AirTAC INTERNATIONAL GROUP

www.airtac.com

Global Automation Equipment Manufacturer's Long-term Strategic Partnership

AirTAC PRODUCTS CATALOG-2023 ●Control components ●Preparation unit ●Accessories

Global

AirTAC

PRODUCTS CATALOG-2023

Control components, Preparation unit, Accessories

AirTAC ● Pneumatic Equipment

Products Catalog-2023

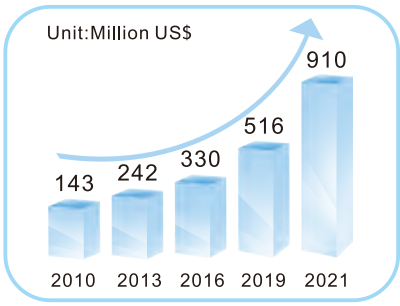
Control components • Preparation unit • Accessories

Corporate Profile

2019:
AirTAC Ningbo the second Production base established

2015:
AirTAC USAestablished

Annual revenue over the years



2016-2018:
AirTAC(Guangdong/Tianjin /Fujian) Intelligent Company established

2012-2015:
AirTAC Singapore, AirTAC Japan, AirTAC Malaysia, AirTAC Thailand established

2015:
AirTAC (Jiangsu) established

2016:
New production base of AirTAC Tainan established

2010:
AirTAC IPO In Taiwan (Stock code:1590.TW)

2011:
Expanded China Sales and R&D center

2008:
AirTAC Italy established

2002:
AirTAC Ningbo established

1988:
AirTAC Taiwan established

1998:
AirTAC Guangdong established

Corporate Profile

2019
AirTAC Ningbo the second Production base established

AirTAC Ningbo the second Production base
Land area: 266,667m²
Add: No.89, Nandu Rd., Fenghua District, Ningbo, Zhejiang, China

2016
New production base of AirTAC Tainan established

Taiwan Tainan Production base
Land area: 71,333m²
Add: No.28, Kanxi Rd., Xinshi District, Tainan, Taiwan

2002
AirTAC Ningbo established

AirTAC Ningbo the first Production base
Land area: 240,000m²
Add: No.88, Siming E. Rd., Fenghua District, Ningbo, Zhejiang, China

1998
AirTAC Guangdong established

AirTAC Guangdong
Land area: 26,667m²
Add: No.7, Kaixuan Rd., Nanhai District, Foshan, Guangdong, China

Global Network of Marketing&Service

AirTAC International Group has more than 100 direct sales branches/sales sections in Chinese mainland, and thousands of distributors around the world, mainly located in Europe, the United States and Asia, etc., forming a perfect sales network and after-sales service system, which can provide customers with convenient services at any time.

Overseas Market

- USA
- Japan
- UK
- France
- Finland
- Germany
- Thailand
- Korea
- Australia
- Mexico
- Argentina
- South Africa
- Italy
- Singapore
- Malaysia
- Greece
- Sweden
- Denmark
- India
- Brazil
- Netherlands
- Sri Lanka
- Colombia
- Jordan
- VietNam
- Indonesia
- Israel
- Turkey
- Kuwait
- Austria
- Saudi Arabia
- Peru
- Canada
- Iran
- Syria
- ...

Control components

Solenoid valve

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CPV15 Series.....23
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3V3 Series.....37
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Air valve

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Manual control valve、 Mechanical control valve and other valves

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HSV Series Hand slide valve.....138
4HV、4HVL Series Hand lever valve.....139
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M3 Series Control valve.....144
M5 Series Control valve.....147
CM3 Series Control valve..... 150
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3F、3FM、4F Series Foot pedal valve.....157
ASC Series Flow control valve.....159
NRV Series Non-return valve..... 160
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Fluid control valve

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When designing, producing and using pneumatic system devices, one must be familiar with the requests and attentions of pneumatic components and pneumatic system. Use and operate system devices under the situation that necessary examinations have been conducted and the machinery framework, pneumatic control loop and the electrical control system of pneumatic system are ensured to be in safe condition.

For using our AirTAC products safely, the selection, operation and proper maintenance and management of the products are very important!

To guarantee to use safely, please make sure to operate according to this instruction completely!

Requests of Pneumatic System on Design-Selector and User

- Confirmation of product models and specifications prior to use The designer of pneumatic system and selector of pneumatic components shall consider the security and faults that may occur according to the requests on performance of pneumatic system and decide the specification of pneumatic components according to the latest product catalog and data. If it is necessary, they shall make relevant analysis and experiment. When the system is used in some newly developed industries or special industries, they should cooperate with the manufacturer of pneumatic components to carry out the selection.

Attention

- Special attention to the following conditions
  - Once the compressed air is wrongly used, it is dangerous. Thus the assembly, operation and maintenance of the pneumatic equipment shall be done by welltrained person with certain practical experience.
  - Before making sure that it is safe, prohibit to use pneumatic equipment or to disassemble pneumatic components from the equipment.

Danger

- After confirming that the above safe treatment has been conducted, cut off the power and air source, release the remaining air, and conduct maintenance or disassembly on the equipment.
- Before starting the equipment, make sure that the piston rod will not stick out rapidly.

Warning

Requests of Pneumatic System at Application Environment

- It is not allowed to use the system in the environment that includes corrosive gas, chemicals (such as organic solvent), seawater, water and steam or the place with the above substances.
- It is not allowed to use it in the place with explosive gas. (If necessary, consider adopting explosion-proof measure).
- It is not allowed to use it in the situation with oscillation and impact, or the component capacity to resist to oscillation and impact shall accord with the specification in this catalog.
- It is not allowed to use it in the place that has heat source around or is influenced by radiant heat. Otherwise, it is better to adopt measures to interdict the radiant heat.

Attention

- Add shields in the place with direct sunshine.
- In case the system is used in the place with large humidity and much dust or the place with water drop, oil drop, cutting oil and dispersing cooling fluid, proper protective measures shall be taken.
- The cylinder with magnet can not be used in the environment with strong magnetic field.

Danger

- In special temperature environment:
  High temperature environment: please use seals resisting high temperature Low temperature environment: moisture in loop may freeze and affect the action, at this moment, the moisture shall be eliminated to avoid freeze.

Warning

Attentions on the Design and Selection of Pneumatic System

- Use the product under the stipulated application condition and scope
  This catalogue stipulates the operation scope and condition. Please operate according to it. Any operation beyond the scope and condition may cause fault of and damage to the components, even result in danger and harm. Therefore, please contact our company in case that the products are used under the condition be yond the specified application condition and range, or any other fluid except the compressed air is used.

Attention

- Please design and install protective devices in the device part which may cause personal injury. The drive part of the cylinder may cause personal injury, please design and install protective devices to make sure people cannot directly contact the drive part when it works.
- Please effectively fasten the drive part of the cylinder to avoid the looseness of connective part. Especially under the circumstance with high action frequency or larger oscillation, effective fastness must be strengthened.
- Design necessary buffer loop or buffer devices
  When drive objects have higher speed or heavier weight, it is difficult to absorb impact solely by cylinder cushion. Therefore, buffer loop or external buffer must be designed or used to absorb the impact. Moreover, the rigidity of the machinery devices must be considered.

- When designing the system, the devices and personal safety shall be considered under the situation of power failure or air failure. For the clamping framework, if the pressure of system loop declines due to power failure and air failure, it will result in falling off of the components and further the harm on machinery devices and people, therefore, it is necessary to consider designing antifalling loop or devices.
- When designing the system, please consider the possibility that power source may produce faults Please adopt relevant measures to make sure that the drive devices such as air pressure and electrical power will not result in personal injury or damages of devices when the power source has faults.
- Please make a loop that can prevent it from flying out when designing system. When pneumatic system is debugged or overhauled after releasing the remaining pressure, the system starts to pressurize the piston at one side, and the driven object may be pushed in high speed. In this situation, please design loop or device which can prevent cylinder from rapidly flying out to avoid personal injury or machinery damage.

Danger

- When designing the system, please consider the action status in emergency stop situation.
  The design shall make sure that the action of cylinder will not cause personal injury or component and device damage under the situation that the system is in abnormal status such as emergency stop or power failure and that the safety devices and the machinery stop.

Warning

- When designing the system, please consider the actions during restarting after emergency stop and abnormal stop.
  The design shall make sure that the system will not cause personal injury or component damage when it restarts. In addition, for safely operation, please design return device.
- Intermediate stop
  When the cylinder stop in the middle position controlled by three-position closed center type valve, due to the compressibility of the air, it is hard to control the precise position of the cylinder. In addition, it can not avoid the air leakage of valve or cylinder absolutely, so the stop position is difficult to keep on for a long time. Therefore, please design necessary devices when a long-term stay in stop position is required.
- Synchronization of several cylinders in the system
  Due to the compressibility of the air, it is difficult to control several cylinders precisely by the same direction control valve. In this situation, special devices or loop shall be taken into consideration when designing.
- Please use the purified dry air in the air loop.
  Do not use the air with synthetic oil (including chemicals and organic solvent), salinity and corrosive gas to avoid component damage or poor action.

Attention for the Use of Lubricant for Pneumatic System

- Generally, the pneumatic components have been lubricated by grease when producing. Therefore, they can be used without additional lubrication for a long time.

Attention

- In case of using additional lubrication, please use turbine oil (without additive) ISO-VG32. Engine oil, spindle oil or other oils are not allowed to avoid soaking and expanding of the seals like NBR.
- If lubrication is stopped in the midway, the original lubricated grease in side may have been flushed off, then the lack of lubrication will cause poor action of elements and accelerate the abrasion of relevant parts. Therefore, please make sure to supply oil con stantly and an oil misting device with proper flow shall be equipped.

- When lubricating the compressed air, the oil mist quantity can not surpass 25mg/m .
- When the system runs normally, the oil mist quantity is set as 0.2-1 drop or 0.5-5 drops/1000L.

Warning

- The simple method for testing the oil mist quantity is: put one piece of white paper at the port of cylinder control valve which is the most far from lubricator, after a while, the white paper takes on lemon yellow. If there are oil drops falling down from the white paper, it indicates the excessive lubrication.

Requests of Pneumatic System to Compressed Air

- The compressed air ejected by air compressor can not be directly used in the air loop, since it has certain moisture, oil content and dust, which should be gaseous in the high temperature of about 140-170℃ through the compressor.
- Make sure to use compressed air that has been purified
  - The filtration precision of common machinery and common pneumatic loop is < 40μm;
  - The filtration precision of logic elements, jet elements and air motors is < 10μm;
  - The filtration precision of food, medicine, electron, tobacco and liquor and pneumatic bearing is < 5μm;

Attention

- The oil mist in compressed air may gather in the container of gas tank, pipeline and pneumatic system and forms combustibles which may cause harm to pneumatic system.
- The degenerative lubricant will make rubber, plastic and seals materials go bad and block the port, which may cause action failure of valve.
- Moisture and dust will cause erosion and rustiness of metal parts, abrade and trap the action parts, block the ports and lead to transmission abnormity of air pressure signal. In cold area, the freezing of moisture will cause freeze and frost-crack of pipeline and the failure of elements and components.
- It is not allowed to use the compressed air with harmful gas (such as acid and alkali).Acid and alkali will cause damage to internal parts of pneumatic components.

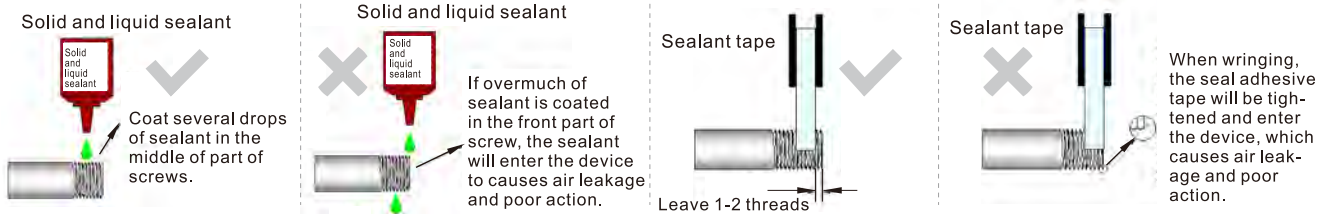
Danger

- The compressed air without the content of oxygenated oil of air compressor, tar and carbon shall be used.
- If the oxygenated oil, tar and carbon get into air pressure elements and become additive to them, the resistance of slipping parts will be increased and poor action will be caused. The mixture of oxy genated oil, tar and carbon with lubricant will abrade the slipping parts of air pressure elements.
- It is not suitable to use dry air in air pressure elements. Please use the elements corresponding to ultra-dry air. The ultra-dry compressed air will shorten the service life of air pressure elements.

Warning

Tubing and Installation Pneumatic System

- Please obey the following stipulations on the entwining method of sealant tape when connecting fitting and tube. Please start to entwine sealant tape from 1st-2nd screw thread at the front part of tube thread and on both of positive direction and inverse direction of the thread. If the sealant tape entwines out of the front part of the tubing thread, it will be torn into fragments which will cause faults and wrong action if they get in the system.



- When connecting the tubing, please fasten with proper torque to prevent air leakage and thread damage.

Table one：Reference value of Fasten torque　　Unit：N.m

Connective thread	M3	M5	1/8"	1/4"	3/8"	1/2"	3/4"	1"
Fasten torque	0.3~0.6	1.0~1.5	5.0~7.0	6~8	8~10	12~15	28~30	36~40

Attention

- Pay attention to the following matters when using nylon tube or polyurethane tube materials:
  - Please use flame retardant tube or metal tubing in the environment with high temperature spark;

Warning

The proof pressure is different according to the bore size of tube and the working temperature

Table two：Reference data of maximum proof pressure　　(Unit：kgf/cm^2)

OD/ID(mm)		4/2.5	5/3	6/4	8/6	10/7.5	12/9	14/11	16/12	22/17	28/22
Maximum pressure(-40℃~20℃)	Nylon tube	28	31	25	19	24	18	15	18	15	15
	PU tube	10	11	9	9	9	9	-	-	-	-
Minimum bending radius (mm)	Nylon tube	25	2	30	50	60	75	90	95	125	160
	PU tube	6	7	9	16	17	25	-	-	-	-
Using in different working temperatures,the maximum proof pressure shall multiply the following coefficient.		+30℃		+40℃		+50℃		+60℃		+70℃	
		0.83		0.72		0.64		0.57		0.47	

- The pipeline shall be cleaned with compressed air prior to connecting the tubing and fittings to the pneumatic components.

Convert American system and British system unit to international (SI) unit

Length unit

American and british system		Conversion rates	International
1 in	=	25.4	mm
1 ft	=	0.3048	m
1 mile	=	1609.3	m
1 micron	=	10^{-6}	m

Quality unit

American and british system		Conversion rates	International
1 lb	=	453.6	g
1 cwt	=	50.8	kg
1 ton(imp)	=	1016	kg
1 ton(us)	=	907.2	kg
1 tonne	=	1000	kg

Moment unit

American and british system		Conversion rates	International
1 inlb	=	0.113	Nm
1 ft lb	=	1.356	Nm
1 kgm	=	9.807	Nm
1 ft poundal	=	0.0421	Nm

Temperature unit

American and british system		International
($^{\circ}$F-32)×5/9	=	℃
K-273.15	=	℃

Area unit

American and british system		Conversion rates	International
1 in^2	=	6.45	cm^2
1 ft^2	=	0.093	m^2

Pressure unit

American and british system		Conversion rates	International
1 psi	=	6.89	kPa
1 kgf/cm^2	=	98.07	kPa
1 bar	=	100	kPa
1 bar	=	14.5	psi
1 atmosphere	=	98.1	kPa
1" (STANDARD)	=	101.33	kPa
1 cm water	=	97.89	Pa
1 in water	=	248.64	Pa
1 mm mercury	=	133.3	Pa
1 in mercury	=	3.39	kPa
1 Torr	=	133.3	Pa
1 ft water	=	0.0298	bar
1 bar	=	33.33	ft water

Unit of work and energy

American and british system		Conversion rates	International
1 lbft	=	1.356	J
1 Nm	=	1	J
1 kgm	=	9.807	J
1 kW/hr	=	3.6	MJ

Volume unit

American and british system		Conversion rates	International
1 litre	=	0.001	m^3
1 cu.ft.	=	0.0283	m^3
1 cu.in.	=	16.39	cm^3
1 gal(imp)	=	4.546	L
1 gal(us)	=	3.79	L
1 fluid oz.(imp)	=	28.41	mL
1 fluid oz.(us)	=	29.57	mL

Force unit

American and british system		Conversion rates	International
1 lbf	=	4.45	N
1 kgf	=	9.81	N
1 kp(kilopond)	=	9.81	N
1 poundal	=	138.3	mN
1 ton force	=	9.964	kM

Power unit

American and british system		Conversion rates	International
1 lbft/sec	=	1.356	W
1 kgm/sec	=	9.807	W
1 Nm/sec	=	1	W
1 Joule/sec	=	1	W
1 H.P.(imp)	=	745.7	W

Flow unit

Cv value	=	It's the constant value of flow, when the water flow(US gal/min)is under 60°F, the D-value of pressure between intake and outlet is 1psi (Cv×1000≈L/min)
kv value	=	It's the constant value of flow, when the water flow(L/min)is under 20℃, the D-value of pressure between intake and outlet is 1kgf/cm^2
KV value	=	It's the constant value of flow, when the water flow(m^3/min)is under 20℃, the D-value of pressure between intake and outlet is 1kgf/cm^2
S.T.P	=	Standard temperature and pressure (0℃ and 101.3kPa absolute pressure)
N.T.P	=	Normal temperature and pressure (20℃ and 101.3kPa absolute pressure)
M.S.C	=	Standard of metric syctem (15℃ and 101.3kPa absolute pressure)
ANR	=	Temperature : 20℃ and relative humidity : 65%

Equivalence conversion

1 psi	=6.895	kPa	=0.07	kg/cm^2	=0.06895	bar	=0.0703	atm
1 standard atmosphere	=14.7	psi	=101.3	kPa	=1.01325	bar		
1 kg/cm^2	=98.07	kPa	=14.22	psi	=28.96	ins mercury		
1 ft lb	=0.13826	kgm	=1.356	Nm				
1 L	=1000	cm^3	=1.7598	pint	=10^6	mm^3		
1 tonne	=1000	kg	=0.984	ton	=2205	lb		
1 m^3	=10^6	cm^3						
1 cu ft/min.	=28.3	l/min	=0.0283	m^3/min				
1 Pa	=1	N/m^2						

Unit compilation

Unit full name	Abbreviation
Pascal	Pa
Newton	N
metre	m
litre	L
Watt	W
Newton metre	Nm
Jonle	J
Megajoule	MJ
Kelvin	K

Control components

To make system realize the best performance, the control components must be precise and accurate. Component with good performance is the precondition to realize precise and exact action. AirTAC has many types of control components for your choice:

1. Direction control valve—Solenoid valve. 2. Direction control valve—Air valve. 3. Direction control valve—manual control, mechanical control and other valves. 4. Fluid control valve—two way solenoid valve, angle seat valve.

Solenoid valve

P16

CPV10 Series....17
CPV15 Series....23
3V1 Series....31
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3V2M Series....35
3V3 Series....37
6TV Series....39
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The selection of valves

1. Form selection
   According to application requests and conditions, choose the form of valves: direct acting or pilot.
2. Selection of control mode
   According to the control requests upon application, choose the control mode: air, electrical, manual or mechanical control.
3. Selection of function of valves
   The function of valves is selected upon the working requirements: two-position two-way, two-position three-way, two-position five-way and three-position five-way; or middle-sealed, middle leakage and midway pressurizing type, etc.
4. Selection of model and specification
   Select the model and specification of valves upon the flow requirements of application.
5. Selection of installation way
   The installation way is selected upon the installation requirement of valves: pipe-joint type or containerized type.
6. Selection of electric parameters
   Select the electric model of valves upon actual application requirement: voltage, power and grommet type.

Attentions on Design and Selection

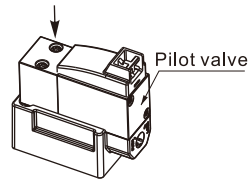
1. Correctly understand and apply midway stop function of reversing valve In the place with three-position middle-sealed or middle-pressure reversing valves to carry out the midway stop of piston in cylinder (double axes or adjustable double axes), as the air has compressibility, it is difficult to have correct and precise position stop. In addition, it is not available to make sure that leakage will not occur in the valves and cylinders, thus it cannot stay in the position of midway stop for a long time. Other ways shall be taken to maintain a long-term stop.
2. Pay attention to the influences of back pressure caused by the consolidation of valves on the system; In the place with consolidation of valves, pay attention to the wrong action of actuators caused by back pressure; especially pay attention to the place using three-position midway leakage reversing valves and the place driving single acting cylinder. Individual intake and exhaust must be carried out in the place that-ay have wrong action.
3. Fully consider the release of remaining pressure between reversing valves and cylinders; Considering the system examination need, the function of releasing remaining pressure shall be set up. Especially in the place using three-position midway leakage reversing valves, the remaining pressure between reversing valves and cylinders must be eliminated.
4. The temporary power supply and air supply of dual controlled valves. Routine dual electric (air) control valves have memory function (except for three-position valves), in the place with temporary power supply, the duration of power supply shall be above 0.1s to make sure that the valve has changed its direction.
5. Application of lowest pressure for air supply. The requirement of lowest application pressure shall be considered for the internal pilot-oriented valves, while direct drive valves or external pilot-oriented valves are not limited by lowest application pressure.

Attention

6. Use in vacuum condition
   If the valves are used in the place with vacuum switching, measures to prevent the inhalation of dust from suction cup shall be adopted. Moreover, direct drive or external pilot-oriented reversing valves shall be selected in vacuum condition.

Warning

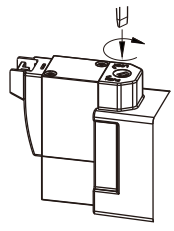
To maintain normal and good working state of pneumatic system, the following maintenance work is necessary in actual use:
1. Examine application pressure: regularly examine whether the pressure is normal in work;
2. Examine the filter situation of the compressed air: regularly examine whether filters and oil misting device work normally and whether their pollution situation is normal;
3. Examine whether system pipeline leaks;
4. Examine whether solenoid valves act slowly and whether the exhaust-situation is normal;
5. Examine whether the adjustment of oil quantity of oil misting device is normal;
6. Please read relative content in this manual about the requirements of solenoid valves to air quality and application environment, the pipeline connection of solenoid valves and the lubrication of solenoid valves;
7. The switching action of valves shall be guaranteed regularly under low-frequency application, at least once switching shall be conducted for each month.
8. About manual operation :
   8.1) Ensure no danger, prior to activating manual override;
   8.2) For push button option: Activate by push the button in the direction shown(Right drawing);
   8.3) For slotted option :
   Activate by push the button in the direction shown.
   With correct size screw driver: Please turn to lock gently(Torque: 0.1N.m).



Attention

Normal position

Lucked position




Vertical plug wire


Parallel plug wire

8.4) Vertical plug type and parallel plug type are the same as plug, please insert wire line as up drawing by practicality.

The Application of Fluid Control Valves

Attention

Pipeline:

1. Completely clean pipeline to eliminate miscellaneous chip, oil pollution and dust.
2. Miscellaneous chip of whorl and sealed materials shall be prevented from entering the pipeline when installing pipeline connection (when adopting whorl sealant tape, at least one section of thread shall be preserved).
3. Pay attention to connective pipe direction (IN, OUT), IN (entrance) or other marks in each interface.
4. Never make the coils bear outside force, and only use spanner to clinch the installation position in pipeline when revolving into pipeline.
5. The pipeline shall not connect the ground; otherwise galvanic corrosion will be caused.
6. Install overflow valves in circuit to prevent the fluid accumulation in pipeline.

Wiring:

1. The minimum area of section of the wire is 0.5mm^2.
2. Electrical circuit shall be adopted to prevent the vibration in connective points.
3. Associate overvoltage suppressor and overvoltage suppressor in coils when electrical components are easily damaged by overvoltage.
4. The allowable voltage scope is within -10% ~ +10% of the rated voltage. If a better response of DC power is required, the voltage scope shall be within ±5% of the rated voltage and voltage drop can be measured at the connective points between the leading wires and coils.
5. When it is AC power, the backswing voltage is 20% or above of the rated voltage. When it is DC power, it is 2% or above of the rated voltage.

Installation:

1. When installing, the coils shall be made upward. The inlet port and outlet port should be kept horizontal.
2. Never heat coils and insulation components, otherwise they will burn the coils. Anti-freezing heater can only be used in pipeline and valves body.
3. Never install in the place with violent vibration. If it cannot be avoided, the arm length shall be regulated to the minimum to avoid resonance.

Storage:

1. If the water fluid will be kept for a long time after using, the moisture shall be completely eliminated to avoid corrosion in rubber part.

Long-term open or stop of the valves:

1. The frequency of switching valves depends on the type and performance of the fluid. When using purified water as standard, the valves shall be switched at least once every ten days. If the period is longer than ten days, system test devices shall be installed. Valves shall not be used in the following working environment such as emergent circuit breaker.

Temperature of the fluid:

1. Refer to temperature scope of each type and the influences of the factors such as sealed materials, coil insulation, power and air supply. For application in special circumstance, please contact the supplier.

Applied fluid:

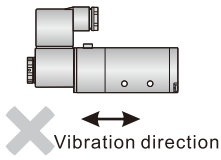
1. Fluid grade
   When selecting the valves type, make sure that the fluid is adapted to the materials of valves. Generally speaking, the maximum viscosity of fluid is 50cst. Please contact the supplier for specific data. <Reference> Standard materials Valve body: brass or BC6, seal: NBR, coil: insulated B step
   The above valves are used in water, air and oil medium. If they are used in other materials, please refer to “option list” and “adaptable fluid sheet”. There will be a small difference in types.
2. Fluid quality
   The impurity in fluid will accelerate the abrasion of valve cup and iron core. Granule that adheres to the iron core and slipping plane will decrease the function of valves and cause invalidity of seal function. Filter shall be installed in the front of the entrance of valves to avoid the above problems. Net limit of 80-100 is normally recommended.
3. Lubrication
   Lubrication is not necessary for this valve, but lubricated air will extend its life.
4. If the valves are used in inflammable oil and air, the leakage at the entrance and exit shall be prevented.
5. If impurity or oil is not allowed in the fluid, the valves without theneed of lubrication shall be applied.
6. In case the application condition approaches the limit of valves, the parameter of the option and fluid may be different from that of routine application. Make proper choice according to actual use situation.

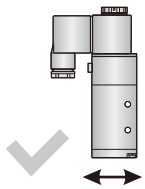
Installation of Direction Control Valve

Although direction valves can be installed in any direction, due to the vibration of devices or flowing of liquids such as condensate and oil to the coil part of solenoid valve, poor action of direction valve will be caused.
Please take care during installation.

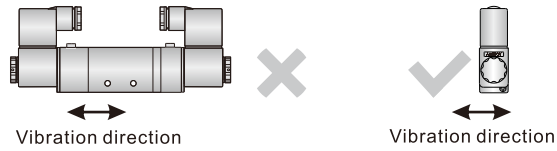
1. The influence of vibration on sliding column in solenoid valve shall be avoided. During installation, the vibration direction may form a right angle to the action direction (axial direction) of sliding column in solenoid valve to avoid the influence of vibration to sliding column in solenoid valve.

□ Single electric control solenoid valve
○The coil shall be installed upward or horizontally.

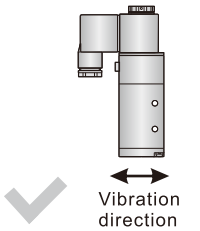


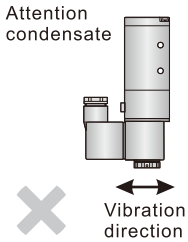


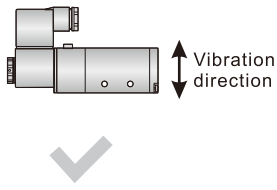
☆Dual electric control solenoid valve
○The coil shall be installed horizontally

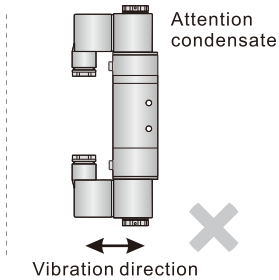


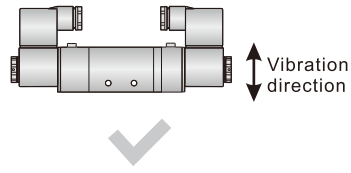
2. To prevent condensate and oil from flowing into coil in solenoid valve, you'd better install the coil upward or horizontally. Installation legend:











3. Blow away the miscellanies such as dust, oil pollution and chips in the pipeline to avoid influencing the action and damage of valves.
4. The intake of internal pilot-oriented solenoid valve cannot throttle to prevent wrong action caused by too large pressure drop when switching the direction.
5. Install reversing valves closely to cylinder as possible as you can to reduce air consumption and achieve a quick response.
6. Please make sure completely insert the tubing and use it after confirming that the tubing cannot be pulled out.
7. Although our product coils are set as 100% ED, if the product is energized for a long time, overheating will be caused, insulation will be deteriorated and energy will be lost. Solenoid valve with memory function shall be considered to shorten power supply time and extend the service life of coils and save energy consumption under the situation of long-timeconstant power supply.
8. Manual button is not allowed to be used when solenoid valve is energized.

9. The application voltage of solenoid valve shall be kept within the specified voltage range to avoid causing poor action of valves or burning coils.
10. As the solenoid valve is installed in the control tank, pay attention to the ventilation and heat dispersing when it is energized for a long time to guarantee that the temperature inside of the tank is within the temperature range for the safe application of solenoid valve;
11. Interlock protection control circuit shall be designed to pre vent the two coils of the dual electrical control solenoid valve from being energized at the same time.
12. The blowhole in internal control piston of main valve and exhaust outlet in pilot-oriented valve cannot be jammed or un smooth.
13. As solenoid valve in DC specification has polar indicator lights, pay attention to the positive and negative poles when wiring. Connect "1" to the positive pole, and "2" to the negative pole. If connection is inversed, the indicator lights will not shine but valves can still work.

In addition: refer to page 8 in this manual for the content on the lubrication, tubing and application environment of solenoid valve. **Danger**

Compendium of Solenoid valve

P17	Product feature	Photo	P23	Product feature	Photo
CPV10 Series Solenoid valve	•Can be used monomer or in series •Plug electrical connector •Manifold is optional •3/2 Way		CPV15 Series Solenoid valve	•Can be used monomer or in series •Plug electrical connector •Manifold is optional •3/2 Way	
P31	Product feature	Photo	**P33**	Product feature	Photo
3V1 Series Solenoid valve	•Coaxial blanking structure and direct acting(NC) •Can be used in series •Affiliated manual devices •3/2 Way		3V2 Series Solenoid valve	•Coaxial blanking structure and direct acting •NC, NO are optional •Affiliated manual devices •3/2 Way •Can be used under vacuum condition	
P35	Product feature	Photo	**P37**	Product feature	Photo
3V2M Series Solenoid valve	•Coaxial blanking structure and direct acting •NC, NO are optional •Affiliated manual devices •3/2 Way •Be used with manifold •Centralized exhaust and separated exhaust are optional		3V3 Series Solenoid valve	•Coaxial blanking structure and direct acting •NC, NO are optional •Affiliated manual devices •3/2 Way •Can be used under vacuum condition	
P39	Product feature	Photo	**P42**	Product feature	Photo
6TV0500~300 Series Solenoid valve	•Sliding column structure •Double control and single control are optional •NO and NC are optional for single control •Manifold is optional •3/2 Way		3V100~300 Series Solenoid valve	•Sliding column structure •Double control and single control are optional •NO and NC are optional for single control •Manifold is optional •3/2 Way	
P48	Product feature	Photo	**P59**	Product feature	Photo
6D0500~200 Series Solenoid valve	•Sliding column structure •Horizontal and vertical insertion can freely switch •Push-in fittings options •Manifold is optional •5/2 Way, 5/3 Way		6V0500~300 Series Solenoid valve	•Sliding column structure •Horizontal and vertical insertion can freely switch •Port threads and push-in fittings options •Manifold is optional •5/2 Way, 5/3 Way	
P65	Product feature	Photo	**P71**	Product feature	Photo
6HV0500~300 Series Solenoid valve	•Sliding column structure •Horizontal and vertical insertion can freely switch •Port threads options •DIN guide is optional •5/2 Way, 5/3 Way		7V0500~300 Series Solenoid valve	•Sliding column structure •Horizontal and vertical insertion can freely switch •Port threads and push-in fittings options •Manifold is optional •5/2 Way, 5/3 Way	
P77	Product feature	Photo	**P85**	Product feature	Photo
4V100~400 Series Solenoid valve	•Sliding column structure •Double control and single control are optional •Closed center, exhaust center and pressure center are available for 5/3 Way •Manifold is optional •5/2 Way, 5/3 Way		4M100~300 Series Solenoid valve	•Coaxial blanking structure •5/2 Way •Double control and single control are optional •Closed center, exhaust center and pressure center are available for 5/3 Way	
P87	Product feature	Photo	**P89**	Product feature	Photo
Manifold	•Can integrate valves of the same series to form valve group •Unified air intake and exhaust and unified wiring •Flexible combination and strong expansion capability		ESV Series Solenoid valve (ISO Standard)	•Sliding column structure •Double control and single control are optional •5/2 Way, 5/3 Way •Closed center, exhaust center and pressure center are available for 5/3 Way •The installation size conforms to ISO5599/1 standard	

Installation and Application

1. Before installing, be sure the valve hasn't been damaged via transportation.
2. It's suggested to use the medium lubricated by 40μm filter element. Be aware of the flow direction and port size.
3. Please notice whether the installation condition accords with technical requirements (such as "voltage", "actuation frequency", "working pressure" and " scope of application temperature"), then the equipment can be installed and used.
4. Notice the flow direction of air during installation, P is the air intake, A (B) is the work port and R (S) is the exhaust outlet.
5. Take measure to avoid vibration and frozen.
6. Before using the fittings and tubes make sure they are clean. When connecting to fittings, be sure the PTFE Thread Seal Tape is used correctly.
7. To keep the dust away, please use the silencer for the exhaust ports. Never forget to install dirt-proof boot in air intake and outlet during dismounting.
8. After installing, please use the manual override to test valve first.

Integrated solenoid valve (3/2 way)

CPV10S Series

Specification

Model		CPV10SB	CPV10SF
Integrated solenoid valve	Fluid	Air(to be filtered by 40μm filter element)	
	Acting	Direct acting	
	Number of stations	4~24 stations	
	Electrical entry	Terminal, 25pin D-Sub	
	Port size	P/R: M5 A: Φ3.2/ Φ4(Push in fittings)	
	The type of Inlet and exhaust	Centralized inlet and exhaust	
	Operating pressure	0~0.8MPa(0~114psi)	
	Proof pressure	1.2MPa(175psi)	
	Temperature	-20~70℃	
Coil	Protection	Dustproof	
	Standard voltage	DC24V	DC12V
	Scope of voltage	DC±10%	
	Temperature classification	F Class	
	Power consumption	DC: 0.9W	

Product feature

1. Integrated installation of air inlet/exhaust and power socket(25pin D-Sub) to save space and reduce additional accessories.
2. Equipped with manual override for adjustment and troubleshooting.
3. Low starting voltage and long service life.

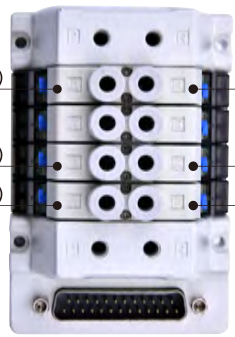
Ordering code

CPV10S J04 B 12F

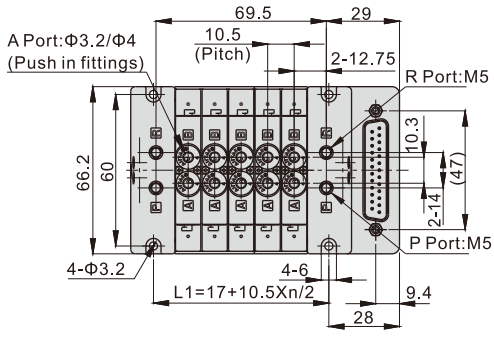
① ② ③ ④

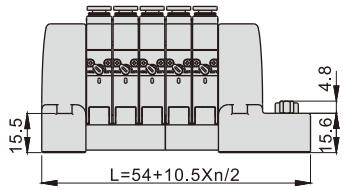
①Model	②Port size	③Voltage	④Number of stations [Note]
CPV10S: CPV10S series integrated solenoid valve	J03: Φ3.2mm J04: Φ4.0mm	B: DC24V F: DC12V	4F: 4 stations 6F: 6 stations 8F: 8 stations ..... 24F: 24 stations

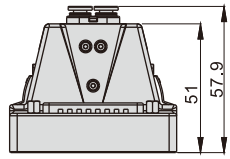
[Note] About stations as follow：



Dimensions





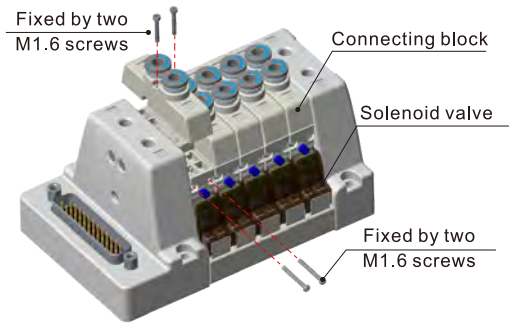


Item\Number of stations	4F	6F	8F	10F	12F	14F	16F	18F	20F	22F	24F
L	75	85.5	96	106.5	117	127.5	138	148.5	159	169.5	180
L1	38	48.5	59	69.5	80	90.5	101	111.5	122	132.5	143

Installation and Application

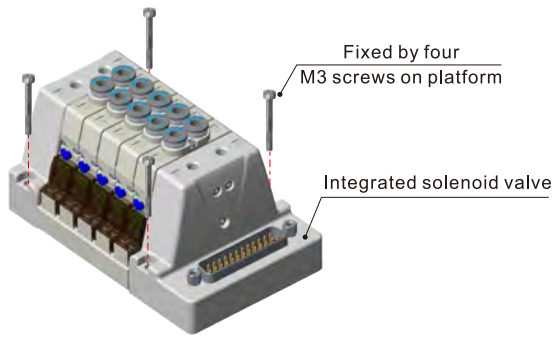
Assembly of connecting block and micro-solenoid valve

Mount micro-solenoid valve and connecting block with torque of 0.1~0.15N.m by two M1.6 screws as following.

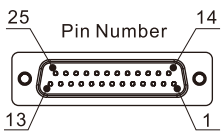


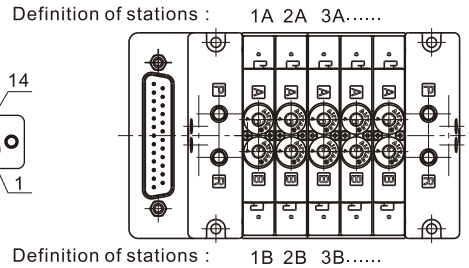
Mounting of integrated solenoid valve

Mount integrated solenoid valve by four M3 screws on platform as following.



Pin Assignment





Note: Gauge number of cable connecting to D-Sub pin No.13(COM) must be≤22AWG

Pin NO.	Polarity -COM	Polarity +COM	Control target	Pin NO.	Polarity -COM	Polarity +COM	Control target
1	(+)	(-)	1A	14	(+)	(-)	1B
2	(+)	(-)	2A	15	(+)	(-)	2B
3	(+)	(-)	3A	16	(+)	(-)	3B
4	(+)	(-)	4A	17	(+)	(-)	4B
5	(+)	(-)	5A	18	(+)	(-)	5B
6	(+)	(-)	6A	19	(+)	(-)	6B
7	(+)	(-)	7A	20	(+)	(-)	7B
8	(+)	(-)	8A	21	(+)	(-)	8B
9	(+)	(-)	9A	22	(+)	(-)	9B
10	(+)	(-)	10A	23	(+)	(-)	10B
11	(+)	(-)	11A	24	(+)	(-)	11B
12	(+)	(-)	12A	25	(+)	(-)	12B
13	(-)	(+)	COM				

CPV10 Series

Specification

Model		CPV10
Fluid		Air(to be filtered by 40μm filter element)
Acting		Direct acting
Nominal diameter		Φ0.55mm
Effective area		P to A:0.25mm²(Cv=0.014) ; A to R:0.35mm²(Cv=0.02)
Valve type		3 /2 way
Weight	micro-solenoid valve	15g
	Terminal wire	050: 4.6g 200: 21.4g
	Screw(2pcs)	0.46g
Operating pressure		0~0.8MPa(0~114psi)
Proof pressure		1.2MPa(175psi)
Temperature		-20~70℃
Standard voltage		AC220V AC110V DC24V DC12V
Scope of voltage		DC±10%; AC+15%~-10%
Protection		Dustproof
Temperature classification		F Class
Power consumption		DC: 0.9W; AC: 1.5VA
Electrical entry		Terminal
Activating time		on<7ms; off<7ms

Symbol

Product feature

1. With anti-surge component can avoid the damage of solenoid valve.
2. Multi-direction installation and polarless circuit design.
3. AC voltage models possess a built-in full wave rectifier circuit to reduce the noise effectively.
4. Various of standard voltages: AC220V, AC110V, DC24V, DC12V.
5. Low starting voltage and long service life.
6. Equipped with a push-turn locking manual override for adjustment and troubleshooting.

Ordering code

Ordering code of valve

CPV 10 B P-050

1 2 3 4 5

① Model	② Width of body	③Voltage	④Code of manual override	⑤Wire length [Note1]
CPV: CPV series Micro-solenoid valve	10: 10mm	A: AC220V B: DC24V C: AC110V F: DC12V	P: With manual override	050: 0.5m 200: 2.0m

[Note1] Contain two M1.6 screws.

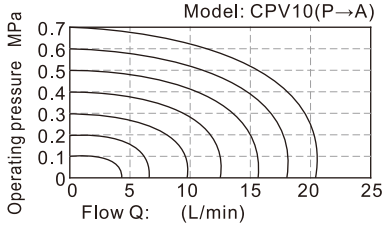
Ordering code of terminal wire

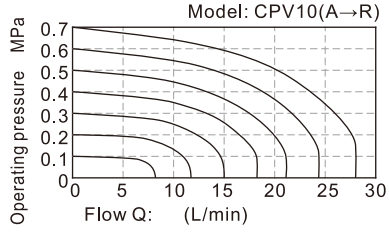
CPV T 050

1 2 3

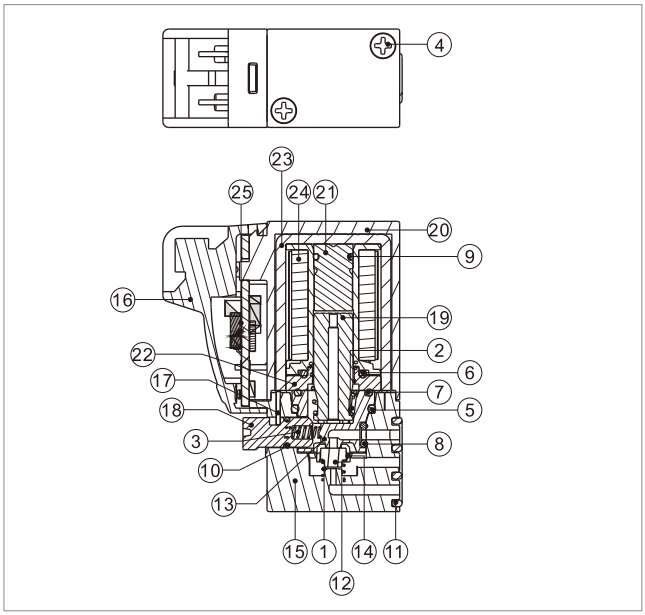
① Model	②Terminal wire	③Wire length
CPV: CPV series Micro-solenoid valve	T: Terminal wire	050: 0.5m 200: 2.0m

Flow chart



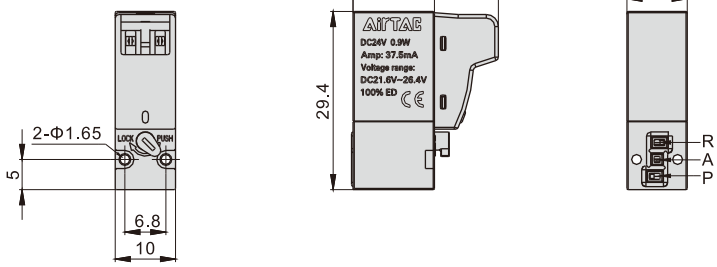


Inner structure



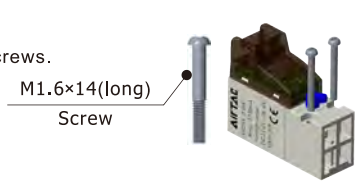
No.	Item	Material	No.	Item	Material
1	Spring	Stainless steel	14	Mandril	Resin
2	Spring	Stainless steel	15	Body	Resin
3	Spring	Stainless steel	16	Connector shell	Resin
4	Screw	Carbon steel	17	Manual pin plate	Stainless steel
5	O-ring	NBR	18	Manual pin	Brass
6	O-ring	NBR	19	Armature	Stainless steel
7	O-ring	NBR	20	Cover	Resin
8	Gasket	NBR	21	Electromagnet	Stainless steel
9	O-ring	NBR	22	Plate	Carbon steel
10	O-ring	NBR	23	U shape bracket	Carbon steel
11	Gasket	NBR	24	Coil	
12	Gasket	NBR	25	PCB assembly	
13	Crater	Resin			

Dimensions



Installation and Application

1. Micro-solenoid valve assembly:
   Fastened with torque of 0.1~0.15N.m by two M1.6X14L screws.
2. Wiring instruction:
   Multi-direction installation and polar less circuit design.
   Note: The terminal wire is non-polarity.
3. Prevent to connect AC coils in series with other devices.



Vertically insert
(Wire is vertical to valve)

Horizontally insert
(Wire is parallel to valve)

Micro-solenoid valve(3/2 way)

CPV10 Series —— Manifold

Specification

Model	CPV10MJ□□2F	CPV10MJ□□3F	.....	CPV10MJ□□20F
Fluid	Air(to be filtered by 40μm filter element)			
Temperature	-20~70℃			
Port size	P/R: M5 A: Φ3.2 / Φ4(Push in fittings)			
Applicable valves	CPV10 series micro-solenoid valve			

Product feature

1. Integrated installation saves space and reduces additional accessories.
2. Centralized air intake, exhaust, and wiring for quick air circuit checking.
3. Fixible combination and expandability for various applications. Blank plates are optional.

Ordering code

Ordering code of manifold

CPV10M J03 - 20F

① ② ③

① Model	② Port size	③Number of stations
CPV10M: CPV10 series Manifold	J03: Φ3.2 J04: Φ4	2F: 2 stations 4F: 4 stations 6F: 6 stations ..... 20F: 20 stations

Ordering code of blank plate

P-CPV10M-R2

① ②

①Model	②Code
CPV10M: CPV10 series Manifold	R2: Blank plate for manifold

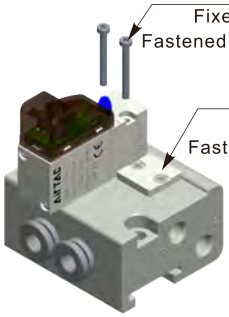
[Note] Blank plate kits contains blank plate, gasket and screws.

Installation and Application

Assembly of micro-solenoid valve (blank plate) and manifold

Solenoid valve:
Fixed by two M1.6 screws
Fastened with torque of 0.1~0.15N.m

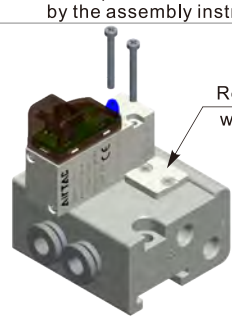
Blank plate:
Fixed by two M1.6 screws
Fastened with torque of 0.1~0.15N.m



Expansion of micro-solenoid valve

Remove blank plate and install solenoid valve by the assembly instruction.

Replace blank plate with solenoid valve



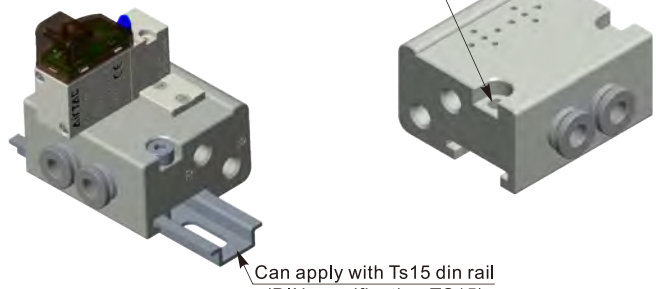
A port tubing

A port is at the side of manifold, port size is "Φ3.2 / Φ4"

A(with push in fittings)
(Φ1/8" / Φ5/32" tube)

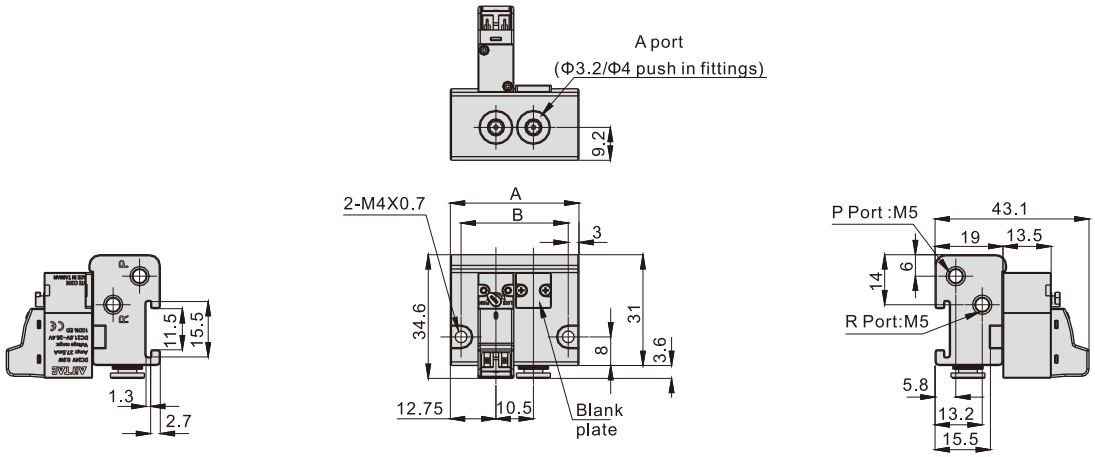
Manifold mounting

Installing through-holes
(using two M3 hexagon cap screws to fix)



Can apply with Ts15 din rail
(DIN specification:TS15)

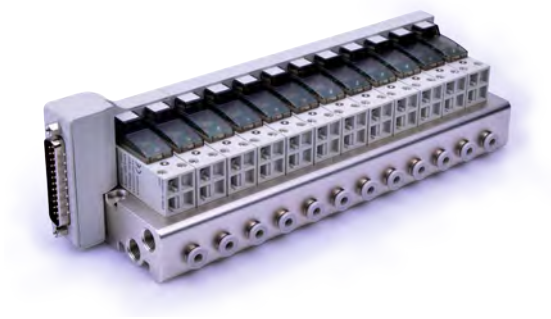
Dimensions



Item\Number of stations	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F
A	36	46.5	57	67.5	78	88.5	99	109.5	120	130.5	141	151.5	162	172.5	183	193.5	204	214.5	225
B	30	40.5	51	61.5	72	82.5	93	103.5	114	124.5	135	145.5	156	166.5	177	187.5	198	208.5	219

Integrated solenoid valve (3/2 way)

CPV15S Series



Specification

Model				CPV15SB	CPV15SF
Integrated solenoid valve	Fluid			Air(to be filtered by 40μm filter element)	
	Acting			Direct acting	
	Number of stations			2 stations ~20 stations, only available in even stations	
	Electrical entry			Terminal, 25pin D-Sub	
	Port size	P/R ports		1/8" [Note1]	
		A Port	PT thread	Φ4mm(Push in fittings)	
			G thread	Φ4mm(Push in fittings)	
			NPT thread	Φ5/32"(Push in fittings)	
	The type of Inlet and exhaust			Centralized inlet and exhaust	
	Operating pressure			0.15~0.8MPa(21~114psi)	
	Proof pressure			1.2MPa(175psi)	
	Temperature			-20~70℃	
Coil	Protection			Dustproof	
	Standard voltage			DC24V	DC12V
	Scope of voltage			DC±10%	
	Temperature classification			F Class	
	Power consumption			DC: 1.6W	

[Note1] PT thread, G thread and NPT thread are available.

Product feature

1. Integrated installation centralizes air intake, exhaust and power(25pin D-Sub)to save space and reduce additional accessories.
2. Flexible combination and expandability for various applications. Blank plates are optional.
3. Equipped with manual override for quick air circuit checking.
4. Low starting voltage and long service life.

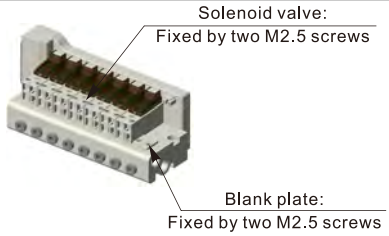
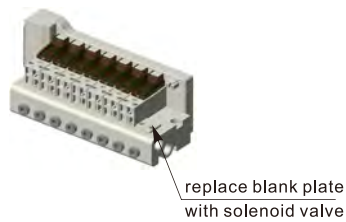
Ordering code

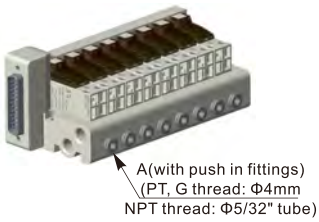
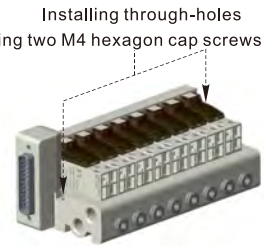
CPV15S B 20F □

① ② ③ ④

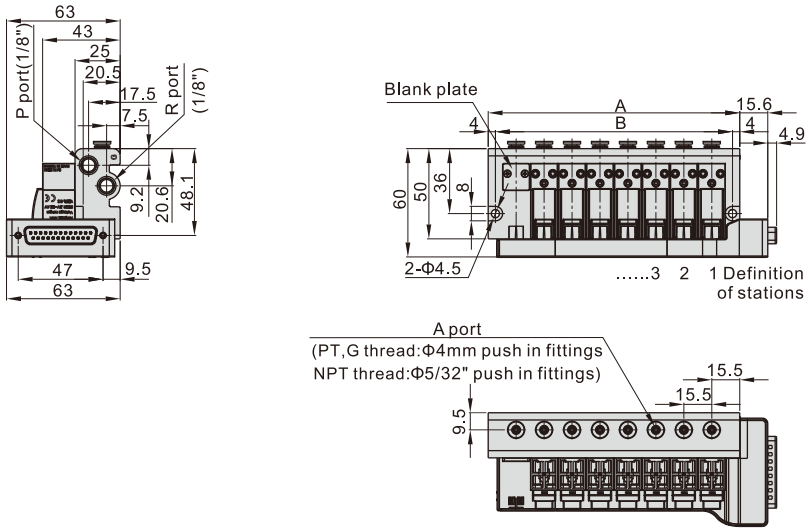
①Model	②Voltage	③Number of stations	④Thread type
CPV15S: CPV15S series integrated solenoid valve	B: DC24V F: DC12V	2F: 2 stations 3F: 3stations 4F: 4stations 20F: 20stations	Blank: PT G: G T: NPT

Installation and Application

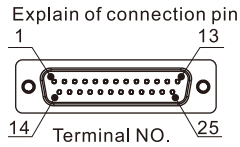
Assembly of micro-solenoid valve (blank plate) and manifold	Expansion of micro-solenoid valve
Mount micro-solenoid valve and manifold by two M2.5 screws as following . Mount blank plate and manifold by two M2.5 countersunk screws as following .	Remove blank plate and install solenoid valve by the assembly instruction.
	

A port tubing	Manifold mounting
A port is at the side of manifold with push in fittings.	Both sides of manifold attach two installing through-holes, using two M4 hexagon cap screws to fix.
	

Dimensions



Item\Number of stations	2F	4F	6F	8F	10F	12F	14F	16F	18F	20F
A	46.5	77.5	108.5	139.5	170.5	201.5	232.5	263.5	294.5	325.5
B	38.5	69.5	100.5	131.5	162.5	193.5	224.5	255.5	286.5	317.5



Terminal no.	Polarity		Control object	Terminal no.	Polarity		Control object
	-COM	+COM			-COM	+COM	
1	(+)	(-)	13 station	14	(+)	(-)	1 station
2	(+)	(-)	14 station	15	(+)	(-)	2 station
3	(+)	(-)	15 station	16	(+)	(-)	3 station
4	(+)	(-)	16 station	17	(+)	(-)	4 station
5	(+)	(-)	17 station	18	(+)	(-)	5 station
6	(+)	(-)	18 station	19	(+)	(-)	6 station
7	(+)	(-)	19 station	20	(+)	(-)	7 station
8	(+)	(-)	20 station	21	(+)	(-)	8 station
9	Void			22	(+)	(-)	9 station
10	Void			23	(+)	(-)	10 station
11	Void			24	(+)	(-)	11 station
12	Void			25	(+)	(-)	12 station
13	(-)	(+)	COM				

[Note] The D-sub cable of the corresponding Pin no. 13 (COM) must be≤22AWG.

Integrated solenoid valve (3/2 way)

CPV15S Series——Manifold, solenoid valve and blank plate

Specification

Model			CPV15S
Fluid			Air(to be filtered by 40μm filter element)
Number of stations			2 stations ~20 stations, only available in even stations
Electrical entry			Terminal, 25pin D-Sub
Port size	P/R ports		1/8" [Note1]
	A Port	PT thtread	Φ4mm(Push in fittings)
		G thtread	Φ4mm(Push in fittings)
		NPT thtread	Φ5/32"(Push in fittings)
The type of Inlet and exhaust			Centralized inlet and exhaust
Operating pressure			0.15~0.8MPa(21~114psi)
Proof pressure			1.2MPa(175psi)
Temperature			-20~70℃
Weight	Integrated valve of 2 stations		158.5g(not include CPV15 valve)
	Increase when add 2 stations		+97.65g
	Blank plate kits		0.65g

[Note1] PT thread, G thread and NPT thread are available.

Product feature

1. Integrated installation centralizes air inlet, exhaust and power (25pin D-Sub)to save space and reduce additional accessories.
2. Flexible combination and expandability for various applications. Blank plates are optional.

Ordering code

Ordering code for manifold CPV15S 20F □

①Model	②Number of stations	③Thread type
CPV15S: CPV15S series integrated solenoid valve	2F: 2 stations 4F: 4 stations 6F: 6 stations ..... 20F: 20 stations	Blank: PT G: G T: NPT

[Note] 1. Ordering code contains solenoid valve, manifold, and blank plate.
2. Maximum station up to 20 stations.

Ordering code for valve CPV15 B P

①Model	②Voltage	③Code of manual override
CPV: CPV series micro-solenoid valve	B: DC24V F: DC12V	P: With manual override

Ordering code for blank plate P-CPV15S-R2

①Model	②Code
CPV15S: CPV15S series integrated solenoid valve	R2: Blank plate for manifold

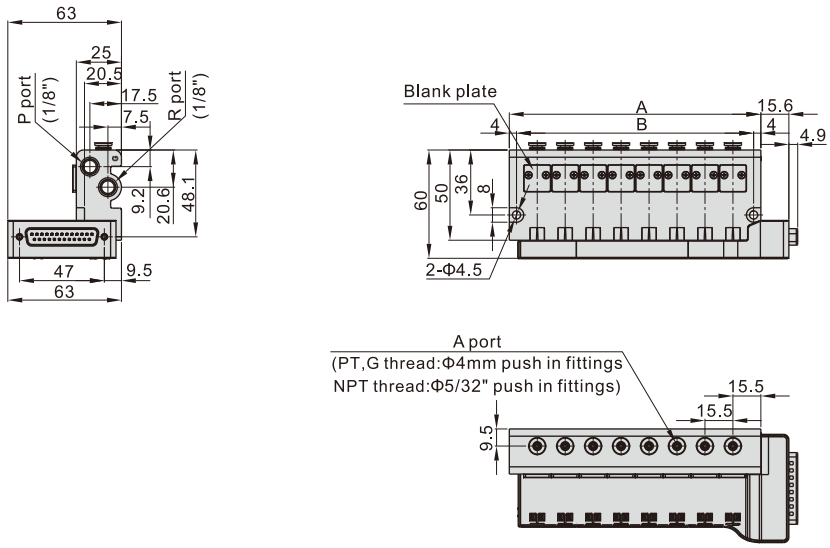
[Note] Blank plate kits contains blank plate, gasket and screw.

Installation and Application

Please refer to the "Installation and Application " instruction of Integrated solenoid valve.

CPV15S Series——Manifold, solenoid valve and blank plate

Dimensions



Item\Number of stations	2F	4F	6F	8F	10F	12F	14F	16F	18F	20F
A	46.5	77.5	108.5	139.5	170.5	201.5	232.5	263.5	294.5	325.5
B	38.5	69.5	100.5	131.5	162.5	193.5	224.5	255.5	286.5	317.5

Micro-solenoid valve(3/2 way)

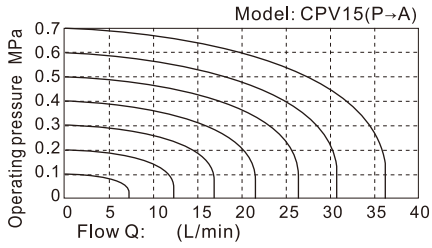
CPV15 Series

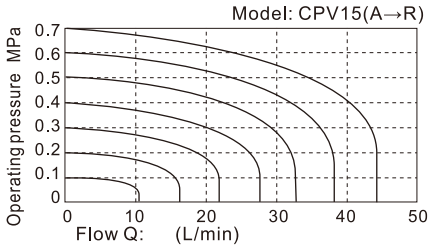
Symbol

Product feature

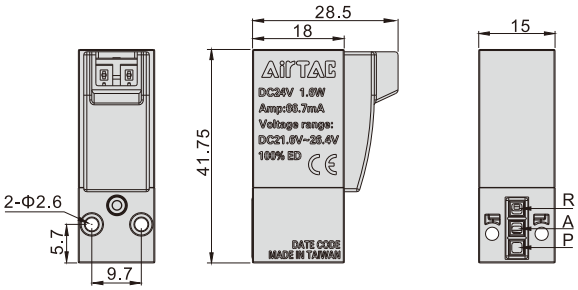
1. None polarity design of DC circuit, the direction(vertical or horizontal) of wiring can be adjusted freely according to the installation demand.
2. Low starting voltage and long service life.
3. There is no buzzing by the usage of AC power supply .
4. With surge device can avoid the damage of solenoid valve by surge voltage.

Flow chart





Dimensions



Specification

Model		CPV15
Fluid		Air(to be filtered by 40μm filter element)
Acting		Direct acting
Orifice size		Φ0.8mm
Valid area or section		P→A: 0.44mm²(Cv=0.024) ; A→P: 0.55mm²(Cv=0.03)
Valve type		3 port 2 position
Weight	micro-solenoid valve	33.2g
	Wire	050: 4.6g 200: 21.4g
	Screw(2pcs)	1.45g
Operating pressure		0.15~0.8MPa(21~114psi)
Proof pressure		1.2MPa(175psi)
Temperature		-20~70℃
Standard voltage		AC220V AC110V AC24V DC24V DC12V
Scope of voltage		DC±10%: AC+15%~-10%
Protection		Dustproof
Temperature classification		F Class
Power consumption		DC: 1.6W ; AC: 2.0VA
Electrical entry		Terminal
Activating time		on<10ms ; off<10ms

Ordering code

Ordering code of valve's body

CPV 15 B P-050

① ② ③ ④ ⑤

① Model	② Width of body	③Voltage	④Code of manual override	⑤Wire length [Note1]
CPV: CPV series micro-solenoid valve	15: 15mm	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	P: With manual override	050: 0.5m 200: 2.0m

[Note1] Attach the two M2.5 screws.

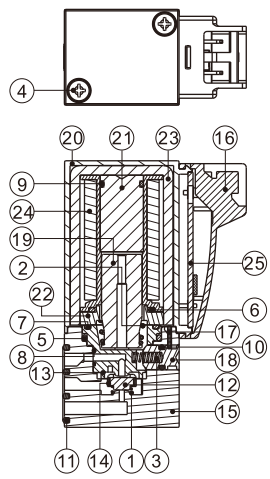
Ordering code of wire

CPV T 050

① ② ③

① Model	②Wire	③Wire length
CPV: CPV series micro-solenoid valve	T: Wire	050: 0.5m 200: 2.0m

Inner structure



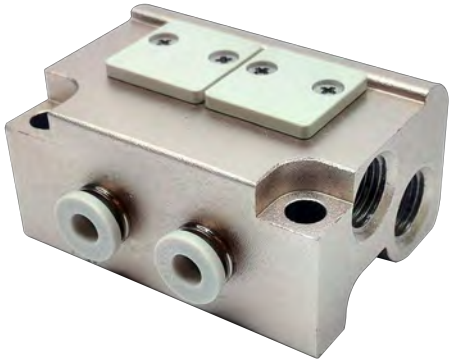
No.	Item	Material	No.	Item	Material
1	Spring	Stainless steel	14	Mandril	Resin
2	Spring	Stainless steel	15	Body	Resin
3	Spring	Stainless steel	16	Connector shell	Resin
4	Screw	Carbon steel	17	Manual pin plate	Stainless steel
5	O-ring	NBR	18	Manual pin	Brass
6	O-ring	NBR	19	Armature	Stainless steel
7	O-ring	NBR	20	Cover	Resin
8	O-ring	NBR	21	Electromagnet	Stainless steel
9	O-ring	NBR	22	Plate	Carbon steel
10	O-ring	NBR	23	U shape bracket	Carbon steel
11	Gasket	NBR	24	Coil	
12	Gasket	NBR	25	PCB assembly	
13	Crater	Resin			

Installation and Application

1. Valve body installation:
   Use two M2.5 X 19 screws to mount the valve by 0.4~0.45N.m.
2. Wiring instruction:
   Vertical and horizontal insertion share the same terminal port for different practical applications.
   Note: There is no polarity for terminal wire.
3. AC coil is forbidden to connect with other devices.

Vertically insert (Wire and body is vertical)

Horizontally insert (Wire and body is horizontal)



Specification

Model			CPV15M2F	CPV15M3F	CPV15M4F	.....	CPV15M20F
Fluid			Air(to be filtered by 40μm filter element)				
Temperature			-20~70℃				
Port size	P/R ports		1/8"[Note1]				
	A port	PT thread	Φ4mm(Push in fittings)				
		G thread	Φ4mm(Push in fittings)				
		NPT thread	Φ5/32"(Push in fittings)				
Applicable valves			CPV15 series micro-solenoid valve				

[Note1] PT thread, G thread and NPT thread are available.

Product feature

1. Integrated installation saves space and reduces additional accessories.
2. Centralized air intake, exhaust, and wiring for quick air circuit checking.
3. Flexible combination and expandability for various applications. Blank plates are optional.

Ordering code

Ordering code for manifold

CPV15M 20F □

① ② ③

① Model	② Number of stations	③Thread type
CPV15M: CPV15 series manifold	2F: 2 stations 3F: 3 stations 4F: 4 stations ..... 20F: 20 stations	Blank: PT G: G T: NPT

Ordering code for blank plate

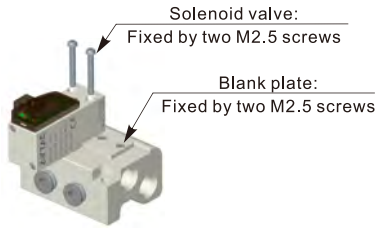
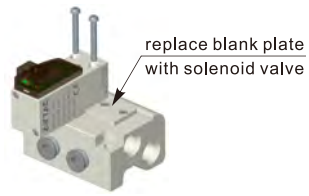
P-CPV15S-R2

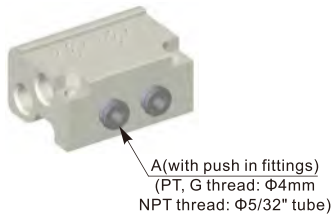
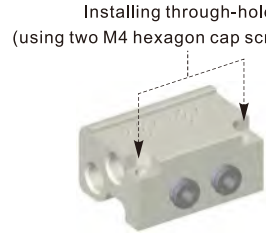
① ②

①Model	②Code
CPV15S: CPV15S series integrated solenoid valve	R2: Blank plate for manifold

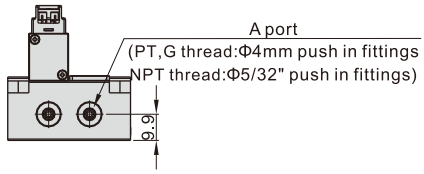
[Note] 1. Ordering code contains manifold and blank plate.
2. Maximum station up to 20 stations.
3. Blank plate kits contain blank plate, gasket and screw.

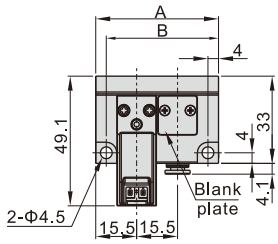
Installation and Application

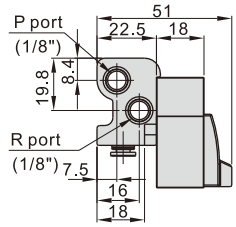
Assembly of micro-solenoid valve (blank plate) and manifold	Expansion of micro-solenoid valve
Mount micro-solenoid valve and manifold by two M2.5 screws as following . Mount blank plate and manifold by two M2.5 countersunk screws as following .	Remove blank plate and install solenoid valve by the assembly instruction.
	

A port tubing	Manifold mounting
A port is at the side of manifold with push in fittings	Both sides of manifold attach two installing through-holes, using two M4 hexagon cap screws to fix.
	

Dimensions







Item\Number of stations	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F
A	46.5	62	77.5	93	108.5	124	139.5	155	170.5	186	201.5	217	232.5	248	263.5	279	294.5	310	325.5
B	38.5	54	69.5	85	100.5	116	131.5	147	162.5	178	193.5	209	224.5	240	255.5	271	286.5	302	317.5

Integrated solenoid valve's cable

F-DSUB25

Specification

1. Flame resistant grade: UL94 VW-1.
2. Rated temperature: 80℃.
3. Rated voltage: 300V.

How to select cable

Cable type\Valve type	CPV10S	CPV15S
F-DSUB25	•	•

Cable ordering code

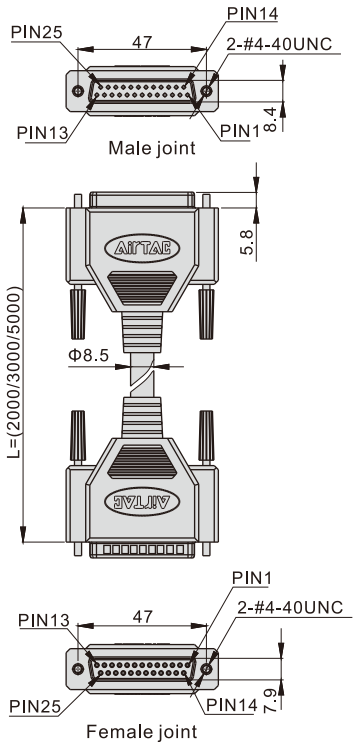
F - DSUB 25 F 200

① ② ③ ④

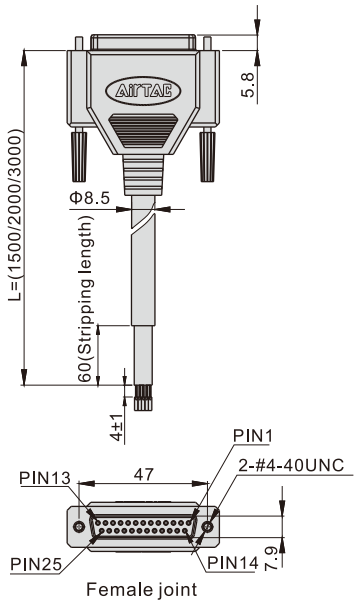
①Model	DSUB: D-SUB Cable		
②Pin Number	25: 25PIN 		
③Terminal type	F: Two Females 	M: One Female+another male 	S: One Female+another wire 
④Wire length	200: 2m 300: 3m 500: 5m		150: 1.5m 200: 2m 300: 3m

Dimensions and wire's assignment

F-DSUB25F(M)



F-DSUB25S



Wire's assignment	
PIN	Color
1	Black
2	Tawny
3	Red
4	Orange
5	Yellow
6	Pink
7	Blue
8	Violet+White
9	Gray+Black
10	White+Black
11	White+Red
12	Yellow+Red
13	Orange+Red
14	Yellow+Black
15	Pink+Black
16	Blue+White
17	Violet
18	Gray
19	Orange+Black
20	Red+White
21	Tawny+White
22	Pink+Red
23	Gray+Red
24	Black+White
25	White

Solenoid valve(3/2 way)

3V1 Series

Specification

Model	3V1-M5	3V1-06
Fluid	Air(to be filtered by 40μm filter element)	
Acting	Direct acting	
Port size [Note1]	M5	1/8"
Valve type	3 port 2 position	
Lubrication	Not required	
Operating pressure	0~0.8MPa(0~114psi)	
Proof pressure	1.2MPa(175psi)	
Temperature	-20~70℃	
Orifice size	Φ1.2mm	
Material of body	Aluminum alloy	

[Note1] PT thread, G thread and NPT thread are available.

Symbol

Product feature

1. Direct acting type and normally closed mode, flexible in direction change.
2. No need to add oil for lubrication.
3. Several valves can be installed integrately to save installation space.
4. Affiliated manual devices are equipped to facilitate installation and debugging.
5. Several standard voltage grades are optional.

Coil specification

Item	Specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%				
Power consumption	4.5VA	4.5VA	5.0VA	3.0W	2.5W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				
Max. frequency [Note 1]	10 cycle/sec				

[Note 1] The maximum actuation frequency is in the no-load state.

Ordering code

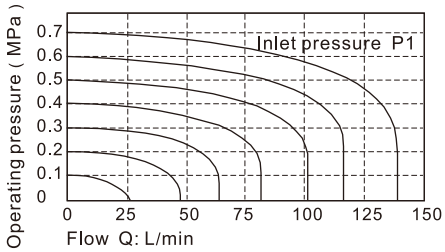
3V 1 06 A □ □

1 2 3 4 5 6

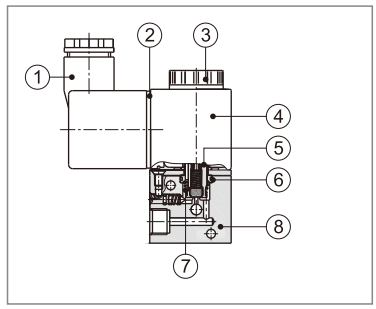
①Model	②Code	③Port size	④Standard voltage	⑤Electrical entry	⑥Thread type
3V: Solenoid valve (3/2 way)	1: 1 Series	M5: M5 06: 1/8"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	No this code Blank: PT G: G T: NPT

[Note] The wire length is 0.5m.

Flow chart



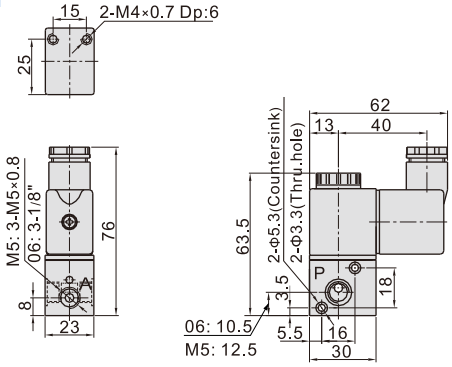
Inner structure



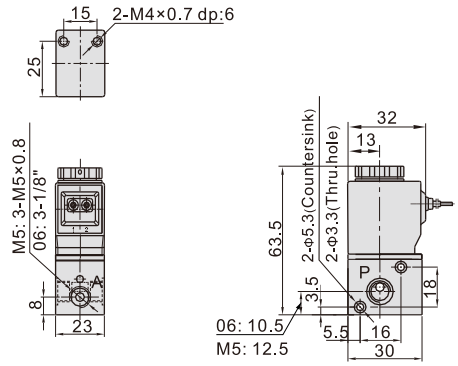
No.	Item	No.	Item
1	Connector	5	Armature
2	Gasket	6	O-ring
3	Coil nut	7	Return spring
4	Coil	8	Body

Dimensions

Terminal

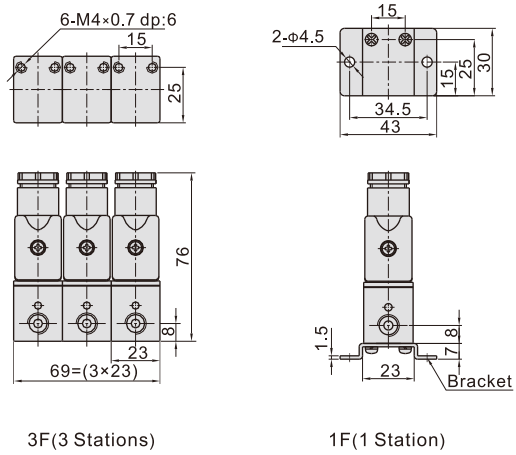


Grommet



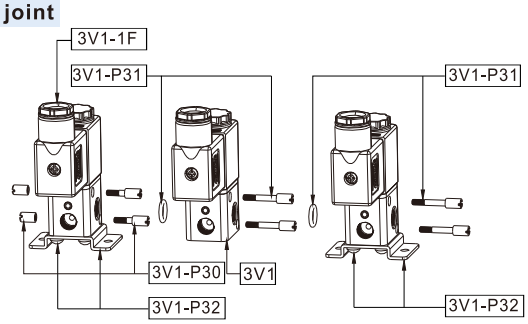
Series connection

Dimensions



3F(3 Stations)　　1F(1 Station)

How to joint



Product structure

Connection Amount\Q.TY	3V1	3V1-P30	3V1-P31	3V1-P32
3V1-□-□-1F	1	0	0	1
3V1-□-□-2F	2	1	1	1
……	……	……	……	……
3V1-□-□-nF	n	1	n-1	2

Note: “n” is the number of junction valve, and n≥3.

