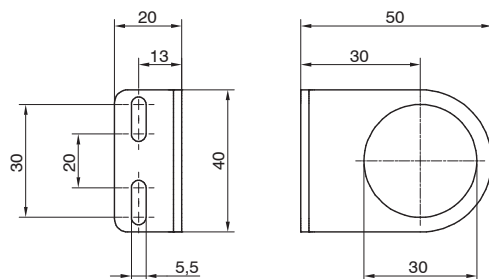


Size 3

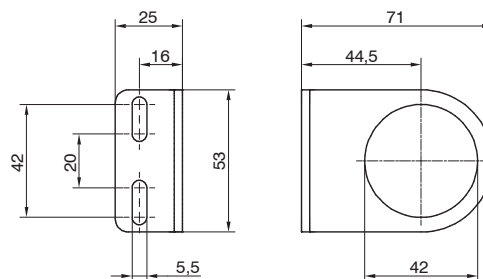
► **Fixing bracket**

171 **50**

Size
171 : Size 1
T172 : Size 2 - Size 3



Size 1

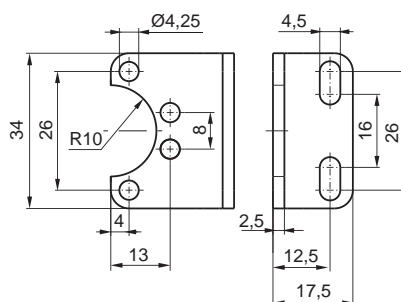


Size 2 - TG3

► **Fixing bracket**

170 **M5**

Size
170 : Size 1



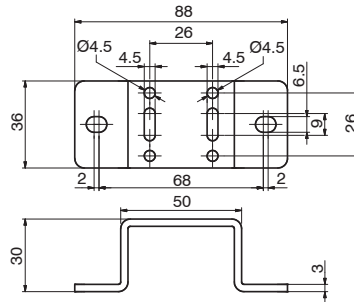
Size 1

2
AIR TREATMENT

► Fixing bracket for pressure regulator

Size
170 : Size 1

170 50



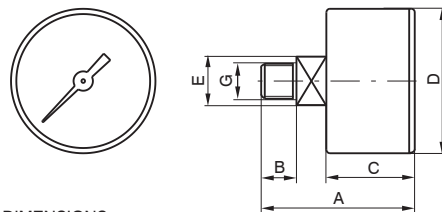
Size 1

► Pressure gauge

Versione
A : Dial Ø40
B : Dial Ø50

Scala
A : 0 - 4 bar
B : 0 - 6 bar
C : 0 - 12 bar

17070 A C



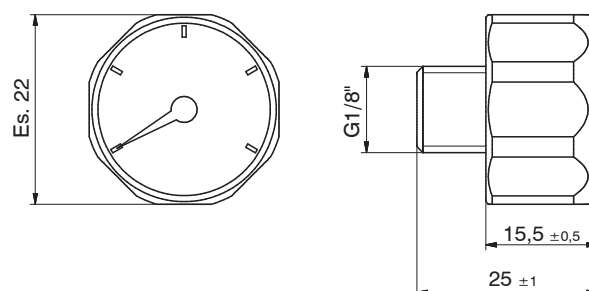
DIMENSIONS

CODE	A	B	C	D	E	G	Weight g
17070A	44	10	26	41	14	1/8"	60
17070B	45	10	27	49	14	1/8"	80

► Pressure gauge diameter Ø23

Scala
A : 0 - 4 bar
B : 0 - 6 bar
C : 0 - 12 bar

17070M A





► **Assembling kit**

1726 0

Size
1716 : Size 1
1726 : Size 2
1736 : Size 3
1746 : Size 4

Type
0 : Standard
5 : For progressive start-up valve



2

► **Assembling kit for manifold regulators**

170 M6

Size
170 : Size 1



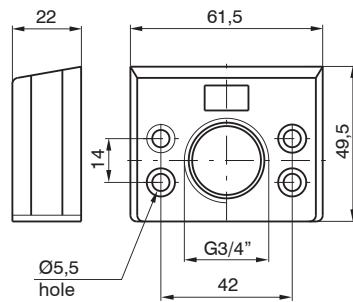
AIR TREATMENT

► **Flange G3/4"**

1738 1E

Size
1738 : Size 3

Type
1E : Inlet flange
2E : Output flange



Size 3

Modular FRL series 1700 Steel line



General

The stainless steel SS1700 air treatment series has been engineered and developed to approach specifically the OIL & GAS industry and more widely for all the severe service applications that require excellent corrosion resistance due to chemical and/or harsh environmental condition.

All external and internal parts (except for the automatic drain version) are AISI 316L stainless steel material in compliance with NACE standard MR0175/ISO 15156/1. The product range includes FILTER, with filtration elements up to 3 filtration degree ($5\mu\text{m}$ - $20\mu\text{m}$ - $50\mu\text{m}$), available in AISI316 stainless steel or HDPE (high density polyethylene), and manual or automatic condensed exhaust; The PRESSURE REGULATOR is supplied with low hysteresis rolling diaphragm and an over-pressure exhaust valve (RELIEVING), available in 4 different adjustment ranges from 0 to 12 bar. As a last the FILTER REGULATOR range, which combines the features of a filter and pressure regulator into a one single device. "CLEAN PROFILE" version is available for all the sizes, featuring a glossy finish on the external surface. The over-pressure exhaust hole (RELIEVING) has a 1/8" NPT threading, and it is protected by an AISI 316 sintered filter series. Note: for CLEAN PROFILE series this is a simple unthread hole.

Construction and operational characteristics

Body, bowl and adjustment mechanism	AISI 316L stainless steel
Caseback regulator	AISI 316L stainless steel
Adjustment screw, locking nut and fastening screws	AISI 316L stainless steel (stainless steel A4-70)
Internal components	AISI 316L stainless steel
Filtering elements	AISI 316 stainless steel or HDPE (High density polyethylene)
Spring	AISI 316 stainless steel
Seals	

NBR (standard versions and automatic drain)	NBR for low temperatures (L versions)	Silicone - PU (Z version)
FPM - HNBR (H versions)	EPDM-FDA (EF versions)	

Automatic drain	Brass, stainless steel AISI 304 and AISI 302, sintered bronze Acetal resin , NBR, FPM
-----------------	--

Operating Range

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous. Inert gases. Natural gases
-------	--

Temperature		
-30°C +80°C (standard version)	-5°C +150°C (high temperature H version)	-40°C ÷ +100°C (EPDM-FDA version)
-50°C +80°C (low temperature L version)	-5°C ÷ +70°C (automatic drain S version)	
-60°C +80°C (low temperature version -60 °C Z)	-5°C ÷ +70°C (reduced orifice automatic drain SR version)	

Maximum working pressure		
20 bar (standard, low and high temperature versions)	16 bar (automatic drain version)	10 bar (reduced orifice automatic drain version)

Instructions for installation and use

Product shall be installed reducing the distance from inlet point. Check and install the device following the flow direction (clearly marked with an arrow stamped on the body). Vertical position installation with condensed exhaust tap pointing downward is recommended.

Devices must be used in compliance with pressure and temperature operating range. To set the pressure there is an adjustable knob, located on the top of the device. Pneumax recommend selection of pressure regulator adjusting range option in line with client required performance. The condensed exhaust action for the manual drain version shall be performed only in the absence of pressure. To discharge liquid, turn the tap clockwise until the discharge of liquid is triggered, then tighten it all the way.

Maintenance



Filtration elements and filter regulator are reusable through blowing and/or washing and is made of stainless steel or HDPE (high density polyethylene). To replace, remove the cup, loosen the set screw of the support and replace the filter element with a new one or refurbished one. Replace the regulator diaphragm whenever the performance is compromised or if there is a continuous discharge from the relieving hole (over-pressure exhaust). Fully discharge the adjustment spring before removing the adjustment mechanism. For other maintenance activities, due to complexity of assembly and requirement for dedicated PNEUMAX testing activities, it is strongly recommended to contact the manufacturer.

Certifications available



CE II 2 GD c IIC

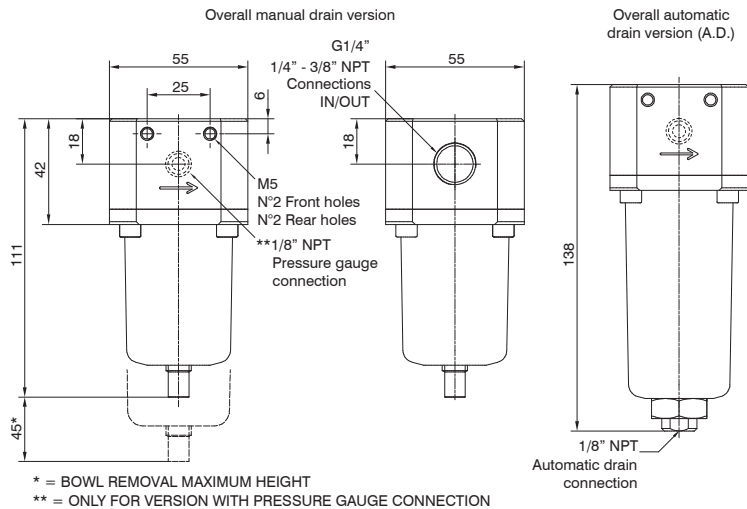


Suitable up to SIL 3



CU - TR 012

Filters



Ordering code	
SV172CF50Z	
VERSION	
V	S = Standard surface finishing
	F = Clean profile
CONNECTIONS	
G	A = 1/4" NPT
	B = 3/8" NPT
	C = G1/4"
FILTER PORE SIZE	
S	A = 5 μm - 316 stainless steel
	B = 20 μm - 316 stainless steel
	C = 50 μm - 316 stainless steel
	D = 5 μm - HDPE
	E = 20 μm - HDPE
	F = 50 μm - HDPE
OPTIONS	
	= Standard*
	L = Low temperature
	Z = Low temperature (-60 °C)
H	H = High temperature
S	S = Automatic drain
SR	SR = Reduced orifice automatic drain
EF	EF = EPDM-FDA
ENCLOSURE OPTIONS	
Z	= Standard*
G	G = pressure gauge connection
* no additional letter required	

2 AIR SERVICE UNITS

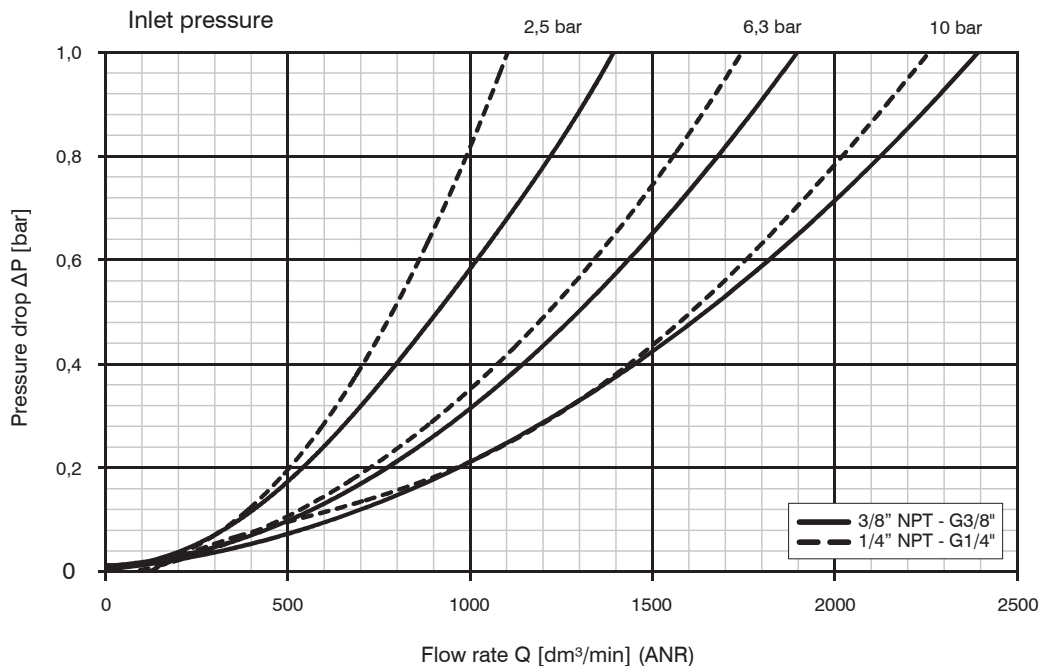
Construction characteristics

- Body, bowl and internal components in AISI 316L stainless steel.
- A4 (AISI 316) stainless steel fixing screws.
- Manual or automatic condensed drain

Technical characteristics

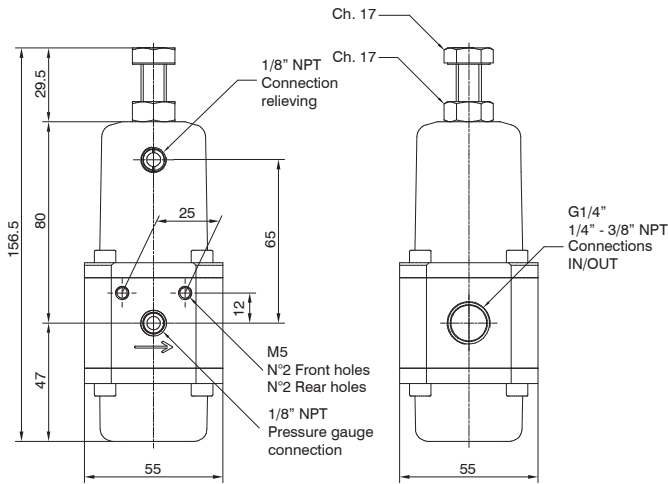
Maximum inlet pressure (standard version)	20 bar
Maximum inlet pressure (automatic drain version)	16 bar
Maximum inlet pressure (reduced orifice automatic drain version)	10 bar
Temperature (standard version)	-30°C +80°C
Temperature (low temperature version)	-50°C +80°C
Temperature (low temperature version -60°C)	-60°C +80°C
Temperature (high temperature version)	-5°C +150°C
Temperature (automatic and reduced orifice drain version)	-5°C +70°C
Temperature (EPDM-FDA version)	-40°C +100°C
Weight	1070 (gr.)
Bowl capacity	15 cm ³
Assembly position	Vertical

Flow rate chart





Regulators

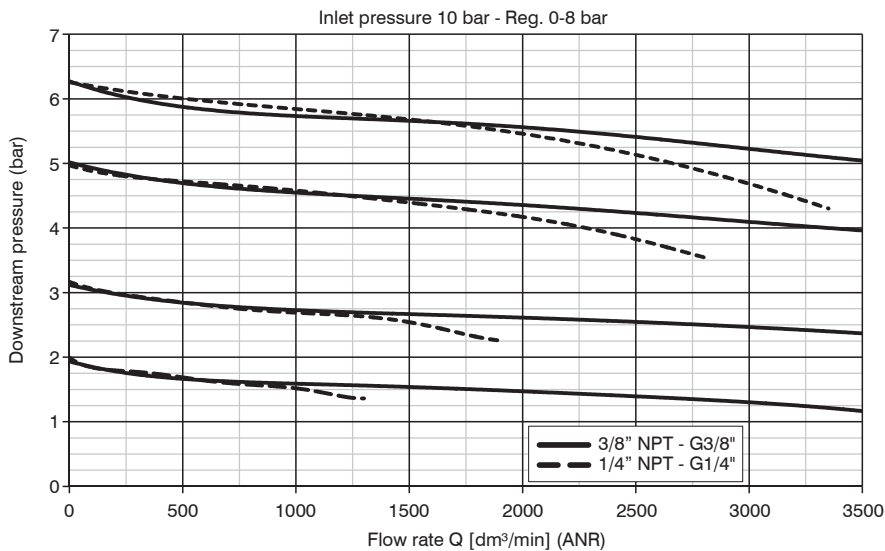


Ordering code	
S01720RG10	
VERSION	
V	S = Standard surface finishing
	F = Clean profile
CONNECTIONS	
G	A = 1/4" NPT
	B = 3/8" NPT
	C = G1/4"
PRESSURE RANGE	
	A = 0-2 bar
G	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
TYPE	
T	= Standard*
	N = Without relieving
OPTIONS	
	= Standard*
O	L = Low temperature
	Z = Low temperature (-60 °C)
	H = High temperature
	EF = EPDM-FDA
* no additional letter required	

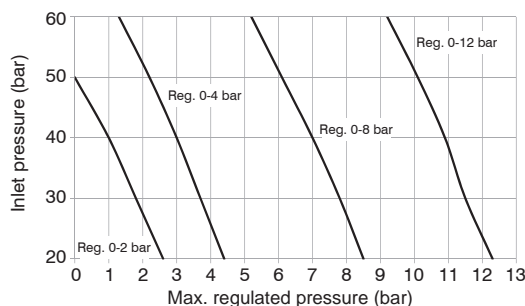
2
AIR SERVICE UNITS

Construction characteristics	Technical characteristics																		
<ul style="list-style-type: none"> - Body, adjust. mechanism, AISI 316L stainless steel and caseback inter. components - AISI 316 stainless steel adjustment springs. - Fixing screws, adjustment screws and locknut in A4 (AISI 316) stainless steel. - Pressure regulator diaphragm with over-pressure drain (Relieving). - Low hysteresis rolling diaphragm. - Balanced system. 	<table border="1"> <tr> <td>Maximum inlet pressure (standard version)</td> <td>20 bar</td> </tr> <tr> <td>Temperature (standard version)</td> <td>-30 °C +80 °C</td> </tr> <tr> <td>Temperature (low temperature version)</td> <td>-50 °C +70 °C</td> </tr> <tr> <td>Temperature (low temperature version -60°C)</td> <td>-60 °C +70 °C</td> </tr> <tr> <td>Temperature (high temperature version)</td> <td>-5 °C +150 °C</td> </tr> <tr> <td>Temperature (EPDM-FDA version)</td> <td>-40 °C +100 °C</td> </tr> <tr> <td>Pressure gauge connections</td> <td>1/8" NPT</td> </tr> <tr> <td>Weight</td> <td>1270 (gr.)</td> </tr> <tr> <td>Assembly position</td> <td>Indifferent</td> </tr> </table>	Maximum inlet pressure (standard version)	20 bar	Temperature (standard version)	-30 °C +80 °C	Temperature (low temperature version)	-50 °C +70 °C	Temperature (low temperature version -60°C)	-60 °C +70 °C	Temperature (high temperature version)	-5 °C +150 °C	Temperature (EPDM-FDA version)	-40 °C +100 °C	Pressure gauge connections	1/8" NPT	Weight	1270 (gr.)	Assembly position	Indifferent
Maximum inlet pressure (standard version)	20 bar																		
Temperature (standard version)	-30 °C +80 °C																		
Temperature (low temperature version)	-50 °C +70 °C																		
Temperature (low temperature version -60°C)	-60 °C +70 °C																		
Temperature (high temperature version)	-5 °C +150 °C																		
Temperature (EPDM-FDA version)	-40 °C +100 °C																		
Pressure gauge connections	1/8" NPT																		
Weight	1270 (gr.)																		
Assembly position	Indifferent																		
<p>Note</p> <p>The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.</p>																			

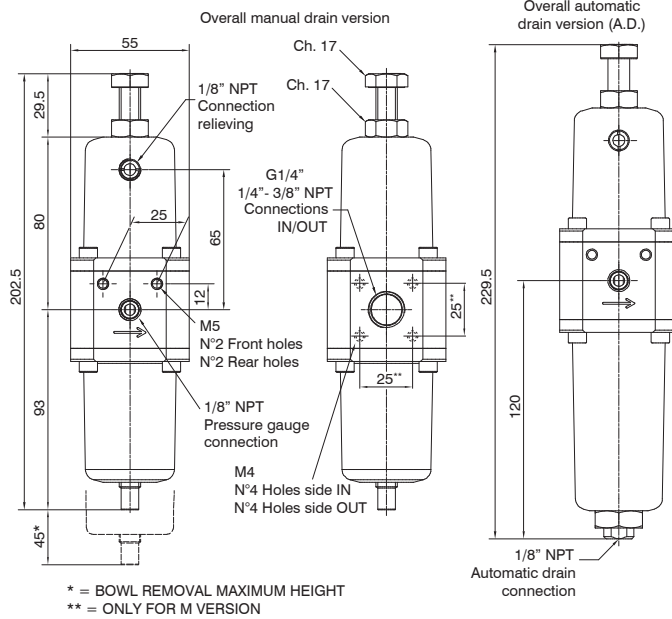
Flow rate chart



Pressure regulator Stainless steel line have been designed to withstand a **60 Bar** maximum inlet pressure.
Maximum regulated outlet pressure is 20 Bar.
For performance details please refer to diagram alongside.



Filter regulators



* = BOWL REMOVAL MAXIMUM HEIGHT
** = ONLY FOR M VERSION

Ordering code	
SV1720ESG10	
VERSION	
S	Standard surface finishing
V	Clean profile
M	Modular assembly version
CONNECTIONS	
A	1/4" NPT
C	3/8" NPT
C	G1/4"
FILTER PORE SIZE	
A	5 µm - 316 stainless steel
B	20 µm - 316 stainless steel
S	50 µm - 316 stainless steel
D	5 µm - HDPE
E	20 µm - HDPE
F	50 µm - HDPE
PRESSURE RANGE	
A	0-2 bar
G	0-4 bar
C	0-8 bar
D	0-12 bar
TYPE	
T	Standard*
N	Without relieving
OPTIONS	
	Standard*
L	Low temperature
Z	Low temperature (-60 °C)
H	High temperature
S	Automatic drain
SR	Reduced orifice automatic drain
EF	EPDM-FDA
* no additional letter required	

Construction characteristics

- Body, adjust. mechanism, AISI 316L stainless steel and caseback inter. components
- AISI 316 stainless steel adjustment springs.
- Fixing screws, adjustment screws and locknut in A4 (AISI 316) stainless steel.
- Filter-pressure regulator diaphragm with over-pressure drain (Relieving).
- Low hysteresis rolling diaphragm.
- Balanced system.
- Manual or automatic condensed drain.

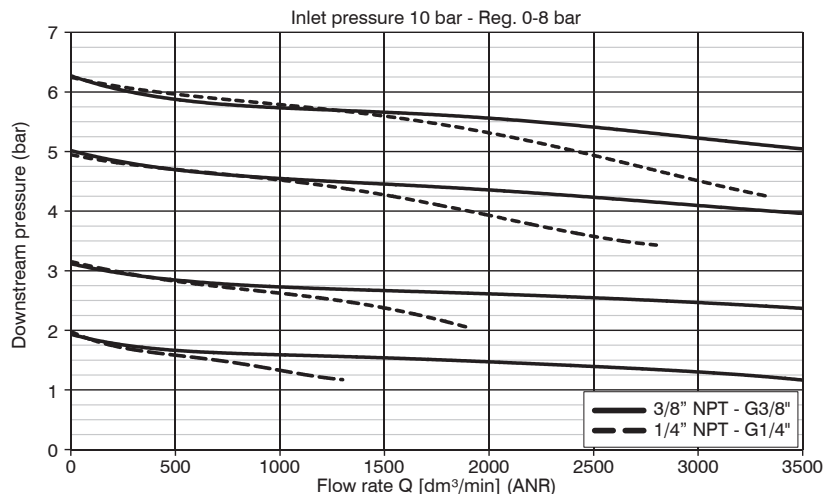
Technical characteristics

Maximum inlet pressure (standard version)	20 bar
Maximum inlet pressure (automatic drain version)	16 bar
Maximum inlet pressure (reduced orifice automatic drain version)	10 bar
Temperature (standard version)	-30°C +80°C
Temperature (low temperature version)	-50°C +80°C
Temperature (low temperature version -60°C)	-60°C +80°C
Temperature (high temperature version)	-5°C +150°C
Temperature (automatic and reduced orifice drain version)	-5°C +70°C
Temperature (EPDM-FDA version)	-40°C +100°C
Pressure gauge connections	1/8" NPT
Weight	1470 (gr.)
Bowl capacity	15 cm ³
Assembly position	Vertical

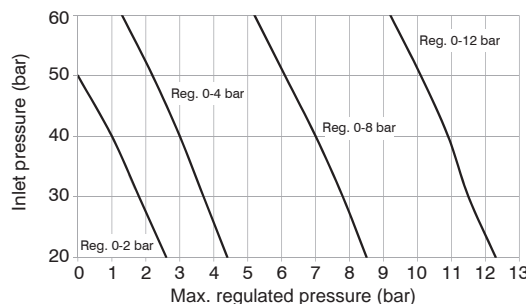
Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Flow rate chart

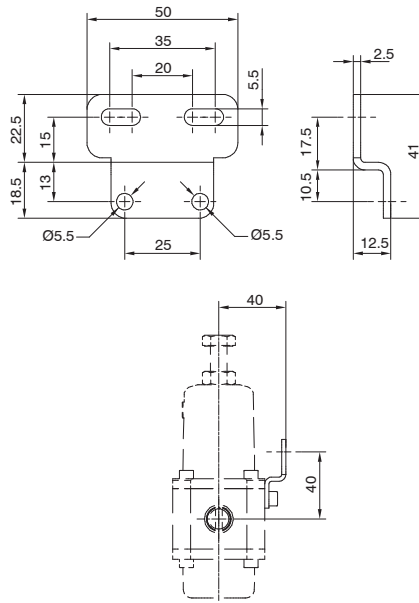


Pressure regulator Stainless steel line have been designed to withstand a **60 Bar** maximum inlet pressure.
Maximum regulated outlet pressure is 20 Bar.
For performance details please refer to diagram alongside.



► Fixing bracket

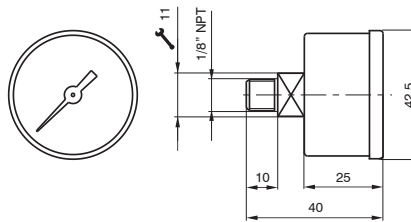
Ordering code
SS17250



Weight 32 gr.
AISI 316L stainless steel material.
Allows wall fixing of individual products.

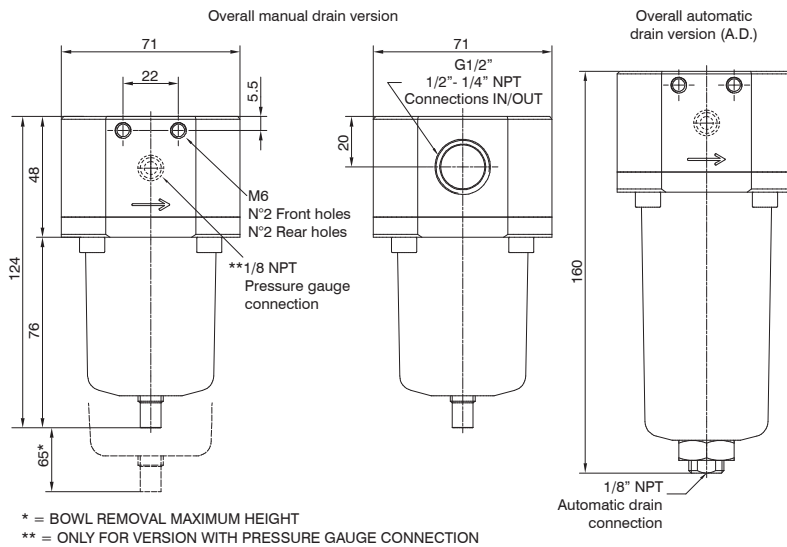
► Pressure gauge

Ordering code
SS17070A
SCALE
A = 0 - 4 bar
B = 0 - 12 bar



Weight 60 gr.
AISI 316 stainless steel material.
Glass transparent part with an AISI 316 stainless steel retaining ring.
Available with 0-4 bar and 0-12 bar scale.

Filters



Ordering code	
SV173CF50Z	
VERSION	
V	S = Standard surface finishing
	F = Clean profile
CONNECTIONS	
G	A = 1/4" NPT
	B = 1/2" NPT
	D = G1/2"
FILTER PORE SIZE	
A	A = 5 μm - 316 stainless steel
B	B = 20 μm - 316 stainless steel
S	C = 50 μm - 316 stainless steel
	D = 5 μm - HDPE
	E = 20 μm - HDPE
	F = 50 μm - HDPE
OPTIONS	
	= Standard*
	L = Low temperature
	Z = Low temperature (-60 °C)
O	H = Low temperature
	S = Automatic drain
	SR = Reduced orifice automatic drain
	EF = EPDM-FDA
ENCLOSURE OPTIONS	
Z	= Standard*
	G = pressure gauge connection
* no additional letter required	

2 AIR SERVICE UNITS

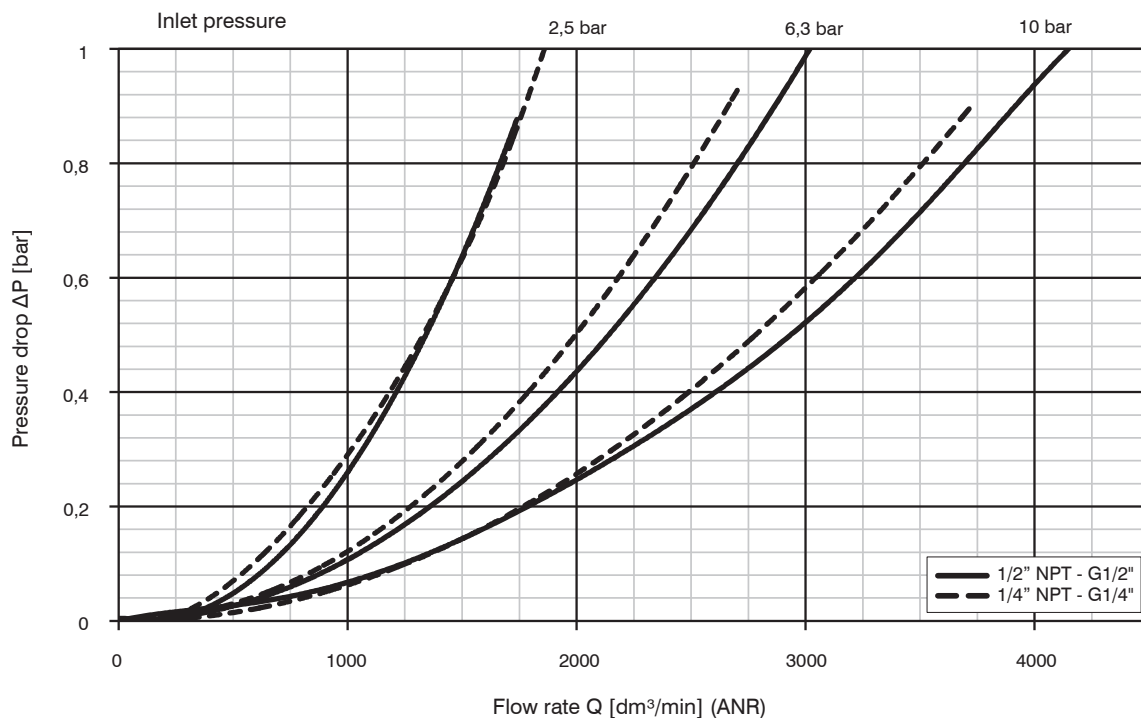
Construction characteristics

- Body, bowl and internal components in AISI 316L stainless steel.
- A4 (AISI 316) Stainless steel fixing screws.
- Manual or automatic condensed drain.