Ordering code for series

3V 1 06 A □ 3F □

① ② ③ ④ ⑤ ⑥ ⑦

①Model	②Code	③Port size	④Standard voltage	⑤Electrical entry	⑥Number of stations	⑦Thread type
3V: Solenoid valve (3/2 way)	1: 1 Series	M5: M5	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	1F: 1 Station 2F: 2 Stations 3F: 3 Stations …… 20F: 20 Stations	Not this code
		06: 1/8"				Blank: PT G: G T: NPT

[Note] The wire length is 0.5m.

The above codes have included the series accessories, so it is unnecessary to order the accessories specially. But if you like, you could order as follows.

Code of accessories	Accessory name	Part code	Part name	Quantity
3V1-P30	Coupling screw assembly	F-3V1002B	Coupling screw(S)	2
		F-3V1003B	Coupling screw(M)	2
3V1-P31	Coupling screw assembly	GOR20008N75	O-Ring	1
		F-3V1004B	Coupling screw(L)	2
3V1-P32	Bracket assembly	F-3V1001B	Fixed mounting	1
		GSDA04008ZA	Cross round head screw	2

Solenoid valve(3/2 way)

3V2 Series

Specification

Model		3V206	3V208
Fluid		Air(to be filtered by 40μm filter element)	
Acting		Direct acting	
Port size [Note1]		1/8"	1/4"
Valve type		3 port 2 position	
Orifice size		3.2mm²(Cv=0.18)	3.4mm²(Cv=0.19)
Lubrication		Not required	
Operating pressure	Common	0~0.8MPa(0~114psi)	
	vacuum	-102.2kPa~0.1MPa(-1.45~14.2psi)	
Proof pressure		1.2MPa(175psi)	
Temperature		-20~70℃	
Material of body		Aluminum alloy	

[Note1] PT thread, G thread and NPT thread are available.

Symbol

Coil specification

Item	Specification
Standard voltage	AC220V、AC110V、AC24V、DC24V、DC12V
Scope of voltage	AC: ±15%　DC: ±10%
Power consumption	AC: 7VA　DC: 7.0W
Protection	IP65(DIN40050)
Temperature classification	B Class
Electrical entry	Terminal, Grommet
Activating time	0.05 sec and below
Max. frequency [Note1]	10 cycle/sec

[Note1] The maximum actuation frequency is in the no-load state.

Product feature

1. Direct acting type and normally closed mode, flexible in direction change.
2. Normally closed and normally open types are optional.
3. Structure in coaxial blanking mode: leakage proof and large air flow.
4. No need to add oil for lubrication.
5. Affiliated manual devices are equipped to facilitate installation and debugging.
6. Several standard voltage grades are optional.
7. Can be used under vacuum condition.

Ordering code

Ordering code of solenoid valve

3V 2 08 NC A □ □

1 2 3 4 5 6 7

①Model	②Code	③Port size	④Acting type	⑤Standard voltage	⑥Electrical entry	⑦Thread type
3V: Solenoid valve(3/2 way)	2: 2 Series	06: 1/8" 08: 1/4"	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet [Note]	Blank: PT G: G T: NPT

[Note] The wire length is 0.5m.

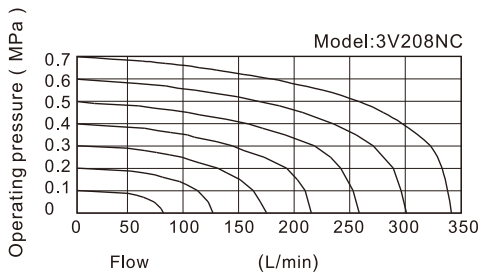
Ordering code of accessories

F-3V2 FA

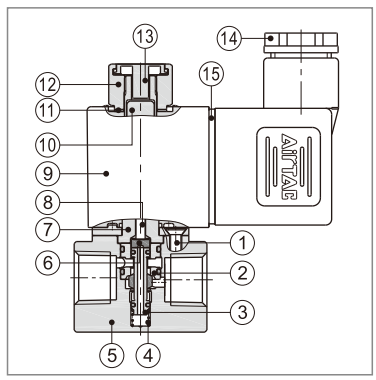
1 2 3

①Accessories code	②Valve type	③Accessories type
F: Mounting accessories	3V2: Solenoid valve(3/2 way)	FA: FA Bracket

Flow chart



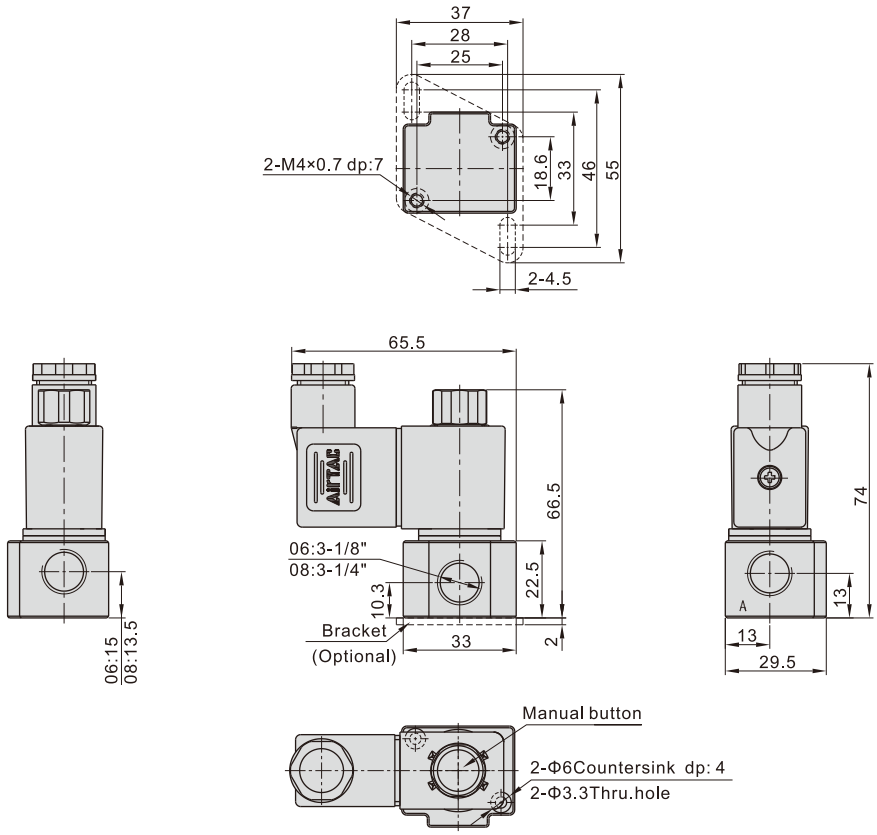
Inner structure



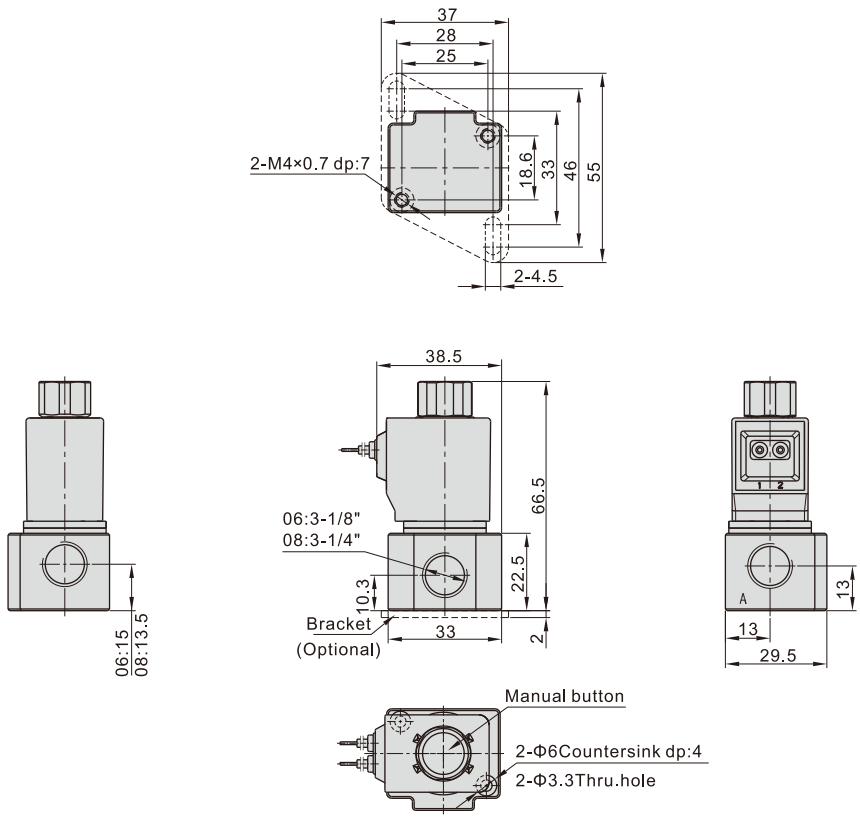
No.	Item	No.	Item
1	Pilot screw	9	Coil
2	Spacer	10	Armature
3	Spool	11	Washer
4	Spring	12	Coil nut
5	Body	13	Manual button
6	Washer	14	Connector
7	Electromagnet set	15	Gasket
8	Mandril		

Dimensions

Terminal



Grommet



Solenoid valve(3/2 way)

3V2M Series

Symbol

Product feature

1. Direct acting type and normally closed mode, flexible in direction change.
2. Normally closed and normally open types are optional.
3. Structure in coaxial blanking mode: leakage proof and large air flow.
4. No need to add oil for lubrication.
5. Affiliated manual devices are equipped to facilitate installation and debugging.
6. Valve needs to be used with the sub-base and allows various connection combinations to save space.
7. It is easy to examine when there are faults owning to the unified air intake and exhaust and unified wiring.
8. Flexible combination and strong expansion capability can make any combination or expansion of the numbers of direction control valves that are connected.
9. Can adjust the installation direction of special sub-base seal for NO or NC functions.

Specification

Model	3V2M
Fluid	Air(to be filtered by 40μm filter element)
Acting	Direct acting
Port size [Note1]	1/8"
Valve type	3 port 2 position
Orifice size	1.7mm^2(Cv=0.1)
Exhaust type	Centralized exhaust , Separated exhaust
Operating pressure	0~0.8MPa(0~114psi)
Proof pressure	1.2MPa(175psi)
Temperature	-20~70℃
Material of body	Aluminum alloy

[Note1] PT thread, G thread and NPT thread are available.

Coil specification

Item	Specification
Standard voltage	AC220V、AC110V、AC24V、DC24V、DC12V
Scope of voltage	AC: ±15% DC: ±10%
Power consumption	AC: 7VA DC: 7.0W
Protection	IP65(DIN40050)
Temperature classification	B Class
Electrical entry	Terminal, Grommet
Activating time	0.05 sec and below
Max. frequency [Note1]	10 cycle/sec

[Note1] The maximum actuation frequency is in the no-load state.

Ordering code

Ordering code for valve

3V2M NC A □

①Model	②Acting type	③Standard voltage	④Electrical entry
3V2M: Solenoid valve(3/2 way, with manifold)	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]

[Note] The wire length is 0.5m.

Ordering code for manifold

3V2M 5F D □

①Model	②Number of stations	③Exhaust type	④Thread type
3V2M: Solenoid valve(3/2 way, with manifold)	1F: 1 Stations 2F: 2 Stations ..... 20F: 20 Stations	Blank: Centralized exhaust D: Separated exhaust	Blank: PT G: G T: NPT

[Note]: Manifold kits contains manifold, seal and screw.
The port size is only 1/8".

Ordering code for valve's group(valve+manifold)

3V2M NC A □ - 5F D □

①Model	②Acting type	③Standard voltage	④Electrical entry	⑤Number of stations	⑥Exhaust type	⑦Thread type
3V2M: Solenoid valve (3/2 way, with manifold)	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	1F: 1 Station 2F: 2 Stations 3F: 3 Stations ..... 20F: 20 Stations	Blank:Centralized exhaust D: Separated exhaust	Blank: PT G: G T: NPT

Ordering code for blank plate

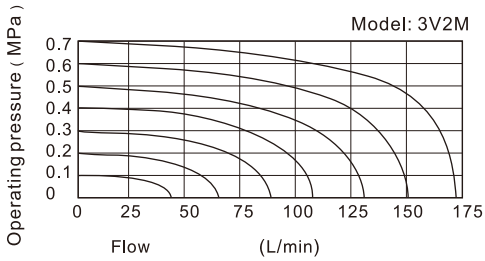
P-3V2M - R2

①Subassembly type	②Valve type	③Accessories type
P: subassembly	3V2M: Solenoid valve(3/2 way, with manifold)	R2: Blank plate for manifold

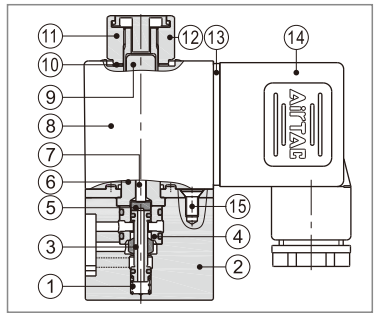
[Note]: Blank plate kits contains blank plate and screw.

3V2M Series

Flow chart



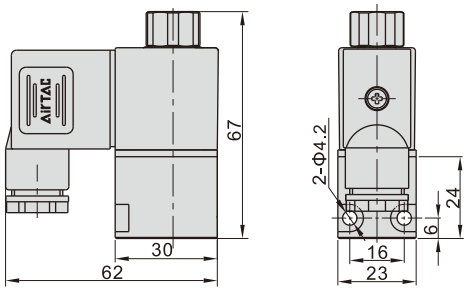
Inner structure



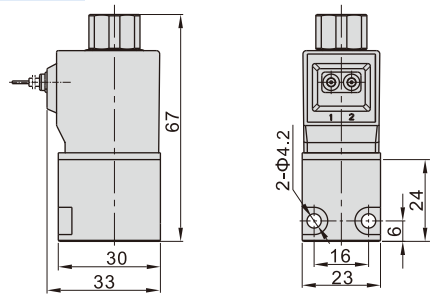
No.	Item	No.	Item
1	Spring	9	Armature
2	Body	10	Washer
3	Spool	11	Coil nut
4	Spacer	12	Manual button
5	Washer	13	Gasket
6	Electromagnet set	14	Connector
7	Mandril	15	Pilot screw
8	Coil		

Dimensions

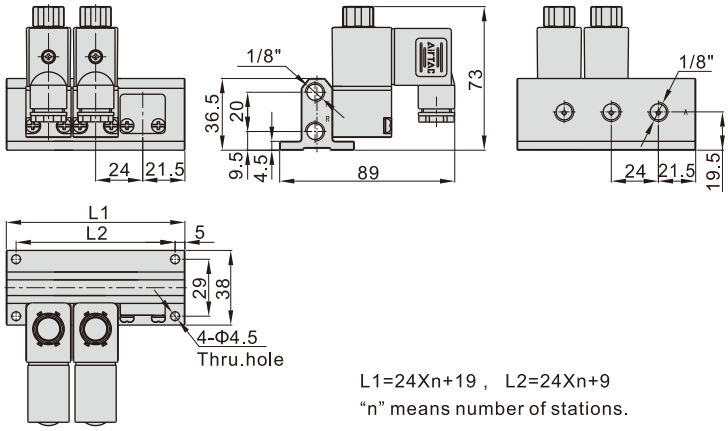
Valve(Terminal)



Valve(Grommet)

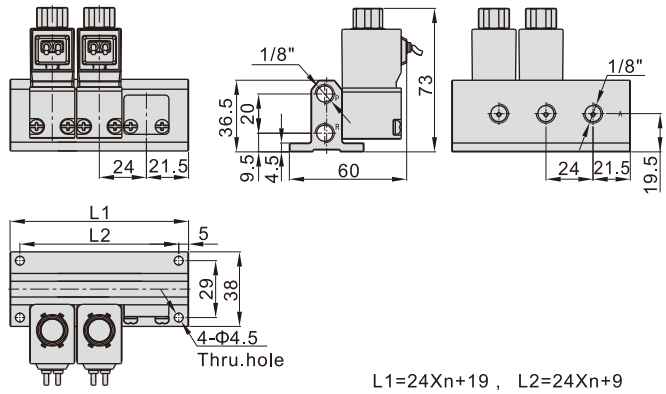


Valve's group(Terminal, Centralized exhaust)



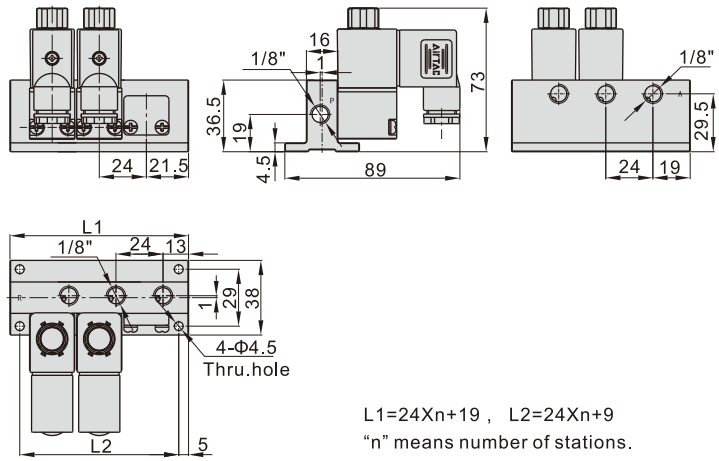
L1=24Xn+19 , L2=24Xn+9
"n" means number of stations.

Valve's group(Grommet, Centralized exhaust)



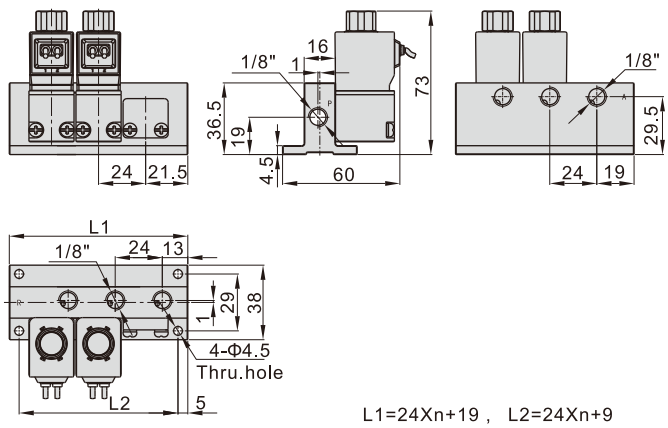
L1=24Xn+19 , L2=24Xn+9
"n" means number of stations.

Valve's group(Terminal, Separated exhaust)



L1=24Xn+19 , L2=24Xn+9
"n" means number of stations.

Valve's group(Grommet, Separated exhaust)



L1=24Xn+19 , L2=24Xn+9
"n" means number of stations.

Solenoid valve(3/2 way)

3V3 Series

Specification

Model		3V308
Fluid		Air(to be filtered by 40μm filter element)
Acting		Direct acting
Port size [Note1]		1/4"
Valve type		3 port 2 position
Orifice size		11mm²(Cv=0.62)
Lubrication		Not required
Operating pressure	Common	0~0.8MPa(0~114psi)
	vacuum	-102.2kPa~0.1MPa(-1.45~14.2psi)
Proof pressure		1.2MPa(175psi)
Temperature		-20~70℃
Material of body		Aluminum alloy

[Note1] PT thread, G thread and NPT thread are available.

Symbol

Coil specification

Item	Specification
Standard voltage	AC220V、AC110V、AC24V、DC24V、DC12V
Scope of voltage	AC: ±15%　DC: ±10%
Power consumption	AC: 10VA　DC: 6.5W
Protection	IP65(DIN40050)
Temperature classification	B Class
Electrical entry	Terminal, Grommet
Activating time	0.05 sec and below
Max. frequency [Note1]	10 cycle/sec

[Note1] The maximum actuation frequency is in the no-load state.

Product feature

1. Direct acting type and normally closed mode, flexible in direction change.
2. Normally closed and normally open types are optional.
3. Structure in coaxial blanking mode: leakage proof and large air flow.
4. No need to add oil for lubrication.
5. Affiliated manual devices are equipped to facilitate installation and debugging.
6. Several standard voltage grades are optional.
7. Can be used under vacuum condition.

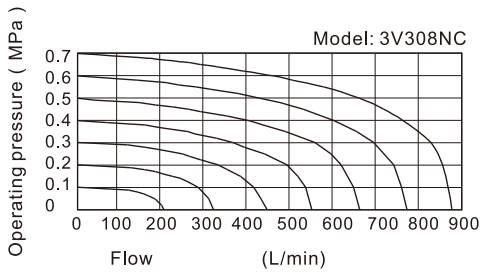
Ordering code

3V 3 08 NC A □ □

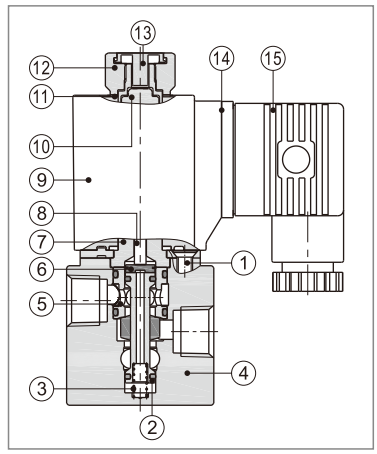
①Model	②Code	③Port size	④Acting type	⑤Standard voltage	⑥Electrical entry	⑦Thread type
3V: Solenoid valve (3/2 way)	3: 3 Series	08: 1/4"	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT

[Note] The wire length is 0.5m.

Flow chart



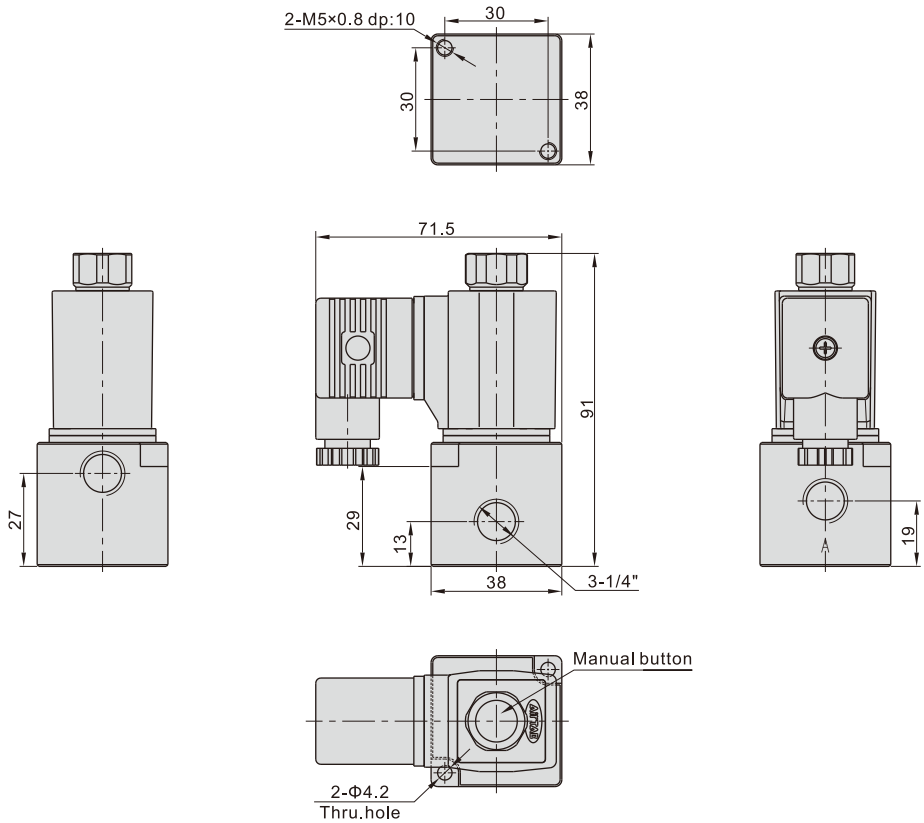
Inner structure



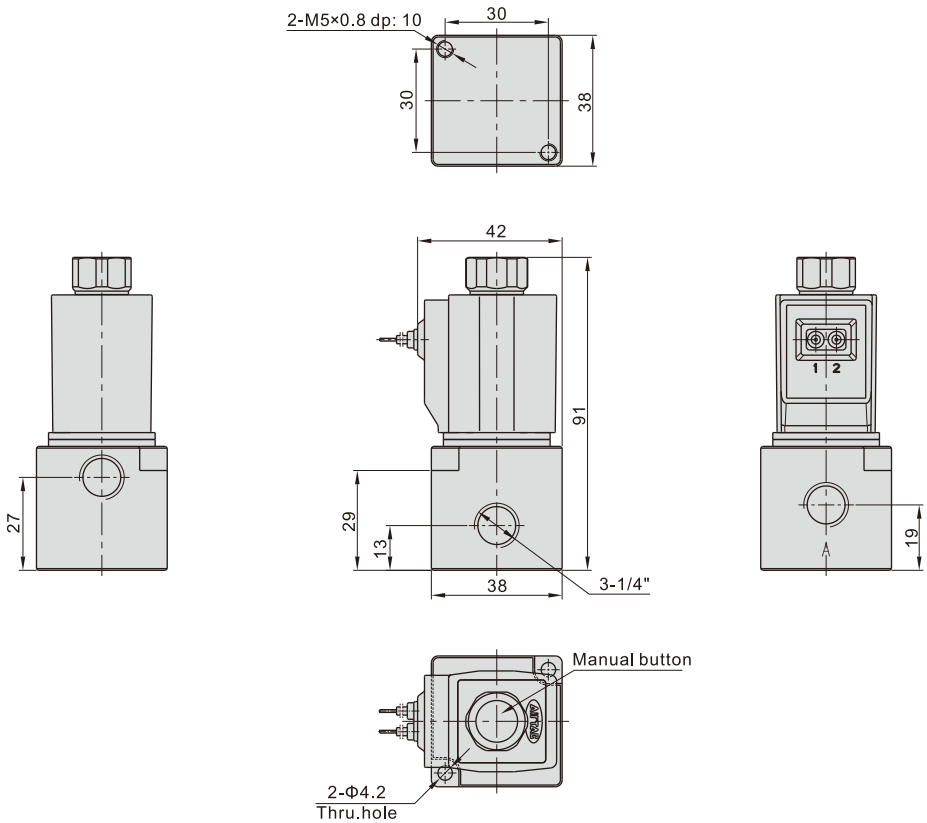
No.	Item	No.	Item
1	Pilot screw	9	Coil
2	Spool	10	Armature
3	Spring	11	Washer
4	Body	12	Coil nut
5	Spacer	13	Manual button
6	Washer	14	Gasket
7	Electromagnet set	15	Connector
8	Mandril		

Dimensions

Terminal



Grommet



6TV Series

Specification

Model	6TV0510	6TV0520	6TV110	6TV120
Port size [Note1]	In=Out=Exh=M5		In=Out=Exh=M5(or=1/8")	
Orifice size(Cv)[Note4]	M5:3.4mm²(0.2)		06 : 8.9mm²(0.52)	
Weight (g)	28	43	52	67
Model	**6TV210**	**6TV220**	**6TV310**	**6TV320**
Port size [Note1]	06 : In=Out=Exh=1/8" 08 : In=Out=1/4" Exh=1/8"		In=Out=3/8" Exh=1/4"	
Orifice size(Cv)[Note4]	08 : 15.4mm²(0.91)		10:38.4mm²(2.26)	
Weight (g)	90	105	180	215
Fluid	Air(to be filtered by 40μm filter element)			
Acting	Internal pilot			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Exhaust type of pilot valve	Main valve and pilot valve concentrated exhaust			
Max.frequency [Note3]	5 cycle/sec			

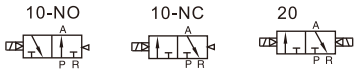
[Note1] PT thread, G thread and NPT thread are available.

[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency is in the no-load state.

[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Product feature

1. Electrical entry is terminal, horizontal and vertical insertion can freely switch.
2. Inner exhaust structure to collect pilot airflow, and then exhaust intensively from R port.
3. The body is extruded by aluminum alloy, and the inner hole is specially processed to increase the flow rate.
4. Threaded type and quick connector type are optional, and can integrate manifold to form valve group to save space.

Coil specification

Item	Specification			
Standard voltage	AC220V	AC110V	DC24V	DC12V
Scope of voltage	AC: +15% ~-10%		DC: ±10%	
Power consumption	1.1VA		0.9W	
Protection	Dust-proof			
Temperature classification	F Class			
Electrical entry	Terminal			
Activating time	0.05 sec and below			

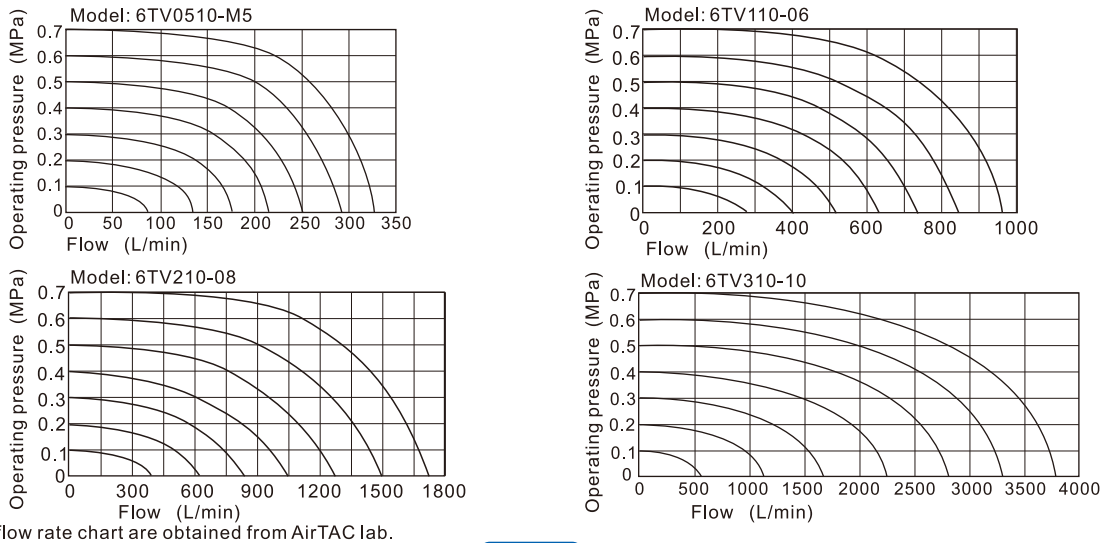
Ordering code

6TV 1 10 06 NC B 050 □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

①Model	6TV : Solenoid valve (3/2 way)					
②Code	05: 0500 Series	1: 100 Series		2: 200 Series		3: 300 Series
③Valve type	10: Single solenoid 20 : Double solenoid					
④Port size	M5: M5	M5: M5	06: 1/8"	06: 1/8"	08: 1/4"	10: 3/8"
⑤Acting type	NC: Normally closed NO: Normally opened [Note : Double solenoid no this code]					
⑥Voltage	A: AC220V B: DC24V C: AC110V F: DC12V					
⑦Wire length	050: 0.5m 200: 2.0m					
⑧Thread type	-	Blank: PT Thread/ G: G Thread / T: NPT Thread				

Flow chart

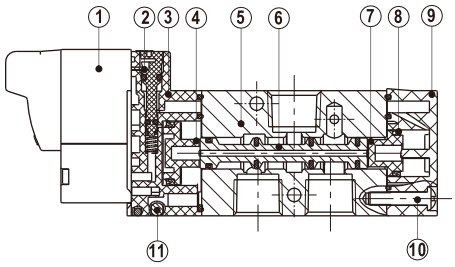


The data in flow rate chart are obtained from AirTAC lab.

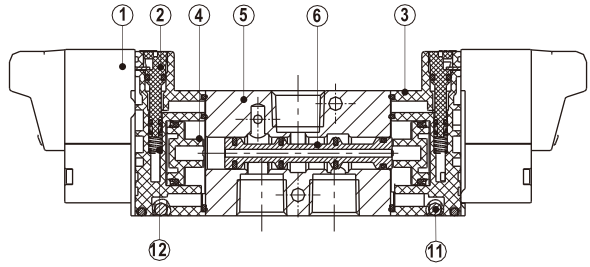
6TV Series

Inner structure

6TV110



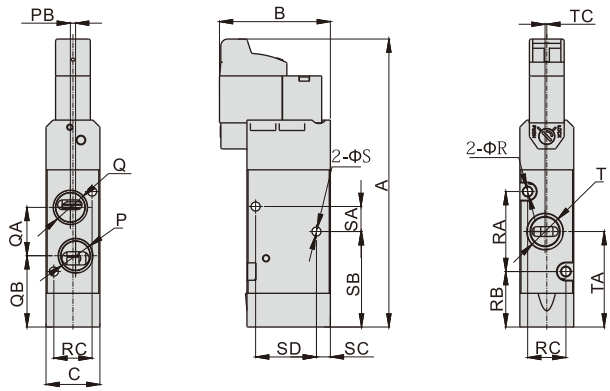
6TV120NC



No.	Item
1	Pilot valve
2	Manual override
3	Pilot kit
4	Big piston
5	Body
6	Spool
7	Small piston
8	Gasket
9	Bottom cover
10	Bolt
11	Steel ball
12	Spring

Dimensions

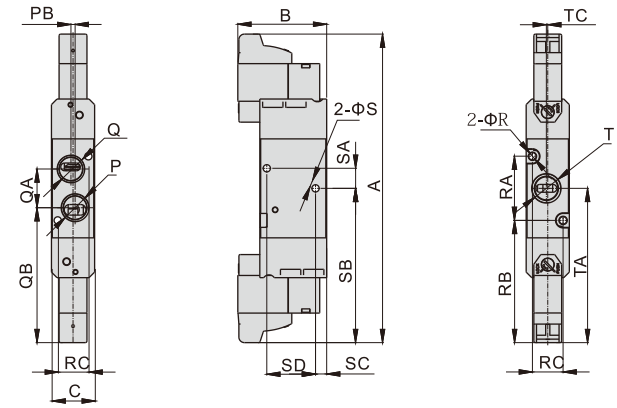
6TV0510
6TV110
6TV210
6TV310



Model\Item	A	B	C	P	PB	Q	QA	QB	R	RA	RB	RC	S	SA	SB	SC	SD	T	TA	TC
6TV0510M5	64.5	30.5	10.6	M5X0.8	1	M5X0.8	9.5	13.5	2.1	14	11.5	7.5	-	-	-	-	-	M5X0.8	18.5	0.5
6TV110M5	83	32	15.5	M5X0.8	-	M5X0.8	14	20.5	2.6	23	16	11	Φ2.6	7.2	27.5	4	17.5	M5X0.8	27.5	-
6TV11006	83	32	15.5	1/8"	1.5	1/8"	14	20.5	2.6	23	16	11	Φ2.6	7.2	27.5	4	17.5	1/8"	27.5	0.5
6TV21006	97	33.5	18.5	1/8"	-	1/8"	18	25.5	3.2	33	18	13.5	Φ3.2	12	34.5	7	21	1/8"	34.5	-
6TV21008	97	33.5	18.5	1/4"	-	1/8"	18	25.5	3.2	33	18	13.5	Φ3.2	12	34.5	7	21	1/4"	34.5	1
6TV31010	116.5	46	23.5	3/8"	-	1/4"	28	29.5	3.2	43	22	18.4	Φ4.3	15	58.5	8	31	3/8"	43.5	-

[Note]: 6TV0510 type no through hole "S" on the side.

6TV0520
6TV120
6TV220
6TV320



Model\Item	A	B	C	P	PB	Q	QA	QB	R	RA	RB	RC	S	SA	SB	SC	SD	T	TA	TC
6TV0520M5	93	30.5	10.6	M5X0.8	1	M5X0.8	9.5	41.5	2.1	14	39.5	7.5	-	-	-	-	-	M5X0.8	18.5	0.5
6TV120M5	110.5	32	15.5	M5X0.8	-	M5X0.8	14	48.5	2.6	23	44	11	Φ2.6	7.2	55.5	4	17.5	M5X0.8	27.5	-
6TV12006	110.5	32	15.5	1/8"	1.5	1/8"	14	48.5	2.6	23	44	11	Φ2.6	7.2	55.5	4	17.5	1/8"	27.5	0.5
6TV22006	125	33.5	18.5	1/8"	-	1/8"	18	53.5	3.2	33	46	13.5	Φ3.2	12	62.5	7	21	1/8"	34.5	-
6TV22008	125	33.5	18.5	1/4"	-	1/8"	18	53.5	3.2	33	46	13.5	Φ3.2	12	62.5	7	21	1/4"	34.5	1
6TV32010	146	46	23.5	3/8"	-	1/4"	28	59	3.2	43	51.5	18.4	Φ4.3	15	73	8	31	3/8"	43.5	-

[Note]: 6TV0520 type no through hole "S" on the side.

Manifold for 6TV Series

Specification

Item\Manifold Model	6TV0500M	6TV100M	6TV200M	6TV300M
Fluid	Air(to be filtered by 40μm filter element)			
Temperature ℃	-20~70			
Adaptable valve's series	6TV0500 Series	6TV100 Series	6TV200 Series	6TV300 Series

Product feature

1. It is available to integrate the direction control valves of the same series to form valve group to save space and cost.
2. It is easy to examine when there are faults owning to the unified air intake and exhaust and unified wiring.
3. Flexible combination and strong expansion capability can make any combination or expansion of the numbers of direction control valves that are connected.

Ordering code

6TV100M 5F □ Ordering code for manifold

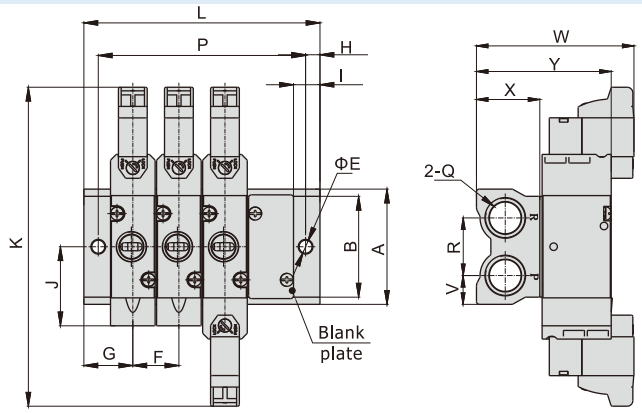
①Model	6TV0500M: 6TV0500 Series manifold	6TV100M: 6TV100 Series manifold	6TV200M: 6TV200 Series manifold	6TV300M: 6TV300 Series manifold
②Number of stations	1F: 1 Station 2F: 2 Station 3F: 3 Station ..... 20F: 20 Station			
③Thread type	Blank: PT / G: G Thread / T: NPT Thread			

P-6TV100M - R2 Ordering code for blank plate

①Model	6TV0500M: 6TV0500 Series manifold	6TV100M: 6TV100 Series manifold	6TV200M: 6TV200 Series manifold	6TV300M: 6TV300 Series manifold
②Code	R2: Blank plate for manifold			

[Note] 1.Manifold kits contains manifold, seal and screw; 2. Blank plate kits contains blank plate and screw.

Dimensions



Model\Item	A	B	E	F	G	H	I	J	K	Q	R	V	W	X	Y
6TV0500M	33	26	4.5	11	15	5	9.5	18.5	93	1/8"	16.5	8.5	48.5	17	36
6TV100M	40	35	4.5	16	17	5	9	27.5	110.5	1/4"	20	10	54.5	22	47
6TV200M	48	44	4.5	19	18.5	5	9	34.5	125	1/4"	24	12	58	23.5	57
6TV300M	60	54	4.5	24	24	5	12.5	43.5	146	3/8"	32	14	74	27	-

Model\Item	L																			
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F
6TV0500M	30	41	52	63	74	85	96	107	118	129	140	151	162	173	184	195	206	217	228	239
6TV100M	34	50	66	82	98	114	130	146	162	178	194	210	226	242	258	274	290	306	322	338
6TV200M	37	56	75	94	113	132	151	170	189	208	227	246	265	284	303	322	341	360	379	398
6TV300M	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480	504

Model\Item	P																			
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F
6TV0500M	20	31	42	53	64	75	86	97	108	119	120	141	152	163	174	185	196	207	218	229
6TV100M	24	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328
6TV200M	27	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388
6TV300M	38	62	86	110	134	158	182	206	230	254	278	302	326	350	374	398	422	446	470	494

Solenoid valve(3/2 way)

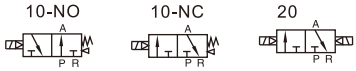
3V100 Series

Specification

Model	3V110-M5	3V120-M5	3V110-06	3V120-06
Fluid	Air(to be filtered by 40μm filter element)			
Acting	Internal pilot or external pilot			
Port size [Note1]	M5		1/8"	
Orifice size(Cv)[Note3]	3V110-06,3V120-06:10.2mm^2(Cv=0.6)			
Valve type	3 port 2 position			
Lubrication [Note2]	Not required			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			

[Note 1] PT thread, G thread and NPT thread are available.
[Note 2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.
[Note3] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Product feature

1. Pilot-oriented mode: Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Double control solenoid valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Affiliated manual devices are equipped to facilitate installation and debugging.
7. Several standard voltage grades are optional.
8. Integrate with the manifold to save installation space.

Coil specification

Item	Specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%				
Power consumption	3.5VA	3.5VA	4.0VA	2.8W	2.5W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				
Max. frequency [Note 1]	5 cycle/sec				

[Note 1] The maximum actuation frequency is in the no-load state.

Ordering code

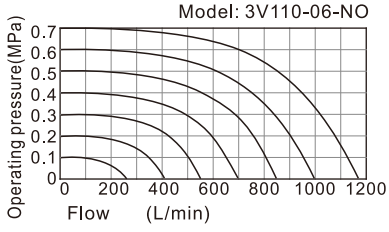
3V 1 10 06 NO A □ □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

①Model	②Code	③Valve type	④Port size	⑤Acting type	⑥Standard voltage	⑦Electrical entry	⑧Thread type	
							M5	1/8"
3V:Solenoid valve (3/2 way)	1: 100 Series	10: Single solenoid	M5: M5 06: 1/8"	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	No this code	Blank: PT G: G T: NPT
		20: Double solenoid		No this code				

[Note] The wire length is 0.5m. Please refer to 87 for manifold specification and the order way.

Flow chart

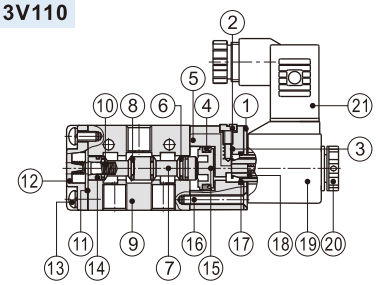


The data in flow rate chart are obtained from AirTAC lab.

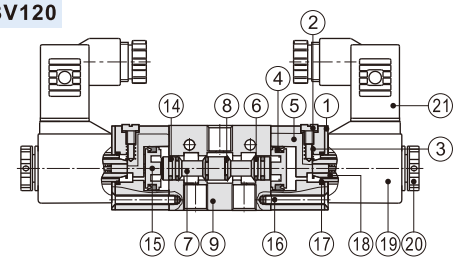
3V100 Series

Inner structure

3V110



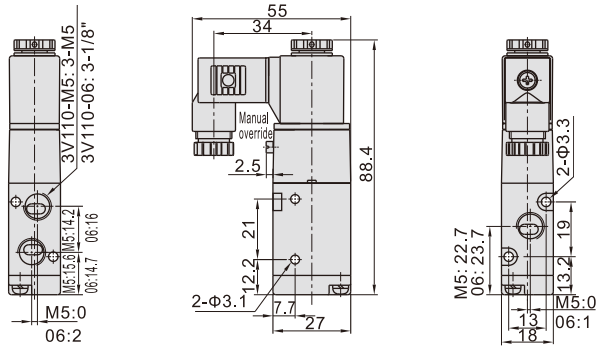
3V120



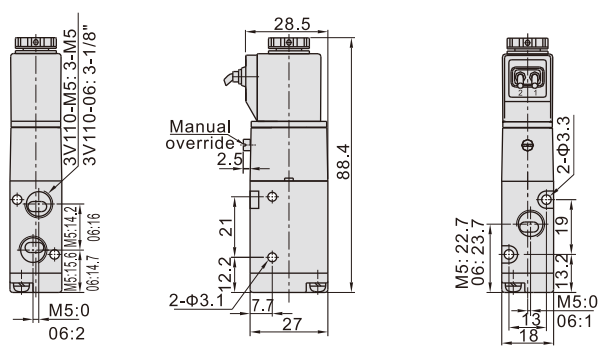
No.	Item	No.	Item	No.	Item
1	Fixed plate	8	O-ring	15	Piston
2	Manual override	9	Body	16	Pilot screw
3	Override spring	10	Spool spring	17	O-ring
4	Piston O-ring	11	Bottom cover gasket	18	Armature
5	Pilot body	12	Bottom cover	19	Coil
6	Spool packing	13	Screw	20	Coil nut
7	Spool	14	Wear ring	21	Connector

Dimensions

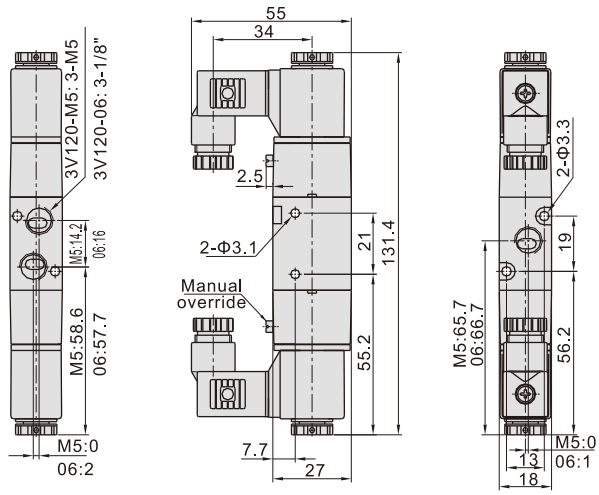
3V110(Terminal)



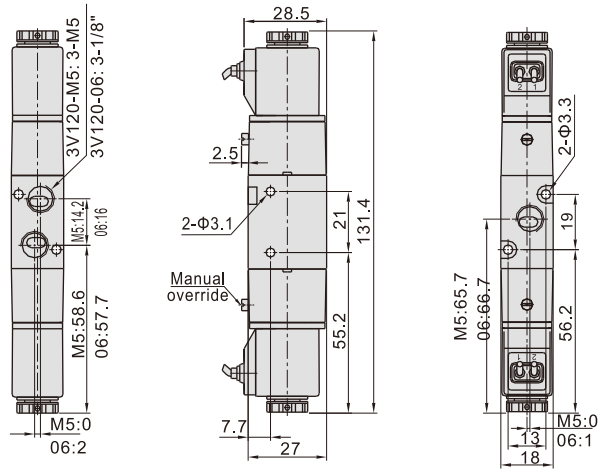
3V110(Grommet)



3V120(Terminal)



3V120(Grommet)



Solenoid valve(3/2 way)

3V200 Series

Specification

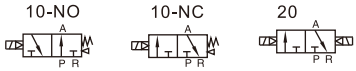
Model	3V210-06	3V220-06	3V210-08	3V220-08
Fluid	Air(to be filtered by 40μm filter element)			
Acting	Internal pilot or external pilot			
Port size [Note 1]	In=Out=1/8"		In=Out=1/4"	
Orifice size(Cv)[Note3]	3V210-08,3V220-08:17.0mm^2(Cv=1.0)			
Valve type	3 port 2 position			
Lubrication [Note 2]	Not required			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			

[Note 1] PT thread, G thread and NPT thread are available.

[Note 2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Product feature

1. Pilot-oriented mode:Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Double control solenoid valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Affiliated manual devices are equipped to facilitate installation and debugging.
7. Several standard voltage grades are optional.
8. Integrate with the manifold to save installation space.

Coil specification

Item	Specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%				
Power consumption	4.5VA	4.5VA	5.0VA	3.0W	2.5W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				
Max. frequency [Note1]	5 cycle/sec				

[Note 1] The maximum actuation frequency is in the no-load state.

Ordering code

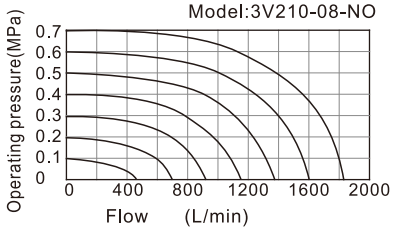
3V 2 10 08 NO A □ □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

①Model	②Code	③Valve type	④Port size	⑤Acting type	⑥Standard voltage	⑦Electrical entry	⑧Thread type
3V:Solenoid valve (3/2 way)	2: 200 Series	10: Single solenoid	06: 1/8" 08: 1/4"	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
		20: Double solenoid		No this code			

[Note] The wire length is 0.5m. Please refer to 87 for manifold specification and the order way.

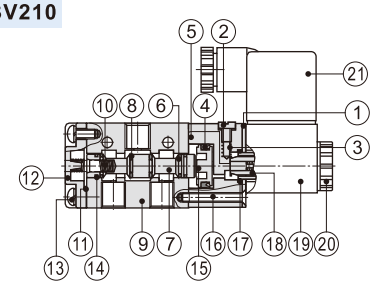
Flow chart



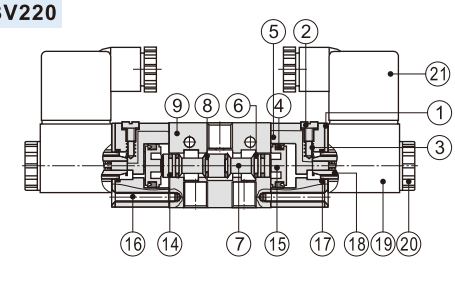
The data in flow rate chart are obtained from AirTAC lab.

Inner structure

3V210



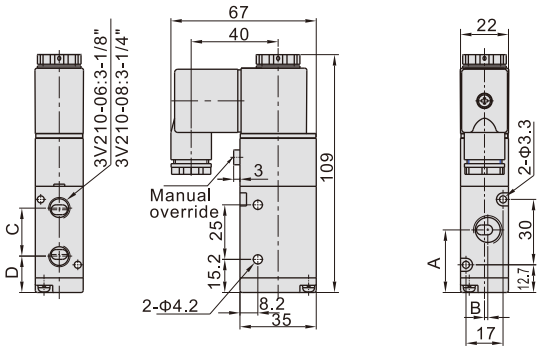
3V220



No.	Item	No.	Item	No.	Item
1	Fixed plate	8	O-ring	15	Piston
2	Manual override	9	Body	16	Pilot screw
3	Override spring	10	Spool spring	17	O-ring
4	Piston O-ring	11	Bottom cover gasket	18	Armature
5	Pilot body	12	Bottom cover	19	Coil
6	Spool packing	13	Screw	20	Coil nut
7	Spool	14	Wear ring	21	Connector

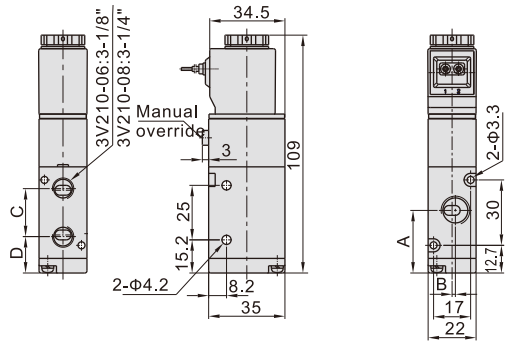
Dimensions

3V210(Terminal)



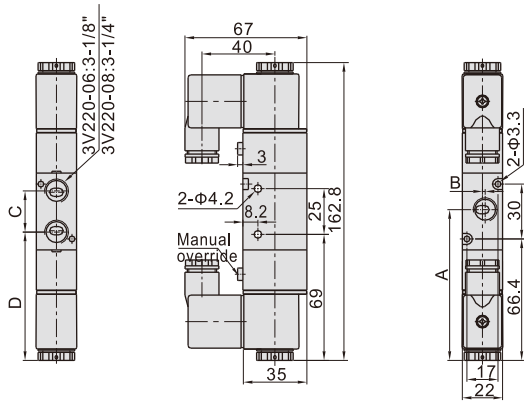
Item\Model	3V210-06	3V210-08
A	27.7	28.7
B	0	1.5
C	22	22.5
D	16.7	16.5

3V210(Grommet)



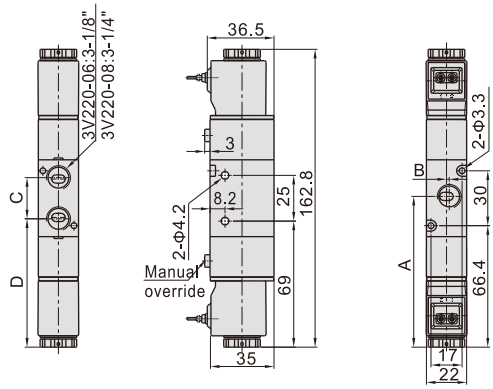
Item\Model	3V210-06	3V210-08
A	27.7	28.7
B	0	1.5
C	22	22.5
D	16.7	16.5

3V220(Terminal)



Item\Model	3V220-06	3V220-08
A	81.4	82.4
B	0	1.5
C	22	22.5
D	70.4	70.2

3V220(Grommet)



Item\Model	3V220-06	3V220-08
A	81.4	82.4
B	0	1.5
C	22	22.5
D	70.4	70.2

Solenoid valve(3/2 way)

3V300 Series

Specification

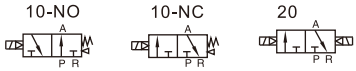
Model	3V310-08	3V320-08	3V310-10	3V320-10
Fluid	Air(to be filtered by 40μm filter element)			
Acting	Internal pilot or external pilot			
Port size [Note 1]	In=Out=1/4"		In=Out=3/8"	
Orifice size(Cv)[Note3]	3V310-10,3V320-10:28.0mm^2(Cv=1.65)			
Valve type	3 port 2 position			
Lubrication [Note2]	Not required			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			

[Note1] PT thread, G thread and NPT thread are available.

[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Product feature

1. Pilot-oriented mode: Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Double control solenoid valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Affiliated manual devices are equipped to facilitate installation and debugging.
7. Several standard voltage grades are optional.
8. Integrate with the manifold to save installation space.

Coil specification

Item	Specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%				
Power consumption	4.5VA	4.5VA	5.0VA	3.0W	2.5W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				
Max. frequency [Note1]	5 cycle/sec				

[Note1] The maximum actuation frequency is in the no-load state.

Ordering code

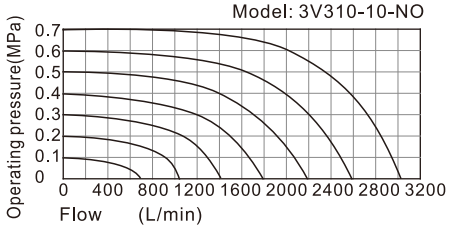
3V 3 10 10 NO A □ □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

①Model	②Code	③Valve type	④Port size	⑤Acting type	⑥Standard voltage	⑦Electrical entry	⑧Thread type
3V:Solenoid valve (3/2 way)	3: 300 Series	10: Single solenoid	08: 1/4" 10: 3/8"	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
		20: Double solenoid		No this code			

[Note] The wire length is 0.5m. Please refer to 87 for manifold specification and the order way.

Flow chart

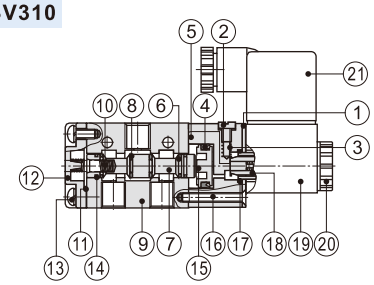


The data in flow rate chart are obtained from AirTAC lab.

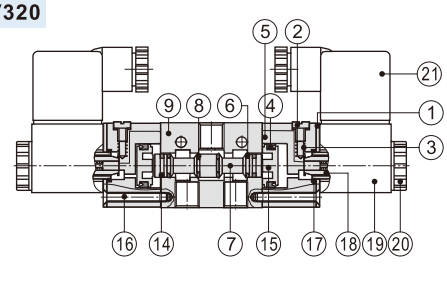
3V300 Series

Inner structure

3V310



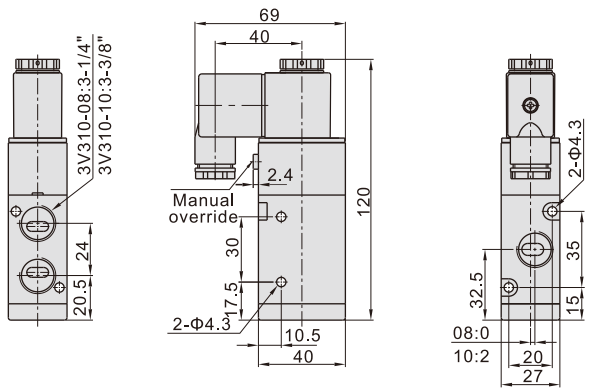
3V320



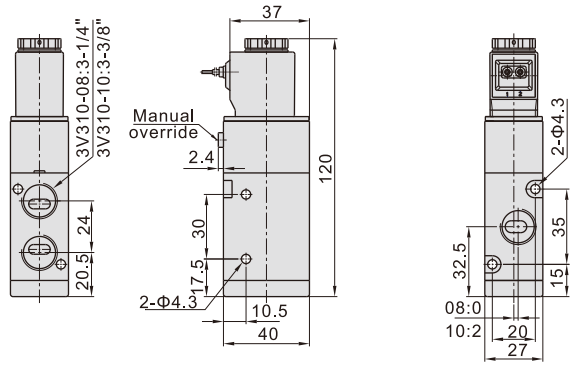
No.	Item	No.	Item	No.	Item
1	Fixed plate	8	O-ring	15	Piston
2	Manual override	9	Body	16	Pilot screw
3	Override spring	10	Spool spring	17	O-ring
4	Piston O-ring	11	Bottom cover gasket	18	Armature
5	Pilot body	12	Bottom cover	19	Coil
6	Spool packing	13	Screw	20	Coil nut
7	Spool	14	Wear ring	21	Connector

Dimensions

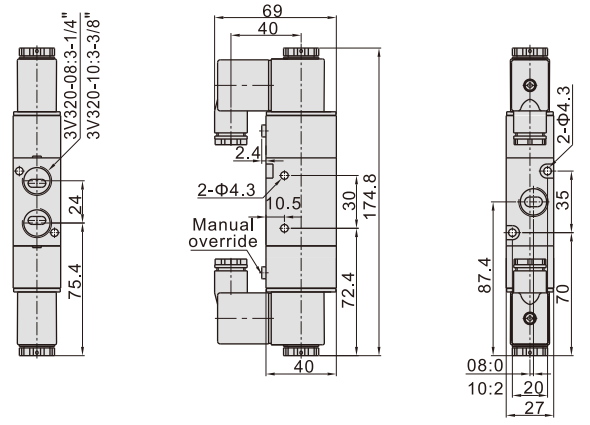
3V310(Terminal)



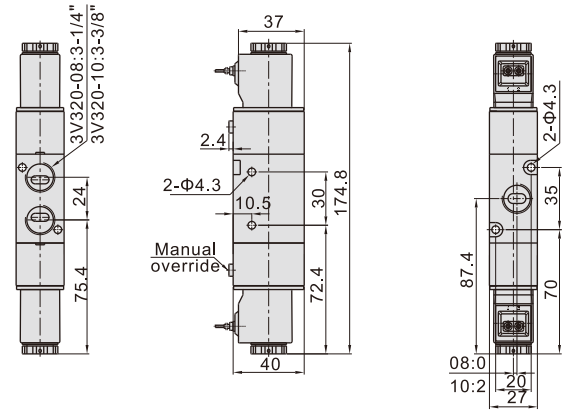
3V310(Grommet)



3V320(Terminal)



3V320(Grommet)



Compendium of 6D Series

Manual Lock Design

1.Manual push does not automatically lock, used for valve installation and debugging.
2.Use caution, prior to activating manual override.
3.With the correct size screw driver: gently press and turn to lock (Torque: 0.1N.m)

Normal Position　　Lock Position

Multi-series and Multi-port types are optional

6D0500, 6D100, 6D200 series ;
Φ4、Φ6、Φ8、Φ10ports for options.

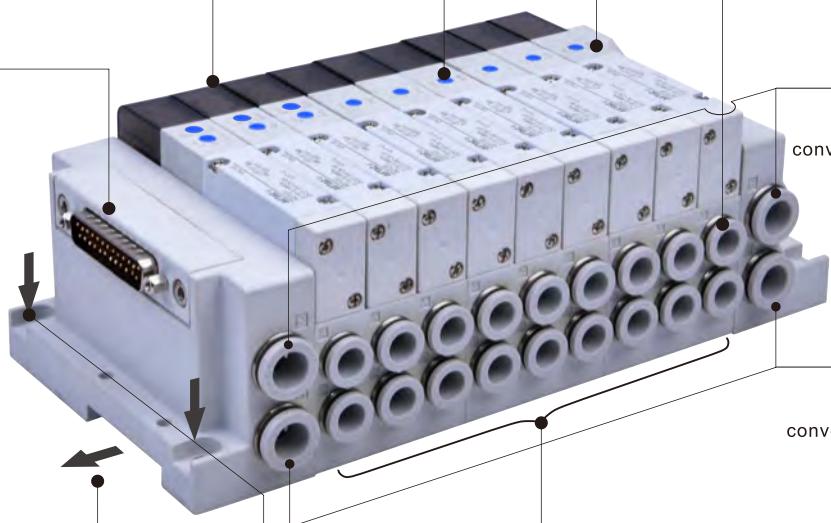
Series/Ports(A\B ports)	Φ4	Φ6	Φ8	Φ10
6D0500	•	•		
6D100	•	•	•	
6D200			•	•

Adaptor design of pilot valve

Easy to install with stable signaling, decreases risk during manual wiring

Consolidate Input

The D-SUB25PIN cable, simplifies wiring process and enhances risk-resisting function.



Dual Centralized inlet ports

Centralized inlet, convenient piping, saving installation space.

Series	6D0500	6D100	6D200
Ports(P)	Φ8	Φ10	Φ12

Dual Centralized outlet ports

Centralized exhaust, convenient piping, saving installation space.

Series	6D0500	6D100	6D200
Ports(R)	Φ8	Φ10	Φ12

Manifold design

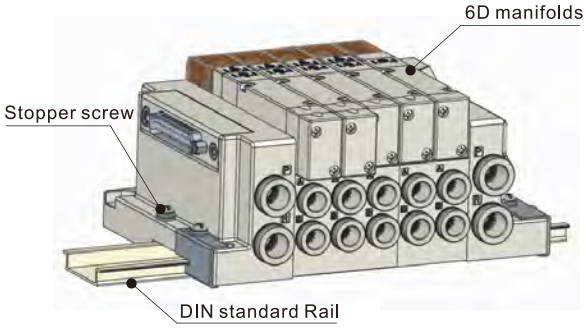
It is convenient and flexible to disassemble and replace.

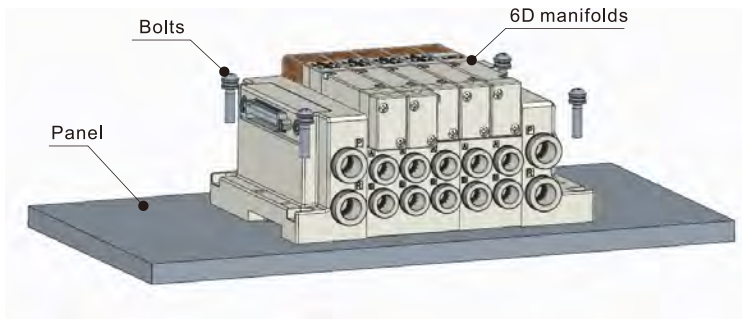
DIN rail compatibility

Manifold is compatible with DIN standard rail.
6D integrated valve can be fixed at any position of rail by stop screw.

Diverse installation

With four bolts, it can be fixed anywhere on panel.





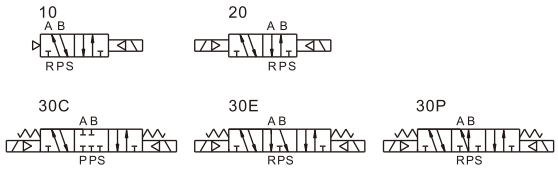
6D Series

Specification

Model		6D0500	6D100	6D200
Fluid		Air(to be filtered by 40μm filter element)		
Acting		Pilot		
Operating pressure	5/3 way	0.2~0.8MPa(29~114psi)		
	Others	0.15~0.8MPa(21~114psi)		
Proof pressure		1.2MPa(175psi)		
Temperature		-20~70℃		
Type of inlet and exhaust		Centralized inlet and exhaust		
Numbers of station	Single solenoid valves	3-21 stations		
	Dual solenoid valves	3-21 stations [Note1]		
Port size	A、B ports	Φ4/Φ6 tube fitting	Φ4/Φ6/Φ8 tube fitting	Φ8/Φ10 tube fitting
	P、R ports	Φ8 tube fitting	Φ10 tube fitting	Φ12 tube fitting
Electrical entry		Terminal , 25pinD-SUB		

Note1: On 3 to 18 station valve banks, only the first 6 positions can have double solenoid valves(2 or 3 positions)
On 19 to 21 station valve banks, only the first 3 positions can have double solenoid valves(2 or 3 positions)

Symbol



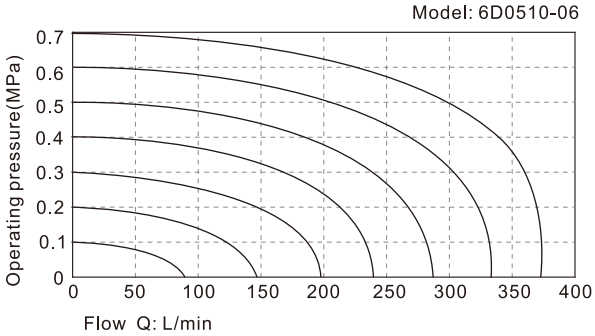
Coil specification

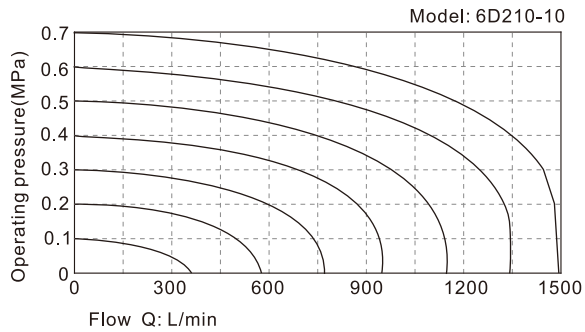
Item	Specification	
Standard voltage	DC24V	DC12V
Scope of voltage	DC： ±10%	
Power of consumption	DC：0.9W	
Protection	Dustproof	
Temperature classification	F Class	
Electrical entry	Terminal	
Activating time	0.05 sec and below	

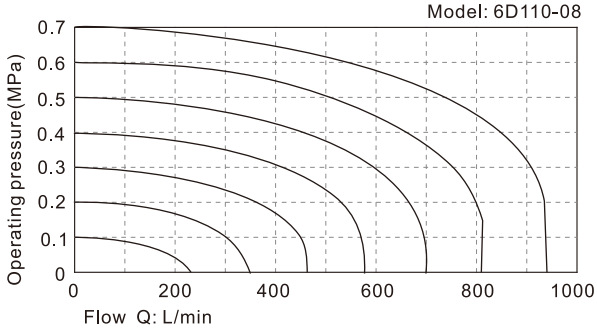
Product feature

1. Centralized inlets, outlets and signal input(25pin D-SUB) make it highly simplifies installation and reduces risk during mounting.
2. Flexible combination for various applications.
3. Convenient installation, can be fixed on panel or DIN rail without other accessory.
4. 2 position and 3 position valves can be installed on the same manifold without further accessories.
5. Affiliated manual devices are equipped to facilitate installation and debugging.
6. Low starting voltage and long service life.

Flow chart







Flow rate data obtained from the AirTAC R&D Lab.

Manifold ports Ordering Code (With Valves)

6D W 1H 8F-J06 B S1 D2 C2 E2 P1 □

1 2 3 4 5 6 7 8 9 10 11


Without communication module


Without communication module


With communication module

①Valve type	Blank: Standard type	W: Valve with double solenoid manifold(7~12 stations)	
②Model	05H: 6D0500 Series integrated Solenoid valve	1H: 6D100 Series integrated Solenoid valve	2H: 6D200 Series integrated Solenoid valve
③Number of stations	3F: 3 stations 4F: 4 stations 21F: 21stations		
④Port size(A/B Port)	J04: Φ4 tube fitting J06: Φ6 tube fitting	J04: Φ4 tube fitting J06: Φ6 tube fitting J08: Φ8 tube fitting	J08: Φ8 tube fitting J10: Φ10 tube fitting
⑤Standard voltage	B:DC24V F:DC12V		
⑥Single solenoid 5/2 way	Blank: No S1: 1 piece S2: 2 pieces ..... S21: 21 pieces		
⑦Double solenoid 5/2 way	Blank: No D1: 1 piece D2: 2 pieces ..... D6: 6 pieces		
⑧Double solenoid 5/3 way closed center	Blank: No C1: 1 piece C2: 2 pieces ..... C6: 6 pieces		
⑨Double solenoid 5/3 way exhaust center	Blank: No E1: 1 piece E2: 2 pieces ..... E6: 6 pieces		
⑩Double solenoid 5/3 way pressure center	Blank: No P1: 1 piece P2: 2 pieces ..... P6: 6 pieces		
⑪Type of communication module	Blank: Without communication module CPN1: Profinet+PNP CPN2: Profinet+NPN CEN1: EtherNet/IP+PNP CEN2: EtherNet/IP+NPN		

Ordering code instruction:
1. Fill in spec, number of stations, port size, voltage in order code accordingly.
2. Valve installation sequence : start from D-SUB side.
3. Valve installation sequence : (1) Double solenoid 5/3 way(C→E→P). (2) Double solenoid 5/3 way. (3)Single solenoid.
4. For empty position, please install provisional block.
5. 0500 series in/outlet ports (P/R) is Ø8, 100 series in/outlet ports (P/R) is Ø10, 200 series in/outlet ports (P/R) is Ø12
6. Less than 8 stations(inclusive):come with 1 plug type silencer and 2 plugs; More than 8 stations: come with 2 plug type silencers and 1 plug.
7. Total numbers of valves must be ≤21
8. For station 3-18 of standard type, total numbers of ⑥+⑦+⑧+⑨ must be ≤6 ; station 19-21 of standard type, total numbers of ⑥+⑦+⑧+⑨ must be ≤3.
9.When total number of double solenoid valves ≥7 is required, only 6DW series is optional;
10.For 6DW series: total number of double solenoids+single solenoids must be ≤12;
11.When only 3/4/5/6 stations of double solenoids are required, it is sufficient to select a standard type valve.
12.Other protocols: EtherCAT, IO-Link are estimated to be released in Jan.2023.

Manifold ports Ordering Code (Without Valves)

6D W 1H 8F J06

1 2 3 4

①Manifold type	Blank: Standard type	W: Double solenoid manifold(7~12 stations)	
①Model	05H: 6D0500 Series manifold	1H: 6D100 Series manifold	2H: 6D200 Series manifold
②Number of stations	3F: 3 stations 4F: 4 stations 21F: 21stations		
④Port size(A/B Port)	J04: Φ4 tube fitting J06: Φ6 tube fitting	J04: Φ4 tube fitting J06: Φ6 tube fitting J08: Φ8 tube fitting	J08: Φ8 tube fitting J10: Φ10 tube fitting

Note:
1. On 3 to 18 station valve banks of standard type only the first 6 positions can have double solenoid valves(2 or 3 positions)
On 19 to 21 station valve banks of standard type only the first 3 positions can have double solenoid valves(2 or 3 positions)
2.Valve installation sequence: start from D-SUB side.
3.0500 series in/outlet ports (P/R) is Ø8, 100 series in/outlet ports (P/R) is Ø10, 200 series in/outlet ports (P/R) is Ø12
4.Less than 8 stations(inclusive): come with 1 plug type silencer and 2 plugs; More than 8 stations: come with 2 plug type silencers and 1 plug.
5.When total number of double solenoid valves ≥7 is mounted, only 6DW series is optional;
6.For 6DW series: total number of double solenoids+single solenoids can be mounted must be ≤12;
7.When only 3/4/5/6 stations of double solenoids are mounted, it is sufficient to select a standard type manifold.

6D Series

Solenoid Valve Ordering Code

6D 1 20 B

① ② ③ ④

①Model	6D: 5-port, 2/3-position solenoid valve		
②Code	05: 0500 Series	1: 100 Series	2: 200 Series
③Valve type	10 : Single solenoid(5/2 Way) 20 : Double solenoid(5/2 Way) 30C : Double solenoid(5/3 way closed center)		
	30E : Double solenoid(5/3 way exhaust center) 30P : Double solenoid(5/3 way pressure center)		
④Standard Voltage	B: DC24V F: DC12V		

Provisional Block Ordering Code

P - 6D100M - R2

① ② ③

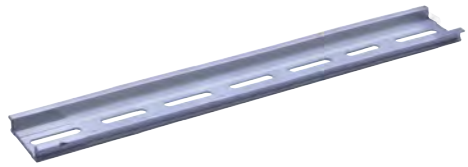
①Accessories	P : Accessories		
②Model	6D0500M: 0500 Series	6D100M: 100 Series	6D200M: 200 Series
③Provisional block code	R2: 6D series Provisional block		

Note:Orders come with screw bolts.

DIN Rail Ordering Code

F – DINX140

① ②

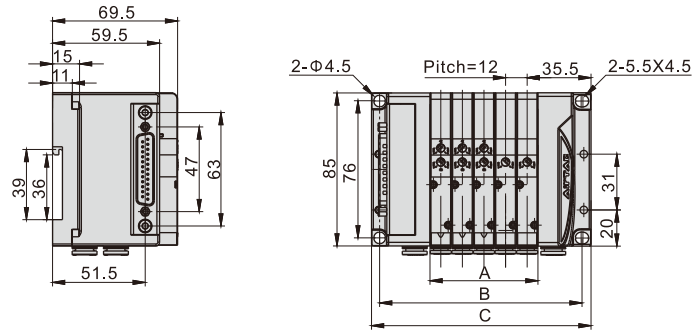


①Accessories	F–DIN: DIN Rail
②Length of DIN rail	140 : 140mm 175 : 175mm 210 : 210mm .....1000 : 1000mm

Note: DIN rail add length is 35mm each step.

Dimensions

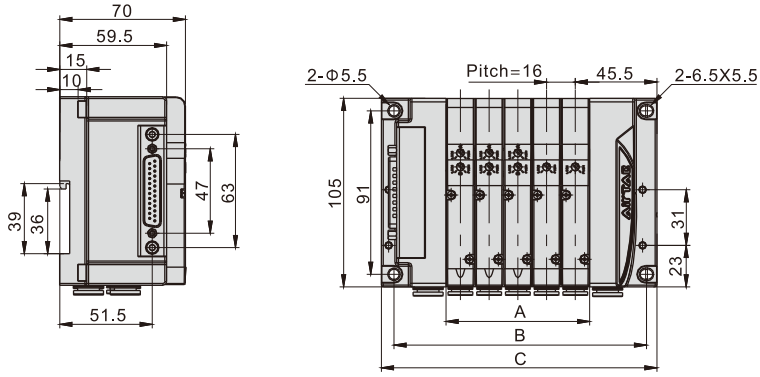
6D0500



Item\Stations	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F	21F
A	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252
B	88.5	100.5	112.5	124.5	136.5	148.5	160.5	172.5	184.5	196.5	208.5	220.5	232.5	244.5	256.5	268.5	280.5	292.5	304.5
C	98	110	122	134	146	158	170	182	194	206	218	230	242	254	266	278	290	302	314

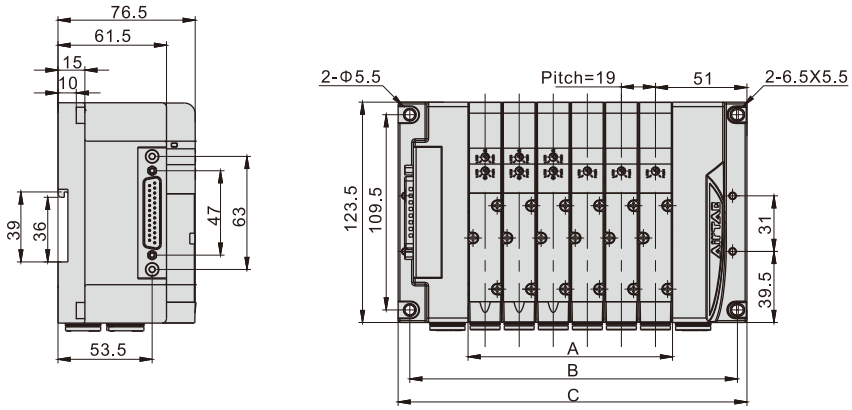
6D Series

6D100



Item\Stations	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F	21F
A	48	64	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336
B	108.5	124.5	140.5	156.5	172.5	188.5	204.5	220.5	236.5	252.5	268.5	284.5	300.5	316.5	332.5	348.5	364.5	380.5	396.5
C	121.5	137.5	153.5	169.5	185.5	201.5	217.5	233.5	249.5	265.5	281.5	297.5	313.5	329.5	345.5	361.5	377.5	393.5	409.5

6D200

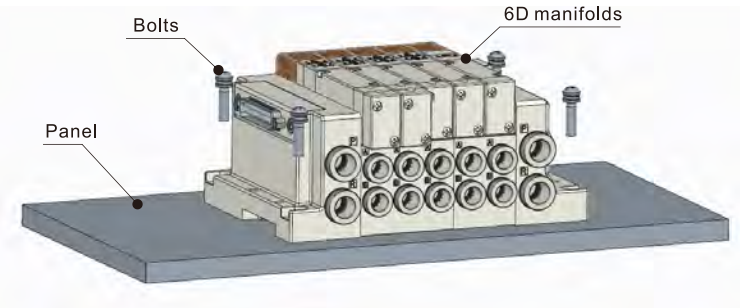


Item\Stations	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F	21F
A	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323	342	361	380	399
B	125.5	144.5	163.5	182.5	201.5	220.5	239.5	258.5	277.5	296.5	315.5	334.5	353.5	372.5	391.5	410.5	429.5	448.5	467.5
C	137.5	156.5	175.5	194.5	213.5	232.5	251.5	270.5	289.5	308.5	327.5	346.5	365.5	384.5	403.5	422.5	441.5	460.5	479.5

Installtion and application

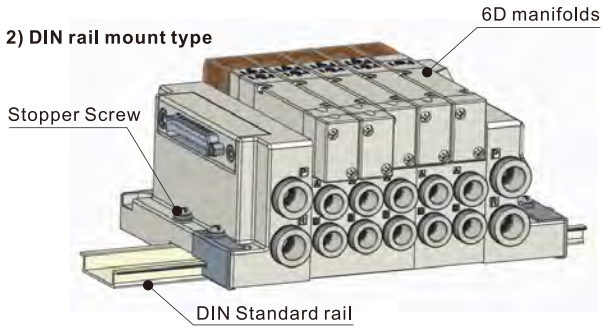
1. Two types of installation are available, choose appropriate type based on working environment.

1) Panel mount type



Four counterbore holes for screw bolts, suitable for panel installation.

2) DIN rail mount type



Compatible with standard DIN rail.
6D manifolds can be fixed at any position of rail by stop screw.

2. P\R ports connection: Please select the appropriate tube diameter according to the following specification table.

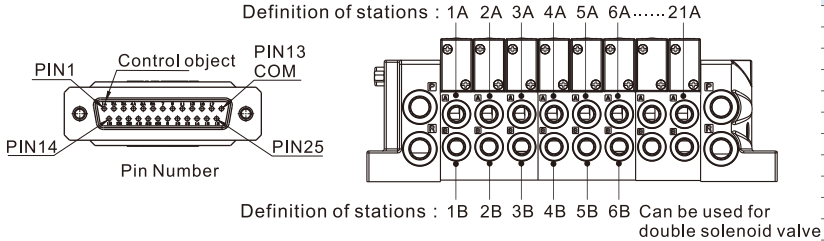
Series	Port (P)	Port (R)
6D0500	Φ8	Φ8
6D100	Φ10	Φ10
6D200	Φ12	Φ12

3. A\B ports connection: Please select the appropriate tube diameter according to the following specification table.

Series\Ports(A\B ports)	Φ4	Φ6	Φ8	Φ10
6D0500	•	•		
6D100	•	•	•	
6D200			•	•

4. Pin Assignment :

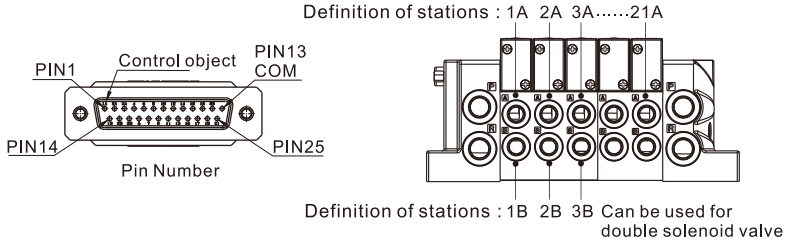
Explanation of 3-18 stations connection pin.



Pin NO.	Polarity		Control object	Pin NO.	Polarity		Control object
	-COM	+COM			-COM	+COM	
1	(+)	(-)	1A	14	(+)	(-)	1B
2	(+)	(-)	2A	15	(+)	(-)	2B
3	(+)	(-)	3A	16	(+)	(-)	3B
4	(+)	(-)	4A	17	(+)	(-)	4B
5	(+)	(-)	5A	18	(+)	(-)	5B
6	(+)	(-)	6A	19	(+)	(-)	6B
7	(+)	(-)	7A	20	(+)	(-)	8A
8	(+)	(-)	9A	21	(+)	(-)	10A
9	(+)	(-)	11A	22	(+)	(-)	12A
10	(+)	(-)	13A	23	(+)	(-)	14A
11	(+)	(-)	15A	24	(+)	(-)	16A
12	(+)	(-)	17A	25	(+)	(-)	18A
13	(-)	(+)	COM				

Note: Gauge number of cable connecting to D-Sub pin No.13(COM) must be≤22AWG

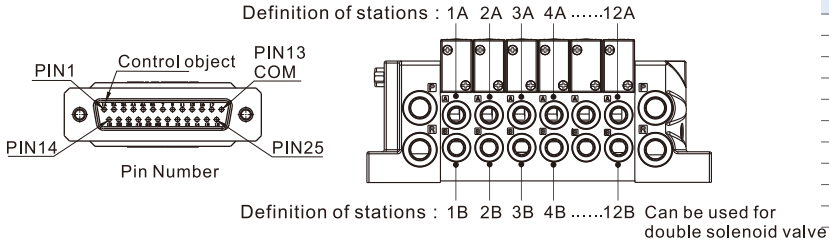
Explanation of 19-21 stations connection pin.



Pin NO.	Polarity		Control object	Pin NO.	Polarity		Control object
	-COM	+COM			-COM	+COM	
1	(+)	(-)	1A	14	(+)	(-)	1B
2	(+)	(-)	2A	15	(+)	(-)	2B
3	(+)	(-)	3A	16	(+)	(-)	3B
4	(+)	(-)	4A	17	(+)	(-)	5A
5	(+)	(-)	6A	18	(+)	(-)	7A
6	(+)	(-)	8A	19	(+)	(-)	9A
7	(+)	(-)	10A	20	(+)	(-)	11A
8	(+)	(-)	12A	21	(+)	(-)	13A
9	(+)	(-)	14A	22	(+)	(-)	15A
10	(+)	(-)	16A	23	(+)	(-)	17A
11	(+)	(-)	18A	24	(+)	(-)	19A
12	(+)	(-)	20A	25	(+)	(-)	21A
13	(-)	(+)	COM				

Note: Gauge number of cable connecting to D-Sub pin No.13(COM) must be≤22AWG

Explanation of 6DW series connection pin

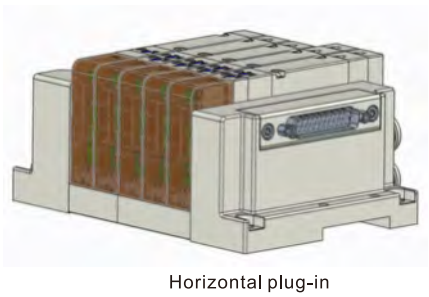


Note: When mounted with single solenoid valves, B signal is empty.

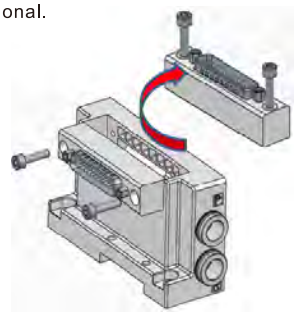
Pin NO.	Polarity		Control object	Pin NO.	Polarity		Control object
	-COM	+COM			-COM	+COM	
1	(+)	(-)	1A	14	(+)	(-)	1B
2	(+)	(-)	2A	15	(+)	(-)	2B
3	(+)	(-)	3A	16	(+)	(-)	3B
4	(+)	(-)	4A	17	(+)	(-)	4B
5	(+)	(-)	5A	18	(+)	(-)	5B
6	(+)	(-)	6A	19	(+)	(-)	6B
7	(+)	(-)	7A	20	(+)	(-)	7B
8	(+)	(-)	8A	21	(+)	(-)	8B
9	(+)	(-)	9A	22	(+)	(-)	9B
10	(+)	(-)	10A	23	(+)	(-)	10B
11	(+)	(-)	11A	24	(+)	(-)	11B
12	(+)	(-)	12A	25	(+)	(-)	12B
13	(-)	(+)	COM				

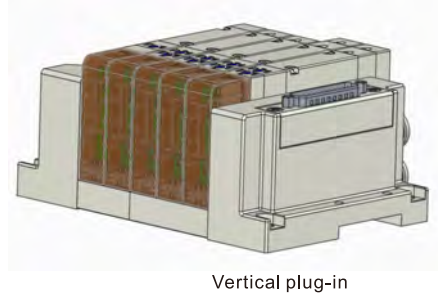
Note: Gauge number of cable connecting to D-Sub pin No.13(COM) must be≤22AWG

5. Flip-able D-SUB portZ: horizontal and vertical side are optional.



Horizontal plug-in





Vertical plug-in

Compendium of 6D Series(with communication module)

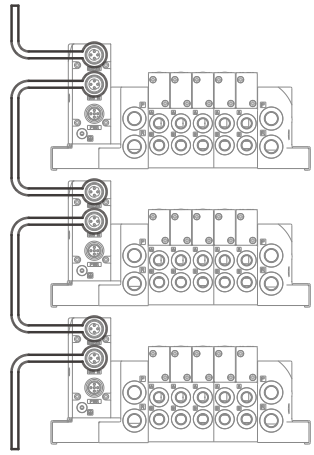
Multiple communication modules and protocols are optional

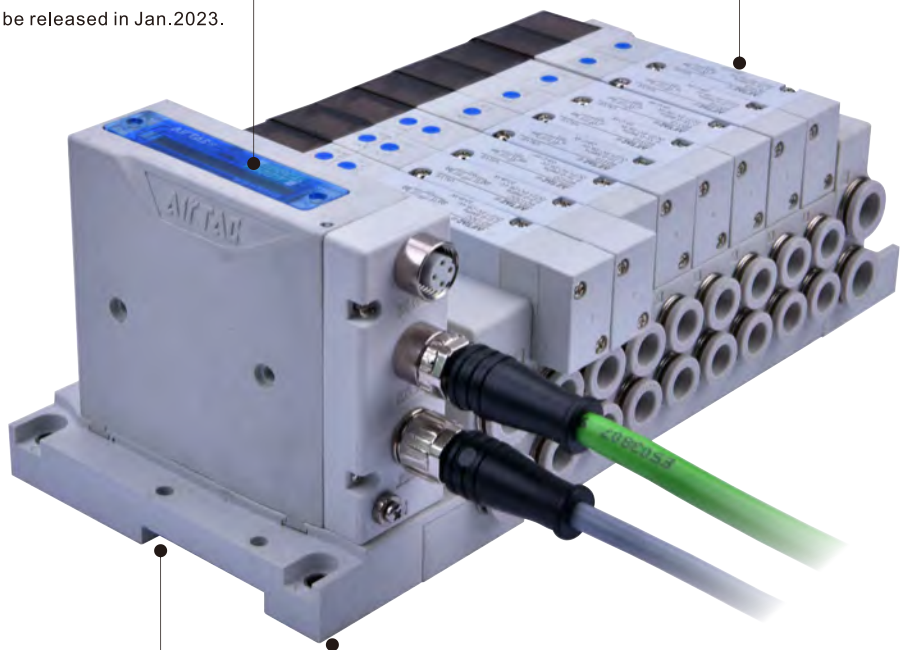
Communication module		Applicable model
No.	Protocols	
1	PROFINET	6D0500 6D100 6D200
2	EtherNet/IP	
3	EtherCAT	
4	IO-Link	

Note: EtherCAT, IO-Link are estimated to be released in Jan.2023.

Network Topology

Daisy-chain wiring

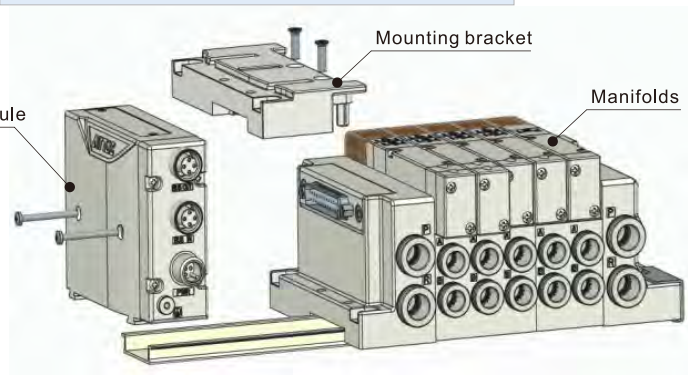




Mounting accessory

No.	Ordering code
1	F–6D0500PN–R2
2	F–6D100PN–R2
3	F–6D200PN–R2

Integration design of communication module



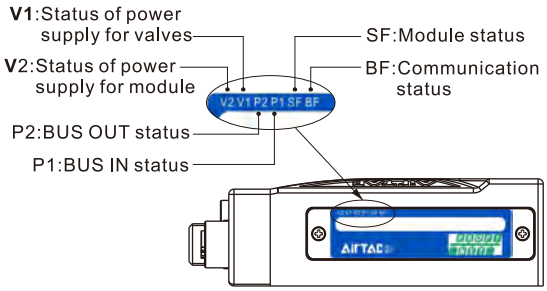
Communication module

Specification

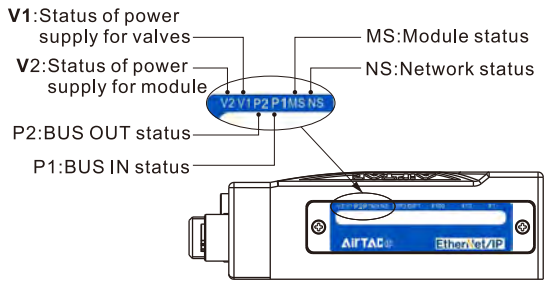
Protocol		PROFINET	EtherNet/IP
Number of outputs		24 outputs	
Communication speed		100Mbps	
Configuration file		GSDML file	EDS file
Input power	Voltage	DC24V ± 10%	
	Current consumption	<100mA	
Voltage output		DC24V ± 10%	
Output type		PNP or NPN	
Power connector		M12 plug 5 pins A-coded	
Bus connector		2XM12 socket 4 pins D-coded	
Protection		Dust proof	
Working temperature		-10~60℃	
Working humidity		35~85% RH	
Withstand voltage		AC500V 1min Between terminals and housing	
Insulation resistance		>10MΩ (DC500V), Between terminals and housing	
Communication connection		Daisy-chain wiring	

LED indicator

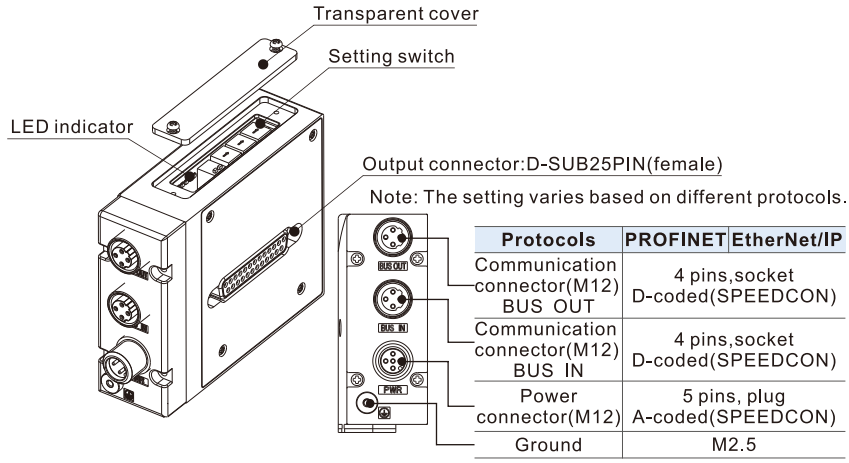
Profinet(C-6DPN□)



EtherNet/IP(C-6DEN□)



Construction and function



Note: The setting varies based on different protocols.

Protocols	PROFINET	EtherNet/IP
Communication connector(M12) BUS OUT	4 pins,socket D-coded(SPEEDCON)	
Communication connector(M12) BUS IN	4 pins,socket D-coded(SPEEDCON)	
Power connector(M12)	5 pins, plug A-coded(SPEEDCON)	
Ground	M2.5	

Ordering Code of communication module

C -6D PN 1

① ② ③

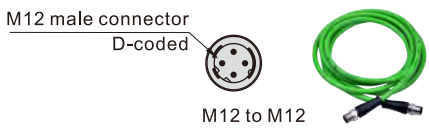
①Model	6D : 6D series communication module
②Protocol type	PN : Profinet EN : EtherNet/IP
③Output type	1 : PNP+24 outputs 2 : NPN+24 outputs

Note: 1.EtherCAT, IO-Link are estimated to be released in Jan.2023. 2.Product comes with mounting screws.

Ordering Code of communication cable

C -M12 RJ PN □ 050

① ② ③ ④ ⑤



①Model	C-M12 : Communication cable (M12male connector)
②Connector type	Blank : M12 male connectors on both end RJ : M12 male connector+RJ45 terminal
③Protocol type	PN : Applicable to Profinet, EtherNet/IP
④Cable type	Blank: Cable
⑤Cable length	050 : 0.5m 100 : 1m 200 : 2m 300 : 3m 500 : 5m

Note: EtherCAT, IO-Link are estimated to be released in Jan.2023.

Communication module

Ordering Code of power supply cable

F –M12 PN □ 150

1 2 3 4

①Model	F-M12：Power supply cable (M12 female connector)
②Protocol type	PN：Applicable to Profinet, EtherNet/IP
③Cable type	Blank：Cable
④Cable length	150：1.5m　300：3m　500：5m

Note: EtherCAT, IO-Link are estimated to be released in Jan.2023.

Ordering Code of mounting bracket

F –6D0500 PN – R2

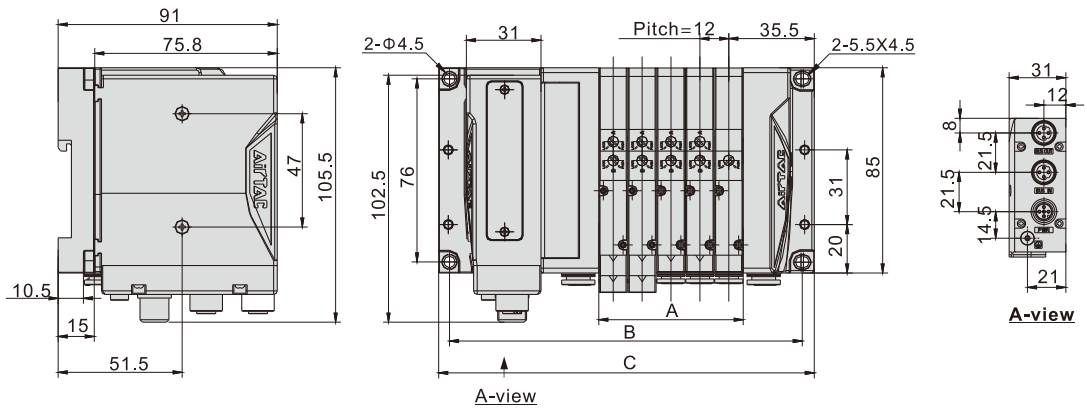
1 2 3 4

①Model	F：Mounting accessory
②Code	6D0500：6D0500 Series　6D100：6D100 Serie　6D200：6D200 Serie
③Protocol type	PN：For 6D module installation
④Output type	R2：Mounting bracket for communication module

Note: Product comes with mounting screws.

Dimensions

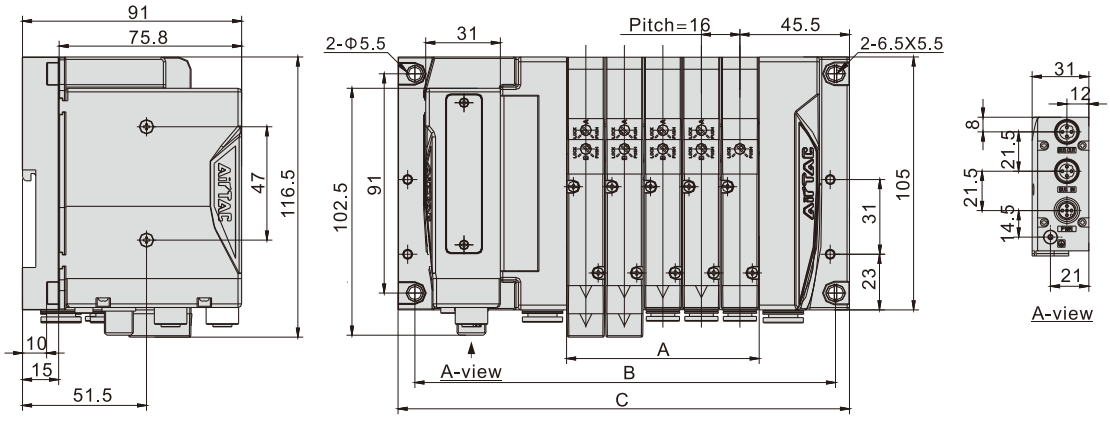
6D0500 series with communication module



Item\Stations	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F	21F
A	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252
B	122.5	134.5	146.5	158.5	170.5	182.5	194.5	206.5	218.5	230.5	242.5	254.5	266.5	278.5	290.5	302.5	314.5	326.5	338.5
C	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348

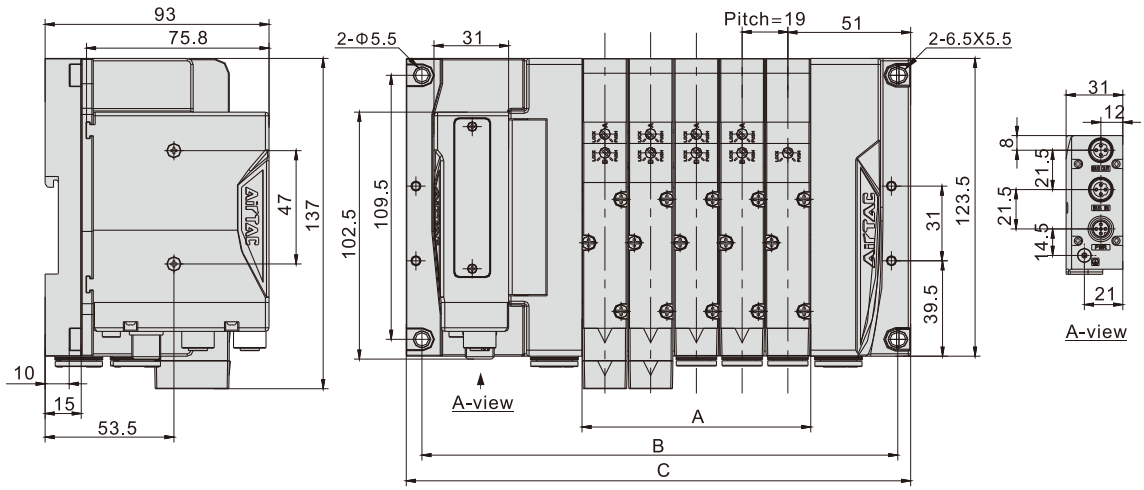
Communication module

6D100 series with communication module



Item\Stations	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F	21F
A	48	64	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336
B	142.5	158.5	174.5	190.5	206.5	222.5	238.5	254.5	270.5	286.5	302.5	318.5	334.5	350.5	366.5	382.5	398.5	414.5	430.5
C	155.5	171.5	187.5	203.5	219.5	235.5	251.5	267.5	283.5	299.5	315.5	331.5	347.5	363.5	379.5	395.5	411.5	427.5	443.5

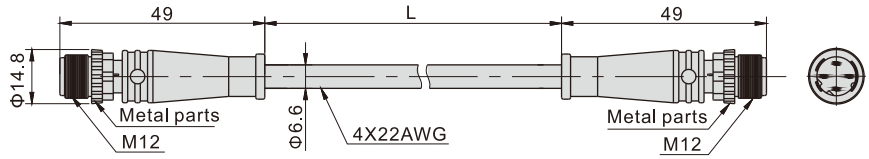
6D200 series with communication module

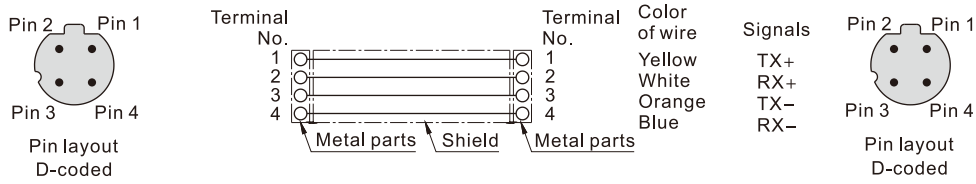


Item\Stations	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F	21F
A	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323	342	361	380	399
B	159.5	178.5	197.5	216.5	235.5	254.5	273.5	292.5	311.5	330.5	349.5	368.5	387.5	406.5	425.5	444.5	463.5	482.5	501.5
C	171.5	190.5	209.5	228.5	247.5	266.5	285.5	304.5	323.5	342.5	361.5	380.5	399.5	418.5	437.5	456.5	475.5	494.5	513.5

Communication module

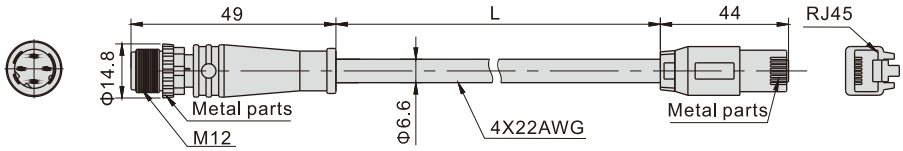
Communication cable M12 to M12

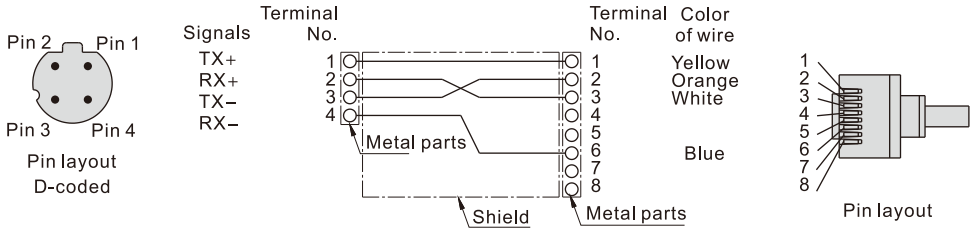




Wiring layout

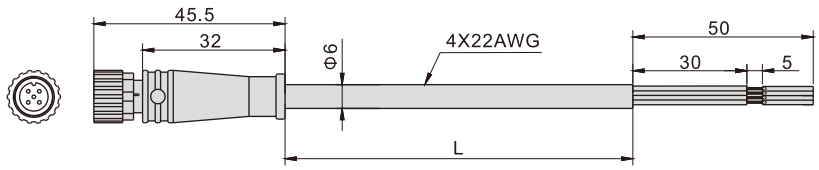
Communication cable M12 to RJ45

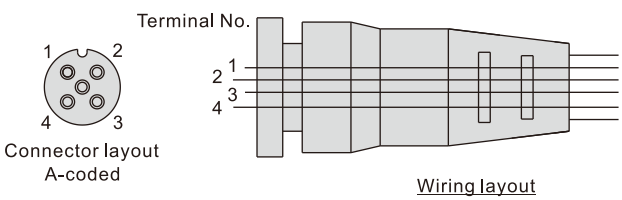




Wiring layout

Power supply cable M12 to wires





Wiring layout

Wire layout instruction			
Terminal No.	Gauge(AWG)	Description	Color
1	22	DC24V±10%(Power supply for solenoid valve)	Brown
2	22	0V(Power supply for solenoid valve)	White
3	22	DC24V ± 10%(Power supply)	Blue
4	22	0V(Power supply)	Black

Compendium of 6V Series

Multi-port types are optional

Threaded type and quick connector type are optional, and can integrate mainfold to form valve group to save space.

Inner exhaust structure

Pilot airflow exhaust intensively from R, S port.

Terminal

Special design for terminal, horizontal and vertical insertion can freely switch.

Multi-series and type

6V0500, 6V100, 6V200, 6V300 series are optional.

Extruded molding with aluminum alloy for body

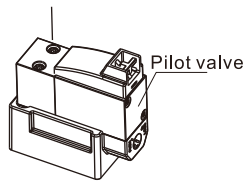
Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.

Installation and Application

1. Don't throw or drop the solenoid valve when take it, to avoid breaking valve;
2. Because solenoid pilot valve is sophisticated component, can't crash pilot valve by outside force, otherwise solenoid valve break possibly;
3. Don't dismantle solenoid valve freely, if the screw(M1.6X14) becomes loose, please tighten it by torque 0.1~0.12N.m;
4. About manual operation:

4.1. Ensure no danger, prior to activating manual override;

4.2. For push button option:
Activate by push the button in the direction shown



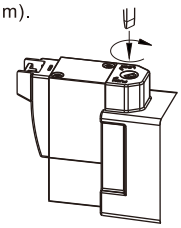
4.3. For slotted option:
Activate by push the button in the direction shown.

With correct size screw driver:please turn to lock gently(Torque : 0.1N.m).

Attention

Normal position

Lucked position



4.4. Wiring instruction : Vertical plug type and parallel plug type are the same as plug, please insert wire line as up drawing by practicality.

Vertical plug wire

Parallel plug wire

Solenoid valve (5/2 way,5/3 way)

6V Series

Specification

Model		6V0510	6V0520	6V0530	6V110	6V120	6V130
Port size [Note1]	Thread type	In=Out=Exh=M5			In=Out=Exh=M5(or=1/8")		
	Tube type	A port=B port=Φ4			A port=B port=Φ4 (or=Φ6) (or=Φ8)		
Orifice size(Cv) [Note4]		M5:3.4mm² (0.2)		6V0530CM5: 2.2mm²(0.13)	06:8.9mm² (0.52)		6V130C06: 8.0mm² (0.47)
Weight		35g	50g	65g	60g	75g	90g
Model		6V210	6V220	6V230	6V310	6V320	6V330
Port size [Note1]	Thread type	In=Out=1/8"(or=1/4")Exh=1/8"			In=Out=3/8" Exh=1/4"		
	Tube type	A port=B port=Φ6(or=Φ8) (or=Φ10)			-		
Orifice size(Cv) [Note4]		08:15.4mm² (0.91)		6V230C08: 14.2mm²(0.84)	10:38.4mm²(2.26)		6V330C10: 30.5mm² (1.8)
Weight		100g	115g	130g	230g	265g	305g
Fluid		Air(to be filtered by 40μm filter element)					
Acting		Internal pilot					
Operating pressure	5/3 way	0.2~0.8MPa(29~114psi)					
	5/2 way	0.15~0.8MPa(21~114psi)					
Proof pressure		1.2MPa(175psi)					
Temperature		-20~70℃					
Material of body		Aluminum alloy					
Lubrication [Note3]		Not required					
Pilot valve's Exhaust type		Centralized exhaust type					
Max.frequency [Note2]		5 cycle/sec		3 cycle/sec	5 cycle/sec		3 cycle/sec

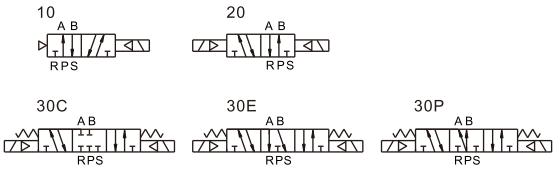
[Note1] PT, G, NPT thread are available.

[Note2] The maximum actuation frequency is in the no-load state.

[Note3] Once lubricated air is used, continue with same medium to optimize valve life span. Lubricants like ISO VG32 or equivalent are recommended.

[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Product feature

1. Electrical entry is terminal, horizontal and vertical insertion can freely switch.
2. Inner exhaust structure to collect pilot airflow, and then exhaust intensively from R, S port.
3. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
4. Threaded type and quick connector type are optional, and can integrate manifold to form valve group to save space.

Coil specification

Item	Specification			
Standard voltage	AC220V	AC110V	DC24V	DC12V
Scope of voltage	AC：+15% ~-10%		DC：±10%	
Power consumption	1.1VA		0.9W	
Protection	Dustproof			
Temperature classification	F Class			
Electrical entry	Terminal			
Activating time	0.05 sec and below			

Ordering code

6V 2 10 J 08 B 050 □

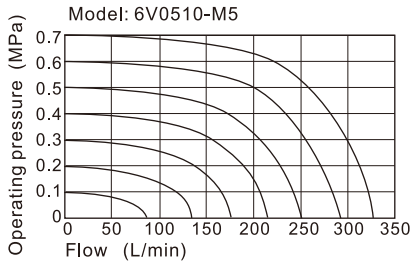
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

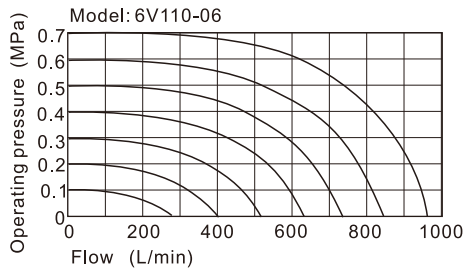
①**Model**	6V: Solenoid valve (5/2, 5/3 way)					
②**Code**	05: 0500 Series	1: 100 Series	2: 200 Series	3: 300 Series		
③**Valve type**	10: Single solenoid 5/2 way 20: Double solenoid 5/2 way 30C：Double solenoid 5/3 way closed center 30E：Double solenoid 5/3 way exhaust center 30P：Double solenoid 5/3 way pressure center					
④**Port type**	Blank: Thread type J: Tube type					
⑤**Port size** **Thread**	M5: M5	M5: M5	06: 1/8"	06: 1/8"	08: 1/4"	10: 3/8"
⑤**Port size** **Tube**	04: Φ4mm	04: Φ4mm/06: Φ6mm/08: Φ8mm		06: Φ6mm/08: Φ8mm/10: Φ10mm		-
⑥**Voltage**	A: AC220V B: DC24V C: AC110V F: DC12V					
⑦**Wire length**	050: 0.5m 200: 2.0m					
⑧**Thread type** [Note1]	-	Blank: PT Thread/ G: G Thread / T: NPT Thread				

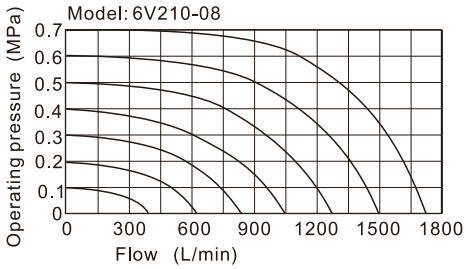
[Note]: The base of the tube type solenoid valve is only used with the manifold.

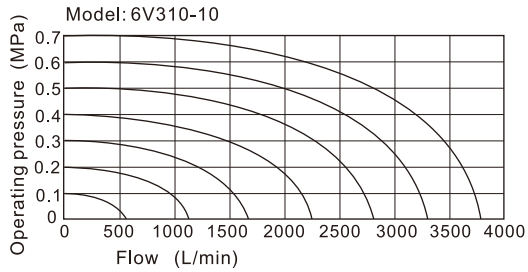
6V Series

Flow chart





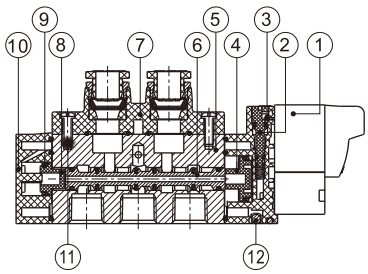




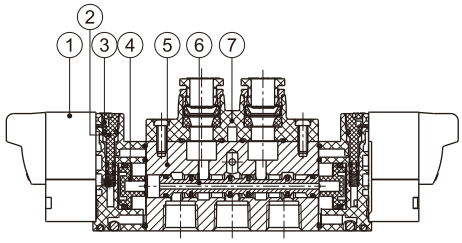
The data in flow rate chart are obtained from AirTAC lab.

Inner structure

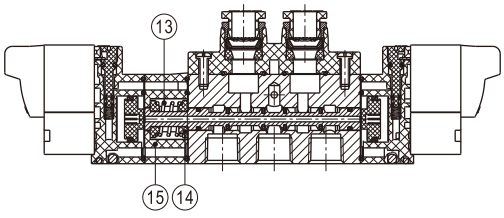
6V110



6V120



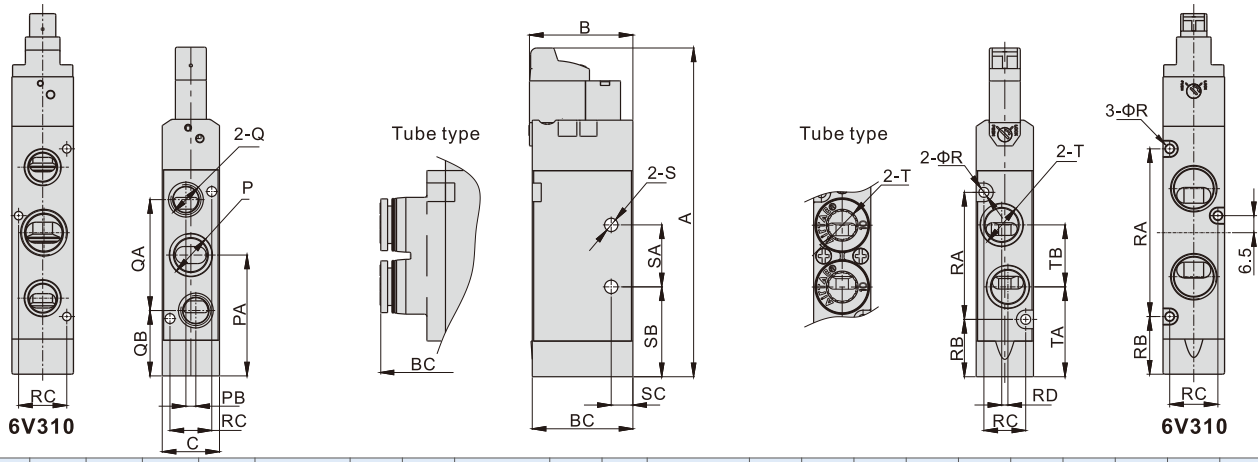
6V130C



No.	Item	No.	Item	No.	Item
1	Pilot valve	6	Spool	11	Bolt
2	Manual override	7	Connecting block	12	Steel ball
3	Pilot kit	8	Little piston	13	Spring
4	Big piston	9	Gasket	14	Return holder
5	Body	10	Bottom cover	15	Side cover

Dimensions

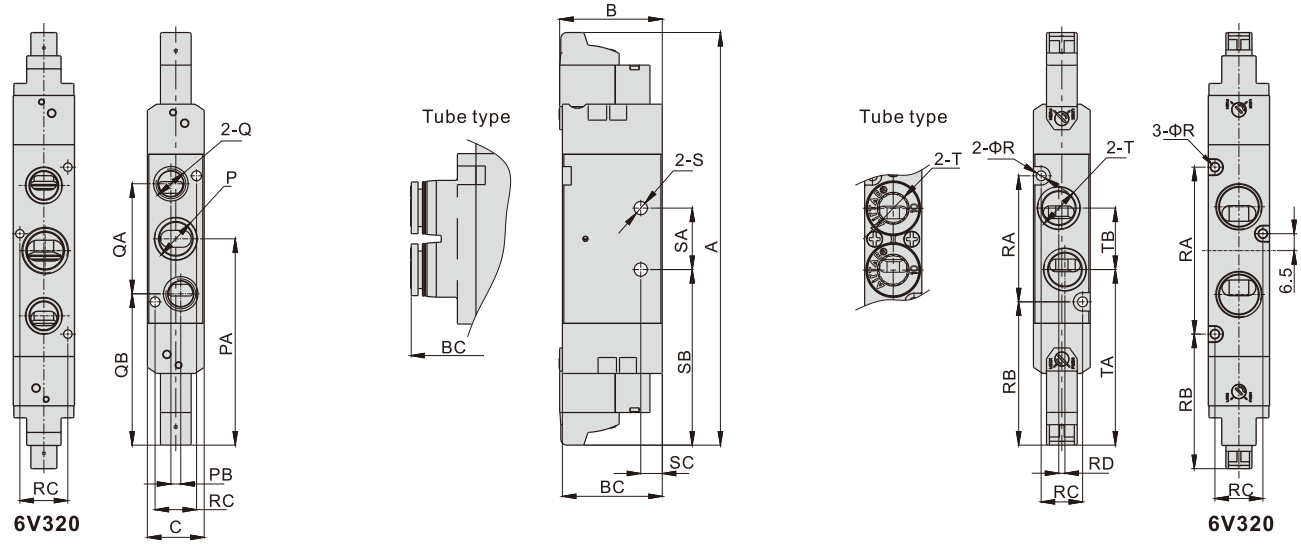
6V0510
6V110
6V210
6V310



Model\Item	A	B	BC	C	P	PA	PB	Q	QA	QB	T	TA	TB	R	RA	RB	RC	RD	S	SA	SB	SC
6V0510M5	73	31	21	10.6	M5X0.8	22.5	1	M5X0.8	19	13	M5X0.8	17.5	10	2.1	22.5	11	7.5	0	Φ2.6	10	17.5	4
6V0510J04			32.5								Φ4(Tube)								-	-	-	-
6V110M5	93.5	32	24	15.5	M5X0.8	33	-	M5X0.8	29.8	18	M5X0.8	25.2	15.4	2.6	34	16	11	-	Φ3.2	14	26	4
6V11006					PT1/8		2.6	PT1/8	28	19	PT1/8	24.5	16.5					0	-	-	-	-
6V110J04			39.5								Φ4(Tube)											
6V110J06			41								Φ6(Tube)											
6V110J08			42.5								Φ8(Tube)											
6V21006	106	33.5	32.5	18.5	PT1/8	39	3.2	PT1/8	36	21	PT1/8	30	18	3.2	41	18.5	13.5	-	Φ4.3	20	29	7
6V21008					PT1/4						PT1/4	29	20					2	-	-	-	-
6V210J06			50.6								Φ6(Tube)											
6V210J08											Φ8(Tube)											
6V210J10			53.5								Φ10(Tube)											
6V31010	137.5	46	46	23.5	PT3/8	54	0.5	PT1/4	50	29	PT3/8	37	33.5	3.2	64	22	18.4	0	Φ4.3	25	41.5	8

[Note]: The tube type solenoid valve is only used with the manifold. No through hole "S" on the side.

6V0520
6V120
6V220
6V320

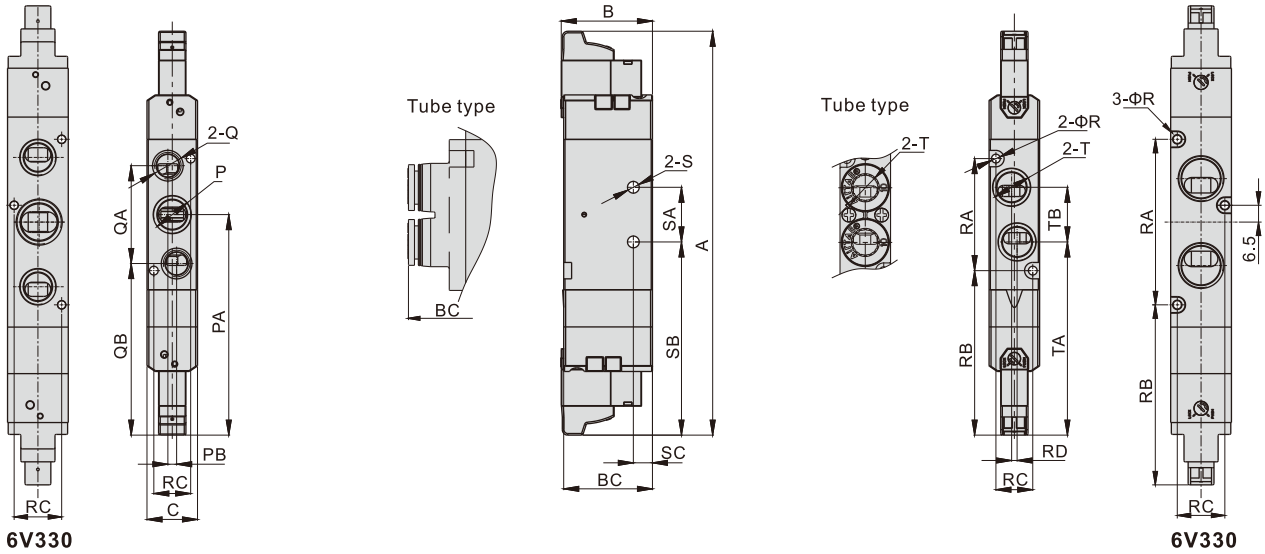


Model\Item	A	B	BC	C	P	PA	PB	Q	QA	QB	T	TA	TB	R	RA	RB	RC	RD	S	SA	SB	SC
6V0520M5	101.5	31	21	10.6	M5X0.8	51	1	M5X0.8	19	41	M5X0.8	45.5	10	2.1	22.5	39.5	7.5	0	Φ2.6	10	45.5	4
6V0520J04			32.5								Φ4(Tube)								-	-	-	-
6V120M5	121.5	32	24	15.5	M5X0.8	61	-	M5X0.8	29.8	46	M5X0.8	53.7	15.4	2.6	34	44	11	-	Φ3.2	14	54	4
6V12006					PT1/8		2.6	PT1/8	28	47	PT1/8	52.5	16.5					0	-	-	-	-
6V120J04			39.5								Φ4(Tube)											
6V120J06			41								Φ6(Tube)											
6V120J08			42.5								Φ8(Tube)											
6V22006	134	33.5	32.5	18.5	PT1/8	67	3.2	PT1/8	36	49	PT1/8	58	18	3.2	41	46.5	13.5	-	Φ4.3	20	57	7
6V22008					PT1/4						PT1/4	57	20					2	-	-	-	-
6V220J06			50.6								Φ6(Tube)											
6V220J08											Φ8(Tube)											
6V220J10			53.5								Φ10(Tube)											
6V32010	167	46	46	23.5	PT3/8	83.5	0.5	PT1/4	50	58.5	PT3/8	67	33.5	3.2	64	51.5	18.4	0	Φ4.3	25	71	8

[Note]: The tube type solenoid valve is only used with the manifold. No through hole "S" on the side.

6V Series

6V0530
6V130
6V230
6V330



6V330 6V330

Model\Item	A	B	BC	C	P	PA	PB	Q	QA	QB	T	TA	TB	R	RA	RB	RC	RD	S	SA	SB	SC
6V0530M5	110	31	21	10.6	M5X0.8	59	1	M5X0.8	19	50	M5X0.8	54	10	2.1	22.5	48	7.5	0	Φ2.6	10	54	4
6V0530J04			32.5								Φ4(Tube)								-	-	-	-
6V130M5	133	32	24	15.5	M5X0.8	72.5	-	M5X0.8	29.8	58	M5X0.8	64.7	15.4	2.6	34	55.5	11	-	Φ3.2	14	65.5	4
6V13006					PT1/8		2.6	PT1/8	28	59	PT1/8	64	16.5					0	-	-	-	-
6V130J04			39.5								Φ4(Tube)											
6V130J06			41								Φ6(Tube)											
6V130J08			42.5								Φ8(Tube)											
6V23006	148	33.5	32.5	18.5	PT1/8	81	3.2	PT1/8	36	63	PT1/8	72	18	3.2	41	60.2	13.5	-	Φ4.3	20	70.7	7
6V23008					PT1/4						PT1/4	71	20					2	-	-	-	-
6V230J06			50.6								Φ6(Tube)											
6V230J08											Φ8(Tube)											
6V230J10			53.5								Φ10(Tube)											
6V33010	185	46	46	23.5	PT3/8	101.5	0.5	PT1/4	50	76.5	PT3/8	85	33.5	3.2	64	69.5	18.4	0	Φ4.3	25	89	8

[Note]: The tube type solenoid valve is only used with the manifold. No through hole "S" on the side.

Manifold for 6V Series

Specification

Item\Manifold Model	6V0500M	6V100M	6V200M	6V300M
Fluid	Air(to be filtered by 40μm filter element)			
Temperature ℃	-20~70			
Adaptable valve's series	6V0500 Series	6V100 Series	6V200 Series	6V300 Series

Product feature

1. It is available to integrate the direction control valves of the same series to form valve group to save space and cost.
2. It is easy to examine when there are faults owning to the unified air intake and exhaust and unified wiring.
3. Flexible combination and strong expansion capability can make any combination or expansion of the numbers of direction control valves that are connected.

Ordering code

6V100M 5F □ — **Ordering code for manifold**

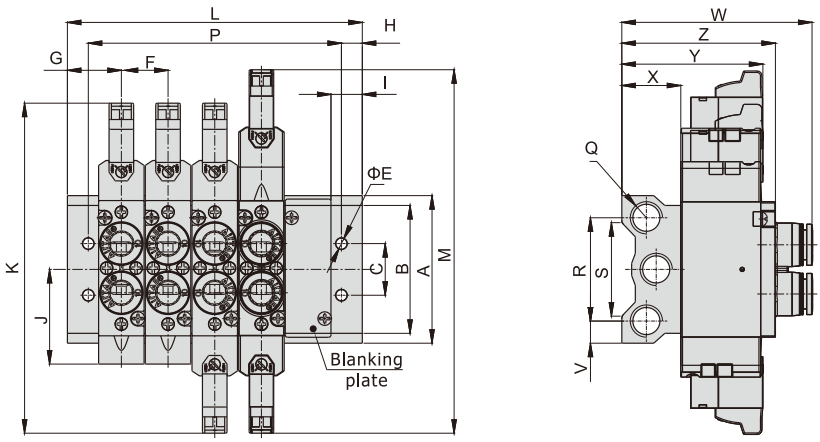
①Model	6V0500M: 6V0500 Series manifold	6V100M: 6V100 Series manifold	6V200M: 6V200 Series manifold	6V300M: 6V300 Series manifold
②Number of stations	1F: 1 Station 2F: 2 Station 3F: 3 Station ..... 20F: 20 Station			
③Thread type	Blank: PT / G: G Thread / T: NPT Thread			

P-6V100M-R2 — **Ordering code for blank plate**

①Model	6V0500M: 6V0500 Series manifold	6V100M: 6V100 Series manifold	6V200M: 6V200 Series manifold	6V300M: 6V300 Series manifold
②Code	R2: Blank plate for manifold			

[Note] 1.Manifold kits contains manifold, seal and screw; 2. Blank plate kits contains blank plate and screw.

Dimensions



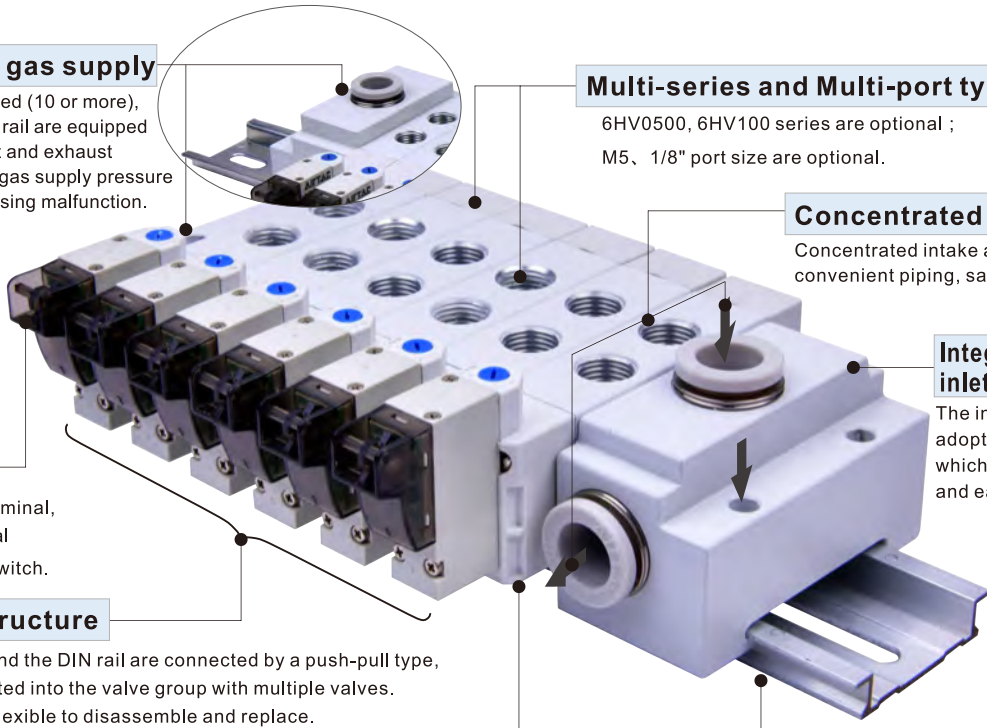
Model\Item	A	B	C	E	F	G	H	I	J	K	M	Q	R	S	V	W			X	Y	Z
6V0500M	46	32	16	4.5	11	15	5	9.5	22.5	102	110	PT1/8	32	26	7	36.2(M5)	50.5(J04)		17	35.5	47.5
6V100M	57.5	43	20	4.5	16	17	5	9.5	33	121.5	133.5	PT1/4	40	36	9	55(M5/06)	62.5(J04)/64(J06)	65.5(J08)	22	46	54
6V200M	60	52	21	4.5	19	18.5	5	9.5	38.5	134.5	148	PT1/4	42	38	9	58.5(06/08)	75.2(J06)/76.5(J08)	78.5(J10)	24	57.5	62.5
6V300M	85	75	26	4.5	23.5	24	5	12	54	167	185	PT3/8	57	58	14	-	-	-	27	74	-

Model\Item	L																			
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F
6V0500M	30	41	52	63	74	85	96	107	118	129	140	151	162	173	184	195	206	217	228	239
6V100M	34	50	66	82	98	114	130	146	162	178	194	210	226	242	258	274	290	306	322	338
6V200M	37	56	75	94	113	132	151	170	189	208	227	246	265	284	303	322	341	360	379	398
6V300M	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480	504

Model\Item	P																			
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F
6V0500M	20	31	42	53	64	75	86	97	108	119	130	141	152	163	174	185	196	207	218	229
6V100M	24	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328
6V200M	27	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388
6V300M	38	62	86	110	134	158	182	206	230	254	278	302	326	350	374	398	422	446	470	494

6HV Series Integrated solenoid valve (5/2, 5/3 way)

Compendium of 6HV Series



Multi-channel gas supply

When multi-valve is used (10 or more), both ends of the guide rail are equipped with an integrated inlet and exhaust module to prevent the gas supply pressure from dropping and causing malfunction.

Multi-series and Multi-port types are optional

6HV0500, 6HV100 series are optional ;

M5、1/8" port size are optional.

Concentrated inlet and exhaust

Concentrated intake and exhaust, convenient piping, saving installation space.

Integrated inlet and exhaust module

The inlet and exhaust module adopts integrated aluminum alloy, which is beautiful and durable, and easy to disassemble.

Terminal

Special design for terminal, horizontal and vertical insertion can freely switch.

Integrated structure

The solenoid valve and the DIN rail are connected by a push-pull type, which can be integrated into the valve group with multiple valves. It is convenient and flexible to disassemble and replace.

Inner exhaust structure

Special structure in the valve body, which can collect pilot airflow, and then exhaust intensively from R, S port.

DIN standard rail

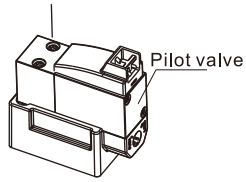
The guide rails conform to the DIN standard and are highly versatile. The relevant function module can be fixed to any position of the guide rail by stop screw.

Installation and Application(Solenoid valve)

1. Don't throw or drop the solenoid valve when take it, to avoid breaking valve;
2. Because solenoid pilot valve is sophisticated component, can't crash pilot valve by outside force, otherwise solenoid valve break possibly;
3. Don't dismantle solenoid valve freely, if the screw(M1.6X14) becomes loose, please tighten it by torque 0.1~0.12N.m;
4. About manual operation:

4.1. Ensure no danger, prior to activating manual override;

4.2. For push button option:
Activate by push the button in the direction shown



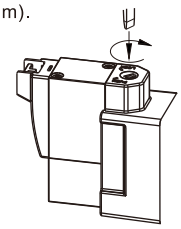
4.3. For slotted option:
Activate by push the button in the direction shown.

With correct size screw driver:please turn to lock gently(Torque：0.1N.m).

Attention

Normal position

Lucked position



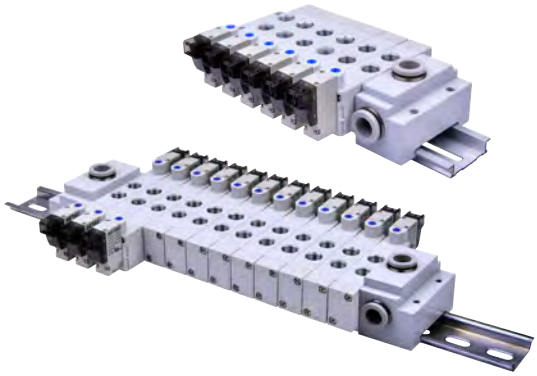
4.4. Wiring instruction：Vertical plug type and parallel plug type are the same as plug, please insert wire line as up drawing by practicality.

Vertical plug wire

Parallel plug wire

Integrated solenoid valve (5/2, 5/3 way)

6HV Series



Specification

Model		6HV0510	6HV0520	6HV0530	6HV110	6HV120	6HV130
Port size [Note1]		In=Out=M5			In=Out=M5(or=1/8")		
Orifice size(Cv)[Note4]		M5:3.4mm² (0.2)		6HV0530CM5: 2.2mm² (0.13)	06:8.9mm² (0.52)		6HV130C06: 8.0mm² (0.47)
Max. frequency [Note2]		5 cycle/sec		3 cycle/sec	5 cycle/sec		3cycle/sec
Fluid		Air(to be filtered by 40μm filter element)					
Acting		Pilot					
Operating pressure	6HV0530/6HV130	0.2~0.8MPa(29~114psi)					
	Othres	0.15~0.8MPa(21~114psi)					
Proof pressure		1.2MPa(175psi)					
Temperature		-20~70℃					
Material of body		Aluminum alloy					
Lubrication [Note3]		Not required					
Exhaust type of pilot valve		Main valve and pilot valve is centralized exhaust					

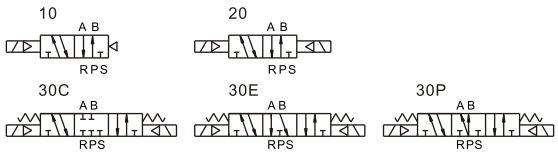
[Note1] PT, NPT thread and G thread are available.

[Note2] The maximum actuation frequency is in the no-load state.

[Note3] Once lubricated air is used, continue with same medium to optimize valve life span. Lubricants like ISO VG32 or equivalent are recommended.

[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Product feature

1. Electrical entry is terminal, horizontal and vertical insertion can freely switch.
2. Inner exhaust structure, which can collect pilot airflow, and then exhaust intensively from R, S port.
3. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
4. The solenoid valve and the DIN rail are connected by a push-pull type, which can be integrated into the valve group with multiple valves.
   It is convenient and flexible to disassemble and replace.

Coil specification

Item	Specification			
Standard voltage	AC220V	AC110V	DC24V	DC12V
Scrop of voltage	AC：+15% ~-10%		DC： ±10%	
Power of consumption	1.1VA		0.9W	
Protection	Dustproof			
Temperature classification	F Class			
Electrical entry	Terminal			
Activating time	0.05 sec and below			

Ordering code(Solenoid valve)

6HV 1 10 06 B 050 □

(1) (2) (3) (4) (5) (6) (7)

①Model	6HV: 5 port 2(3) position solenoid valve		
②Code	05：0500 Series	1：100 Series	
③Valve type	10：Single solenoid(5/2 Way)	20：Double solenoid(5/2 Way)	30C：Double solenoid(5/3 way closed center)
	30E：Double solenoid(5/3 way Exhaust center)	30P：Double solenoid(5/3 way pressure center)	
④Port size	M5: M5	M5: M5	06: 1/8"
⑤Voltage	A: AC220V	B：DC24V	C：AC110V F：DC12V
⑥Wire length	050: 0.5m	200：2.0m	
⑦Thread type	No this code	No this code	Blank：PT thread G：G Thread T：NPT Thread

Ordering code(DIN guide rail)

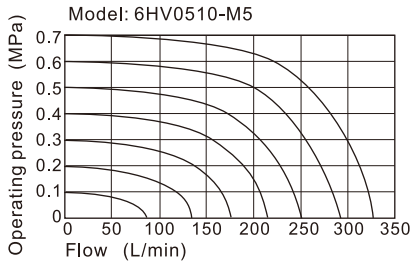
6HV 100M 6F

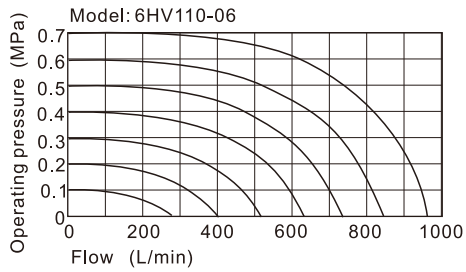
(1) (2) (3)

①Model	6HV: 5 port 2(3) position solenoid valve		
②Code	0500M: DIN guide rail for 0500 Series	100M: DIN guide rail for 100 Series	
③Number of stations	4F: Manifold for 2、3、4 stations	4F:Manifold for 2、3、4 stations	20F:Manifold for 19、20 stations
	7F: Manifold for 5、6、7 stations	6F:Manifold for 5、6 stations	22F:Manifold for 21、22 stations
	10F: Manifold for 8、9、10 stations	8F:Manifold for 7、8 stations	24F:Manifold for 23、24 stations
	12F: Manifold for 11、12 stations	10F:Manifold for 9、10 stations	
	15F: Manifold for 13、14、15 stations	12F:Manifold for 11、12 stations	
	18F: Manifold for 16、17、18 stations	14F:Manifold for 13、14 stations	
	21F: Manifold for 19、20、21 stations	16F:Manifold for 15、16 stations	
	24F: Manifold for 22、23、24 stations	18F:Manifold for 17、18 stations	

[Note] DIN guide rail contents inlet and outlet module or end cover. The detail configuration is: ten and less stations configure one inlet and outlet module and one end cover, ten over stations config two inlet and outlet modules.

Flow chart

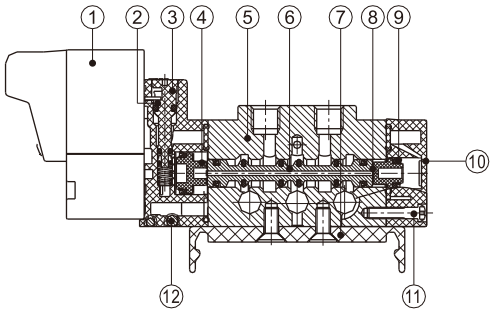




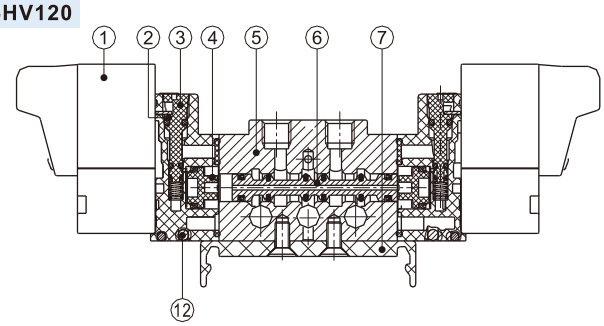
The data in flow rate chart are obtained from AirTAC lab.

Inner structure

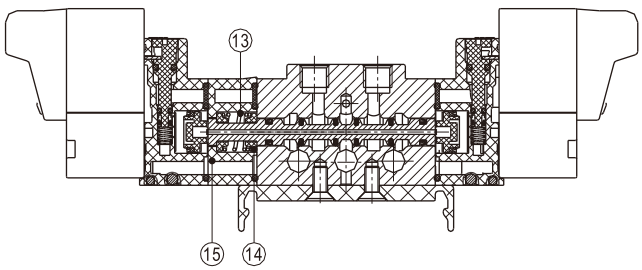
6HV110



6HV120



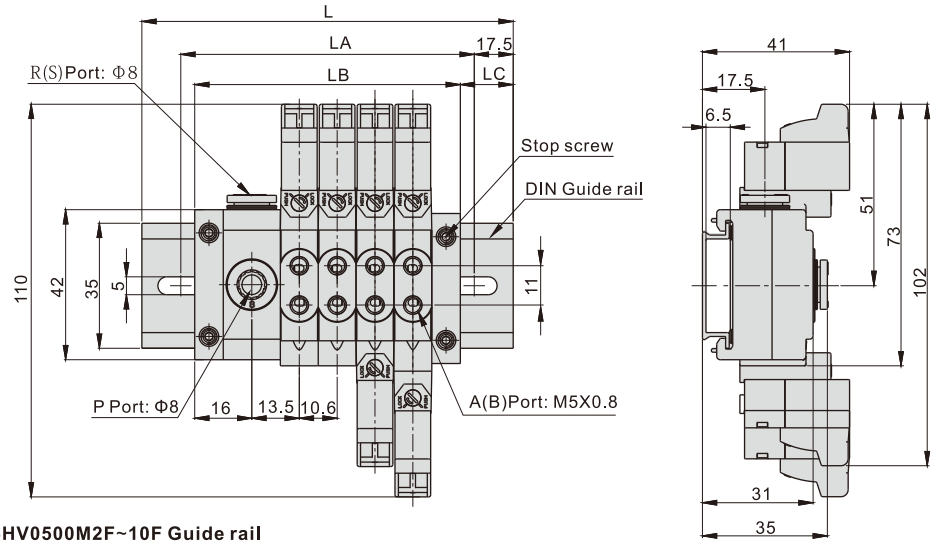
6HV130C



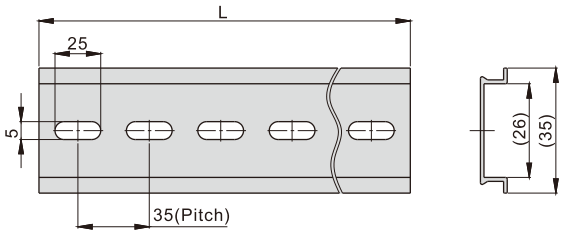
No.	Item	No.	Item	No.	Item
1	Pilot valve	6	Spool	11	Bolt
2	Manual override	7	Bracket	12	Steel ball
3	Pilot kit	8	Little piston	13	Spring
4	Big piston	9	Gasket	14	Return holder
5	Body	10	Bottom cover	15	Side cover

Dimensions

6HV0500+6HV0500M2F~10F



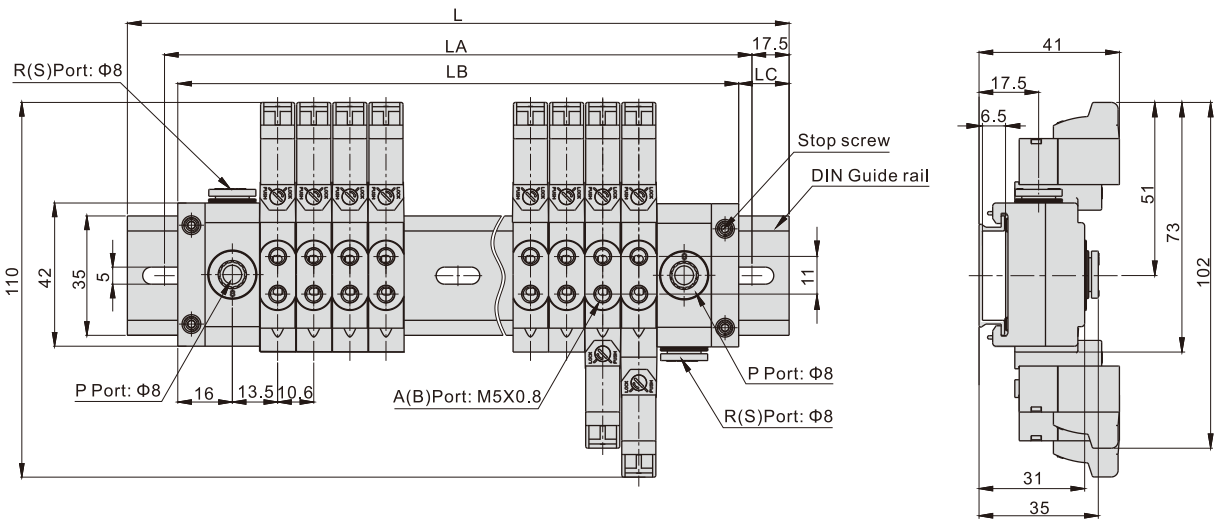
6HV0500M2F~10F Guide rail



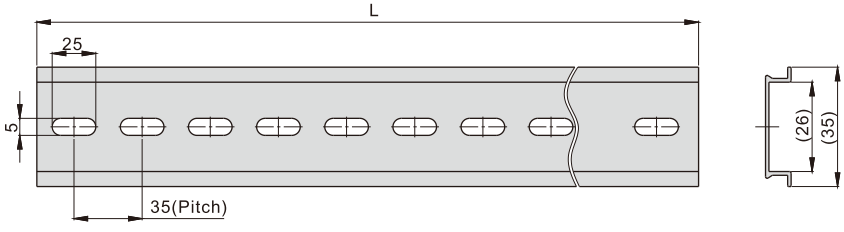
Item\Stations	2F	3F	4F	5F	6F
L	105	105	105	140	140
LA	70	70	70	105	105
LB	53	64	74.5	85	95.5
LC	26	20.5	15	27.5	22

Item\Stations	7F	8F	9F	10F
L	140	175	175	175
LA	105	140	140	140
LB	106	116	127.5	138
LC	17	29.5	23.8	18.5

6HV0500+6HV0500M11F~24F



6HV0500M11F~24F Guide rail

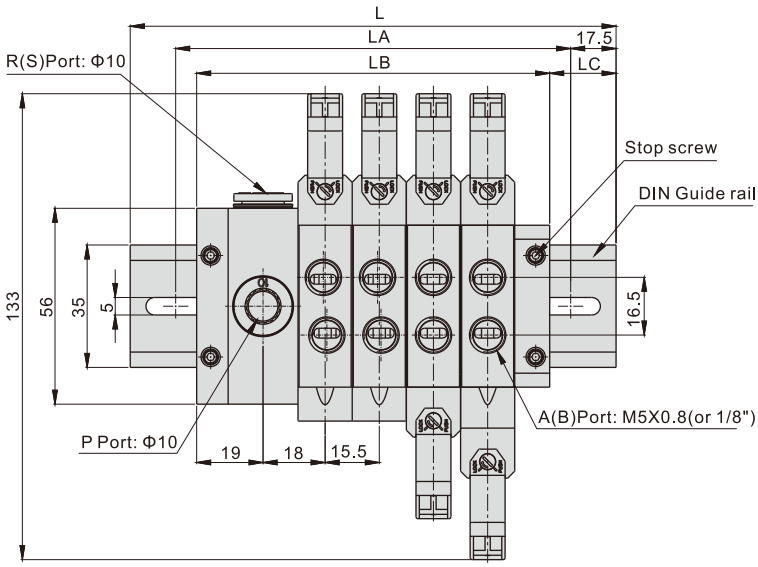


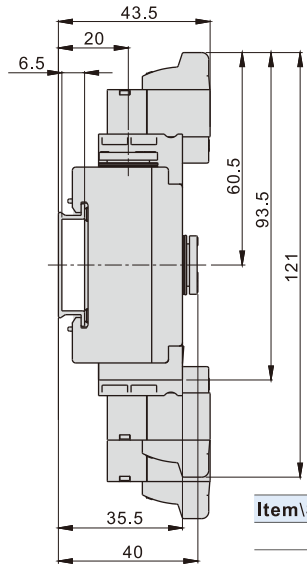
Item\Stations	11F	12F	13F	14F	15F	16F	17F
L	210	210	245	245	245	280	280
LA	175	175	210	210	210	245	245
LB	164.5	175	185.5	196.5	207	217.5	228
LC	23	17.5	30	24	19	31	26

Item\Stations	18F	19F	20F	21F	22F	23F	24F
L	280	315	315	315	350	350	350
LA	245	280	280	280	315	315	315
LB	238.5	249.5	260	270.5	281	292	302.5
LC	21	33	27.5	22	34.5	29	24

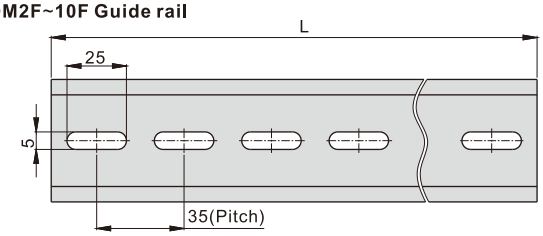
6HV Series

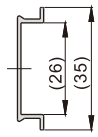
6HV100+6HV100M2F~10F





6HV100M2F~10F Guide rail

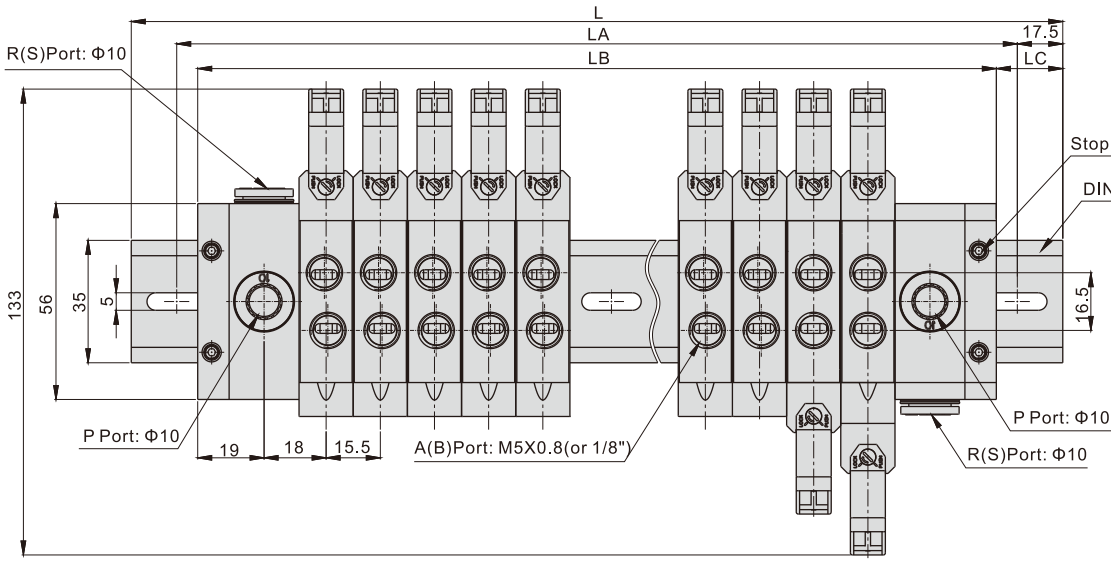


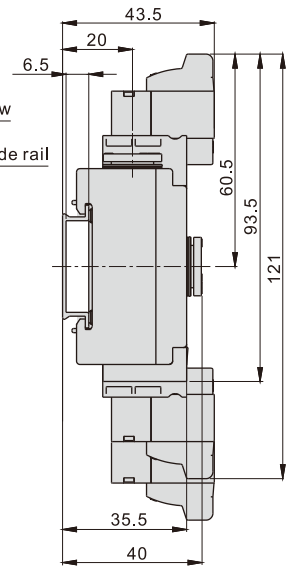


Item\Stations	2F	3F	4F	5F	6F
L	140	140	140	175	175
LA	105	105	105	140	140
LB	70	85.5	101	116.5	132
LC	35	27	19.5	29	21.5

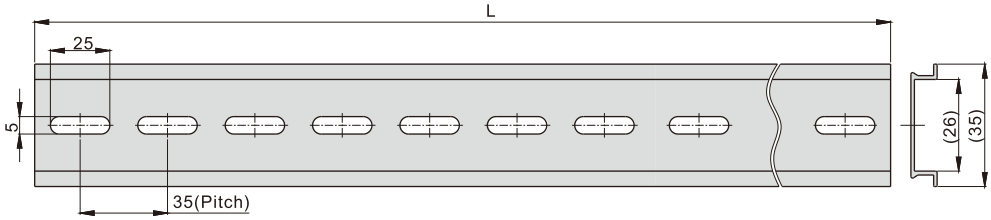
Item\Stations	7F	8F	9F	10F
L	210	210	245	245
LA	175	175	210	210
LB	147.5	163	178.5	194
LC	31	23.5	33	25.5

6HV100+6HV100M11F~24F





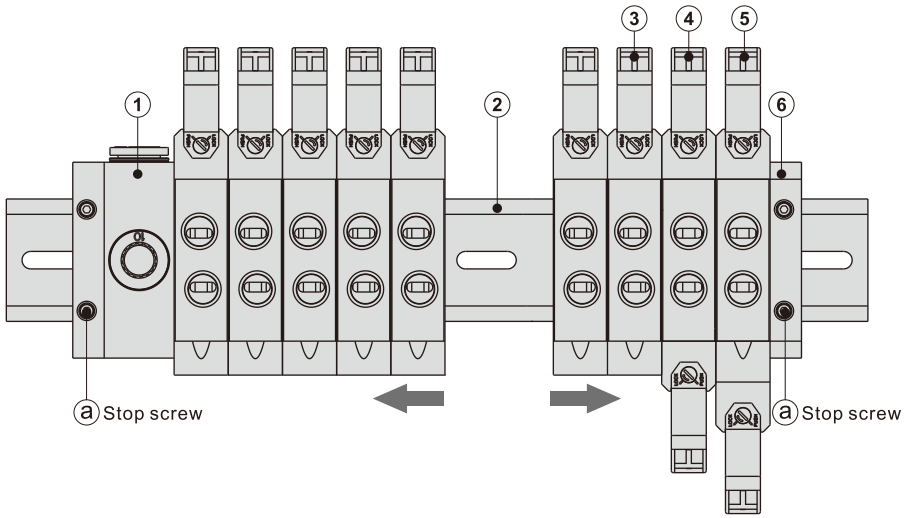
6HV100M11F~24F Guide rail



Item\Stations	11F	12F	13F	14F	15F	16F	17F
L	280	280	315	315	350	350	385
LA	245	245	280	280	315	315	350
LB	228.5	244	259.5	275	290.5	306	321.5
LC	28	18	28	20	30	22	32

Item\Stations	18F	19F	20F	21F	22F	23F	24F
L	385	420	420	455	455	490	490
LA	350	385	385	420	420	455	455
LB	337	352.5	368	383.5	399	414.5	430
LC	24	34	26	36	28	38	30

Installation and Application(Integrated Solenoid valve)



Configurations of integrated solenoid valve:

NO.	Name of module	How to order	Note
①	Inlet and outlet module	Contains in the DIN guide rail, can't be ordered independently	Left and right positions are interchangeable
②	DIN Guide rail	Refer to ordering code for detail	
③	Solenoid valve(Single solenoid(5/2 Way))	Refer to ordering code for detail	It can be installed at any position and can be added or removed at will.
④	Solenoid valve(Double solenoid(5/2 Way))	Refer to ordering code for detail	
⑤	Solenoid valve(5/3 Way)	Refer to ordering code for detail	
⑥	End cover	Contains in the DIN guide rail, can't be ordered independently	Left and right positions are interchangeable

1. The integrated solenoid valve group is a highly integrated valve block consisting of a solenoid valve, an inlet and outlet module, a end cover, and a DIN guide rail.
2. Each functional module in the integrated solenoid valve group can be freely replaced, the number of stations can be increased or decreased according to demand.
3. The method of increasing stations:
   1 Loosen the stop screw.ⓐ
   ↓
   2 Separate the original solenoid valves that you wish to add.
   ↓
   3 The newly added solenoid valve is mounted on the DIN rail according to the "**Fig. 1**" method.
   ↓
   4 Push the other functional modules to make them tightly connected, then tighten the stop screwsⓐto complete the increasing stations.
4. Notice :

4.1) Stop screw tightening torque : 6HV0500 : 1N.m/6HV100 : 1.4N.m.