Technical characteristics

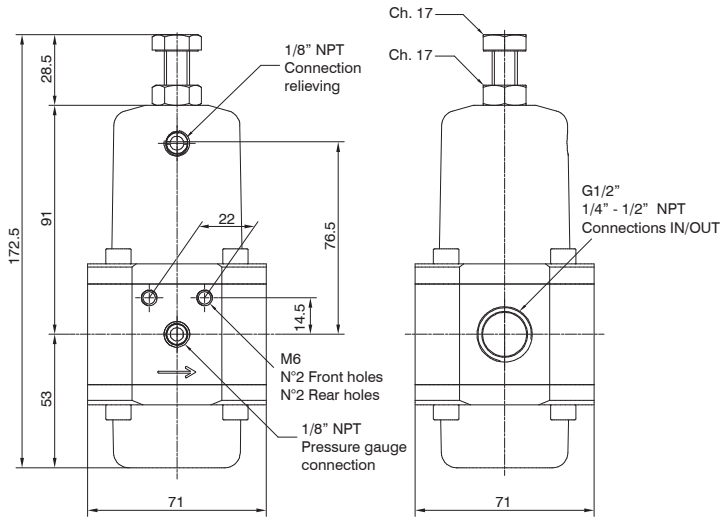
Maximum inlet pressure (standard version)	20 bar
Maximum inlet pressure (automatic drain version)	16 bar
Maximum inlet pressure (reduced orifice automatic drain version)	10 bar
Temperature (standard version)	-30°C +80°C
Temperature (low temperature version)	-50°C +80°C
Temperature (low temperature version -60°C)	-60°C +80°C
Temperature (high temperature version)	-5°C +150°C
Temperature (automatic and reduced orifice drain version)	-5°C +70°C
Temperature (EPDM-FDA version)	-40°C +100°C
Weight	1650 (gr.)
Bowl capacity	25 cm ³
Assembly position	Vertical

Flow rate chart





Regulators

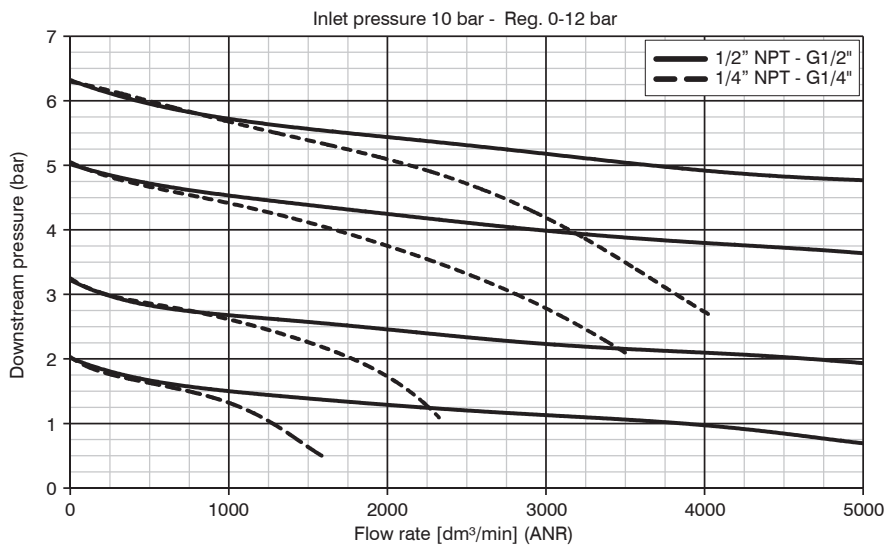


Ordering code	
SV173GRGTO	
VERSION	
V	S = Standard surface finishing
	F = Clean profile
CONNECTIONS	
C	A = 1/4" NPT
	B = 1/2" NPT
	D = G1/2"
PRESSURE RANGE	
A	0-2 bar
G	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
TYPE	
T	= Standard*
	N = Without relieving
OPTIONS	
	= Standard*
L	Low temperature
Z	Low temperature (-60 °C)
H	High temperature
EF	EPDM-FDA
* no additional letter required	

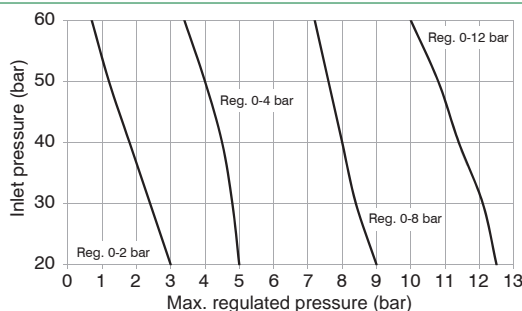
2 AIR SERVICE UNITS

Construction characteristics	Technical characteristics	
- Body, adjust. mechanism, AISI 316L stainless steel and caseback inter. components	Maximum inlet pressure (standard version)	20 bar
- AISI 316 stainless steel adjustment springs.	Temperature (standard version)	-30 °C +80 °C
- Fixing screws, adjustment screws and locknut in A4 (AISI 316) stainless steel.	Temperature (low temperature version)	-50 °C +80 °C
- Pressure regulator diaphragm with over-pressure drain (Relieving).	Temperature (low temperature version -60°C)	-60 °C +80 °C
- Low hysteresis rolling diaphragm.	Temperature (high temperature version)	-5 °C +150 °C
- Balanced system.	Temperature (EPDM-FDA version)	-40 °C +100 °C
Note	Pressure gauge connections	1/8" NPT
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.	Weight	1830 (gr.)
	Assembly position	Indifferent

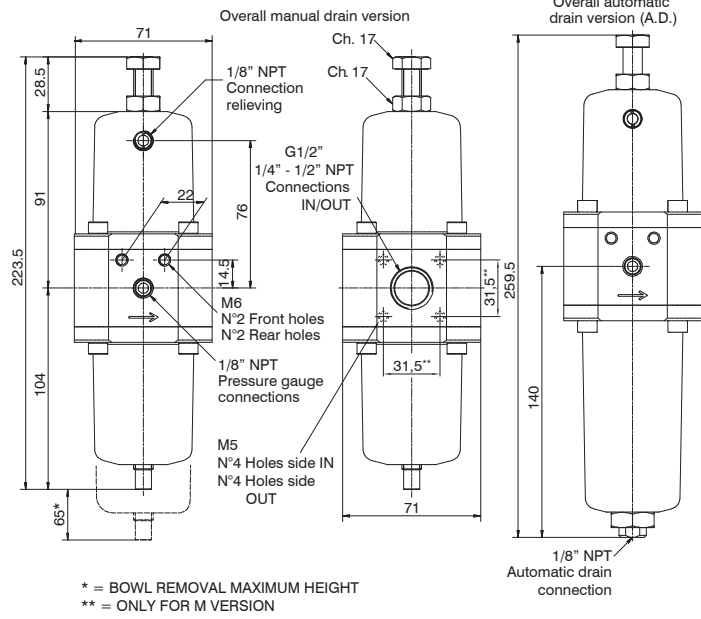
Flow rate chart



Pressure regulator Stainless steel line have been designed to withstand a **60 Bar** maximum inlet pressure.
Maximum regulated outlet pressure is 20 Bar.
For performance details please refer to diagram alongside.



Filter regulators



* = BOWL REMOVAL MAXIMUM HEIGHT
** = ONLY FOR M VERSION

Ordering code	
SV173CESG1TO	
VERSION	
S	Standard surface finishing
F	Clean profile
M	Modular assembly version
CONNECTIONS	
A	1/4" NPT
B	1/2" NPT
D	G1/2"
FILTER PORE SIZE	
A	5 µm - 316 stainless steel
B	20 µm - 316 stainless steel
C	50 µm - 316 stainless steel
D	5 µm - HDPE
E	20 µm - HDPE
F	50 µm - HDPE
PRESSURE RANGE	
A	0-2 bar
B	0-4 bar
C	0-8 bar
D	0-12 bar
TYPE	
I	Standard*
N	Without relieving
OPTIONS	
	Standard*
L	Low temperature
Z	Low temperature (-60 °C)
H	High temperature
S	Automatic drain
SR	Reduced orifice automatic drain
EF	EPDM-FDA
* no additional letter required	

2 AIR SERVICE UNITS

Construction characteristics

- Body, adjust. mechanism, AISI 316L stainless steel and caseback intern. components
- AISI 316 stainless steel adjustment springs.
- Fixing screws, adjustment screws and locknut in A4 (AISI 316) stainless steel.
- Filter-pressure regulator diaphragm with over-pressure drain (Relieving).
- Low hysteresis rolling diaphragm.
- Balanced system.
- Manual or automatic condensed drain.

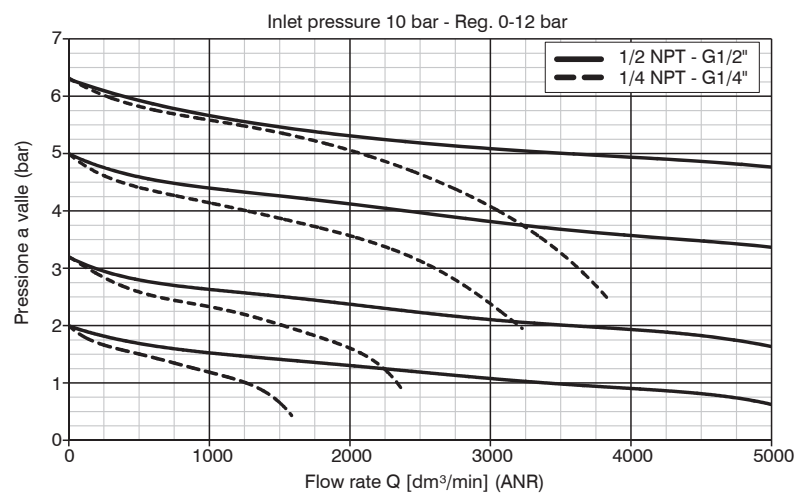
Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

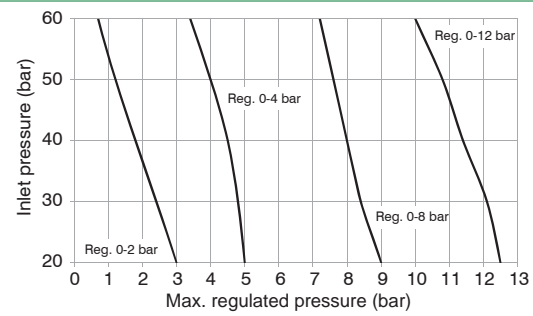
Technical characteristics

Maximum inlet pressure (standard version)	20 bar
Maximum inlet pressure (automatic drain version)	16 bar
Maximum inlet pressure (reduced orifice automatic drain version)	10 bar
Temperature (standard version)	-30°C +80°C
Temperature (low temperature version)	-50°C +80°C
Temperature (low temperature version -60°C)	-60°C +80°C
Temperature (high temperature version)	-5°C +150°C
Temperature (automatic and reduced orifice drain version)	-5°C +70°C
Temperature (EPDM-FDA version)	-40°C +100°C
Pressure gauge connections	1/8" NPT
Weight	2110 (gr.)
Bowl capacity	25 cm ³
Assembly position	Vertical

Flow rate chart

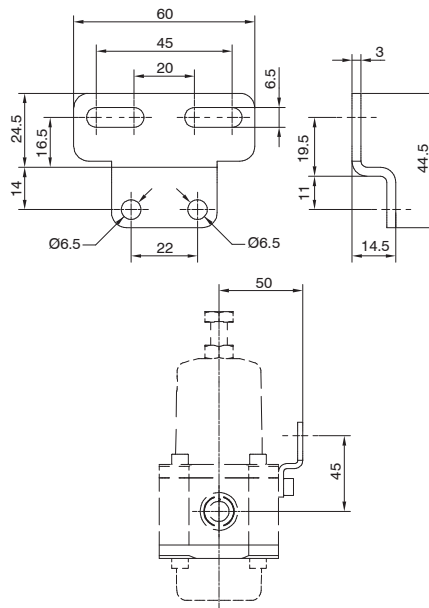


Pressure regulator Stainless steel line have been designed to withstand a **60 Bar** maximum inlet pressure.
Maximum regulated outlet pressure is 20 Bar.
For performance details please refer to diagram alongside.



► Fixing bracket

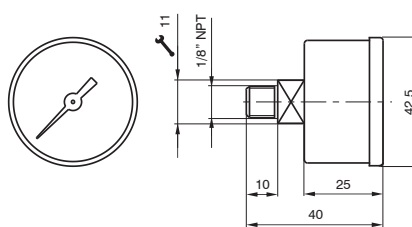
Ordering code
SS17350



Weight 32 gr.
AISI 316L stainless steel material.
Allows wall fixing of individual products.

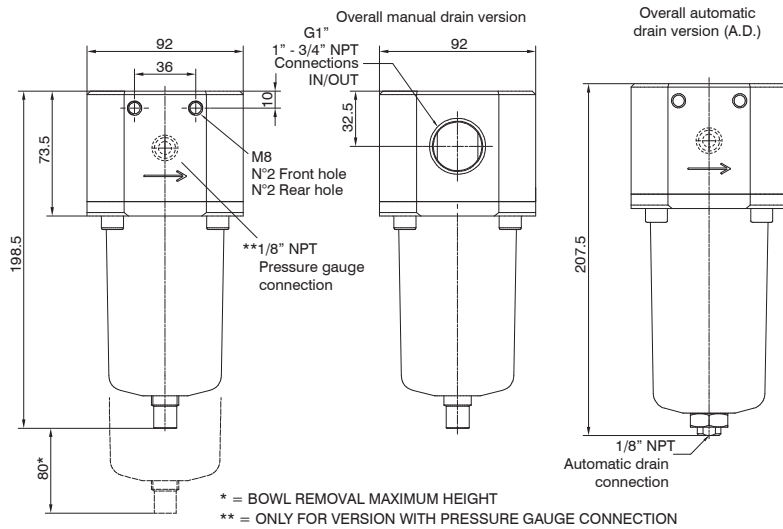
► Pressure gauge

Ordering code
SS17070A
SCALE
A = 0 - 4 bar
B = 0 - 12 bar



Weight 60 gr.
AISI 316 stainless steel material.
Glass transparent part with an AISI 316 stainless steel retaining ring.
Available with 0-4 bar and 0-12 bar scale.

Filters



Ordering code	
SV174CF50Z	
VERSION	
V	S = Standard surface finishing
	F = Clean profile
CONNECTIONS	
G	A = 3/4" NPT
	B = 1" NPT
	D = G1"
FILTER PORE SIZE	
A	A = 5 µm - 316 stainless steel
B	B = 20 µm - 316 stainless steel
S	C = 50 µm - 316 stainless steel
	D = 5 µm - HDPE
	E = 20 µm - HDPE
	F = 50 µm - HDPE
OPTIONS	
	= Standard*
L	L = Low temperature
Z	Z = Low temperature (-60 °C)
H	H = High temperature
S	S = Automatic drain
SR	SR = Reduced orifice automatic drain
EF = EPDM-FDA	
ENCLOSURE OPTIONS	
	= Standard*
Z	G = pressure gauge connection
* no additional letter required	

2 AIR SERVICE UNITS

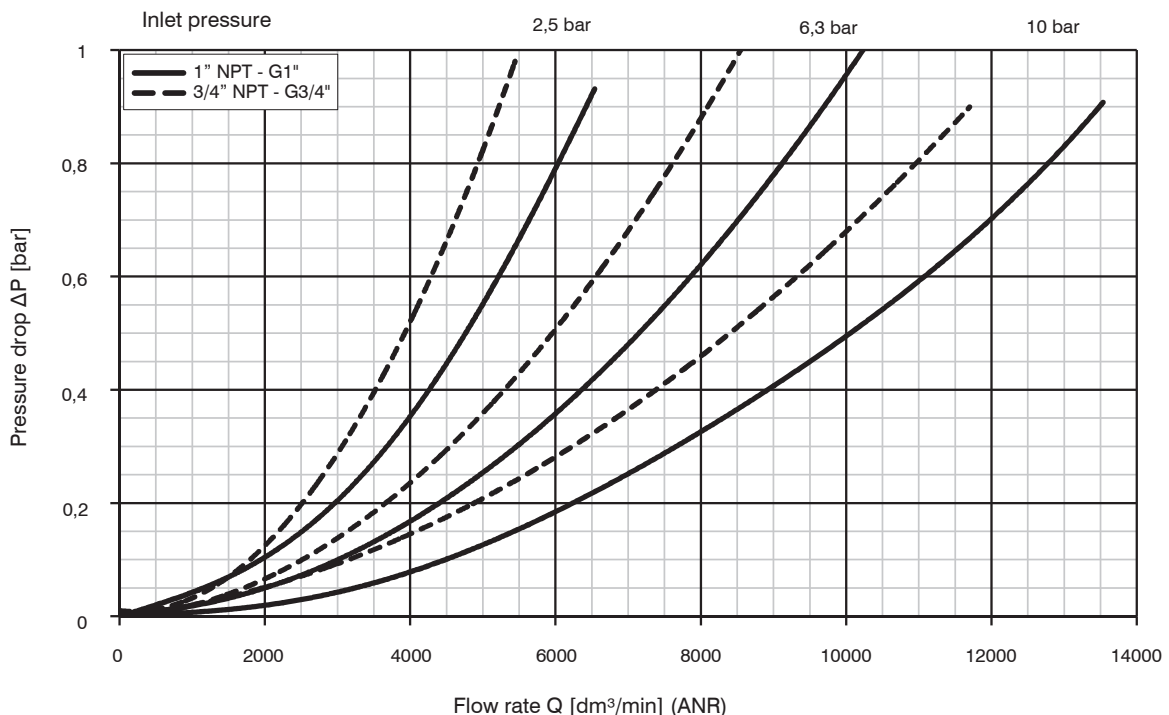
Construction characteristics

- Body, bowl and internal components in AISI 316L stainless steel.
- A4 (AISI 316) stainless steel fixing screws.
- Manual or automatic condensed drain.

Technical characteristics

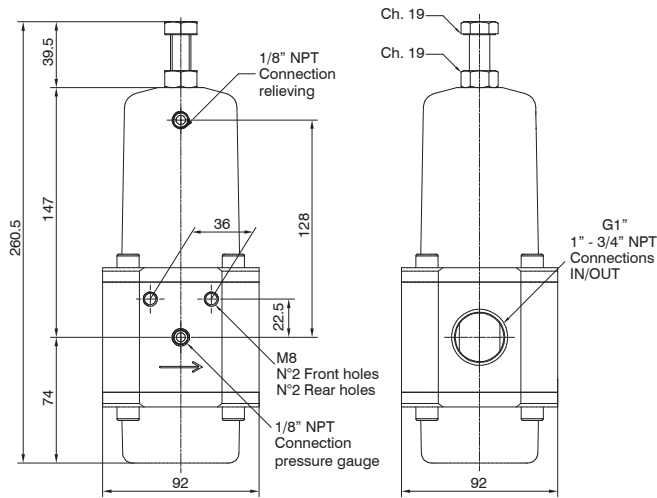
Maximum inlet pressure (standard version)	20 bar
Maximum inlet pressure (automatic drain version)	16 bar
Maximum inlet pressure (reduced orifice automatic drain version)	10 bar
Temperature (standard version)	-30°C +80°C
Temperature (low temperature version)	-50°C +80°C
Temperature (low temperature version -60°C)	-60°C +80°C
Temperature (high temperature version)	-5°C +150°C
Temperature (automatic and reduced orifice drain version)	-5°C +70°C
Temperature (EPDM-FDA version)	-40°C +100°C
Weight 3/4 NPT - G 3/4"	4700 (gr.)
Weight 1 NPT - G 1"	4600 (gr.)
Bowl capacity	78 cm ³
Assembly position	Vertical

Flow rate chart





Regulators



Ordering code	
SV174GRGTO	
VERSION	
V	S = Standard surface finishing
	F = Clean profile
CONNECTIONS	
C	A = 3/4" NPT
	B = 1" NPT
	D = G1"
PRESSURE RANGE	
	A = 0-2 bar
G	B = 0-4 bar
	C = 0-7 bar
	D = 0-10 bar
TYPE	
T	= Standard*
	N = Without relieving
OPTIONS	
	= Standard*
O	L = Low temperature
	Z = Low temperature (-60 °C)
	H = High temperature
	EF = EPDM-FDA
* no additional letter required	

Construction characteristics

- Body, adjust. mechanism, AISI 316L stainless steel and caseback inter. components
- AISI 316 Adjustment springs.
- Fixing screws, adjustment screws and locknut in A4 (AISI 316) stainless steel.
- Pressure regulator diaphragm with over-pressure drain (Relieving).
- Low hysteresis rolling diaphragm.
- Balanced system.

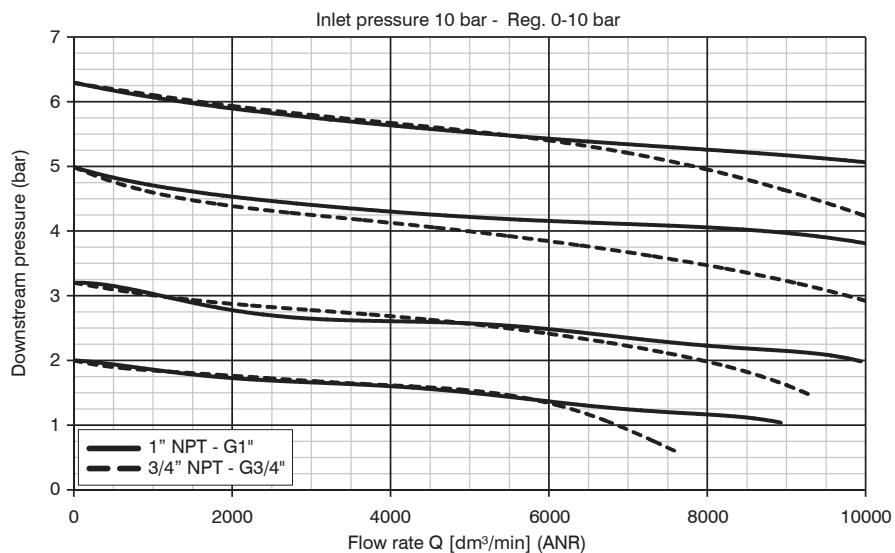
Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

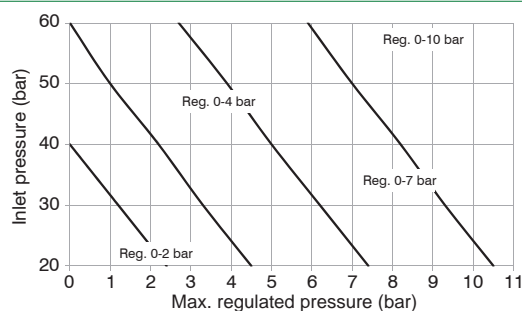
Technical characteristics

Maximum inlet pressure (standard version)	20 bar
Temperature (standard version)	-30 °C +80 °C
Temperature (low temperature version)	-50 °C +80 °C
Temperature (low temperature version -60°C)	-60 °C +80 °C
Temperature (high temperature version)	-5 °C +150 °C
Temperature (EPDM-FDA version)	-40 °C +100 °C
Pressure gauge connections	1/8" NPT
Weight 3/4" NPT - G3/4"	5500 (gr.)
Weight 1" NPT - G1"	5400 (gr.)
Assembly position	Indifferent

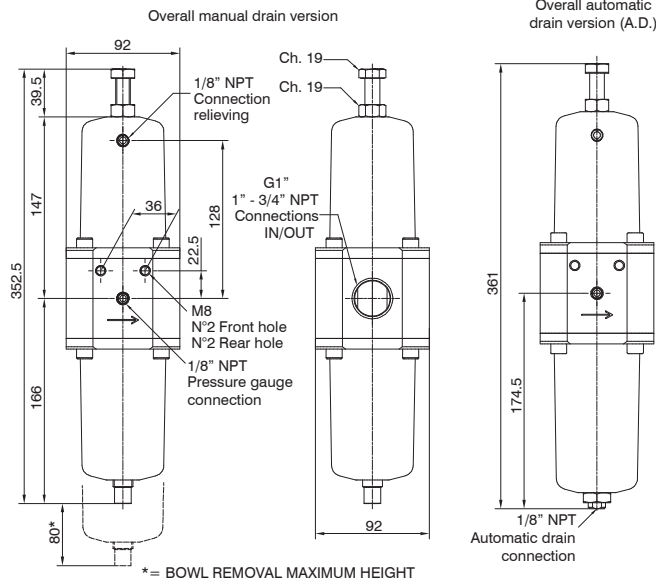
Flow rate chart



Pressure regulator Stainless steel line have been designed to withstand a **60 Bar** maximum inlet pressure.
Maximum regulated outlet pressure is 20 Bar.
For performance details please refer to diagram alongside.



Filter regulators



Ordering code	
SV174CESGT0	
VERSION	
V	S = Standard surface finishing
	F = Clean profile
CONNECTIONS	
C	A = 3/4" NPT
	B = 1" NPT
	D = G1"
FILTER PORE SIZE	
	A = 5 µm - 316 stainless steel
	B = 20 µm - 316 stainless steel
S	C = 50 µm - 316 stainless steel
	D = 5 µm - HDPE
	E = 20 µm - HDPE
	F = 50 µm - HDPE
PRESSURE RANGE	
	A = 0-2 bar
G	B = 0-4 bar
	C = 0-7 bar
	D = 0-10 bar
TYPE	
T	= Standard*
	N = Without relieving
OPTIONS	
	= Standard*
	L = Low temperature
	Z = Low temperature (-60 °C)
O	H = High temperature
	S = Automatic drain
	SR = Reduced orifice automatic drain
	EF = EPDM-FDA
* no additional letter required	

2 AIR SERVICE UNITS

Construction characteristics

- Body, adjust. mechanism, AISI 316L stainless steel and caseback inter. components
- AISI 316 stainless steel adjustment springs.
- Fixing screws, adjustment screws and locknut in A4 (AISI 316) stainless steel.
- Filter-pressure regulator diaphragm with over-pressure drain (Relieving).
- Low hysteresis rolling diaphragm.
- Balanced system.
- Manual or automatic condensed drain.

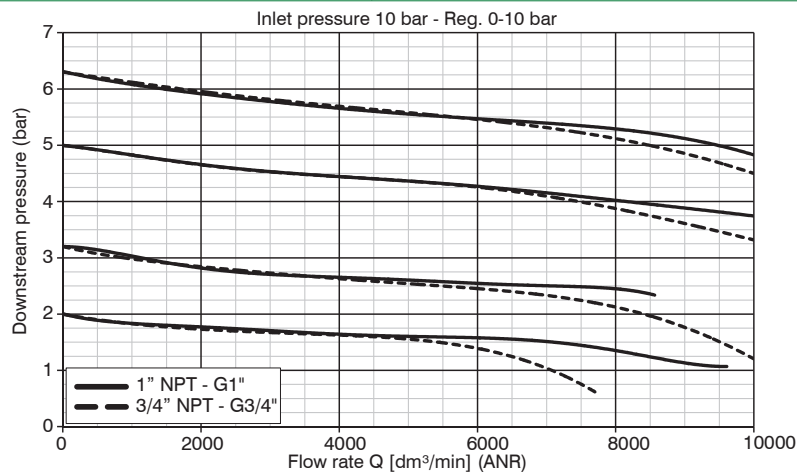
Technical characteristics

Maximum inlet pressure (standard version)	20 bar
Maximum inlet pressure (automatic drain version)	16 bar
Maximum inlet pressure (reduced orifice automatic drain version)	10 bar
Temperature (standard version)	-30°C + 80°C
Temperature (low temperature version)	-50°C + 80°C
Temperature (low temperature version -60°C)	-60°C + 80°C
Temperature (high temperature version)	-5°C + 150°C
Temperature (automatic and reduced orifice drain version)	-5°C + 70°C
Temperature (EPDM-FDA version)	-40°C + 100°C
Pressure gauge connections	1/8" NPT
Weight 3/4" NPT - G3/4"	6300 (gr.)
Weight 1" NPT - G1"	6200 (gr.)
Bowl capacity	78 cm ³
Assembly position	Vertical

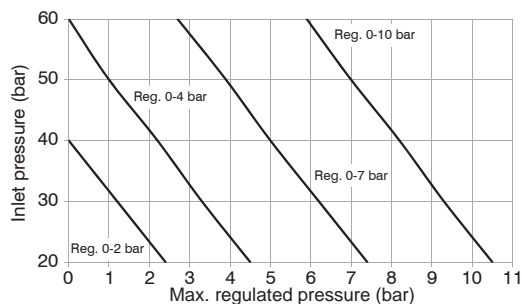
Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

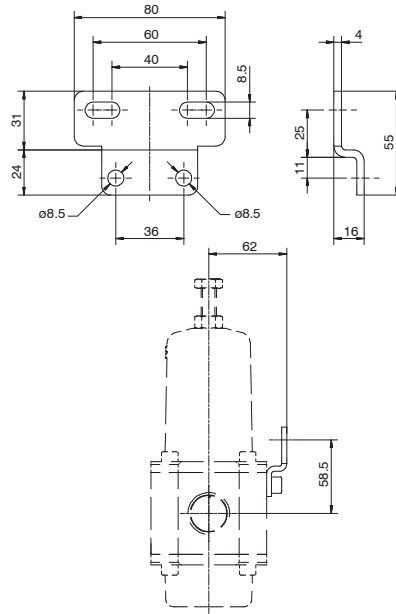
Flow rate chart



Pressure regulator Stainless steel line have been designed to withstand a **60 Bar** maximum inlet pressure.
Maximum regulated outlet pressure is 20 Bar.
For performance details please refer to diagram alongside.