4.2) Fastening method: first fix one end cover, then push each function module hard so that there is no gap between the valves, then tighten the stop screw at the other end.

4.3) When reassembling: If the connection between the valves and the tightening torque of the stop screw are insufficient, air leakage may occur. Before ventilating, please make sure there is no gap between the valves, and firmly fix it on the guide rail before venting.

5. The method of removing the solenoid valve from the DIN rail: Refer to the requirements of "**Fig. 2**" for details.

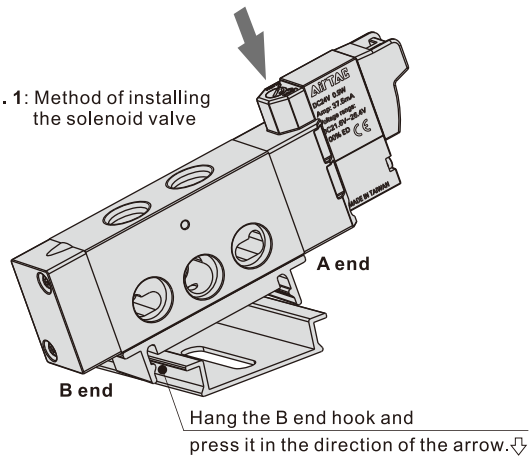


Fig. 1: Method of installing the solenoid valve

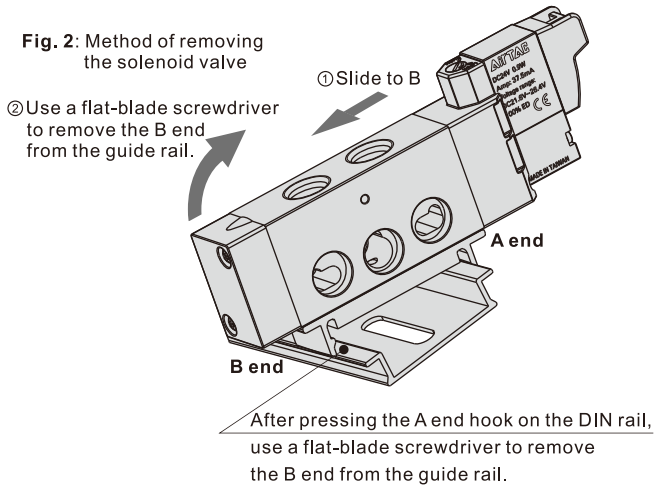


Fig. 2: Method of removing the solenoid valve

Compendium of 7V Series

Inner exhaust structure

Special structure in the valve body, which can collect pilot airflow, and then exhaust intensively from R, S port.

Terminal

Special design for terminal, horizontal and vertical insertion can freely switch.

Multi-port types are optional

Threaded type and quick connector type are optional, and can integrate mainfold to form valve group to save space.

Multi-series and type

7V0500, 7V100, 7V200, 7V300 series are optional.

Die-cast molding with aluminum alloy for body

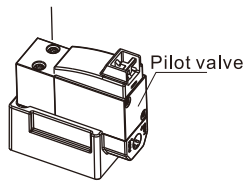
The shape of cavity is reasonable, which can increase flowing area and valve's flow.

Installation and Application

1. Don't throw or drop the solenoid valve when take it, to avoid breaking valve;
2. Because solenoid pilot valve is sophisticated component, can't crash pilot valve by outside force, otherwise solenoid valve break possibly;
3. Don't dismantle solenoid valve freely, if the screw(M1.6X14) becomes loose, please tighten it by torque 0.1~0.12N.m;
4. About manual operation:

4.1. Ensure no danger, prior to activating manual override;

4.2. For push button option:
Activate by push the button in the direction shown



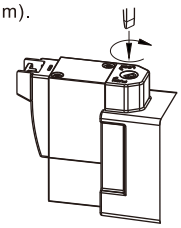
4.3. For slotted option:
Activate by push the button in the direction shown.

With correct size screw driver:please turn to lock gently(Torque：0.1N.m).

Attention

Normal position

Lucked position



4.4. Wiring instruction：Vertical plug type and parallel plug type are the same as plug, please insert wire line as up drawing by practicality.

Vertical plug wire

Parallel plug wire

Solenoid valve(5/2 way,5/3 way)

7V Series

Specification

Model		7V0510	7V0520	7V0530	7V110	7V120	7V130
Port size [Note1]	Thread type	In=Out=Exhaust=M5			In=Out=Exhaust=1/8"		
	Tube type	Port A=Port B=Φ4			Port A=Port B=Φ4(or Φ6or Φ8)		
Orifice size (Cv) [Note4]		M5:3.4mm² (0.2)		7V0530CM5: 2.2mm² (0.13)	06:8.0mm²(0.47)		7V130C06: 7.0mm² (0.41)
Weight		30g	45g	50g	80g	90g	100g
Model		**7V210**	**7V220**	**7V230**	**7V310**	**7V320**	**7V330**
Port size [Note1]	Thread type	In=Out=1/4" Exhaust=1/8"			In=Out=3/8" Exhaust=1/4"		
	Tube type	Port A=Port B=Φ8(or Φ10)			-		
Orifice size (Cv) [Note4]		08:14.7mm² (0.87)		7V230C08: 10.8mm² (0.64)	10:38.4mm² (2.26)		7V330C10: 30.5mm² (1.8)
Weight		120g	135g	145g	230g	265g	305g
Fluid		Air(to be filtered by 40μm filter element)					
Acting		Pilot					
Operating pressure	7V0530/7V130 7V230/7V330	0.2~0.8MPa(29~114psi)					
	Others	0.15~0.8MPa(21~114psi)					
Proof pressure		1.2MPa(175psi)					
Temperature		-20~70℃					
Material of body		Aluminum alloy					
Lubrication [Note2]		Not required					
Exhaust type of pilot valve		Main valve and pilot valve is centralized exhaust					
Max. frequency[Note3]		5 cycle/sec		3 cycle/sec	5 cycle/sec		3 cycle/sec

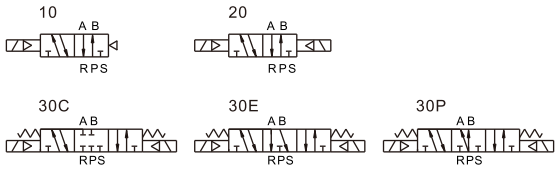
[Note1] PT, NPT thread and G thread are available.

[Note2] Once lubricated air is used, continue with same medium to optimize valve life span. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency is in the no-load state.

[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Product feature

1. Electrical entry is terminal, horizontal and vertical insertion can freely switch.
2. Inner exhaust structure, which can collect pilot airflow, and then exhaust intensively from R, S port.
3. Die-cast molding with aluminum alloy for body. The shape of cavity is reasonable, which can increase valve's flow.
4. Threaded type and quick connector type are optional, and can integrate manifold to form valve group to save space.

Coil specification

Item	Specification			
Standard voltage	AC220V	AC110V	DC24V	DC12V
Scrop of voltage	AC : +15% ~-10%		DC : ±10%	
Power of consumption	1.1VA		0.9W	
Protection	Dustproof			
Temperature classification	F Class			
Electrical entry	Terminal			
Activating time	0.05 sec and below			

Ordering code

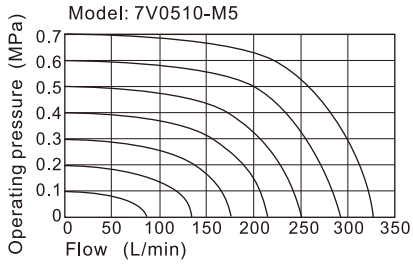
7V 2 10 J 08 B 050 □

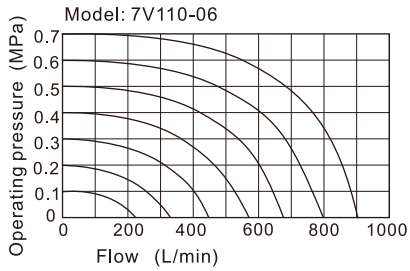
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

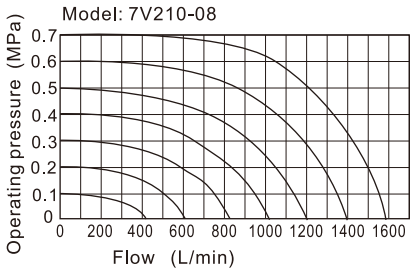
①Model	7V: 5 port 2(3) position solenoid valve				
②Code	05: 0500 Series	1: 100 Series		2: 200 Series	3: 300 Series
③Valve type	10 : Single solenoid(5/2 Way)	20 : Double solenoid(5/2 Way)	30C : Double solenoid(5/3 way closed center)		
	30E : Double solenoid(5/3 way Exhaust center)	30P : Double solenoid(5/3 way pressure center)			
④Port type	Blank : Thread type	J : Tube type			
⑤Port size Thread type	M5: M5	06: 1/8"		08: 1/4"	10: 3/8"
⑤Port size Tube type	04: Φ4mm	04: Φ4mm/06: Φ6mm/08: Φ8mm		08: Φ8mm/10: Φ10mm	-
⑥Voltage	A: AC220V	B: DC24V	C: AC110V	F: DC12V	
⑦Wire length	050: 0.5m	200: 2.0m			
⑧Thread type	No this code	Blank : PT thread	G : G Thread	T : NPT Thread	

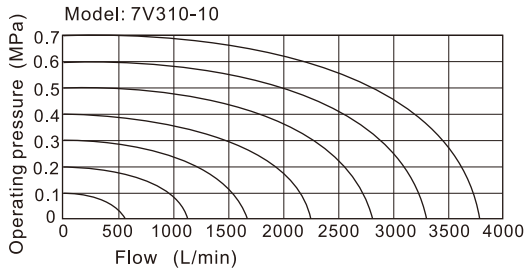
[Note 1]: The bottom ports of solenoid valve with tube type are oval, without thread type options and can only install with a manifold.

Flow chart





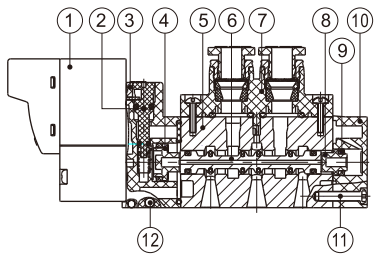




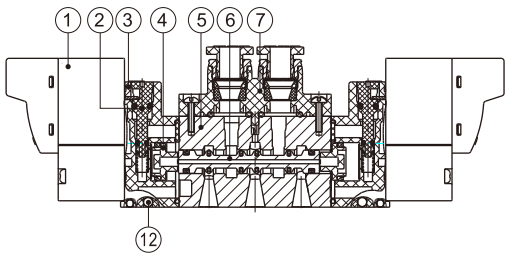
The data in flow rate chart are obtained from AirTAC lab.

Inner structure

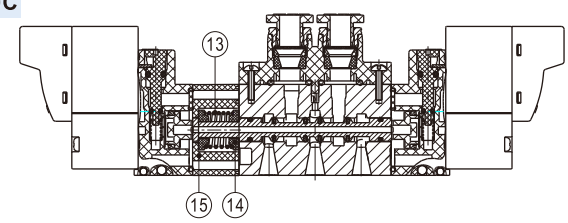
7V110



7V120



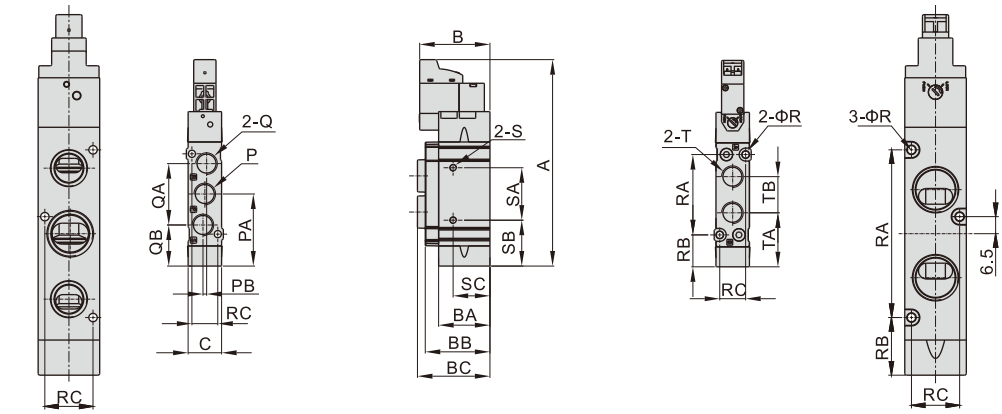
7V130C



No.	Item	No.	Item	No.	Item
1	Pilot valve	6	Spool	11	Bolt
2	Manual override	7	Connecting block	12	Steel ball
3	Pilot kit	8	Little piston	13	Spring
4	Big piston	9	Gasket	14	Return holder
5	Body	10	Bottom cover	15	Side cover

Dimensions

7V0510
7V110
7V210
7V310

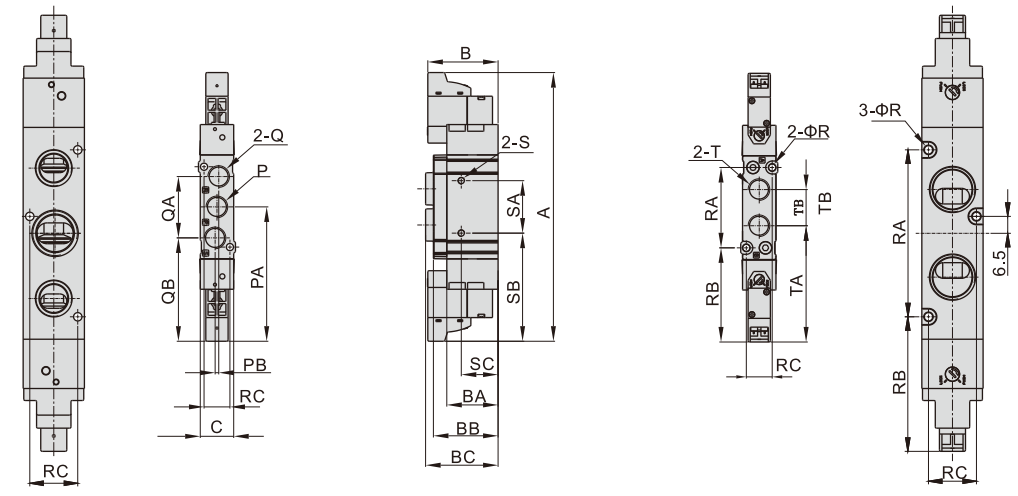


7V310 7V310

Model\Item	A	B	BA	BB	BC	C	P	PA	PB	Q	QA	QB	T	TA	TB	R	RA	RB	RC	S	SA	SB	SC
7V0510M5	73	30.5	18.5	23	23.5	10	M5X0.8	22.5	1	M5X0.8	19	13	M5X0.8	17.5	10.5	2.1	21.4	12	8.6	M3X0.5dp3	9.5	17.8	4
7V0510J04					32.5		Oval			Oval			Φ4(tube)							-	-	-	-
7V11006	92.5	32	23	29	32.5	15	1/8"	32.5	1.6	1/8"	27.2	18.5	1/8"	24	16.2	3.2	36	14.5	11.6	M3X0.5dp3	23.5	20.5	16.5
7V110J04					38.2		Oval			Oval			Φ4(tube)							-	-	-	-
7V110J06					40								Φ6(tube)										
7V110J08					41.5								Φ8(tube)										
7V21008	106	33.5	28	34	40.5	18	1/4"	39	3	1/8"	36	21	1/4"	29	20	4.3	42	18	13.6	M4X0.7dp5	20	29	7
7V210J08					46.5		Oval			Oval			Φ8(tube)							-	-	-	-
7V210J10					49								Φ10(tube)										
7V31010	137.5	46	-	-	46	23.5	3/8"	54	0.5	1/4"	50	29	3/8"	37	33.5	3.2	64	22	18.4	Φ4.3	25	41.5	8

[Note]: The bottom ports of solenoid valve with tube type are oval and can only install with manifold (no side installation hole"S").

7V0520
7V120
7V220
7V320



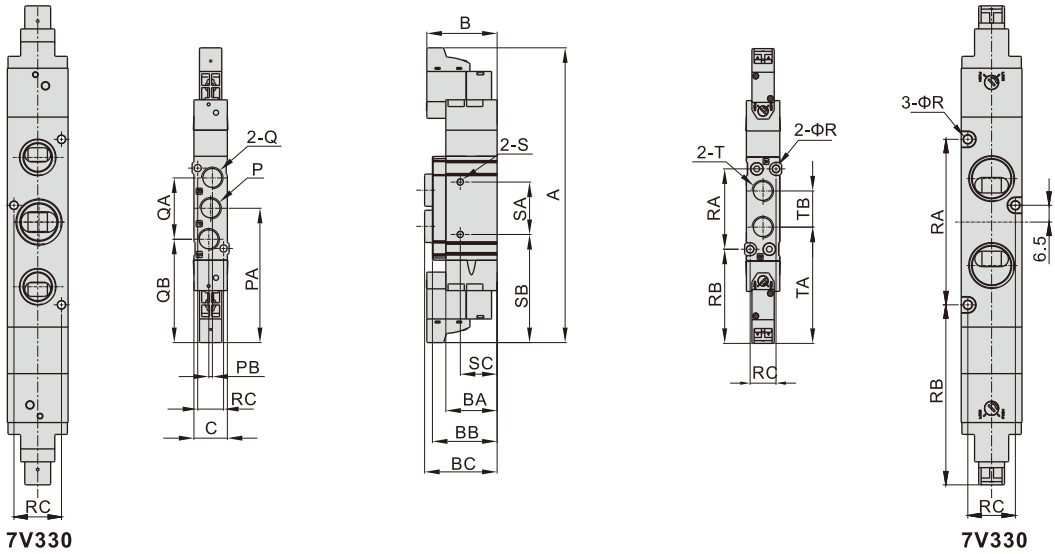
7V320 7V320

Model\Item	A	B	BA	BB	BC	C	P	PA	PB	Q	QA	QB	T	TA	TB	R	RA	RB	RC	S	SA	SB	SC
7V0520M5	101.5	30.5	18.5	23	23.5	10	M5X0.8	50.5	1	M5X0.8	19	41	M5X0.8	45.5	10.5	2.1	21.4	12	8.6	M3X0.5dp3	9.5	17.8	4
7V0520J04					32.5		Oval			Oval			Φ4(tube)							-	-	-	-
7V12006	120.5	32	23	29	32.5	15	1/8"	60.5	1.6	1/8"	27.2	46.5	1/8"	52	16.2	3.2	36	14.5	11.6	M3X0.5dp3	23.5	48.5	16.5
7V120J04					38.2		Oval			Oval			Φ4(tube)							-	-	-	-
7V120J06					40								Φ6(tube)										
7V120J08					41.5								Φ8(tube)										
7V22008	134	33.5	28	34	40.5	18	1/4"	67	3	1/8"	36	49	1/4"	57	20	4.3	42	18	13.6	M4X0.7dp5	20	57	7
7V220J08					46.5		Oval			Oval			Φ8(tube)							-	-	-	-
7V22008J10					49								Φ10(tube)										
7V32010	167	46	-	-	46	23.5	3/8"	83.5	0.5	1/4"	50	58.5	3/8"	67	33.5	3.2	64	51.5	18.4	Φ4.3	25	71	8

[Note]: The bottom ports of solenoid valve with tube type are oval and can only install with manifold (no side installation hole"S").

7V Series

7V0530
7V130
7V230
7V330



7V330 7V330

Model\Item	A	B	BA	BB	BC	C	P	PA	PB	Q	QA	QB	T	TA	TB	R	RA	RB	RC	S	SA	SB	SC
7V0530M5	110	30.5	18.5	23	23.5	10	M5X0.8	50.5	1	M5X0.8	19	41	M5X0.8	45.5	10.5	2.1	21.4	12	8.6	M3X0.5dp3	9.5	45.8	4
7V0530J04					32.5		Oval			Oval			Φ4(tube)							-	-	-	-
7V13006	132	32	23	29	32.5	15	1/8"	60.5	1.6	1/8"	27.2	46.5	1/8"	52	16.2	3.2	36	14.5	11.6	M3X0.5dp3	23.5	48.5	16.5
7V130J04					38.2		Oval			Oval			Φ4(tube)							-	-	-	-
7V130J06					40								Φ6(tube)										
7V130J08					41.5								Φ8(tube)										
7V23008	147	33.5	28	34	40.5	18	1/4"	67	3	1/8"	36	49	1/4"	57	20	4.3	42	18	13.6	M4X0.7dp5	20	57	7
7V230J08					46.5		Oval			Oval			Φ8(tube)							-	-	-	-
7V230J10					49								Φ10(tube)										
7V33010	185	46	-	-	46	23.5	3/8"	101.5	0.5	1/4"	50	76.5	3/8"	85	33.5	3.2	64	69.5	18.4	Φ4.3	25	89	8

[Note]: The bottom ports of solenoid valve with tube type are oval and can only install with manifold (no side installation hole"S").

Accessories——Mounting bracket

1、Ordering code

F-7V100 LB

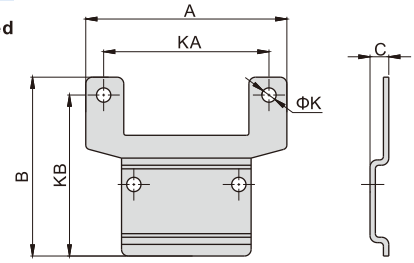
① ② ③

①Accessories code	F: Mounting accessories	
②Valve type	7V0500: 0500 Series	7V100: 100 Series 7V200: 200 Series
③Accessories type	LB: LB Type(Side mounted)	LBD: LB Type(Bottom mounted)

Note：1、Each mounting bracket with 4pcs mounting screws.
2、Packed in PE bags with blank labels.

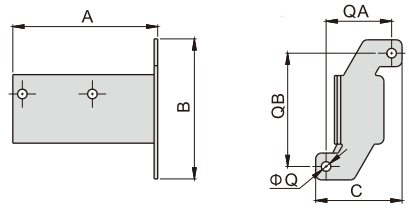
2、Dimensions

Side mounted



Model\Item	A	B	C	K	KA	KB
F-7V0500LB	35	35	4.2	3.2	27	31.5
F-7V100LB	45	40	4.2	3.2	37	36
F-7V200LB	66	49	4.2	4.2	52	42

Bottom mounted



Model\Item	A	B	C	Q	QA	QB
F-7V0500LBD	32.5	38	24	3.2	17	31
F-7V100LBD	48.5	47	29	3.2	22	38
F-7V200LBD	57	57	38	4.2	28	46

7V Series manifold

Specification

Item\Manifold Model	7V0500M	7V100M	7V200M	7V300M
Fluid	Air(to be filtered by 40μm filter element)			
Temperature	-20~70℃			
Adaptable valve's series	7V0500 Series	7V100 Series	7V200 Series	7V300 Series

Product feature

1. It is available to integrate the direction control valves of the same series to form valve group to save space and cost.
2. It is easy to examine when there are faults owning to the unified air intake and exhaust and unified wiring.
3. Flexible combination and strong expansion capability can make any combination or expansion of the numbers of direction control valves that are connected.

Ordering code

7V100M 5F T **Ordering code for manifold**

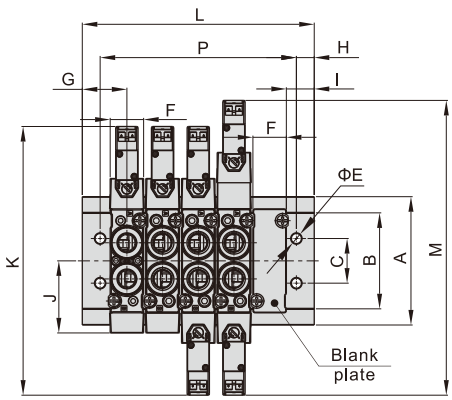
①Model	7V0500M : 7V0500 Series manifold	7V100M : 7V100 Series manifold	7V200M : 7V200 Series manifold	7V300M : 7V300 Series manifold
②Number of stations	1F: 1 Station 2F: 2 Station 3F: 3 Station ..... 20F: 20 Station			
③Thread type	Blank : PT thread G : G Thread T : NPT Thread			

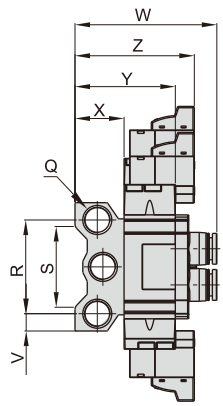
P-7V100M - R2 **Ordering code for blank plate**

①Model	7V0500M : 7V0500 Series manifold	7V100M : 7V100 Series manifold	7V200M : 7V200 Series manifold	7V300M : 7V300 Series manifold
②Code	R2: Blank plate for manifold			

[Note] 1.Manifold kits contains manifold, seal and screw. 2. Blank plate kits contains blank plate and screw.

Dimensions





Model\Item	A	B	C	E	F	G	H	I	J	K	M	Q	R	S	V	W			X	Y	Z
7V0500M	46	32	16	4.5	10	17.5	7.5	12.5	22.5	102	110	1/8"	32	26	7	36.2(M5)	50.5(J04)		17	35.5	47.5
7V100M	57.5	43	20	4.5	15	20	8	12.5	32	121	132	1/4"	40	36	9	55(06)	62.5(J04)/64(J06)	65.5(J08)	22	45	53.5
7V200M	60	52	21	4.5	18	22	8.5	13	39	134	147	1/4"	42	38	9	58.5(08)	76.5(J08)	78.5(J10)	24	52	57
7V300M	85	75	26	4.5	23.5	24	5	12	54	167	185	3/8"	57	58	14	-	-	-	27	74	-

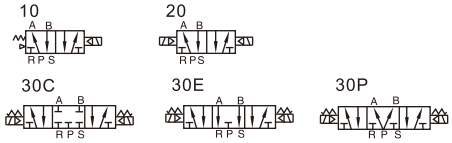
Model\Item	L																			
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F
7V0500M	35	40.5	51	61.5	72	82.5	93	103.5	114	124.5	135	145.5	156	166.5	177	187.5	198	208.5	219	229.5
7V100M	40	50	66	82	98	114	130	146	162	178	194	210	226	242	258	247	290	306	322	338
7V200M	44	56	75	94	113	132	151	170	189	208	227	246	265	284	303	322	341	360	379	398
7V300M	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480	504

Model\Item	P																			
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F
7V0500M	20	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5
7V100M	24	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328
7V200M	27	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388
7V300M	38	62	86	110	134	158	182	206	230	254	278	302	326	350	374	398	422	446	470	494

Solenoid valve(5/2 way,5/3 way)

4V100 Series

Symbol



Product feature

1. Pilot-oriented mode: Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction .
3. Three position solenoid valves have three kinds of central function for your choice.
4. Double control solenoid valves have memory function.
5. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
6. No need to add oil for lubrication.
7. It is available to form integrated valve group with the base to save installation space.
8. Affiliated manual devices are equipped to facilitate installation and debugging.
9. Several standard voltage grades are optional.

Specification

Model	4V110-M5 4V120-M5	4V130C-M5 4V130E-M5 4V130P-M5	4V110-06 4V120-06	4V130C-06 4V130E-06 4V130P-06
Fluid	Air(to be filtered by 40μm filter element)			
Acting	Internal pilot or external pilot			
Port size [Note1]	In=Out=M5		In=Out=1/8"	
Orifice size(Cv) [Note4]	4V110-06,4V120-06:10.2mm²(Cv=0.6) 4V130C-06:8.6mm²(Cv=0.51)			
Valve type	5 port 2 position	5 port 3 position	5 port 2 position	5 port 3 position
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max.frequency [Note3]	5 cycle/sec	3cycle/sec	5 cycle/sec	3 cycle/sec
Weight (g)	4V110-M5:120 4V120-M5:175	200	4V110-06:120 4V120-06:175	200

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.
[Note3] The maximum actuation frequency is in the no-load state.
[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Coil specification

Item	Specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%				
Power consumption	3.5VA	3.5VA	4.0VA	2.8W	2.5W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				

Ordering code

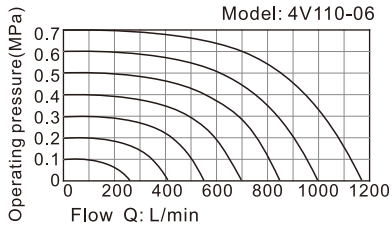
4V 1 10 06 A □ □

① ② ③ ④ ⑤ ⑥ ⑦

①Model	②Code	③Valve type	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
4V: Solenoid valve (5/2, 5/3 way)	1: 100 Series	10: Single solenoid 5/2 way 20: Double solenoid 5/2 way 30C: Double solenoid 5/3 way closed center 30E: Double solenoid 5/3 way exhaust center 30P: Double solenoid 5/3 way pressure center	M5: M5 06: 1/8"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	No this code Blank: PT G: G T: NPT

[Note] The wire length is 0.5m. Please refer to P88 for manifold specification and the order way.

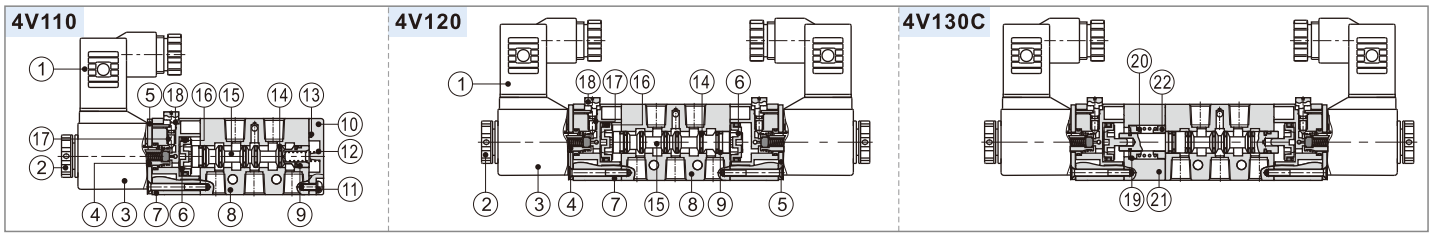
Flow chart



The data in flow rate chart are obtained from AirTAC lab.

4V100 Series

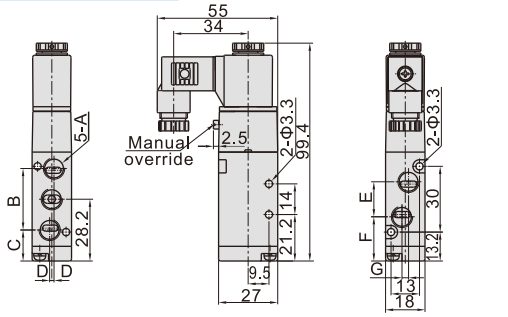
Inner structure



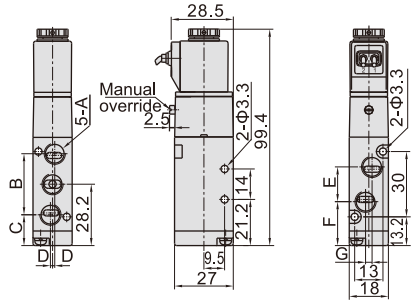
No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Connector	3	Coil	5	Fixed plate	7	Pilot kit	9	Wear ring	11	Fixed screw	13	Bottom cover gasket	15	Spool	17	Override spring	19	Spring holder	21	Side cover
2	Coil nut	4	Armature	6	Piston	8	Body	10	Bottom cover	12	Spool spring	14	Spool O-ring	16	Piston O-ring	18	Manual override	20	Return spring	22	Spring holder

Dimensions

4V110(Terminal)

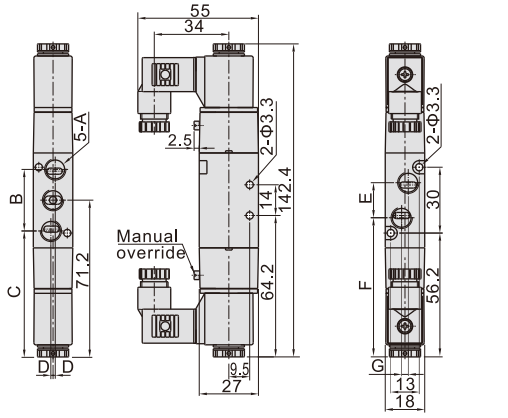


4V110(Grommet)

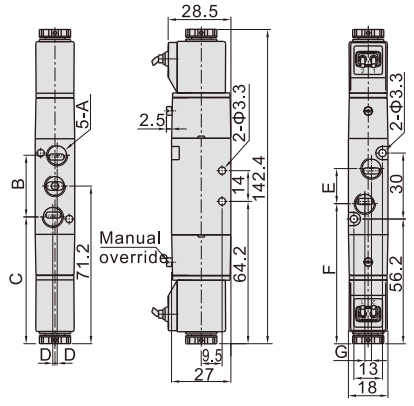


Model\Item	A	B	C	D	E	F	G
4V110-M5	M5x0.8	27	14.7	0	14	21.2	0
4V110-06	1/8"	28	14.2	1	16	20.2	3

4V120(Terminal)

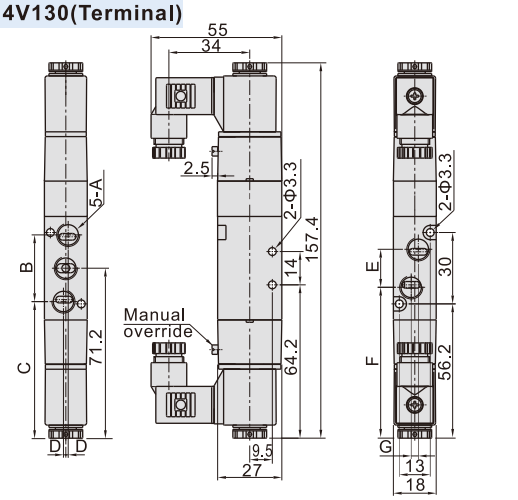


4V120(Grommet)

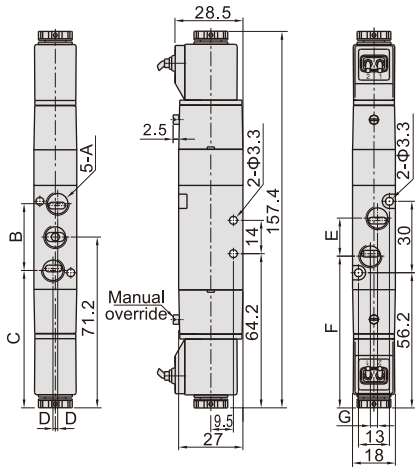


Model\Item	A	B	C	D	E	F	G
4V120-M5	M5x0.8	27	57.7	0	14	64.3	0
4V120-06	1/8"	28	57.2	1	16	63.2	3

4V130(Terminal)



4V130(Grommet)

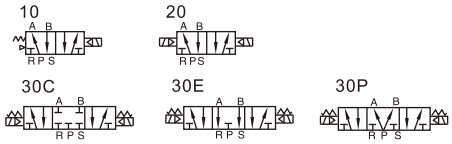


Model\Item	A	B	C	D	E	F	G
4V130-M5	M5x0.8	27	57.7	0	14	64.3	0
4V130-06	1/8"	28	57.2	1	16	63.2	3

Solenoid valve(5/2 way,5/3 way)

4V200 Series

Symbol



Product feature

1. Pilot-oriented mode:Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Three position solenoid valves have three kinds of central function for your choice.
4. Double control solenoid valves have memory function.
5. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
6. No need to add oil for lubrication.
7. It is available to form integrated valve group with the base to save installation space.
8. Affiliated manual devices are equipped to facilitate installation and debugging.
9. Several standard voltage grades are optional.

specification

Model	4V210-06 4V220-06	4V230C-06 4V230E-06 4V230P-06	4V210-08 4V220-08	4V230C-08 4V230E-08 4V230P-08
Fluid	Air(to be filtered by 40μm filter element)			
Acting	Internal pilot or external pilot			
Port size [Note1]	In=Out=Exhaust=1/8"		In=Out=1/4" Exhaust=1/8"	
Orifice size(Cv) [Note4]	4V210-08,4V220-08:17.0mm²(Cv=1.0) 4V230C-08:13.6mm²(Cv=0.8)			
Valve type	5 port 2 position	5 port 3 position	5 port 2 position	5 port 3 position
Operating pressure	0.15~0.8MPa(21~114psi)			
Operating pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max. frequency [Note3]	5 cycle/sec	3 cycle/sec	5 cycle/sec	3 cycle/sec
Weight (g)	4V210-06:220 4V220-06:320	360	4V210-08:220 4V220-08:320	360

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.
[Note3] The maximum actuation frequency is in the no-load state.
[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Coil specification

Item	Specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%				
Power consumption	4.5VA	4.5VA	5.0VA	3.0W	2.5W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				

Ordering code

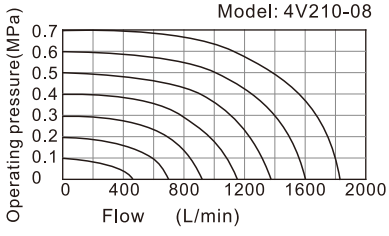
4V 2 10 08 A □ □

① ② ③ ④ ⑤ ⑥ ⑦

①Model	②Code	③Valve type	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
4V: Solenoid valve (5/2, 5/3 way)	2: 200 Series	10: Single solenoid 5/2 way 20: Double solenoid 5/2 way 30C: Double solenoid 5/3 way closed center 30E: Double solenoid 5/3 way exhaust center 30P: Double solenoid 5/3 way pressure center	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT

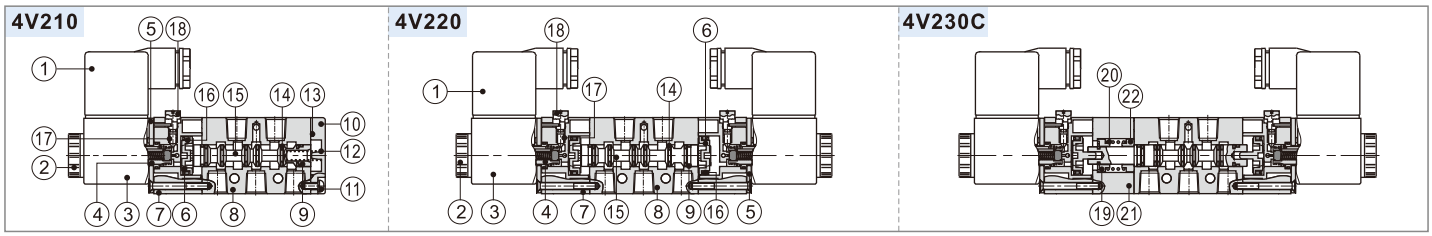
[Note] The wire length is 0.5m. Please refer to P88 for manifold specification and the order way.

Flow chart



The data in flow rate chart are obtained from AirTAC lab.

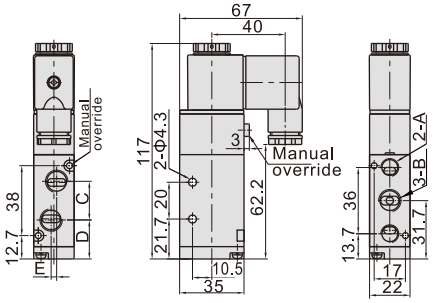
Inner structure



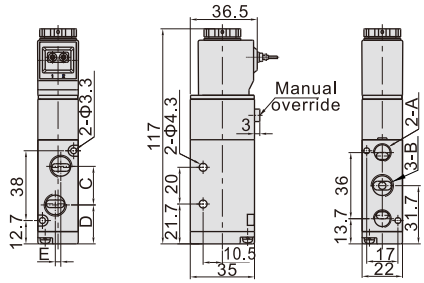
No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Connector	3	Coil	5	Fixed plate	7	Pilot kit	9	Wear ring	11	Fixed screw	13	Bottom cover gasket	15	Spool	17	Override spring	19	Spring holder	21	Side cover
2	Coil nut	4	Armature	6	Piston	8	Body	10	Bottom cover	12	Spool spring	14	Spool O-ring	16	Piston O-ring	18	Manual override	20	Return spring	22	Spring holder

Dimensions

4V210(Terminal)

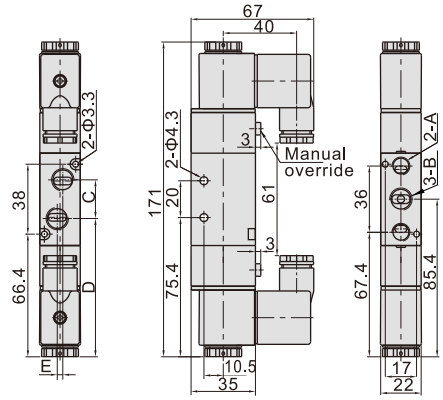


4V210(Grommet)

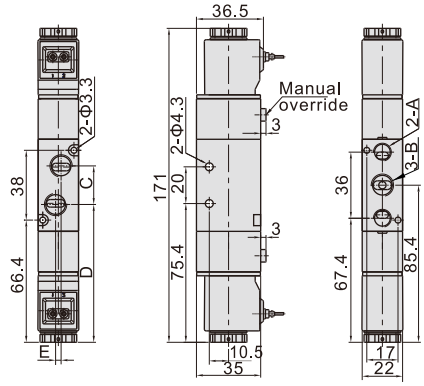


Model\Item	A	B	C	D	E
4V210-06	1/8"	1/8"	18	22.7	0
4V210-08	1/8"	1/4"	21	21.2	3

4V220(Terminal)

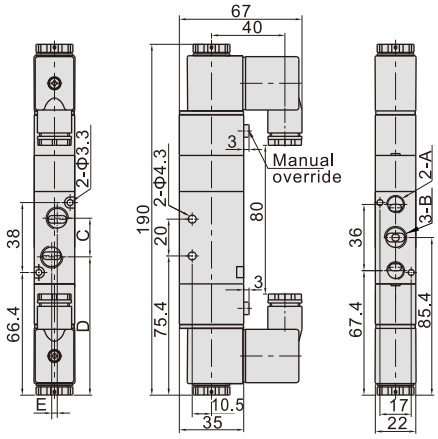


4V220(Grommet)

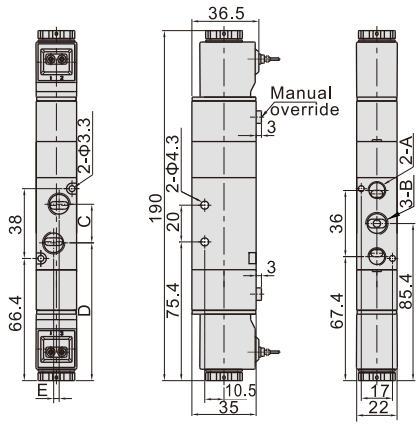


Model\Item	A	B	C	D	E
4V220-06	1/8"	1/8"	18	76.4	0
4V220-08	1/8"	1/4"	21	74.9	3

4V230(Terminal)



4V230(Grommet)

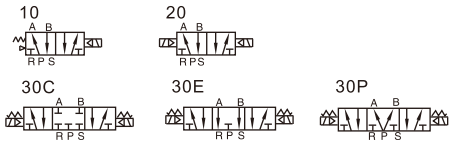


Model\Item	A	B	C	D	E
4V230-06	1/8"	1/8"	18	76.4	0
4V230-08	1/8"	1/4"	21	74.9	3

Solenoid valve(5/2 way,5/3 way)

4V300 Series

Symbol



Product feature

1. Pilot-oriented mode:Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Three position solenoid valves have three kinds of central function for your choice.
4. Double control solenoid valves have memory function.
5. Internal hole adopts special processing technology which has littleattrition friction, low start pressure and long service life.
6. No need to add oil for lubrication.
7. It is available to form integrated valve group with the base to save installation space.
8. Affiliated manual devices are equipped to facilitate installation and debugging.
9. Several standard voltage grades are optional.

Specification

Model	4V310-08 4V320-08	4V330C-08 4V330E-08 4V330P-08	4V310-10 4V320-10	4V330C-10 4V330E-10 4V330P-10
Fluid	Air(to be filtered by 40μm filter element)			
Acting	Internal pilot or external pilot			
Port size [Note1]	In=Out=Exhaust=1/4"		In=Out=3/8" Exhaust=1/4"	
Orifice size(Cv) [Note4]	4V310-10,4V320-10:28.0mm²(Cv=1.65) 4V330C-10:21.3mm²(Cv=1.25)			
Valve type	5 port 2 position	5 port 3 position	5 port 2 position	5 port 3 position
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max.frequency [Note3]	4 cycle/sec	3 cycle/sec	4 cycle/sec	3 cycle/sec
Weight (g)	4V310-08:310 4V320-08:400	450	4V310-10:310 4V320-10:400	450

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.
[Note3] The maximum actuation frequency is in the no-load state
[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data..

Coil specification

Item	Specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%				
Power consumption	4.5VA	4.5VA	5.0VA	3.0W	2.5W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				

Ordering code

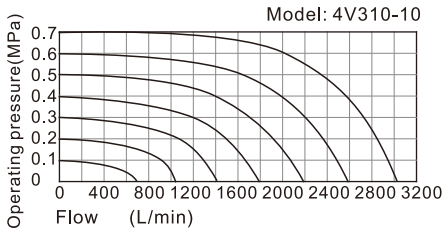
4V 3 10 10 A □ □

① ② ③ ④ ⑤ ⑥ ⑦

①Model	②Code	③Valve type	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
4V: Solenoid valve (5/2, 5/3 way)	3: 300 Series	10: Single solenoid 5/2 way 20: Double solenoid 5/2 way 30C: Double solenoid 5/3 way closed center 30E: Double solenoid 5/3 way exhaust center 30P: Double solenoid 5/3 way pressure center	08: 1/4" 10: 3/8"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT

[Note] The wire length is 0.5m. Please refer to P88 for manifold specification and the order way.

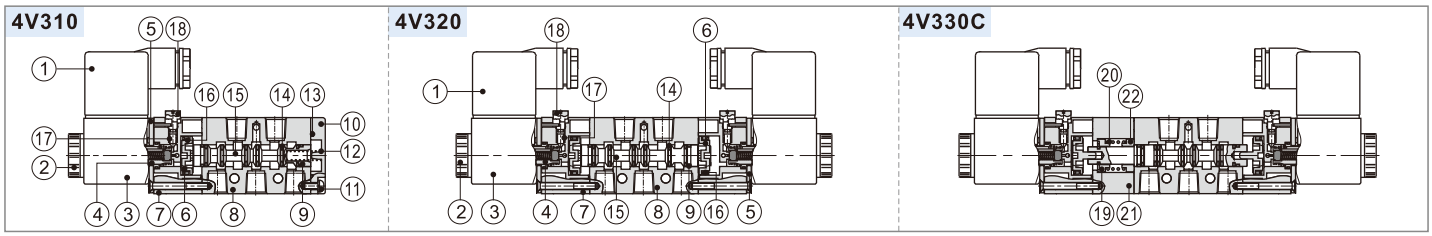
Flow chart



The data in flow rate chart are obtained from AirTAC lab.

4V300 Series

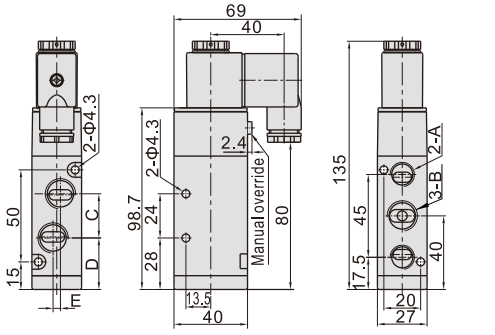
Inner structure



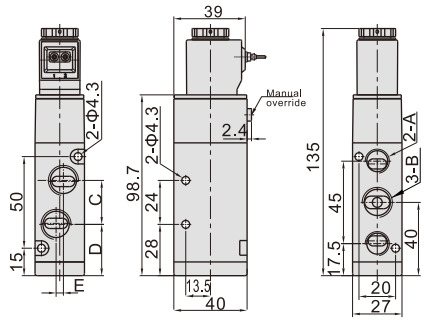
No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Connector	3	Coil	5	Fixed plate	7	Pilot kit	9	Wear ring	11	Fixed screw	13	Bottom cover gasket	15	Spool	17	Override spring	19	Spring holder	21	Side cover
2	Coil nut	4	Armature	6	Piston	8	Body	10	Bottom cover	12	Spool spring	14	Spool O-ring	16	Piston O-ring	18	Manual override	20	Return spring	22	Spring holder

Dimensions

4V310(Terminal)

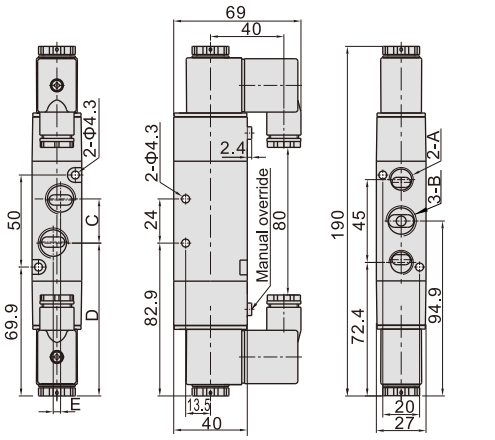


4V310(Grommet)

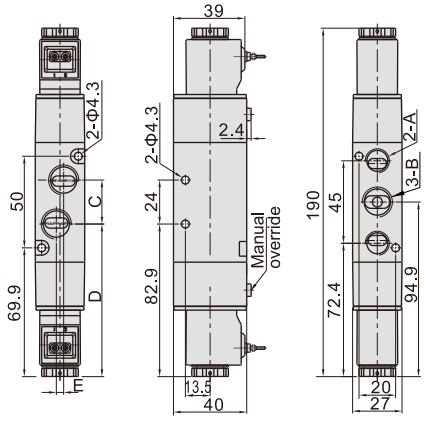


Model\Item	A	B	C	D	E
4V310-08	1/4"	1/4"	22	29	0
4V310-10	1/4"	3/8"	24	28	4

4V320(Terminal)

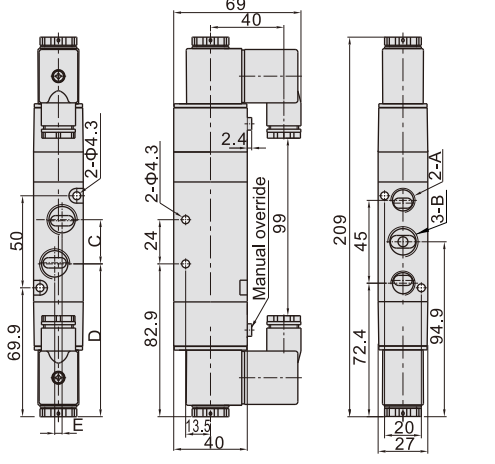


4V320(Grommet)

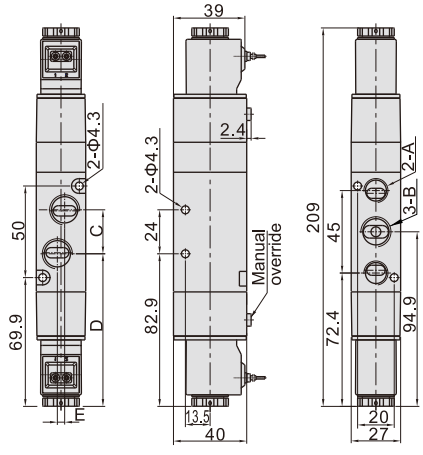


Model\Item	A	B	C	D	E
4V320-08	1/4"	1/4"	22	83.9	0
4V320-10	1/4"	3/8"	24	82.9	4

4V330(Terminal)



4V330(Grommet)

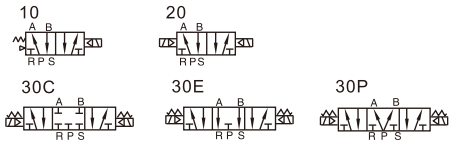


Model\Item	A	B	C	D	E
4V330-08	1/4"	1/4"	22	83.9	0
4V330-10	1/4"	3/8"	24	82.9	4

Solenoid valve(5/2 way,5/3 way)

4V400 Series

Symbol



Product feature

1. Pilot-oriented mode:Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Three position solenoid valves have three kinds of central function for your choice.
4. Double control solenoid valves have memory function.
5. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
6. No need to add oil for lubrication.
7. It is available to form integrated valve group with the base to save installation space.
8. Affiliated manual devices are equipped to facilitate installation and debugging.
9. Several standard voltage grades are optional.

Specification

Model	4V410-15	4V420-15	4V430C-15	4V430E-15	4V430P-15
Fluid	Air(to be filtered by 40μm filter element)				
Acting	Internal pilot or external pilot				
Port size [Note1]	In=Out=Exhaust=1/2"				
Orifice size(Cv) [Note4]	4V410-15,4V420-15:48.0mm²(Cv=2.82) 4V430C-15:40.0mm²(Cv=2.35)				
Valve type	5 port 2 position		5 port 3 position		
Operating pressure	0.15~0.8MPa(21~114psi)				
Proof pressure	1.2MPa(175psi)				
Temperature	-20~70℃				
Material of body	Aluminum alloy				
Lubrication [Note2]	Not required				
Max. frequency [Note3]	3 cycle/sec				
Weight (g)	590	720	770		

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.
[Note3] The maximum actuation frequency is in the no-load state.
[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Coil specification

Item	Specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%				
Power consumption	4.5VA	4.5VA	5.0VA	3.0W	2.5W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				

Ordering code

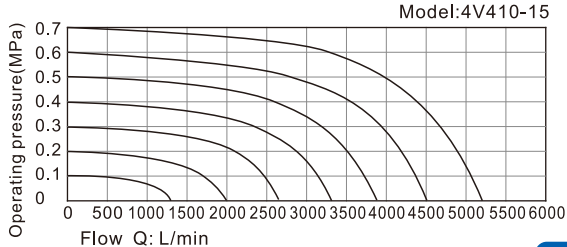
4V 4 10 15 A □ □

① ② ③ ④ ⑤ ⑥ ⑦

①Model	②Code	③Valve type	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
4V: Solenoid valve (5/2, 5/3 way)	4: 400 Series	10: Single solenoid 5/2 way 20: Double solenoid 5/2 way 30C: Double solenoid 5/3 way closed center 30E: Double solenoid 5/3 way exhaust center 30P: Double solenoid 5/3 way pressure center	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT

[Note] The wire length is 0.5m. Please refer to P88 for manifold specification and the order way.

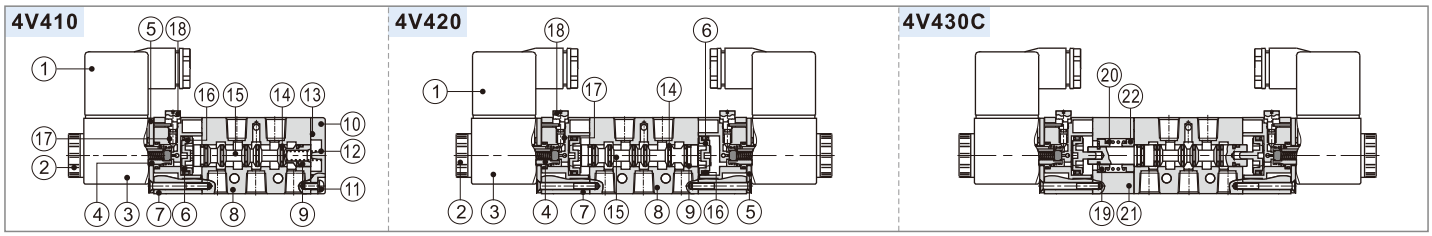
Flow chart



The data in flow rate chart are obtained from AirTAC lab.

4V400 Series

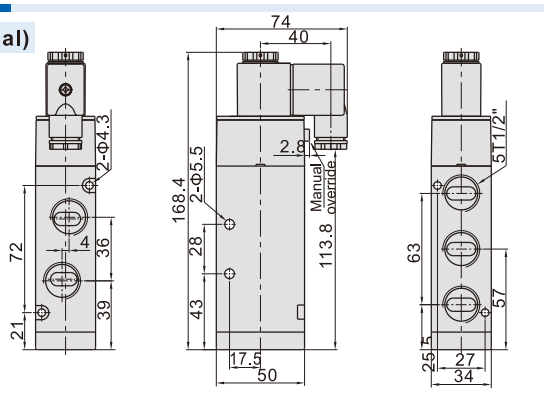
Inner structure



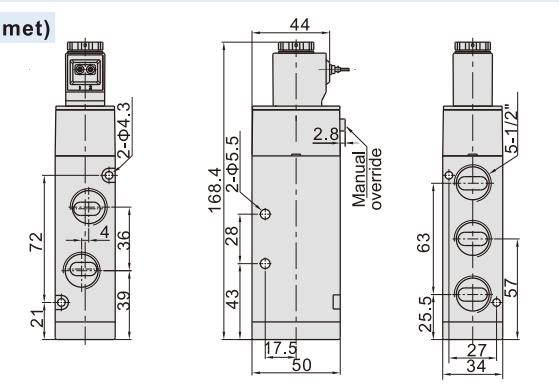
No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Connector	3	Coil	5	Fixed plate	7	Pilot kit	9	Wear ring	11	Fixed screw	13	Bottom cover gasket	15	Spool	17	Override spring	19	Spring holder	21	Side cover
2	Coil nut	4	Armature	6	Piston	8	Body	10	Bottom cover	12	Spool spring	14	Spool O-ring	16	Piston O-ring	18	Manual override	20	Return spring	22	Spring holder

Dimensions

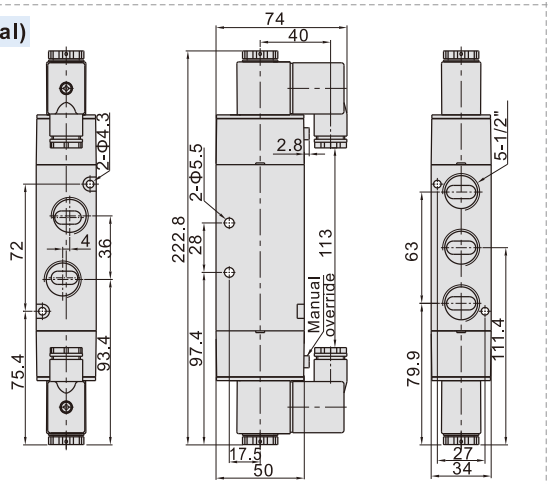
4V410(Terminal)



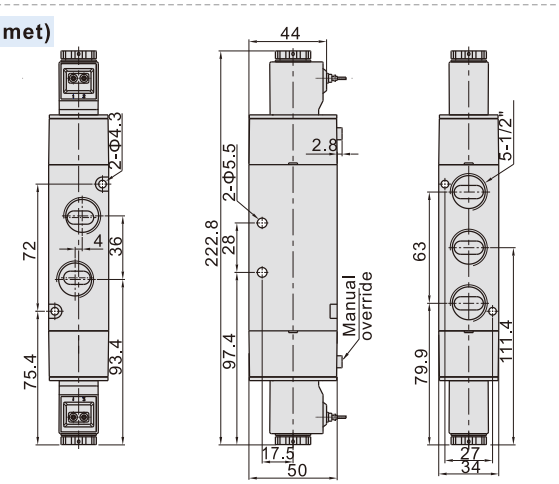
4V410(Grommet)



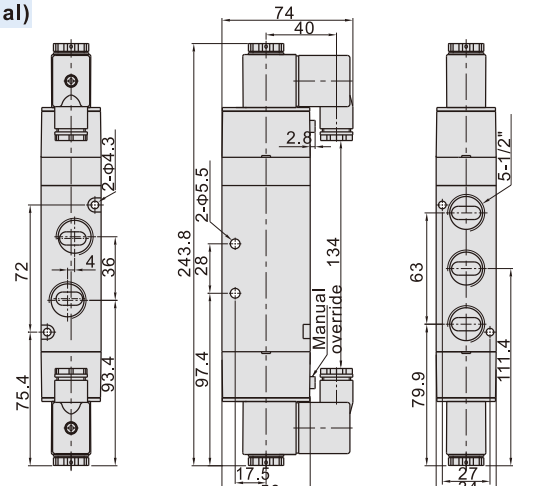
4V420(Terminal)



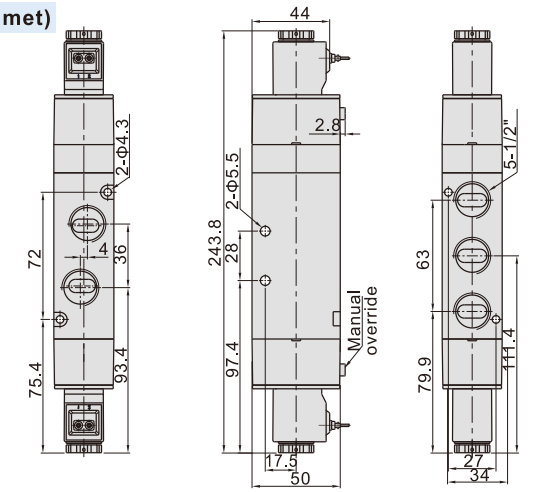
4V420(Grommet)



4V430(Terminal)



4V430(Grommet)



Solenoid valve(5/2 way)

4M(NAMUR) Series

Symbol

Product feature

1. Internally piloted structure.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Double control solenoid valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Install in the side plate with the surface upward, which can be used by directly connecting with the actuators.
7. Affiliated manual devices are equipped to facilitate installation and debugging.
8. Several standard voltage grades are optional.

Flow chart

Please refer to the same types of 4V series solenoid valves.

Specification

Model	4M110-M5 4M120-M5	4M110-06 4M120-06	4M210-06 4M220-06	4M210-08 4M220-08	4M310-08 4M320-08	4M310-10 4M320-10
Fluid	Air(to be filtered by 40μm filter element)					
Acting	Internal pilot					
Port size [Note1]	In=Out=M5	In=Out =1/8"	In=Out =1/8"	In=1/4" Out=1/8"	In=Out =1/4"	In=3/8" Out=1/4"
Orifice size(Cv) [Note4]	4M110-06,4M120-06: 10.2mm²(Cv=0.6)		4M210-08,4M220-08: 17.0mm²(Cv=1.0)		4M310-10,4M320-10: 28.0mm²(Cv=1.65)	
Valve type	5 port 2 position					
Operating pressure	0.15~0.8MPa(21~114psi)					
Proof pressure	1.2MPa(175psi)					
Temperature	-20~70℃					
Material of body	Aluminum alloy					
Lubrication [Note2]	Not required					
Max.frequency[Note3]	5 cycle/sec				4 cycle/sec	
Weight (g)	4M110:120 4M120:175		4M210:220 4M220:320		4M310:310 4M320:400	

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.
[Note3] The maximum actuation frequency is in the no-load state.
[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Coil specification

Item	4M110 4M120					4M210 4M220 4M310 4M320				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%									
Power consumption	3.5VA	3.5VA	4.0VA	2.8W	2.5W	4.5VA	4.5VA	5.0VA	3.0W	2.5W
Protection	IP65(DIN40050)									
Temperature classification	B Class									
Electrical entry	Terminal, Grommet									
Activating time	0.05 sec and below									

Ordering code

4M 3 10 10 A □ □

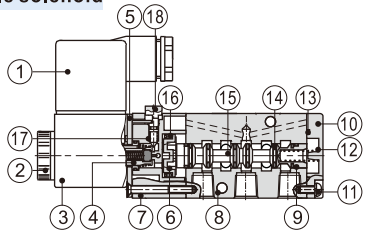
① ② ③ ④ ⑤ ⑥ ⑦

①Model	②Code	③Valve type	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
4M: Solenoid valve (5/2 way NAMUR type)	1: 100 Series	10: Single solenoid 20: Double solenoid	M5: M5	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	No this code
			06: 1/8"			Blank: PT G: G T: NPT
	2: 200 Series		06: 1/8" 08: 1/4"			
	3: 300 Series		08: 1/4" 10: 3/8"			

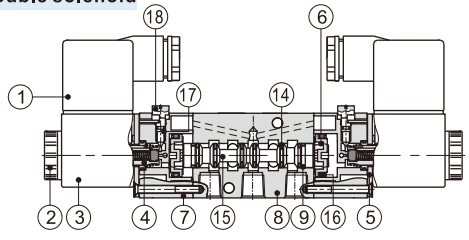
[Note] The wire length is 0.5m.

Inner structure

Single solenoid



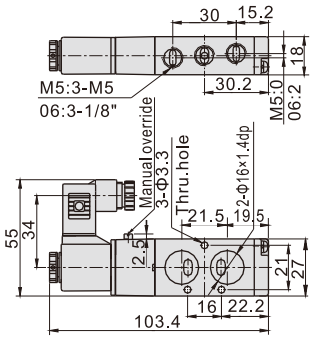
Double solenoid



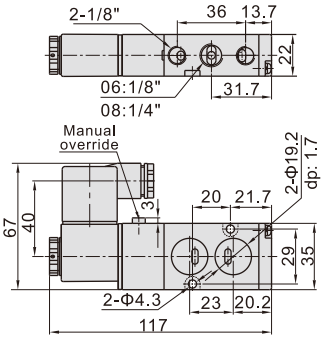
No.	Item	No.	Item
1	Connector	10	Bottom cover
2	Coil nut	11	Fixed screw
3	Coil	12	Spool spring
4	Armature	13	Bottom cover gasket
5	Fixed plate	14	Spool O-ring
6	Piston	15	Spool
7	Pilot kit	16	Piston O-ring
8	Body	17	Override spring
9	Wear ring	18	Manual override

Dimensions

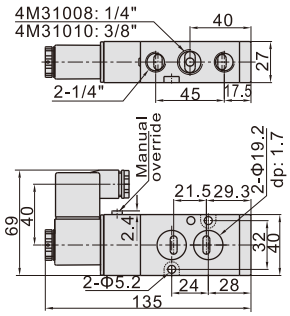
4M110(Terminal)



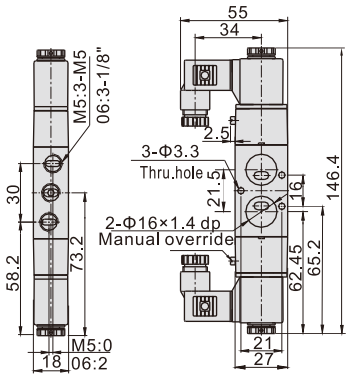
4M210(Terminal)



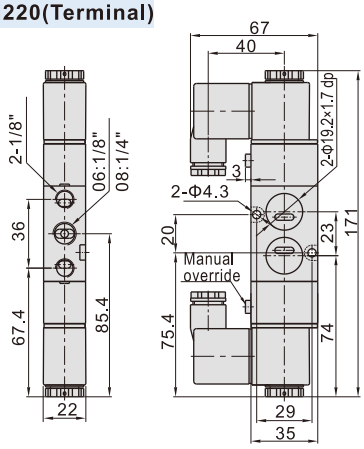
4M310(Terminal)



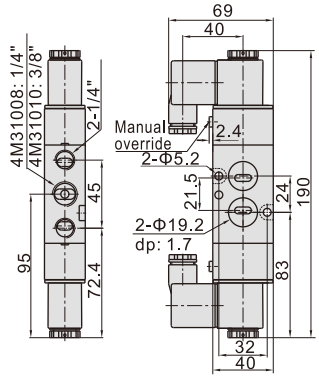
4M120(Terminal)



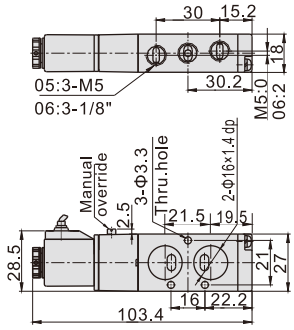
4M220(Terminal)



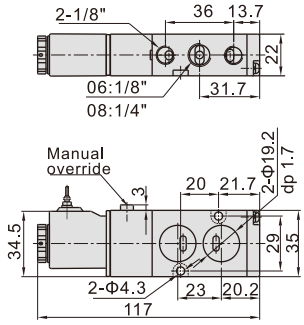
4M320(Terminal)



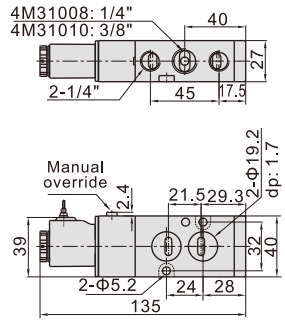
4M110(Grommet)



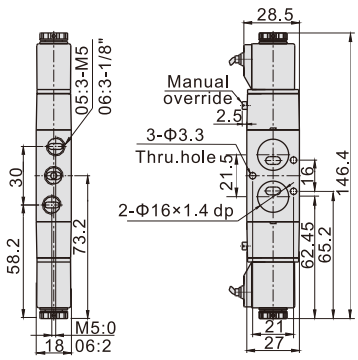
4M210(Grommet)



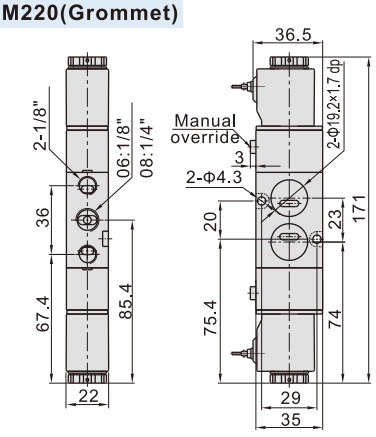
4M310(Grommet)



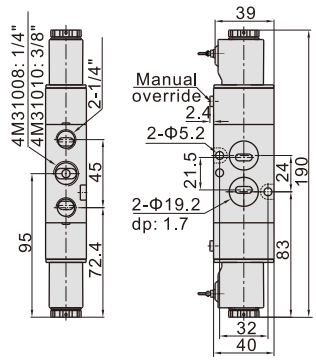
4M120(Grommet)



4M220(Grommet)



4M320(Grommet)



Manifold

Specification

Item\Manifold Model	100M	200M	300M
Fluid	Air(to be filtered by 40μm filter element)		
Temperature	-20~70℃		
Adaptable valve's series	3V100 Series	3V200 Series	3V300 Series

Product feature

1. It is available to integrate the direction control valves of the same series to form valve group to save space and cost.
2. It is easy to examine when there are faults owning to the unified air intake and exhaust and unified wiring.
3. Flexible combination and strong expansion capability can make any combination or expansion of the numbers of direction control valves that are connected.

Ordering code

Ordering code for manifold

3V100M 5F □

① ② ③

①Model	②Number of stations	③Thread type
3V100M: 100 Series manifold 3V200M: 200 Series manifold 3V300M: 300 Series manifold	1F: 1 station 2F: 2 station 3F: 3 station ..... 16F: 16 station	Blank: PT G: G T: NPT

Ordering code for blank plate

P-3V100M - R2

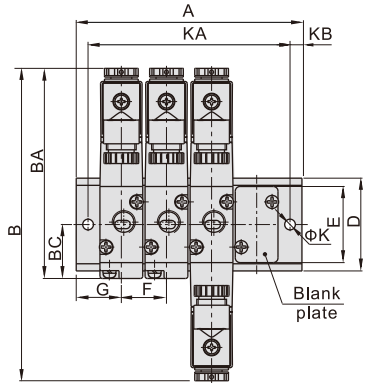
① ② ③

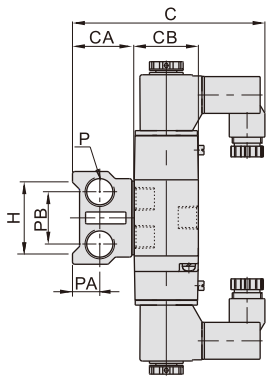
①Kits	②Model	③Code
P: Kits	3V100M: 100Series manifold 3V200M: 200Series manifold 3V300M: 300Series manifold	R2: Blank plate for manifold

[Note] 1. Ordering code contains manifold and blank plate;
2.Manifold kits contains manifold, seal and screw.
3. Blank plate kits contains blank plate and screw.

Dimensions

With 3V solenoid valve





Model\Item	B	BA	BC	C	CA	CB	D	E	F	G	H	K	KB	P	PA	PB
3V100M	131.5	88.5	22.7	81	26	27	39	32	19	19	30	4.5	5	1/4"	11.5	22
3V200M	162.5	109	27.7	92.5	26	35	45	40	23	23	35	4.5	6	1/4"	11.5	25
3V300M	175	120	32.5	99	30	40	52	47	28	27	42	4.5	6	3/8"	13.5	28

Model\Item	A															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
3V100M	38	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323
3V200M	46	69	92	115	138	161	184	207	230	253	276	299	322	345	368	391
3V300M	54	82	110	138	166	194	222	250	278	306	334	362	390	418	446	474

Model\Item	KA															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
3V100M	28	47	66	85	104	123	142	161	180	199	218	237	256	275	294	313
3V200M	34	57	80	103	126	149	172	195	218	241	264	287	310	333	356	379
3V300M	42	70	98	126	154	182	210	238	266	294	322	350	378	406	434	462

Manifold

Specification

Item\Manifold Model	100M	200M	300M	400M
Fluid	Air(to be filtered by 40μm filter element)			
Temperature	-20~70℃			
Adaptable valve's series	4V100 Series	4V200 Series	4V300 Series	4V400 Series
	5V100 Series	5V200 Series	5V300 Series	5V400 Series

Product feature

1. It is available to integrate the direction control valves of the same series to form valve group to save space and cost.
2. It is easy to examine when there are faults owning to the unified air intake and exhaust and unified wiring.
3. Flexible combination and strong expansion capability can make any combination or expansion of the numbers of direction control valves that are connected.

Ordering code

Ordering code for manifold

100M 5F □

① ② ③

①Model	②Number of stations [Note1]	③Thread type
100M:100 Series manifold 200M:200 Series manifold 300M:300 Series manifold 400M:400 Series manifold	1F: 1 Station 2F: 2 Station 3F: 3 Station ..... 16F: 16 Station	Blank: PT G: G T: NPT

Ordering code for blank plate

P-100M - R2

① ② ③

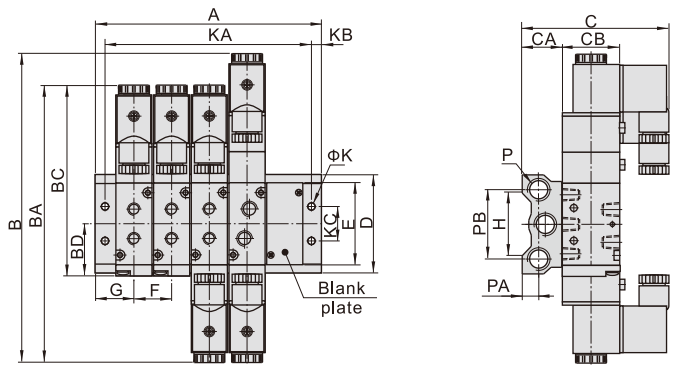
①Kits model	②Model	③Code
P: Kits	100M: 100 Series manifold 200M: 200 Series manifold 300M: 300 Series manifold 400M: 400 Series manifold	R2: Blank plate for manifold

[Note1] 100M, 200M series have a maximum of 16 stations ; 300M series have a maximum of 12 stations; 400M series have a maximum of 8 stations.

[Note] 1. Ordering code contains manifold and blank plate. 2. Manifold kits contains manifold, seal and screw.
3. Blank plate kits contains blank plate and screw.