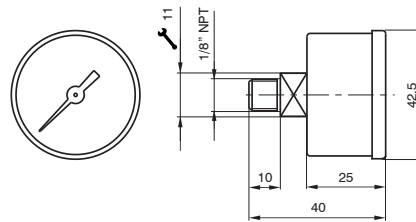
► Fixing bracket



Ordering code
SS17450

Weight 32 gr.
AISI 316L stainless steel material.
Allows wall fixing of individual products.

► Pressure gauge



Ordering code
SS17070A
SCALE
A = 0 - 4 bar
B = 0 - 12 bar

Weight 60 gr.
AISI 316 stainless steel material.
Glass transparent part with an AISI 316 stainless steel retaining ring.
Available with 0-4 bar and 0-12 bar scale.



Series 1700 - Electronic proportional regulators

General

Modern industrial applications require increasingly high performances from their pneumatic components. For example, the speed and thrust of a pneumatic actuator may need to be varied. These parameters often need to be modified dynamically while an operation is running.

This solution can be achieved by means of a regulator that can vary pressure over time.

Pneumax portfolio includes 1700 Series electronic proportional regulator, available in three different sizes with flow rates of 7, 1100, and 4000 NI/min respectively and supporting Analog/Digital, CANopen® or IO-Link communication interfaces.

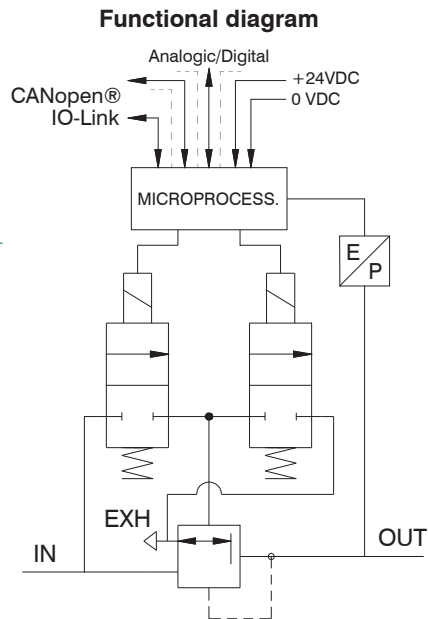
Application fields

Typical applications will include the necessity to dynamically control the force of the actuator, be it thrust or torque.

Examples include: Closing systems, painting systems, tensioning systems, packaging systems, pneumatic braking systems, force control for welding grippers, thickness compensation systems, balancing systems, laser cutting, pressure transducers for the control of modulating valves, test benches for system testing, force control for buffers on polishers, etc.

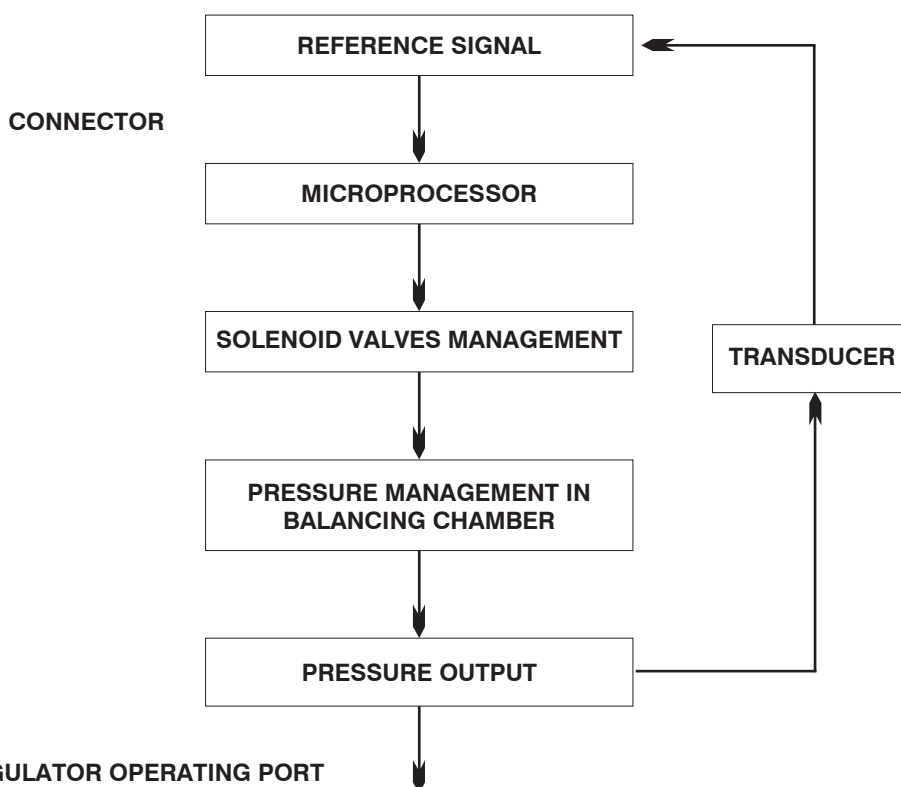
Product presentation

The supply and exhaust connections are on one side of the regulator and the working port is on the opposite side. The two remaining sides carry G 1/8" ports that are blanked off with removable plugs, these can be used to connect a pressure gauge or as an outlet port. If you order the version with the external feedback there is a M5 threaded connection to which connect the feedback pressure (to the pressure transducer). This connection is placed on the outlet connection side. This option allows to take the signal from a remote point instead of directly from the outlet connection; this function is typically used when the regulated pressure is used far away from the regulator. The control solenoid valves, the pressure sensor, and the management electronics are placed in upper part of the regulator. The electronic management system is the same for all the size 0, size 1 and size 3 regulators.



CLOSED LOOP diagram (internal control circuit)

The proportional regulator is known as a CLOSED LOOP regulator because a pressure transducer in the circuit transmits a continuous analog signal to the microprocessor, which compares the reference value and supplies the control solenoid valves accordingly.



2 AIR SERVICE UNITS



Features

Pneumatic

Fluid	Air filtered at 5 micron and dehumidified		
Minimum inlet pressure	Desired outlet pressure + 1 bar		
Maximum inlet pressure	10 bar		
Outlet pressure	0 ÷ 9 bar		
Nominal flowrate from 1 to 2 (6 bar ΔP 1 bar)	Size 0	Size 1	Size 3
	7 NI/min	1100 NI/min	4000 NI/min
Discharge flowrate (a 6 bar with 1 bar overpressure)	7 NI/min	1300 NI/min	4500 NI/min
Air consumption	< 1 NI/min	< 1 NI/min	< 1 NI/min
Supply connection	M5	G 1/4"	G 1/2"
Operating connection	M5	G 1/4"	G 1/2"
Exhaust connection	Ø1,8	G 1/8"	G 3/8"
Maximum fitting tightening	3 Nm	15 Nm	15 Nm

Electric

Supply voltage	24VDC ± 10% (stabilized with ripple < 1%)	
Standby current consumption	70mA	
Current consumption with solenoid valves on	400mA	
**Reference Signal	Voltage	*0 ÷ 10 V *0 ÷ 5 V *1 ÷ 5 V
	Current	*4 ÷ 20 mA *0 ÷ 20 mA
**Input Impedance	Voltage	10 kΩ
	Current	250 Ω
**Digital Inputs	24VDC ± 10%	
**Digital Output	24 VDC PNP (max current 50 mA)	

Functional

Linearity	± Insensitivity
Hysteresis	± Insensitivity
Repeatability	± Insensitivity
Sensitivity	0,01 bar
Assembly position	Indifferent
Protection grade	IP65 (with casing fitted)
Ambient temperature	-5° ÷ 50° / 23°F ÷ 122°F

Constructional

Body	Anodized aluminum		
Shutters	Brass with vulcanized NBR		
Diaphragm	Cloth-covered rubber		
Seals	NBR		
Cover for electrical part	Technopolymer		
Springs	AISI 302		
Weight	Size 0	Size 1	Size 3
	168 gr.	360 gr.	850 gr.

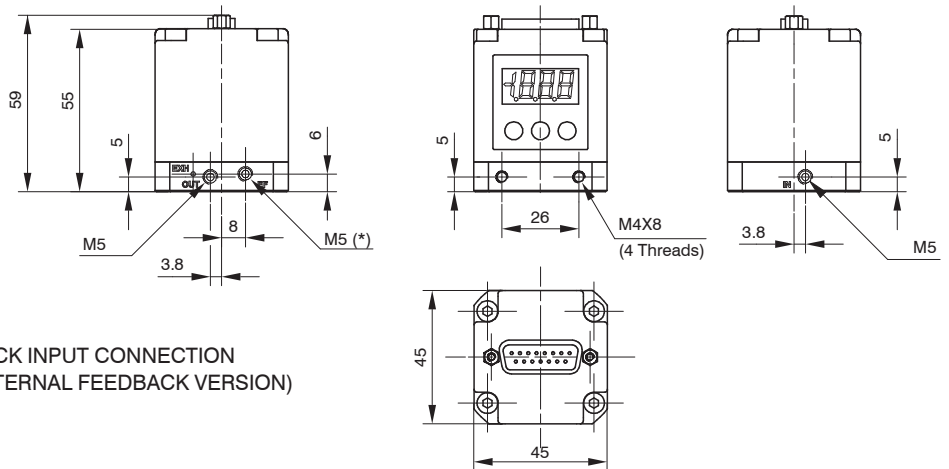
* Selectable by keyboard or by RS-232

** Valid only for devices with analog input



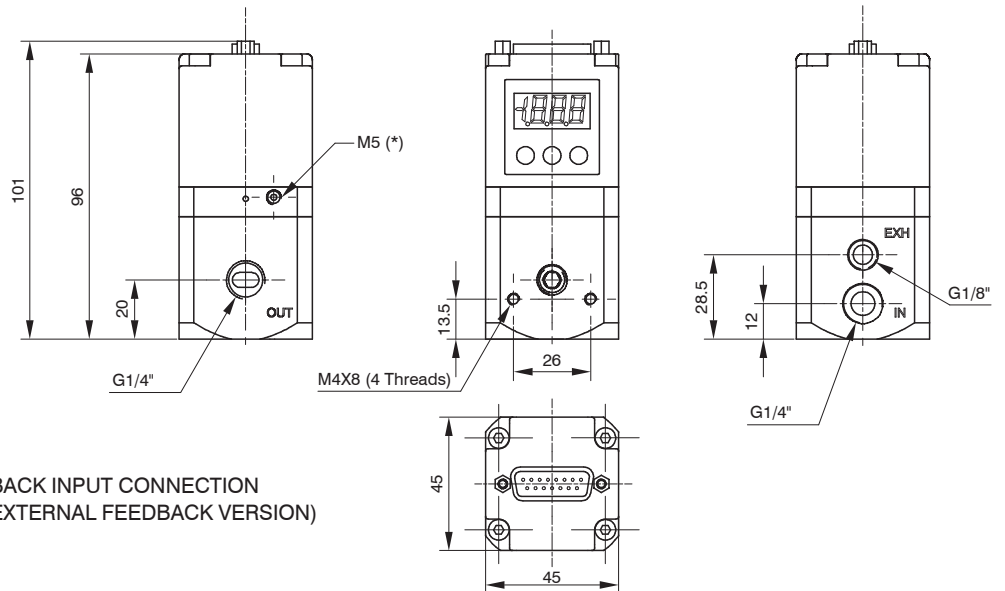
Overall dimensions ("521" standard version and CANopen® version with SUB-D 15 poles)

Size 0



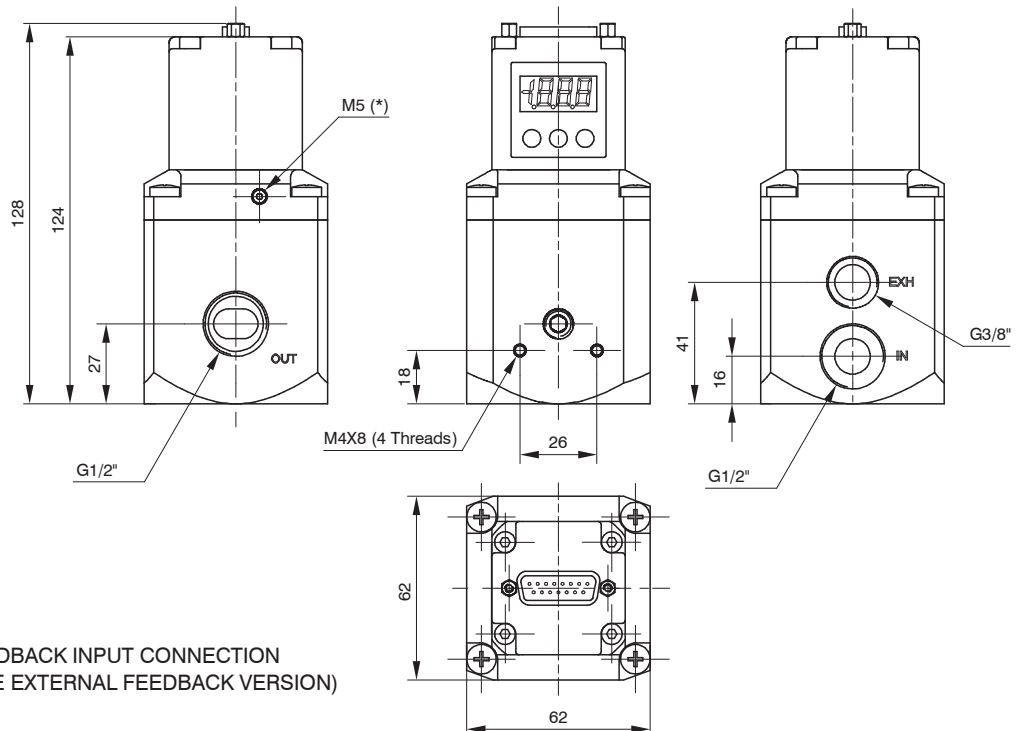
* = EXTERNAL FEEDBACK INPUT CONNECTION
(AVAILABLE ONLY ON THE EXTERNAL FEEDBACK VERSION)

Size 1



* = EXTERNAL FEEDBACK INPUT CONNECTION
(AVAILABLE ONLY ON THE EXTERNAL FEEDBACK VERSION)

Size 3

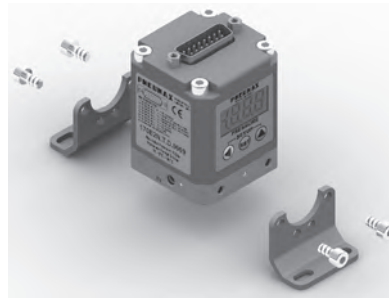
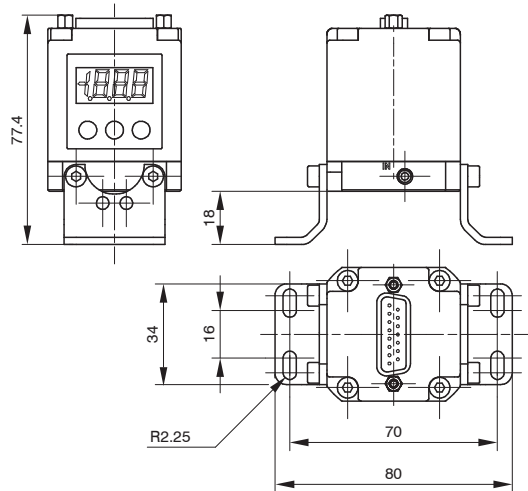


* = EXTERNAL FEEDBACK INPUT CONNECTION
(AVAILABLE ONLY ON THE EXTERNAL FEEDBACK VERSION)

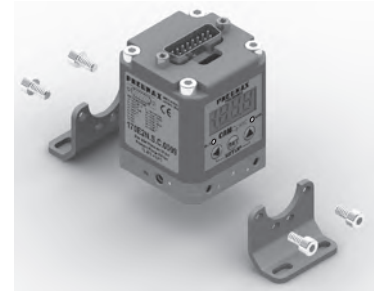
2 AIR SERVICE UNITS

Mounting options ("521" standard version and CANopen® version with SUB-D 15 poles)

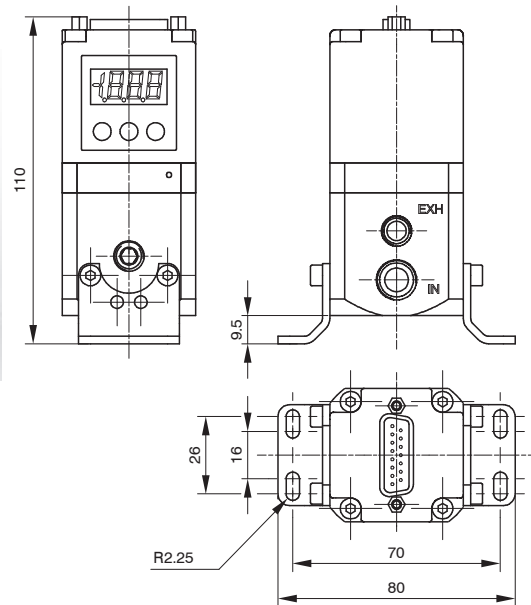
In addition to mounting directly using the M4 tappings on the body, the 170M5 bracket may also be used, as shown below:



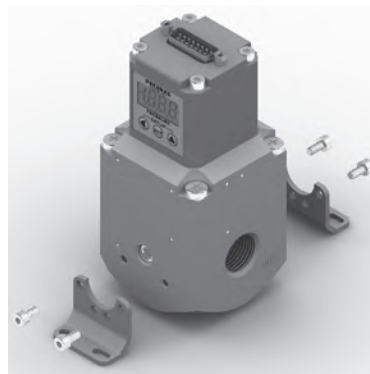
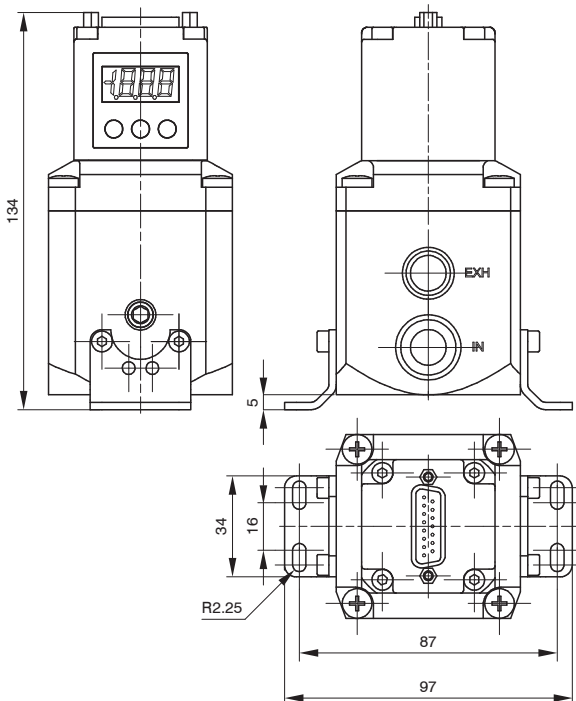
Size 0



Size 1

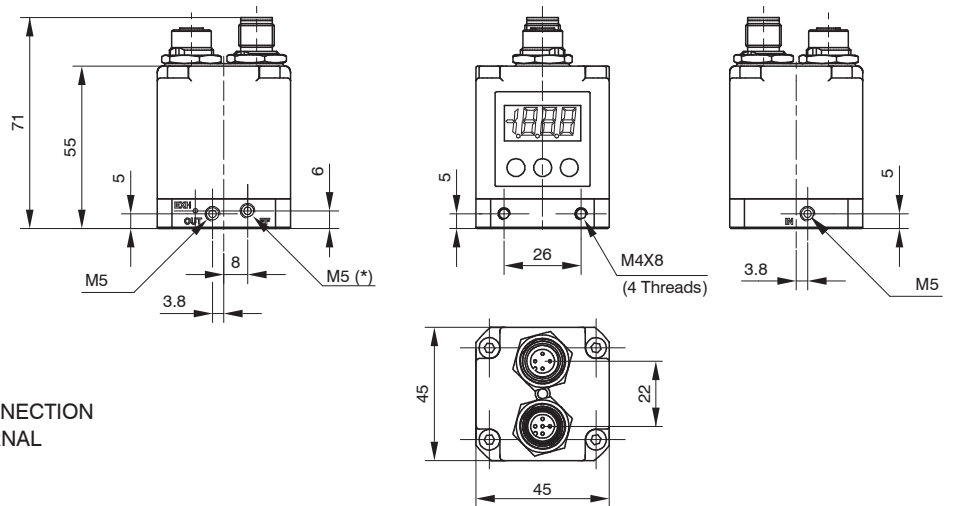


Size 3



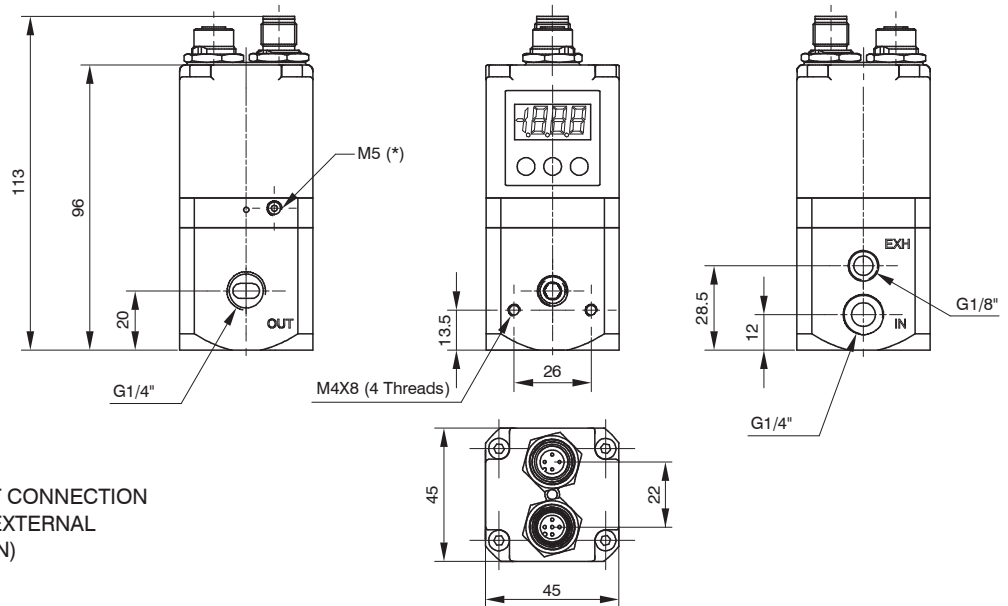
Overall dimensions ("521 M12 version" - CANopen® version)

Size 0



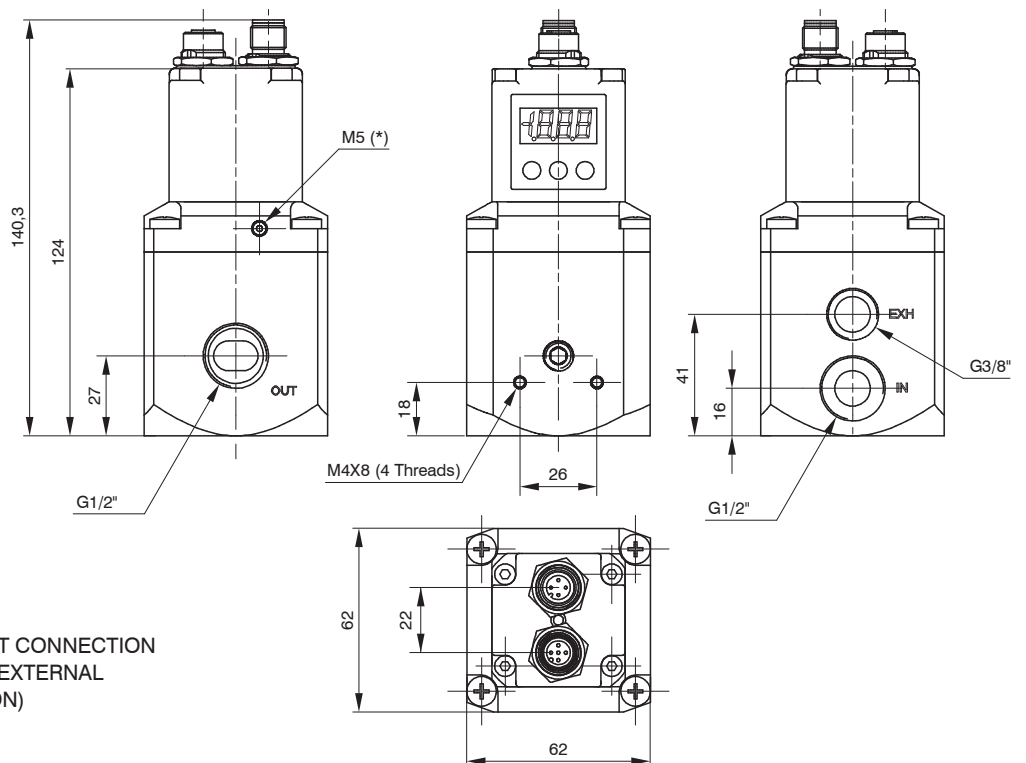
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(AVAILABLE ONLY ON THE EXTERNAL
FEEDBACK VERSION)

Size 1



* = EXTERNAL FEEDBACK INPUT CONNECTION
(AVAILABLE ONLY ON THE EXTERNAL
FEEDBACK VERSION)

Size 3

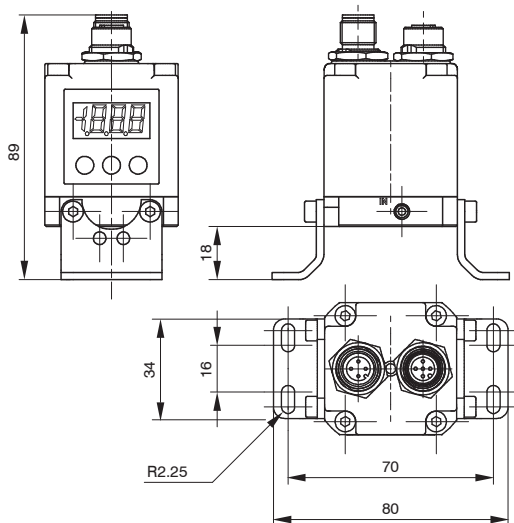


* = EXTERNAL FEEDBACK INPUT CONNECTION
(AVAILABLE ONLY ON THE EXTERNAL
FEEDBACK VERSION)

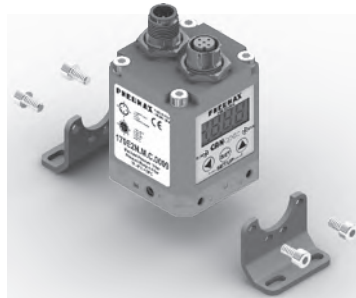
2 AIR SERVICE UNITS

Mounting options ("521 M12 version" - CANopen® version)

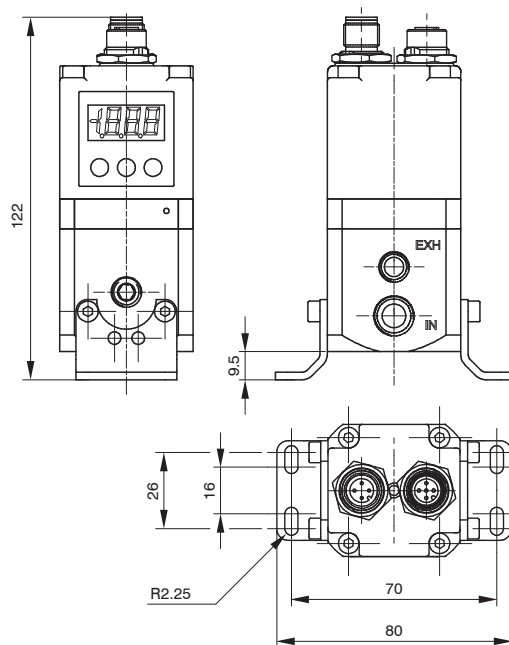
In addition to mounting directly using the M4 tapping on the body, the 170M5 bracket may also be used, as shown below:



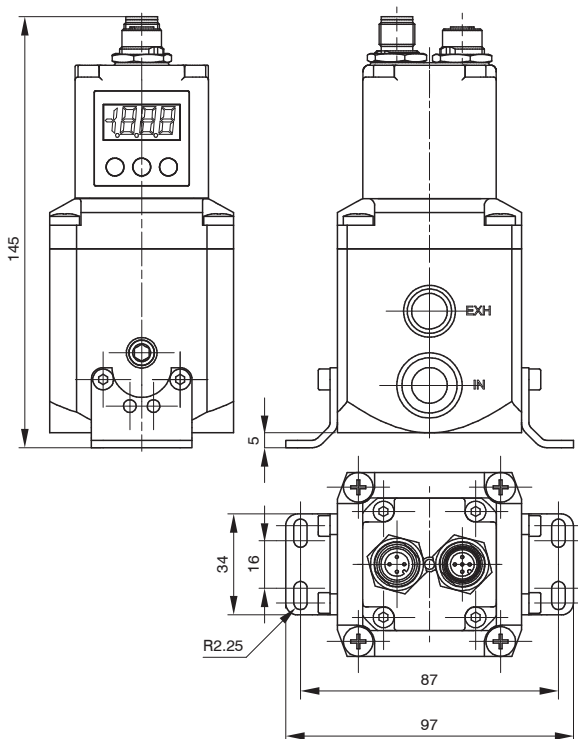
Size 0



Size 1



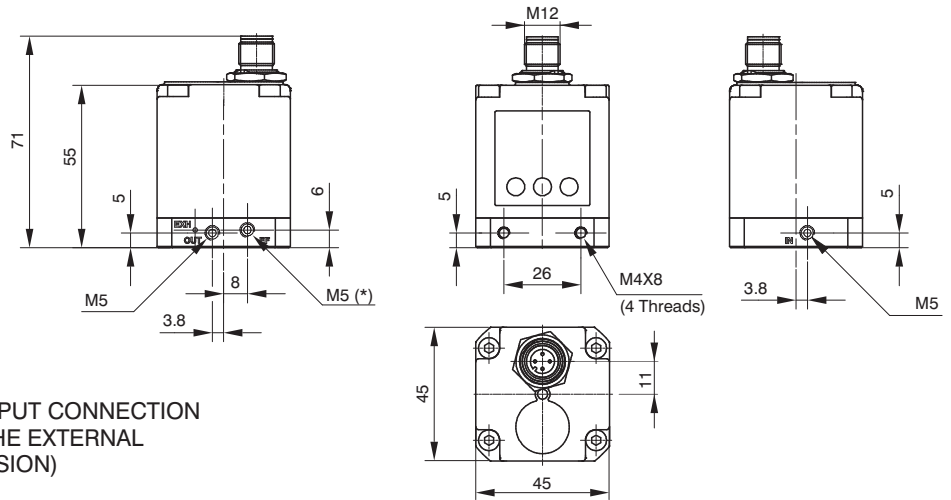
Size 3





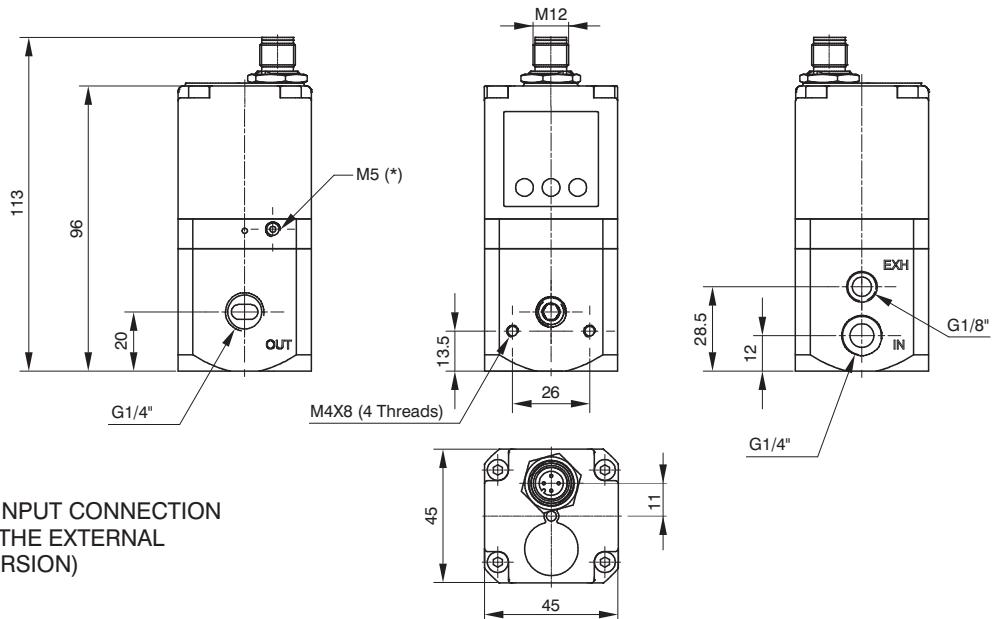
Overall dimensions ("521 M12 BASIC version")

Size 0



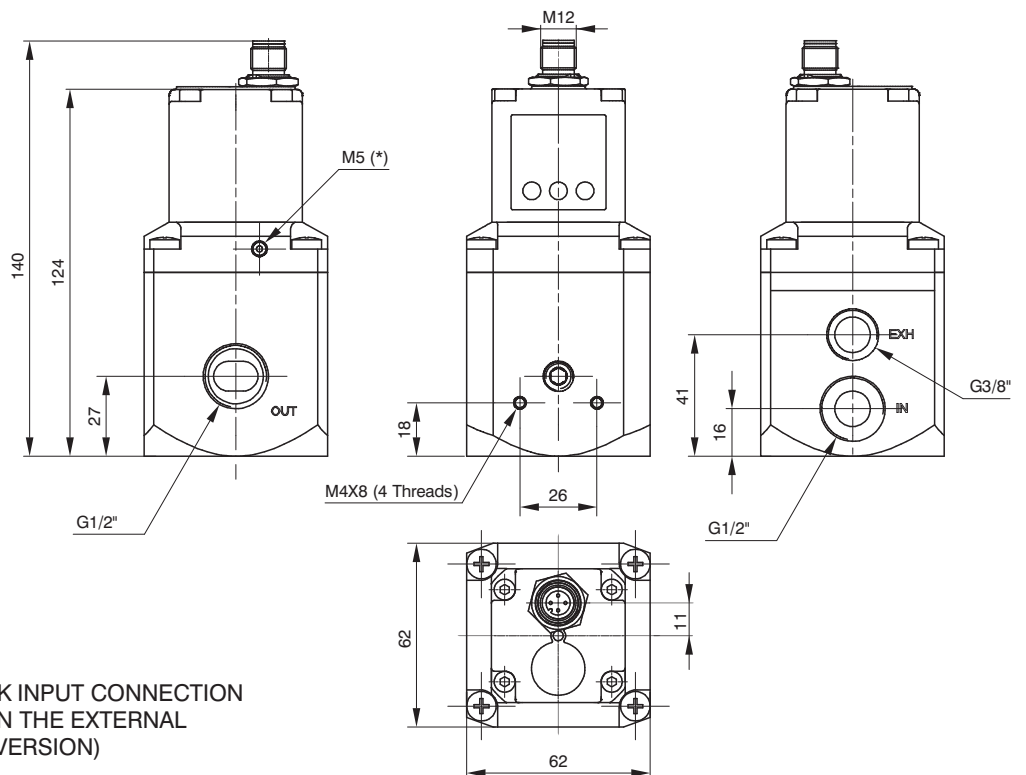
* = EXTERNAL FEEDBACK INPUT CONNECTION
(AVAILABLE ONLY ON THE EXTERNAL
FEEDBACK VERSION)

Size 1



* = EXTERNAL FEEDBACK INPUT CONNECTION
(AVAILABLE ONLY ON THE EXTERNAL
FEEDBACK VERSION)

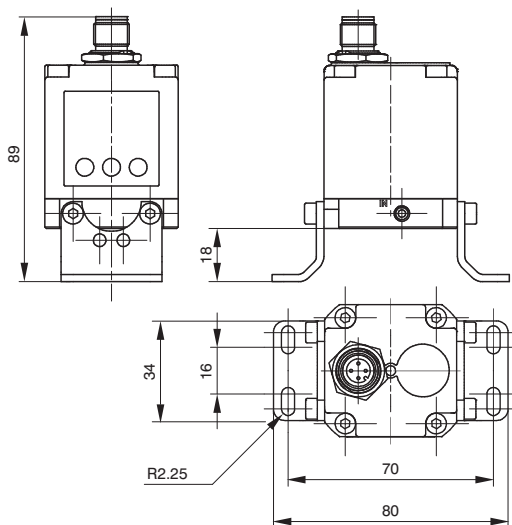
Size 3



* = EXTERNAL FEEDBACK INPUT CONNECTION
(AVAILABLE ONLY ON THE EXTERNAL
FEEDBACK VERSION)

Mounting options ("521 M12 BASIC version")

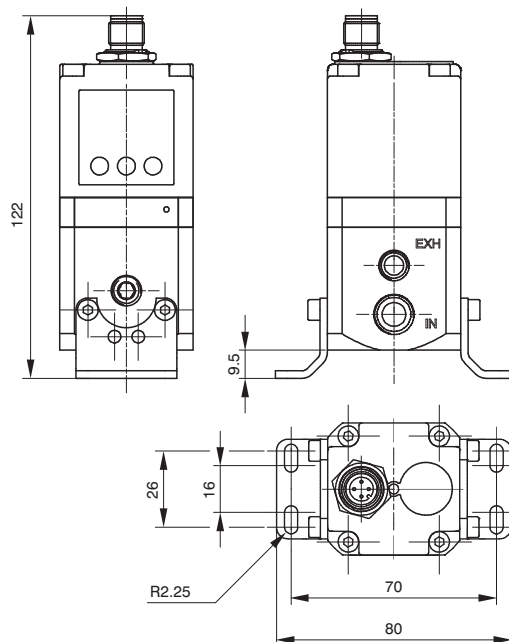
In addition to mounting directly using the M4 tapping on the body, the 170M5 bracket may also be used, as shown below:



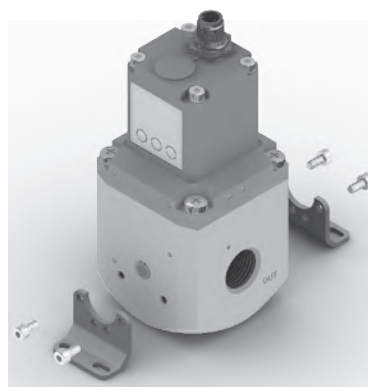
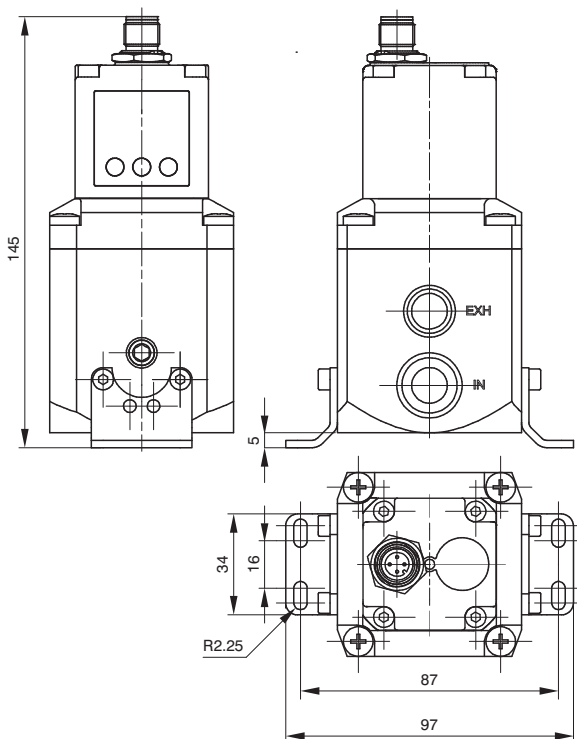
Size 0



Size 1

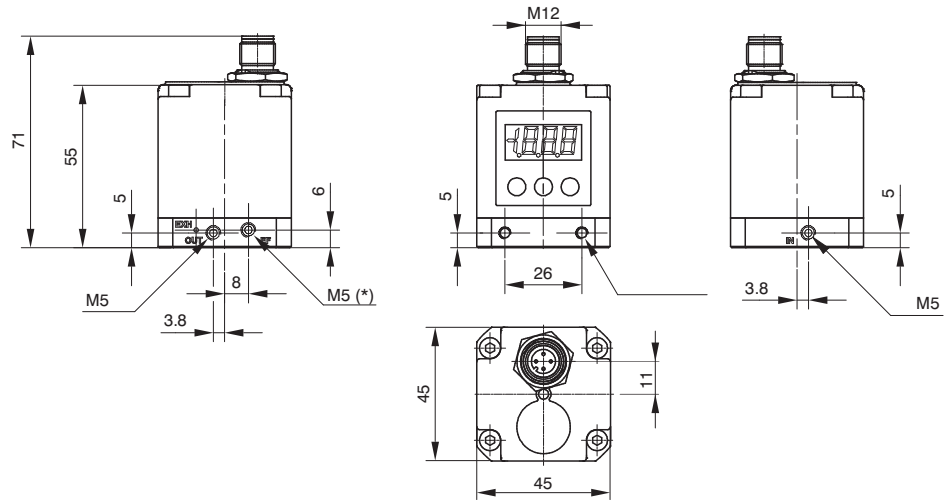


Size 3

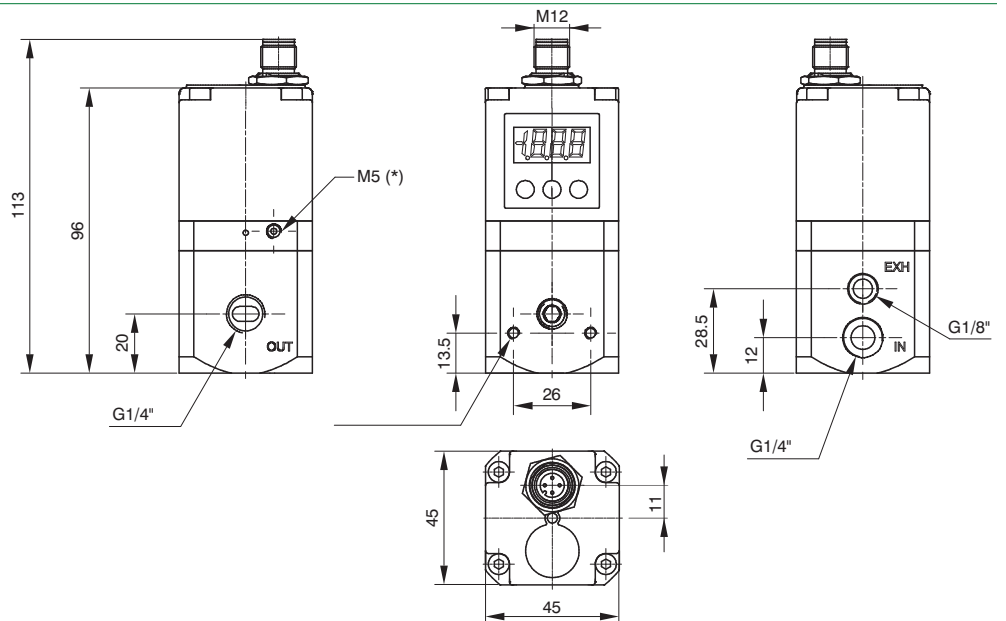


Overall dimensions ("521 M12 version" - Standard version)

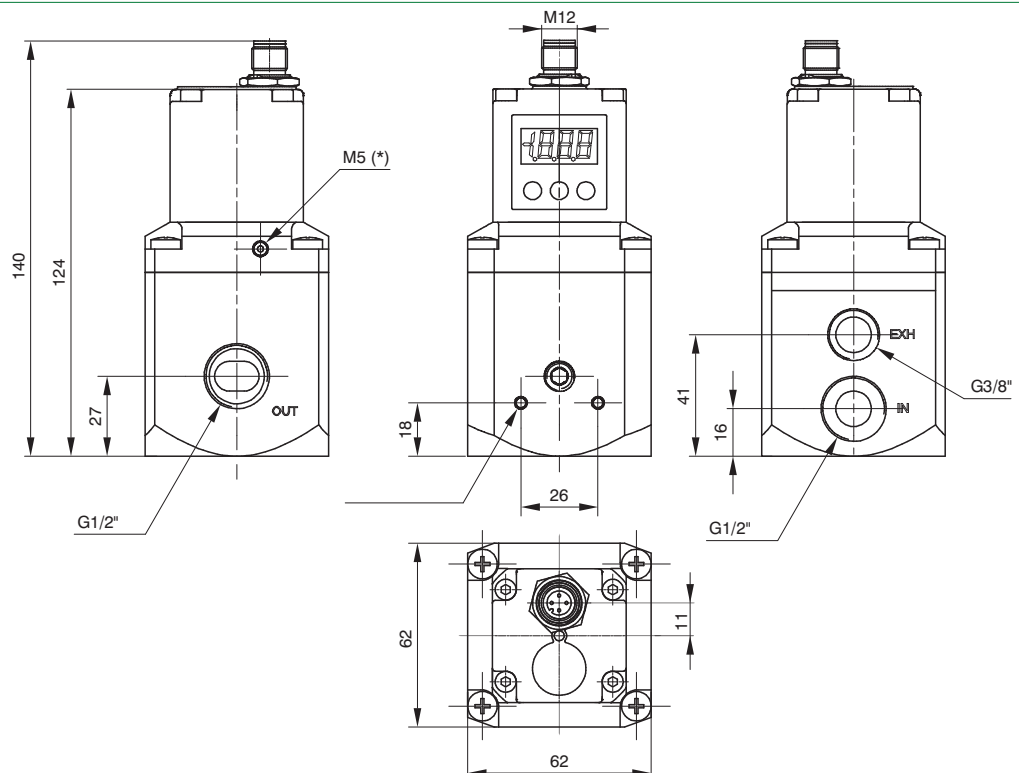
Size 0



Size 1



Size 3

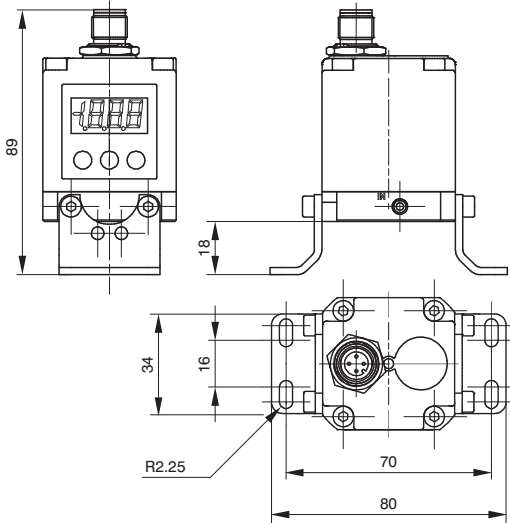


AIR SERVICE UNITS

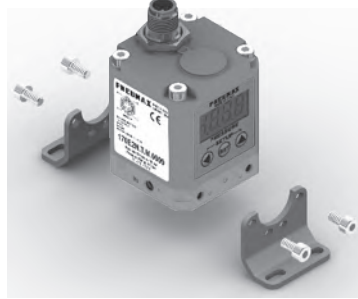
2

Mounting options ("521 M12 version" - Standard version)

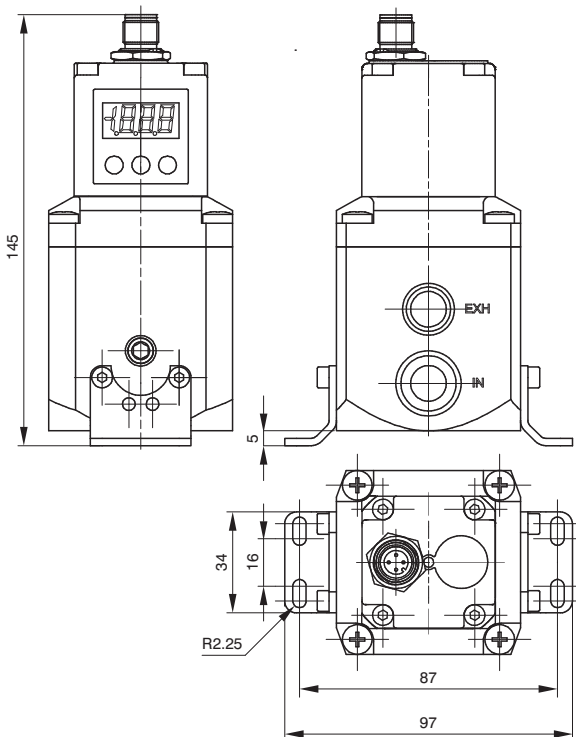
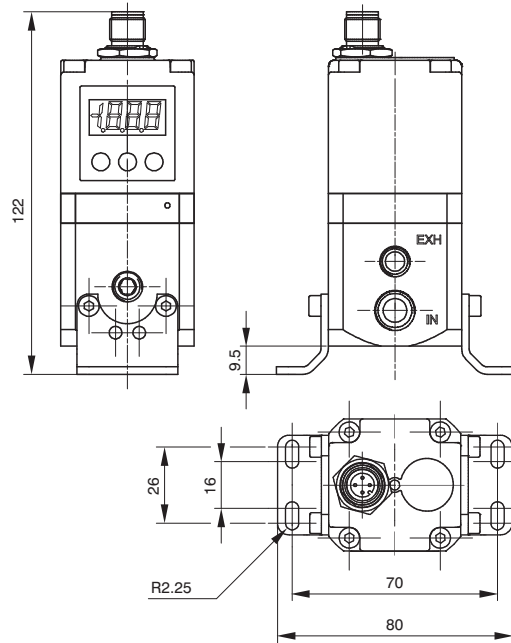
In addition to mounting directly using the M4 tapping on the body, the 170M5 bracket may also be used, as shown below:



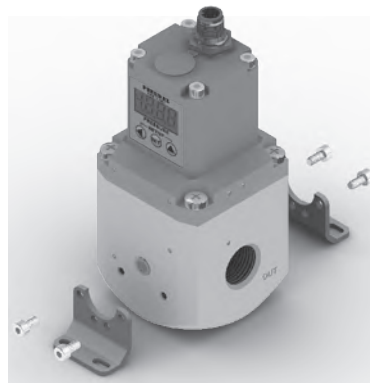
Size 0



Size 1

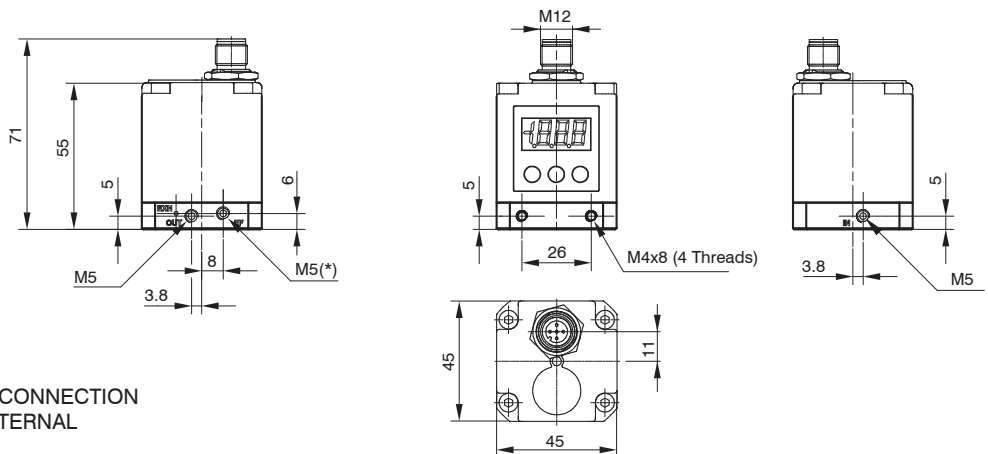


Size 3



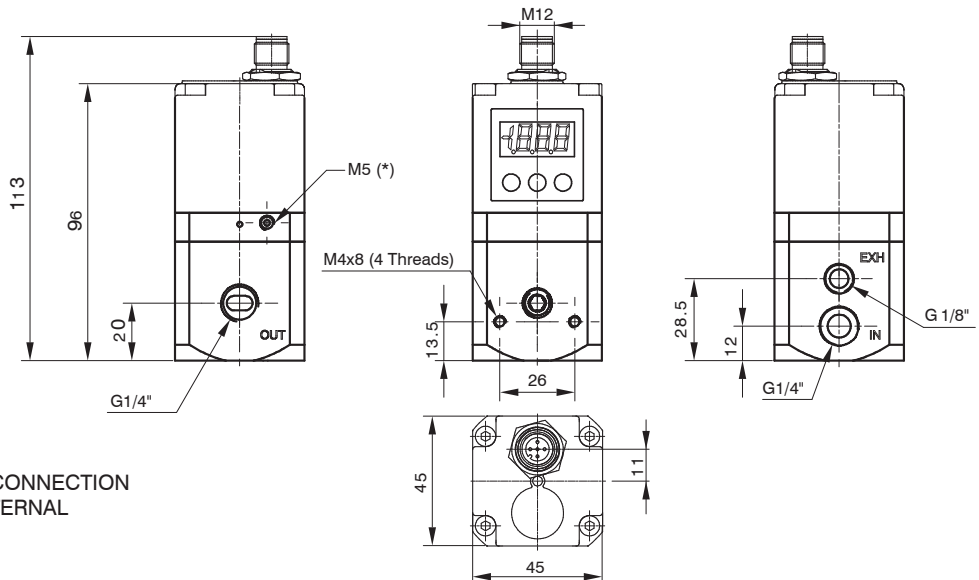
Overall dimensions ("521 IO-Link version")

Size 0



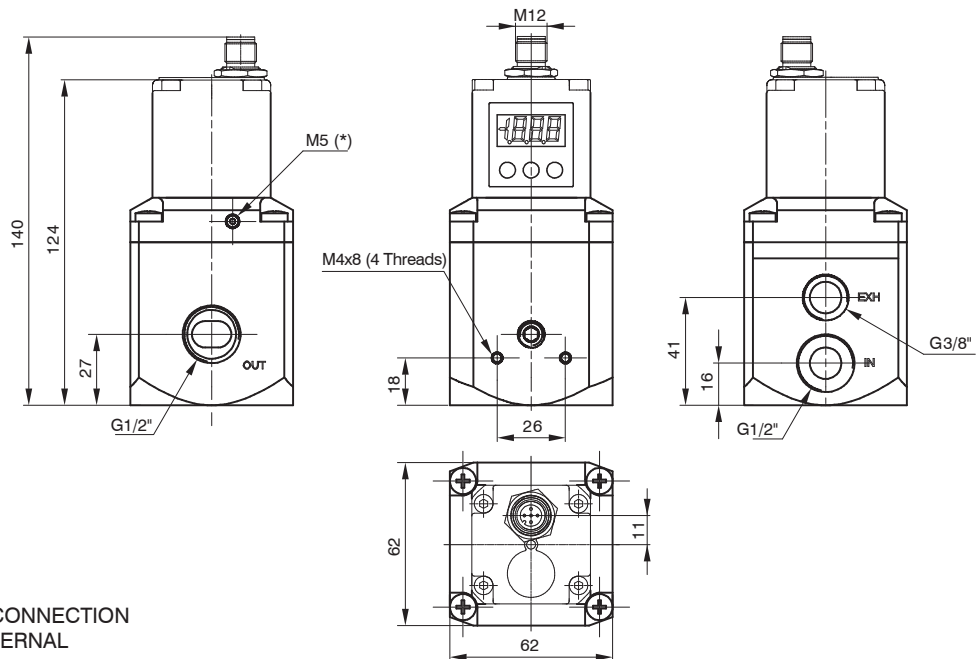
* = EXTERNAL FEEDBACK INPUT CONNECTION
(AVAILABLE ONLY ON THE EXTERNAL
FEEDBACK VERSION)

Size 1



* = EXTERNAL FEEDBACK INPUT CONNECTION
(AVAILABLE ONLY ON THE EXTERNAL
FEEDBACK VERSION)

Size 3

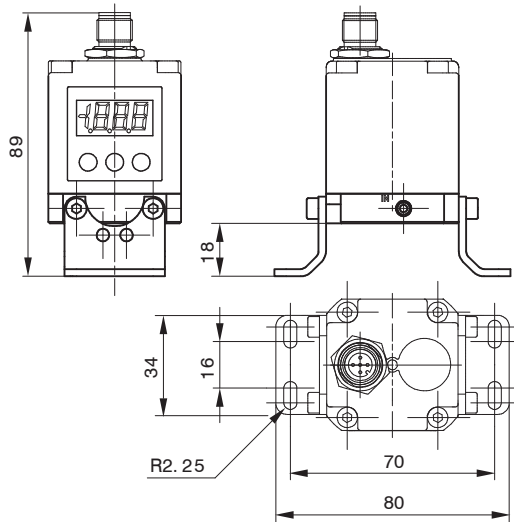


* = EXTERNAL FEEDBACK INPUT CONNECTION
(AVAILABLE ONLY ON THE EXTERNAL
FEEDBACK VERSION)

2 AIR SERVICE UNITS

Mounting options ("521 IO-Link version")

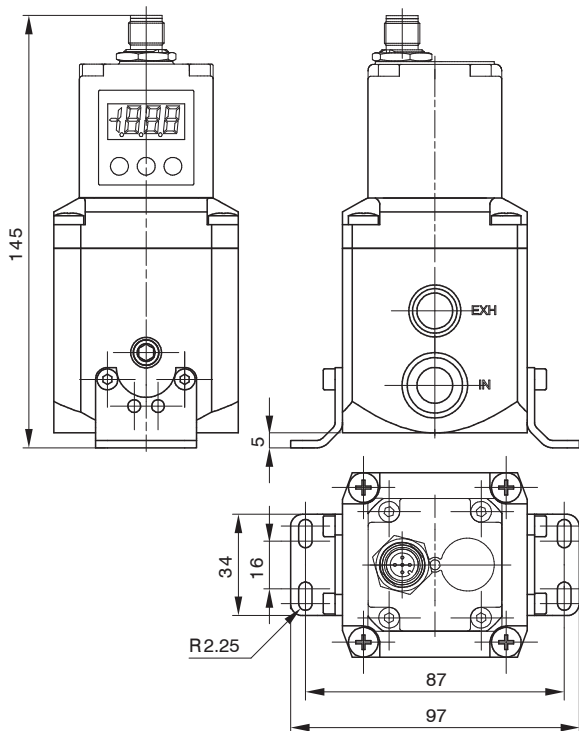
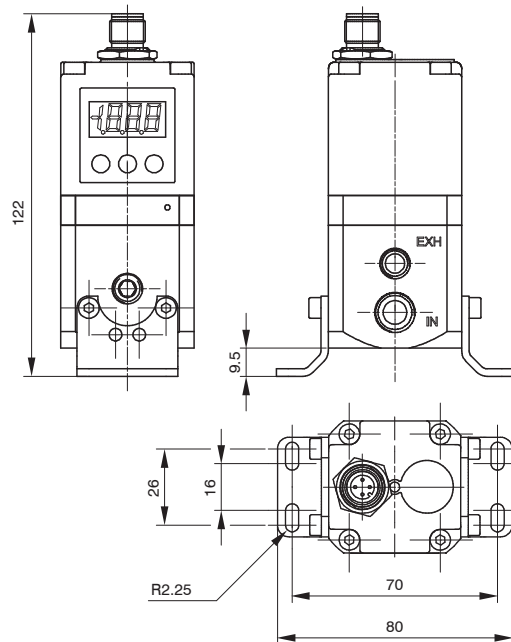
In addition to mounting directly using the M4 tappings on the body, the 170M5 bracket may also be used, as shown below.