Dimensions

With 4V solenoid valve



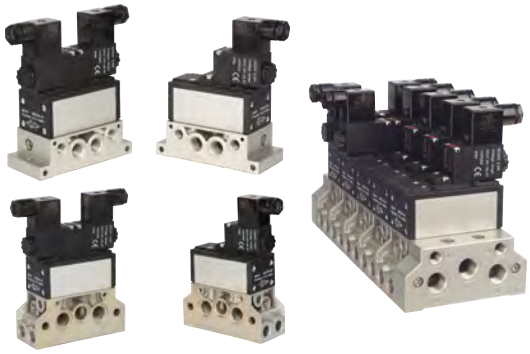
Model\Item	B	BA	BC	BD	C	CA	CB	D	E	F	G	H	K	KB	KC	P	PA	PB
100M□F	154.5	142.5	99.5	28	77	22	27	57.5	43	19	19	36	4.5	5	20	1/4"	10	40
200M□F	189	171	117	31.7	91	24	35	60	52	23	22	38	4.5	5	21	1/4"	10	42
300M□F	208	190	135	40	97	28	40	75	64	28	26	54	4.5	5	26	3/8"	13.5	53
400M□F	243	223	168.5	57	107	33	50	100	94	35	30.5	75	5.5	6	32	1/2"	15	68

Model\Item	A															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
100M□F	38	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323
200M□F	44	67	90	113	136	159	182	205	228	251	274	297	320	343	366	389
300M□F	52	80	108	136	164	192	220	248	276	304	332	360	-	-	-	-
400M□F	61	96	131	166	201	236	271	306	-	-	-	-	-	-	-	-

Model\Item	KA															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
100M□F	28	47	66	85	104	123	142	161	180	199	218	237	256	275	294	313
200M□F	34	57	80	103	126	149	172	195	218	241	264	287	310	333	356	379
300M□F	42	70	98	126	154	182	210	238	266	294	322	350	-	-	-	-
400M□F	49	84	119	154	189	224	259	294	-	-	-	-	-	-	-	-

ISO Standard solenoid valve(5/2 way, 5/3 way)

ESV200, 300, 400, 600 Series



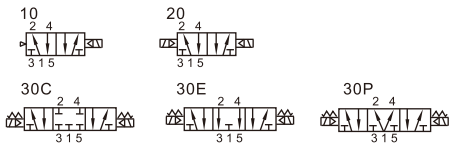
Specification

Model		200 Series	300 Series	400 Series	600 Series
Orifice size(Cv) mm²		32(Cv=1.8)	42(Cv=2.32)	69(Cv=3.85)	108(Cv=6.0)
Fluid		Air(to be filtered by 40μm filter element			
Acting		Internal pilot or external pilot			
Lubrication [Note1]		Not required			
Operating Pressure	Internal pilot	0.2~1.0MPa(2~10bar)(29~145psi)			
	External pilot	0~1.0MPa(0~10bar)(0~145psi)			0.2~1.0MPa(2~10bar)(29~145psi)
Control pressure(External pilot)		0.2~1.0MPa(2~10bar)(29~145psi)			
Proof pressure		1.5MPa(15bar)(215psi)			
Temperature ℃		-20~70			
Port size(manifold) [Note2]		1/4"	3/8"	1/2"	3/4"
Port size(end plate)		3/8"	1/2"	3/4"	1"
Voltage range		AC: ±15% DC: ±10%			
Power consumption		AC220V/AC110V: 4.5VA AC24V: 5.0VA DC24V: 3.0W DC12V: 2.5W			
Activating time (0.5MPa)Open\close	10\20 Series	33\41ms	42\55ms	50\68ms	55\85ms
	30 C\E\P Series	38\50ms	50\62ms	50\68ms	55\85ms
Insulation		B Class			
Protection		IP65			
Installation size		ISO5599-1 standard			

[Note1] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended;

[Note2] PT thread and G thread are available.

Symbol



Product feature

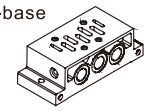
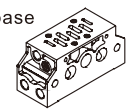
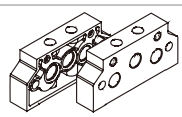
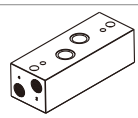
1. Succinct appearance and compact conformation.
2. The installation size conforms to ISO 5599/1 standard.
3. Because of the special seals, the feature are large flow rate and long lifetime.
4. For 200\300\400 series you can adjust the installation direction of the gasket to change the acting type: internal pilot, external pilot, or air control.
5. You need install the valve together with the sub-base. There are individual and parallel type for manifold sub-base.
6. There are various connection and installation method for manifold. It is easy to use.
7. The manifold of 200\300\400 series have the function of exhaust throttling, so not need to connect another throttle valve.

Ordering code

Ordering code of manifold

ESV 20 1M □ □ □

① ② ③ ④ ⑤ ⑥

①Model	②Code	③Manifold type	④Thread type	⑤External pilot port type	⑥Port position type
ESV: ISO standard solenoid valve	20: 200 Series 30: 300 Series 40: 400 Series 60: 600 Series	1M: Individual sub-base 	Blank: PT G: G	Blank: Individual pilot port	Blank: Side port B: Bottom port
		2M: Manifold sub-base 		Blank: Individual pilot port W: Centralized pilot port	Blank: Left side port R: Right side port B: Bottom port
		3M: End plate kit 		No this code	No this code
	60: 600 Series	4M: Side port block 		No this code	Blank: Left side port R: Right side port

[Note] 1. For the same model, the port size of the end-plate is bigger than the sub-base (For example ESV202M, the port size of sub-base is 1/4", and the port size of end plate is 3/8").

2. Only individual pilot port is available for individual sub-base.
3. The manifold sub-base must be used with end plate kit, individual pilot port and centralized pilot port can be mixed.
4. 600 series individual sub-base only has side port, 600 series manifold sub-base only has individual pilot port and bottom port.
5. Only 600 series have side port block.

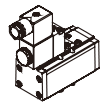
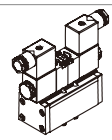
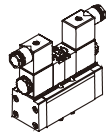
ESV200, 300, 400, 600 Series

Ordering code

Ordering code of valve

ESV 2 10 A □ □

① ② ③ ④ ⑤ ⑥

①Model	②Code	③Valve type	④Voltage	⑤Electrial entry	⑥Pilot type [Note1]
ESV: ISO standard solenoid valve	2: 200 Series 3: 300 Series 4: 400 Series 6: 600 Series	10: Single solenoid 5/2 way  20: Double solenoid 5/2 way  30C: Double solenoid 5/3 way closed center 30E: Double solenoid 5/3 way exhaust center 30P: Double solenoid 5/3 way pressure center 	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note2]	Blank: Internal pilot W: External pilot

[Note1] Internal pilot can be changed to external pilot mode(except 600 series), please adjust the installation of the gasket refering to article 1.2 in the "installation and operation".

[Note2] The wire length is 0.5m.

Ordering code of accessories

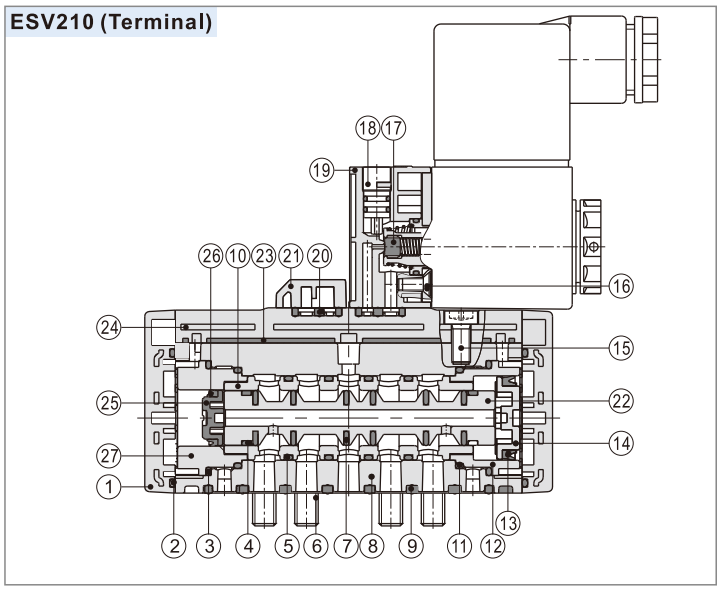
P-ESV200M R2

① ② ③

①Accessories code	②Code	③Accessories type
P: Unit accessories	ESV200M: 200 Series manifold ESV300M: 300 Series manifold ESV400M: 400 Series manifold ESV600M: 600 Series manifold	R2: Blank plate for manifold

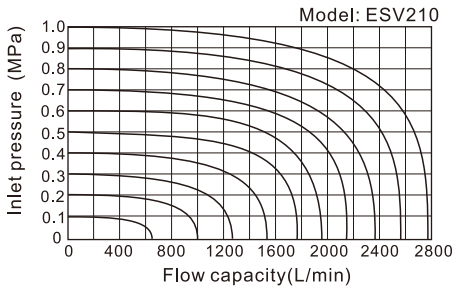
Inner structure

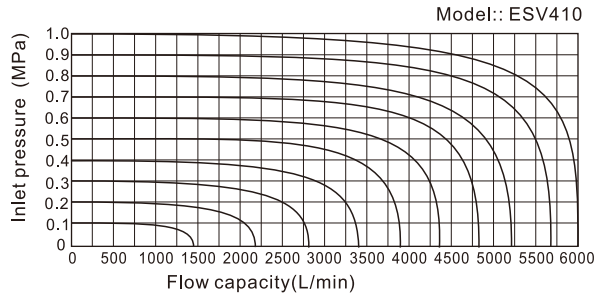
ESV210 (Terminal)

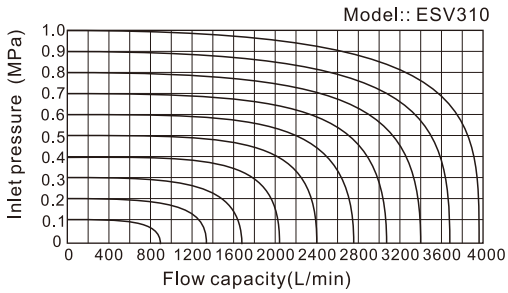


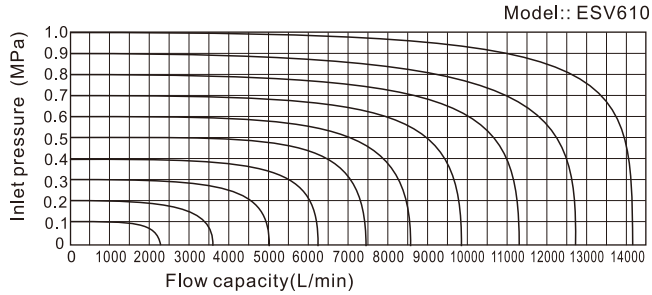
NO.	Item	NO.	Item	NO.	Item
1	Bottom cover	10	Spacer	19	Pilot kit
2	O-ring	11	O-ring	20	Gasket
3	O-ring	12	Big piston sheath	21	Cover plate
4	Wear ring	13	Big piston O-ring	22	Spool
5	O-ring	14	Big piston	23	Upper cover gasket
6	Screw	15	Screw	24	Upper cover
7	O-ring	16	Screw	25	Small piston
8	Body	17	Gasket	26	Small piston O-ring
9	Gasket	18	Manual override	27	Small piston sheath

Flow chart









Installation and operation(For 200, 300, 400 series)

1. The classification and selection for the pilot type of valve

1.1. According to the source of pilot air, we can divide the valve into two types: the internal pilot and external pilot. The standard type is internal pilot.

1.2. You can convert from internal pilot to external pilot by the following methods.

2. The classification and selection for the parallel manifold sub-base

2.1. According to the direction of pilot air supply, we can divide the manifold sub-base into two types: the individual pilot and centralized pilot.

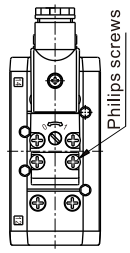
2.2. If you select the individual pilot, the fitting must be connected to the individual pilot ports.If you select the centralized pilot type, the fitting must be connected to the centralized pilot ports.

2.3. If you use parallel manifold, all of the manifold must be used the same pilot type: such as, all of them are the individual pilot type, or all of them are the centralized pilot type.

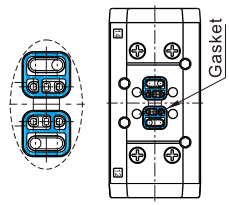
* Note: Only when you use the external pilot type, you can select the individual pilot or centralized pilot. When you use the internal pilot type, the pilot ports on the manifold are ineffective.

3. The position and specification of the manifold sub-base ports:

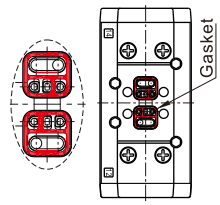
1 Remove the 4 philips head screws, and then remove the coil, pilot body and cover.



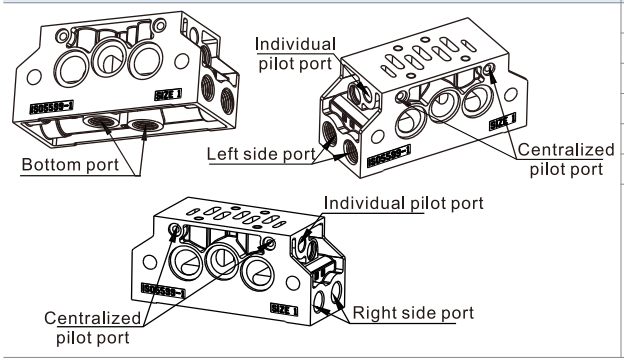
2 Assemble the gasket according to the picture, and then assemble the cover, pilot body and coil- Internal pilot



3 Assemble the pilot O-ring according to the picture, and then, assemble the cover, pilot body and coil-External pilot.



The diagram of manifold sub-base	Port status of manifold sub-base					
	Port name Ordering code	Left side port	Right side port	Bottom port	Centralized pilot port	Individual pilot port
	ESV202MG	Use	Unused	Unused	Unused	Use
	ESV202MGR	Unused	Use	Unused	Unused	Use
	ESV202MGB	Unused	Unused	Use	Unused	Use
	ESV202MGW	Use	Unused	Unused	Use	Unused
	ESV202MGWR	Unused	Use	Unused	Use	Unused
	ESV202MGWB	Unused	Unused	Use	Use	Unused



Note: Please seal the bottom port by plug, when it is unused.
The above list is an example of 200M series' ordering code, the other series is follow the same pattern, only need to change the series code.

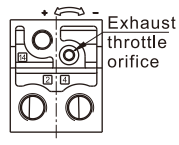
4. Exhaust throttle function

4.1. The manifold has exhaust throttle function, the below picture shows the position of the exhaust throttle orifices on each side.

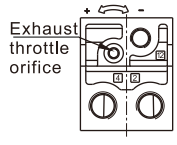
4.2. Use allen key to adjust the screw.

4.3. Rotate the screw clockwise to reduce the exhaust orifice, rotate the screw counter-clockwise to enlarge the exhaust orifice.

Manifold right side

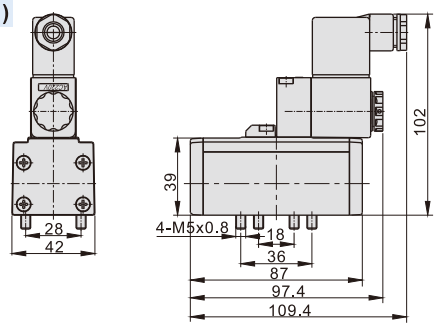


Manifold left side

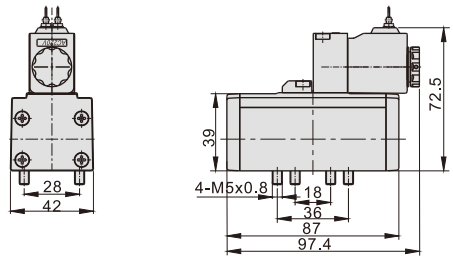


Dimensions(ESV200 Series)

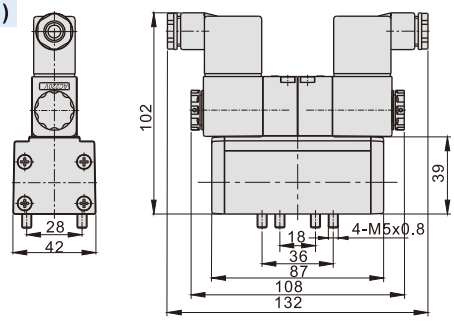
ESV210 (Terminal)



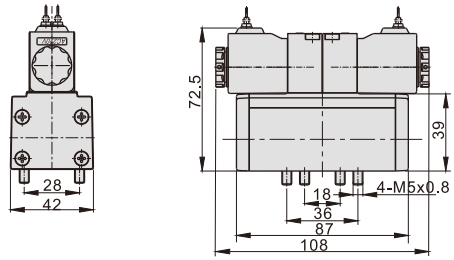
ESV210 (Grommet)



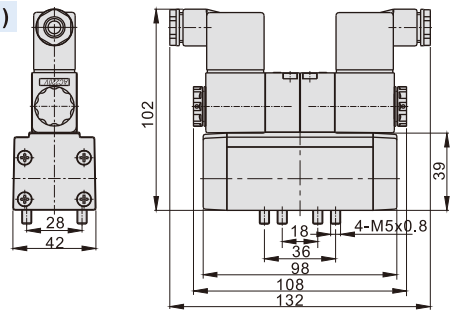
ESV220(Terminal)



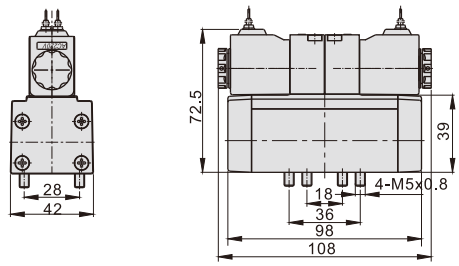
ESV220(Grommet)



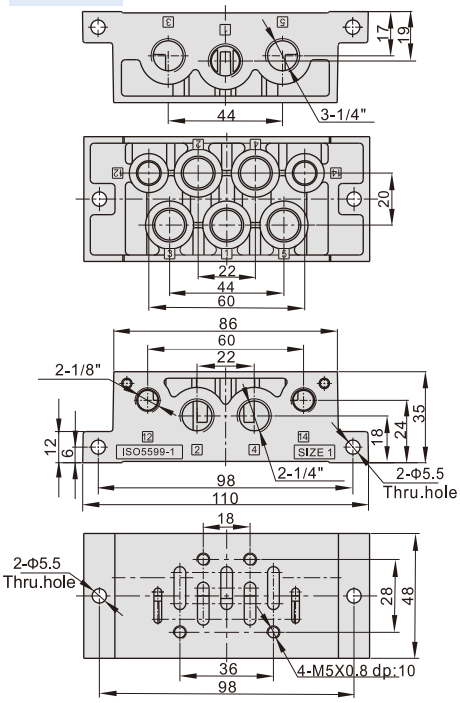
ESV230(Terminal)



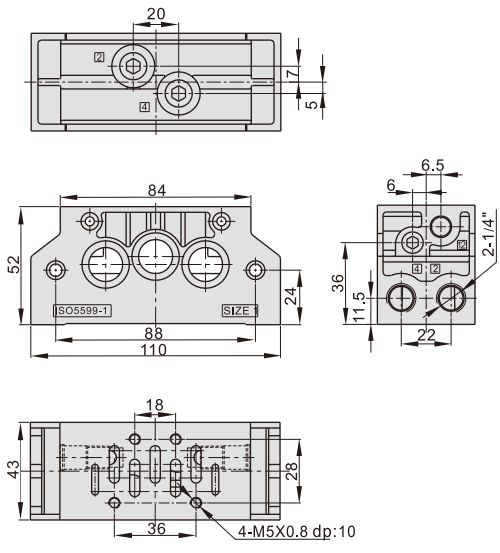
ESV230(Grommet)



ESV201M

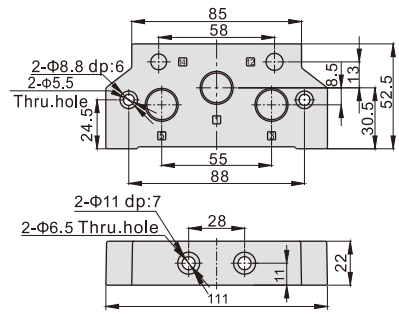


ESV202M

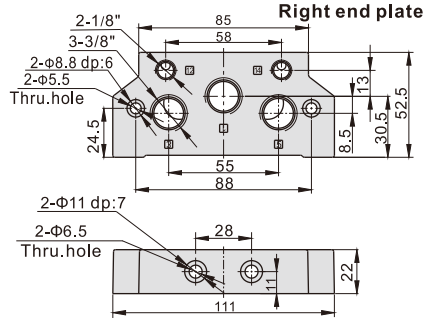


ESV203M

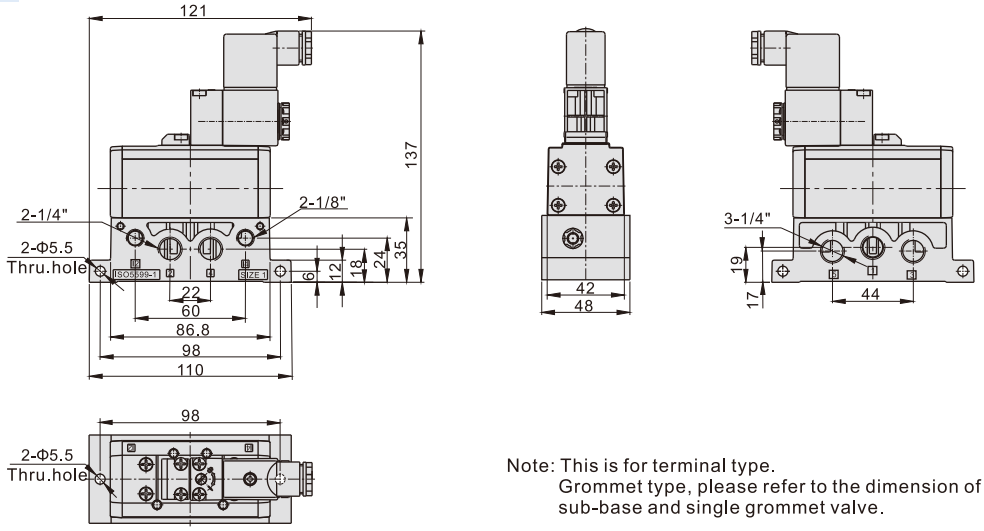
Left end plate



Right end plate

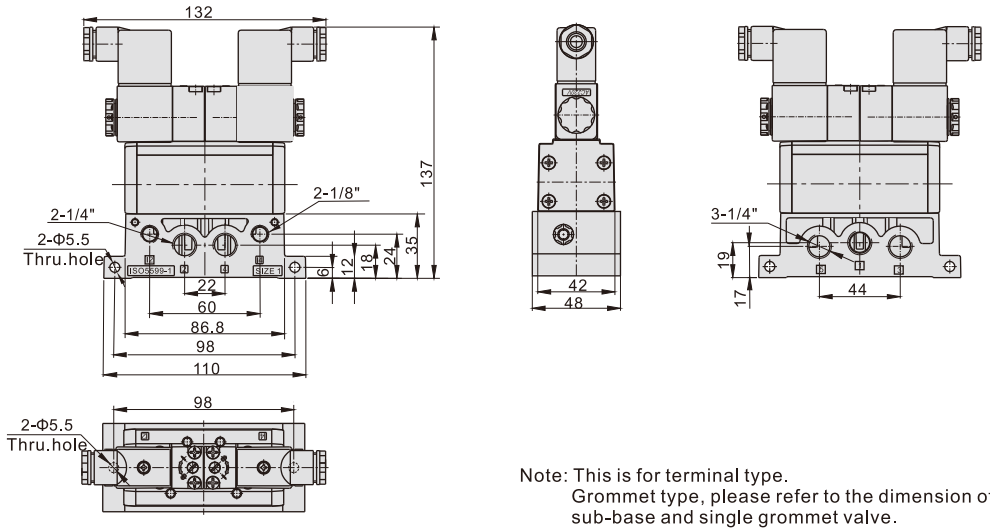


ESV210+ESV201M



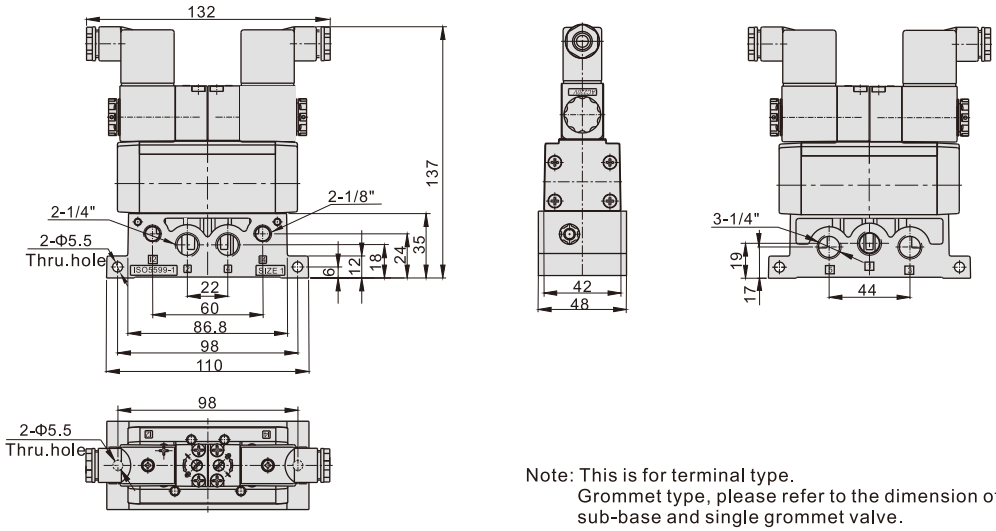
Note: This is for terminal type.
Grommet type, please refer to the dimension of sub-base and single grommet valve.

ESV220+ESV201M



Note: This is for terminal type.
Grommet type, please refer to the dimension of sub-base and single grommet valve.

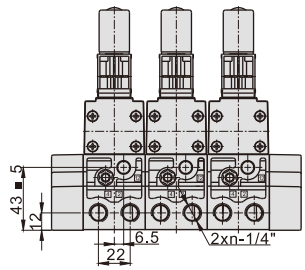
ESV230+ESV201M

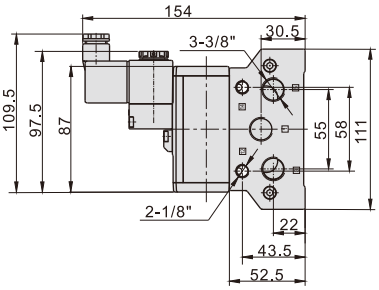


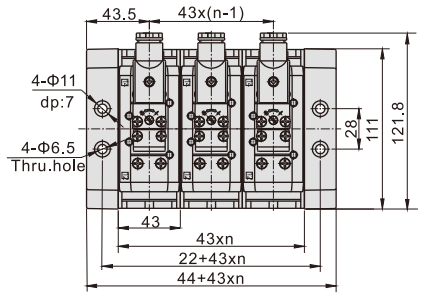
Note: This is for terminal type.
Grommet type, please refer to the dimension of sub-base and single grommet valve.

ESV210+ESV202M+ESV203M

Note: “n” means the number of stations.
The dimension of the grommet type (more than 3 stations), please refer to this drawing and the single grommet valve drawing.

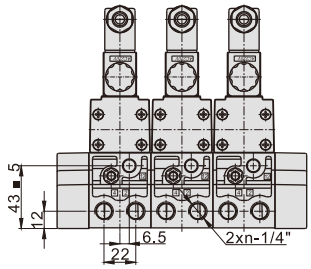


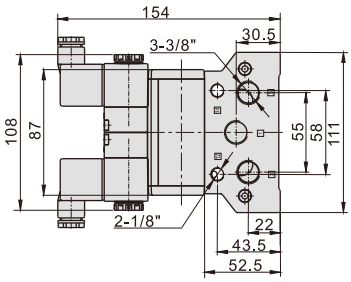


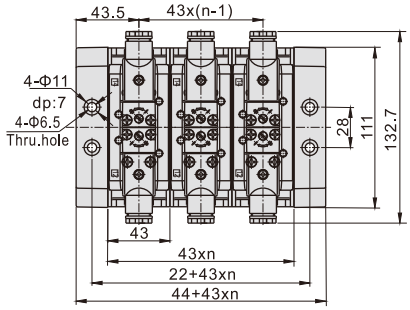


ESV220+ESV202M+ESV203M

Note: “n” means the number of stations.
The dimension of the grommet type (more than 3 stations), please refer to this drawing and the single grommet valve drawing.

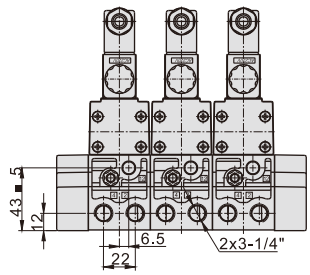


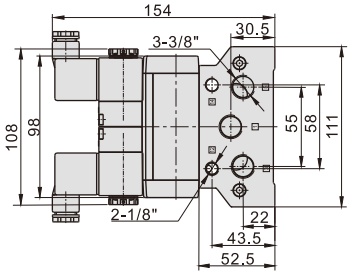


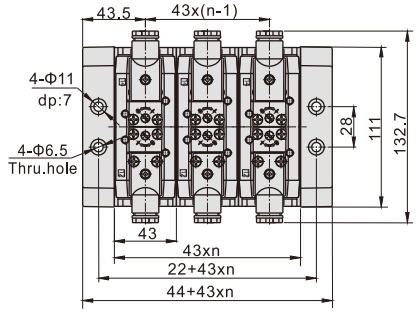


ESV230+ESV202M+ESV203M

Note: “n” means the number of stations.
The dimension of the grommet type (more than 3 stations), please refer to this drawing and the single grommet valve drawing.

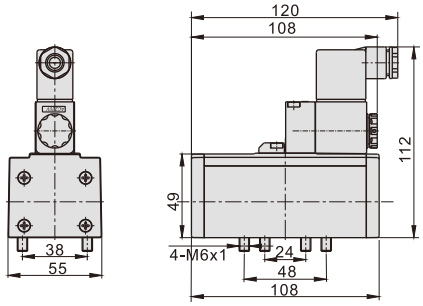




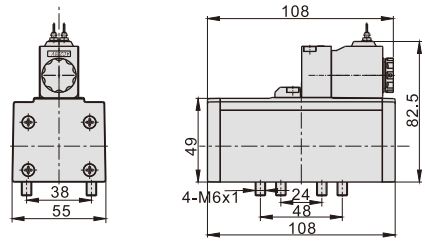


Dimensions(ESV300 Series)

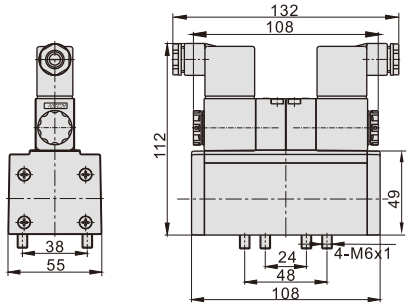
ESV310(Terminal)



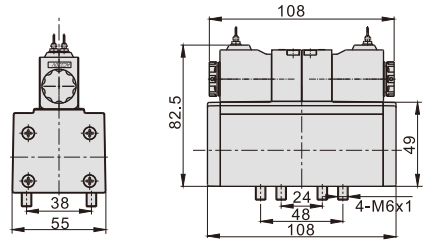
ESV310 (Grommet)



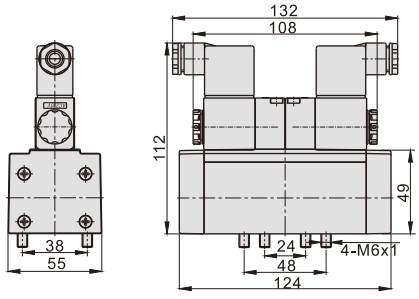
ESV320(Terminal)



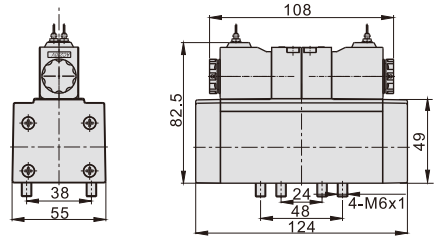
ESV320 (Grommet)



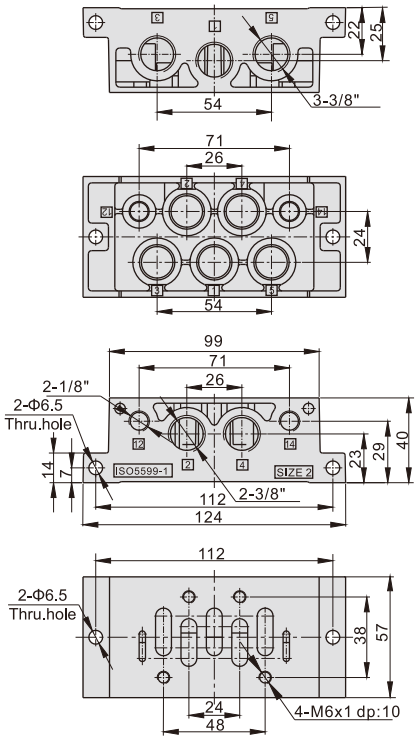
ESV330(Terminal)



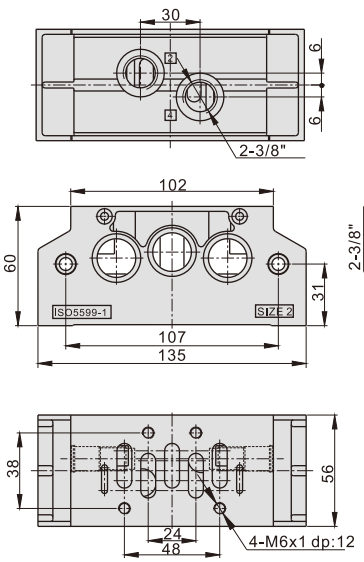
ESV330 (Grommet)



ESV301M

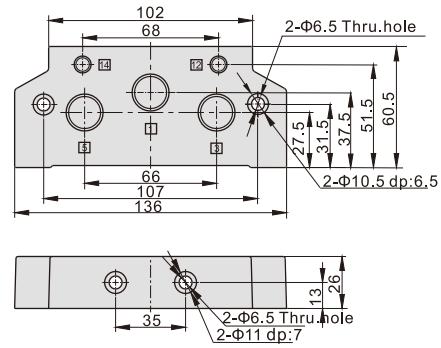


ESV302M

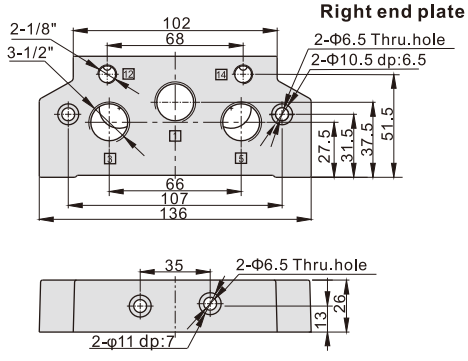


ESV303M

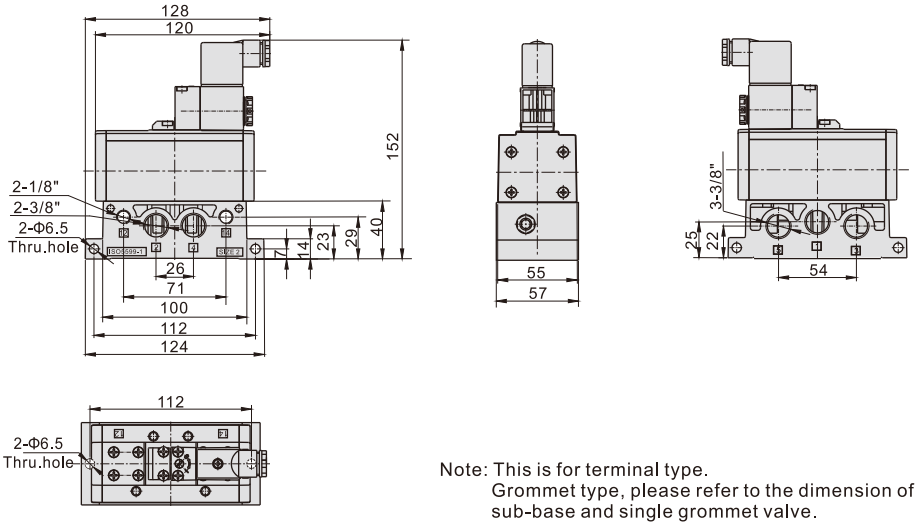
Left end plate



Right end plate

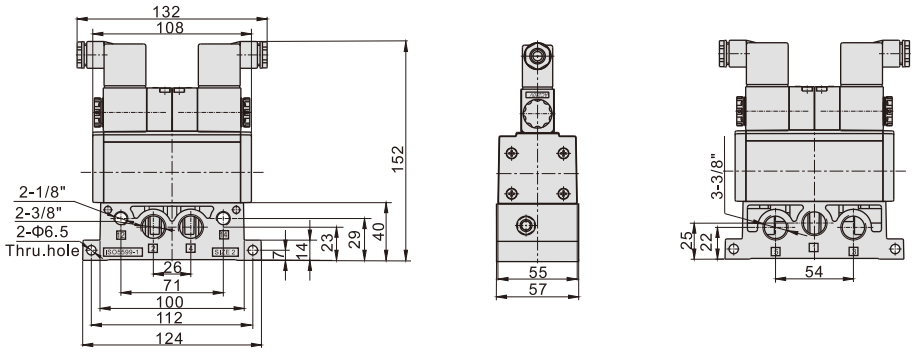


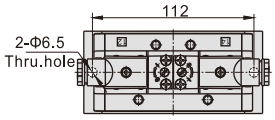
ESV310+ESV301M



Note: This is for terminal type.
Grommet type, please refer to the dimension of sub-base and single grommet valve.

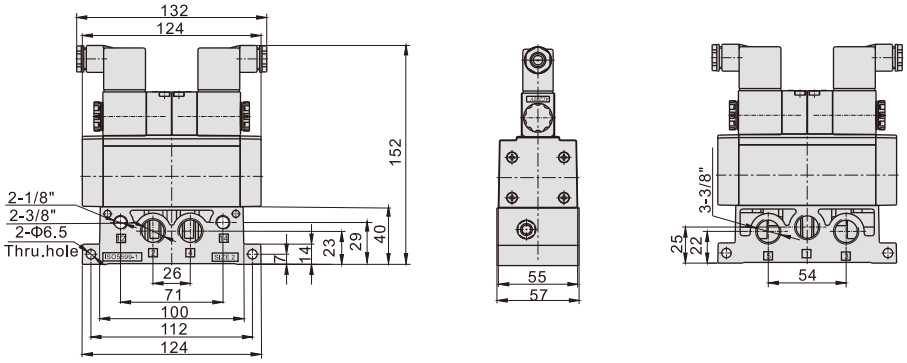
ESV320+ESV301M

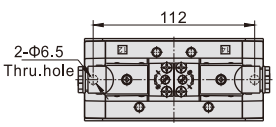




Note: This is for terminal type.
Grommet type, please refer to the dimension of sub-base and single grommet valve.

ESV330+ESV301M

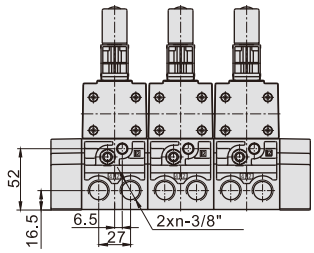


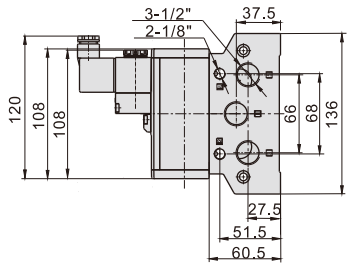


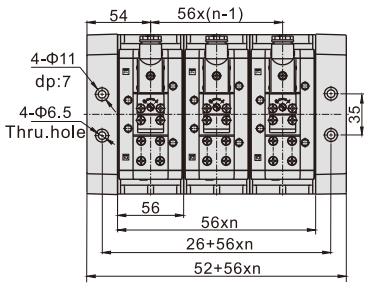
Note: This is for terminal type.
Grommet type, please refer to the dimension of sub-base and single grommet valve.

ESV310+ESV302M+ESV303M

Note: “n” means the number of stations.
The dimension of the grommet type (more than 3 stations), please refer to this drawing and the single grommet valve drawing.

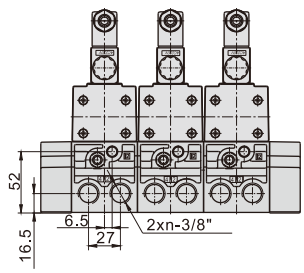


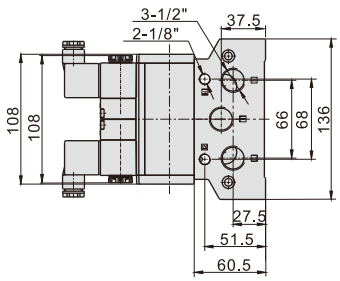


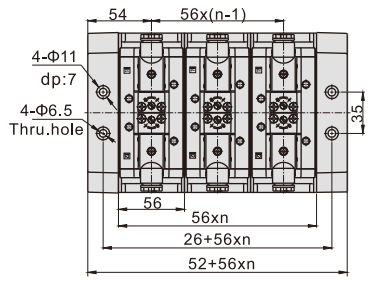


ESV320+ESV302M+ESV303M

Note: “n” means the number of stations.
The dimension of the grommet type (more than 3 stations), please refer to this drawing and the single grommet valve drawing.

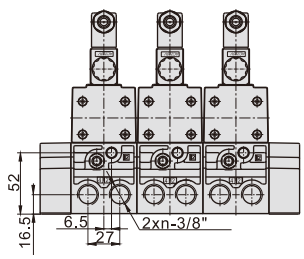


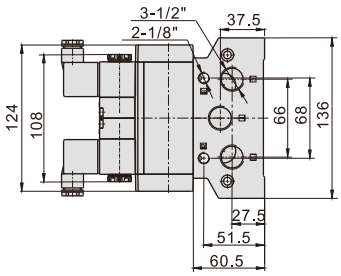


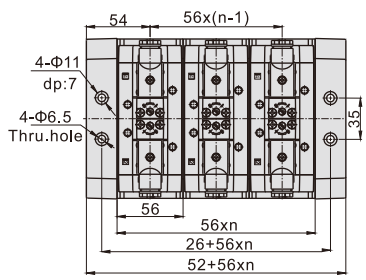


ESV330+ESV302M+ESV303M

Note: “n” means the number of stations.
The dimension of the grommet type (more than 3 stations), please refer to this drawing and the single grommet valve drawing.

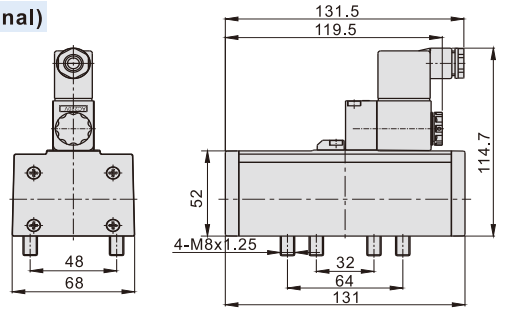




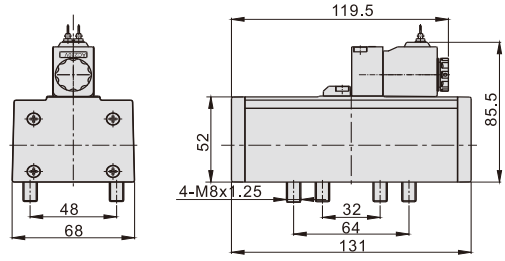


Dimensions(ESV400 Series)

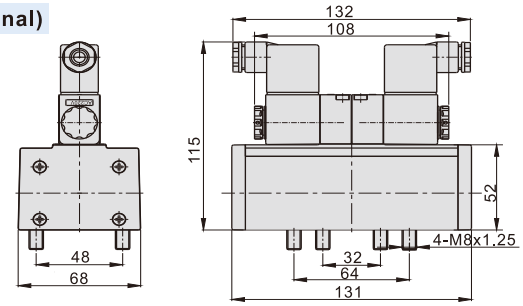
ESV410 (Terminal)



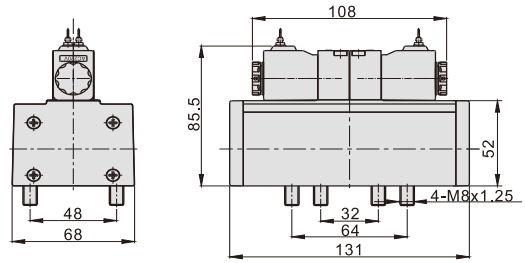
ESV410 (Grommet)



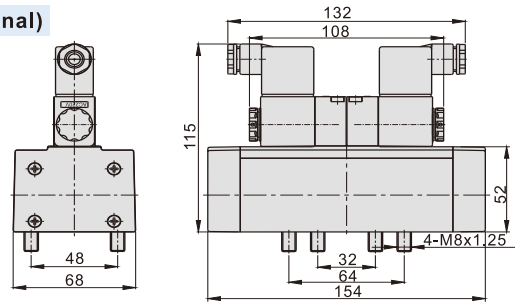
ESV420 (Terminal)



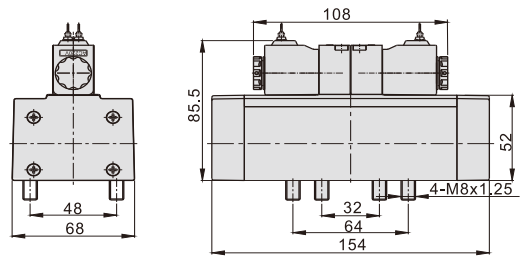
ESV420 (Grommet)



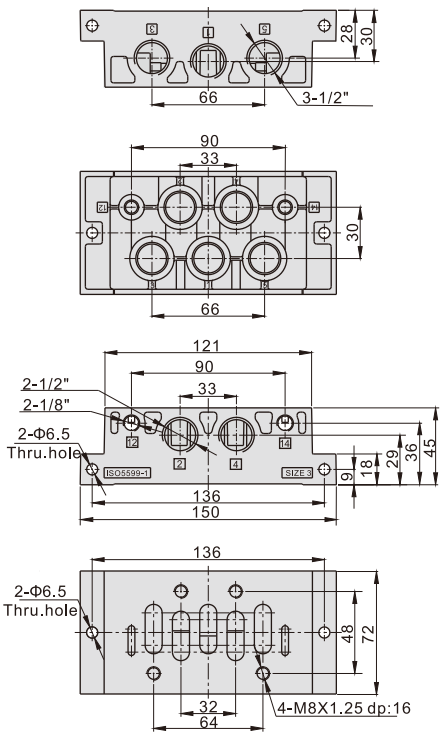
ESV430 (Terminal)



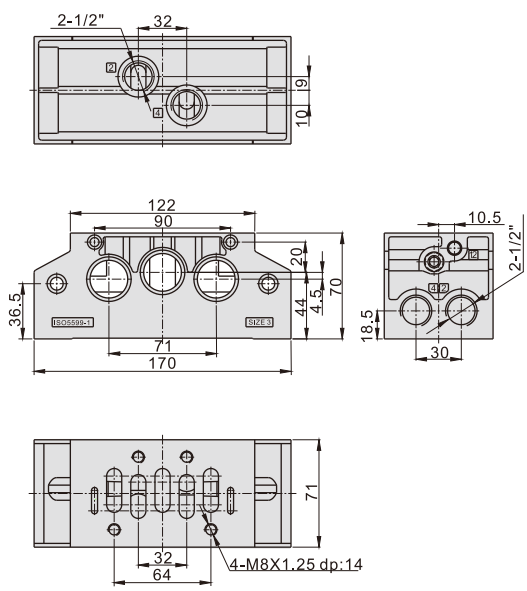
ESV430 (Grommet)



ESV401M

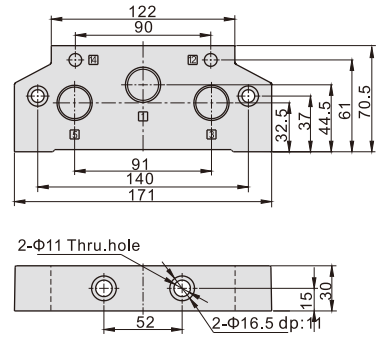


ESV402M

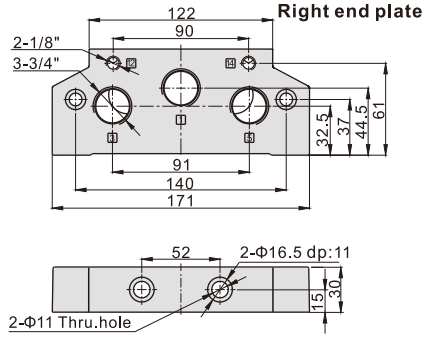


ESV403M

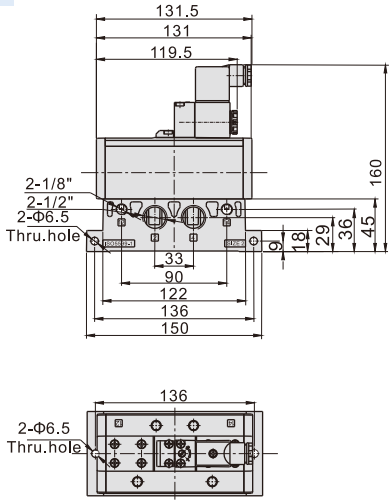
Left end plate

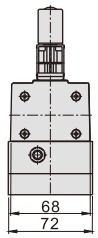


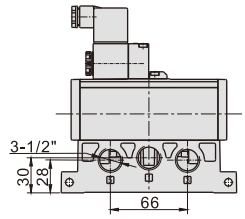
Right end plate



ESV410+ESV401M

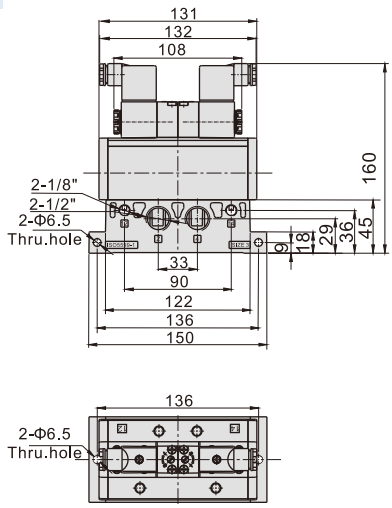


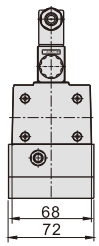


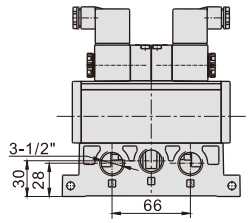


Note: This is for terminal type.
Grommet type, please refer to the dimension of sub-base and single grommet valve.

ESV420+ESV401M

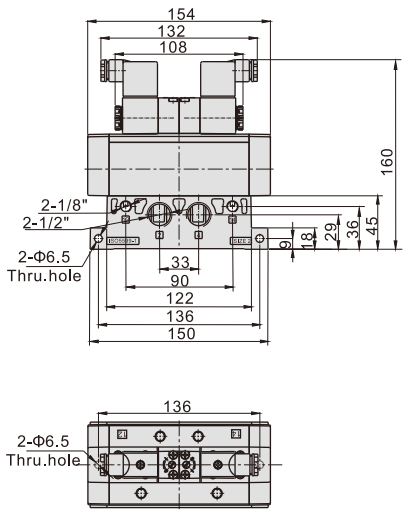


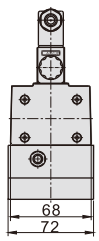


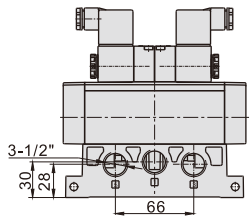


Note: This is for terminal type.
Grommet type, please refer to the dimension of sub-base and single grommet valve.

ESV430+ESV401M



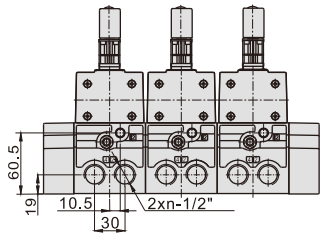


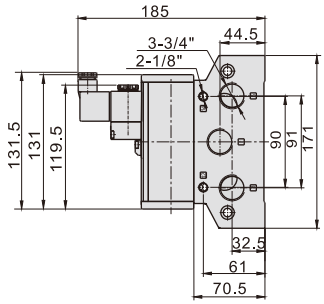


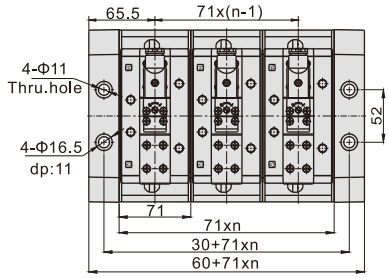
Note: This is for terminal type.
Grommet type, please refer to the dimension of sub-base and single grommet valve.

ESV410+ESV402M+ESV403M

Note: “n” means the number of stations.
The dimension of the grommet type (more than 3 stations), please refer to this drawing and the single grommet valve drawing.

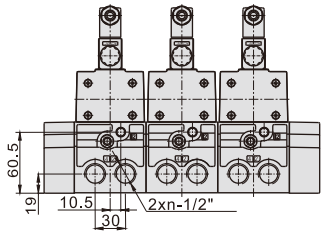


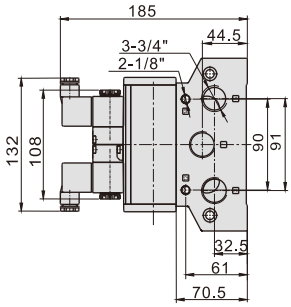


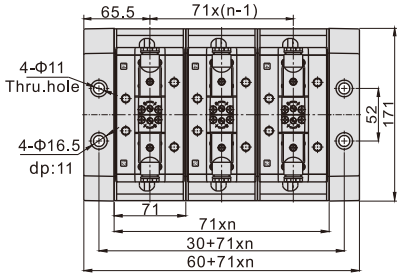


ESV420+ESV402M+ESV403M

Note: “n” means the number of stations.
The dimension of the grommet type (more than 3 stations), please refer to this drawing and the single grommet valve drawing.

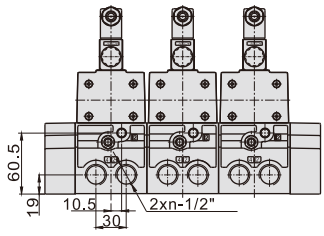


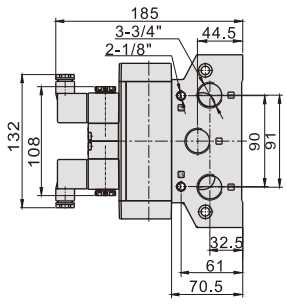


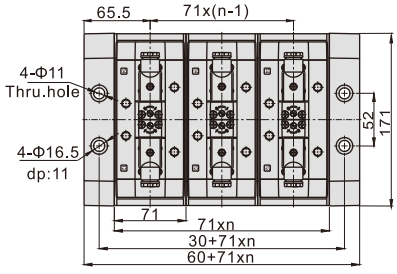


ESV430+ESV402M+ESV403M

Note: “n” means the number of stations.
The dimension of the grommet type (more than 3 stations), please refer to this drawing and the single grommet valve drawing.

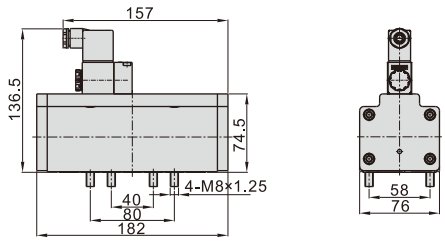




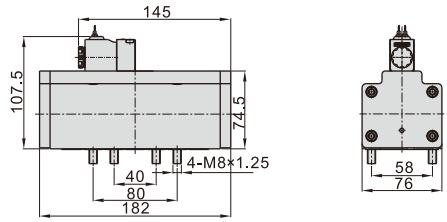


Dimensions(ESV600 Series)

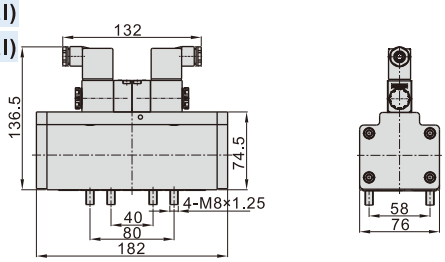
ESV610 (Terminal)



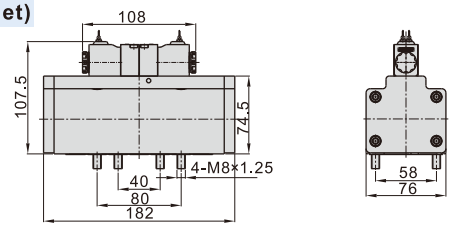
ESV610 (Grommet)



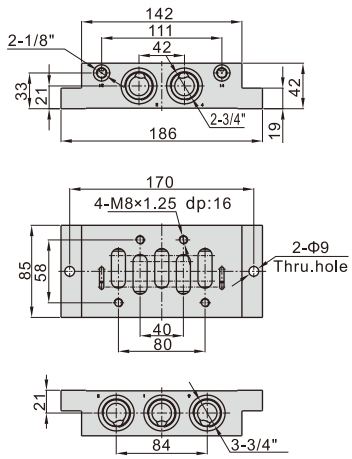
ESV620 (Terminal)
ESV630 (Terminal)



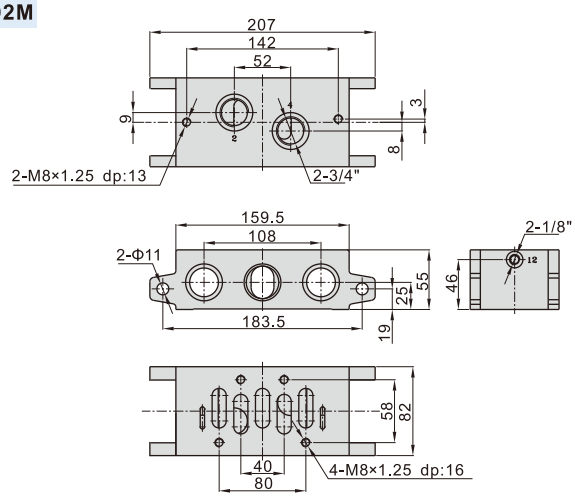
ESV620(Grommet)
ESV630(Grommet)



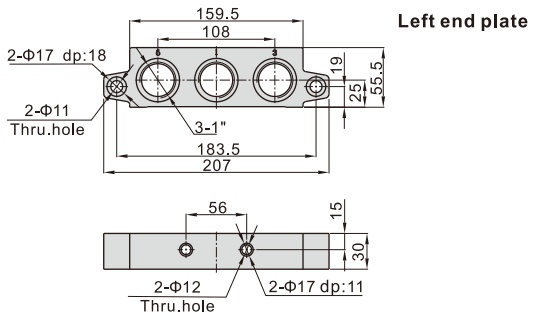
ESV601M



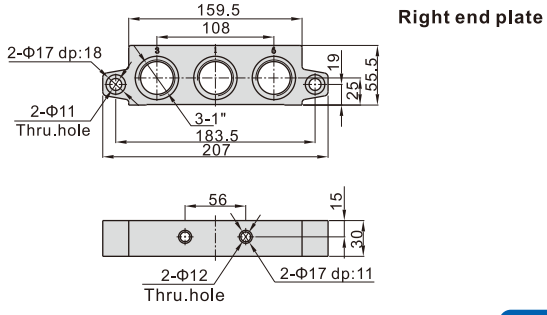
ESV602M



ESV603M

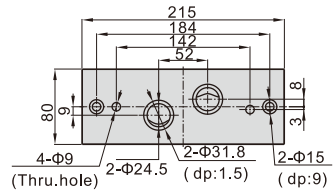


Left end plate

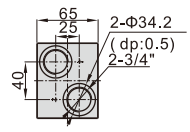


Right end plate

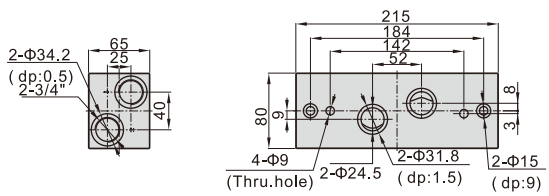
ESV604M



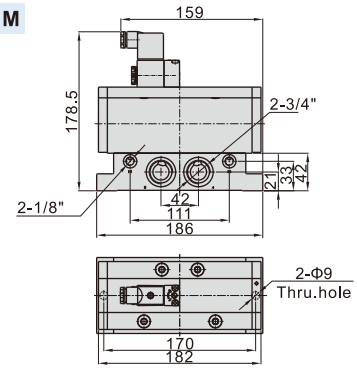
Left port

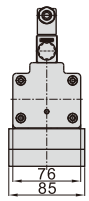


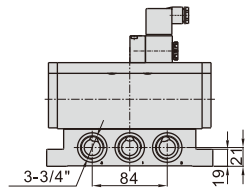
Right port



ESV610+ESV601M

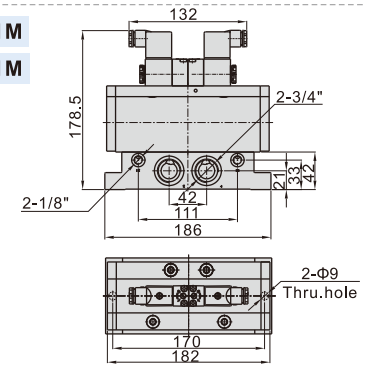


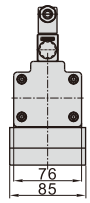


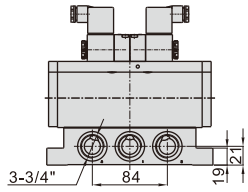


Note: This is for terminal type.
Grommet type, please refer to the dimension of sub-base and single grommet valve.

ESV620+ESV601M
ESV630+ESV601M



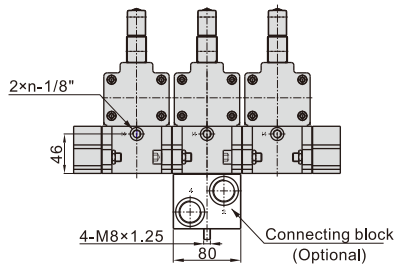


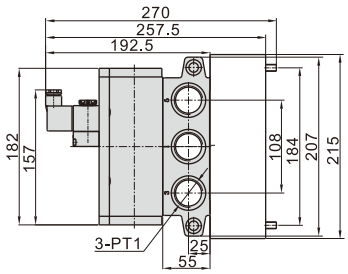


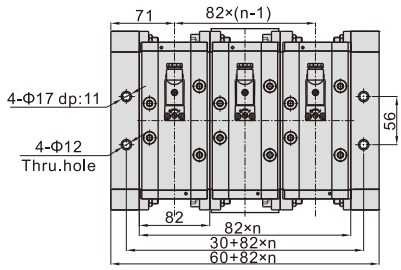
Note: This is for terminal type.
Grommet type, please refer to the dimension of sub-base and single grommet valve.

ESV610+ESV602M+ESV603M+ESV604M

Note: "n" means the number of stations.
The dimension of the grommet type (more than 3 stations), please refer to this drawing and the single grommet valve drawing.

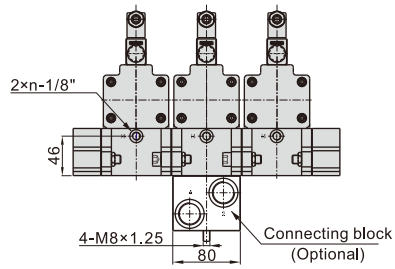


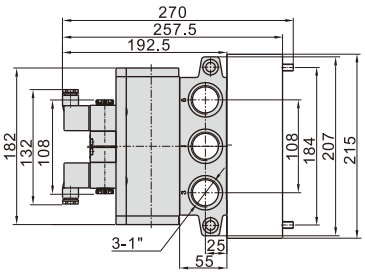


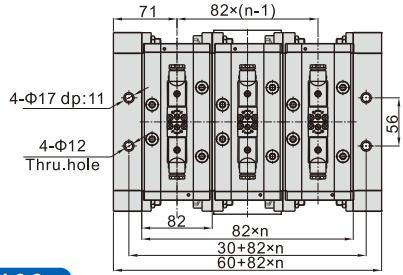


ESV620+ESV602M+ESV603M+ESV604M
ESV630+ESV602M+ESV603M+ESV604M

Note: "n" means the number of stations.
The dimension of the grommet type (more than 3 stations), please refer to this drawing and the single grommet valve drawing.



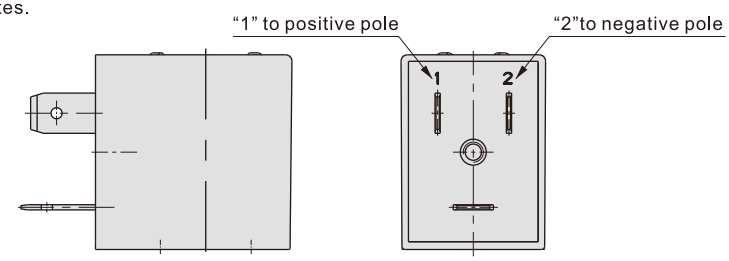




080, 092 Series

Attentions for block wiring

Coil terminal with DC specification has polar indicator lights, thus when wiring, notice positive and negative poles, "1" shall be connected to positive pole, "2" to negative pole. If the poles are connected inversely, the indicator lights will not shine but valve still actuates.



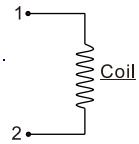
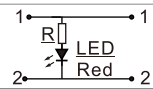
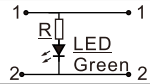
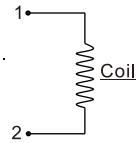
Ordering code

CD A080 A

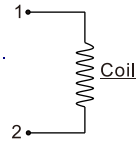
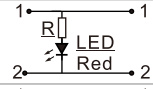
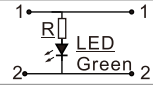
① ② ③

①Coil type	②Coil's bore	③Voltage
CD: Terminal CL: Grommet	A080: Coil specification(Bore size: Φ8.0mm) A092: Coil specification(Bore size: Φ9.0mm)	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V

080 Series

Production series	Coil type	Voltage	Coil inside connection diagram	Connector type	Connector inside connection diagram	Memo
3V100 Series 4V100 Series 4M100 Series	CDA080 Terminal	AC		PL1515T-P1	-	Applied to CDA080 AC, DC type coil
				PL1515T-P2		Applied to CDA080 AC type coil
	CDA080 Terminal	DC		PL1515T-P3		Applied to CDA080 DC type coil
	CLA080 Grommet	AC		-	-	-
	CLA080 Grommet	DC		-	-	-

092 Series

Production series	Coil type	Voltage	Coil inside connection diagram	Connector type	Connector inside connection diagram	Memo
3V1 Series 3V200 Series 3V300 Series 4V200 Series 4V300 Series 4V400 Series 4M200 Series 4M300 Series ESV200 Series ESV300 Series ESV400 Series ESV600 Series	CDA092 Terminal	AC		4V210-005-P1	-	Applied to CDA092 AC,DC type coil
				4V210-005-P2		Applied to CDA092 AC type coil
	CDA092 Terminal	DC		4V210-005-P3		Applied to CDA092 DC type coil
	CLA092 Grommet	AC		-	-	-
	CLA092 Grommet	DC		-	-	-

Compendium of Air valve

3 port 2 position			
P105	Product feature	Photo	Manifold
6TA0500~6TA300 Series	●Sliding column structure ●Single air control and double air control are optional ●NO and NC are available for single air control ●Manifold is available		
P109	Product feature	Photo	Manifold
3A100~3A300 Series	●Sliding column structure ●Single air control and double air control are optional ●NO and NC are available for single air control ●Manifold is available		
5 port 2 position, 5 port 3 position			
P111	Product feature	Photo	Manifold
6A0500~6A300 Series	●Sliding column structure ●Single air control and double air control are optional ●5/2 Way and 5/3 Way are available ●Closed center, exhaust center and pressure center are available for 5/3 Way ●Manifold is available		
P115	Product feature	Photo	Manifold
4A100~4A400 Series	●Sliding column structure ●Single air control and double air control are optional ●5/2 Way and 5/3 Way are available ●Closed center, exhaust center and pressure center are available for 5/3 Way ●Manifold is available		
P125	Product feature	Photo	
EAV Series (ISO Standard)	●Sliding column structure ●Single air control and double air control are optional ●5/2 Way and 5/3 Way are available ●Closed center, exhaust center and pressure center are available for 5/3 Way ●The installation size conforms to ISO5599/1 standard		

Installation and Application

1. Before installing, be sure the valve hasn't been damaged during transportation.
2. It's suggested to use the medium lubricated by 40μm filter element. Be aware of the flow direction and port size.
3. Please notice whether the installation condition accords with technical requirements (such as “working pressure” and “scope of application temperature”), then the equipment can be installed and used.
4. Notice the flow direction of air during installation, P is the air intake, A (B) is the work port and R (S) is the exhaust outlet.
5. Take measure to avoid vibration and frozen.
6. Firstly press the base gasket into the base, and then connect the base with the valve body by the affiliated screws. The base gasket can be pressed into the installation places that are not used temporarily, and then seal them with affiliated blank cap. When the system expands, take the blank cap off and install relative air valves;
7. To keep the dust away, please use the silencer for the exhaust ports. Never forget to install dirt-proof boot in air intake and outlet during dismounting.

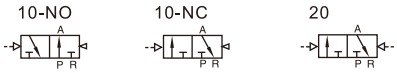
6TA Series

Specification

Model	6TA0510	6TA0520	6TA110	6TA120
Port size [Note1]	In=Out=Exh=M5		In=Out=Exh=M5(or=1/8")	
Orifice size(Cv)[Note4]	M5:3.4mm²(0.2)		06 : 8.9mm²(0.52)	
Weight (g)	18.5	28.5	46.5	56.5
Model	**6TA210**	**6TA220**	**6TA310**	**6TA320**
Port size [Note1]	06:In=Out=Exh=1/8" 08:In=Out=1/4" Exh=1/8"		In=Out=3/8" Exh=1/4"	
Orifice size(Cv)[Note4]	08:15.4mm²(0.91)		10:38.4mm²(2.26)	
Weight (g)	96	121	200	240
Fluid	Air(to be filtered by 40μm filter element)			
Acting	External air control			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max.frequency [Note3]	5 cycle/sec			

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.
[Note3] The maximum actuation frequency is in the no-load state.
[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Product feature

1. The body is extruded by aluminum alloy, and the inner hole is specially processed to increase the flow rate.
2. Can integrate manifold to form valve group to save space.

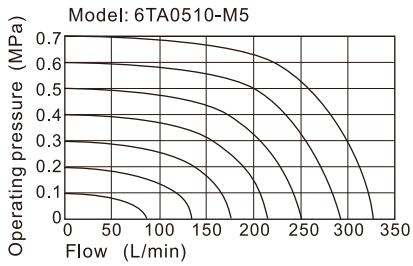
Ordering code

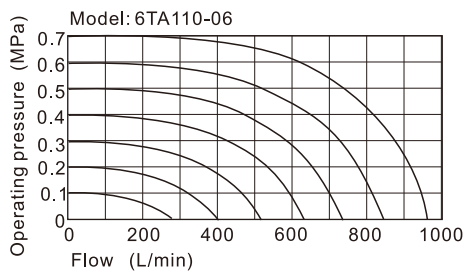
6TA 2 10 08 NC □

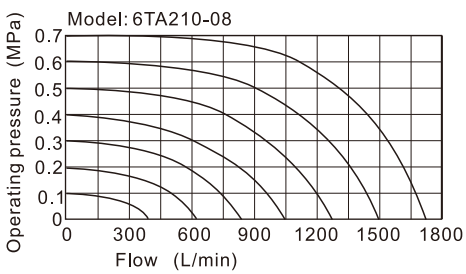
① ② ③ ④ ⑤ ⑥

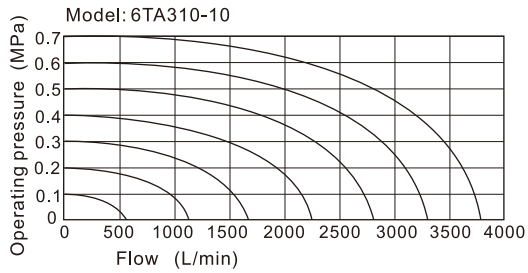
①**Model**	6TV : Air valve (3/2 way)					
②**Code**	05: 0500 Series	1: 100 Series		2: 200 Series		3: 300 Series
③**Valve type**	10: Single air control 20 : Double air control					
④**Port size**	M5: M5	M5: M5	06: 1/8"	06: 1/8"	08: 1/4"	10: 3/8"
⑤**Acting type**	NC: Normally closed NO: Normally opened [Note : Double air control no this code]					
⑥**Thread type**	-	Blank: PT Thread/ G: G Thread / T: NPT Thread				

Flow chart





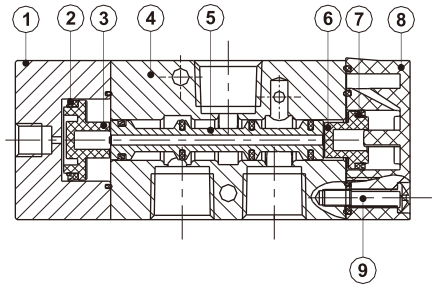




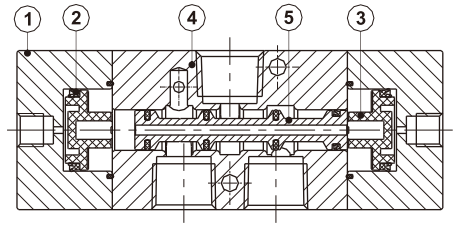
The data in flow rate chart are obtained from AirTAC lab.

Inner structure

6TA110



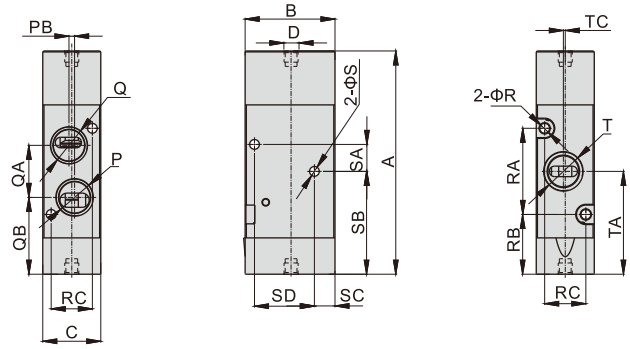
6TA120NC



No.	Item
1	Pilot valve
2	Gasket
3	Big piston
4	Body
5	Spool
6	Small piston
7	Gasket
8	Bottom cover
9	Bolt

Dimensions

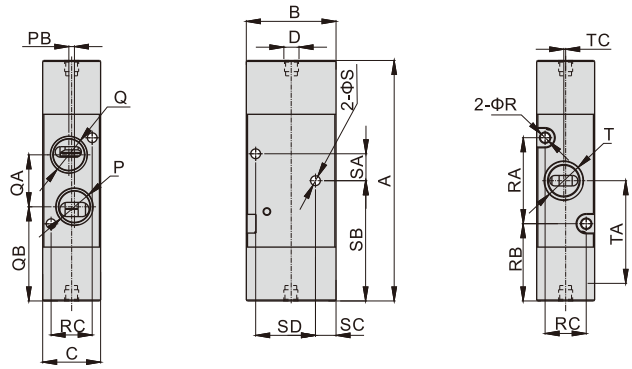
6TA0510
6TA110
6TA210
6TA310



Model\Item	A	B	C	D	P	PB	Q	QA	QB	R	RA	RB	RC	S	SA	SB	SC	SD	T	TA	TC
6TA0510M5	41.5	21	10.6	M5X0.8	M5X0.8	1	M5X0.8	9.5	13.5	2.1	14	11.3	7.5	-	-	-	-	-	M5X0.8	18.3	0.5
6TA110M5	59.5	24	15.5	M5X0.8	M5X0.8	-	M5X0.8	14	20.5	2.6	23	16	11	Φ2.6	7.2	34.5	4	17.5	M5X0.8	27.5	-
6TA11006	59.5	24	15.5	M5X0.8	1/8"	1.5	1/8"	14	20.5	2.6	23	16	11	Φ2.6	7.2	34.5	4	17.5	1/8"	27.5	0.5
6TA21006	77.5	32.5	18.5	1/8"	1/8"	-	1/8"	18	25.5	3.2	33	18	13.5	Φ3.2	12	46.5	7	21	1/8"	34.5	-
6TA21008	77.5	32.5	18.5	1/8"	1/4"	-	1/8"	18	25.5	3.2	33	18	13.5	Φ3.2	12	46.5	7	21	1/4"	34.5	1
6TA31010	95	46	23.5	1/8"	3/8"	-	1/4"	28	29.5	3.2	43	22	18.4	Φ4.3	15	58.5	8	31	3/8"	43.5	-

[Note]: 6TA0510 type no through hole "S" on the side.

6TA0520
6TA120
6TA220
6TA320



Model\Item	A	B	C	D	P	PB	Q	QA	QB	R	RA	RB	RC	S	SA	SB	SC	SD	T	TA	TC
6TA0520M5	47	21	10.6	M5X0.8	M5X0.8	1	M5X0.8	9.5	18.7	2.1	14	16.5	7.5	-	-	-	-	-	M5X0.8	23.5	0.5
6TA120M5	64.5	24	15.5	M5X0.8	M5X0.8	-	M5X0.8	14	25.2	2.6	23	20.7	11	Φ2.6	7.2	39.5	4	17.5	M5X0.8	32.2	-
6TA12006	64.5	24	15.5	M5X0.8	1/8"	1.5	1/8"	14	25.2	2.6	23	20.7	11	Φ2.6	7.2	39.5	4	17.5	1/8"	32.2	0.5
6TA22006	85.5	32.5	18.5	1/8"	1/8"	-	1/8"	18	33.9	3.2	33	26.3	13.5	Φ3.2	12	54.8	7	21	1/8"	42.8	-
6TA22008	85.5	32.5	18.5	1/8"	1/4"	-	1/8"	18	33.9	3.2	33	26.3	13.5	Φ3.2	12	54.8	7	21	1/4"	42.8	1
6TA32010	103	46	23.5	1/8"	3/8"	-	1/4"	28	37.5	3.2	43	30	18.4	Φ4.3	15	66.5	8	31	3/8"	51.5	-

[Note]: 6TA0520 type no through hole "S" on the side.