Size 0



Size 1



Size 3



Installation/Operation

PNEUMATIC CONNECTION



The compressed air is connected by means of M5 threaded holes (for size 0 regulators), G 1/4" threaded holes (for size 1 regulators) and G 1/2" threaded holes (for size 3 regulators) on the body.
 Before making the connections, eliminate any impurities in the connecting pipes to prevent chippings or dust entering the unit. Do not supply the circuit with more than 10 bar pressure and make sure that the compressed air is dried (excessive condensate could cause the appliance to malfunction) and filtered at 5 micron. The supply pressure to the regulator must always be at least 1 bar greater than the desired outlet pressure.
 If a silencer is applied to the discharge path the unit response time may change; periodically check that the silencer is not blocked and replace it if necessary.

ELECTRICAL CONNECTION



For the electrical connection a SUB-D 15-pole female or a M12 connector is used (accordingly to the model, to be ordered separately). Wire in accordance with the wiring diagram shown below.
Warning: INCORRECT CONNECTIONS MAY DAMAGE THE DEVICE

NOTES ON OPERATION



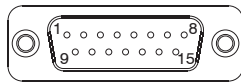
If the electric supply is interrupted, the outlet pressure is maintained at the set value. However, maintaining the exact value cannot be ensured as it is impossible to operate the solenoid valves.
 In order to discharge the circuit downstream, zero the reference, make sure that the display shows a pressure value equal to zero and then disconnect the electric power supply.
 A version of the device is available that exhausts the downstream circuit when the power supply is removed. (Option "A" at the end of the ordering code).
 If the compressed-air supply is suspended and the electric power supply is maintained a whirring will be heard that is due to the solenoid valves; an operating parameter can be activated (P18) that triggers the regulator protection whenever the requested pressure is not reached within 4 seconds of the reference signal being sent. In this case the system will intervene to interrupt the control of the solenoid valves. Every twenty seconds, the unit will start the reset procedure until standard operating conditions have been restored.

2 AIR SERVICE UNITS

"521" Standard version with D-SUB connector

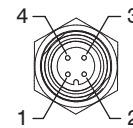


TOP VIEW OF THE REGULATOR CONNECTOR



- CONNECTOR PINOUT:
- 1 = DIGITAL INPUT 1
 - 2 = DIGITAL INPUT 2
 - 3 = DIGITAL INPUT 3
 - 4 = DIGITAL INPUT 4
 - 5 = DIGITAL INPUT 5
 - 6 = DIGITAL INPUT 6
 - 7 = DIGITAL INPUT 7
 - 8 = ANALOG INPUT / DIGITAL INPUT 8
 - 9 = SUPPLY (24 VDC)
 - 10 = DIGITAL OUTPUT (24 VDC PNP)
 - 11 = ANALOG OUTPUT (CURRENT)
 - 12 = ANALOG OUTPUT (VOLTAGE)
 - 13 = Rx RS-232
 - 14 = Tx RS-232
 - 15 = GND

"521" M12 BASIC and Standard versions



M12 4P MALE

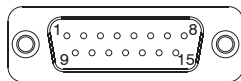
- M12 BASIC version**
 CONNECTOR PINOUT:
- 1 = POWER SUPPLY (24 VDC)
 - 2 = NC
 - 3 = GND
 - 4 = ANALOG INPUT

- M12 Standard version**
 CONNECTOR PINOUT:
- 1 = POWER SUPPLY (24 VDC)
 - 2 = ANALOG OUTPUT (depending on the model)
 - 3 = GND
 - 4 = ANALOG INPUT

"521" CANopen® version with D-SUB connector

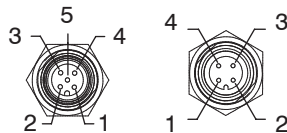


TOP VIEW OF THE REGULATOR CONNECTOR



- CONNECTOR PINOUT:
- 1 = CAN_SHIELD
 - 2 = CAN_V+
 - 3 = CAN_GND
 - 4 = CAN_H
 - 5 = CAN_L
 - 6 = NC
 - 7 = NC
 - 8 = NC
 - 9 = SUPPLY (+24 VDC)
 - 10 = CAN_SHIELD
 - 11 = CAN_V+
 - 12 = CAN_GND
 - 13 = CAN_H
 - 14 = CAN_L
 - 15 = GND

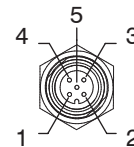
"521" CANopen® version with M12 connector



M12 5P FEMALE

M12 4P MALE

"521 IO-Link version"



M12 5P MALE

- CONNECTOR PINOUT:
- 1 = L+
 - 2 = +24 VDC (P24)
 - 3 = L-
 - 4 = C/Q
 - 5 = GND (N24)



ORDERING CODES

"521" standard version with SUB-D 15 poles



17 E2N. . D . .

VARIANT

- = Standard Version
(no additional letter required)
- E** = External pressure feedback
- A** = Exhaust downstream pressure
when power supply is removed
- AE** = A Variant + E Variant

PRESSURE RANGE :

- 0001** = Range 0 - 1 bar
- 0005** = Range 0 - 5 bar
- 0009** = Range 0 - 9 bar

MANAGEMENT :

- C** = Current signal (4-20 mA / 0-20 mA)
- T** = Voltage signal (0-10 V / 0-5 V / 1-5 V)

SIZE :

- 0** = Size 0
- 1** = Size 1
- 3** = Size 3

ORDERING CODES

"521" CANopen® version with SUB-D 15 poles



17 E2N. S . C . .

VARIANT

- = Standard Version
(no additional letter required)
- E** = External pressure feedback
- A** = Exhaust downstream pressure
when power supply is removed
- AE** = A Variant + E Variant

PRESSURE RANGE :

- 0001** = Range 0 - 1 bar
- 0005** = Range 0 - 5 bar
- 0009** = Range 0 - 9 bar

SIZE :

- 0** = Size 0
- 1** = Size 1
- 3** = Size 3

Accessories

Model with SUB-D 15 poles connector	
	5300.F15.00.00 : Straight connector + Casing IP65
	5300.F15.00.03 : Straight connector + Cable 3 meters
	5300.F15.00.05 : Straight connector + Cable 5 meters
	5300.F15.90.00 : 90° connector + Casing IP65
	5300.F15.90.03 : 90° connector + Cable 3 meters
	5300.F15.90.05 : 90° connector + Cable 5 meters

* Whitout cable

Fixing bracket
170M5

ORDERING CODES

"521 M12 version" - CANopen® version



17 E2N. M . C

SIZE :
0 = Size 0
1 = Size 1
3 = Size 3


VARIANT
= Standard Version
(no additional letter required)
E = External pressure feedback
A = Exhaust downstream pressure
when power supply is removed
AE = A Variant + E Variant

PRESSURE RANGE :
0001 = Range 0 - 1 bar
0005 = Range 0 - 5 bar
0009 = Range 0 - 9 bar

Note:
This model doesn't include
the terminating resistor

Accessories

Model with M12 connector
POWER SUPPLY connector
Female straight connector M12A 4P
5312A.F04.00


Model with M12 connector
NETWORK connector
Male straight connector M12A 5P
5312A.M05.00


Fixing bracket
170M5


ORDERING CODES

"521 M12 BASIC version"



17 E2N. . M

SIZE :
0 = Size 0
1 = Size 1
3 = Size 3

VARIANT
= Standard Version
(no additional letter required)
E = External pressure feedback
A = Exhaust downstream pressure
when power supply is removed
AE = A Variant + E Variant

PRESSURE RANGE :
0001 = Range 0 - 1 bar
0005 = Range 0 - 5 bar
0009 = Range 0 - 9 bar

MANAGEMENT :
C = Current signal (4-20 mA)
T = Voltage signal (0-10 V)

Note:
This model doesn't include display a keyboard.
Therefore it is not possible to set the parameters.
Unless specifically requested it is provided with
all parameters set with default values.
Personalisations are available.

Accessories

Model with M12 connector
POWER SUPPLY connector
Female straight connector M12A 4P
5312A.F04.00

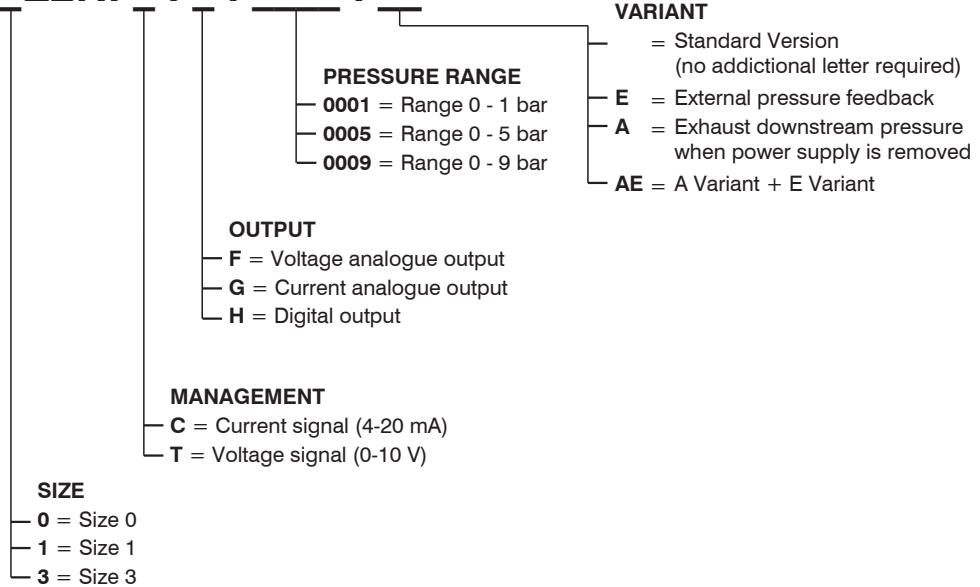

Fixing bracket
170M5


ORDERING CODES

"521 M12 version" - Standard version



17 E2N.



Accessories

Model with M12 connector
POWER SUPPLY connector
Female straight connector M12A 4P
5312A.F04.00

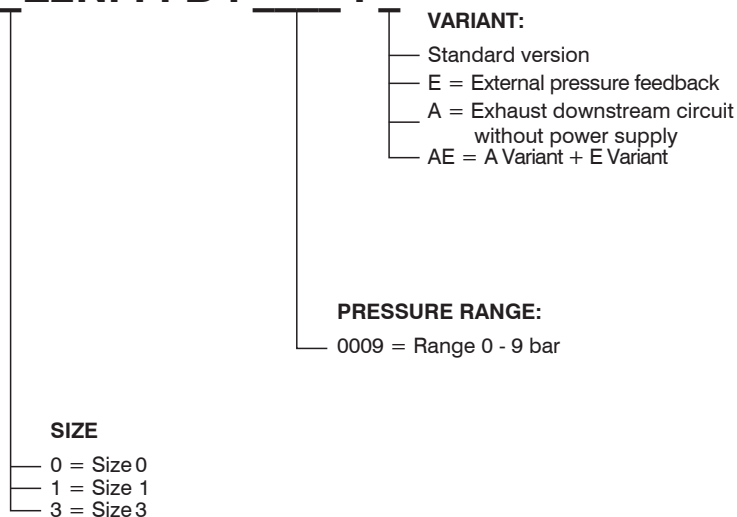

Fixing bracket
170M5


ORDERING CODES

"521 IO-Link version"



17 E2N. I . B.



Accessories

Model with M12 connector
POWER SUPPLY connector
Female straight connector M12A 5P
5312A.F05.00


Fixing bracket
170M5




Series 1700 - Miniaturized proportional pressure regulator

General

Modern industrial applications constantly require more sophisticated and better performing pneumatic components. Flexibility and adaptability are key factor when designing a machine. The possibility to change the application parameter during operation such as for example the speed of a cylinder or the force generated by a rotary actuator are beneficial to the designer.

In the past it was necessary to design complicated pneumatic circuits based on pneumatic logic elements which required a lot of space and complicated set up, today, thanks to the electronic proportional regulators such operations are extremely easy to achieve and offer even more flexibility.

Pneumax miniaturized proportional regulators series integrates all the main features of the 521 series with the exclusion of the display and analogue/digital output.

High precision in pressure regulation, fast response speed, assembling options and reduced dimensions are the main advantages.

2

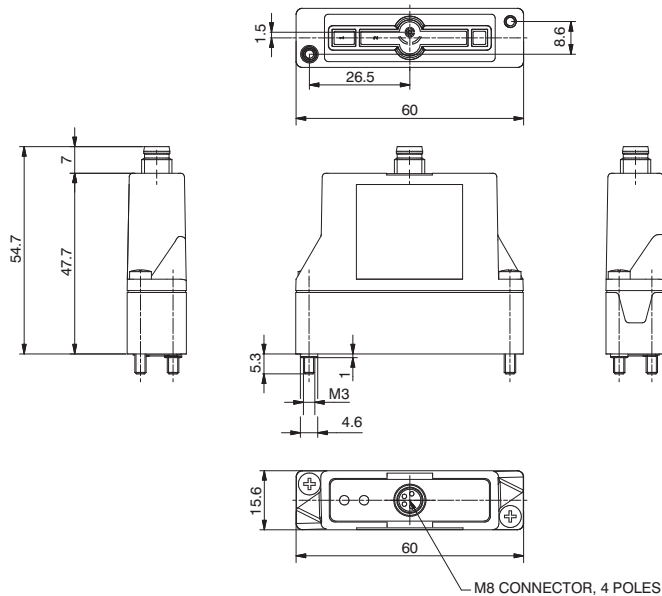
AIR SERVICE UNITS

Features

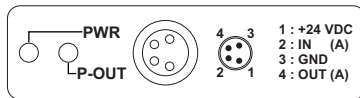
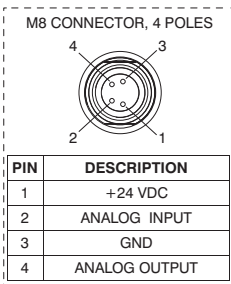
Pneumatic	Fluid	Air filtered at 5 micron and dehumidified		
	Minimum inlet pressure	Desired outlet pressure + 1 bar		
	Maximum inlet pressure	10 bar		
	Outlet pressure	Ordering code	009	
		Pressure value	0 - 9 bar	
	Nominal flowrate from 1 to 2 (6 bar Δp 1 bar)	7 NI /min		
	Discharge flowrate (at 6 bar with 1 bar overpressure)	7 NI /min		
	Air consumption	M5 / Ø4		
	Operating connection	M5 / Ø4		
	Exhaust connection	M5 / Ø4		
Maximum fitting tightening	3 Nm			
Electric	Supply voltage	24VDC \pm 10% (stabilised with ripple <1%)		
	Standby current consumption	55 mA		
	Current consumption with solenoid valves on	145 mA		
	Reference signal	Voltage*	0 - 10 V	
		Current*	4 - 20 mA	
	Input impedance	Voltage	10 K Ω	
		Current	250 Ω	
Analog outputs voltage	0,2 - 10 V (10 V to 9 bar)			
Connector	M8 4 poles			
Functional	Linearity	< \pm 0,3 % F.S.		
	Hysteresis	<0,3 % F.S.		
	Repeatability	< \pm 0,5 % F.S.		
	Sensitivity	< \pm 0,5 % F.S.		
	Assembly position	Indifferent		
	Protection grade	IP65 (with casing fitted)		
	Ambient temperature	-5° - 50°C / 23° - 122°F		
Constructional	Body	Technopolymer		
	Seals	NBR		
	Cover for electrical part	Technopolymer		
	Weight	60 g		

* Request during ordering process

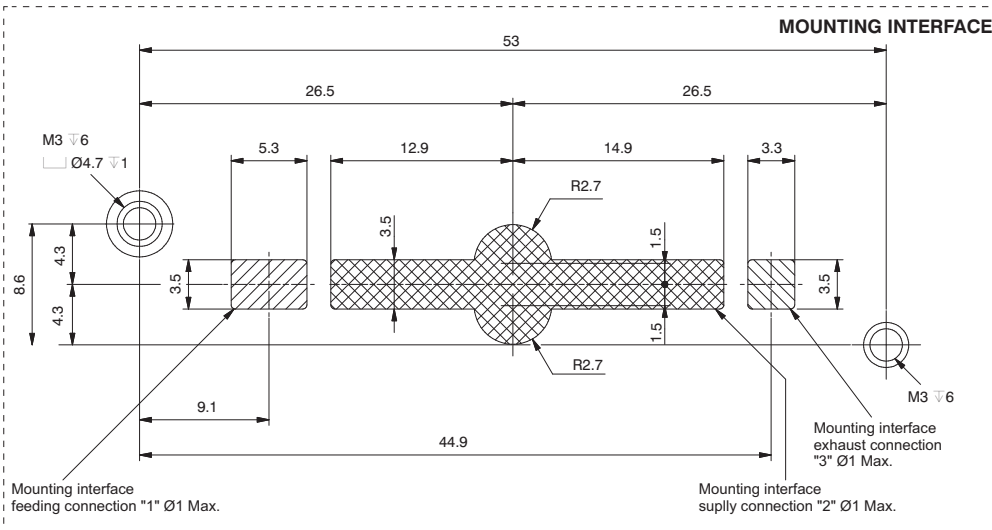
Proportional pressure regulator

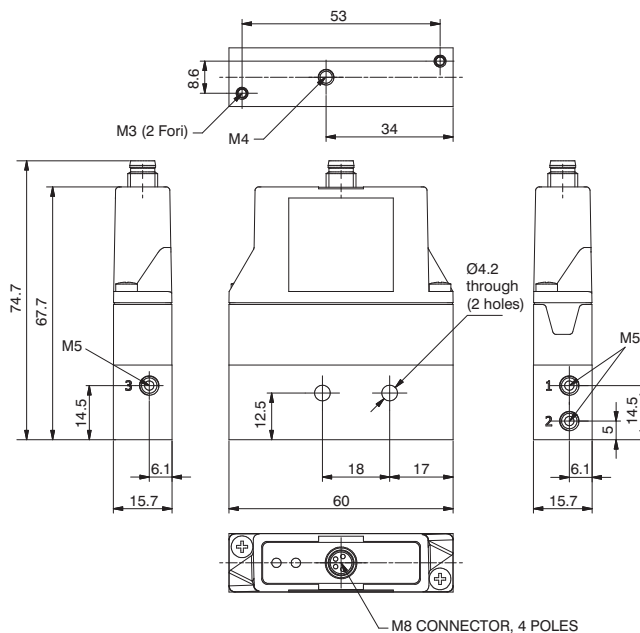


Ordering code	
170EPM.V.M.ⓐ	
PROTECTION	
P	0 = Parameter 18 active 2 = Parameter 18 not active
VERSION	
V	T = Voltage signal C = Current signal
PRESSURE RANGE	
G	001= Range 0 - 1 bar 005= Range 0 - 5 bar 009= Range 0 - 9 bar



PWR	Green Led: The regulator is properly powered
P-OUT	Green Led: lights up when the outlet pressure is higher than the desired pressure minus 0.2 bar and less than the desired pressure more 0.2 bar



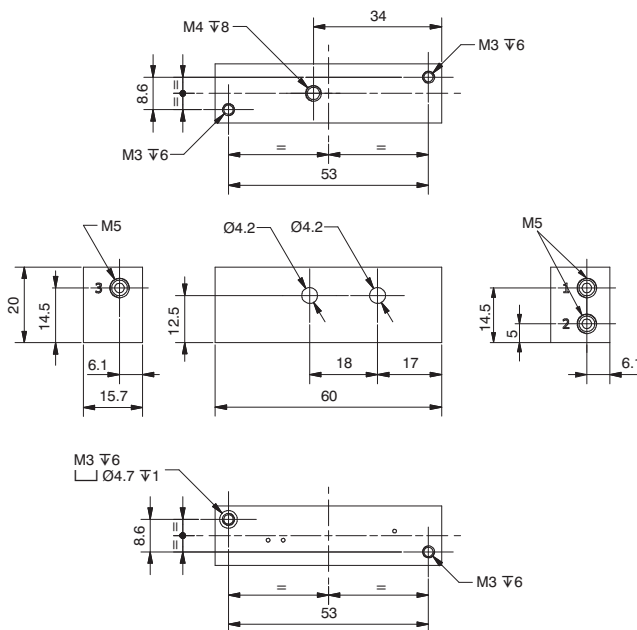


Ordering code	
170EPM.V.M.G.FO	
PROTECTION	
P	0 = Parameter 18 active
	2 = Parameter 18 not active
VERSION	
V	T = Voltage signal
	C = Current signal
PRESSURE RANGE	
G	001= Range 0 - 1 bar
	005= Range 0 - 5 bar
	009= Range 0 - 9 bar

Weight: 110 g

2 AIR SERVICE UNITS

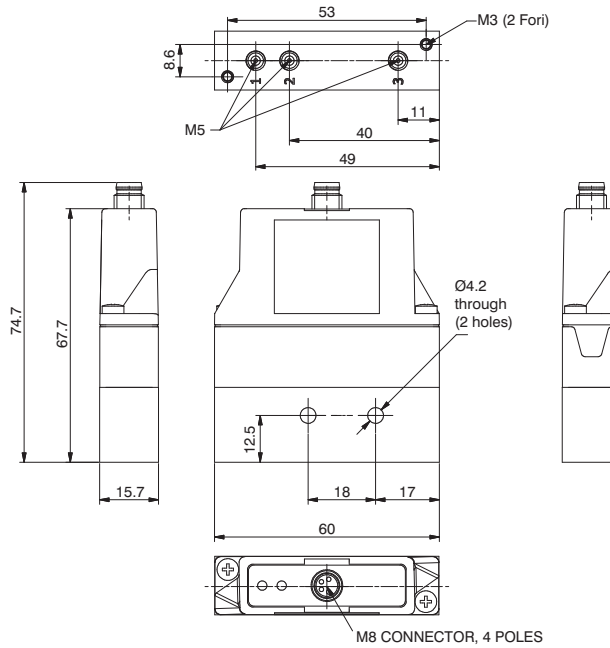
M5 In-Line Single Base



Ordering code	
170M1.FO	

Weight: 50 g

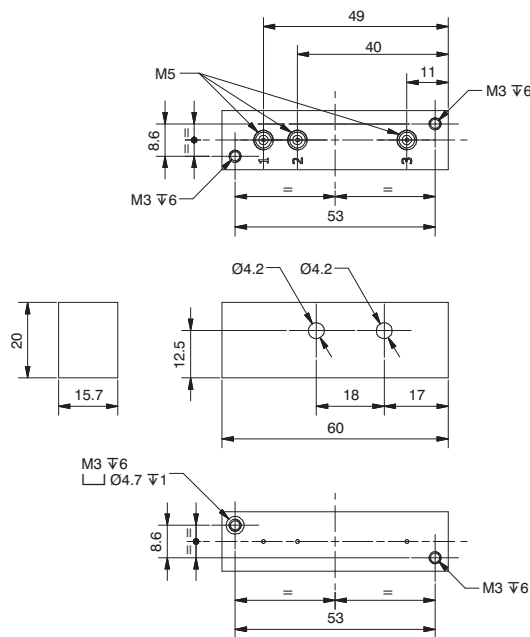
► Proportional Pressure Regulator c/w M5 Bottom Entry Base



Ordering code	
170E^PM.V.M.G.FV	
PROTECTION	
P	0 = Parameter 18 active
	2 = Parameter 18 not active
VERSION	
V	T = Voltage signal
	C = Current signal
PRESSURE RANGE	
G	001 = Range 0 - 1 bar
	005 = Range 0 - 5 bar
	009 = Range 0 - 9 bar

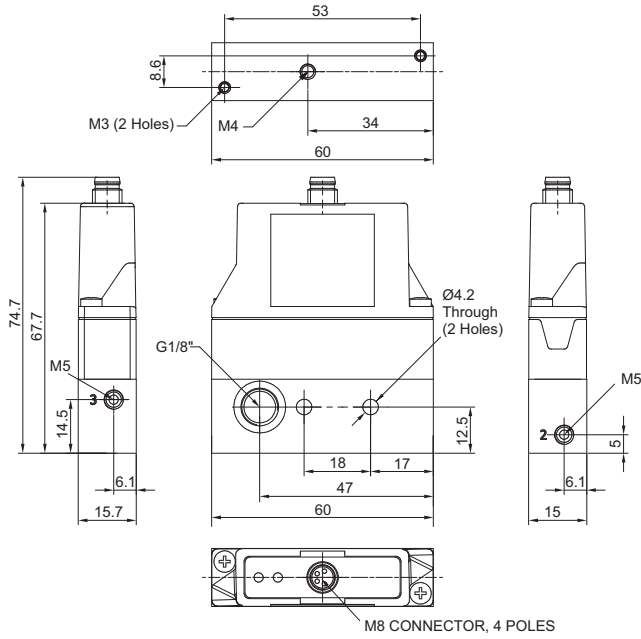
Weight: 110 g

► M5 Bottom Entry Single Base



Ordering code	
170M1.FV	

Weight: 50 g

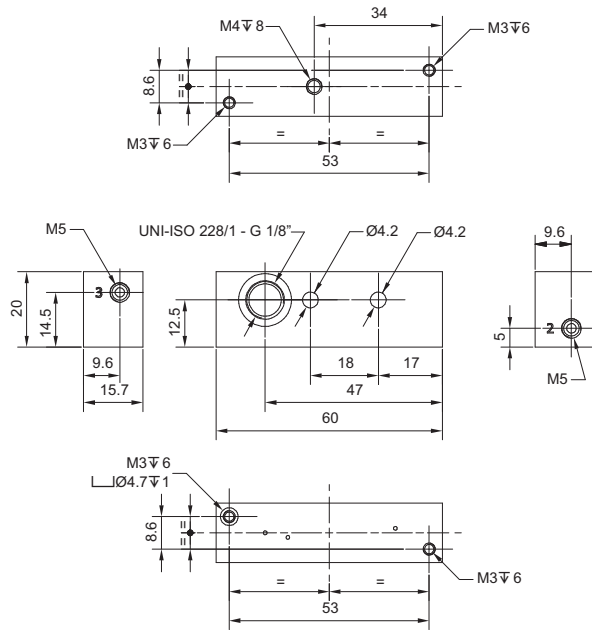


Ordering code	
170EPM.V.M.G.FP	
PROTECTION	
P	0 = Parameter 18 active
	2 = Parameter 18 not active
VERSION	
V	T = Voltage signal
	C = Current signal
PRESSURE RANGE	
G	001 = Range 0 - 1 bar
	005 = Range 0 - 5 bar
	009 = Range 0 - 9 bar

Weight: 110 g

2 AIR SERVICE UNITS

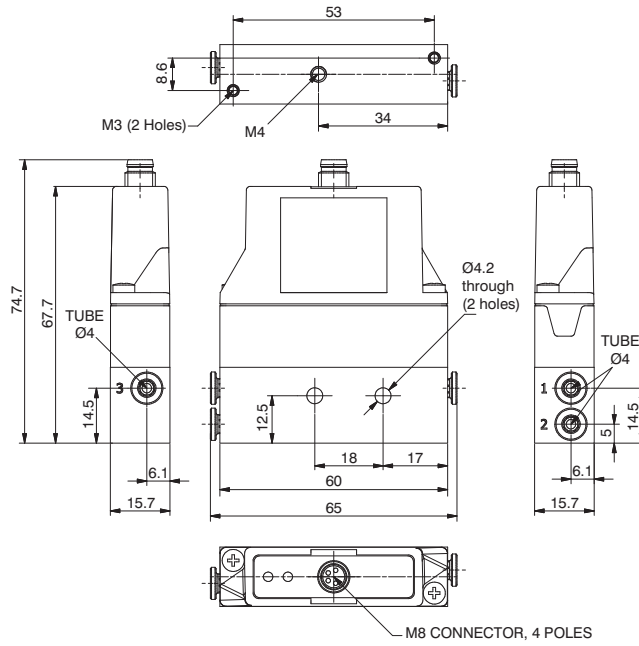
Single Modular In-Line Base



Ordering code	
170M1.FP	

Weight: 50 g

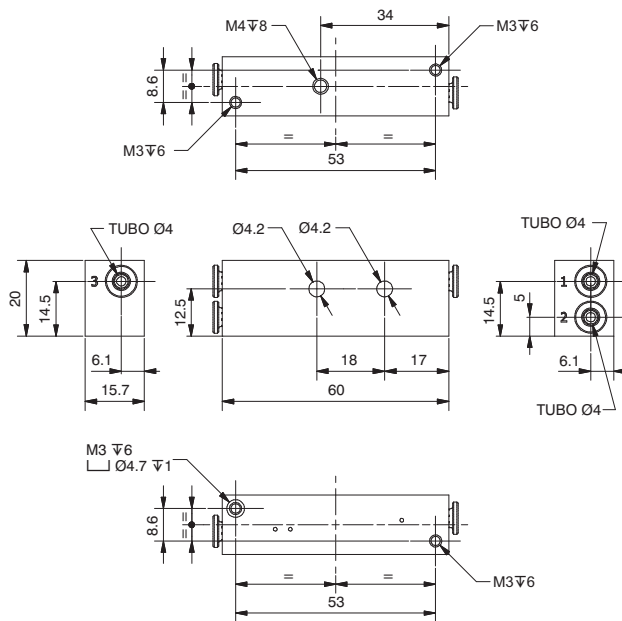
Proportional Pressure Regulator c/w 4mm In-Line Single base



Ordering code	
170E M.V.M.G.TO	
PROTECTION	
P	0 = Parameter 18 active
	2 = Parameter 18 not active
VERSION	
V	T = Voltage signal
	C = Current signal
PRESSURE RANGE	
G	001 = Range 0 - 1 bar
	005 = Range 0 - 5 bar
	009 = Range 0 - 9 bar

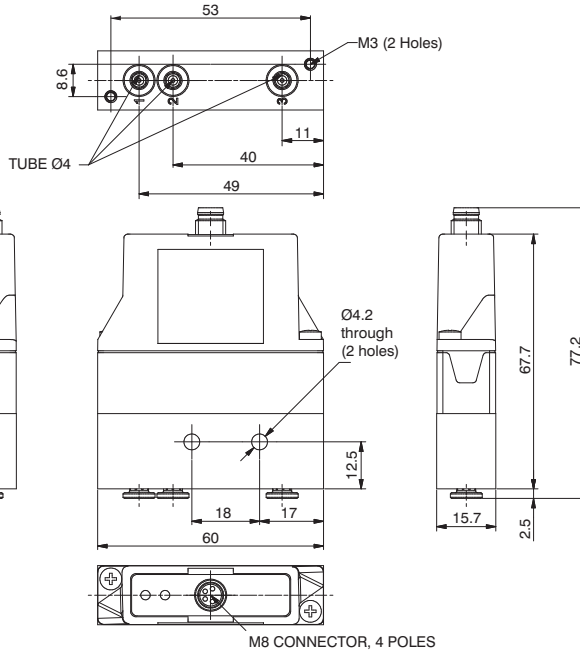
Weight: 110 g

Single 4mm In-Line Base



Ordering code	
170M1.TO	

Weight: 50 g

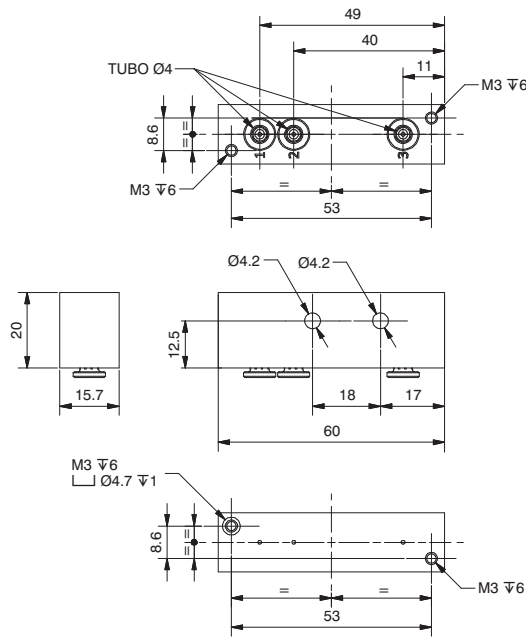


Weight: 110 g

Ordering code	
170EPM.V.M.⊙.TV	
PROTECTION	
P	0 = Parameter 18 active
	2 = Parameter 18 not active
VERSION	
V	T = Voltage signal
	C = Current signal
PRESSURE RANGE	
G	001 = Range 0 - 1 bar
	005 = Range 0 - 5 bar
	009 = Range 0 - 9 bar

2 AIR SERVICE UNITS

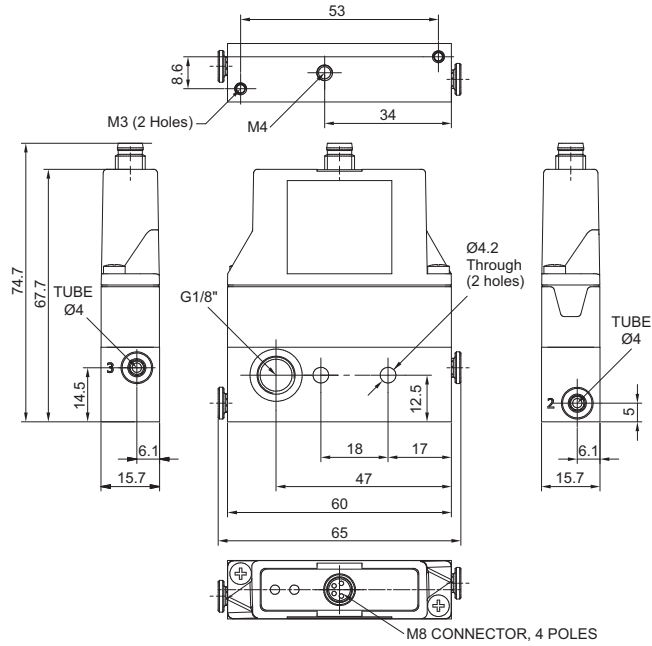
Single 4mm Bottom Entry Base



Weight: 50 g

Ordering code	
170M1.TV	

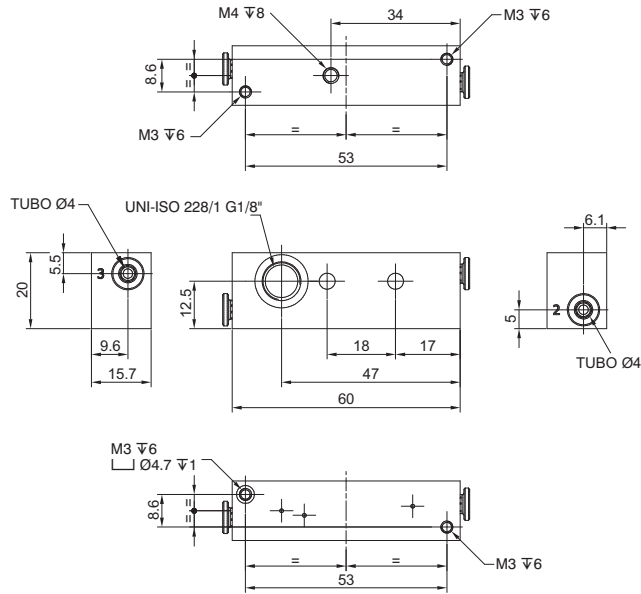
Proportional Pressure Regulator c/w 4mm In-Line Modular Base



Ordering code	
170EPM.V.M.C.TP	
PROTECTION	
P	0 = Parameter 18 active
	2 = Parameter 18 not active
VERSION	
V	T = Voltage signal
	C = Current signal
PRESSURE RANGE	
C	001 = Range 0 - 1 bar
	005 = Range 0 - 5 bar
	009 = Range 0 - 9 bar

Weight: 110 g

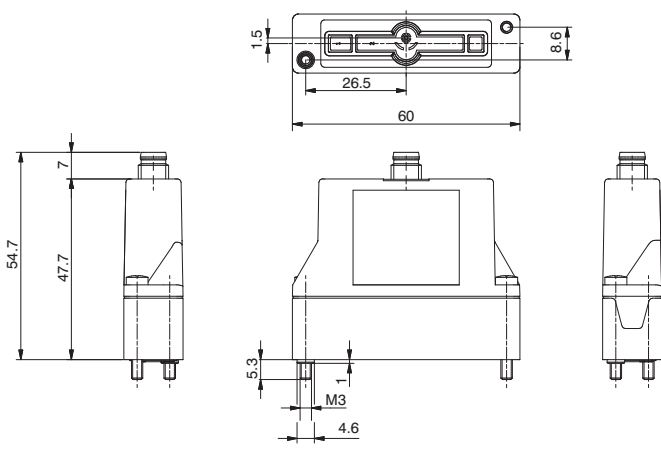
Single 4mm In-Line Modular Base



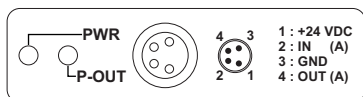
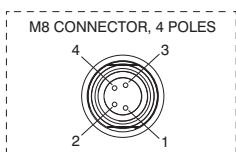
Ordering code	
170M1.TP	

Weight: 50 g

Proportional pressure regulator with external feedback

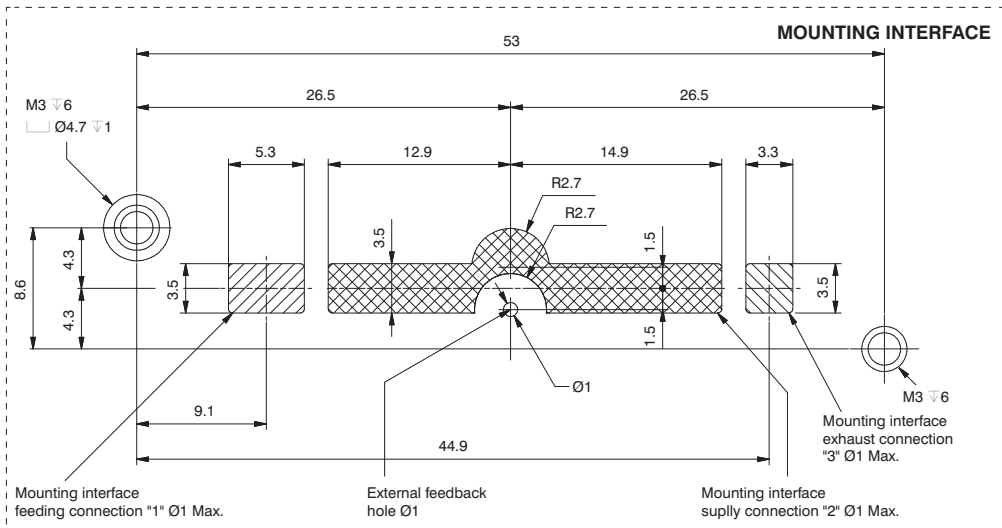


Ordering code	
170E P M V M G E	
PROTECTION	
P	0 = Parameter 18 active
	2 = Parameter 18 not active
VERSION	
V	T = Voltage signal
	C = Current signal
PRESSURE RANGE	
G	001 = Range 0 - 1 bar
	005 = Range 0 - 5 bar
	009 = Range 0 - 9 bar

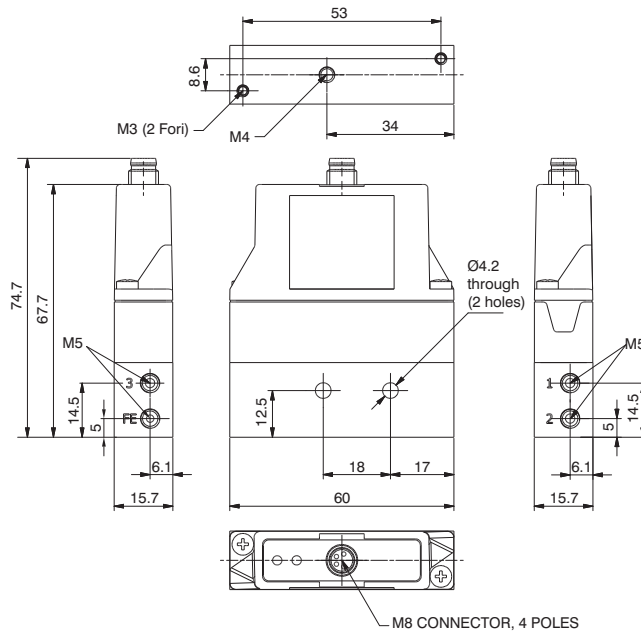


PIN	DESCRIPTION
1	+24 VDC
2	ANALOG INPUT
3	GND
4	ANALOG OUTPUT

PWR	Green Led: The regulator is properly powered
P-OUT	Green Led: lights up when the outlet pressure is higher than the desired pressure minus 0.2 bar and less than the desired pressure more 0.2 bar



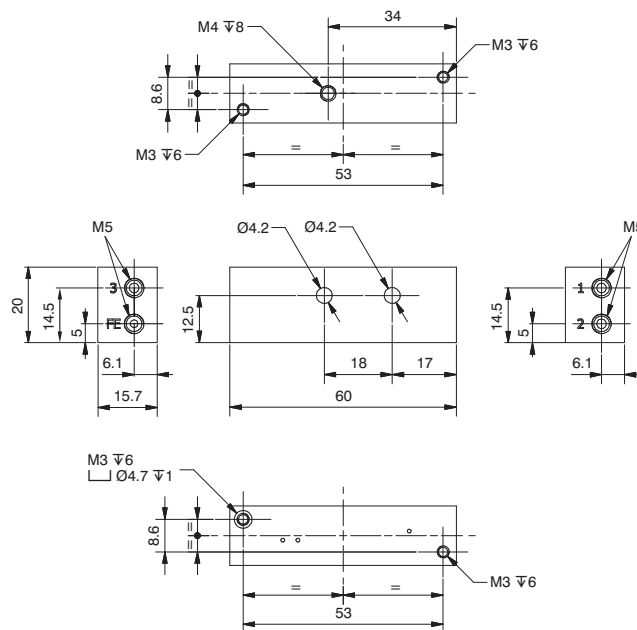
► Proportional Pressure Regulator c/w M5 In-Line Single Base with External Feedback



Ordering code	
170EPM.V.M.⊙.EFO	
PROTECTION	
P	0 = Parameter 18 active
	2 = Parameter 18 not active
VERSION	
V	T = Voltage signal
	C = Current signal
PRESSURE RANGE	
⊙	001 = Range 0 - 1 bar
	005 = Range 0 - 5 bar
	009 = Range 0 - 9 bar

Weight: 110 g

► Single M5 In-Line Base with External Feedback

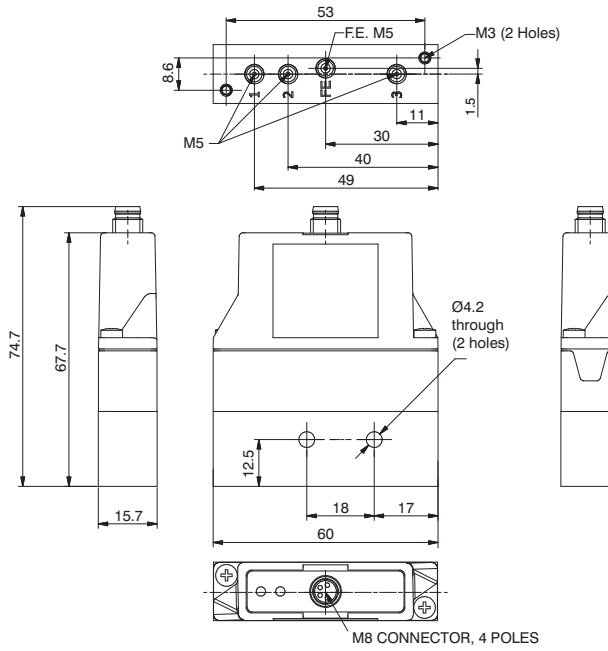


Ordering code	
170M1.EFO	

Weight: 50 g



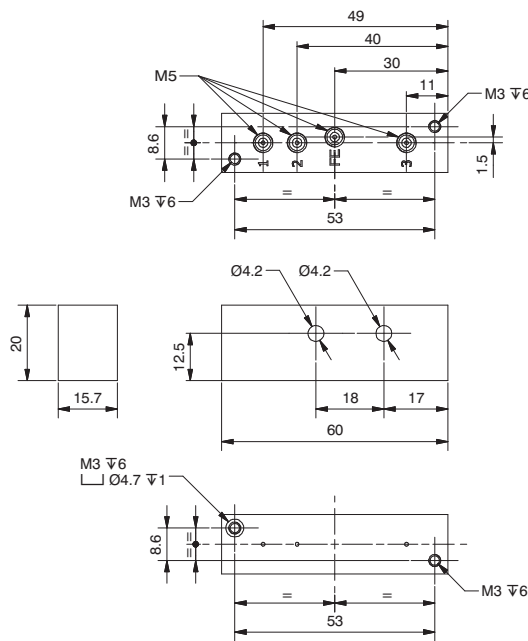
Proportional Pressure Regulator c/w M5 Bottom Entry Base with External Feedback



Ordering code	
170EPM.V.M.G.EFV	
PROTECTION	
P	0 = Parameter 18 active
	2 = Parameter 18 not active
VERSION	
V	T = Voltage signal
	C = Current signal
PRESSURE RANGE	
G	001 = Range 0 - 1 bar
	005 = Range 0 - 5 bar
	009 = Range 0 - 9 bar

Weight: 110 g

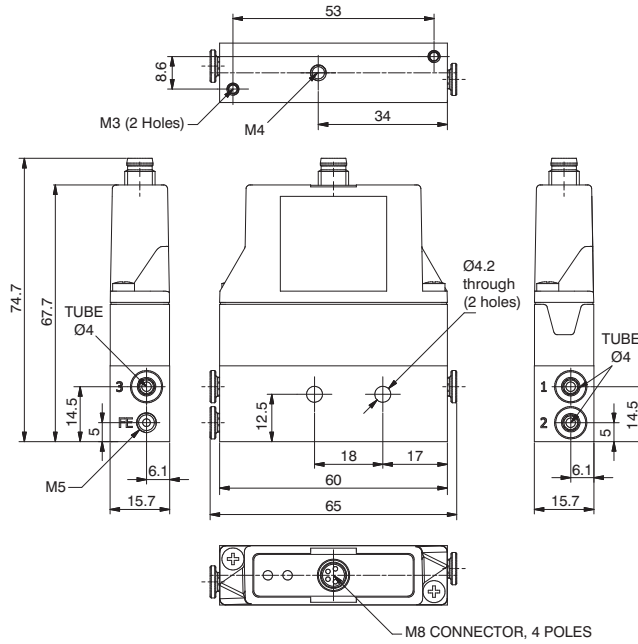
Single M5 Bottom Entry Base with External Feedback



Ordering code	
170M1.EFV	

Weight: 50 g

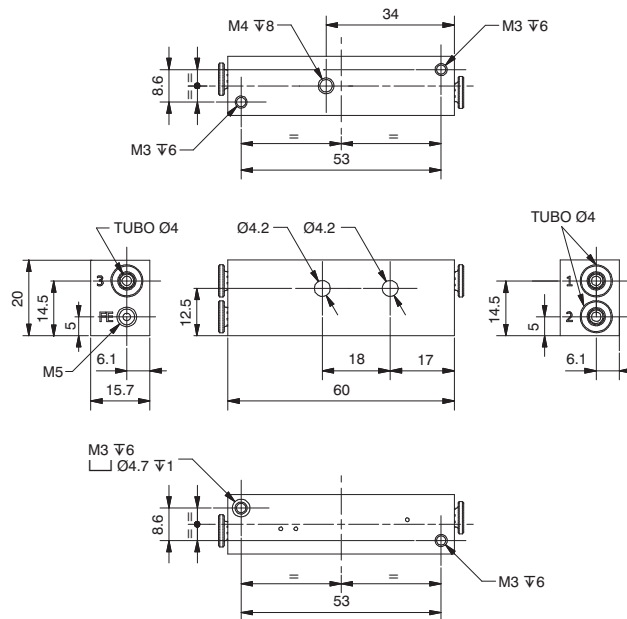
Proportional Pressure Regulator c/w 4mm In-Line Single Base with External Feedback



Ordering code	
170EPM.V.M.⊙.ETO	
PROTECTION	
P	0 = Parameter 18 active
	2 = Parameter 18 not active
VERSION	
V	T = Voltage signal
	C = Current signal
PRESSURE RANGE	
⊙	001 = Range 0 - 1 bar
	005 = Range 0 - 5 bar
	009 = Range 0 - 9 bar

Weight: 110 g

Single 4mm In-Line Base with External Feedback

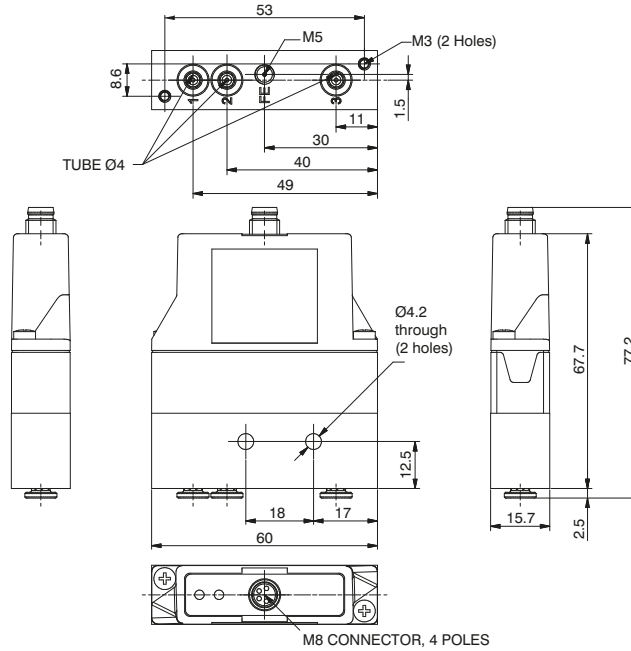


Ordering code	
170M1.ETO	

Weight: 50 g



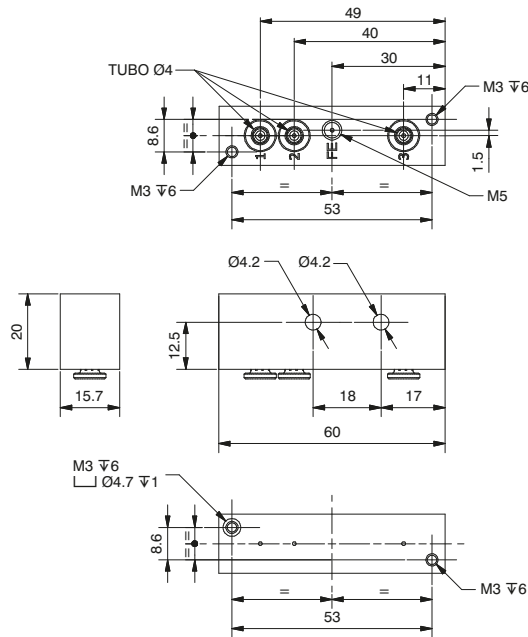
Proportional Pressure Regulator c/w 4mm Bottom Entry Single Base with External Feedback



Weight: 110 g

Ordering code	
170EPM.V.M.G.ETV	
PROTECTION	
P	0 = Parameter 18 active
	2 = Parameter 18 not active
VERSION	
V	T = Voltage signal
	C = Current signal
PRESSURE RANGE	
G	001 = Range 0 - 1 bar
	005 = Range 0 - 5 bar
	009 = Range 0 - 9 bar

Single 4mm Bottom Entry Base with External Feedback



Weight: 50 g

Ordering code	
170M1.ETV	

Coding For Proportional Pressure Regulator Modular Manifold

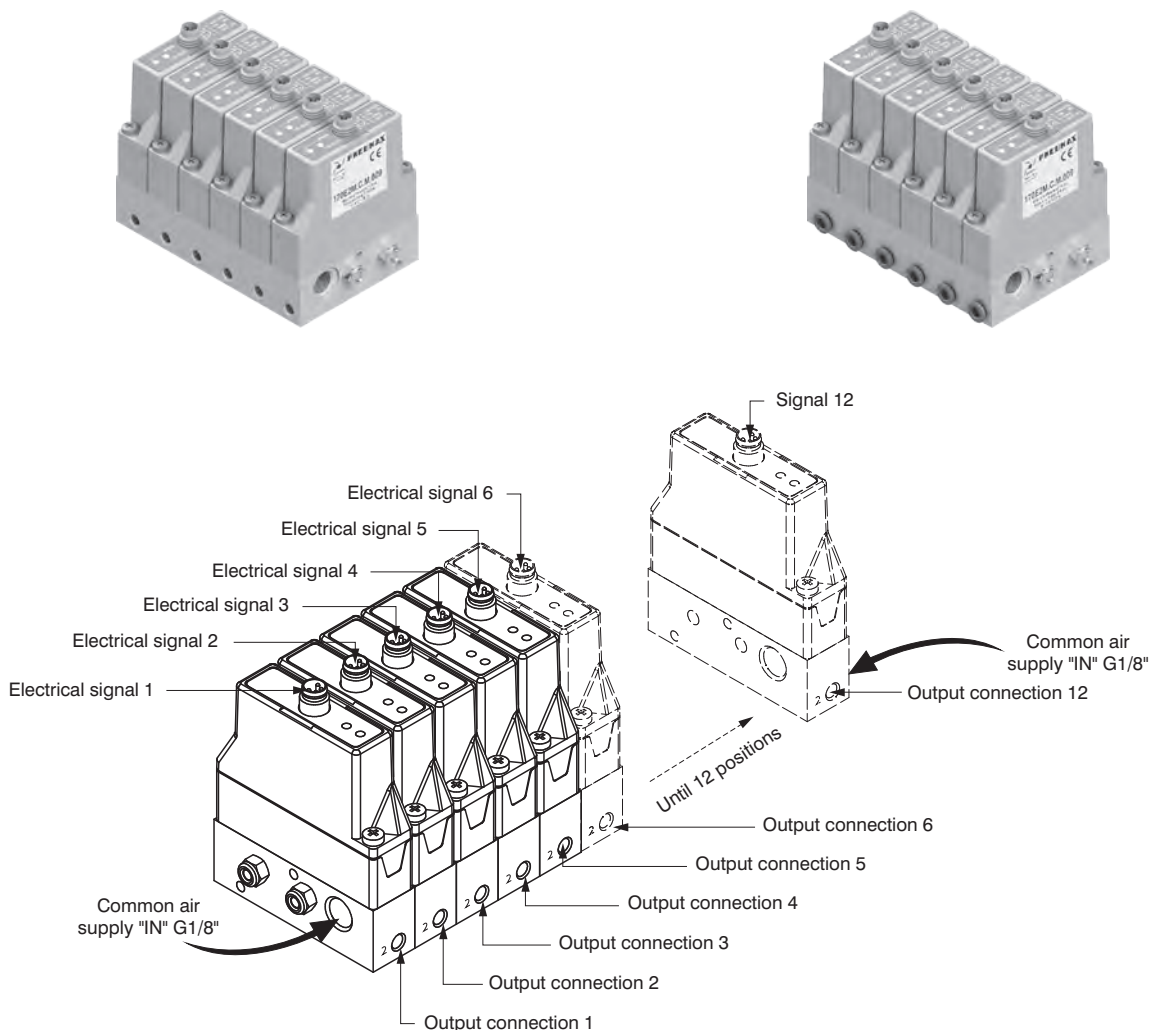
It is possible to assemble a manifold of Miniature Proportional Regulators to a maximum of 12 Regulators.
For the coding of the Manifold, refer to the configuration Table below.

The Regulators are fed by a single supply pressure via the G1/8" connection. In the Manifold, the Pressure Regulators operate independently, the output pressure is supplied via the M5 or 4mm output connection depending on the model requested. The electrical signal is controlled via the M8 connector.

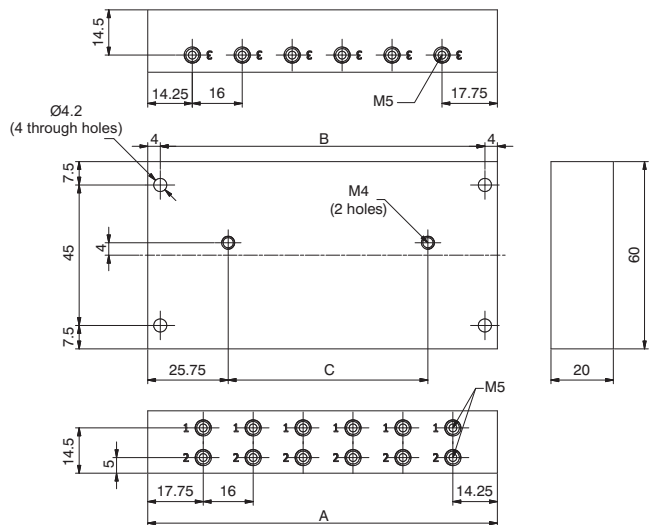
There are also configured single bases up to a maximum of 12 positions with power supplies and independent consumptions (See following pages).