Manifold for 6TA Series

Specification

Item\Manifold Model	6TA0500M	6TA100M	6TA200M	6TA300M
Fluid	Air(to be filtered by 40μm filter element)			
Temperature ℃	-20~70			
Adaptable valve's series	6TA0500 Series	6TA100 Series	6TA200 Series	6TA300 Series

Product feature

1. It is available to integrate the direction control valves of the same series to form valve group to save space and cost.
2. It is easy to examine when there are faults owning to the unified air intake and exhaust and unified wiring.
3. Flexible combination and strong expansion capability can make any combination or expansion of the numbers of direction control valves that are connected.

Ordering code

6TV100M 5F □ Ordering code for manifold

① ② ③

①Model	6TV0500M: 6TV0500 Series manifold	6TV100M: 6TV100 Series manifold	6TV200M: 6TV200 Series manifold	6TV300M: 6TV300 Series manifold
②Number of stations	1F: 1 Station 2F: 2 Station 3F: 3 Station ..... 20F: 20 Station			
③Thread type	Blank: PT / G: G Thread / T: NPT Thread			

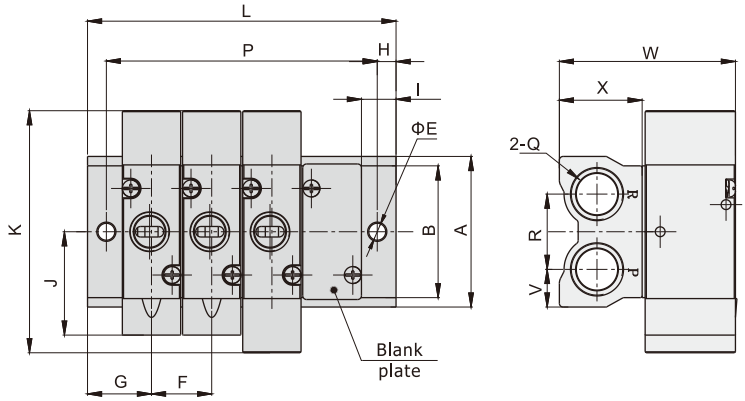
P-6TV100M - R2 Ordering code for blank plate

① ②

①Model	6TV0500M: 6TV0500 Series manifold	6TV100M: 6TV100 Series manifold	6TV200M: 6TV200 Series manifold	6TV300M: 6TV300 Series manifold
②Code	R2: Blank plate for manifold			

[Note] 1.Manifold kits contains manifold, seal and screw; 2. Blank plate kits contains blank plate and screw.

Dimensions



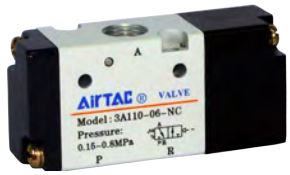
Model\Item	A	B	E	F	G	H	I	J	K	Q	R	V	W	X
6TV0500M	33	26	4.5	11	15	5	9.5	18.5	47	1/8"	16.5	8.5	38.5	17
6TV100M	40	35	4.5	16	17	5	9	27.5	64.5	1/4"	20	10	47	22
6TV200M	48	44	4.5	19	18.5	5	9	34.5	85.5	1/4"	24	12	57	23.5
6TV300M	60	54	4.5	24	24	5	12.5	43.5	103	3/8"	32	14	74	27

Model\Item	L																			
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F
6TV0500M	30	41	52	63	74	85	96	107	118	129	140	151	162	173	184	195	206	217	228	239
6TV100M	34	50	66	82	98	114	130	146	162	178	194	210	226	242	258	274	290	306	322	338
6TV200M	37	56	75	94	113	132	151	170	189	208	227	246	265	284	303	322	341	360	379	398
6TV300M	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480	504

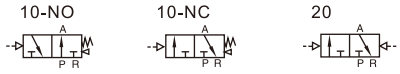
Model\Item	P																			
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F
6TV0500M	20	31	42	53	64	75	86	97	108	119	120	141	152	163	174	185	196	207	218	229
6TV100M	24	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328
6TV200M	27	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388
6TV300M	38	62	86	110	134	158	182	206	230	254	278	302	326	350	374	398	422	446	470	494

Air valve(3/2 way)

3A100 Series



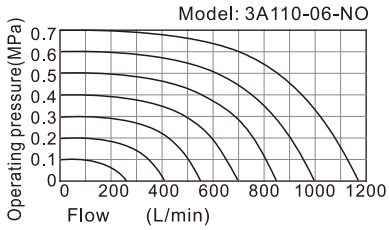
Symbol



Product feature

1. Structure in sliding column mode: good tightness and sensitive reaction.
2. Double air control valves have memory function.
3. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
4. No need to add oil for lubrication.
5. Multi-mounting helps to install and apply.
6. Integrate with the manifold to save installation space.

Flow chart



The data in flow rate chart are obtained from AirTAC lab.

Specification

Model	3A110-M5	3A120-M5	3A110-06	3A120-06
Fluid	Air(to be filtered by 40μm filter element)			
Acting	Exterior control			
Port size [Note1]	M5		1/8"	
Orifice size(Cv)[Note4]	3A110-06,3A120-06:10.2mm^2(Cv=0.6)			
Valve type	3 port 2 position			
Lubrication [Note2]	Not required			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Max. frequency [Note3]	5 cycle/sec			

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span.Lubricants like ISO VG32 or equivalent are recommended.
[Note3] The maximum actuation frequency is in the no-load state.
[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Ordering code

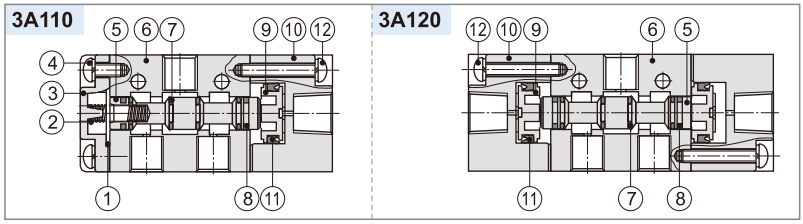
3A 1 10 06 NO □

(1) (2) (3) (4) (5) (6)

①Model	②Code	③Valve type	④Port size	⑤Acting type	⑥Thread type	
3A: Air Valve (3/2 way)	1: 100 Series	10: Single air control	M5: M5 06: 1/8"	NC: Normally close NO: Normally open	M5	1/8"
		20: Double air control		No this code	No this code	Blank: PT G: G T: NPT

Please refer to P123 for manifold specification and the order way.

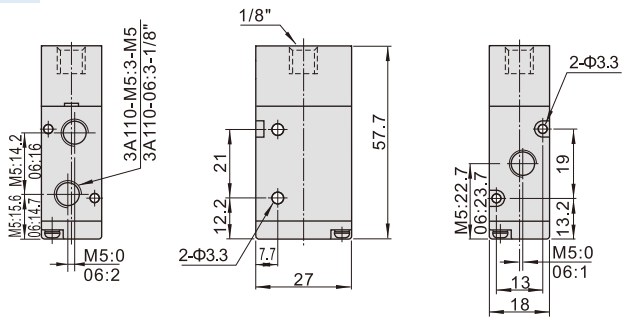
Inner structure



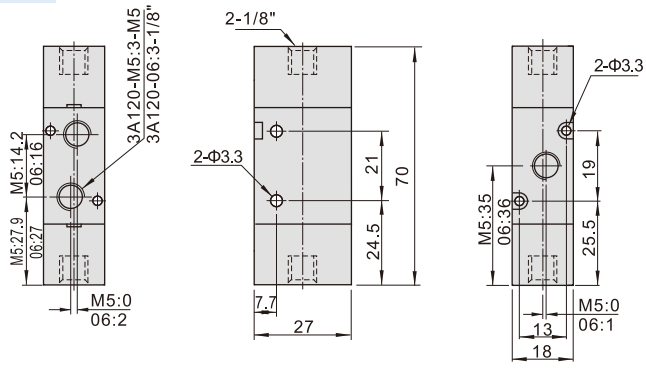
No.	Item	No.	Item	No.	Item
1	Bottom cover gasket	5	Spool	9	Piston
2	Spring	6	Body	10	Pilot body
3	Bottom cover	7	O-ring	11	Piston O-ring
4	Bottom cover screw	8	Wear ring	12	Screw

Dimension

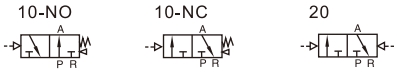
3A110



3A120



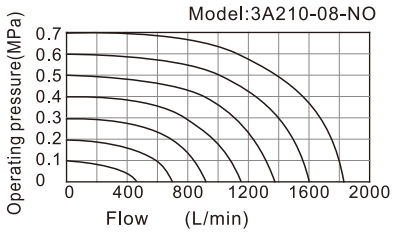
Symbol



Product feature

1. Structure in sliding column mode: good tightness and sensitive reaction.
2. Double air control valves have memory function.
3. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
4. No need to add oil for lubrication.
5. Multi-mounting helps to install and apply.
6. Integrate with the manifold to save installation space.

Flow chart



The data in flow rate chart are obtained from AirTAC lab.

Specification

Model	3A210-06	3A220-06	3A210-08	3A220-08
Fluid	Air(to be filtered by 40μm filter element)			
Acting	Exterior control			
Port size [Note1]	In=Out=1/8"		In=Out=1/4"	
Orifice size(Cv)[Note4]	3A210-08,3A220-08:17.0mm^2(Cv=1.0)			
Valve type	3 port 2 position			
Lubrication [Note2]	Not required			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Max. frequency [Note3]	5 cycle/sec			

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span.Lubricants like ISO VG32 or equivalent are recommended.
[Note3] The maximum actuation frequency is in the no-load state.
[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

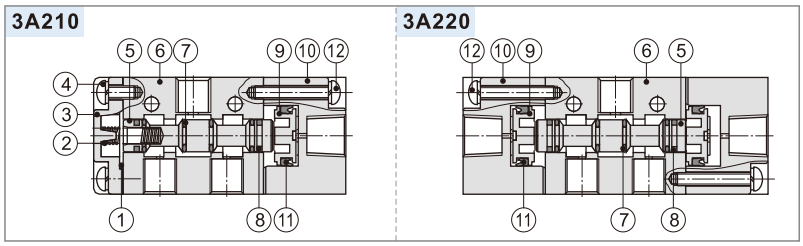
Ordering code

3A 2 10 08 NO □

①Model	②Code	③Valve type	④Port size	⑤Acting type	⑥Thread type
3A: Air Valve (3/2 way)	2: 200 Series	10: Single air control	06: 1/8" 08: 1/4"	NC: Normally close NO: Normally open	Blank: PT G: G T: NPT
		20: Double air control		No this code	

Please refer to P123 for manifold specification and the order way.

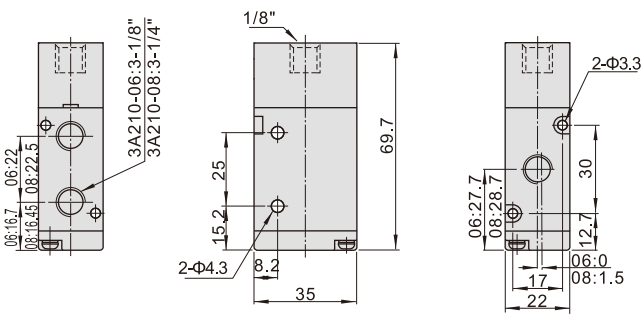
Inner structure



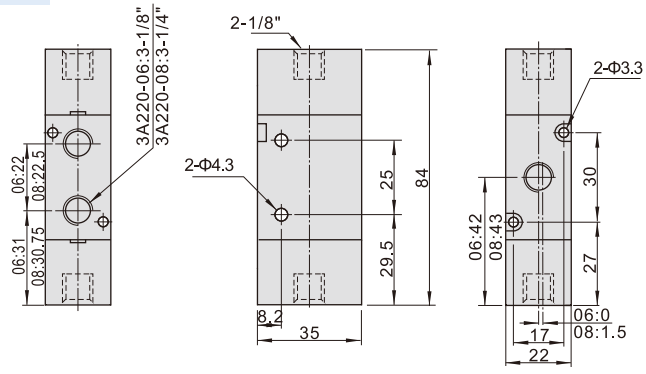
No.	Item	No.	Item	No.	Item
1	Bottom cover gasket	5	Spool	9	Piston
2	Spring	6	Body	10	Pilot body
3	Bottom cover	7	O-ring	11	Piston O-ring
4	Bottom cover screw	8	Wear ring	12	Screw

Dimension

3A210



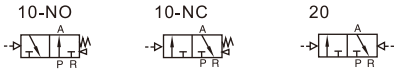
3A220



Air valve(3/2 way)

3A300 Series

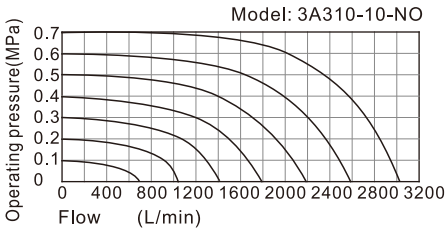
Symbol



Product feature

1. Structure in sliding column mode: good tightness and sensitive reaction.
2. Double air control valves have memory function.
3. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
4. No need to add oil for lubrication.
5. Multi-mounting helps to install and apply.
6. Integrate with the manifold to save installation space.

Flow chart



The data in flow rate chart are obtained from AirTAC lab.

Specification

Model	3A310-08	3A320-08	3A310-10	3A320-10
Fluid	Air(to be filtered by 40μm filter element)			
Acting	Exterior control			
Port size [Note1]	In=Out=1/4"		In=Out=3/8"	
Orifice size(Cv)[Note4]	3A310-10,3A320-10:28.0mm^2(Cv=1.65)			
Valve type	3 port 2 position			
Lubrication [Note2]	Not required			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Max. frequency [Note3]	5 cycle/sec			

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span.Lubricants like ISO VG32 or equivalent are recommended.
[Note3] The maximum actuation frequency is in the no-load state.
[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Ordering code

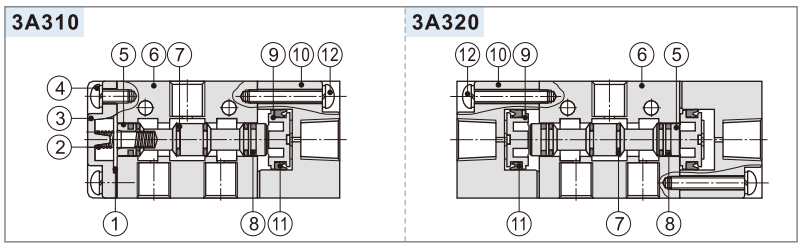
3A 3 10 10 NO □

1 2 3 4 5 6

①Model	②Code	③Valve type	④Port size	⑤Acting type	⑥Thread type
3A: Air Valve (3/2 way)	3: 300 Series	10: Single air control	08: 1/4" 10: 3/8"	NC: Normally close NO: Normally open	Blank: PT G: G T: NPT
		20: Double air control		No this code	

Please refer to P123 for manifold specification and the order way.

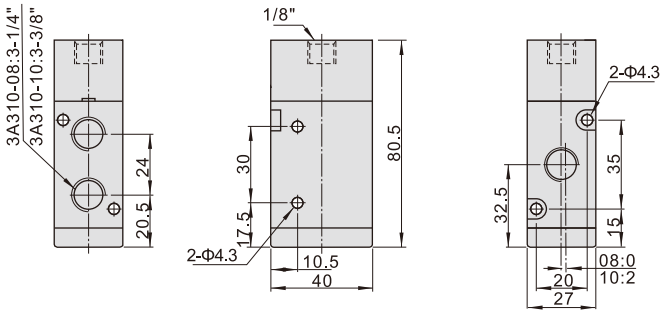
Inner structure



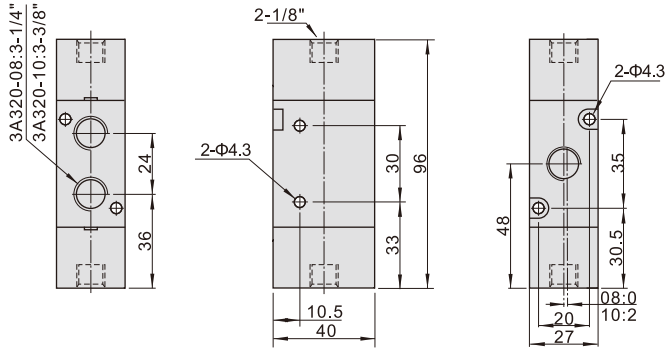
No.	Item	No.	Item	No.	Item
1	Bottom cover gasket	5	Spool	9	Piston
2	Spring	6	Body	10	Pilot body
3	Bottom cover	7	O-ring	11	Piston O-ring
4	Bottom cover screw	8	Wear ring	12	Screw

Dimension

3A310



3A320



Air valve (5/2 way,5/3 way)

6A Series

Specification

Model	6A0510	6A0520	6A0530	6A110	6A120	6A130
Port size [Note1]	In=Out=Exh=M5			In=Out=Exh=M5(or=1/8")		
Orifice size(Cv) [Note4]	M5:3.4mm^2 (0.2)		6A0530CM5: 2.2mm^2 (0.13)	06:8.9mm^2(0.52)		6A130C06: 8.0mm^2 (0.47)
Weight	20g	25g	30g	50g	60g	65g
Model	**6A210**	**6A220**	**6A230**	**6A310**	**6A320**	**6A330**
Port size [Note1]	In=Out=1/8"(or=1/4") Exh=1/8"			In=Out=3/8" Exh=1/4"		
Orifice size(Cv) [Note4]	08:15.4mm^2(0.91)		6A230C08: 14.2mm^2 (0.84)	10:38.4mm^2(2.26)		6A330C10: 30.5mm^2 (1.8)
Weight	120g	125g	135g	250g	290g	320g
Fluid	Air(to be filtered by 40μm filter element)					
Acting	External air control					
Operating pressure 5/3 way	0.2~0.8MPa(29~114psi)					
Operating pressure 5/2 way	0.15~0.8MPa(21~114psi)					
Proof pressure	1.2MPa(175psi)					
Temperature	-20~70℃					
Material of body	Aluminum alloy					
Lubrication [Note3]	Not required					
Max.frequency[Note2]	5 cycle/sec		3 cycle/sec	5 cycle/sec		3 cycle/sec

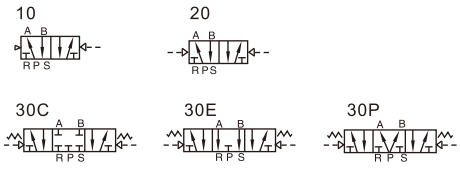
[Note1] PT, NPT, G thread are available.

[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency is in the no-load state.

[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Product feature

1. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
2. Can integrate manifold to form valve group to save space.

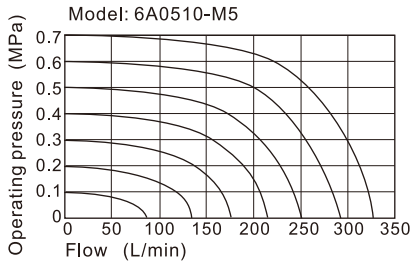
Ordering code

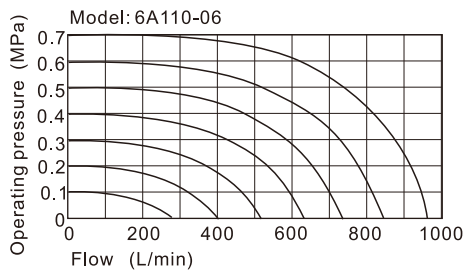
6A 2 10 08 □

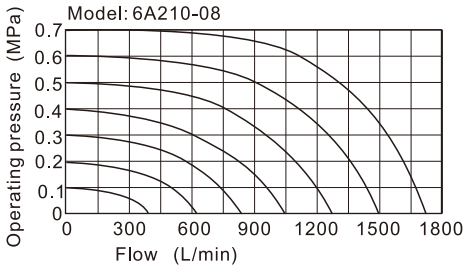
(1) (2) (3) (4) (5)

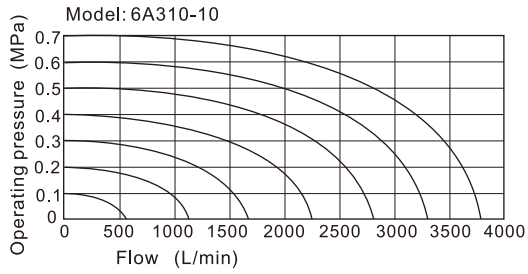
①Model	6A: Air valve (5/2, 5/3 way)					
②Code	05: 0500 Series	1: 100 Series		2: 200 Series		3: 300 Series
③alve type	10: Single air control 5/2 way			20: Double air control 5/2 way		
	30C：Double air control 5/3 way closed center			30E：Double air control 5/3 way exhaust center		
	30P：Double air control 5/3 way pressure center					
④Port size	M5: M5	M5: M5	06: 1/8"	06: 1/8"	08: 1/4"	10: 3/8"
⑤Thread type	-		Blank: PT / G: G Thread / T: NPT Thread			

Flow chart





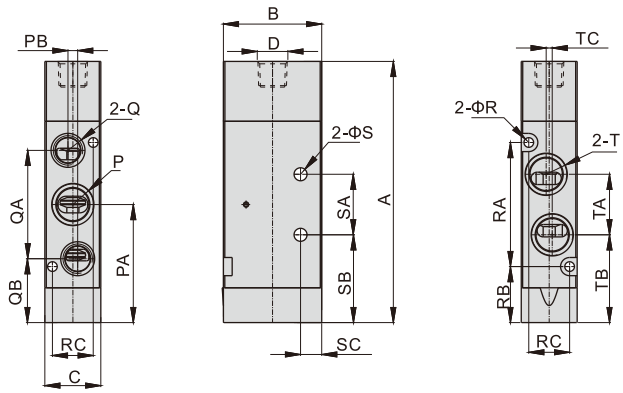




The data in flow rate chart are obtained from AirTAC lab.

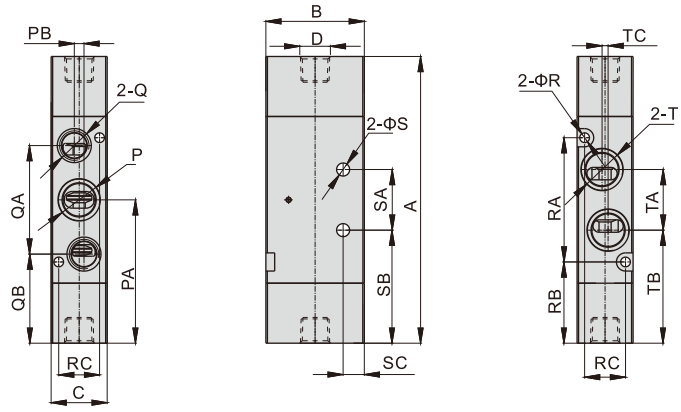
Dimensions

6A0510
6A110
6A210
6A310



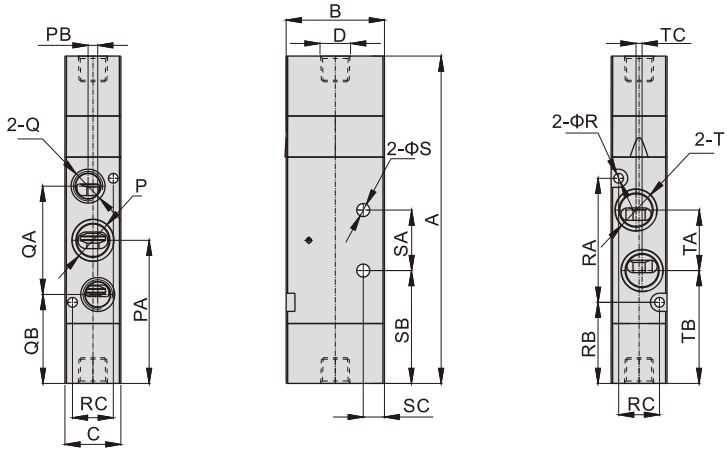
Model\Item	A	B	C	D	P	PA	PB	Q	QA	QB	R	RA	RB	RC	S	SA	SB	SC	T	TA	TB	TC
6A0510M5	50.5	21	10.6	M5x0.8	M5x0.8	22.5	1	M5x0.8	19	13	2.1	22.5	11.5	7.5	Φ2.6	10	17.5	4	M5x0.8	10.5	17.5	-
6A110M5	70.5	24	15.5	M5x0.8	M5x0.8	33	2.6	M5x0.8	28	19	2.6	34	16	11	Φ3.2	14	26	4	M5x0.8	16.5	24.5	-
6A11006	70.5	24	15.5	M5x0.8	1/8"	33	2.6	1/8"	28	19	2.6	34	16	11	Φ3.2	14	26	4	1/8"	16.5	24.5	-
6A21006	86.5	32.5	18.5	1/8"	1/8"	39	3.2	1/8"	36	21	3.2	41	18.5	13.5	Φ4.3	20	29	7	1/8"	20	29	2
6A21008	86.5	32.5	18.5	1/8"	1/4"	39	3.2	1/8"	36	21	3.2	41	18.5	13.5	Φ4.3	20	29	7	1/4"	20	29	2
6A31010	116	46	23.5	1/4"	3/8"	54	0	1/4"	50	29	3.2	64	22	18.5	Φ4.3	25	41.5	8	3/8"	33.5	37	0

6A0520
6A120
6A220
6A320



Model\Item	A	B	C	D	P	PA	PB	Q	QA	QB	R	RA	RB	RC	S	SA	SB	SC	T	TA	TB	TC
6A0520M5	55.5	21	10.6	M5x0.8	M5x0.8	28	1	M5x0.8	19	18	2.1	22.5	16.5	7.5	Φ2.6	10	22.5	4	M5x0.8	10.5	22.5	-
6A120M5	75	24	15.5	M5x0.8	M5x0.8	37.5	2.6	M5x0.8	28	24	2.6	34	20.5	11	Φ3.2	14	30.5	4	M5x0.8	16.5	29.5	-
6A12006	75	24	15.5	M5x0.8	1/8"	37.5	2.6	1/8"	28	24	2.6	34	20.5	11	Φ3.2	14	30.5	4	1/8"	16.5	29.5	-
6A22006	94.5	32.5	18.5	1/8"	1/8"	47.5	3.2	1/8"	36	29.5	3.2	41	27	13.5	Φ4.3	20	37.5	7	1/8"	20	37.5	2
6A22008	94.5	32.5	18.5	1/8"	1/4"	47.5	3.2	1/8"	36	29.5	3.2	41	27	13.5	Φ4.3	20	37.5	7	1/4"	20	37.5	2
6A32010	124	46	23.5	1/4"	3/8"	62	0	1/4"	50	37	3.2	64	30	18.5	Φ4.3	25	41.5	8	3/8"	33.5	45.5	0

6A0530
6A130
6A230
6A330



Model\Item	A	B	C	D	P	PA	PB	Q	QA	QB	R	RA	RB	RC	S	SA	SB	SC	T	TA	TB	TC
6A0530M5	64	21	10.6	M5x0.8	M5x0.8	28	1	M5x0.8	19	18	2.1	22.5	16.5	7.5	Φ2.6	10	22.5	4	M5x0.8	10.5	22.5	-
6A130M5	87	24	15.5	M5x0.8	M5x0.8	37.5	2.6	M5x0.8	28	24	2.6	34	20.5	11	Φ3.2	14	30.5	4	M5x0.8	16.5	29.5	-
6A13006	87	24	15.5	M5x0.8	1/8"	37.5	2.6	1/8"	28	24	2.6	34	20.5	11	Φ3.2	14	30.5	4	1/8"	16.5	29.5	-
6A23006	108	32.5	18.5	1/8"	1/8"	47.5	3.2	1/8"	36	29.5	3.2	41	27	13.5	Φ4.3	20	37.5	7	1/8"	20	37.5	2
6A23008	108	32.5	18.5	1/8"	1/4"	47.5	3.2	1/8"	36	29.5	3.2	41	27	13.5	Φ4.3	20	37.5	7	1/4"	20	37.5	2
6A33010	142	46	23.5	1/4"	3/8"	62	0	1/4"	50	37	3.2	64	30	18.5	Φ4.3	25	41.5	8	3/8"	33.5	45.5	0

Manifold for 6A series

Specification

Item\Manifold Model	6V0500M	6V100M	6V200M	6V300M
Fluid	Air(to be filtered by 40μm filter element)			
Temperature ℃	-20~70			
Adaptable valve's series	6A0500 Series	6A100 Series	6A200 Series	6A300 Series

Product feature

1. It is available to integrate the direction control valves of the same series to form valve group to save space and cost.
2. It is easy to examine when there are faults owning to the unified air intake and exhaust and unified wiring.
3. Flexible combination and strong expansion capability can make any combination or expansion of the numbers of direction control valves that are connected.

Ordering code

6V100M 5F □

Ordering code for manifold

①Model	6V0500M: 6V0500 Series manifold	6V100M: 6V100 Series manifold	6V200M: 6V200 Series manifold	6V300M: 6V300 Series manifold
②Number of stations	1F: 1 Station 2F: 2 Station 3F: 3 Station ..... 20F: 20 Station			
③Thread type	Blank: PT / G: G Thread / T: NPT Thread			

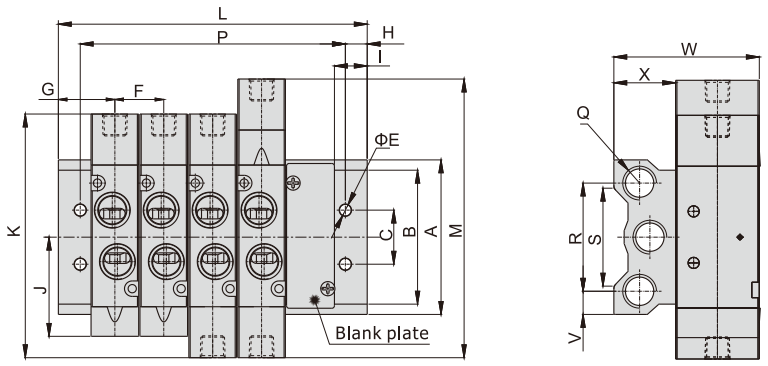
P-6V100M - R2

Ordering code for blank plate

①Model	6V0500M: 6V0500 Series manifold	6V100M: 6V100 Series manifold	6V200M: 6V200 Series manifold	6V300M: 6V300 Series manifold
②Code	R2: Blank plate for manifold			

[Note] 1.Manifold kits contains manifold, seal and screw; 2. Blank plate kits contains blank plate and screw.

Dimensions



Model\Item	A	B	C	E	F	G	H	I	J	K	M	Q	R	S	V	W	X
6V0500M	46	32	16	4.5	11	15	5	9.5	22.5	55.5	64	1/8"	32	26	7	38	17
6V100M	57.5	43	20	4.5	16	17	5	9.5	33	75	87	1/4"	40	36	9	46	22
6V200M	60	52	21	4.5	19	18.5	5	9.5	38.5	94.5	108	1/4"	42	38	9	56.5	24
6V300M	85	75	26	4.5	23.5	24	5	12	54	124	142	3/8"	57	58	14	74	27

Model\Item	L																			
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F
6V0500M	30	41	52	63	74	85	96	107	118	129	140	151	162	173	184	195	206	217	228	239
6V100M	34	50	66	82	98	114	130	146	162	178	194	210	226	242	258	274	290	306	322	338
6V200M	37	56	75	94	113	132	151	170	189	208	227	246	265	284	303	322	341	360	379	398
6V300M	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480	504

Model\Item	P																			
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	17F	18F	19F	20F
6V0500M	20	31	42	53	64	75	86	97	108	119	130	141	152	163	174	185	196	207	218	229
6V100M	24	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328
6V200M	27	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388
6V300M	38	62	86	110	134	158	182	206	230	254	278	302	326	350	374	398	422	446	470	494

Air valve(5/2 way, 5/3 way)

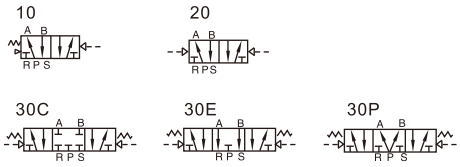
4A100 Series

Specification

Model	4A110-M5 4A120-M5	4A130C-M5 4A130E-M5 4A130P-M5	4A110-06 4A120-06	4A130C-06 4A130E-06 4A130P-06
Fluid	Air(to be filtered by 40μm filter element)			
Acting	Exterior control			
Port size [Note1]	In=Out=M5		In=Out=1/8"	
Orifice size(Cv) [Note4]	4A110-06,4A120-06:10.2mm²(Cv=0.6) 4A130C-06:8.6mm²(Cv=0.51)			
Valve type	5 port 2 position	5 port 3 position	5 port 2 position	5 port 3 position
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max. frequency [Note3]	5 cycle/sec	3 cycle/sec	5 cycle/sec	3 cycle/sec
Weight (g)	4A110-M5:85 4A120-M5:140	165	4A110-06:85 4A120-06:140	165

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.
[Note3] The maximum actuation frequency of no-load state.
[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Product feature

1. Structure in sliding column mode: good tightness and sensitive reaction.
2. Three position air valves have three kinds of central function for your choice.
3. Double air control valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Integrate with the manifold to save installation space.

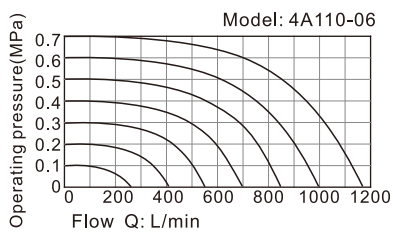
Ordering code

4A 1 10 06 □

①Model	②Code	③Valve type	④Port size	⑤Thread type
4A: Air Valve(5/2, 5/3 way)	1: 100 Series	10: Single air control 5/2 way 20: Double air control 5/2 way 30C: Double air control 5/3 way closed center 30E: Double air control 5/3 way exhaust center 30P: Double air control 5/3 way pressure center	M5: M5	No this code
			06: 1/8"	Blank: PT G: G T: NPT

Please refer to P124 for manifold specification and the order way.

Flow chart

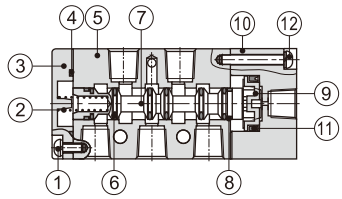


The data in flow rate chart are obtained from AirTAC lab.

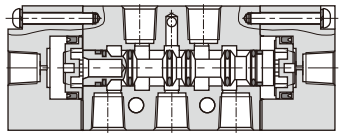
4A100 Series

Inner structure

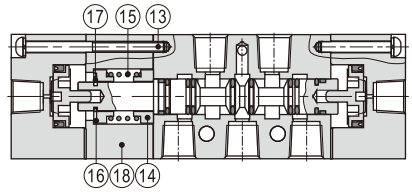
4A110



4A120



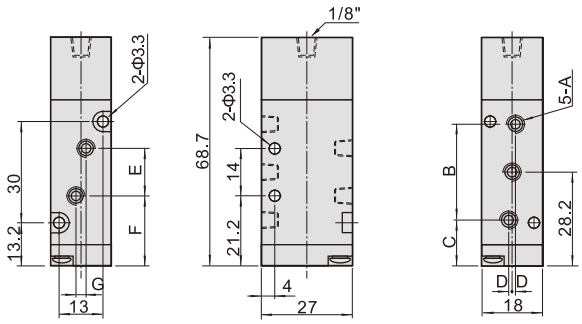
4A130C



No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Screw	3	Bottom cover	5	Body	7	Spool	9	Piston	11	O-ring	13	Screw	15	Return Spring	17	E Clip
2	Spring	4	Bottom cover gasket	6	O-ring	8	Wear ring	10	Pilot body	12	Screw	14	Spring holder	16	Spring holder	18	Side cover

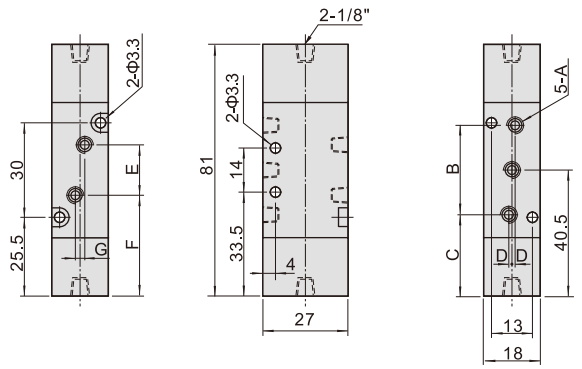
Dimension

4A110



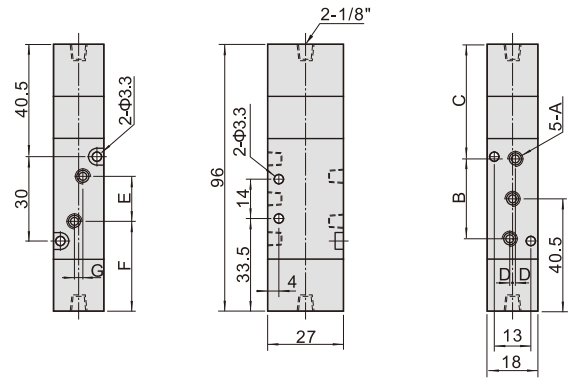
Model\Item	A	B	C	D	E	F	G
4A110-M5	M5x0.8	27	14.7	0	14	21.2	0
4A110-06	1/8"	28	14.2	1	16	20.2	3

4A120



Model\Item	A	B	C	D	E	F	G
4A120-M5	M5x0.8	27	27	0	14	33.5	0
4A120-06	1/8"	28	26.5	1	16	32.5	3

4A130



Model\Item	A	B	C	D	E	F	G
4A130-M5	M5x0.8	27	42	0	14	33.5	0
4A130-06	1/8"	28	41.5	1	16	32.5	3

Air valve(5/2 way, 5/3 way)

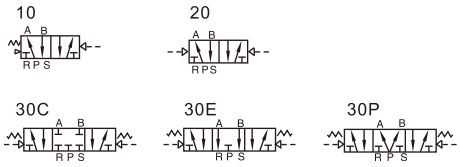
4A200 Series

Specification

Model	4A210-06 4A220-06	4A230C-06 4A230E-06 4A230P-06	4A210-08 4A220-08	4A230C-08 4A230E-08 4A230P-08
Fluid	Air(to be filtered by 40μm filter element)			
Acting	Exterior control			
Port size [Note1]	In=Out=Exhaust=1/8"		In=Out=1/4" Exhaust=1/8"	
Orifice size(Cv) [Note4]	4A210-08,4A220-08:17.0mm²(Cv=1.0) 4A230C-08:13.6mm²(Cv=0.8)			
Valve type	5 port 2 position	5 port 3 position	5 port 2 position	5 port 3 position
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max. frequency [Note3]	5 cycle/sec	3 cycle/sec	5 cycle/sec	3 cycle/sec
Weight (g)	4A210-06:185 4A220-06:285	365	4A210-08:185 4A220-08:285	365

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.
[Note3] The maximum actuation frequency of no-load state.
[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Product feature

1. Structure in sliding column mode: good tightness and sensitive reaction.
2. Three position air valves have three kinds of central function for your choice.
3. Double air control valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Integrate with the manifold to save installation space.

Ordering code

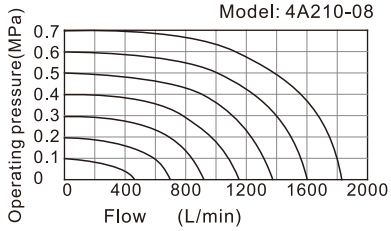
4A 2 10 08 □

① ② ③ ④ ⑤

①Model	②Code	③Valve type	④Port size	⑤Thread type
4A: Air Valve(5/2, 5/3 way)	2: 200 Series	10: Single air control 5/2 way 20: Double air control 5/2 way 30C: Double air control 5/3 way closed center 30E: Double air control 5/3 way exhaust center 30P: Double air control 5/3 way pressure center	06: 1/8" 08: 1/4"	Blank: PT G: G T: NPT

Please refer to P124 for manifold specification and the order way.

Flow chart

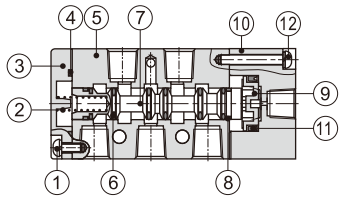


The data in flow rate chart are obtained from AirTAC lab.

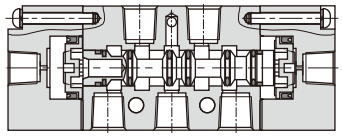
4A200 Series

Inner structure

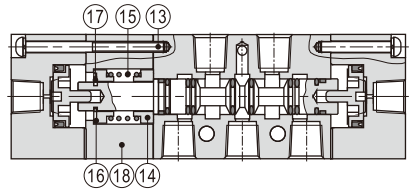
4A210



4A220



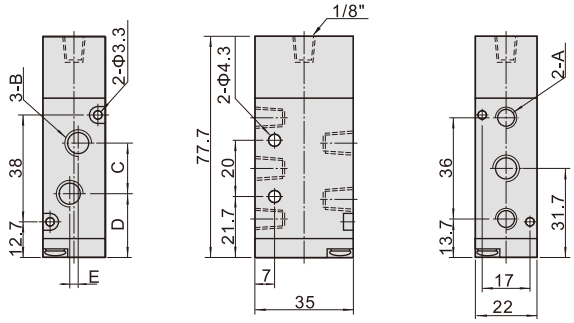
4A230C



No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Screw	3	Bottom cover	5	Body	7	Spool	9	Piston	11	O-ring	13	Screw	15	Return Spring	17	E Clip
2	Spring	4	Bottom cover gasket	6	O-ring	8	Wear ring	10	Pilot body	12	Screw	14	Spring holder	16	Spring holder	18	Side cover

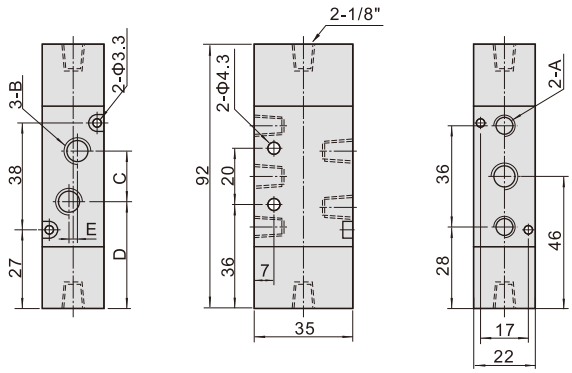
Dimension

4A210



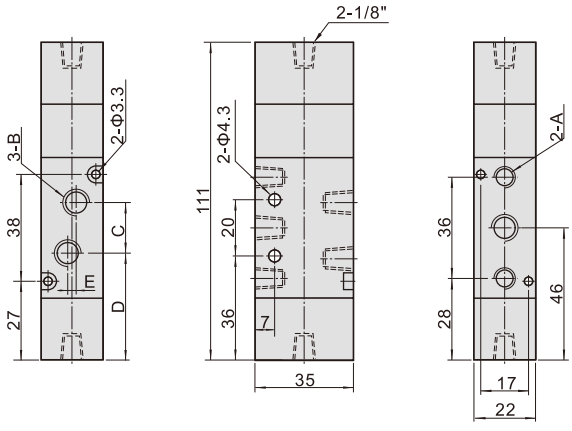
Model\Item	A	B	C	D	E
4A210-06	1/8"	1/8"	18	22.7	0
4A210-08	1/8"	1/4"	21	21.2	3

4A220



Model\Item	A	B	C	D	E
4A220-06	1/8"	1/8"	18	37	0
4A220-08	1/8"	1/4"	21	35.5	3

4A230



Model\Item	A	B	C	D	E
4A230-06	1/8"	1/8"	18	37	0
4A230-08	1/8"	1/4"	21	35.5	3

Air valve(5/2 way, 5/3 way)

4A300 Series

Specification

Model	4A310-08 4A320-08	4A330C-08 4A330E-08 4A330P-08	4A310-10 4A320-10	4A330C-10 4A330E-10 4A330P-10
Fluid	Air(to be filtered by 40μm filter element)			
Acting	Exterior control			
Port size [Note1]	In=Out=Exhaust=1/4"		In=Out=3/8" Exhaust=1/4"	
Orifice size(Cv) [Note4]	4A310-10,4A320-10:28.0mm²(Cv=1.65) 4A330C-10:21.3mm²(Cv=1.25)			
Valve type	5 port 2 position	5 port 3 position	5 port 2 position	5 port 3 position
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max. frequency [Note3]	4 cycle/sec	3 cycle/sec	4 cycle/sec	3 cycle/sec
Weight (g)	4A310-08:275 4A320-08:365	505	4A310-10:275 4A320-10:365	505

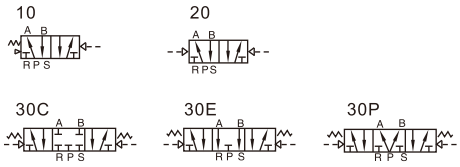
[Note1] PT thread, G thread and NPT thread are available.

[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency of no-load state.

[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Product feature

1. Structure in sliding column mode: good tightness and sensitive reaction.
2. Three position air valves have three kinds of central function for your choice.
3. Double air control valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Integrate with the manifold to save installation space.

Ordering code

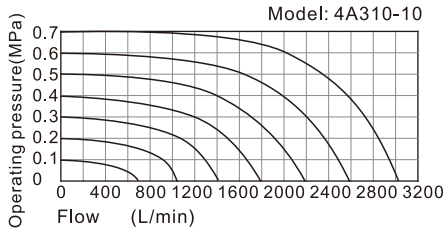
4A 3 10 10 □

① ② ③ ④ ⑤

①Model	②Code	③Valve type	④Port size	⑤Thread type
4A: Air Valve(5/2, 5/3 way)	3: 300 Series	10: Single air control 5/2 way 20: Double air control 5/2 way 30C: Double air control 5/3 way closed center 30E: Double air control 5/3 way exhaust center 30P: Double air control 5/3 way pressure center	08: 1/4" 10: 3/8"	Blank: PT G: G T: NPT

Please refer to P124 for manifold specification and the order way.

Flow chart

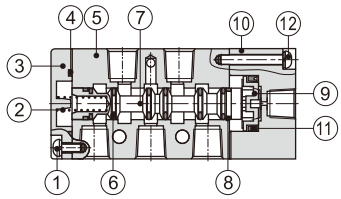


The data in flow rate chart are obtained from AirTAC lab.

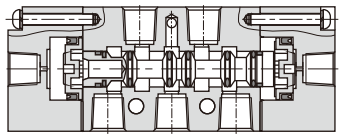
4A300 Series

Inner structure

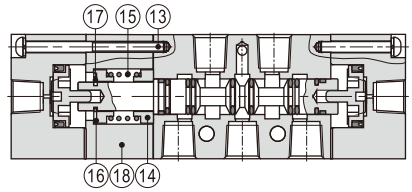
4A310



4A320



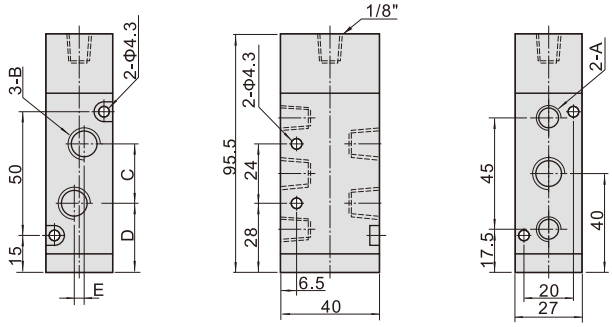
4A330C



No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Screw	3	Bottom cover	5	Body	7	Spool	9	Piston	11	O-ring	13	Screw	15	Return Spring	17	E Clip
2	Spring	4	Bottom cover gasket	6	O-ring	8	Wear ring	10	Pilot body	12	Screw	14	Spring holder	16	Spring holder	18	Side cover

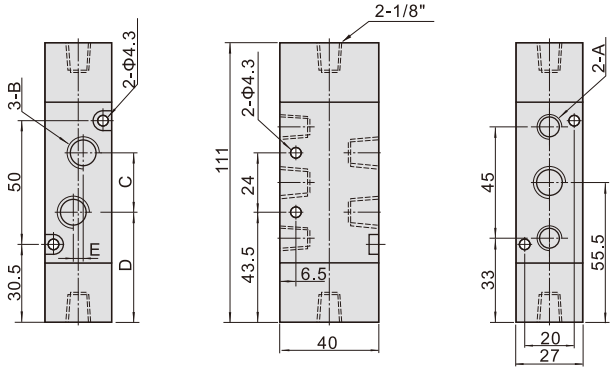
Dimension

4A310



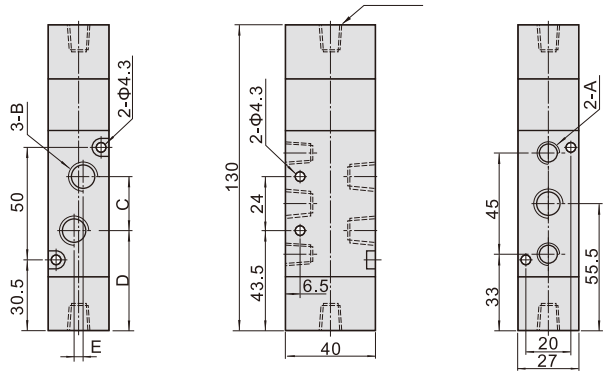
Model\Item	A	B	C	D	E
4A310-08	1/4"	1/4"	22	29	0
4A310-10	1/4"	3/8"	24	28	4

4A320



Model\Item	A	B	C	D	E
4A320-08	1/4"	1/4"	22	44.5	0
4A320-10	1/4"	3/8"	24	43.5	4

4A330



Model\Item	A	B	C	D	E
4A330-08	1/4"	1/4"	22	44.5	0
4A330-10	1/4"	3/8"	24	43.5	4

Air valve(5/2 way, 5/3 way)

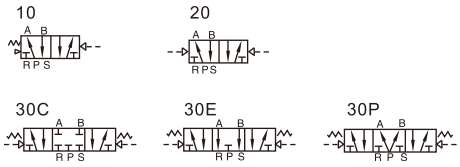
4A400 Series

Specification

Model	4A410-15	4A420-15	4A430C-15	4A430E-15	4A430P-15
Fluid	Air(to be filtered by 40μm filter element)				
Acting	Exterior control				
Port size [Note1]	In=Out=Exhaust=1/2"				
Orifice size(Cv) [Note4]	4A410-15,4A420-15:48.0mm²(Cv=2.82) 4A430C-15:40.0mm²(Cv=2.35)				
Valve type	5 port 2 position		5 port 3 position		
Operating pressure	0.15~0.8MPa(21~114psi)				
Proof pressure	1.2MPa(175psi)				
Temperature	-20~70 ℃				
Material of body	Aluminum alloy				
Lubrication [Note2]	Not required				
Max. frequency [Note3]	3 cycle/sec				
Weight (g)	555	685	735		

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.
[Note3] The maximum actuation frequency of no-load state.
[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Product feature

1. Structure in sliding column mode: good tightness and sensitive reaction.
2. Three position air valves have three kinds of central function for your choice.
3. Double air control valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Integrate with the manifold to save installation space.

Ordering code

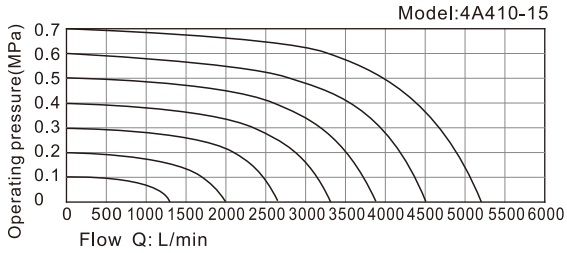
4A 4 10 15 □

① ② ③ ④ ⑤

①Model	②Code	③Valve type	④Port size	⑤Thread type
4A: Air Valve(5/2, 5/3 way)	4: 400 Series	10: Single air control 5/2 way 20: Double air control 5/2 way 30C: Double air control 5/3 way closed center 30E: Double air control 5/3 way exhaust center 30P: Double air control 5/3 way pressure center	15: 1/2"	Blank: PT G: G T: NPT

Please refer to P124 for manifold specification and the order way.

Flow chart

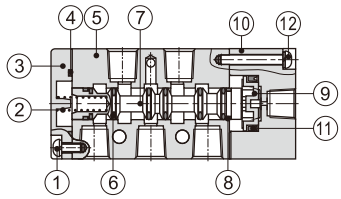


The data in flow rate chart are obtained from AirTAC lab.

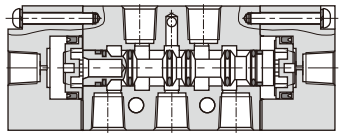
4A400 Series

Inner structure

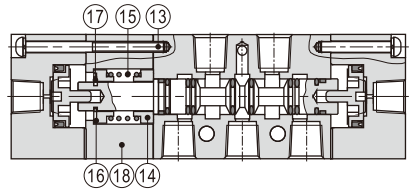
4A410



4A420



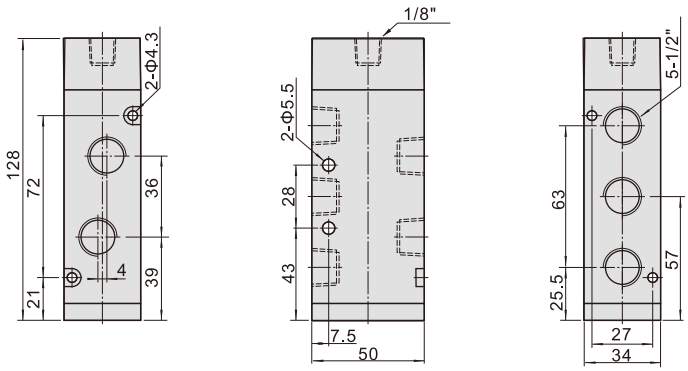
4A430C



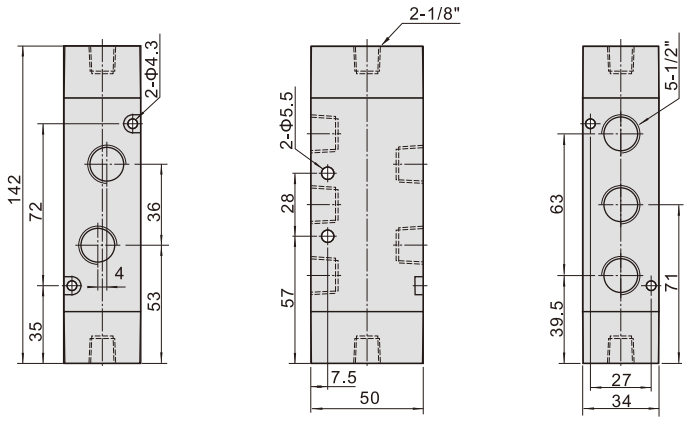
No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Screw	3	Bottom cover	5	Body	7	Spool	9	Piston	11	O-ring	13	Screw	15	Return Spring	17	E Clip
2	Spring	4	Bottom cover gasket	6	O-ring	8	Wear ring	10	Pilot body	12	Screw	14	Spring holder	16	Spring holder	18	Side cover

Dimension

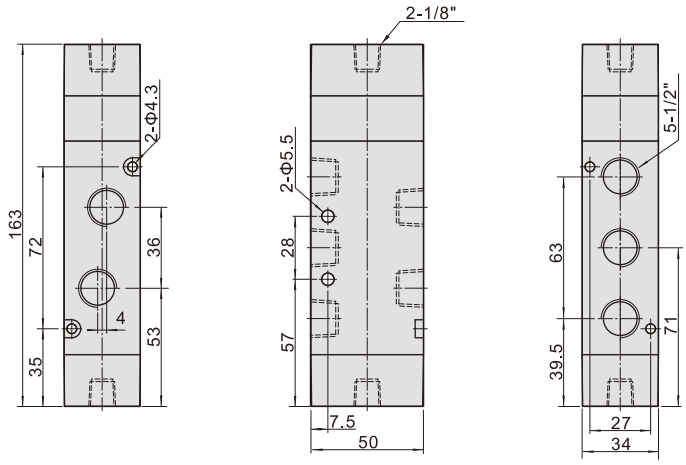
4A410



4A420



4A430



Manifold

Specification

Item\Manifold Model	100M	200M	300M
Fluid	Air(to be filtered by 40μm filter element)		
Temperature	-20~70℃		
Adoptable valve's series	3A100 Series	3A200 Series	3A300 Series

Product feature

1. It is available to integrate the direction control valves of the same series to form valve group to save space and cost;
2. It is easy to examine when there are faults owning to the unified air intake and exhaust and unified wiring;
3. Flexible combination and strong expansion capability can make any combination or expansion of the numbers of direction control valves that are connected.

Ordering code

Ordering code for manifold

3V100M 5F □

① ② ③

①Model	②Number of stations	③Thread type
3V100M: 100 Series Manifold 3V200M: 200 Series Manifold 3V300M: 300 Series Manifold	1F: 1 Station 2F: 2 Station 3F: 3 Station ..... 16F: 16 Station	Blank: PT G: G T: NPT

Ordering code for blank plate

P-3V100M - R2

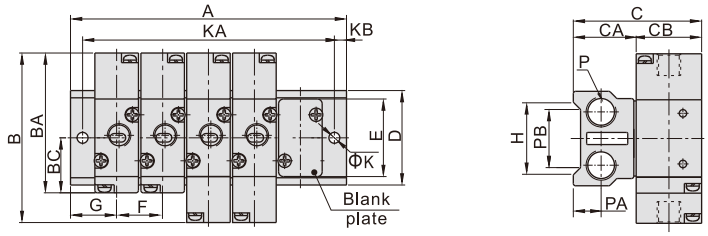
① ② ③

①Kits code	②Model	③Code
P: Kits	3V100M: 100 Series Manifold 3V200M: 200 Series Manifold 3V300M: 300 Series Manifold	R2: Blank plate for manifold

[Note] 1.Ordering code contains manifold and blank plate.
2. Manifold kits contains manifold, seal and screw.
3. Blank plate kits contains blank plate, and screw.

Dimensions

With 3A air valve

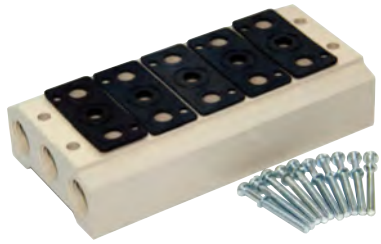


Model\Item	B	BA	BC	C	CA	CB	D	E	F	G	H	K	KB	P	PA	PB
3V100M	70	57.7	22.7	53	26	27	39	32	19	19	30	4.5	5	1/4"	11.5	22
3V200M	84	69.7	27.7	61	26	35	45	40	23	23	35	4.5	6	1/4"	11.5	25
3V300M	96	80.5	32.5	70	30	40	52	47	28	27	42	4.5	6	3/8"	13.5	28

Model\Item	A															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
3V100M	38	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323
3V200M	46	69	92	115	138	161	184	207	230	253	276	299	322	345	368	391
3V300M	54	82	110	138	166	194	222	250	278	306	334	362	390	418	446	474

Model\Item	KA															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
3V100M	28	47	66	85	104	123	142	161	180	199	218	237	256	275	294	313
3V200M	34	57	80	103	126	149	172	195	218	241	264	287	310	333	356	379
3V300M	42	70	98	126	154	182	210	238	266	294	322	350	378	406	434	462

Manifold



Specification

Item\Manifold Model	100M	200M	300M	400M
Fluid	Air(to be filtered by 40μm filter element)			
Temperature	-20~70℃			
Adoptable valve's series	4A100 Series	4A200 Series	4A300 Series	4A400 Series

Product feature

1. It is available to integrate the direction control valves of the same series to form valve group to save space and cost;
2. It is easy to examine when there are faults owning to the unified air intake and exhaust and unified wiring;
3. Flexible combination and strong expansion capability can make any combination or expansion of the numbers of direction control valves that are connected.

Ordering code

Ordering code for manifold

100M 5F □

① ② ③

①Model	②Number of stations [Note1]	③Thread type
100M: 100 Series Manifold 200M: 200 Series Manifold 300M: 300 Series Manifold 400M: 400 Series Manifold	1F: 1 Station 2F: 2 Station 3F: 3 Station …… 16F: 16 Station	Blank: PT G: G T: NPT

[Note1] 100M, 200M series have a maximum of 16 stations ; 300M series have a maximum of 12 stations; 400M series have a maximum of 8 stations.

Ordering code for blank plate

P-100M - R2

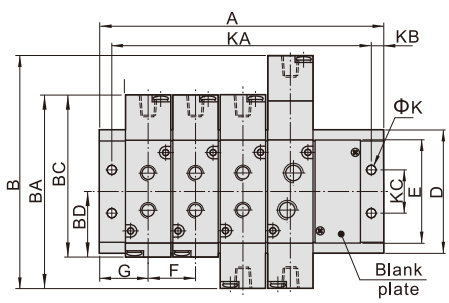
① ② ③

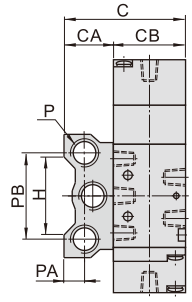
①Kits code	②Model	③Code
P: Kits	100M: 100 Series Manifold 200M: 200 Series Manifold 300M: 300 Series Manifold 400M: 400 Series Manifold	R2: Blank plate for manifold

[Note] 1.Ordering code contains manifold and blank plate.
2. Manifold kits contains manifold, seal and screw.
3. Blank plate kits contains blank plate, and screw.

Dimension

With 4A air valve





Model\Item	B	BA	BC	BD	C	CA	CB	D	E	F	G	H	K	KB	KC	P	PA	PB
100M□F	96	81	68.7	28	49	22	27	57.5	43	19	19	36	4.5	5	20	1/4"	10	40
200M□F	111	92	77.7	31.7	59	24	35	60	52	23	22	38	4.5	5	21	1/4"	10	42
300M□F	130	111	95.5	40	68	28	40	75	64	28	26	54	4.5	5	26	3/8"	13.5	53
400M□F	163	142	128	57	83	33	50	100	94	35	30.5	75	5.5	6	32	1/2"	15	68

Model\Item	A															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
100M□F	38	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323
200M□F	44	67	90	113	136	159	182	205	228	251	274	297	320	343	366	389
300M□F	52	80	108	136	164	192	220	248	276	304	332	360	-	-	-	-
400M□F	61	96	131	166	201	236	271	306	-	-	-	-	-	-	-	-

Model\Item	KA															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
100M□F	28	47	66	85	104	123	142	161	180	199	218	237	256	275	294	313
200M□F	34	57	80	103	126	149	172	195	218	241	264	287	310	333	356	379
300M□F	42	70	98	126	154	182	210	238	266	294	322	350	-	-	-	-
400M□F	49	84	119	154	189	224	259	294	-	-	-	-	-	-	-	-

ISO Standard air valve(5/2 way, 5/3 way)

EAV200, 300, 400, 600 Series

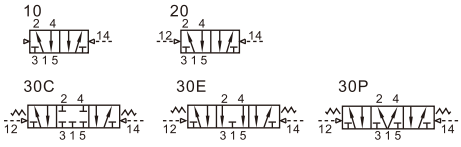
Specification

Model		200 Series	300 Series	400 Series	600 Series
Orifice size(Cv) mm²		32(Cv=1.8)	42(Cv=2.32)	69(Cv=3.85)	108(Cv=6.0)
Fluid		Air(to be filtered by 40μm filter element)			
Acting		Extend pilot			
Lubrication [Note1]		Not required			
Operating Pressure	Single air control	0.2~1.0MPa(2~10bar)(29~145psi)			
	Double air control	-0.09~1.0MPa(-0.9~10bar)(-13~145psi)			
Control pressure(extermal pilot)		0.2~1.0MPa(2~10bar)(29~145psi)			
Proof pressure		1.5MPa(15bar)(215psi)			
Temperature		-20~70℃			
Port size(manifold) [Note2]		1/4"	3/8"	1/2"	3/4"
Port size(end plate)		3/8"	1/2"	3/4"	1"
Installation size		ISO 5599-1 standard			

[Note1] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.

[Note2] PT thread and G thread are available.

Symbol



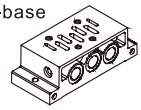
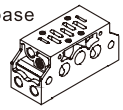
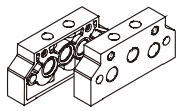
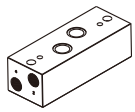
Product feature

1. Succinct appearance and compact conformation.
2. The installation size conforms to ISO 5599/1 standard.
3. Because of the special seals, the feature are large flow rate and long lifetime.
4. External pilot, can be used without electrical.
5. You need install the valve together with the sub-base. There are individual and manifold sub-base.
6. There are various connection and installation method for manifold. It is easy to use.
7. The manifold of 200\300\400 series have the function of exhaust throttling, so no need to connect another throttle valve.
8. Because of be used external pilot, the working pressure of double air control valve can be zero or vacuum.

Ordering code

Ordering code of manifold ESV 20 1M □ □ □

① ② ③ ④ ⑤ ⑥

①Model	②Code	③Manifold type	④Thread type	⑤External pilot port type	⑥Port position type
ESV: ISO standard solenoid valve	20: 200 Series 30: 300 Series 40: 400 Series 60: 600 Series	1M: Individual sub-base 	Blank: PT G: G	Blank: Individual pilot port	Blank: Side port B: Bottom Port
		2M: Manifold sub-base 		Blank: Individual pilot port W: Centralized pilot port	Blank: Left side port R: Right side port B: Bottom Port
		3M: End plate kit 		No this code	No this code
	60: 600 Series	4M: Side port block 		No this code	Blank: Left side port R: Right side port

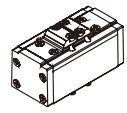
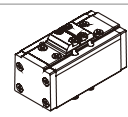
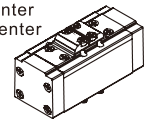
Note:1. For the same model, the port size of the end-plate is bigger than the sub-base (For example ESV202M, the port size of sub-base is 1/4″, and the port size of end plate is 3/8").

2. Only individual pilot port is available for individual sub-base.
3. The manifold sub-base must be used with end plate kit, individual pilot port and centralized pilot port can be mixed.
4. 600 series individual sub-base only has side port, 600 series manifold sub-base only has individual pilot port and bottom port.
5. Only 600 series have side port block.

EAV200, 300, 400, 600 Series

Ordering code

Ordering code of valve EAV 2 10

①Model	②Code	③Valve type
EAV: ISO standard air valve	2: 200 Series 3: 300 Series 4: 400 Series 6: 600 Series	10: Single air control 5/2 way 
		20: Double air control 5/2 way 
		30C: Double air control 5/3 way closed center 30E: Double air control 5/3 way exhaust center 30P: Double air control 5/3 way pressure center 

Ordering code of accessories P-ESV200M - R2

①Accessories code	②Code	③Accessories type
P: Unit accessories	ESV200M: 200 Series manifold ESV300M: 300 Series manifold ESV400M: 400 Series manifold ESV600M: 600 Series manifold	R2: Blank plate

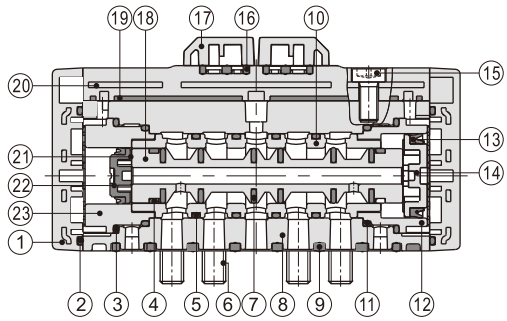
Ordering code of cover plate P-EAV210 - R1

①Accessories code	②Adapt production	③Accessories type
P:Unit accessories		R1: Cover plate  With screw

Note: 600 series don't have cover plate.

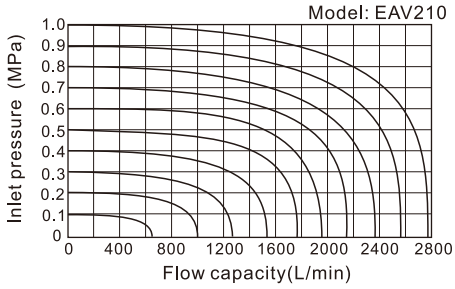
Inner structure

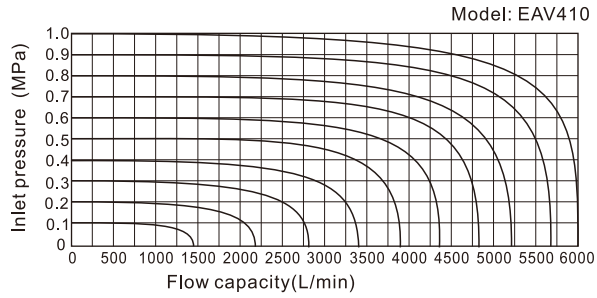
EAV210

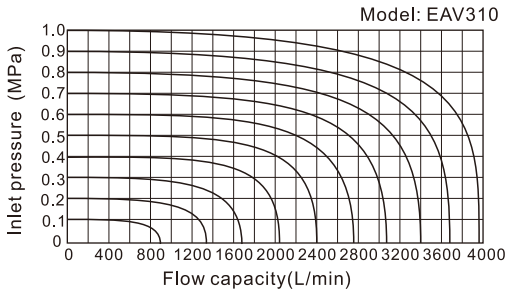


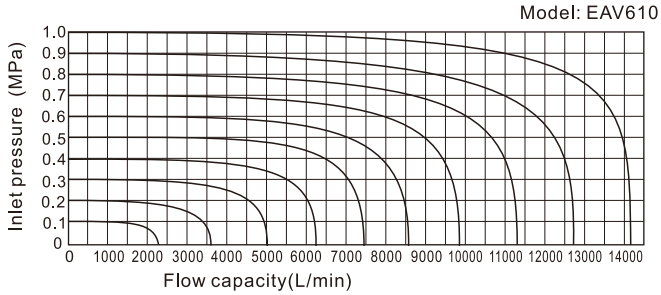
NO.	Item	NO.	Item	NO.	Item
1	Bottom cover	9	Gasket	17	Cover plate
2	O-ring	10	Spacer	18	Spool
3	O-ring	11	O-ring	19	Upper cover gasket
4	Wear ring	12	Big piston sheath	20	Upper cover
5	O-ring	13	Big piston O-ring	21	Small piston
6	Screw	14	Big piston	22	Small piston O-ring
7	O-ring	15	Screw	23	Small piston sheath
8	Body	16	Gasket		

Flow chart







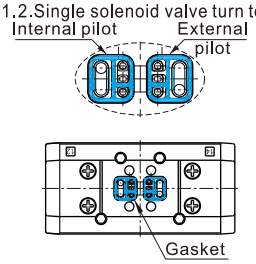


Installation and operation(For 200, 300, 400 series)

1.How to turn ESV series solenoid valve to EAV series air control valve

1.1.To turn ESV series solenoid valve (except 600 series) to EAV seires air control valve, you must order cover plate first(the ordering code is P-EAV210-R1),then replace the coil unit and the pilot body with cover plate. the different gasket mounting can create different EAV air valve type as shown below.

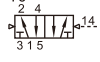
1.2.Single solenoid valve turn to single air control valve:



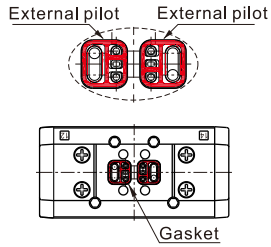
A)Unload the cover plate of "12" end, mounted the gasket as internal pilot, then mounted the cover plate and screw.

B)Unload the pilot valve of "14" end, mounted the gasket as external pilot, and replace the pilot valve with the cover plate, then mounted screw.

C)After above two steps finished, single solenoid valve has been turned to single air control valve.

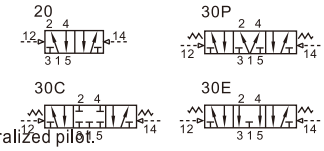


1.3、 Double solenoid valve turn to double air control valve:



A) Unload the two pilot valves of "12". "14" ends, mounted the two gaskets as external pilot and replace the pilot valve with the cover plate, then mounted screw.

B) After above step finished, double solenoid valve has been turned to single air control valve.



2. The classification and selection of the parallel manifold sub-base

2.1. According to the direction of pilot air supply, we can divide the sub-base manifold into two types: the individual pilot and centralized pilot.

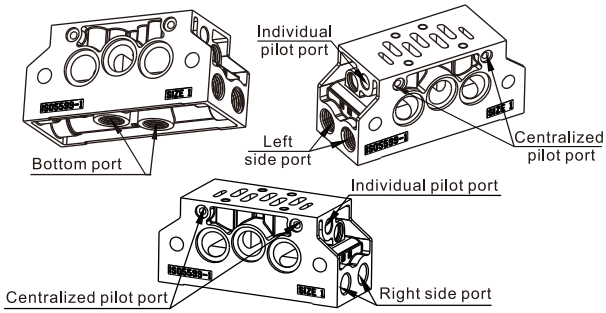
2.2. If you select the individual pilot, the fitting must be connected to the individual pilot ports.
If you select the centralized pilot type, the fitting must be connected to the centralized pilot ports.

2.3. If you use parallel manifold, all of the manifold must be used the same pilot type: such as, all of them are the individual pilot type, or all of them are the centralized pilot type.

*Note: Only when you use the external pilot type, you can select the individual pilot or centralized pilot.
When you use the internal pilot type, the pilot ports on the manifold are ineffective.

3.The position and specification of the parallel manifold sub-base:

The diagram of manifold sub-base



Port status of different manifold sub-base					
Port name / Ordering code	Left side port	Right side port	Bottom port	Centralized pilot port	Individual pilot port
ESV202MG	Use	Unused	Unused	Unused	Use
ESV202MGR	Unused	Use	Unused	Unused	Use
ESV202MGB	Unused	Unused	Use	Unused	Use
ESV202MGW	Use	Unused	Unused	Use	Unused
ESV202MGWR	Unused	Use	Unused	Use	Unused
ESV202MGWB	Unused	Unused	Use	Use	Unused

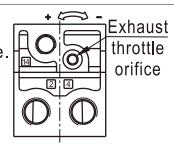
Note: Please seal the bottom port by plug, when it is unused.
The above list is an example of 200M series' ordering code, the other series is follow the same pattern, only need to change the series code.

4 .Exhaust throttle function

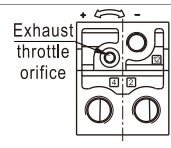
4.1. The manifold has exhaust throttle function, the below picture shows the position of the exhaust throttle orifices on each side.

4.2. Use allen key to adjust the screw.

4.3. Rotate the screw clockwise to reduce the exhaust orifice, rotate the screw counter-clockwise to enlarge the exhaust orifice.



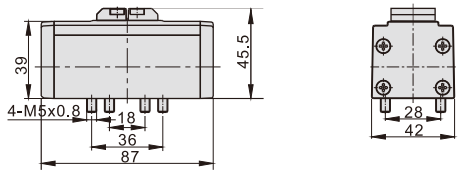
Manifold right side



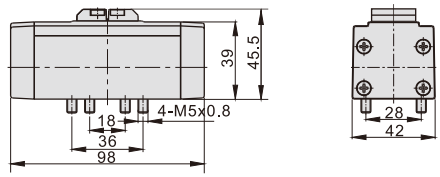
Manifold left side

Dimensions of valves

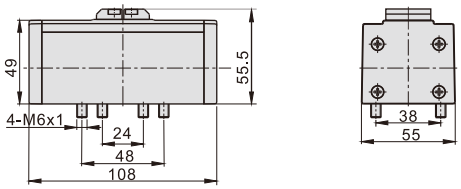
EAV210\EAV220



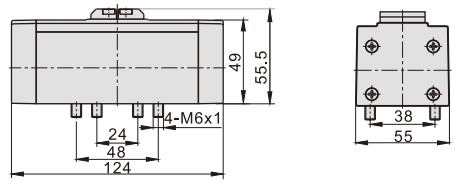
EAV230



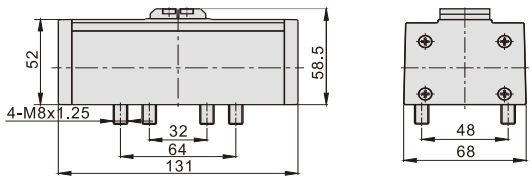
EAV310\EAV320



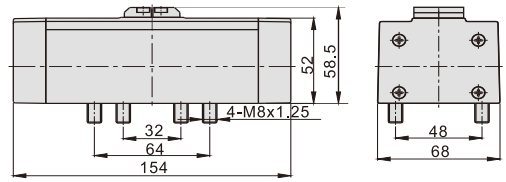
EAV330



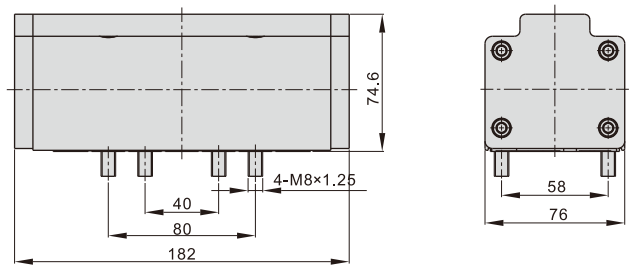
EAV410\EAV420



EAV430



EAV610\EAV620\EAV630

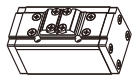
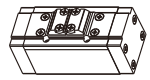
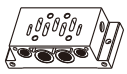
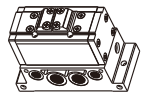
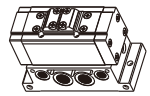
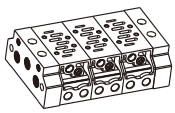
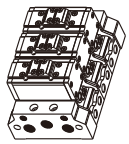
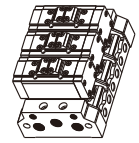
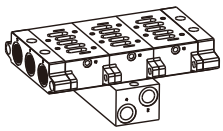
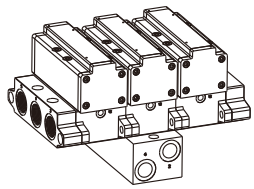
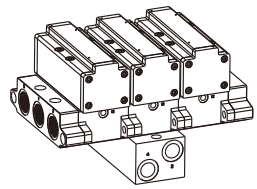


Dimensions of manifold

The dimensions of manifold are the same as ESV series's, please refer to ESV series's dimensions for details.