Group	Series	Size	Parameter 18	N. Places	Control Type	Electrical connection	Pressure range	Connection	Version	Options
G	170	-	-	-	-	M	- - -	-	P	-
			0=Eco P18 On	A=02	T=Voltage		001=0 - 1 bar	T=Tube Ø4		= Standard *
			2=Eco P18 Off	B=03	C=Current		005=0 - 5 bar	F=M5 Thread		E= External feedback
				C=04			009=0 - 9 bar			* no additional letter required
				D=05						
				E=06						
				F=07						
				G=08						
				H=09						
				I=10						
				L=11						
				M=12						

Example	
Code	G1700ITM009FP
Description	10 Position Miniature Proportional Pressure Regulator, Voltage controlled with M5 Outputs



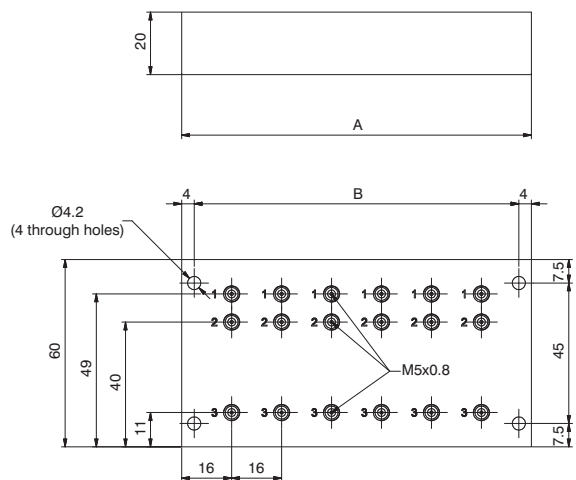
Multiple M5 In-Line Base



DIMEN.	N° PLACES									
	2 PLA.	3 PLA.	4 PLA.	5 PLA.	6 PLA.	7 PLA.	8 PLA.	9 PLA.	10 PLA.	
A	48	64	80	96	112	128	144	160	176	
B	40	56	72	88	104	120	136	152	168	
C	0	16	32	48	64	80	96	112	128	

Ordering code	
170M\emptyset.FO	
N. PLACES	
2=	2 places (weight gr.100)
3=	3 places (weight gr.150)
4=	4 places (weight gr.200)
5=	5 places (weight gr.250)
6=	6 places (weight gr.300)
7=	7 places (weight gr.350)
8=	8 places (weight gr.400)
9=	9 places (weight gr.450)
10=	10 places (weight gr. 500)

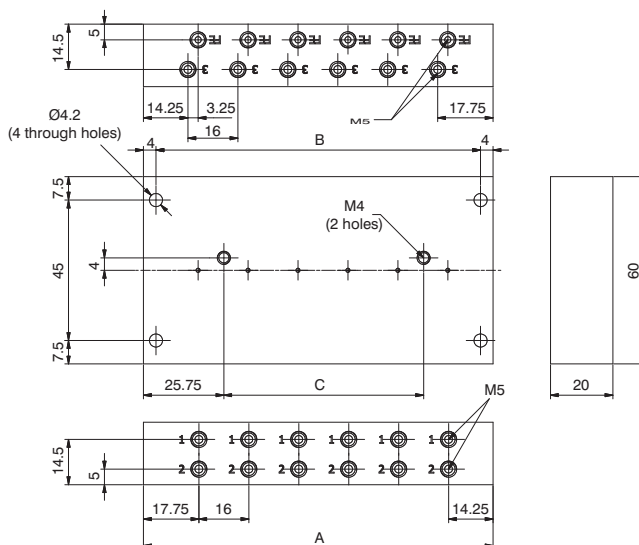
Multiple M5 Bottom Entry Base



DIMEN.	N° PLACES									
	2 PLA.	3 PLA.	4 PLA.	5 PLA.	6 PLA.	7 PLA.	8 PLA.	9 PLA.	10 PLA.	
A	48	64	80	96	112	128	144	160	176	
B	40	56	72	88	104	120	136	152	168	

Ordering code	
170M\emptyset.FV	
N. PLACES	
2=	2 places (weight gr.100)
3=	3 places (weight gr.150)
4=	4 places (weight gr.200)
5=	5 places (weight gr.250)
6=	6 places (weight gr.300)
7=	7 places (weight gr.350)
8=	8 places (weight gr.400)
9=	9 places (weight gr.450)
10=	10 places (weight gr. 500)

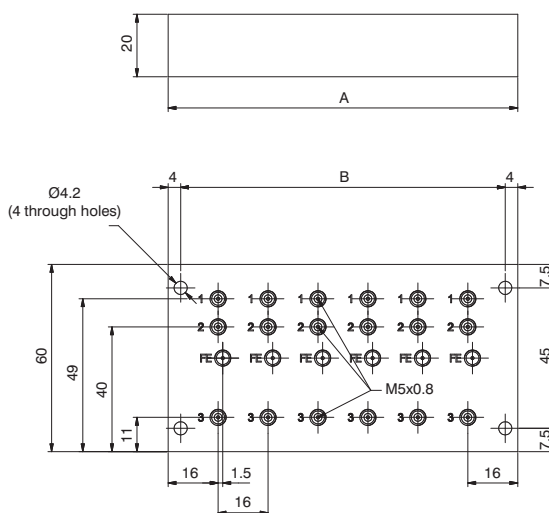
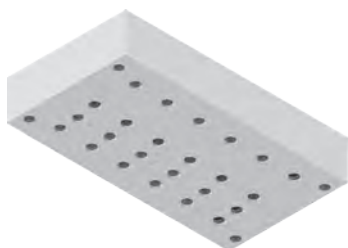
Multiple M5 In-Line Base with External Feedback



DIMEN.	N° PLACES									
	2 PLA.	3 PLA.	4 PLA.	5 PLA.	6 PLA.	7 PLA.	8 PLA.	9 PLA.	10 PLA.	
A	48	64	80	96	112	128	144	160	176	
B	40	56	72	88	104	120	136	152	168	
C	0	16	32	48	64	80	96	112	128	

Ordering code	
170M\varnothing.EFO	
N. PLACES	
2=2 places (weight gr.100)	
3=3 places (weight gr.150)	
4=4 places (weight gr.200)	
5=5 places (weight gr.250)	
6=6 places (weight gr.300)	
7=7 places (weight gr.350)	
8=8 places (weight gr.400)	
9=9 places (weight gr.450)	
10=10 places (weight gr. 500)	

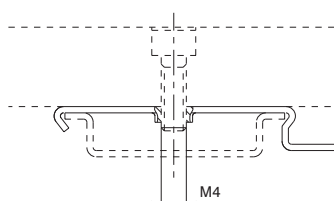
Multiple M5 Bottom Entry Base with External Feedback



DIMEN.	N° PLACES									
	2 PLA.	3 PLA.	4 PLA.	5 PLA.	6 PLA.	7 PLA.	8 PLA.	9 PLA.	10 PLA.	
A	48	64	80	96	112	128	144	160	176	
B	40	56	72	88	104	120	136	152	168	

Ordering code	
170M\varnothing.EFV	
N. PLACES	
2=2 places (weight gr.100)	
3=3 places (weight gr.150)	
4=4 places (weight gr.200)	
5=5 places (weight gr.250)	
6=6 places (weight gr.300)	
7=7 places (weight gr.350)	
8=8 places (weight gr.400)	
9=9 places (weight gr.450)	
10=10 places (weight gr. 500)	

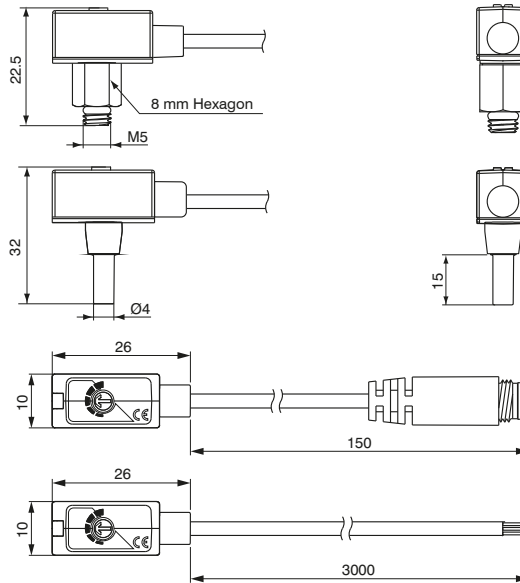
Clip



Ordering code	
800.00	

Weight g 5

Mini digital pressure switch



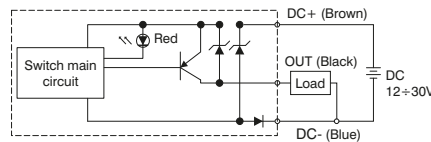
Ordering code	
DS.10.P.B.C.L.O	
CONNECTION	
C	F4=Male M5
	R4=Plug-in connection Ø4
CABLE LENGTH	
L	A=150 mm *
	E=3000 mm **
OPTIONS	
O	0=Without connector
	1=With connector M8 male 3 Pin

* only with M8 connector
** only without connector

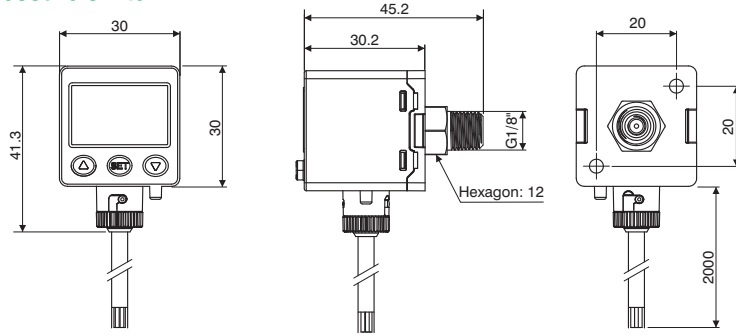
Technical features

Working pressure range	0 - 0.6 mPa
Regulation pressure range	0 - 0.6 mPa
Maximum supported pressure	1.5 mPa
Allowed fluids	Air, non-corrosive gases, non-combustible gases
Supply voltage	From 12 to 30 VDC ±10%
Current consumption	≤ 10mA
Digital output	PNP N.O. 1 outputs Maximum load current: 80mA Maximum supply voltage: 30VDC Voltage drop: ≤0.8V
Repeatability (Digital output)	± 1% Full Scale
Digital output	Type of hysteresis Hysteresis
	fixed 3% Full Scale max.
Response time	1ms
Protection from short circuit at output	Present
Method of setting threshold	Adjustable, trimmer
Indicator	LED red (output)
Ingress protection rating	Protection class IP40
	Ambient temperature Operational: 0 - 60°C, Storage: -20 - 70°C (without ice or condensation)
	Ambient humidity Operational/Storage: 35 - 85% (without condensation)
	Vibration Total amplitude 1.5mm., 10Hz-55Hz-10Hz scanning for 1 minute, 2 hours in each direction of X, Y and Z
	Impacts/shocks 980m/s ² (100G), 3 times in each direction of X, Y and Z
Temperature characteristics	±2% Full Scale in a range between 0 - 50°C
Type of connection	Male M5x0.8, Plug-in connection Ø4
Electrical cable	Oilproof cable, 3 wires (0.18mm ²), Ø2.6mm
Weight	Approximately 50 gr. (with 3 metres of cable)

Output circuit wiring scheme



Panel-mounted digital pressure switch

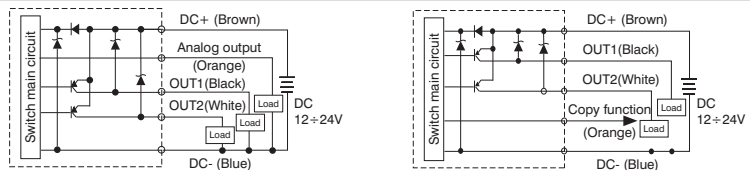


Ordering code	
DS.45.P.U.F3.D.0	
OUTPUTS	
U	E=2 PNP outputs + Analog output (4 / 20 mA)
	L=2 PNP outputs + copy function

Technical features

Working pressure range	0.000 - 1.000 mPa	
Regulation pressure range	-0.100 - 1.000 mPa	
Maximum supported pressure	1.5 mPa	
Allowed fluids	Air, non-corrosive gases, non-combustible gases	
Pressure calibration sensitivity	kPa	0.1
	kgf/cm ²	0.001
	bar	0.001
	psi	0.01
	InHg	0.1
Supply voltage	From 12 to 24 VDC	
Current consumption	≤40mA (without load)	
	PNP N.O. 2 outputs Maximum load current: 125mA Maximum supply voltage: 24VDC Voltage drop: ≤1.5V	
Digital output	± 0.2% Full Scale ± 1 digit	
Repeatability (Digital output)	Settable	
Digital output	Type of hysteresis Hysteresis	from 0.001 to 0.008 bar
Response time	≤2,5 ms (anti-interference function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selectable)	
Protection from short circuit at output	Present	
Display	Display with 3 1/2 digits (red/Green)	
Indicator precision	±2% F. S. ±1 digit	
Indicator	LED Orange (output1) LED Orange (output2)	
Analog output	Output current: 4÷20mA ±2.5% F. S. Linearity: ±1% F. S.	
	Maximum load resistance: 250Ω supply at 12V and 600Ω supply at 24V Minimum load resistance: 50Ω	
	IP65	
Ingress protection rating	Protection class	IP65
	Ambient temperature	Operational: 0 - 50°C, Storage: -10 - 60°C (without ice or condensation)
	Ambient humidity	Operation/Storage: 35 - 85% (without condensation)
	Supported voltage	1000VAC in 1min. (between body and cable)
	Insulation resistance	50MΩ (at 500VDC, between body and cable)
	Vibration	Total amplitude 1.5mm or 10G, 10Hz-55Hz-10Hz scanning for 1 minute, 2 hours in each direction of X, Y and Z
Temperature characteristics	Impacts/shocks	100m/s ² (10G), 3 times in each direction of X, Y and Z
	Type of connection	±2.5% Full Scale in a range between 0 - 50°C
Type of connection	G1/8" (BSPP), M5 female	
Electrical cable	Oil resistant cable (internal 0.15mm ²)	
Weight	Approximately 86 gr. (with 2 metres of cable)	

Output circuit wiring scheme

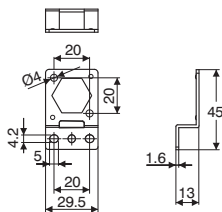


Accessories

Fastening bracket



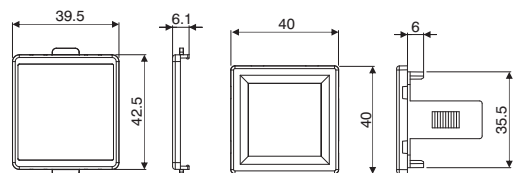
Ordering code
DS.BT10



Panel mount adapter



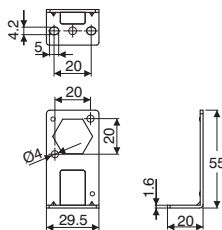
Ordering code
DS.PAE



Fastening bracket



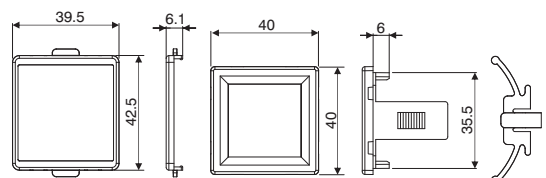
Ordering code
DS.BT11



Panel mount adapter with screen protection



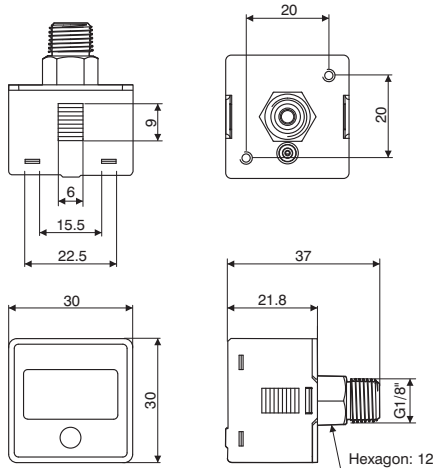
Ordering code
DS.PAF



Digital battery pressure gauge

Ordering code

DS.60.P.I.F1.F.0



Technical features

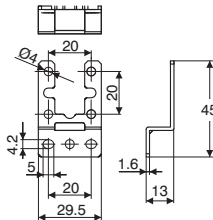
Working pressure range	0.000 - 1.000 mPa
Regulation pressure range	-0.100 - 1.000 mPa
Maximum supported pressure	1.5 mPa
Allowed fluids	Air, non-corrosive gases, non-combustible gases
Pressure calibration sensitivity	kPa 0.1
	bar 0.01
	psi 0.1
	mmHg 1
Battery	CR 2032 lithium
Backlight	Not present
Battery life	3 years (5 powerups a day)
Indication of battery level	Present
Battery replaceable	Yes
Display powerup time	Goes off after 60 seconds
Sampling frequency	2 Hz (2 times per second)
Repeatability	±1% F. S. ±1 digit
Display	Display with 3 1/2 digits
Indicator precision	±2% F.S. ±1 digit (at ambient temperature of 25°C ±3°C)
Ingress protection rating	Protection class IP65 (only with connected air pipe)
	Ambient temperature Operational: 0 - 50°C, Storage: -10 - 60°C (without ice or condensation)
	Ambient humidity Operational/Storage 35 - 85% (without condensation)
	Vibration Total amplitude 1.5mm or 10G, 10Hz-55Hz-10Hz scanning for 1 minute, 2 hours in each direction of X, Y and Z
Impacts/shocks 100m/s ² (10G), 3 times in each direction of X, Y and Z	
Temperature characteristics	±2% Full Scale in a range between 0 - 50°C
Type of connection	R1/8", M5 female
Weight	Approximately 40 gr.

Accessories

Fastening bracket



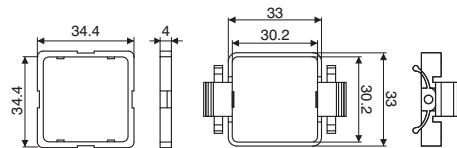
Ordering code
DS.BT5



Panel mount adapter



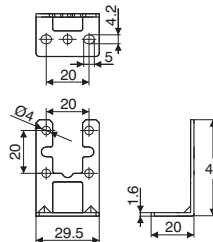
Ordering code
DS.PAC



Fastening bracket



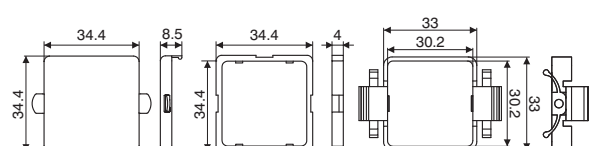
Ordering code
DS.BT6



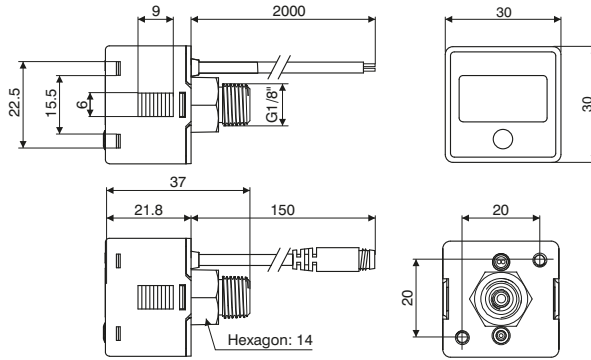
Panel mount adapter with screen protection



Ordering code
DS.PAD



Digital pressure gauge

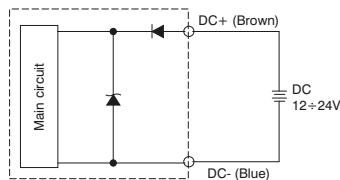


Ordering code	
DS.61.PI.F1.L.⓪	
CABLE LENGTH	
L	A=150 mm *
	D=2000 mm **
OPTIONS	
⓪	0=Without connector
Ⓛ	2=With connector M8 male 4 Pin
* only with M8 connector ** only without connector	

Technical features

Working pressure range	0.000 - 1.000 mPa	
Regulation pressure range	-0.100 - 1.000 mPa	
Maximum supported pressure	1.5 mPa	
Allowed fluids	Air, non-corrosive gases, non-combustible gases	
Pressure calibration sensitivity	kPa	1
	kgf/cm ²	0.01
	bar	0.01
	psi	0.1
Supply voltage	From 12 to 24 VDC ± 10%	
Current consumption	10mA	
Repeatability	± 1% Full Scale ± 1 digit	
Display	Display with 3 1/2 digits (sampling 5 times per sec.)	
Indicator precision	±2% F. S. ± 1 digit (at ambient temperature of 25°C ± 3°C)	
Ingress protection rating	Protection class	IP65 (only with connected air pipe)
	Ambient temperature	Operational: 0 - 50°C, Storage: -10 - 60°C (without ice or condensation)
	Ambient humidity	Operation/Storage: 35 - 85% (without condensation)
	Supported voltage	1000VAC in 1 min. (between body and cable)
	Insulation resistance	50MΩ (at 500VDC, between body and cable)
	Vibration	Total amplitude 1.5mm or 10G, 10Hz-55Hz-10Hz scanning for 1 minute, 2 hours in each direction of X, Y and Z
Impacts/shocks	100m/s ² (10G), 3 times in each direction of X, Y and Z	
Temperature characteristics	±2% Full Scale in a range between 0 - 50°C	
Type of connection	R1/8", M5 female	
Electrical cable	Oil resistant cable (internal 0.15mm ²)	
Weight	Approximately 60 gr. (with 2 metres of cable) and Approximately 40 gr. (with M8 4 pin male connector)	

Output circuit wiring scheme

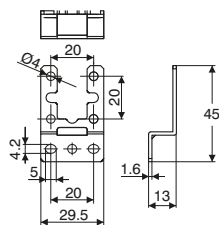


Accessories

Fastening bracket



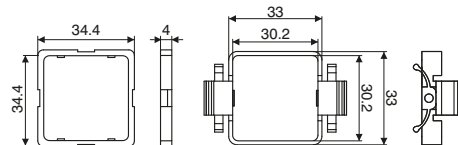
Ordering code
DS.BT5



Panel mount adapter



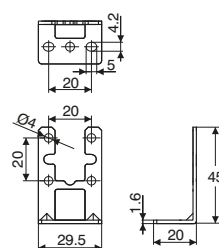
Ordering code
DS.PAC



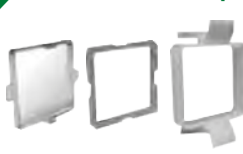
Fastening bracket



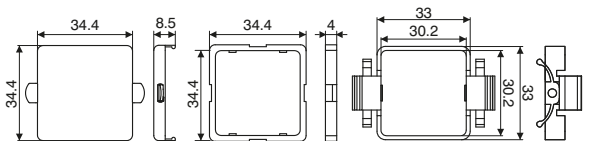
Ordering code
DS.BT6



Panel mount adapter with screen protection



Ordering code
DS.PAD



Series 1700 - Pressure booster

General

It is not unusual that, during some applications the thrust generated by a pneumatic cylinder is not sufficient for the specific purpose it has been designed for.

In order to get over the problem, the working pressure may be increased to a maximum line pressure which normally is 6-7 bar; alternatively the problem is solved by an higher bore cylinder that suits the machine.

Three size pressure boosters, with pressure ratio of 2 - 1, have been designed to avoid these problems. This device is utilizing the compressed air of the circuit where it is installed.

Construction and working characteristics

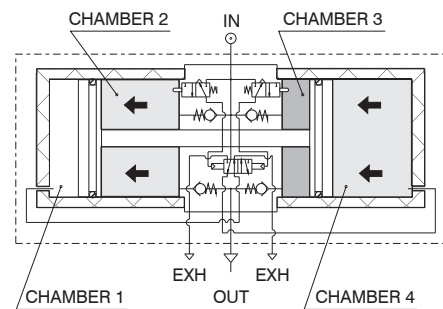
The working method is based on the pump effect of the four chambers cylinder as shown in fig. 1. Two chambers are alternatively compressing the air in the boost one, while the fourth one is discharging.

By means of an internal circuit, the pressure booster keeps on pumping air till the down stream pressure reaches a value double the inlet pressure.

In these circumstances there is a balance condition.

When the down stream pressure decreases, the pressure booster starts again its alternating cycle till a new balance condition is restored.

The pressure booster can be furnished complete with pressure regulator installed on the inlet port for getting an accurate outlet pressure value. A wall mounting plate is also available.



Instructions for installation and use

It is advisable to install a small air tank after the pressure booster to avoid pressure pulsation effects.

Discharge the down stream circuit before any maintenance operation as the inner circuit of the booster does not allow the down stream line discharge even if the inlet pressure drops down.

Maintenance

Pressure booster has an average life of about 20 millions of valve cycles, depending on working conditions (every back stroke corresponds to one valve cycles). A proper lubrication and filtration of air improve the life of pressure booster parts.

It is advisable to protect the exhaust ports in environment.

Replaceable spare seal kits are available.

How to calculate the required time of pressure booster to increase the air pressure in a tank whose capacity is known.

Operating Data:

P1 = Inlet pressure

P2' = Tank initial pressure

P2'' = Tank final pressure

V = Tank volume

PROCEDURE :

1) Calculate the ratio K' between the initial pressure of the tank and the inlet pressure of the booster ($P2'/P1$).

2) Calculate the ratio K'' between the final pressure of the tank and the inlet pressure of the booster ($P2''/P1$).

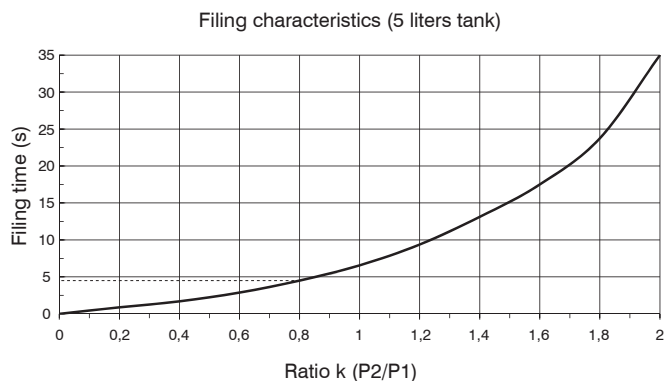
3) Locate the intersection point between the ratio K' and the curve on filling time diagram related to the specific booster.

Trace a vertical line from the above point and read the correspondent time T' (the example shows the ratio K = 0.8 and correspondent time of about 4.8 seconds).

4) Repeat same procedure also for ratio K'' to get time T''.

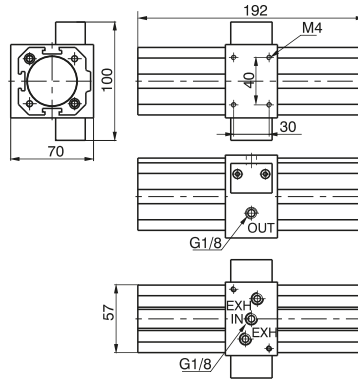
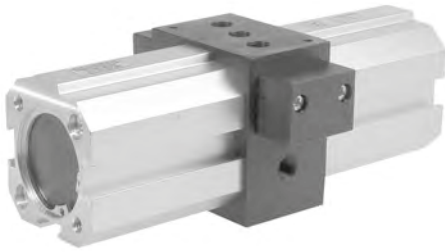
5) Use the following formula $T = (T'' - T')$

to obtain the total time required to move the pressure P2' to P2'' of tank volume V.



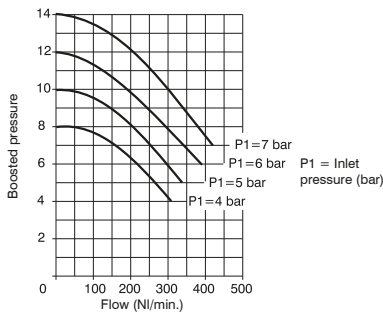
P1 = inlet pressure
P2 = tank pressure

► Pressure booster $\varnothing 40$

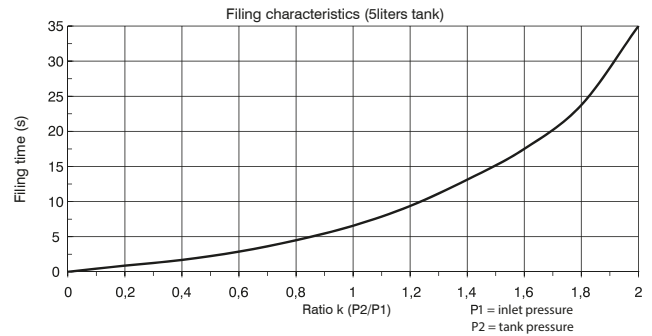


Ordering code
1740.50N

Flow rate curves



Filling curves



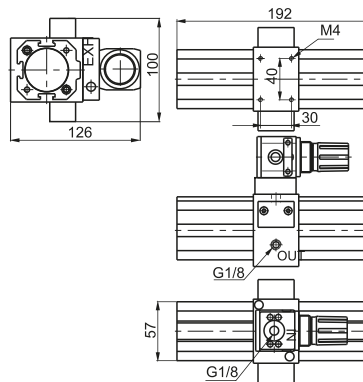
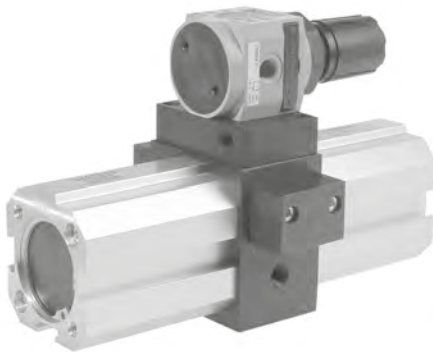
Operating Characteristics

- Self operating pressure booster with pressure ratio of 2:1.
- Automatic functioning: to operate the booster just connect it to compressed air line.
- Body made with light alloy.
- Barrel made of extruded and anodized aluminium.
- Downstream circuit pressure is kept under pressure even in absence of inlet pressure.

Technical characteristics

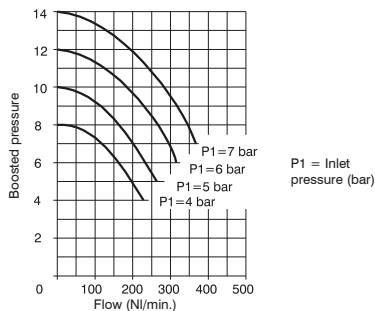
Connections	G 1/8"
Max working pressure (bar)	2 - 8
Temperature °C	-5 - +50
Nominal orifice diameter (mm)	$\varnothing 5$
Weight (g)	1500
Assembly position	Any
Max. fittings torque (Nm)	15

► Pressure booster $\varnothing 40$ with pressure regulator

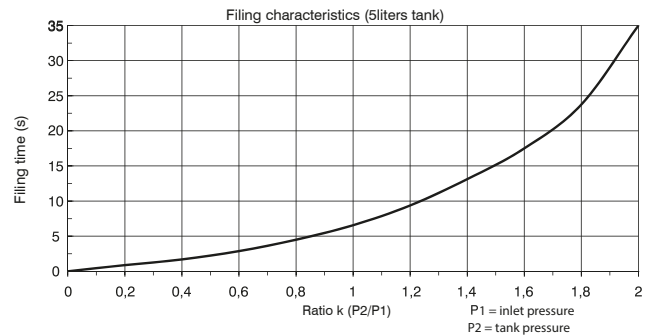


Ordering code
1740.50.NR

Flow rate curves



Filling curves



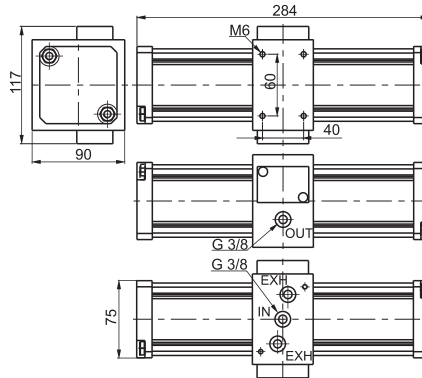
Operating Characteristics

- Self operating pressure booster with pressure ratio of 2:1.
- Automatic functioning: to operate the booster just connect it to compressed air line.
- Body made with light alloy.
- Barrel made of extruded and anodized aluminium.
- Downstream circuit pressure is kept under pressure even in absence of inlet pressure.
- Regulation of the inlet pressure (and as a consequence regulation of the outlet pressure)

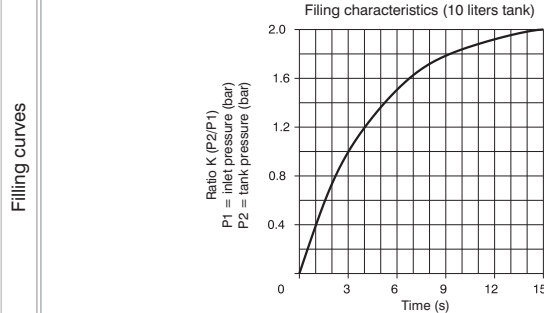
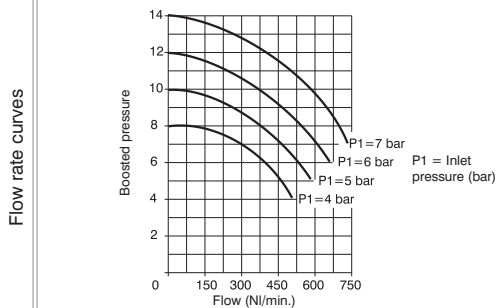
Technical characteristics

Connections	G 1/8"
Max working pressure (bar)	2 - 8
Temperature °C	-5 - +50
Nominal orifice diameter (mm)	$\varnothing 5$
Weight (g)	1600
Assembly position	Any
Max. fittings torque (Nm)	15

Pressure booster ø63



Ordering code
1763.80N



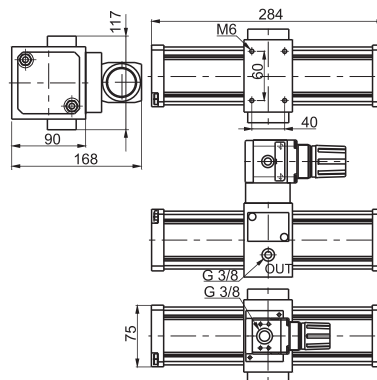
Operating Characteristics

- Self operating pressure booster with pressure ratio of 2:1.
- Automatic functioning: to operate the booster just connect it to compressed air line.
- Body made with light alloy.
- Barrel made of extruded and anodized aluminium.
- Downstream circuit pressure is kept under pressure even in absence of inlet pressure.

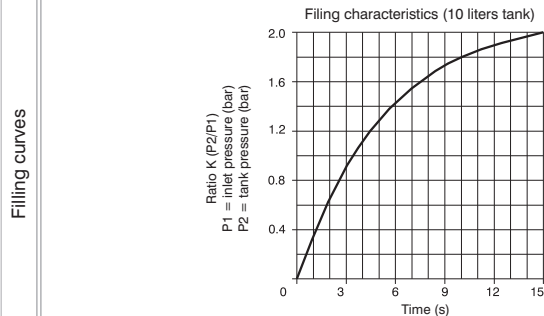
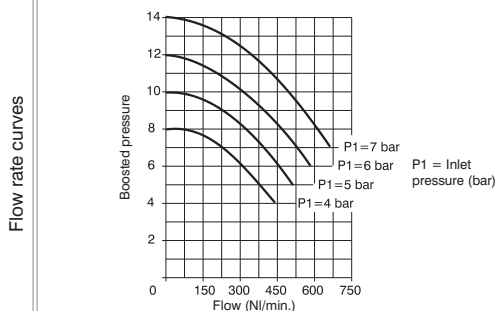
Technical characteristics

Connections	G3/8"
Max working pressure (bar)	2 - 8
Temperature °C	-5 - +50
Nominal orifice diamete (mm)	7
Weight (g)	3000
Assembly position	Any
Max. fittings torque (Nm)	15

Pressure booster ø63 complete with pressure regulator



Ordering code
1763.80.NR



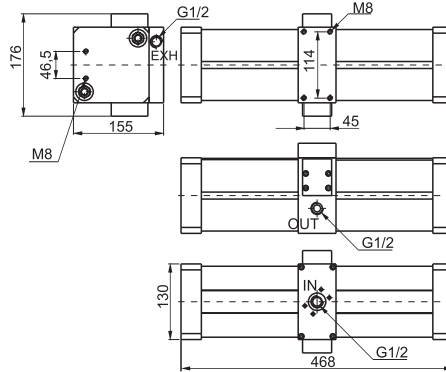
Operating Characteristics

- Self operating pressure booster with pressure ratio of 2:1.
- Automatic functioning: to operate the booster just connect it to compressed air line.
- Body made with light alloy.
- Barrel made of extruded and anodized aluminium.
- Downstream circuit pressure is kept under pressure even in absence of inlet pressure.
- Regulation of the inlet pressure (and as a consequence regulation of the outlet pressure)

Technical characteristics

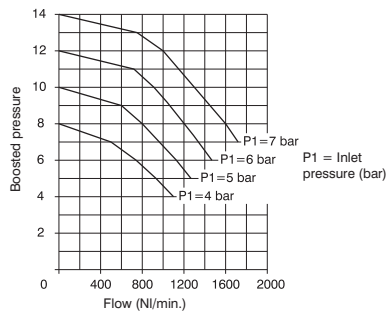
Connections	G 1/8"
Max working pressure (bar)	2 - 8
Temperature °C	-5 - +50
Nominal orifice diamete (mm)	7
Weight (g)	3200
Assembly position	Any
Max. fittings torque (Nm)	15

► Pressure booster $\varnothing 100$

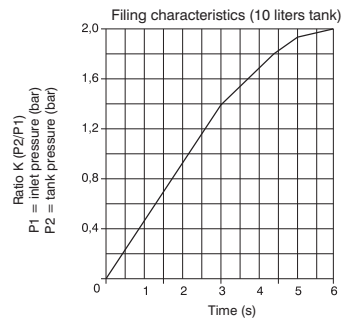


Ordering code
17100.125N

Flow rate curves



Filling curves



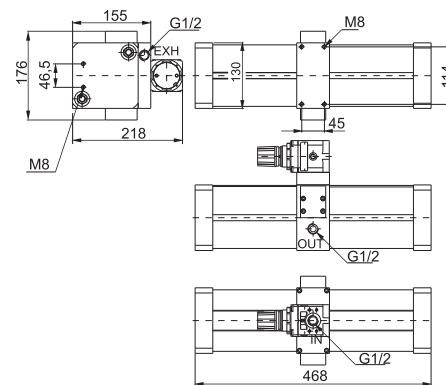
Operating Characteristics

- Self operating pressure booster with pressure ratio of 2:1.
- Automatic functioning: to operate the booster just connect it to compressed air line.
- Body made with light alloy.
- Barrel made of extruded and anodized aluminium.
- Downstream circuit pressure is kept under pressure even in absence of inlet pressure.

Technical characteristics

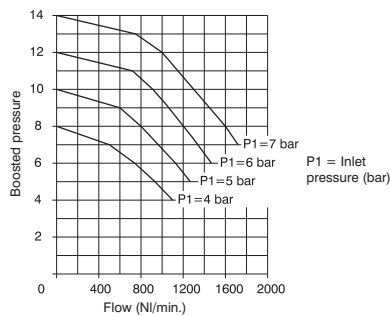
Connections	G1/2"
Max working pressure (bar)	2 - 8
Temperature °C	-5 - +50
Nominal orifice diamete (mm)	12
Weight (g)	12000
Assembly position	Any
Max. fittings torque (Nm)	40

► Pressure booster $\varnothing 100$ complete with pressure regulator

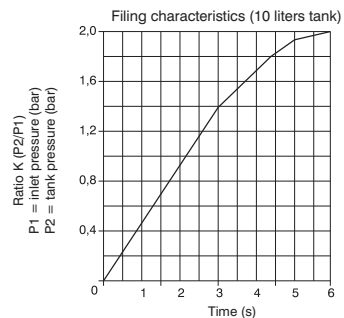


Ordering code
17100.125NR

Flow rate curves



Filling curves



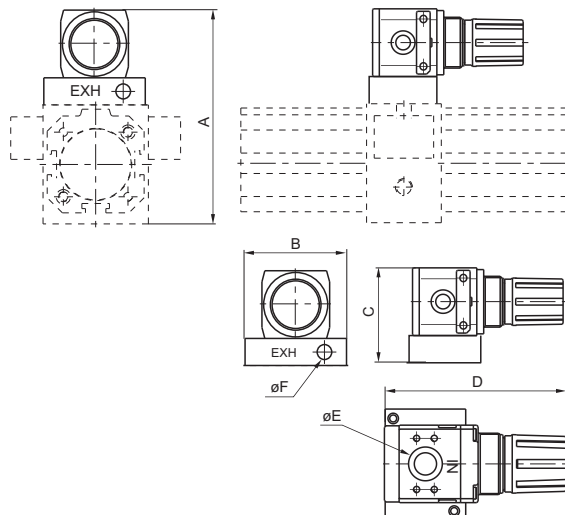
Operating Characteristics

- Self operating pressure booster with pressure ratio of 2:1.
- Automatic functioning: to operate the booster just connect it to compressed air line.
- Body made with light alloy.
- Barrel made of extruded and anodized aluminium.
- Downstream circuit pressure is kept under pressure even in absence of inlet pressure.
- Regulation of the inlet pressure (and as a consequence regulation of the outlet pressure)

Technical characteristics

Connections	G 1/2"
Max working pressure (bar)	2 - 8
Temperature °C	-5 - +50
Nominal orifice diamete (mm)	12
Weight (g)	12600
Assembly position	Any
Max. fittings torque (Nm)	40

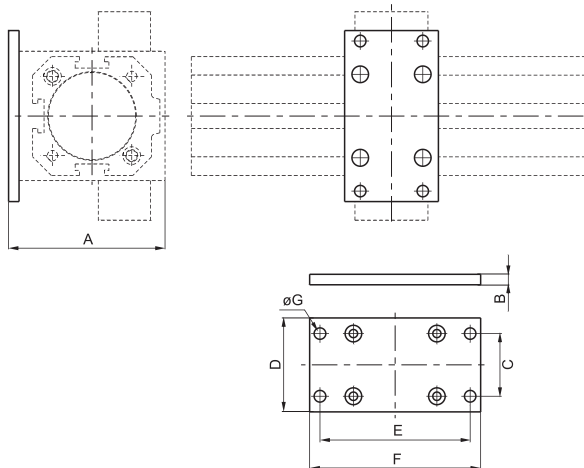
Base complete with pressure reducer



DIMENSIONS						
CODE	A	B	C	D	E	F
1740.BR	126	60	56	91	G1/8"	G1/8"
1763.BR	168	75	78	124	G3/8"	G3/8"

Ordering code
17V.BR
VERSION
40 = Base complete with pressure reducer for Ø40 booster
✓ 63 = Base complete with pressure reducer for Ø63 booster
ø100 = Mount directly the pressure reducer Code 17302B.C

Booster mounting plate



DIMENSIONS								
CODE	A	B	C	D	E	F	ØG	
1740.02	75	5	30	45	72	82	5,5	
1763.02	100	15	53	70	98"	110	M8	

Ordering code
17V.02
VERSION
40 = Mounting plate for Ø40 booster
✓ 63 = Mounting plate for Ø63 booster
ø100 = Use short foot bracket code 1320.50.05/1F

Series P+

Basic Information

In some cases the force generated by a pneumatic actuator is not sufficient to carry out its required function. To overcome this problem it is then necessary, where possible, to either increase the working pressure or use a larger bore actuator providing it will fit within the structure of the machine.

If you cannot fit a larger actuator, the solution is to use a pressure booster to increase the air pressure to that portion of the pneumatic circuit. The booster operates using the same compressed air used by the pneumatic system and does not require an external power supply. It is easy to install and can increase the working pressure in any part of the system where ever its needed, maintaining the normal working pressure in the rest of the system.

The new pressure booster **P+** is lightweight with a new compact and linear design, **P+** has an integrated pressure regulator that adjusts the setting of the output pressure P_2 which is also fitted with a pressure relief valve. The design of the internal circuit provides high flow rates and fast filling times whilst the two G1/8" manometer connections built into the body of the booster allow monitoring of the input and output pressures.

Operation

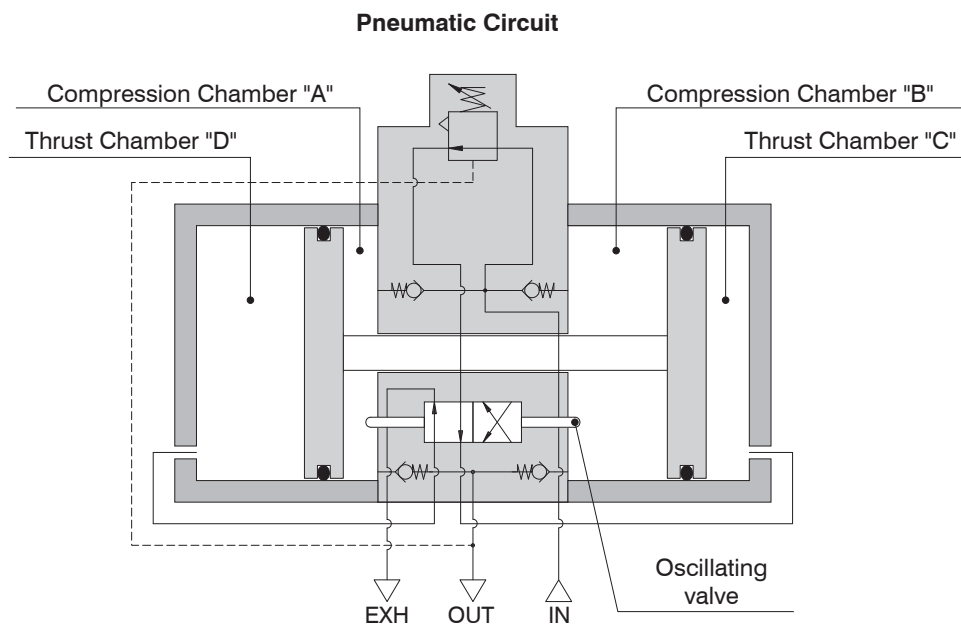
The operating principle of the device is based on a four chamber pump in which with a reciprocating movement, two chambers compress the air in the compression chamber whilst the fourth chamber is in the discharge phase. The incoming air passes through the non-return valves and supplies the compression chambers "A" and "B" at the same time.

Meanwhile, the integrated pressure regulator feeds the thrust chamber "C" via the oscillating valve which in turn compresses the air in compression chamber "B", the air is then pushed through the non-return valve and exits through the outlet connection.

When the piston reaches the end of stroke the oscillating valve changes over and feeds chamber "D" putting chamber "C" into the discharge position, thus reversing the piston and compressing the air in compression chamber "A", pushing it through the non-return valve and out through the outlet connection.

The oscillating motion of the piston allows the pressure booster to pump intensified air into the downstream circuit until the chambers reach a state of equilibrium; this in turn stops the booster.

When the downstream pressure decays the booster restarts oscillating until the state of equilibrium is re-established.



The **P+** pressure booster, is certified by ATEX:

CE II 3GD c T6 T85°C X 5°C ≤ Ta ≤ 50°C.



General Warning

It is recommended you follow the instructions below in order to prevent personal injury or damage to the booster.

- The pressure booster is supplied as standard with the regulating spring completely unwound. in this condition it is possible to detect a leak of air from below the regulating knob or through the exhaust port. this conditions is standard for the unit. When the spring is completely unwound the downstream pressure and the inlet pressure are the same. in order to increase the downstream pressure it is necessary to operate th regulation knob increasing the sping compression.
- Please apply the necessary safety measures to ensure that the booster only operates within the specified pressure range. Exceeding the maximum output pressure is dangerous.
- The Booster is fitted with a non-return valve on the output which prevents discharge of the downstream pressure, It is recommended that a 3/2 valve be installed in the OUT connection if it is necessary to rapidly discharge the downstream pressure.
- When the booster is not in use it is recommended that the inlet pressure is removed to let the booster stop, thus avoiding unexpected operation or malfunction.
- If there is not downstream air consumption it is possible to register a leak through the exhaust port of the unit. this condition is normal and is the consequence of the internal designed aimed at discharging any pressure building up in the unit in the rest condition.



Use and maintenance

The pressure booster must always be used in accordance with the operating parameters and instruction; any improper use may cause injury or malfunction. The pressure booster is not an alternative to a compressor because continuous uninterrupted operation will greatly reduce the life of the unit.

- The operating life of the device depends mainly on the operational duty cycle. Prolonged uninterrupted use without pause may reduce the operating life of the booster.
- Ensure the unit is supplied with a suitable compressed air supply, please note: appropriate filtration and lubrication may help to increase the durability of the product.
- **The input flow value must be equal or greater than double the output flow value ($Q1/Q2 > 2$).**
- **Ensure that the value of the output pressure is at least 1bar higher than the input pressure ($P2 > P1 + 1$).**
- To avoid pulsation of the output pressure during operation, it is recommended that an accumulation tank (reservoir) is installed in the downstream circuit.
- Protect the booster exhaust ports from the ingress of dust or debris.
- To reduce the noise generated by the unit, install silencers into the exhaust ports.
- Pressure booster has an average life of about 20 millions of valve cycles, depending on working conditions (every back stroke corresponds to one valve cycles).

Regolazione della pressione

The booster is fitted with an internal pressure regulator which allows regulation of the output pressure P2 and is also fitted with pressure relief valve. For correct operation of the booster, please consider the following instructions:

- Air leaking from under the adjusting knob when the spring is decompressed is not a defect but a sign that the device is working correctly.
- In order to increase the regulated pressure, pull the knob upwards to unlock, then rotate the knob in the direction indicated by the arrow (+).
- To lock the knob after the adjustment has been made, push the knob downwards until it detents in the locked position.
- To reduce the output pressure, pull the knob upwards, rotate the knob indicated by the arrow (-), the built in pressure relief valve will discharge the excess pressure from under the adjusting knob.
- Always regulate the rising pressure.



Method of calculation of the time necessary to increase the pressure in a tank of a given volume using a pressure booster.

DATA:

P1 = Inlet pressure
P2' = Initial tank pressure
P2'' = Final tank pressure
V = Tank volume

PROCEDURE:

- 1) Calculate the K' ratio between the initial tank pressure and the inlet booster pressure (P2'/P1).
- 2) Calculate the K'' ratio between the final tank pressure and the inlet booster pressure (P2''/P1).
- 3) Locate, on the chart illustrating, the booster filling time, the intersection point between the K' ratio and the curve, then trace a vertical line from the intersection point to the vertical axis and read the correspondent value T' (in the example chart, to a ratio of 0.8 corresponds a time value of about 3.6 seconds).
- 4) Repeat the operation for the K'' ratio, obtaining the T'' time.

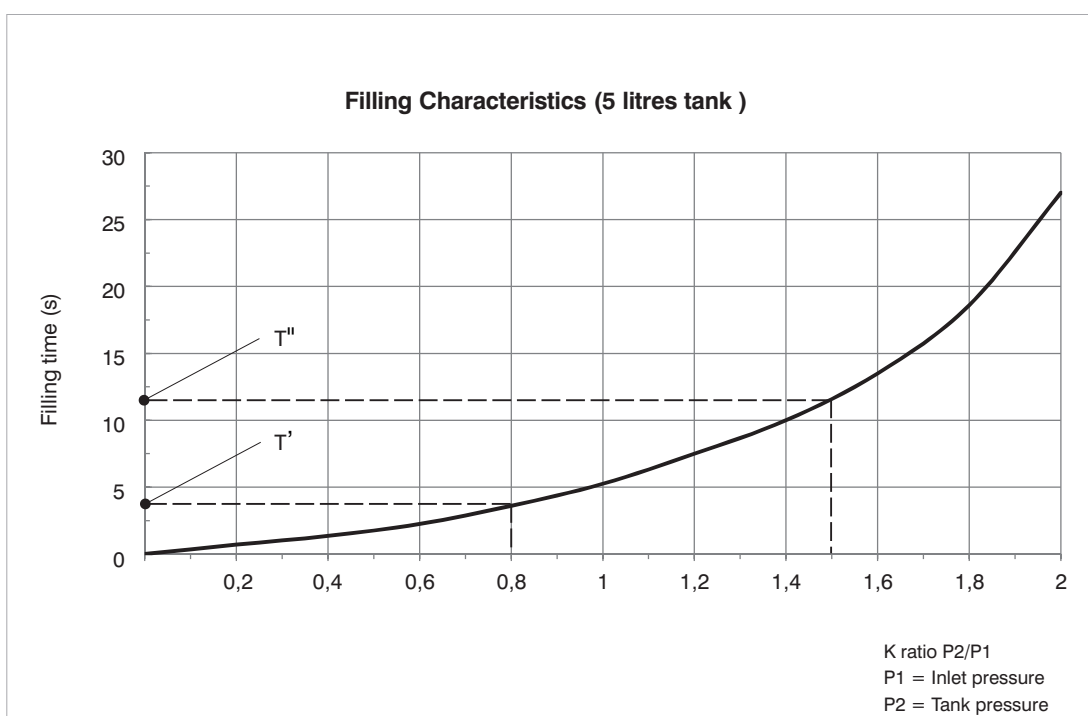
$$5) \text{ Apply the formula } T = \frac{V}{5} \cdot (T'' - T')$$

to obtain the total time needed to take the tank of volume V from the pressure value P2' to the pressure value P2''.

Example of calculation of the necessary time to take a 10L tank from the pressure value P2' to the value P2''

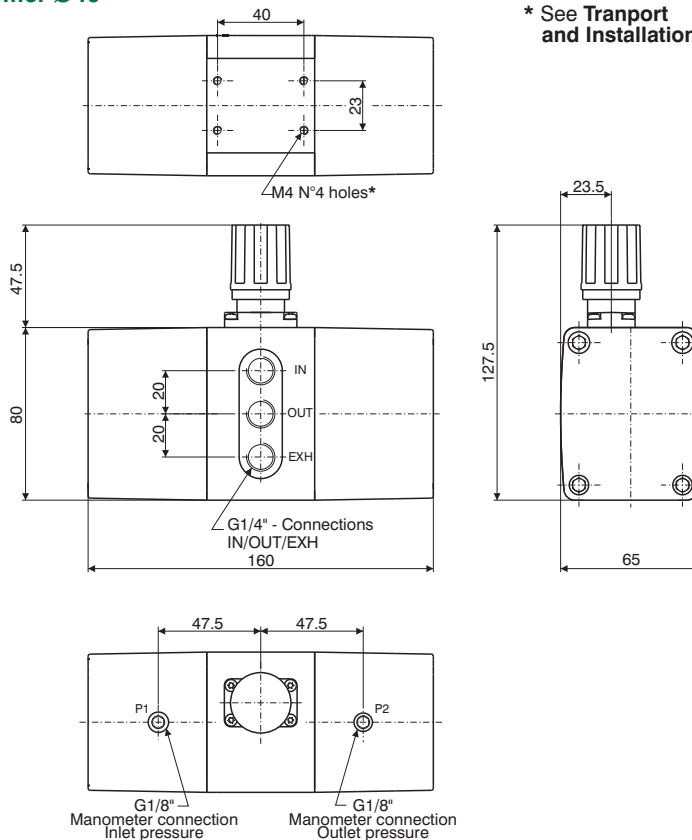
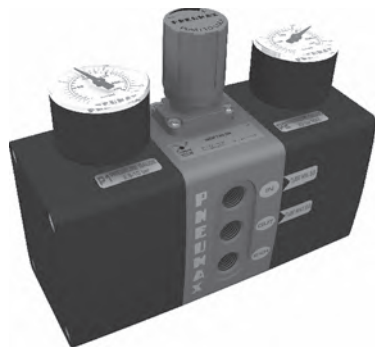
K' = 0,8 T' = 3,6 sec. V = 5L.
K'' = 1,5 T'' = 12 sec.

$$T = \frac{5}{5} \cdot (12 - 3,6) = 8,4 \text{ sec.}$$



Pressure booster in Technopolymer Ø40

ATEX CE II 3GD



* See Transport and Installation

Ordering code	MDPT40.2R.⊙
MANOMETER OPTIONS	Without options = Standard without manometer
⊙	A = Manometer P1 0-12 bar Manometer P2 0-20 bar
	B = Manometer P1 0-12 bar Manometer P2 0-16 bar
	C = Manometer P1 0-12 bar Manometer P2 0-12 bar

2 AIR SERVICE UNITS

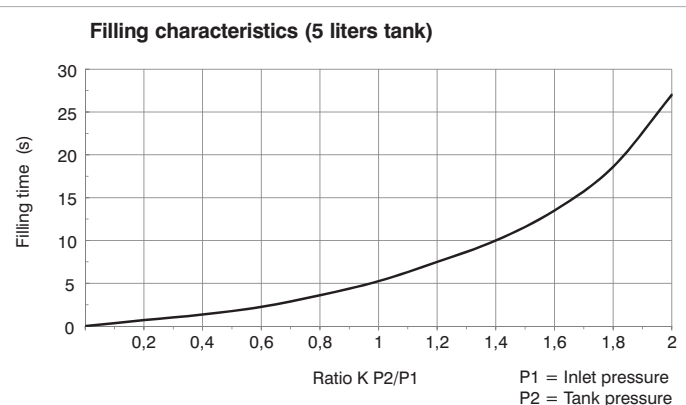
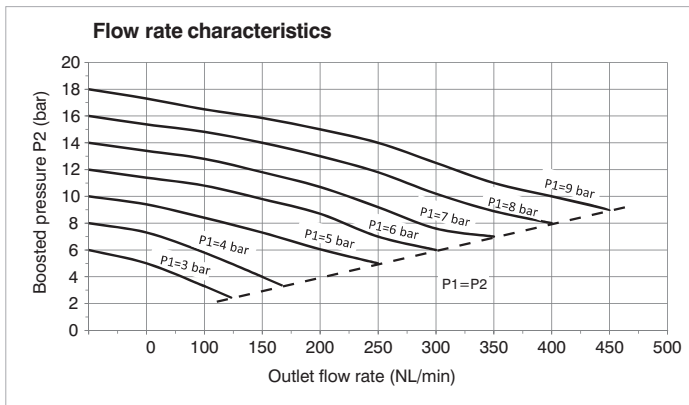
Operational characteristics

- Pressure Booster with max. 2:1 Compression ratio
- Automatic operation for use with compressed air only
- Maintains downstream air when the supply pressure fails (Providing the circuit has no leakage)
- Integrated regulator for output pressure control, with overpressure relief valve
- IN,OUT and EXH connections – G1/4" on the same side
- Manometer connections G1/8" to monitor and control the input and output pressures
- Body and cover in technopolymer
- Connections in technopolymer

Technical characteristics

Connections (IN / OUT / EXT)	G1/4"
Manometer connections P1/P2	G1/8"
Working pressure (bar) [Min. - Max.]	2,5 ÷ 10
Working temperature (°C) [Min. - Max.]	-5 ÷ + 50
Multiplication ratio max.	2 : 1
Assembly position	Any
Pressure regulation	Manual with relieving
Weight	905 gr.
Max. fittings torque	G1/8 = 4 N/m G1/4 = 9 N/m

Characteristics curves



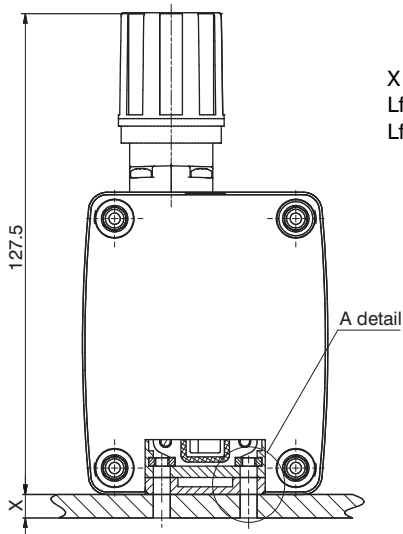
Transport and Installation:

The installation and implementation of the device must be done by skilled personnel. Respecting the safety requirements specified in the UNI norm **UNI EN 983-97 Machinery Safety – Safety Requirements concerning oleo-hydraulic and pneumatic systems** and their components.

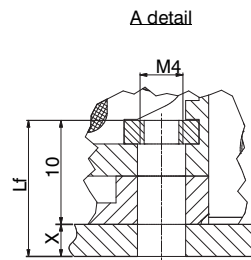
The following instructions are essential for a correct installation:

- Do not use the green knob to lift and transport the device, because it could rip off causing injuries or damaging objects..
- Install the booster by fixing it through the threaded M4 holes on the body of the machine or using the special accessories (see the "Accessories" chapter).

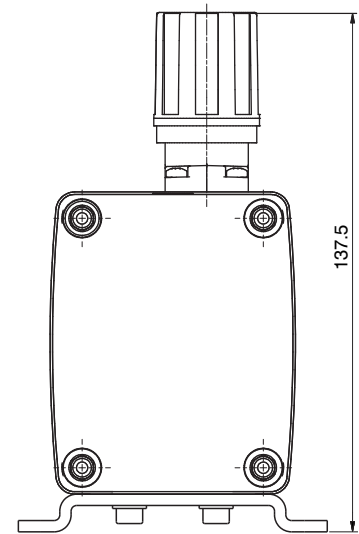
Direct Wall Fixing



X = Thickness of the support surface
Lf = Fixing screw thread length
Lf = X + 10



Fixing with a steel plate fixing clamp.



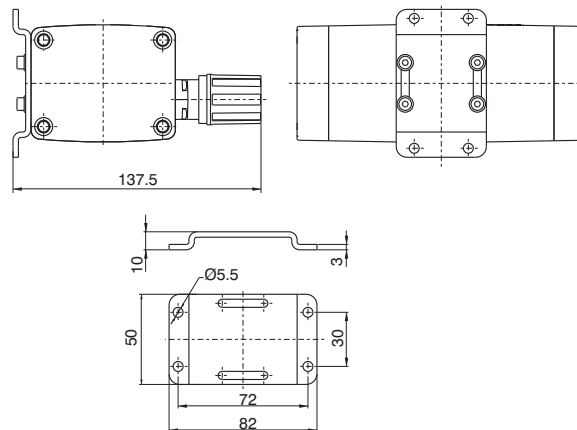
2

AIR SERVICE UNITS

Bracket



Weight gr. 94,5
Complete with booster fixing screws



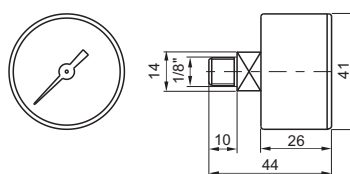
Ordering code

T1740.01

Manometer D.40



Weight gr. 85



Ordering code

17070A.S

SCALE

A = 0-4 bar

B = 0-6 bar

C = 0-12 bar

D = 0-16 bar

E = 0-20 bar