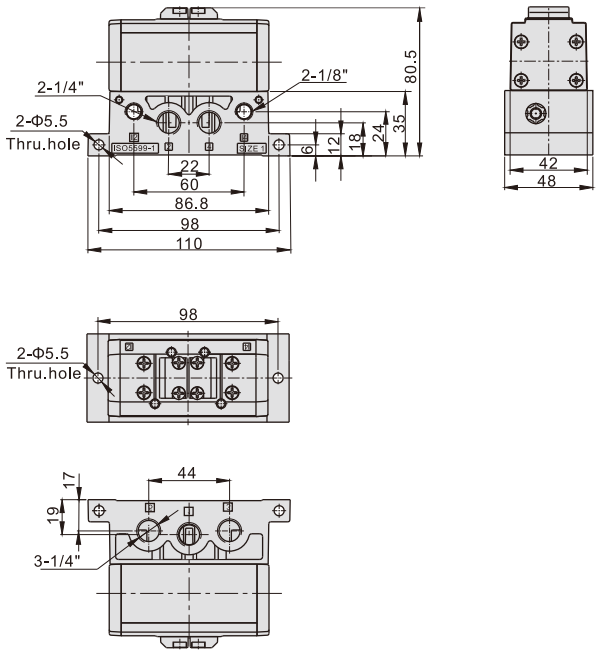
Valves used with manifolds and their dimensions

1.EAV series valve must be used with the manifolds, the details are below:

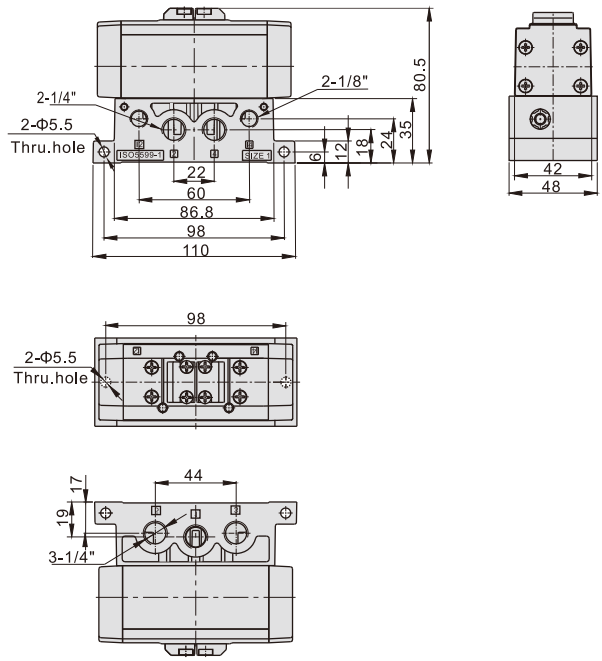
Manifolds	Valves	
	EAV210\EAV220 EAV310\EAV320 EAV410\EAV420 EAV610\EAV620 	EAV230 EAV330 EAV430 EAV630 
ESV201M	EAV210\EAV220+ESV201M	EAV230+ESV201M
ESV301M	EAV310\EAV320+ESV301M	EAV330+ESV301M
ESV401M	EAV410\EAV420+ESV401M	EAV430+ESV401M
ESV601M	EAV610\EAV620+ESV601M	EAV630+ESV601M
		
ESV202M+ESV203M	EAV210\EAV220+ESV202M+ESV203M	EAV230+ESV202M+ESV203M
ESV302M+ESV303M	EAV310\EAV320+ESV302M+ESV303M	EAV330+ESV302M+ESV303M
ESV402M+ESV403M	EAV410\EAV420+ESV402M+ESV403M	EAV430+ESV402M+ESV403M
		
ESV602M+ESV603M+ESV604M	EAV610\EAV620+ESV602M+ESV603M+ESV604M	EAV630+ESV602M+ESV603M+ESV604M
		

2.The dimensions of valve with manifolds

EAV210/EAV220+ESV201M

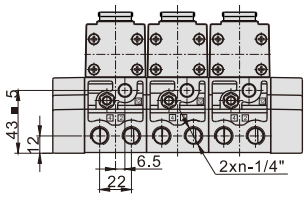


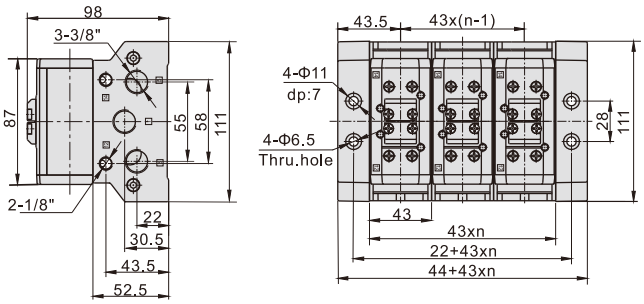
EAV230+ESV201M



EAV210/EAV220+ESV202M+ESV203M

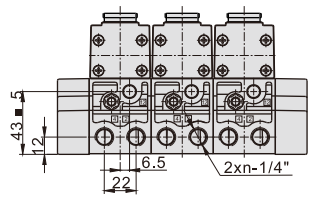
Note: “n” means the number of stations.

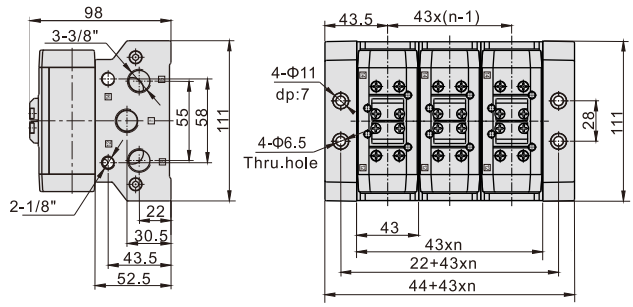




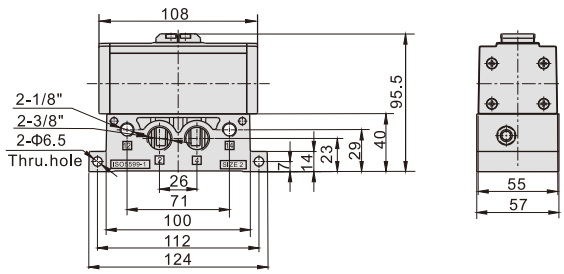
EAV230+ESV202M+ESV203M

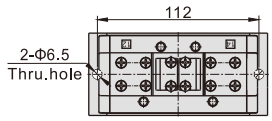
Note: “n” means the number of stations.

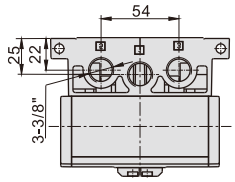




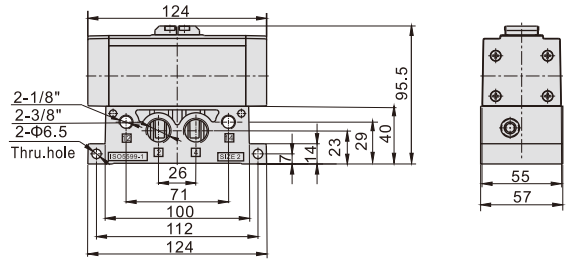
EAV310/EAV320+ESV301M

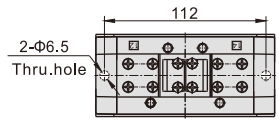


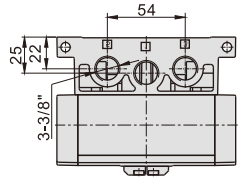




EAV330+ESV301M

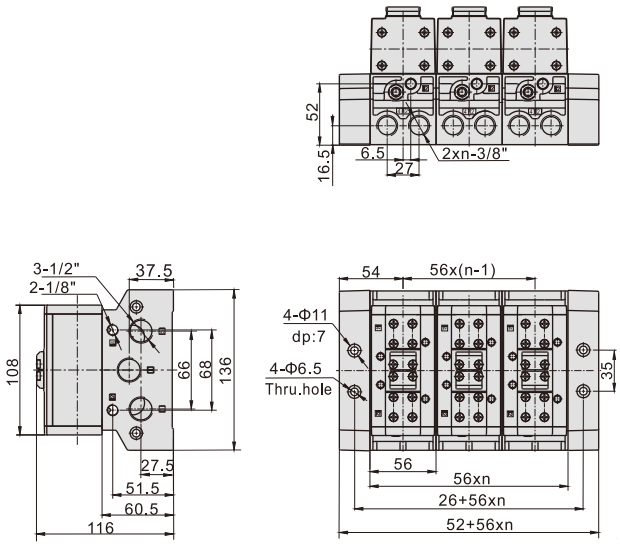






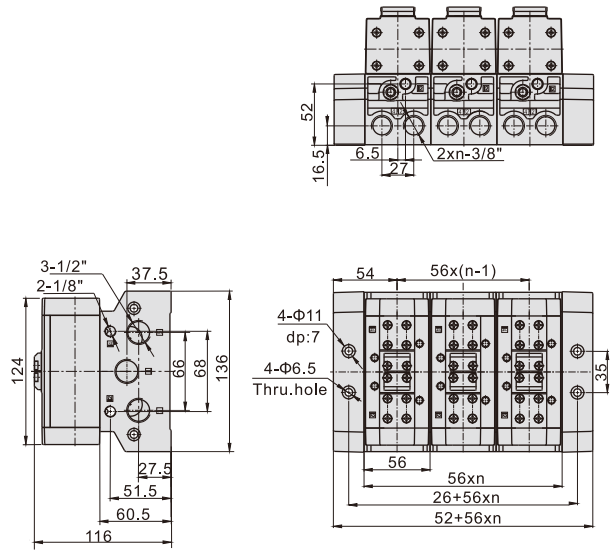
EAV310/EAV320+ESV302M+ESV303M

Note: “n” means the number of stations.

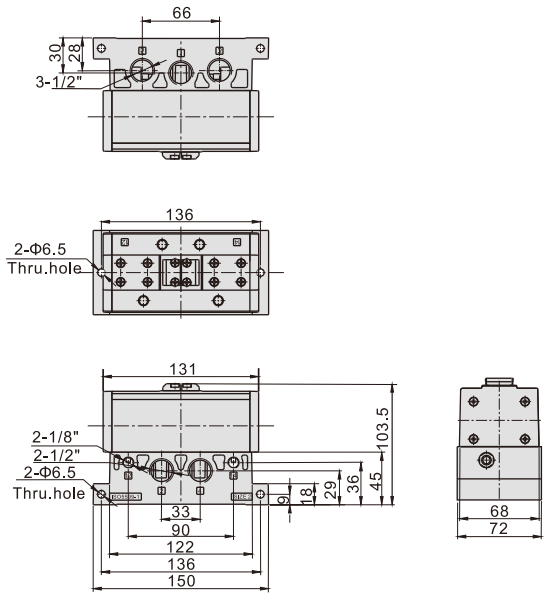


EAV330+ESV302M+ESV303M

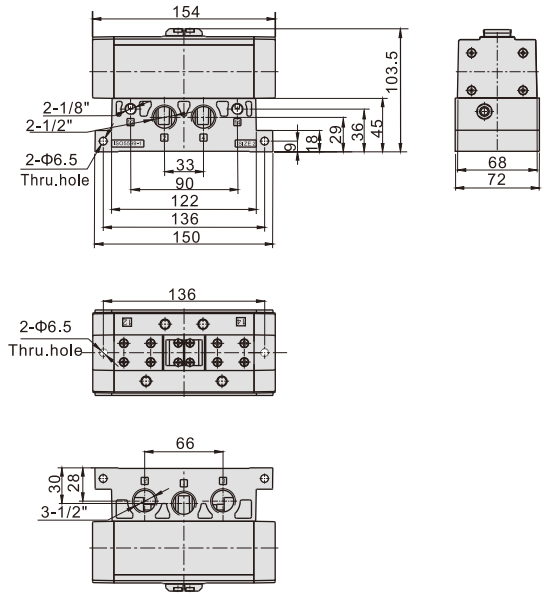
Note: “n” means the number of stations.



EAV410/EAV420+ESV401M

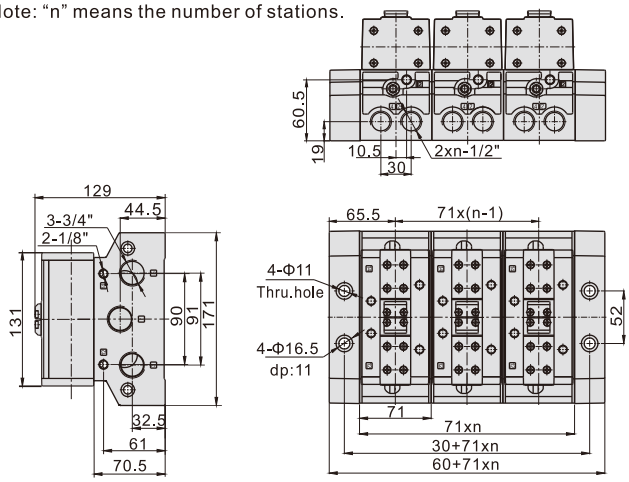


EAV430+ESV401M



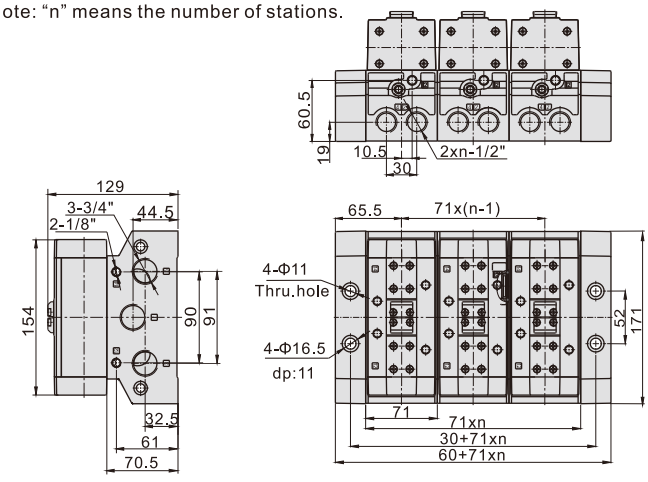
EAV410/EAV420+ESV402M+ESV403M

Note: “n” means the number of stations.

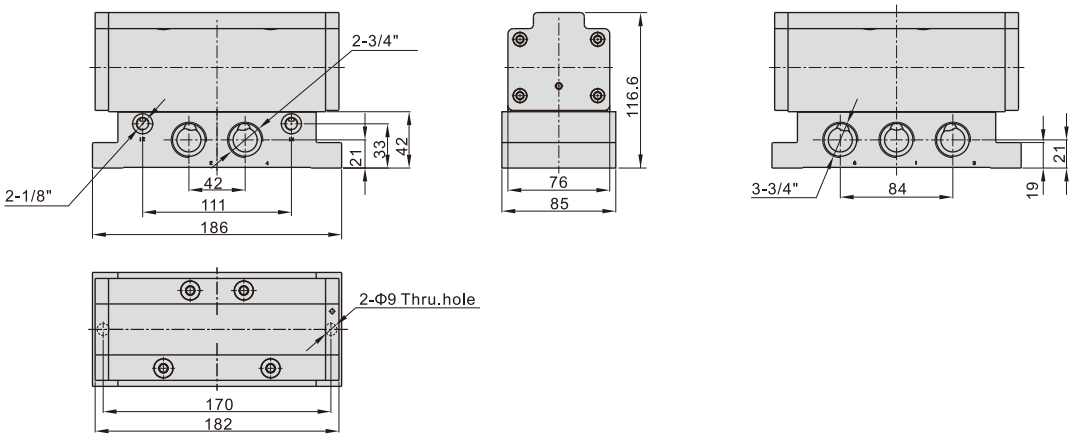


EAV430+ESV402M+ESV403M

Note: “n” means the number of stations.

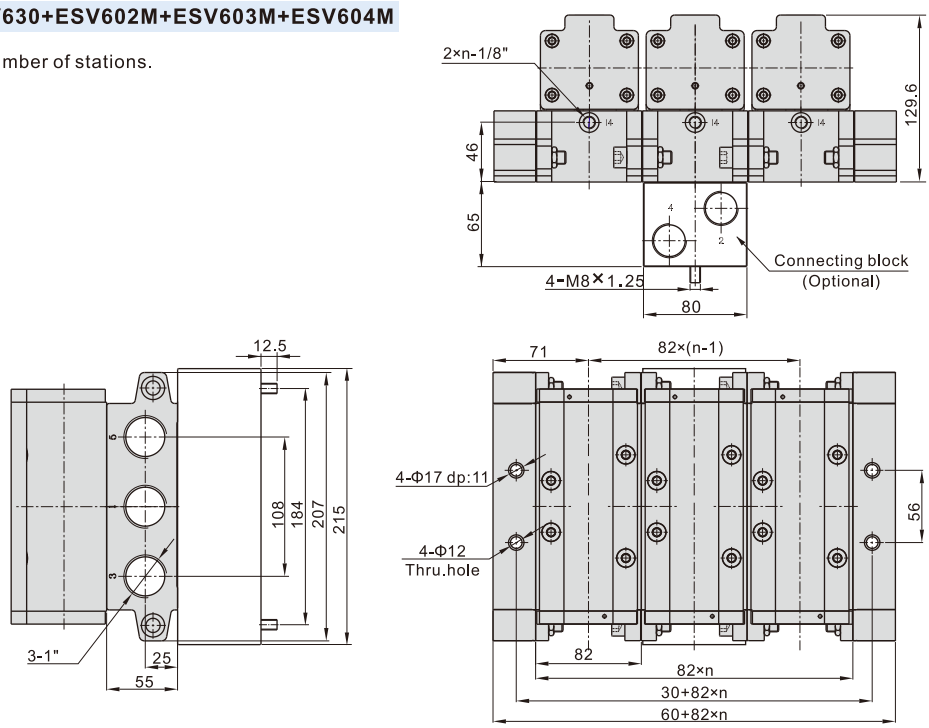


EAV610/EAV620/EAV630+ESV601M



EAV610/EAV620/EAV630+ESV602M+ESV603M+ESV604M

Note: “n” means the number of stations.



Compendium of Manual, mechanical and other valve

P134	Product feature	Photo	136	Product feature	Photo
4H Series Hand lever valve	•Sliding column structure •Manual operation •Panel-mounting •5/2way、5/3 way		3L Series Push-pull valve	•Sliding column structure •Manual operation •Panel-mounting •3/2 way	
P137	Product feature	Photo	**P138**	Product feature	Photo
4L Series Push-pull valve	•Sliding column structure •Manual operation •Panel-mounting •5/2 way		HSV Series Hand slide valve	•There are several ways of internal and external thread connection •Hand slide operation •3/2 way	
P139	Product feature	Photo	**P141**	Product feature	Photo
4HV Series Hand lever valve	•Body installation and Panel installation •Manual operation •With lock and without lock are optional •4/2 way、4/3 way		S3 Series Control valve	•Shut-off structure •Manual control or mechanical control •Several control set are optional •Multi-mounting •3/2 way	
P144	Product feature	Photo	**P147**	Product feature	Photo
M3 Series Control valve	•Sliding column structure •Manual control or mechanical control •Several control set are optional •Multi-mounting •3/2 way		M5 Series Control valve	•Sliding column structure •Manual control or mechanical control •Several control set are optional •Multi-mounting •5/2 way	
P150	Product feature	Photo	**P155**	Product feature	Photo
CM3 Series Control valve	•Shut-off structure •Manual control or mechanical control •Several control set are optional •Multi-mounting •3/2 way、5/3 way		ZM3 Series Control valve	•Sliding column structure •Mechanical control •Several control set are optional •Multi-mounting •3/2 way	
P157	Product feature	Photo	**P159**	Product feature	Photo
3F Series 3FM Series 4F Series Foot pedal valve	•3F,3FM:Direct acting(NC) •4F: Direct acting •Foot pedal control •With lock and without lock are optional •3F、3FM: 3/2 way •4F: 5/2way		ASC Series Flow control valve	•Allows air to exhaust and cut off air flow •Multi-mounting •100、200、300 Series	
P160	Product feature	Photo	**P161**	Product feature	Photo
NRV Series Non-return valve	•Large valid area of section •Compact structure •Excellence hermetical capability		PCV Series Pilot non-return valve	•Fitting joint and thread are optional for pilot port	

Installation and Application

1. Before installing, be sure the valve hasn't been damaged via transportation.
2. It's suggested to use the medium lubricated by 40μm filter element. Be aware of the flow direction and port size.
3. Please notice whether the installation condition accords with technical requirements (such as “working pressure” and “scope of application temperature”), then the equipment can be installed and used.
4. Take measure to avoid vibration and frozen.
5. Before using the fittings and tubes make sure they are clean. When connecting to fittings, be sure the PTFE Thread seal tape is used correctly.
6. To keep the dust away, Never forget to install dirt-proof boot in air intake and outlet during dismounting.

Hand lever valve (5/2 way, 5/3 way)

4H Series

Specification

Model	210-06	230-06	210-08	230-08	310-08	330-08	310-10	330-10
Fluid	Air (to be filtered by 40 μm filter element)							
Operating	Manual control direct acting type)							
Port size[Note1]	In=Out =Exhaust=1/8"		In=Out=1/4" ; Exhaust=1/8"		In=Out =Exhaust=1/4"		In=Out=3/8" ; Exhaust=1/4"	
Orifice size(Cv) [Note3]	4H210-08:17.0mm²(Cv=1.0) 4H230C-08:13.6mm²(Cv=0.8)				4H310-10:28.0mm²(Cv=1.65) 4H330C-10:21.3mm²(Cv=1.25)			
Valve type	5/2 way	5/3 way	5/2 way	5/3 way	5/2 way	5/3 way	5/2 way	5/3 way
Lubrication [Note2]	Not required							
Pressure range	0~1.0MPa(0~145psi)							
Proof pressure	1.5MPa(215psi)							
Temperature	-20~70℃							
Material of body	Aluminum alloy							
Operating angle	±15°	±8.5°	±15°	±8.5°	±18°	±10°	±18°	±10°

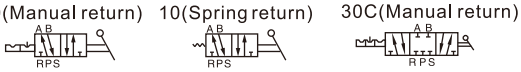
[Note1] PT thread, G thread and NPT thread are available;

[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. It is suggested to use ISO VG32 lubricant or the oil with the same grade.

[Note3] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol

10(Manual return) 10(Spring return) 30C(Manual return)



30C(Spring return) 30E(Manual return) 30E(Spring return)

Product feature

1. Manual operation, smooth actuation, and exact and reliable orientation.
2. Sliding column structure has good tightness and light weight and is easy to install and dismount.
3. Internal hole adopts special processing technology which has little attrition friction, long service life.
4. No need to add oil for lubrication.
5. Panel-mounting makes it convenient to install and apply.

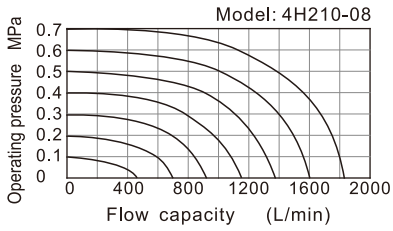
Ordering code

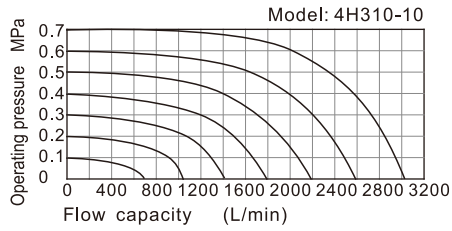
4H 2 30C 08 □

① ② ③ ④ ⑤

①Model	②Code	③Valve type	④Port size	⑤Thread type
4H: Manual return 4HA: Spring return	2: 200 Series	10: 5/2 Way 30C: 5/3 Way closed center 30E: 5/3 Way exhaust center	06: 1/8" 08: 1/4"	Blank: PT G: G T: NPT
	3: 300 Series		08: 1/4" 10: 3/8"	

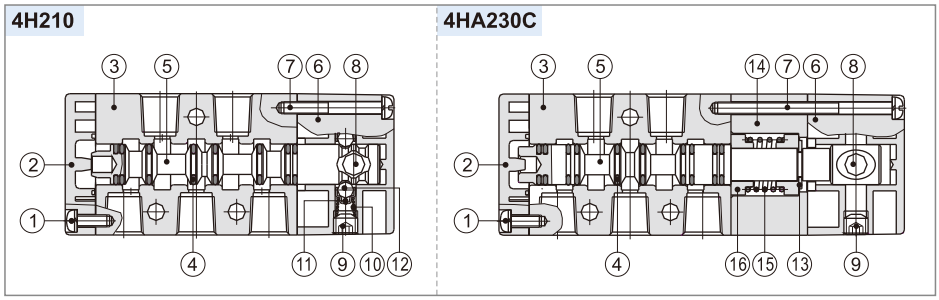
Flow chart





The data in flow rate chart are obtained from AirTAC lab.

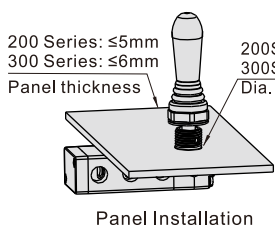
Inner structure



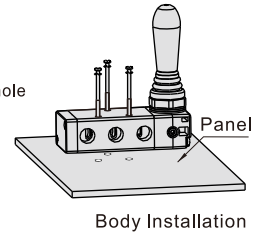
No.	Item	No.	Item
1	Round head screw	9	Stop screw
2	Bottom cover	10	Spring
3	Body	11	Steel ball jacket
4	O-ring	12	Steel ball
5	Spool	13	E clip
6	Top cover	14	Side cover
7	Round head cover	15	Spring
8	Axle	16	Spring holder

Installation

1. 5/3 way manual return hand lever valve is positioned by steel ball, which is convenient to switch. Please apply the proper force to avoid the position mismatch and misoperation.
2. When installed by panel, disassemble the gasket according to the practical requirement.
3. Below is the installation method for reference.
   Note: Please give your attention on the panel thickness and hole dimension when installed by panel.



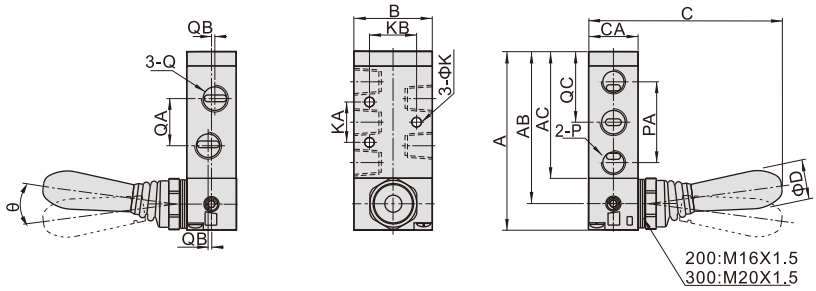
Panel Installation



Body Installation

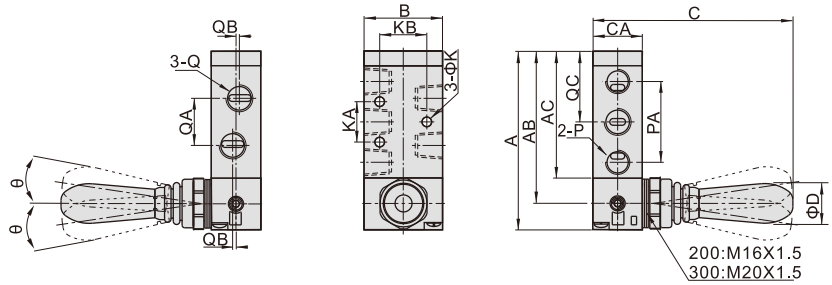
Dimensions

4H210\310、4HA210\310



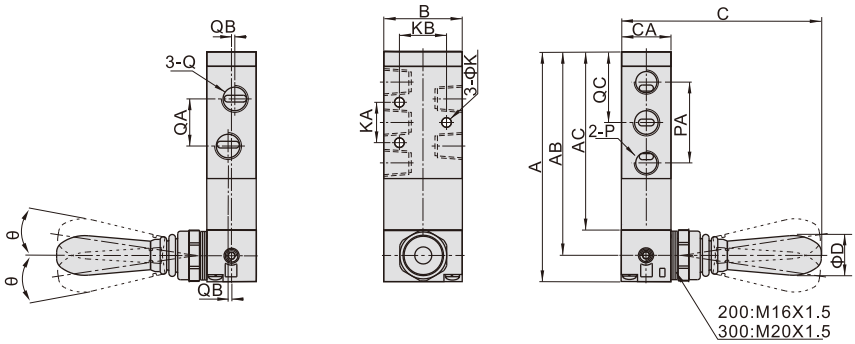
Model\Item	A	AB	AC	B	C	CA	D	K	KA	KB	P	PA	Q	QA	QB	QC	Θ
4H210-06 4HA210-06	81.5	69.5	57.5	35	90	22	18	4.3	20	23.5	1/8"	36	1/8"	18	-	32.5	15
4H210-08 4HA210-08	81.5	69.5	57.5	35	90	22	18	4.3	20	23.5	1/8"	36	1/4"	21	1.5	32.5	15
4H310-08 4HA310-08	101	87	73	40	93.5	27	18	4.3	24	27.5	1/4"	45	1/4"	22	-	40.5	18
4H310-10 4HA310-10	101	87	73	40	93.5	27	18	4.3	24	27.5	1/4"	45	3/8"	24	2	40.5	18

4H230、4H330



Model\Item	A	AB	AC	B	C	CA	D	K	KA	KB	P	PA	Q	QA	QB	QC	Θ
4H230C-06 4H230E-06	81.5	69.5	57.5	35	90.5	22	18	4.3	20	23.5	1/8"	36	1/8"	18	-	32.5	8.5
4H230C-08 4H230E-08	81.5	69.5	57.5	35	90.5	22	18	4.3	20	23.5	1/8"	36	1/4"	21	1.5	32.5	8.5
4H330C-08 4H330E-08	101	87	73	40	94	27	18	4.3	24	27.5	1/4"	45	1/4"	22	-	40.5	10
4H330C-10 4H330E-10	101	87	73	40	94	27	18	4.3	24	27.5	1/4"	45	3/8"	24	2	40.5	10

4HA230、4HA330



Model\Item	A	AB	AC	B	C	CA	D	K	KA	KB	P	PA	Q	QA	QB	QC	Θ
4HA230C-06 4HA230E-06	100.5	88.5	76.5	35	90.5	22	18	4.3	20	23.5	1/8"	36	1/8"	18	-	32.5	8.5
4HA230C-08 4HA230E-08	100.5	88.5	76.5	35	90.5	22	18	4.3	20	23.5	1/8"	36	1/4"	21	1.5	32.5	8.5
4HA330C-08 4HA330E-08	120	106	92	40	94	27	18	4.3	24	27.5	1/4"	45	1/4"	22	-	40.5	10
4HA330C-10 4HA330E-10	120	106	92	40	94	27	18	4.3	24	27.5	1/4"	45	3/8"	24	2	40.5	10

Push-pull valve(3/2way)

3L Series

Specification

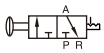
Model	3L110-06	3L210-06	3L210-08	3L310-08	3L310-10
Fluid	Air (to be filtered by 40 μm filter element)				
Operating	Manual control direct acting type)				
Port size[Note1]	1/8"		1/4"		3/8"
Orifice size(Cv) [Note3]	10.2mm² (Cv=0.6)	3L210-08:17.0mm² (Cv=1.0)		3L310-10:28.0mm² (Cv=1.65)	
Valve type	3/2 Way				
Lubrication [Note2]	Not required				
Pressure range	0~1.0MPa(0~145psi)				
Proof pressure	1.5MPa(215psi)				
Temperature	-20~70℃				
Material of body	Aluminum alloy				

[Note1] PT thread, G thread and NPT thread are available;

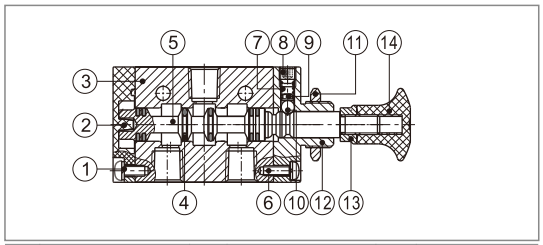
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. It is suggested to use ISO VG32 lubricant or the oil with the same grade.

[Note3] Equivalent orifice S and Cv are all calculated from the flow rate data.

Symbol



Inner structure



No.	Item	No.	Item	No.	Item
1	Round head screw	6	Round head screw	11	Hexagon nut
2	Bottom cover	7	Spring	12	Top cover
3	Body	8	Stop screw	13	Safety nut
4	O-ring	9	Spring holder	14	Hand grip
5	Spool	10	Steel ball		

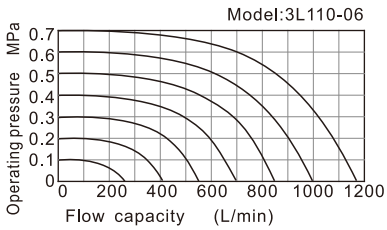
Ordering code

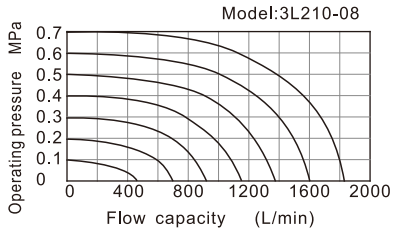
3L 2 10 08 □

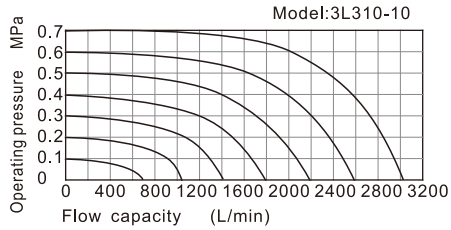
1 2 3 4 5

①Model	②Code	③Valve type	④Port size	⑤Thread type
3L: 3 port 2 position push-pull valve	1: 100 Series	10: 2 position	06: 1/8"	Blank: PT G: G T: NPT
	2: 200 Series		06: 1/8" 08: 1/4"	
	3: 300 Series		08: 1/4" 10: 3/8"	

Flow chart

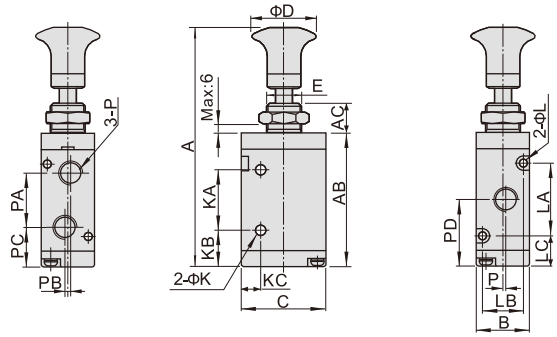






The data in flow rate chart are obtained from AirTAC lab.

Dimensions



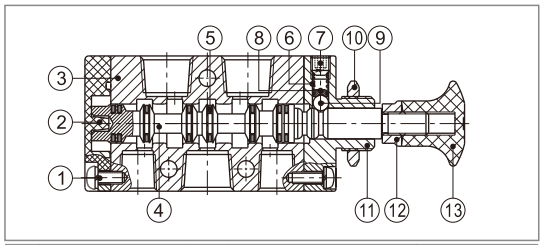
Item\Model	3L11006	3L21006	3L21008	3L31008	3L31010
A	87	98	98	106.5	106.5
AB	47.8	57.8	57.8	66.5	66.5
AC	10	10	10	10	10
B	18	22	22	27	27
C	27	35	35	40	40
D	25	25	25	25	25
E	M12×0.75	M14×1.0	M14×1.0	M16×1.0	M16×1.0
K	3.1	4.3	4.3	4.3	4.3
KA	21	25	25	30	30
KB	13	16	16	18	18
KC	7.7	8	8	10	10
L	3.3	3.3	3.3	4.3	4.3
LA	19	30	30	35	35
LB	13	17	17	20	20
LC	14	13.5	13.5	15.5	15.5
P	1/8"	1/8"	1/4"	1/4"	3/8"
PA	16	22.5	22.5	24	24
PB	2	0	0	0	0
PC	15.5	17.5	17.5	21	21
PD	24.5	28.5	28.5	33	33
PE	1	0	1.5	0	2

Push-pull valve(5/2way)

4L Series

Symbol

Inner structure



No.	Item	No.	Item	No.	Item
1	Round head screw	6	Spring	11	Top cover
2	Bottom cover	7	Stop screw	12	Safety nut
3	Body	8	Spring holder	13	Hand grip
4	Spool	9	Steel ball		
5	O-ring	10	Hexagon nut		

Specification

Model	4L110-06	4L210-06	4L210-08	4L310-08	4L310-10
Fluid	Air (to be filtered by 40 μm filter element)				
Operating	Manual control direct acting type)				
Port size[Note1]	1/8"		1/4"		3/8"
Orifice size(Cv) [Note3]	10.2mm² (Cv=0.6)	4L210-08:17.0mm² (Cv=1.0)		4L310-10:28.0mm² (Cv=1.65)	
Valve type	5/2 Way				
Lubrication [Note2]	Not required				
Pressure range	0~1.0MPa(0~145psi)				
Proof pressure	1.5MPa(215psi)				
Temperature	-20~70℃				
Material of body	Aluminum alloy				

[Note1] PT thread, G thread and NPT thread are available;

[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. It is suggested to use ISO VG32 lubricant or the oil with the same grade.

[Note3] Equivalent orifice S and Cv are all calculated from the flow rate data.

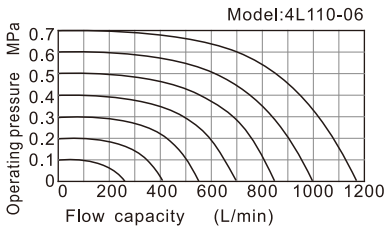
Ordering code

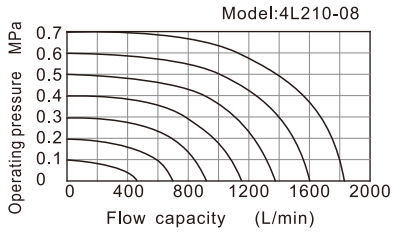
4L 2 10 08 □

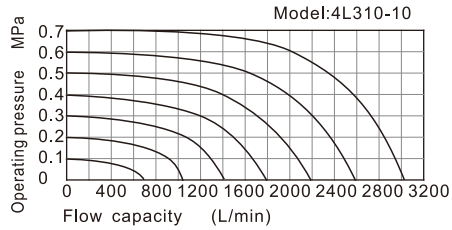
1 2 3 4 5

①Model	②Code	③Valve type	④Port size	⑤Thread type
4L: 5 port 2 position push-pull valve	1: 100 Series	10: 2 position	06: 1/8"	Blank: PT G: G T: NPT
	2: 200 Series		06: 1/8" 08: 1/4"	
	3: 300 Series		08: 1/4" 10: 3/8"	

Flow chart

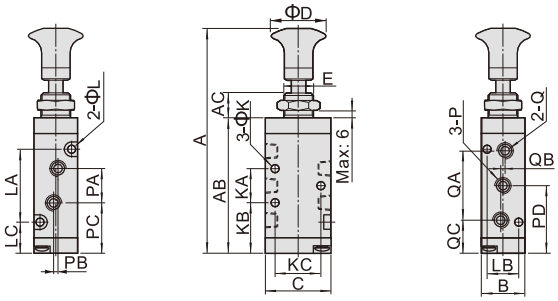






The data in flow rate chart are obtained from AirTAC lab.

Dimensions



Item\Model	4L11006	4L21006	4L21008	4L31008	4L31010
A	98	106	106	121.5	121.5
AB	58.8	65.8	65.8	81	81
AC	10	10	10	10	10
B	18	22	22	27	27
C	27	35	35	40	40
D	25	25	25	25	25
E	M12×0.75	M14×1.0	M14×1.0	M16×1.0	M16×1.0
K	3.3	4.3	4.3	4.3	4.3
KA	14	20	20	24	24
KB	22	22.5	22.5	28.5	28.5
KC	19	23.5	23.5	27.5	27.5
L	3.3	3.3	3.3	4.3	4.3
LA	30	38	38	50	50
LB	13	17	17	20	20
LC	14	13.5	13.5	15.5	15.5
P	1/8"	1/8"	1/4"	1/4"	3/8"
PA	16	18	21	22	24
PB	3	0	3	0	4
PC	21	23.5	22	29.5	28.5
PD	29	32.5	32.5	40.5	40.5
Q	1/8"	1/8"	1/8"	1/4"	1/4"
QA	28	36	36	45	45
QB	2	0	0	0	0
QC	15	14.5	14.5	18	18

Hand slide valve(3/2 way)

HSV Series

Specification

Model	HSV06	HSV08	HSV10	HSV15	HSV20	HSV25
Fluid	Air (to be filtered by 40 μm filter element)					
Operating	Manual control direct acting type					
Port size [Note1]	1/8"	1/4"	3/8"	1/2"	3/4"	1"
Orifice size	23.0mm² (Cv=1.28)	40.0mm² (Cv=2.20)	62.0mm² (Cv=3.50)	140.0mm² (Cv=7.80)	250.0mm² (Cv=13.80)	392.0mm² (Cv=21.78)
Valve type	3/2 Way					
Lubrication	Not required					
Pressure range	0~1.0MPa(0~145psi)					
Proof pressure	1.5MPa(215psi)					
Temperature	-20~70℃					
Material of body	Aluminum alloy					

[Note1] PT thread, G thread and NPT thread are available.

Symbol

Product feature

1. There are several ways of internal and external thread connection, suitable for the application in different pipeline systems.
2. The direction-change slides smoothly and has good hand feeling.
3. There is large effective circulating area.
4. The valve plug surface is treated with hard anodizing, and the surface of valve body is oxidized to keep the color for a long time.

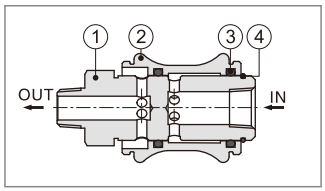
Ordering code

HSV 08 SS □

① ② ③ ④

①Model	②Port size	③Mounting type	④Thread type
HSV: Hand slide valve	06: 1/8" 08: 1/4" 10: 3/8" 15: 1/2" 20: 3/4" 25: 1"	Blank: Standard SS: Double male thread FF: Double female thread SF: Male and female thread	Blank: PT G: G T: NPT

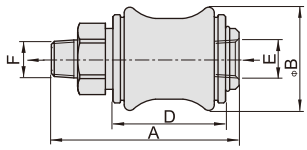
Inner structure



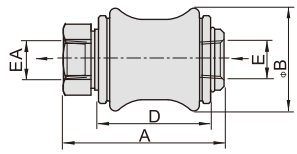
No.	Item
1	Valve plug
2	Body
3	O-ring
4	Clip

Dimensions

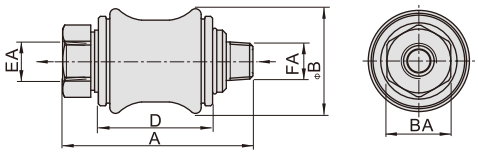
Standard



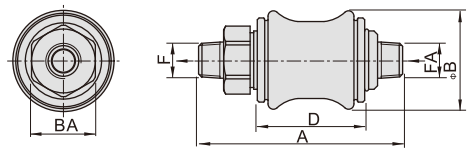
Double female thread(FF)



Male and female thread(SF)



Double male thread (SS)



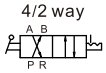
Model\Item	A				B	BA	D	E	EA	F	FA
	Standard	Double female thread	Male and female thread	Double male thread							
HSV06	50	43	50	57	27.5	17	30	1/8"	1/8"	1/8"	1/8"
HSV08	58	47	58	69	30	19	32.5	1/4"	1/4"	1/4"	1/4"
HSV10	68.5	55.5	68.5	81.5	35.5	22	39	3/8"	3/8"	3/8"	3/8"
HSV15	85.5	70.5	85.5	100.5	44	30	50	1/2"	1/2"	1/2"	1/2"
HSV20	96.5	79.5	96.5	113.5	53.5	36	58	3/4"	3/4"	3/4"	3/4"
HSV25	114.5	96.5	114.5	132.5	65.5	44	70	1"	1"	1"	1"

Hand lever valve (4/2 way, 4/3 way)

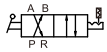
4HV, 4HVL Series

Symbol

4/2 way



4/2 way with lock



4/3 way closed center

4/3 way closed center type with lock

Specification

Model	4HV2□□ -06(L)	4HV2□□ -08(L)	4HV3□□ -08(L)	4HV3□□ -10(L)	4HV4□□ -15(L)	4HV4□□ -20(L)
Fluid	Air (to be filtered by 40 μm filter element)					
Operating	Manual control direct acting type					
Port size [Note1]	1/8"	1/4"	1/4"	3/8"	1/2"	3/4"
Orifice size	14.0mm² (Cv=0.78)	16.0mm² (Cv=0.89)	30.0mm² (Cv=1.67)	33.0mm² (Cv=1.83)	88.0mm² (Cv=4.89)	95.0mm² (Cv=5.27)
Valve type	4/2 Way、4/3 Way					
Lubrication	Not required					
Pressure range	0~1.0MPa(0~145psi)					
Proof pressure	1.5MPa(215psi)					
Temperature	-20~70℃					
Operating angle	90°(4/3 Way: 45°)					

[Note1] PT thread, G thread and NPT thread are available.

Product feature

1. The direction-change turns lightly with good hand feeling and exact orientation.
2. Large effective circulating area leads to little pressure loss.
3. Panel and body installation are optional. The panel installation can be attached with installing nut.

Ordering code

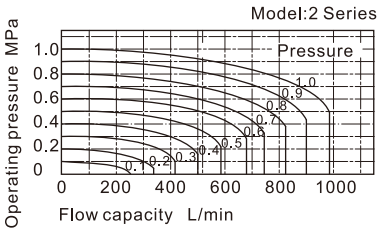
4HV 2 30 06 S L □

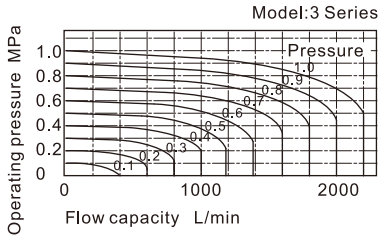
① ② ③ ④ ⑤ ⑥ ⑦

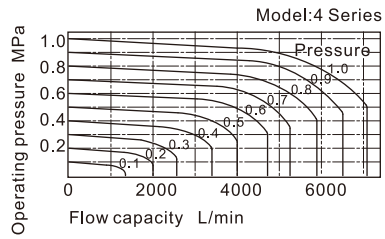
①Model	②Code	③Valve type	④Port size	⑤Installation	⑥Note	⑦Thread type
4HV: Hand lever valve	2: 2 Series	10: 4 port 2 position 30: 4 port 3 position [Note1]	06: 1/8" 08: 1/4"	Blank: Body installation S: Panel installation [Note2]	Blank: Without lock L: With lock	Blank: PT G: G T: NPT
	3: 3 Series		08: 1/4" 10: 3/8"			
	4: 4 Series		15: 1/2" 20: 3/4"			

[Note1] 4 port 3 position only has closed center type. [Note2] The panel installation can be attached with installing nut.

Flow chart

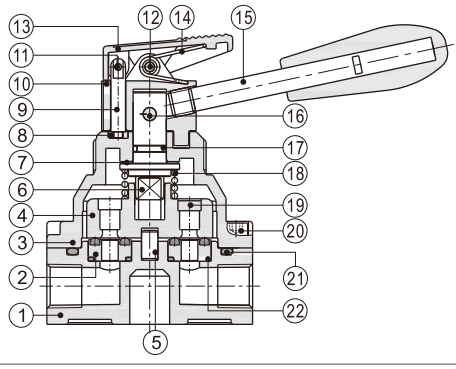






Inner structure

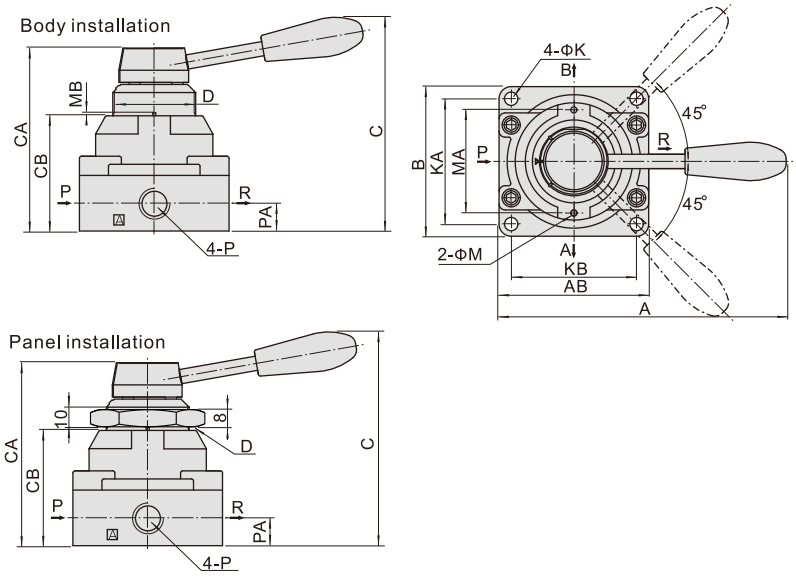
4HVL



No.	Item	No.	Item
1	Body	12	Pin one
2	Seal base	13	Front cover
3	Valve cover	14	Spring
4	Valve plug	15	Handle
5	Column pin	16	Pin two
6	Shaft	17	Shaft O-ring
7	Washer	18	Spring
8	Fixing plate	19	Iron plate
9	Lock pin	20	Fixing screw
10	Valve cap	21	Body O-ring
11	Spring pin	22	Seal base O-ring

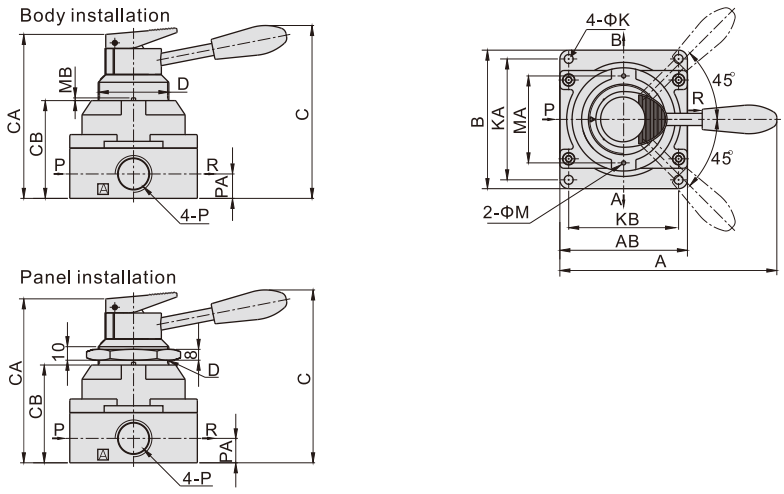
Dimensions

4HV



Model\Item	A	AB	B	C	CA	CB	D	K	KA	KB	M	MA	MB	P	PA
4HV2□□-06	120	62	62	92.5	73	45	M34×1.5	5.5	49	49	3	40	1.5	1/8"	11.5
4HV2□□-08	120	62	62	92.5	73	45	M34×1.5	5.5	49	49	3	40	1.5	1/4"	11.5
4HV3□□-08	140	74	74	104	88.5	56	M40×1.5	6.5	62	62	3	51	1.5	1/4"	13.5
4HV3□□-10	140	74	74	104	88.5	56	M40×1.5	6.5	62	62	3	51	1.5	3/8"	13.5
4HV4□□-15	160	94	102	128	110	72	M52×1.5	6.5	89	81	3	64	2	1/2"	18
4HV4□□-20	160	94	102	128	110	72	M52×1.5	6.5	89	81	3	64	2	3/4"	18

4HVL



Model\Item	A	AB	B	C	CA	CB	D	K	KA	KB	M	MA	MB	P	PA
4HV2□□-06L	120	62	62	92.5	84	45	M34×1.5	5.5	49	49	3	40	1.5	1/8"	11.5
4HV2□□-08L	120	62	62	92.5	84	45	M34×1.5	5.5	49	49	3	40	1.5	1/4"	11.5
4HV3□□-08L	140	74	74	104	99	56	M40×1.5	6.5	62	62	3	51	1.5	1/4"	13.5
4HV3□□-10L	140	74	74	104	99	56	M40×1.5	6.5	62	62	3	51	1.5	3/8"	13.5
4HV4□□-15L	160	94	102	128	121	72	M52×1.5	6.5	89	81	3	64	2	1/2"	18
4HV4□□-20L	160	94	102	128	121	72	M52×1.5	6.5	89	81	3	64	2	3/4"	18

S3 Series

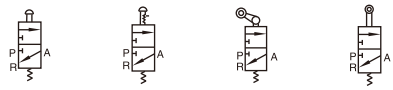
Specification

Model	S3B	S3C	S3D	S3V	S3R	S3L	S3Y	S3PM	S3PP	S3PF	S3PL	S3HS
Fluid	Air (to be filtered by 40 μm filter element)											
Operating	External control direct acting type											
Port size [Note1]	M5:M5 06:1/8" 08:1/4"											
Orifice size	05:2.5 mm^2 (Cv=0.14) 06:8.0mm^2 (Cv=0.45) 08:12.0mm^2 (Cv=0.67)											
Valve type	3/2 Way											
Lubrication [Note2]	Not required											
Pressure range	0~1.0MPa(0~145psi)											
Proof pressure	1.5MPa(215psi)											
Temperature ℃	-20~70											
Material of body	Aluminum alloy											

[Note1] PT thread, G thread and NPT thread are available.

[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. It is suggested to use ISO VG32 lubricant or the oil with the same grade.

Symbol



Product feature

1. The external force required by changing the direction of the series of S3B, S3R, S3L and S3V is provided by external mechanism, which can be used for position test or stroke switch.
2. The series of S3PF, S3PM, S3PP, S3PL, S3Y, S3HS, S3C and S3D are operated manually, owning control joints with several structure forms and suitable for application under different conditions.
3. Shut-off structure has good tightness and is sensitive in direction changing and lubricant is not necessary.
4. Multi-mounting makes it convenient to install and apply.
5. The control joints of series of S3C, S3D, S3Y, S3R and S3L are made of metal which has long service life and more reliable and steady performance.

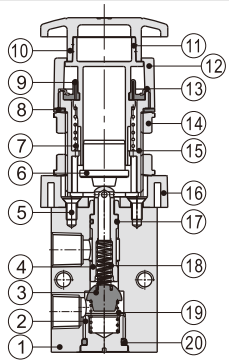
Reversal stroke

Unit: mm

Type	Spool stroke	Button stroke	Type	Spool stroke	Roller(handle) stroke
S3B	2.4~4.0	-	S3R	2.4~3.4	5.5~7.8
S3PF	2.4~4.0	3.8~5.4	S3L	2.4~3.4	6.0~8.6
S3PP	2.4~4.0	3.8~5.4	S3V	2.4~3.8	3.4~4.8
S3PM	2.4~4.0	3.8~5.4	S3C	2.4~3.8	14.4~18.4
S3PL	2.4~4.0	5.9~7.5	S3D	2.4~3.8	7.4~9.4
S3HS	2.4~4.0	5.1~6.7			

Inner structure

S3PM



No.	Item	No.	Item	No.	Item
1	Body	8	Clamping gasket	15	Button body
2	Bottom cover	9	Dust cover	16	Connector
3	Stopper plug	10	Button cap	17	O-ring
4	Valve core	11	Main body of button	18	Spring
5	Screw	12	Top cover	19	Spring
6	Button pressing buckle	13	Button ring	20	O-ring
7	Spring	14	Clamping nut		

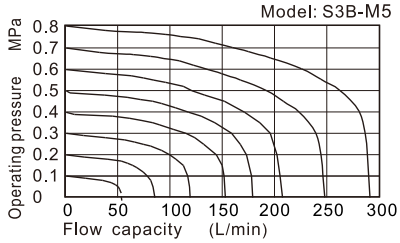
Ordering code

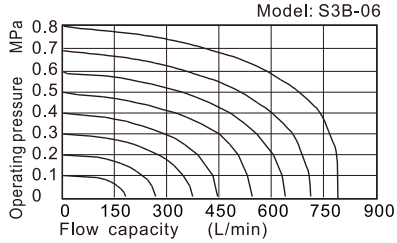
S3 PM 06 R □

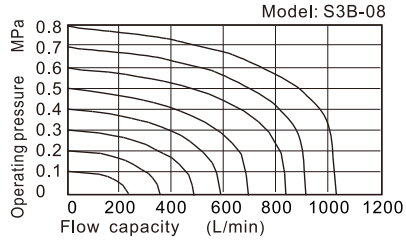
1 2 3 4 5

①Valve's type	②Model	③Port size	④Button color	⑤Thread type	
S3: S type 3/2 Way	B:Basic type	M5:M5 06:1/8" 08:1/4"	No this code	M5	1/8" 1/4"
	C:Long handle type			No this code	Blank:PT G: G T: NPT
	D:Short handle type				
	Y:Lever type				
	R:Roller type				
	L:Roller with free return type				
	V:Vertical type				
	PL:Latching type		Blank:Red		
	PP:Protruding type		R:Red G:Green B:Black		
	PF:Flat type				
	PM:Mushroom type				
	HS:Selector type				

Flow chart



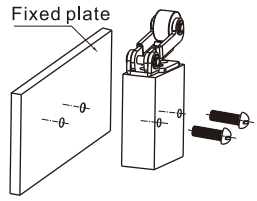




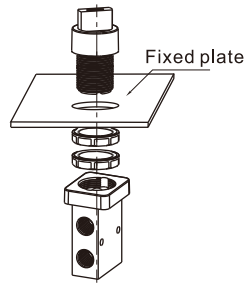
Installation and Application

1) The control set is made of engineering plastic which only allows manual operation and switching valves through metal impact is forbidden.
2) The series of S3B, S3C, S3D, S3PM, S3PF and S3PP get the function of automatic restoration. The hand valves of S3Y, S3HS and S3PL are in the type of manual restoration. S3PL will be restored by turning the revolve button after being pressed into orientation.
3) Pay attention to the reversing stroke. The reversing stroke can not surpass its stoke stipulated in stroke control table when the direction-change of the valve is forced by any external forces, otherwise it will cause the damage of the valve.
4) The S3L can only switch the valve in single direction (impact from right to left). The impact from the other direction is invalid (from left to right).
5) Control joint combination can be ordered individually. Please refer to the following tables for order details.

Fixation way of body

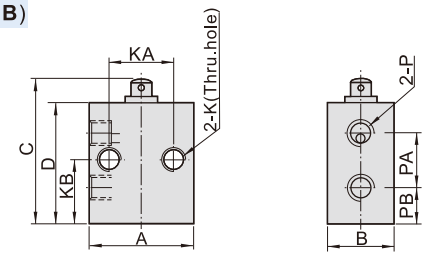


Fixation way of panel



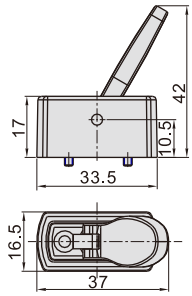
Dimension

Body(S3B)



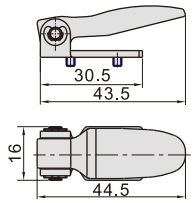
Model\Item	A	B	C	D	K	KA	KB	P	PA	PB
M5	26	16.5	36	30	M5x0.8	16	15	M5x0.8	13	9
06	30	16.5	47	41	M5x0.8	23	20.5	1/8"	17.5	11.5
08	34	17.5	52	46	M5x0.8	24	22.5	1/4"	21	12

Lever type(Y)



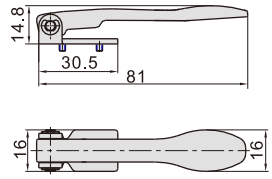
Model		Lever type(Y)
How to order	Ordering code	M3Y210-P13A
	Type	M3Y210Lever type control set
Applicable products		S3YM5,S3Y06,S3Y08

Short handle type(D)



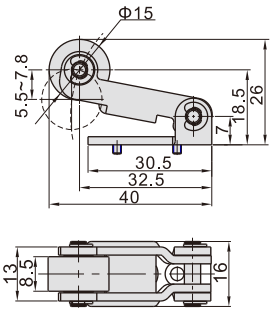
Model		Short handle type(D)
How to order	Ordering code	M3D210-P13A
	Type	M3D210 Short handle type control set
Applicable products		S3DM5,S3D06,S3D08

Long handle type(C)



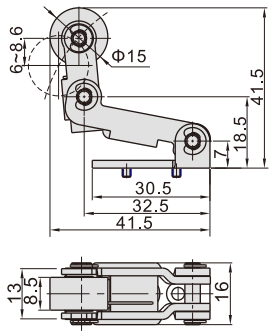
Model		Long handle type(C)
How to order	Ordering code	M3C210-P13A
	Type	M3C210 Long handle type control set
Applicable products		S3CM5,S3C06,S3C08

Roller type(R)



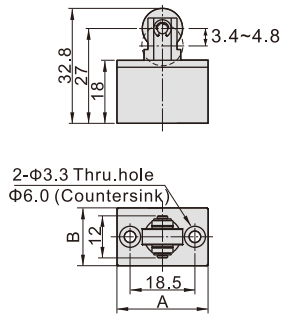
Model		Roller type(R)
How to order	Ordering code	M3R210-P14A
	Type	M3R210 Roller type control set
Applicable products		S3RM5,S3R06,S3R08

Roller with free return type(L)



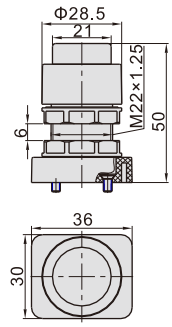
Model		Roller with free return type(L)
How to order	Ordering code	M3L210-P14A
	Type	M3L210 Roller with free return type control set
Applicable products		S3LM5,S3L06,S3L08

Vertical type(V)



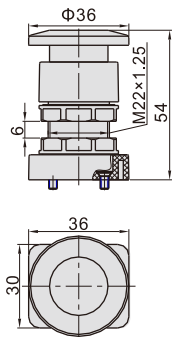
Model		Vertical type (V)	
How to order	Ordering code	S3V05(06/08)-P14A	
	Type	S3V05(06. 08) Vertical type control set	
Applicable products		S3VM5,S3V06,S3V08	
Model\Item		A	B
M5		26	16.5
06		30	16.5
08		34	17.5

Protruding type(PP)



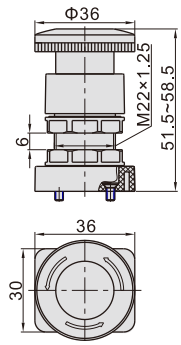
Model		Protruding type(PP)
How to order	Ordering code	S3PP05-P11A
	Type	S3PP protruding type control set (Green)
	Ordering code	S3PP05-P12A
	Type	S3PP protruding type control set (Red)
	Ordering code	S3PP05-P13A
	Type	S3PP protruding type control set (Black)
Applicable products		S3PPM5,S3PP06,S3PP08

Mushroom type(PM)



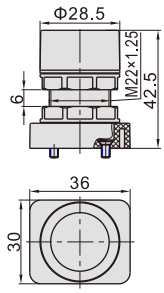
Model		Mushroom type(PM)
How to order	Ordering code	S3PM05-P11A
	Type	S3PM mushroom type control set (Green)
	Ordering code	S3PM05-P12A
	Type	S3PM mushroom type control set (Red)
	Ordering code	S3PM05-P13A
	Type	S3PM mushroom type control set (Black)
Applicable products		S3PMM5,S3PM06,S3PM08

Latching type(PL)



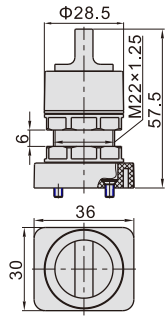
Model		Latching type (only red)(PL)
How to order	Ordering code	S3PL05-P12A
	Type	S3PL Latching type control set (Red)
Applicable products		S3PLM5,S3PL06,S3PL08

Flat type(PF)



Model		Flat type(PF)
How to order	Ordering code	S3PF05-P11A
	Type	S3PF flat type control set (Green)
	Ordering code	S3PF05-P12A
	Type	S3PF flat type control set (Red)
	Ordering code	S3PF05-P13A
	Type	S3PF flat type control set (Black)
Applicable products		S3PFM5,S3PF06,S3PF08

Selector type(HS)



Model		Selector type(HS)
How to order	Ordering code	S3HS05-P11A
	Type	S3HS selector type control set (Green)
	Ordering code	S3HS05-P12A
	Type	S3HS selector type control set (Red)
	Ordering code	S3HS05-P13A
	Type	S3HS selector type control set (Black)
Applicable products		S3HSM5,S3HS06,S3HS08

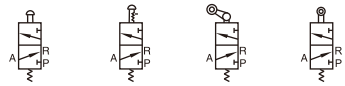
M3 Series

Specification

Model		M3B	M3C	M3D	M3R	M3L	M3Y	M3PM	M3PP	M3PF	M3PL	M3HS
Fluid		Air (to be filtered by 40 μm filter element)										
Operating		External control direct acting type										
Port size [Note1]		05: M5 06: 1/8" 08: 1/4"										
Orifice size	Mini type	05: 2.5mm²(Cv=0.14)										
	110	06: 8.0mm² (Cv=0.45)										
	210	06: 9.0mm² (Cv=0.50) 08: 12.0mm² (Cv=0.67)										
Valve type		3/2 Way										
Lubrication [Note2]		Not required										
Pressure range		0~1.0MPa(0~145psi)										
Proof pressure		1.5MPa(215psi)										
Temperature ℃		-20~70										
Material of body		Aluminum alloy										

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. It is suggested to use ISO VG32 lubricant or the oil with the same grade.

Symbol



Product feature

1. Exhaust outlet locates over the body, which is convenient to install muffler to decrease noise and pollution.
2. The external force required by direction-change of series of M3B,M3R and M3L is provided by external mechanism, which can be used for position test or stroke switch] limit switch.
3. M3C, M3D, M3Y, M3PF, M3PM, M3PP, M3PL and M3HS are operated manually, owning control joints with several structure forms and suitable for application under different conditions.
4. It is in sliding column structure that the control force is not influenced by working pressure (that is, there is no back pressure effect); internal circle is sealed with good tightness and the direction-change is sensitive.
5. No need to add oil for lubrication.
6. Multi-mounting makes it convenient to install and apply;
7. The control joints of series of M3C, M3D, M3Y, M3R, and M3L are made of metal which has long service life and more reliable and steady performance.

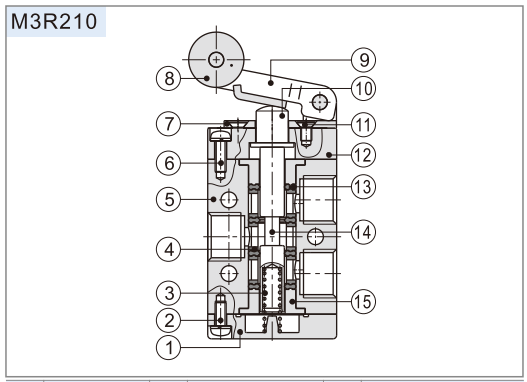
Reversal stroke

Unit:mm

Common type						Mini type		
Type	Spool stroke	Button stroke	Type	Spool stroke	Roller(handle) stroke	Type	Spool stroke	Roller stroke
M3B	2.0~3.3	-	M3R	2.0~3.0	4.6~6.8	M3B05	2.0~3.3	-
M3PF	2.0~3.3	3.8~5.1	M3L	2.0~3.0	5.0~7.8	M3R05	2.0~3.0	6.0~8.5
M3PP	2.0~3.3	3.8~5.1	M3C	2.0~3.0	11.0~16.0	M3L05	2.0~3.0	7.0~10.0
M3PM	2.0~3.3	3.8~5.1	M3D	2.0~3.0	5.5~8.0			
M3PL	2.0~3.3	5.9~7.2						
M3HS	2.0~3.3	5.1~6.4						

Inner structure

M3R210



No.	Item	No.	Item	No.	Item
1	Botton cover	6	Screw	11	Screw
2	Screw	7	Roller holder	12	Front cover
3	Spring	8	Roller	13	Piston O-ring
4	Spacer	9	Rotating block	14	Spool
5	Body	10	Axle	15	Positioning block

Ordering code

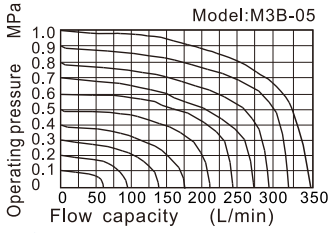
Common type M3 PM 210 06 R □

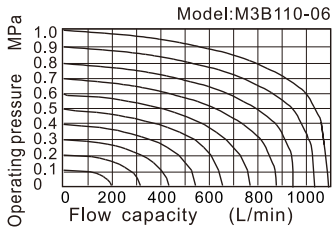
①Valve's type	②Model	③Code	④Port size	⑤Button color	⑥Thread type
M3: M type 3/2 Way	B: Basic type	110: 100 Series single control	06: 1/8"	No this code	Blank: PT G: G T: NPT
	C: Long handle type				
	D: Short handle type				
	Y: Lever type				
	R: Roller type				
	L: Roller with free return type	210: 200 Series single control	06: 1/8" 08: 1/4"	Blank:Red R: Red G: Green B: Black	
	PL: Latching type				
	PP: Protruding type				
	PF: Flat type				
	PM: Mushroom type				
	HS: Selector type				

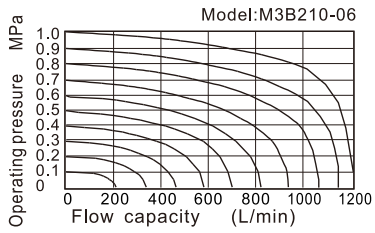
Mini type M3 R 05

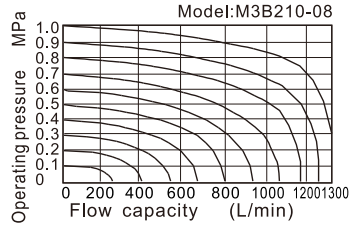
①Valve's type	②Model	③Port size
M3: M type 3/2 Way	B: Basic type R: Roller type L: Roller with free return type	05: M5

Flow chart





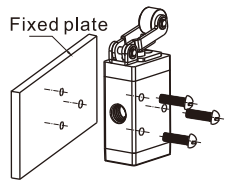




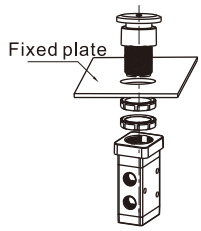
Installation and Application

1) Body and panel installation (picture at right) :
2)The control set is made of engineering plastic which only allows manual operation and switching valves through metal impact is forbidden.
3)The series of M3B, M3C, M3D, M3PM, M3PF and M3PP get the function of automatic restoration. The hand valves of M3Y, M3HS and M3PL are in the type of manual restoration.M3PL will be restored by turning the revolve button after being pressed into orientation.
4) Pay attention to the reversing stroke. The reversing stroke can not surpass its stroke stipulated in stroke control table when the direction-change of the valve is forced by any external forces, otherwise it will cause the damage of the valve.
5) The M3L can only switch the valve in single direction (impact from right to left). The impact from the other direction is invalid (from left to right).
6) Control joint combination can be ordered individually. Please refer to the following tables for order details.

Fixation way of body

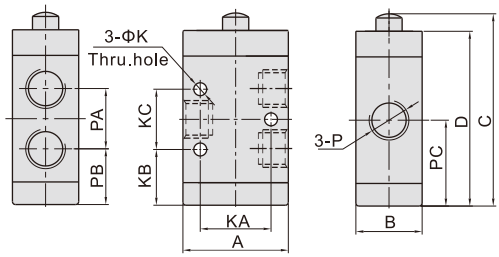


Fixation way of panel



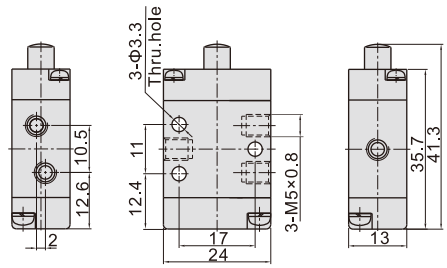
Dimensions

Common type



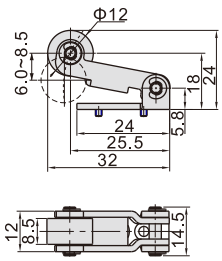
Model\Item	A	B	C	D	K	KA	KB	KC	P	PA	PB	PC
M3B11006	27	18	52	46.5	3.3	18	15.5	16	1/8"	16	15.5	23.5
M3B21006	35	22	64	58	4.3	23.5	18.5	20	1/8"	20	18.5	28.5
M3B21008									1/4"			

Mini type

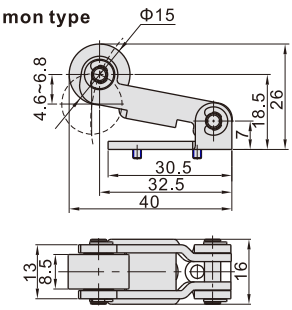


Roller type(R)

Mini type



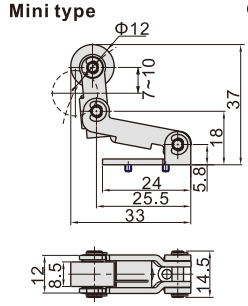
Common type



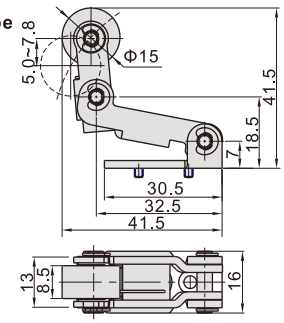
Model		Roller type(R)	
How to order	Ordering code	M3R05-P14A	M3R210-P14A
	Type	M3R05 Roller type control set	M3R210 Roller type control set
Applicable products		M3R05	M3R110, M3R210

Roller with free return type(L)

Mini type

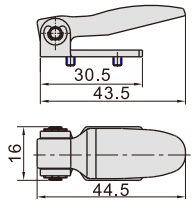


Common type



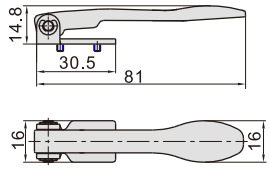
Model		Roller with free return type(L)	
How to order	Ordering code	M3L05-P14A	M3L210-P14A
	Type	M3L05 Roller with free return type control set	M3L210 Roller with free return type control set
Applicable products		M3L05	M3L110,M3L210

Short handle type(D)



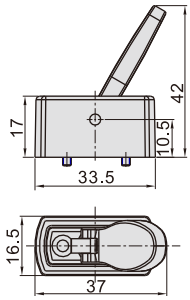
Model		Short handle type(D)
How to order	Ordering code	M3D210-P13A
	Type	M3D210 Short handle type control set
Applicable products		M3D110, M3D210

Long handle type(C)



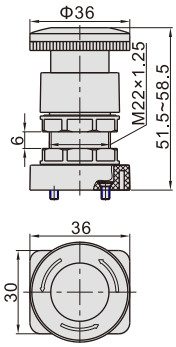
Model		Long handle type(C)
How to order	Ordering code	M3C210-P13A
	Type	M3C210 Long handle type control set
Applicable products		M3C110, M3C210

Lever type(Y)



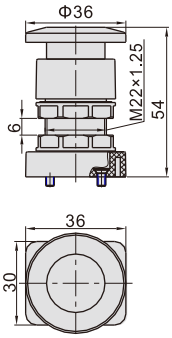
Model		Lever type(Y)
How to order	Ordering code	M3Y210-P13A
	Type	M3Y210 Lever type control set
Applicable products		M3Y110, M3Y210

Latching type(PL)



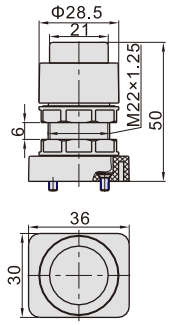
Model		Latching type (only red)(PL)
How to order	Ordering code	S3PL05-P12A
	Type	S3PL Latching type control set (Red)
Applicable products		M3PL110, M3PL210

Mushroom type(PM)



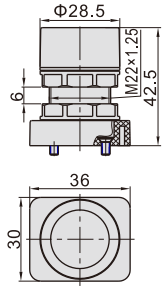
Model		Mushroom type(PM)
How to order	Ordering code	S3PM05-P11A
	Type	S3PM mushroom type control set (Green)
	Ordering code	S3PM05-P12A
	Type	S3PM mushroom type control set (Red)
	Ordering code	S3PM05-P13A
	Type	S3PM mushroom type control set (Black)
Applicable products		M3PM110, M3PM210

Protruding type(PP)



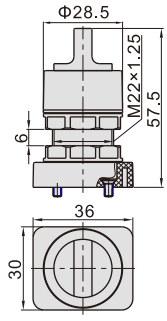
Model		Protruding type(PP)
How to order	Ordering code	S3PP05-P11A
	Type	S3PP protruding type control set (Green)
	Ordering code	S3PP05-P12A
	Type	S3PP protruding type control set (Red)
	Ordering code	S3PP05-P13A
	Type	S3PP protruding type control set (Black)
Applicable products		M3PP110, M3PP210

Flat type(PF)



Model		Flat type(PF)
How to order	Ordering code	S3PF05-P11A
	Type	S3PF flat type control set (Green)
	Ordering code	S3PF05-P12A
	Type	S3PF flat type control set (Red)
	Ordering code	S3PF05-P13A
	Type	S3PF flat type control set (Black)
Applicable products		M3PF110, M3PF210

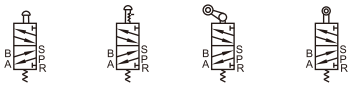
Selector type(HS)



Model		Selector type(HS)
How to order	Ordering code	S3HS05-P11A
	Type	S3HS selector type control set (Green)
	Ordering code	S3HS05-P12A
	Type	S3HS selector type control set (Red)
	Ordering code	S3HS05-P13A
	Type	S3HS selector type control set (Black)
Applicable products		M3HS110, M3HS210

M5 Series

Symbol

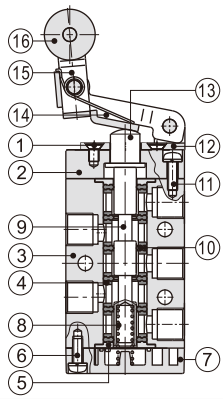


Product feature

1. Exhaust outlet locates over the body, which is convenient to install muffler to decrease noise and pollution.
2. The external force required by direction-change of series of M5B, M5R and M5L is provided by external mechanism, which can be used for position test or [stroke switch] limit switch.
3. M5C,M5D,M5Y,M5PF,M5PM,M5PP,M5PL and M5HS are operated manually, owning control joints with several structure forms and suitable for application under different conditions.
4. It is in sliding column structure that the control force is not influenced by working pressure (that is, there is no back pressure effect); internal circle is sealed with good tightness and the direction-change is sensitive.
5. Lubricant is not necessary.
6. Multi-mounting makes it convenient to install and apply.
7. The control joints of series of M5C,M5D,M5Y,M5R and M5L are made of metal which has longer service life and more reliable and steady performance.

Inner structure

M5L210



No.	Item	No.	Item	No.	Item
1	Screw	7	Botton cover	13	Axle
2	Fore cover	8	Spring	14	Rotating block
3	Body	9	Spool	15	Rocker
4	Spacer	10	Piston O-ring	16	Roller
5	Positioning block	11	Screw		
6	Screw	12	Roller holder		

Specification

Model		M5B	M5C	M5D	M5R	M5L	M5Y	M5PM	M5PP	M5PF	M5PL	M5HS
Fluid		Air (to be filtered by 40 μm filter element)										
Operating		External control direct acting type										
Port size [Note1]		05: M5 06: 1/8" 08: 1/4"										
Orifice size	Mini type	05: 2.5mm²(Cv=0.14)										
	110	06: 8.0mm² (Cv=0.45)										
	210	06: 9.0mm² (Cv=0.50) 08: 12.0mm² (Cv=0.67)										
Valve type		5/2 Way										
Lubrication [Note2]		Not required										
Pressure range		0~1.0MPa(0~145psi)										
Proof pressure		1.5MPa(215psi)										
Temperature ℃		-20~70										
Material of body		Aluminum alloy										

[Note1] PT thread, G thread and NPT thread are available.

[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. It is suggested to use ISO VG32 lubricant or the oil with the same grade.

Reversal stroke

Unit:mm

Common type						Mini type		
Type	Spool stroke	Button stroke	Type	Spool stroke	Roller(handle) stroke	Type	Spool stroke	Roller stroke
M5B	2.0~3.3	-	M5R	2.0~3.0	4.6~6.8	M5B05	2.0~3.3	-
M5PF	2.0~3.3	3.8~5.1	M5L	2.0~3.0	5.0~7.8	M5R05	2.0~3.0	6.0~8.5
M5PP	2.0~3.3	3.8~5.1	M5C	2.0~3.0	11.0~16.0	M5L05	2.0~3.0	7.0~10.0
M5PM	2.0~3.3	3.8~5.1	M5D	2.0~3.0	5.5~8.0			
M5PL	2.0~3.3	5.9~7.2						
M5HS	2.0~3.3	5.1~6.4						

Ordering code

Common type M5 PM 210 06 R □

(1) (2) (3) (4) (5) (6)

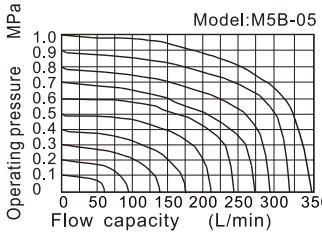
①Valve's type	②Model	③Code	④Port size	⑤Button color	⑥Thread type
M5: M type 5/2 Way	B:Basic type	110: 100 Series single control	06: 1/8"	No this code	Blank: PT G: G T: NPT
	C:Long handle type				
	D:Short handle type				
	Y:Lever typer				
	R:Roller type				
	L:Roller with free return type	210: 200 Series single control	06: 1/8" 08: 1/4"	Blank:Red R: Red G: Green B: Black	
	PL:Latching type				
	PP: Protruding type				
	PF:Flat type				
	PM:Mushroom type				
	HS:Selector type				

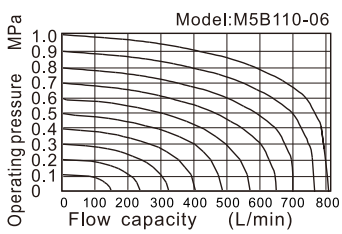
Mini type M5 R 05

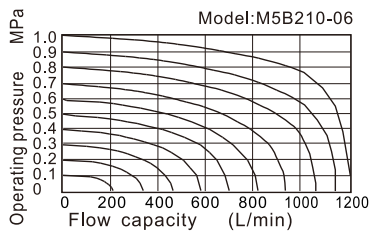
(1) (2) (3)

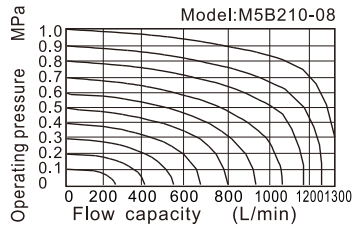
①Valve's type	②Model	③Port size
M5: M type 5/2 Way	B: Basic type R: Roller type L: Roller with free return type	05: M5

Flow chart





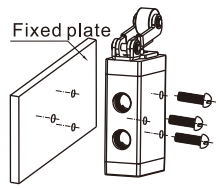




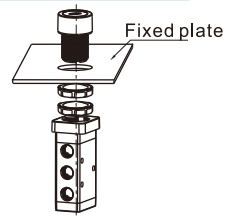
Installation and Application

1) Body and panel installation (picture at right) :
2) The control set is made of engineering plastic which only allows manual operation and switching valves through metal impact is forbidden.
3) The series of M5B, M5C, M5D, M5PM, M5PF and M5PP get the function of automatic restoration. The hand valves of M5Y, M5HS and M5PL are in the type of manual restoration. M5PL will be restored by turning the revolve button after being pressed into orientation.
4) Pay attention to the reversing stroke. The reversing stroke can not surpass its stroke stipulated in stroke control table when the direction-change of the valve is forced by any external forces, otherwise it will cause the damage of the valve.
5)The M5L can only switch the valve in single direction (impact from right to left). The impact from the other direction is invalid (from left to right).
6) Control joint combination can be ordered individually. Please refer to the following tables for order details.

Fixation way of body

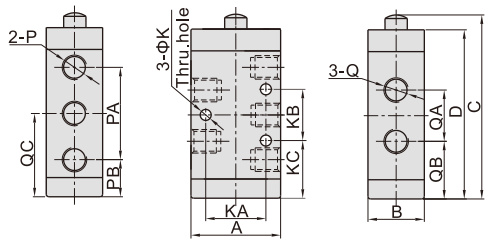


Fixation way of panel



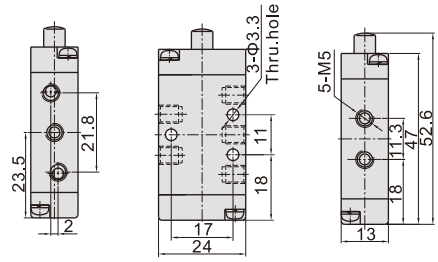
Dimensions

Common type



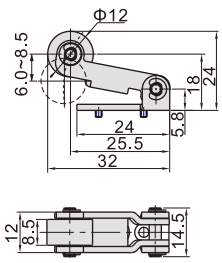
Model\Item	A	B	C	D	K	KA	KB	KC	P	PA	PB	Q	QA	QB	QC
M5B11006	27	18	63	57.5	3.3	18	14	22	1/8"	28	15	1/8"	16	21	29
M5B21006	35	22	72	66	4.3	23.5	20	22.5	1/8"	36	14.5	1/8"	20	22.5	32.5
M5B21008									1/8"			1/4"			

Mini type

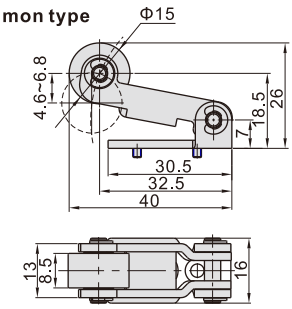


Roller type(R)

Mini type



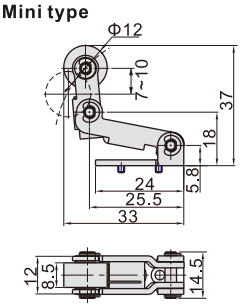
Common type



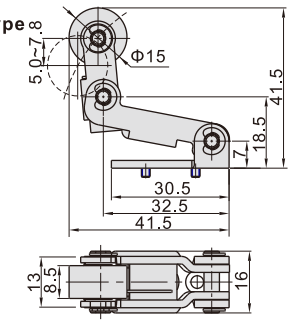
Model		Roller type(R)	
How to order	Ordering code	M3R05-P14A	M3R210-P14A
	Type	M3R05 Roller type control set	M3R210 Roller type control set
Applicable products		M5R05	M5R110, M5R210

Roller with free return type(L)

Mini type

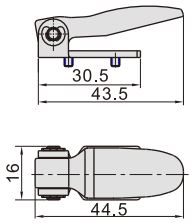


Common type



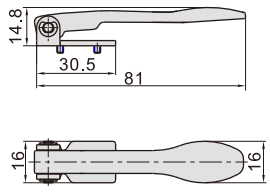
Model		Roller with free return type(L)	
How to order	Ordering code	M3L05-P14A	M3L210-P14A
	Type	M3L05 Roller with free return type control set	M3L210 Roller with free return type control set
Applicable products		M5L05	M5L110, M5L210

Short handle type(D)



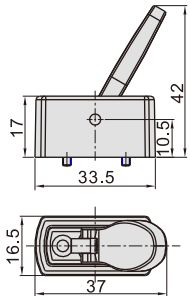
Model		Short handle type(D)
How to order	Ordering code	M3D210-P13A
	Type	M3D210 Short handle type control set
Applicable products		M5D110, M5D210

Long handle type(C)



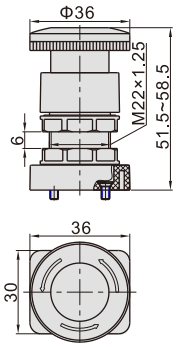
Model		Long handle type(C)
How to order	Ordering code	M3C210-P13A
	Type	M3C210 Long handle type control set
Applicable products		M5C110, M5C210

Lever type(Y)



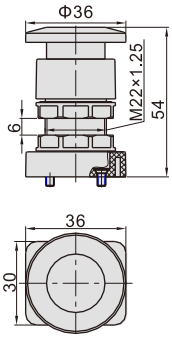
Model		Lever type(Y)
How to order	Ordering code	M3Y210-P13A
	Type	M3Y210 Lever type control set
Applicable products		M5Y110, M5Y210

Latching type(PL)



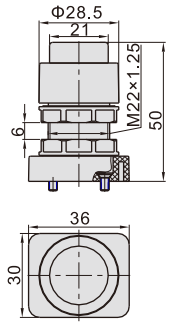
Model		Latching type (only red)(PL)
How to order	Ordering code	S3PL05-P12A
	Type	S3PL Latching type control set (Red)
Applicable products		M5PL110, M5PL210

Mushroom type(PM)



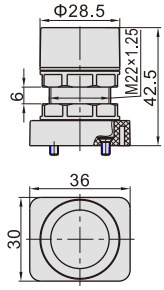
Model		Mushroom type(PM)
How to order	Ordering code	S3PM05-P11A
	Type	S3PM mushroom type control set (Green)
	Ordering code	S3PM05-P12A
	Type	S3PM mushroom type control set (Red)
	Ordering code	S3PM05-P13A
	Type	S3PM mushroom type control set (Black)
Applicable products		M5PM110, M5PM210

Protruding type(PP)



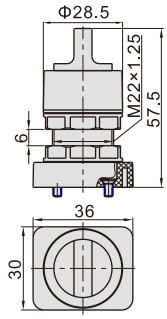
Model		Protruding type(PP)
How to order	Ordering code	S3PP05-P11A
	Type	S3PP protruding type control set (Green)
	Ordering code	S3PP05-P12A
	Type	S3PP protruding type control set (Red)
	Ordering code	S3PP05-P13A
	Type	S3PP protruding type control set (Black)
Applicable products		M5PP110, M5PP210

Flat type(PF)



Model		Flat type(PF)
How to order	Ordering code	S3PF05-P11A
	Type	S3PF flat type control set (Green)
	Ordering code	S3PF05-P12A
	Type	S3PF flat type control set (Red)
	Ordering code	S3PF05-P13A
	Type	S3PF flat type control set (Black)
Applicable products		M5PF110, M5PF210

Selector type(HS)



Model		Selector type(HS)
How to order	Ordering code	S3HS05-P11A
	Type	S3HS selector type control set (Green)
	Ordering code	S3HS05-P12A
	Type	S3HS selector type control set (Red)
	Ordering code	S3HS05-P13A
	Type	S3HS selector type control set (Black)
Applicable products		M5HS110, M5HS210

Control valve(3/2 way, 5/3 way)

CM3 Series

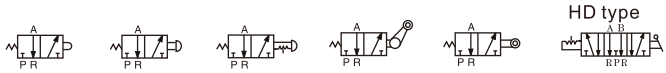
Specification

Model	CM3□-05	CM3□-06	CM3□-08
Operating	External control		
Fluid	Air (to be filtered by 40 μm filter element)		
Pressure range	0~1.0MPa(0~10bar)(0~145psi)		
Proof pressure	1.5MPa(15bar)(215psi)		
Temperature	-20~70℃		
Valve type [Note1]	3 port 2 position		
Orifice size	2.0mm^2	2.5mm^2	15.0mm^2
Cv	0.11	0.14	0.84
Port size [Note2]	M5×0.8	1/8"	1/4"
Material of body	Aluminum alloy		

[Note1] HD series are 5/3 way.

[Note2] PT thread, G thread and NPT thread are available.

Symbol



Product feature

1. The external force required by changing the direction of the series of CM3B, CM3V, CM3L and CM3R is provided by external mechanism, which can be used for position test or limit switch.
2. The series of CM3PF, CM3PM, CM3PMS, CM3PMX, CM3PL, CM3PP, CM3HS, CM3HD and CM3Y are operated manually, owning control joints with several structure forms and suitable for application under different conditions.
3. Shut-off structure has good tightness and is sensitive in direction changing and lubricant is not necessary.
4. Multi-mounting makes it convenient to install and apply.
5. The control joints of series of CM3L, CM3V, CM3R and CM3Y are made of metal which has long service life and more reliable and steady performance.
6. CM3PMS. CM3PMX Series have metallic guard, it can protect the push cup, to avoid misact due to outside force touching the push cup. So they can be used more reliably.

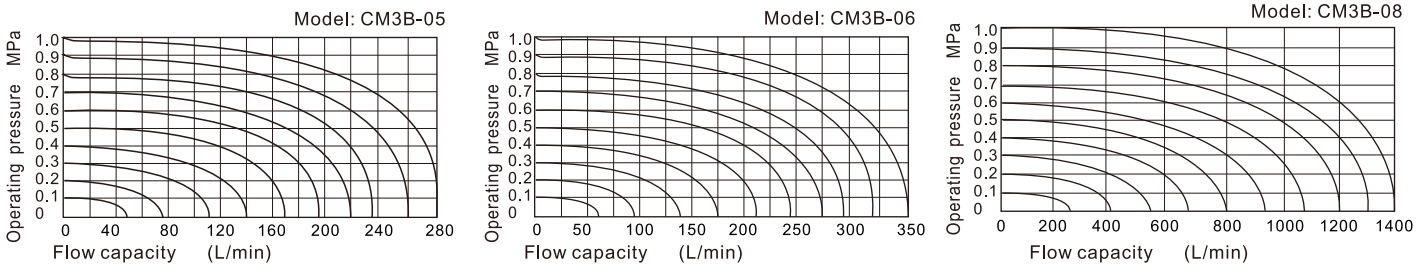
Ordering code

CM3 PP 06 B □

(1) (2) (3) (4) (5)

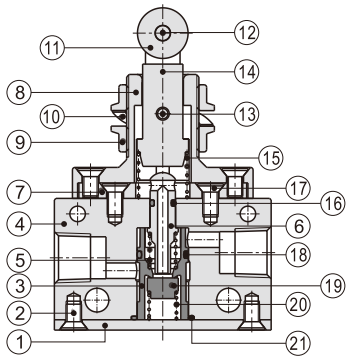
①Valve's type	②Model	③Port size	④Button color	⑤Thread type	
CM3: CM type 3/2 5/3 way	B: Basic type	05: M5 06: 1/8" 08: 1/4"	No this code	M5	1/8" 1/4"
	R: Roller type			No this code	Blank: PT G: G T: NPT
	L: Roller with free return type				
	V: Vertical type				
	Y: Lever typer				
	PL: Latching type		Blank:Red		
	PP: Protruding type		R: Red G: Green B: Black Y: Yellow		
	PF: Flat type				
	PM: Mushroom type				
	PMS: Mushroom type(with guard)				
	PMX: Big mushroom type(with guard)				
	HS: Selector type				
	HD: Double-selector type				

Flow chart



Inner structure

CM3V

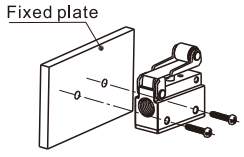


No.	Item	No.	Item	No.	Item
1	Fixing plate	8	Connecting holder	15	Spring
2	Screw	9	Clamping nut	16	O-ring
3	Spacer	10	Spring gasket	17	Screw
4	Body	11	Roller	18	O-ring
5	Spring	12	Shaft	19	Bottom cover gasket
6	Spool	13	Lock pin	20	Spring
7	Connecting gasket	14	Roller bracket	21	O-ring

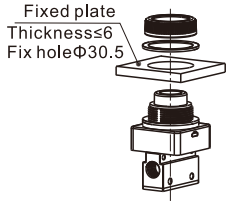
Installation and operation

1. Mounting way: by body, by panel I, by panel II, latching type, mushroom type. Please refer to the following picture:

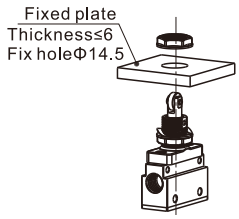
Fixation way of body



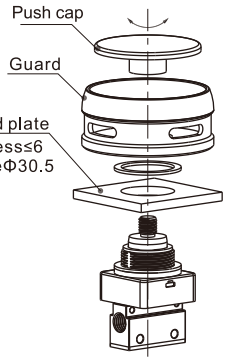
Fixation way of panel I



Fixation way of panel II

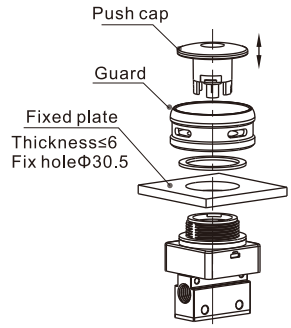


Big mushroom type(With guard)



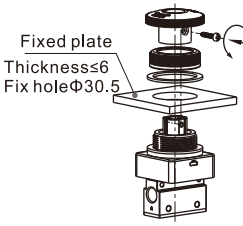
Disassembly: Remove the push cap, then remove the guard.
Assembly: Install the guard, then to tighten the push cap.

Mushroom type(With guard)



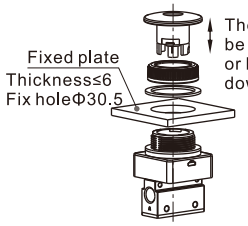
Disassembly: Untighten the guard first, then remove the push cap with the guard.
Assembly: Install the guard, then to tighten the push cap.

Latching type



Disassembly: Remove the screw, then to draw the button.
Assembly: Install the button, then to tighten the screw.

Mushroom type



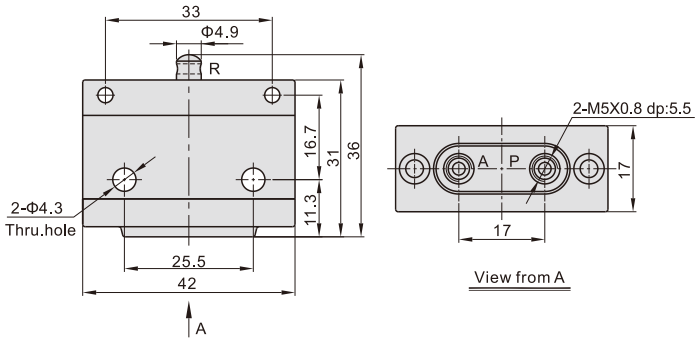
2. The control set is made of engineering plastic which only allows manual operation and switching valves through metal impact is forbidden.
3. The series of CM3B, CM3L, CM3V, CM3R, CM3PM, CM3PMS, CM3PMX, CM3PF, CM3PP get the function of automatic restoration. The hand valves of CM3Y, CM3HS, CM3HD, CM3PL are in type of manual restoration. CM3PL will be restored by turning the revolve button after being pressed into orientation.
4. Pay attention to the reversing stroke. The reversing stroke can not surpass its stroke stipulated in stroke control table when the direction-change of the valve is forced by any external forces, otherwise it will cause the damage of the valve.

Model	Spool stroke	Button(Roller\Handle) stroke	Model	Spool stroke	Button(Roller\Handle) stroke
CM3B05(06)	1.5~3.0	-	CM3B08	2.4~4.0	-
CM3R05(06)	1.5~2.5	3.0~4.8	CM3R08	2.4~3.2	6.8~9.0
CM3L05(06)	1.5~2.3	3.0~4.8	CM3L08	2.4~3.2	7.2~9.7
CM3V05(06)	1.5~3.0	2.7~4.2	CM3V08	2.4~4.0	2.6~4.2
CM3Y05(06)	1.5~2.5	3.0~4.8	CM3Y08	2.4~3.2	6.8~9.0
CM3PL05(06)	1.5~2.5	4.0~5.0	CM3PL08	2.4~3.5	4.0~5.0
CM3PP05(06)	1.5~3.0	4.0~5.5	CM3PP08	2.4~4.0	4.0~5.5
CM3PF05(06)	1.5~3.0	4.0~5.5	CM3PF08	2.4~4.0	4.0~5.5
CM3HS05(06)	1.5~3.0	4.0~5.5	CM3HS08	2.4~4.0	4.0~5.5
CM3HD05(06)	1.5~3.0	4.0~5.5	CM3HD08	2.4~4.0	4.0~5.5
CM3PM05(06)	1.5~3.0	4.0~5.5	CM3PM08	2.4~4.0	4.0~5.5
CM3PMS05(06)	1.5~3.0	4.0~5.5	CM3PMX08	2.4~4.0	4.0~5.5
CM3PMX05(06)	1.5~3.0	4.0~5.5	CM3PMX08	2.4~4.0	4.0~5.5

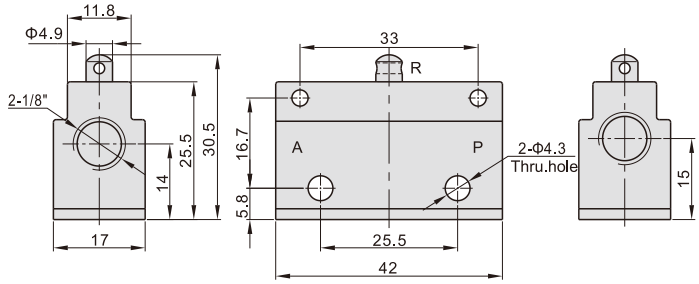
5. The CM3L can only switch the valve in single direction(impact from left to right). The impact from the other direction (from right to left) is invalid .
6. Control joint combination can be ordered individually. Please refer to external specification.

Dimension (Basic type)

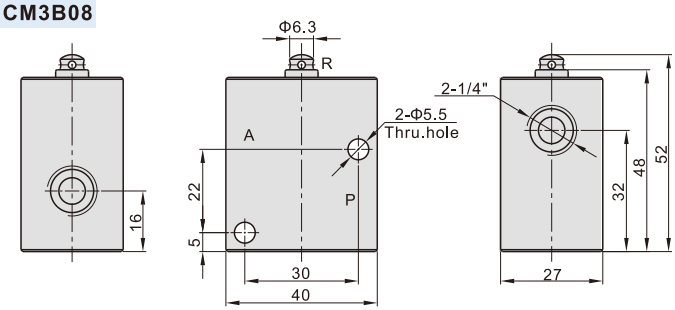
CM3B05



CM3B06



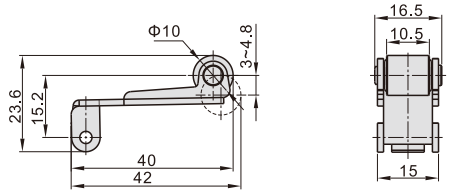
CM3B08



Control set dimension

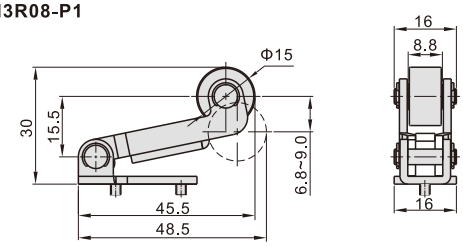
Roller type(R)

CM3R06-P1



Note: CM3R06 control joint, which used in CM3R05 and CM3R06, can not be ordered individually. It should be matched with basic type.

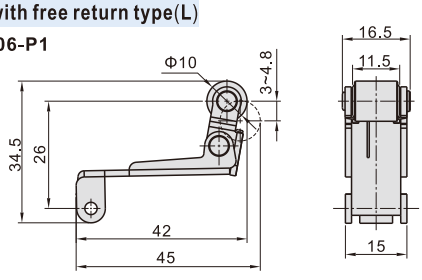
CM3R08-P1



Model		Roller type(R)
How to order	Ordering code	CM3R08-P1
	Type	CM3R08 roller type control set
Applicable products		CM3R08

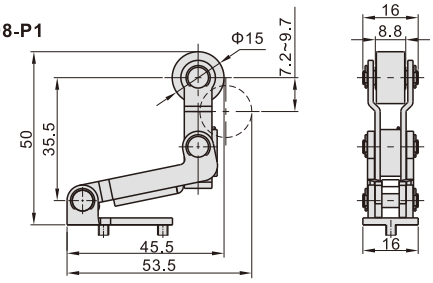
Roller with free return type(L)

CM3L06-P1



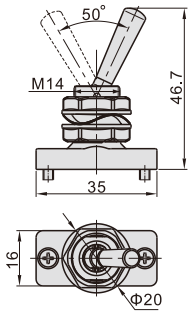
Note: CM3L06 control joint, which used in CM3L05 and CM3L06, can not be ordered individually. It should be matched with basic type.

CM3L08-P1



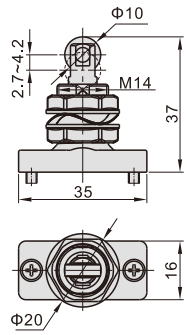
Model		Roller with free return type(L)
How to order	Ordering code	CM3L08-P1
	Type	CM3L08Roller with free return type control set
Applicable products		CM3L08

Lever type(Y)



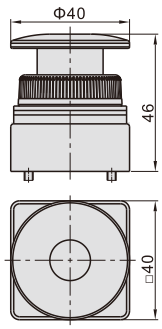
Model		Lever type(Y)
How to order	Ordering code	CM3Y06-P1
	Type	CM3Y lever type control set
Applicable products		CM3Y05 CM3Y06 CM3Y08

Vertical type(V)



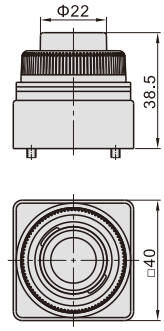
Model		Vertical type (V)
How to order	Ordering code	CM3V06-P1
	Type	CM3V vertical type control set
Applicable products		CM3V05 CM3V06 CM3V08

Mushroom type(PM)



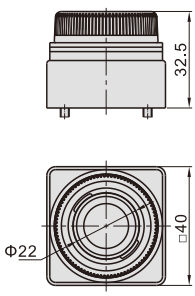
Model		Mushroom type (PM)
How to order	Ordering code	CM3PM06-P1
	Type	CM3PM mushroom type control set(green)
	Ordering code	CM3PM06-P2
	Type	CM3PM mushroom type control set(red)
	Ordering code	CM3PM06-P3
	Type	CM3PM mushroom type control set(black)
	Ordering code	CM3PM06-P4
	Type	CM3PM mushroom type control set(yellow)
Applicable products		CM3PM05 CM3PM06 CM3PM08

Protruding type(PP)



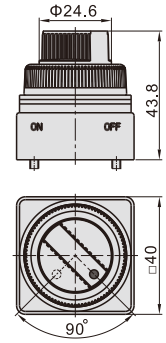
Model		Protruding type (PP)
How to order	Ordering code	CM3PP06-P1
	Type	CM3PP protruding type control set(green)
	Ordering code	CM3PP06-P2
	Type	CM3PP protruding type control set(red)
	Ordering code	CM3PP06-P3
	Type	CM3PP protruding type control set(black)
	Ordering code	CM3PP06-P4
	Type	CM3PP protruding type control set(yellow)
Applicable products		CM3PP05 CM3PP06 CM3PP08

Flat type(PF)



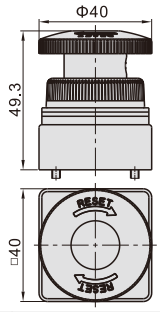
Model		Flat type (PF)
How to order	Ordering code	CM3PF06-P1
	Type	CM3PF flat type control set(green)
	Ordering code	CM3PF06-P2
	Type	CM3PF flat type control set(red)
	Ordering code	CM3PF06-P3
	Type	CM3PF flat type control set(black)
	Ordering code	CM3PF06-P4
	Type	CM3PF flat type control set(yellow)
Applicable products		CM3PF05 CM3PF06 CM3PF08

Selector type(HS)



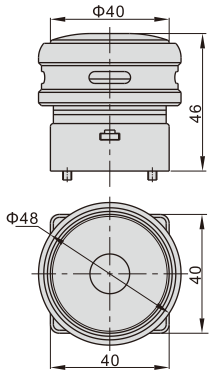
Model		Selector type (HS)
How to order	Ordering code	CM3HS06-P1
	Type	CM3HS selector type control set(green)
	Ordering code	CM3HS06-P2
	Type	CM3HS selector type control set(red)
	Ordering code	CM3HS06-P3
	Type	CM3HS selector type control set(black)
	Ordering code	CM3HS06-P4
	Type	CM3HS selector type control set(yellow)
Applicable products		CM3HS05 CM3HS06 CM3HS08

Latching type(PL)



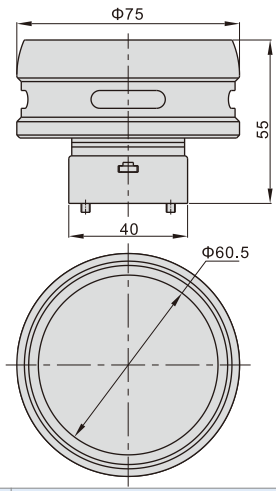
Model		Latching type(PL)
How to order	Ordering code	CM3PL06-P2
	Type	CM3PL latching type control set(red)
Applicable products		CM3PL05 CM3PL06 CM3PL08

Mushroom type(with guard)(PMS)



Model		Mushroom type(with guard) (PMS)
How to order	Ordering code	CM3PMS06-P1
	Type	CM3PMS mushroom type control set(green with guard)
	Ordering code	CM3PMS06-P2
	Type	CM3PMS mushroom type control set(red with guard)
	Ordering code	CM3PMS06-P3
	Type	CM3PMS mushroom type control set(black with guard)
	Ordering code	CM3PMS06-P4
	Type	CM3PMS mushroom type control set(yellow with guard)
Applicable products		CM3PMS05 CM3PMS06 CM3PMS08

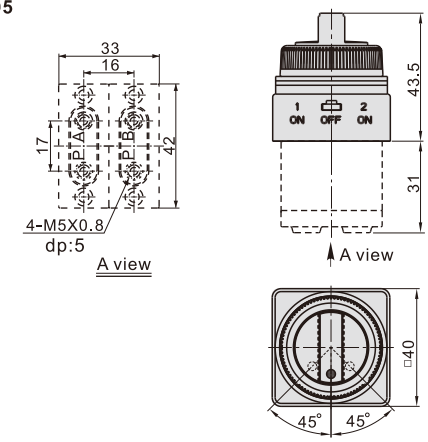
Big mushroom type(with guard)(PMX)



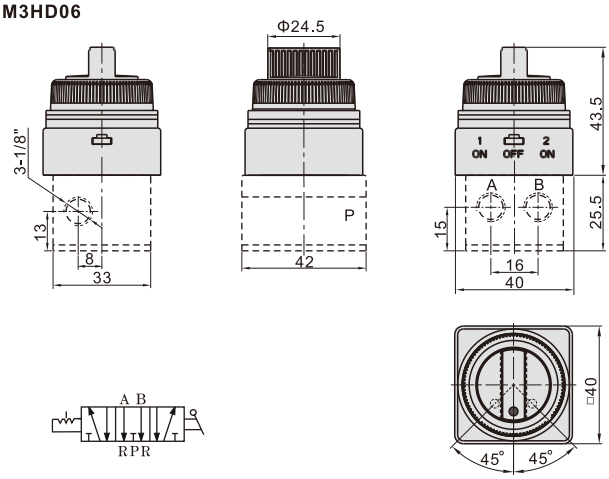
Model		Big mushroom type(with guard)(PMX)
How to order	Ordering code	CM3PMX06-P1
	Type	CM3PMX big mushroom type control set(green with guard)
	Ordering code	CM3PMX06-P2
	Type	CM3PMX big mushroom type control set(red with guard)
	Ordering code	CM3PMX06-P3
	Type	CM3PMX big mushroom type control set(black with guard)
	Ordering code	CM3PMX06-P4
	Type	CM3PMX big mushroom type control set(yellow with guard)
Applicable products		CM3PMX05 CM3PMX06 CM3PMX08

Double-selector type(HD)

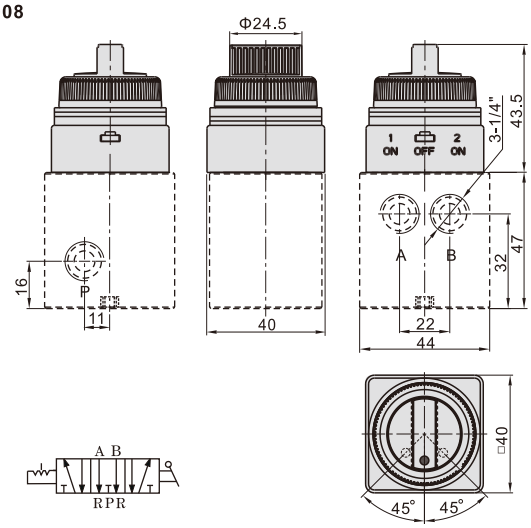
CM3HD05



CM3HD06



CM3HD08



Model		Double-selector type (HD)
How to order	Ordering code	CM3HD06-P1
	Type	CM3HD double-selector type control set(green)
	Ordering code	CM3HD06-P2
	Type	CM3HD double-selector type control set(red)
	Ordering code	CM3HD06-P3
	Type	CM3HD double-selector type control set(black)
	Ordering code	CM3HD06-P4
	Type	CM3HD double-selector type control set(yellow)
Applicable products		CM3HD05 CM3HD06 CM3HD08

Note: CM3HD control joint can be ordered individually, but should be matched with the body of CM3HD.

Specification

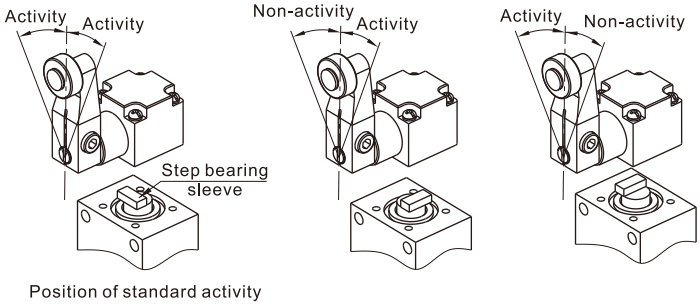
Model	ZM3R	ZM3J	ZM3P
Operating	External control direct acting type		
Fluid	Air (to be filtered by 40 μm filter element)		
Pressure range	-0.1~1.0MPa(-1~10bar)(-15~145psi)		
Proof pressure	1.5MPa(15bar)(215psi)		
Temperature	-20~70℃		
Valve type	3/2 Way		
Orifice size	6.0mm²(Cv=0.34)		
Port size [Note1]	1/8"		
Lubrication [Note2]	Not required		
Material of body	Aluminum alloy		

[Note1] PT thread, G thread and NPT thread are available.
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. It is suggested to use ISO VG32 lubricant or the oil with the same grade.

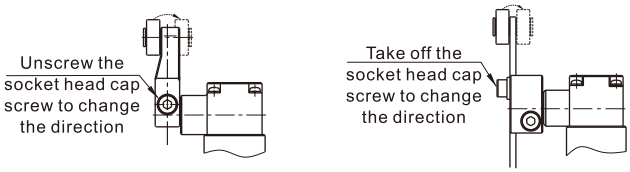
Symbol

Product feature

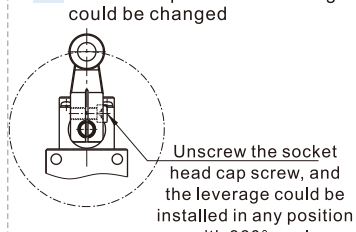
1. The activity direction could be changed(Only adapt to standard type, large angle type unavailable)



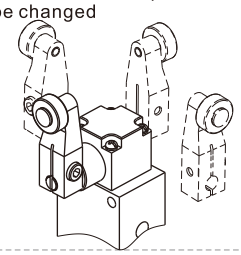
2. The rolling wheel could be installed at the inside of leverage



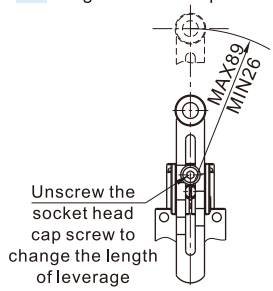
3. Installation position of leverage could be changed

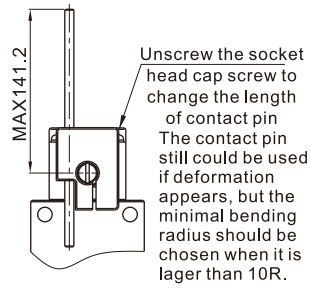


4. Direction of head part could be changed



5. Length of contact pin could be changed





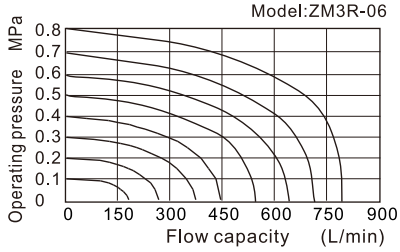
Ordering code

ZM3 R 06 W □

① ② ③ ④ ⑤

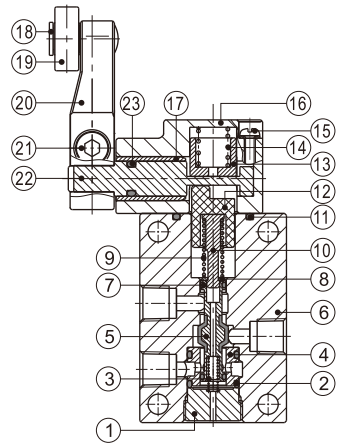
①Valve's type	②Model	③Port size	④Extreme angle of opening and closing of control head	⑤Thread type
ZM3: ZM type 3/2 Way	R: Roller type J: Adjustable roller type P: Contact pin adjustable roller type	06: 1/8"	Blank: Standard type W: Large angle type	Blank: PT G: G T: NPT

Flow chart



Inner structure

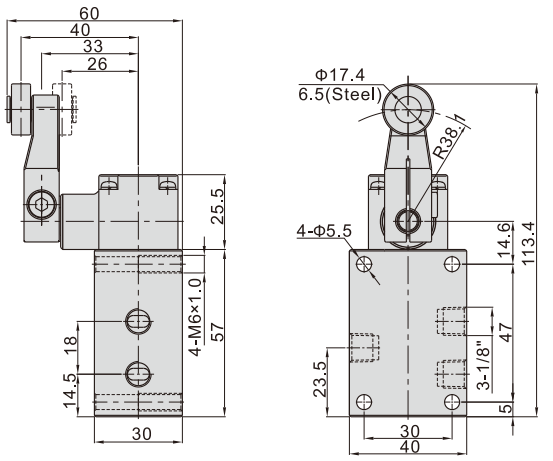
ZM3R



No.	Item	No.	Item
1	Bottom cover	13	Spring holder
2	O-ring	14	Spring
3	Spring	15	Screw
4	Spacer	16	Front cover
5	Spool	17	Bushing
6	Body	18	Shaft
7	O-ring	19	Roller
8	Spring washer	20	Rocker arm
9	Spring	21	Screw
10	Mandril	22	Rotation axis
11	O-ring	23	O-ring
12	Bushing		

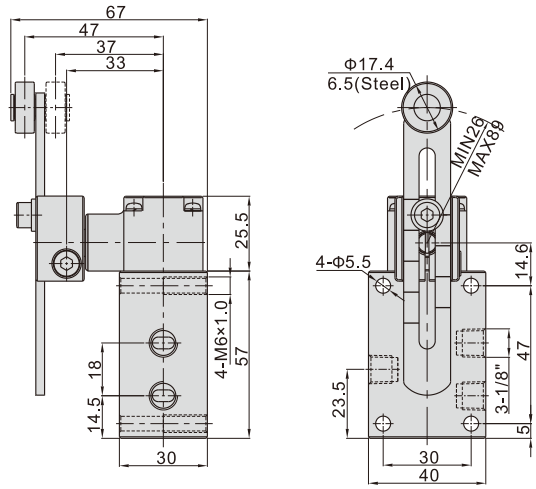
Dimensions

ZM3R



Model\Item	F.O.F	P.T.	O.T.	T.T.
ZM3R06	20N	20°	30°	50°
ZM3R06-W	20N	25°	50°	75°

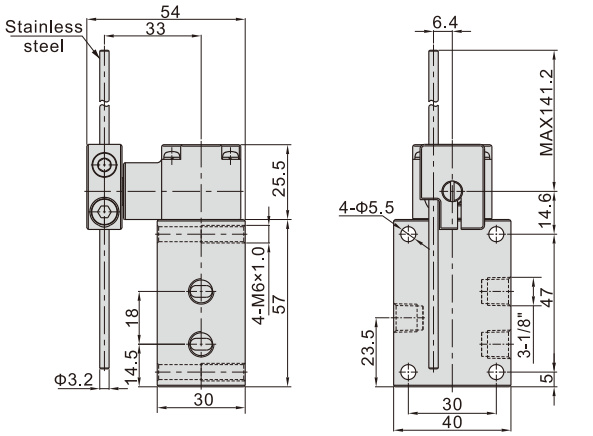
ZM3J



Model\Item	F.O.F [Note1]	P.T.	O.T.	T.T.
ZM3J06	20N	20°	30°	50°
ZM3J06-W	20N	25°	50°	75°

[Note1] When the length of leverage is 38.1mm

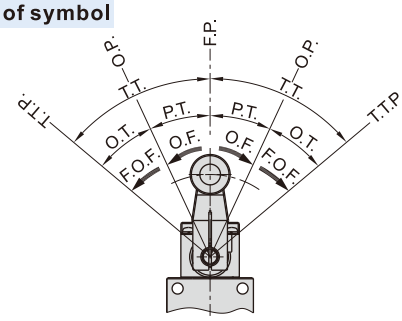
ZM3P



Model\Item	F.O.F [Note1]	P.T.	O.T.	T.T.
ZM3P06	2.3N	20°	30°	50°
ZM3P06-W	2.3N	25°	50°	75°

[Note1] When the length of leverage is 141.2mm

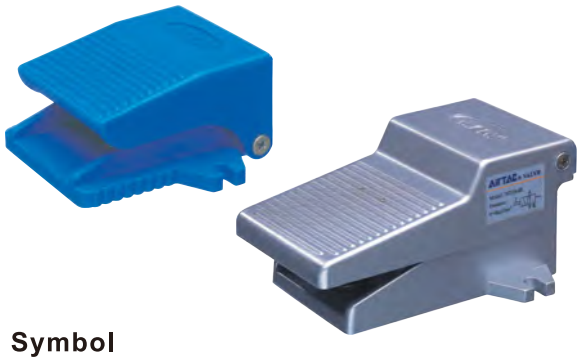
Description of symbol



F.P. Free position: the position of control head when no external force applied;
O.P. Activity position: the position when the control head is applied with external force and the valve is switched;
T.T.P. Extreme position of actuation: position of control head when it is pushed until end position;
O.F. Actuation power: when driving from free position to actuation position, the operation power applied on control head;
F.O.F. Extreme actuation power: when driving from free position to extreme actuation position, the operation power applied on control head;
P.T. Free route: movement distance or rotation angle from free position of control head to actuation position;
O.T. Actuation route: movement distance or rotation angle from actuation position of control head to extreme actuation position;
T.T. Total route: movement distance or rotation angle from free position of control head to extreme actuation position;

Foot pedal valve(3/2way)

3F, 3FM Series



Specification

Model	3FM210-M5	3F210-06	3FM210-06	3F210-08	3FM210-08
Fluid	Air (to be filtered by 40 μm filter element)				
Operating	Acting type controlled by foot normally closed				
Port size[Note1]	M5	1/8"	1/8"	1/4"	1/4"
Valve type	3/2 Way				
Pressure range	0~1.0MPa(0~145psi)				
Proof pressure	1.5MPa(215psi)				
Temperature	-20~70℃				
Material of body	3FM:Plastic; 3F:Aluminum alloy				
Lubrication	Not required				

[Note1] PT thread, G thread and NPT thread are available.

Symbol

Without lock

With lock

Product feature

1. Direct acting and normally closed type.
2. The 3F series has aluminum foot pedal and 3FM series has plastic foot pedal, in direct acting type, horizontal and compact structure.
3. If the duration of direction-change is long, the valves with lock may be selected.
4. The clamping framework is steady and reliable that it is easy and quick to unlock. However, with the limitation of the dimension of structure, it can not bear frequent strong impact.

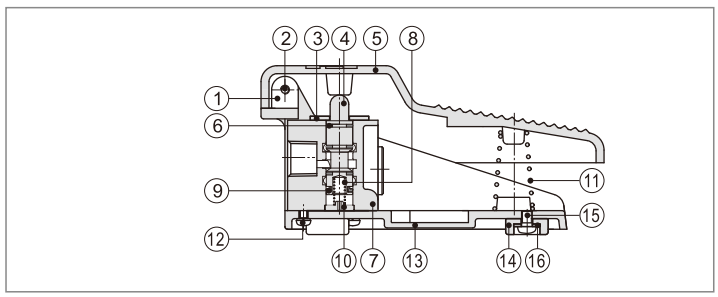
Ordering code

3F210 08 L □

① ② ③ ④

①Model	②Port size	③Note	④Thread type	
3FM210: 3/2 way foot pedal valve (mini type)	M5: M5 06: 1/8" 08: 1/4"	No this code	M5	1/8" 1/4"
			No this code	Blank: PT G: G T: NPT
3F210: 3/2 way foot pedal valve	06: 1/8" 08: 1/4"	Blank: Without lock L: With lock		

Inner structure

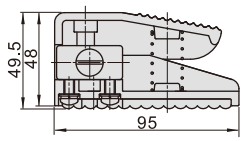


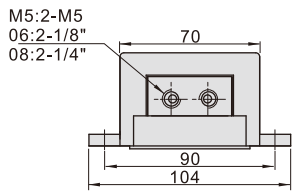
No.	Item	No.	Item	No.	Item
1	Pin	7	Body	13	Base
2	Fixed screw	8	Spring	14	Base pad
3	Fixed plate	9	E clip	15	Fixed screw
4	Spool	10	Spring holder	16	Clip
5	Pedal	11	Override spring		
6	O-ring	12	Fixed screw		

Note Lockable type should be added grease periodically to ensure the lock mechanism can work regularly

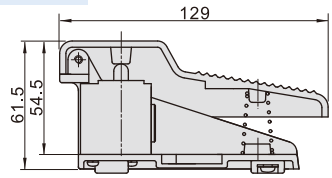
Dimensions

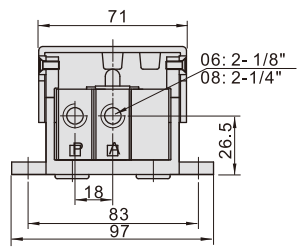
3FM210



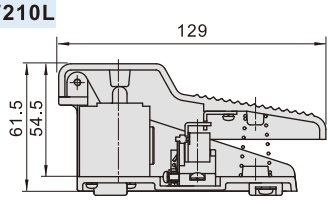


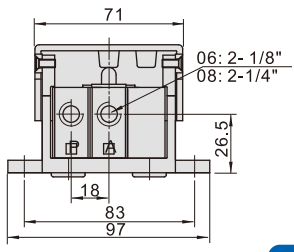
3F210





3F210L





Foot pedal valve(5/2way)

4F Series

Specification

Model	4F210-08	4F210-08L	4F210-08F	4F210-08LF
Fluid	Air (to be filtered by 40 μm filter element)			
Operating	Acting type controlled by foot			
Port size [Note1]	1/4"			
Valve type	5/2 Way			
Pressure range	0~1.0MPa(0~145psi)			
Proof pressure	1.5MPa(215psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Lubrication	Not required			

[Note1] PT thread, G thread and NPT thread are available.

Symbol

Without lock

With lock

Product feature

1. The aluminum foot pedal is designed with direct acting, which is steady and reliable.
2. If the duration of direction-change is long, the valves with lock may be selected.
3. The clamping framework is steady and reliable that it is easy and quick to unlock. However, with the limitation of the dimension of structure, it can not bear frequent strong impact.
4. Plastic guard with high strength may be selected.

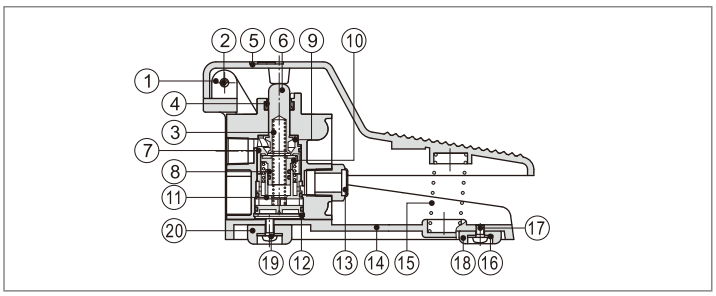
Ordering code

4F210 08 L □

① ② ③ ④

①Model	②Port size	③Note	④Thread type
4F210: 5/2 way foot pedal valve	08: 1/4"	Blank: Without lock L: With lock F: With guard LF: With lock and guard	Blank: PT G: G T: NPT

Inner structure

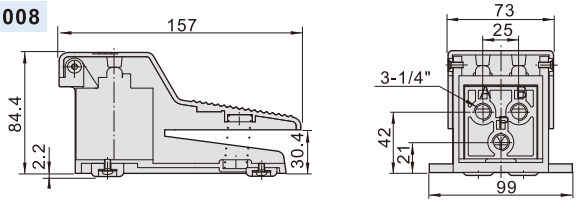


No.	Item	No.	Item	No.	Item	No.	Item
1	Pin	6	Spool	11	Bottom cover	16	Washer
2	Screw	7	O-ring	12	C clip	17	Screw
3	Spring	8	O-ring	13	Silencer	18	Base pad
4	E clip	9	Front cover	14	Base	19	Screw
5	Pedal	10	Piston	15	Pedal spring	20	Base pad

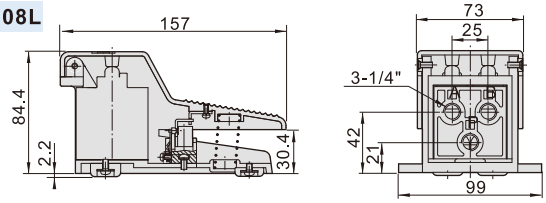
Note! Lockable type should be added grease periodically to ensure the lock mechanism can work regularly.

Dimensions

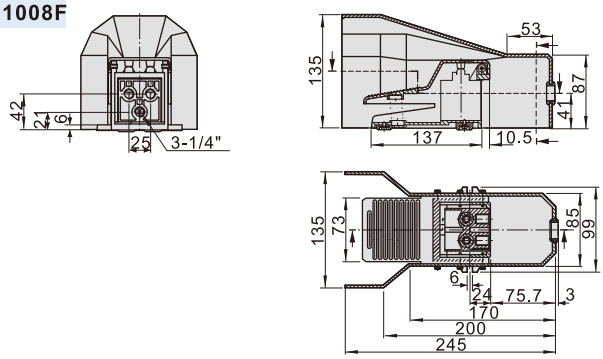
4F21008



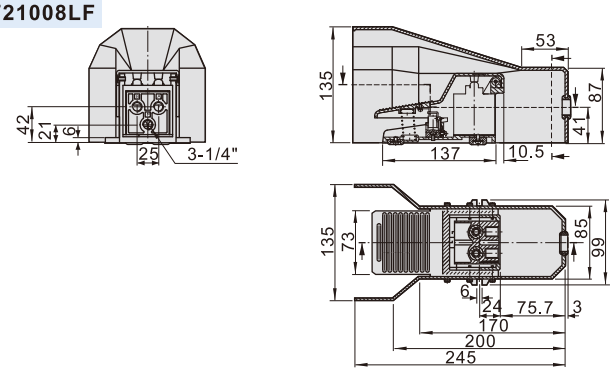
4F21008L



4F21008F



4F21008LF



Flow control valve

ASC Series

Specification

Model		ASC100-06	ASC200-08	ASC300-10	ASC300-15
Fluid		Air (to be filtered by 40 μm filter element)			
Port size [Note1]		1/8"	1/4"	3/8"	1/2"
Pressure range		0.05~0.95MPa(7~135psi)			
Proof pressure		1.5MPa(215psi)			
Temperature		-20~70℃			
Material of body		Aluminum alloy			
Flow (L/min)	Control flow	200	450	1250	1650
	Free flow	400	800	1500	2500

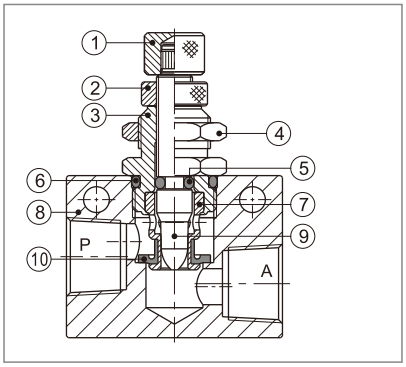
[Note1] PT thread, G thread and NPT thread are available.

Symbol

Product feature

1. Small and compact structure.
2. Allows air to exhaust and cut off air flow. The adjustment screw is both sensitive and precise.
3. Can be mounted in various position to facilitate installation and application.

Inner structure



No.	Item
1	Adjustment cap
2	Clamping cap
3	Throttle body
4	Hexagon nut
5	O-ring
6	O-ring
7	Throttle sheath
8	Body
9	Throttle column
10	Spool O-ring

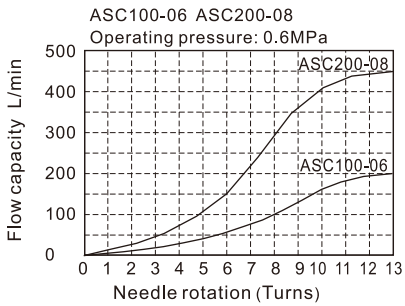
Ordering code

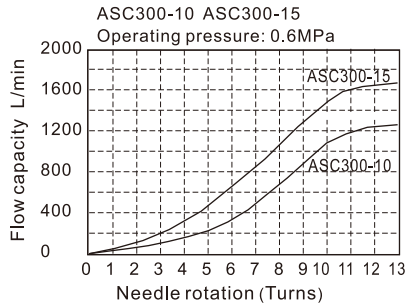
ASC 300 10 □

① ② ③ ④

①Model	②Code	③Port size	④Thread type
ASC: Flow control valve	100: 100 series	06: 1/8"	Blank: PT G: G T: NPT
	200: 200 series	08: 1/4"	
	300: 300 series	10: 3/8"	
		15: 1/2"	

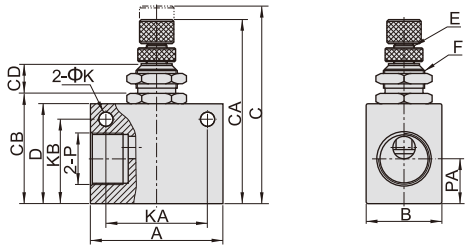
Flow chart



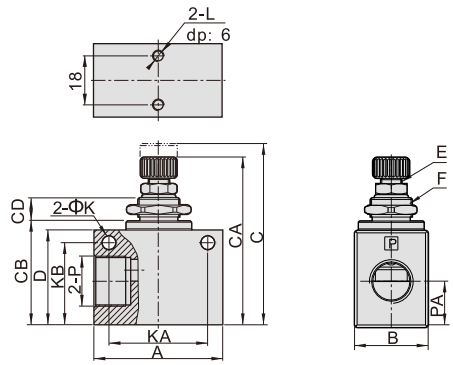


Dimensions

ASC100\ASC200



ASC300



Model\Item	A	B	C	CA	CB	CD	D	E	F	K	KA	KB	L	P	PA
ASC10006	32	18	52.5	47	26	8.6	23	M6×0.5	M12×0.75	4.3	22	18	M4×0.7	1/8"	10
ASC20008	36	18	56.5	51	30	8.6	27	M6×0.5	M12×0.75	4.3	26	23	M4×0.7	1/4"	13.5
ASC30010	50	28	74	65	40.5	10	37	M8×0.75	M16×1.0	5.3	35	32	M4×0.7	3/8"	17.5
ASC30015	50	28	74	65	40.5	10	37	M8×0.75	M16×1.0	5.3	35	32	M4×0.7	1/2"	17.5

Non-return valve

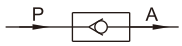
NRV Series

Specification

Model	NRV06	NRV08	NRV10	NRV15	NRV20	NRV25
Fluid	Air (to be filtered by 40 μm filter element)					
Port size [Note1]	1/8"	1/4"	3/8"	1/2"	3/4"	1"
Orifice size mm^2(Cv valve)	18(1.0)	27(1.5)	60(3.33)	73(4.06)	230(12.78)	260(14.44)
Pressure range	0.02~1.0MPa(2.9~145psi)					
Proof pressure	1.5MPa(215psi)					
Temperature	-20~70℃					
Material of body	Aluminum alloy					

[Note1] PT thread, G thread and NPT thread are available.

Symbol

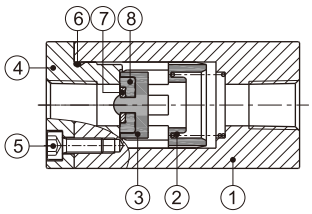


Product feature

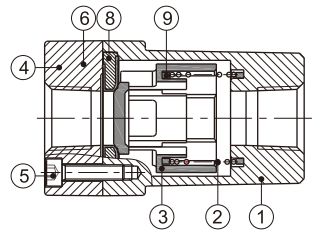
1. There are many port sizes: 1/8", 1/4", 3/8", 1/2", 3/4", 1".
2. It allows the fluid to flow in one direction **ONLY**.
3. It is prevent backflow due to sudden drop in pressure or decrease in air consumption .
4. There is large valid area of section.
5. The spool is made of POM, valve's core sealed with rubber, and it has a compact structure.

Inner structure

NRV06\NRV08



NRV10~25



No.	Item
1	Body
2	Spring
3	Spool
4	End cover
5	Screw
6	O-ring
7	Washer
8	Gasker washer
9	Bumper

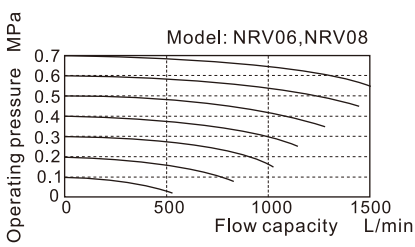
Ordering code

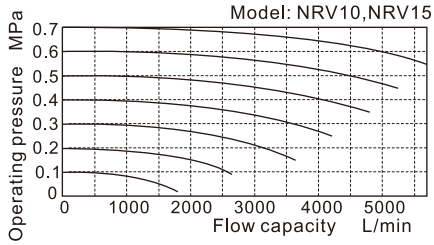
NRV 08 □

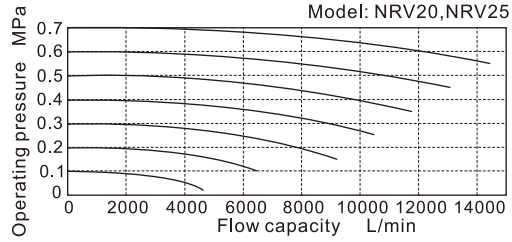
① ② ③

①Model	②Port size	③Thread type
NRV: Non-return valve	06: 1/8" 08: 1/4" 10: 3/8" 15: 1/2" 20: 3/4" 25: 1"	Blank: PT G: G T: NPT

Flow chart

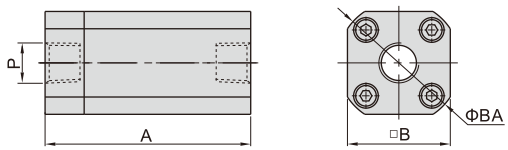






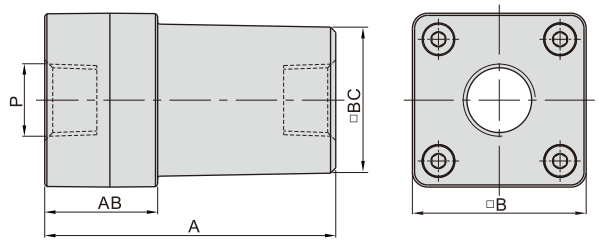
Dimensions

NRV06\NRV08



Model\Item	A	AB	B	BA	BC	P
NRV06	50	-	25	30	-	1/8"
NRV08	50	-	25	30	-	1/4"
NRV10	67	26	40	-	33.6	3/8"
NRV15	67	26	40	-	33.6	1/2"
NRV20	95	31.5	52	-	46.7	3/4"
NRV25	95	31.5	52	-	46.7	1"

NRV10~25



Pilot no-return valve

PCV series

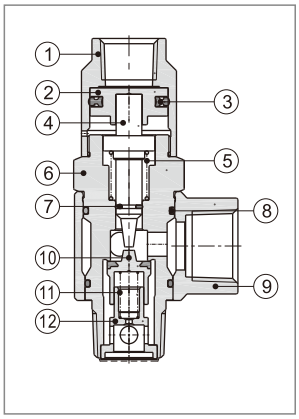
Specification

Model		PCV06	PCV08	PCV10	PCV15	PCV06F	PCV08F	PCV10F	PCV15F
Fluid		Air(to be filtered by 40μm filter element)							
Operating pressure range		0.15~1.0MPa							
Proof pressure		1.5MPa							
Temperature		-20~70(℃)							
Operating frequency		6(Cycle/minute)		40(Cycle/minute)		60(Cycle/minute)		40(Cycle/minute)	
Port size [Note1]		1/8"	1/4"	3/8"	1/2"	1/8"	1/4"	3/8"	1/2"
Pilot port size		M5X0.8	1/8"	1/4"	1/4"	Φ6	Φ6	Φ8	Φ8
Weight (g)	PT thread	53.2	94.8	142.8	189.6	53	90	142.2	188.1
	G thread	54.6	94.8	145	189	54.2	90.6	143.4	187.6

[Note1] PT thread, G thread are available.

Symbol

Inner structure



No.	Item	Material
1	Pilot body	Aluminum alloy
2	Piston	Aluminum alloy
3	Gasket	NBR
4	Spool	Brass or carbon steel
5	Spring	SUS304
6	Body	Brass
7	Spool O-ring	NBR
8	O-ring	NBR
9	Conversion fitting	Aluminum alloy
10	Plunger	Aluminum alloy+NBR
11	Spring	SUS304
12	Base	Aluminum alloy

Product feature

1. Can be used for safety loop of pressure holding.
2. Can make cylinder momentary stop, accurate orientation.
3. Can be used special loop.
4. Fitting joint type is used for pilot port, which saved space and improve efficiency of installation.

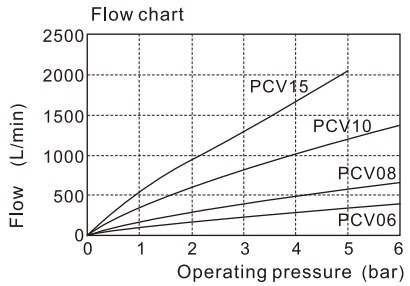
Ordering code

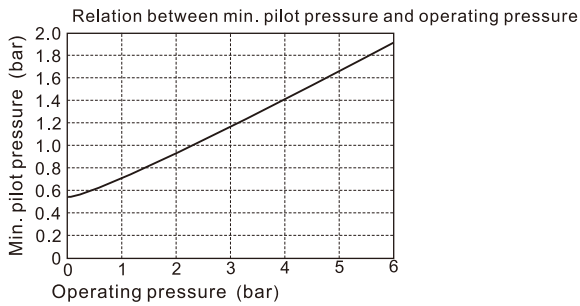
PCV 06 □ □

1 2 3 4

①Model	②Port size	③Pilot port type			④Thread type
		Pilot port type	Pilot port size	Inlet/outlet port size	
PCV: Pilot no-return valve	06: 1/8" 08: 1/4" 10: 3/8" 15: 1/2"	Blank: Female thread	M5X0.8	1/8"	Blank: PT G: G
			1/8"	1/4"	
			1/4"	3/8", 1/2"	
		F: Fitting	Φ6	1/8", 1/4"	
			Φ8	3/8", 1/2"	

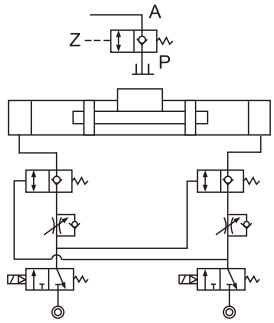
Flow chart, Relation between min. pilot pressure and operating pressure





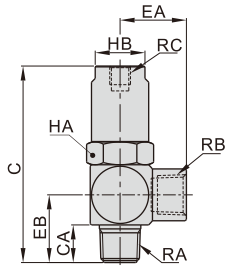
Typical application

Accurate orientation

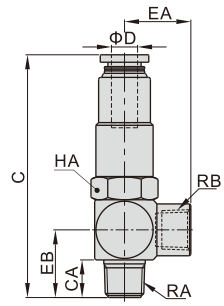


Dimensions

PT Thread



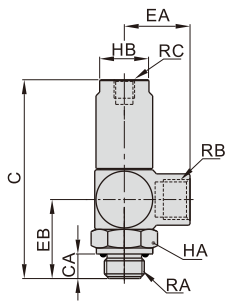
Female thread



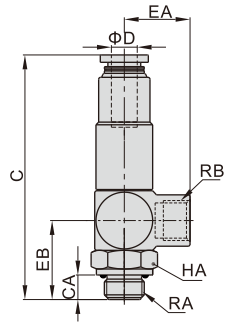
Fitting

Model\Item	C	CA	D	EA	EB	HA	HB	RA	RB	RC
PCV06	48.5	7.5	-	16	16.5	14	12	1/8"	1/8"	M5X0.8
PCV08	59	10	-	20.3	21	17	14	1/4"	1/4"	1/8"
PCV10	74.5	11	-	25	26	22	17	3/8"	3/8"	1/4"
PCV15	79.5	14	-	28	29.5	24	19	1/2"	1/2"	1/4"
PCV06F	58.5	7.5	6	16	16.5	14	-	1/8"	1/8"	-
PCV08F	67	10	6	20.3	21	17	-	1/4"	1/4"	-
PCV10F	82	11	8	25	26	22	-	3/8"	3/8"	-
PCV15F	87	14	8	28	29.5	24	-	1/2"	1/2"	-

G Thread



Female thread



Fitting

Model\Item	C	CA	D	EA	EB	HA	HB	RA	RB	RC
PCV06G	48.5	5.5	-	16	19	14	12	G1/8	G1/8	M5X0.8
PCV08G	59	6.5	-	20.3	24	17	14	G1/4	G1/4	G1/8
PCV10G	74.5	7.5	-	25	30.5	22	17	G3/8	G3/8	G1/4
PCV15G	79.5	9	-	28	34.5	24	19	G1/2	G1/2	G1/4
PCV06FG	58.5	5.5	6	16	19	14	-	G1/8	G1/8	-
PCV08FG	67	6.5	6	20.3	24	17	-	G1/4	G1/4	-
PCV10FG	82	7.5	8	25	30.5	22	-	G3/8	G3/8	-
PCV15FG	87	9	8	28	34.5	24	-	G1/2	G1/2	-

Compendium of Fluid control valve

P166	Product feature	Photo	P170	Product feature	Photo
2WA Series direct-acting or internally piloted and normally closed	●Shut-off structure or piston piloted structure ●Wide operating pressure range ●Body material: Brass ●Apply to various fluids ●Terminal and Grommet ●2/2 way		2KWA Series direct-acting or internally piloted and normally opened	●Shut-off structure or piston piloted structure ●Wide operating pressure range ●Body material: Brass ●Apply to various fluids ●Terminal and Grommet ●2/2 way	
P174	Product feature	Photo	**P178**	Product feature	Photo
2SA Series direct-acting or internally piloted and normally closed	●Shut-off structure or piston piloted structure ●Wide operating pressure range ●Body material: SUS304 ●Apply to various fluids ●Terminal and Grommet ●2/2 way		2KSA Series direct-acting or internally piloted and normally opened	●Shut-off structure or piston piloted structure ●Wide operating pressure range ●Body material: SUS304 ●Apply to various fluids ●Terminal and Grommet ●2/2 way	
P183	Product feature	Photo	**P187**	Product feature	Photo
2S Series direct-acting or internally piloted and normally closed	●Shut-off structure or piston piloted structure ●Wide operating pressure range ●Body material: SUS304 ●Apply to various fluids ●Terminal and Grommet ●2/2 way		2KS Series direct-acting or internally piloted and normally opened	●Shut-off structure or piston piloted structure ●Wide operating pressure range ●Body material: SUS304 ●Apply to various fluids ●Terminal and Grommet ●2/2 way	
P191	Product feature	Photo	**P195**	Product feature	Photo
2W Series direct-acting or internally piloted and normally closed	●Shut-off structure or piston piloted structure ●Wide operating pressure range ●Body material: Brass ●Apply to various fluids ●Terminal and Grommet ●2/2 way		2KW Series direct-acting or internally piloted and normally opened	●Shut-off structure or piston piloted structure ●Wide operating pressure range ●Body material: Brass ●Apply to various fluids ●Terminal and Grommet ●2/2 way	
P199	Product feature	Photo	**P203**	Product feature	Photo
2L Series direct-acting or internally piloted and normally closed	●Shut-off structure or piston piloted structure ●Wide operating pressure range ●Body material: SUS304 ●Apply to various fluids and high temp. ●Terminal and Grommet ●2/2 way		2KL Series direct-acting or internally piloted and normally opened	●Shut-off structure or piston piloted structure ●Wide operating pressure range ●Body material: SUS304 ●Apply to various fluids and high temp. ●Terminal and Grommet ●2/2 way	
P208	Product feature	Photo	**P210**	Product feature	Photo
2V Series	●Direct-acting and diaphragm piloted optional ●Body material: Stainless steel or brass ●Apply to various fluids ●Terminal and Grommet ●2/2 way		2J Series angle seat valve	●Air piloted structure ●Body and pitman material: Stainless steel ●The structure of valve is angles at 45° degrees with streamline inner chamber design ●Apply to various fluids and high temp.	

Installation and Application

1. Before installing, be sure the valve hasn't been damaged via transportation.
2. The coil must be pure vertical, the inlet and outlet on body must be horizontal. it's suggested to use the medium lubricated by 40μm filter element. Be aware of the flow direction and port size.
3. Please notice whether the installation condition accords with technical requirements (such as “voltage”,“actuation frequency”, “working pressure” and “scope of application temperature”), then the equipment can be installed and used.
4. Take measure to avoid vibration and frozen.
5. Before using the fittings and tubes make sure they are clean. When connecting tofittings, be sure the PTFE Thread Seal Tape is used correctly.
6. To keep the dust away, Default paragraph font;Never forget to install dirt-proof boot in air intake and outlet during dismounting.

Fluid control valve(2/2way)

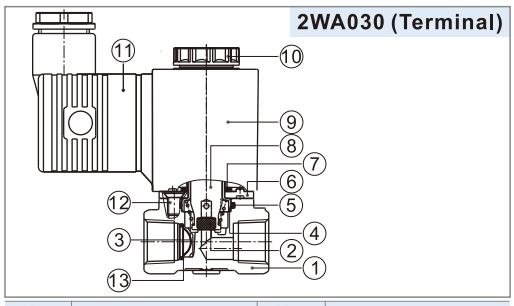
2WA Series (Direct-acting and normally closed)

Symbol

Product feature

1. Direct acting and normally closed type 2/2 way fluid valve. Its high sensibility allows it to change direction quickly;
2. It has wide pressure range, including extra high pressure (X), high pressure (H), standard , large volume(L) and extra large volume (T);
3. It is compact, small size and light weight. Easy to install and dismantle.
4. The valve body is made of brass . Its coil has a Heat resistance classification of Class F. The standard seal material is FPM-F. Please contact us if other seal material are required.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Inner structure



No.	Item	No.	Item
1	Body	8	Movable core
2	Airtight ring	9	Coil assembly
3	Spring	10	Coil nut
4	Steel bushing	11	Connecter
5	O-ring	12	Screw
6	Fixed plate	13	Filter [Note]
7	O-ring		

[Note] Extra large volume type has no filter element.

Specification

Model\Item		Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
							MPa	psi	MPa	psi
2WAX030	-06	1/8"	1.5	0.10	1.8	245	3.0	450	5.0	750
	-08	1/4"				235				
2WAH030	-06	1/8"	2.0	0.18	3.0	245	2.0	300		
	-08	1/4"				235				
2WA030	-06	1/8"	3.0	0.33	6.0	245	1.0	150		
	-08	1/4"				235				
2WAL030	-06	1/8"	4.0	0.55	10.0	245	0.5	75		
	-08	1/4"				235				
2WAT030	-06	1/8"	6.0	1.10	12.0	245	0.1	15		
	-08	1/4"				235				
2WAX050	-10	3/8"	3.0	0.34	6.1	530	3.0	450		
	-15	1/2"				510				
2WAH050	-10	3/8"	4.0	0.55	10.0	530	2.0	300		
	-15	1/2"				510				
2WA050	-10	3/8"	5.0	0.83	15.0	530	1.0	150		
	-15	1/2"				510				
2WAL050	-10	3/8"	7.0	1.40	25.0	530	0.5	75		
	-15	1/2"				510				
2WAT050	-10	3/8"	10.0	2.20	40.0	530	0.1	15		
	-15	1/2"				510				

[Note1] PT thread, G thread, and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2WA030 series grommet valve's weight is 10g less than terminal's. 2WA050series grommet valve's weight is 20g less than terminal's.

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2WA□030	CDA110 CLA110	AC	50	±15%	Terminal (CDA) Grommet (CLA)	10.0VA	Class F	35
			60			8.0VA		30
		DC	–	±10%		6.5W		30
2WA□050	CDA160 CLA160	AC	50	±15%		25.0VA		60
			60			22.0VA		55
		DC	–	±10%		12.0W		40

Valve's specification

Acting	Direct acting				
Initial state	Normally closed				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Ordering code

Ordering code of valves

2WA L 030 08 A □ □

1 2 3 4 5 6 7

①Model	②Pressure condition	③Size series	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
2WA: 2/2 way direct-acting and normally closed	X: Extra high pressure H: High pressure Blank: Standard L: Large volume T: Extra large volume	030: 030 Series	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
		050: 050 Series	10: 3/8" 15: 1/2"			

[Note] The wire length is 0.5m.

Ordering code of accessories

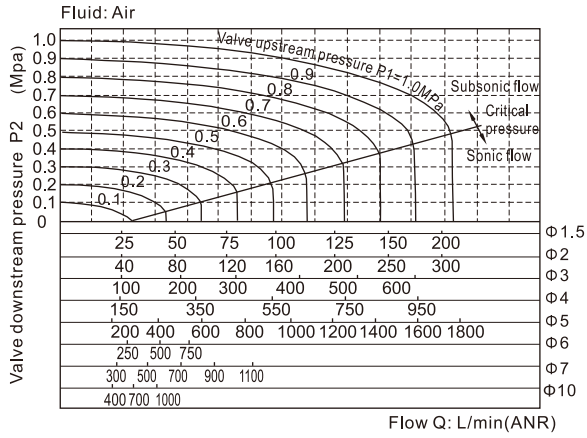
F-2WA030 LB

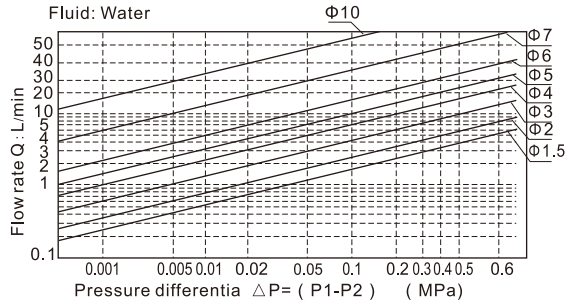
1 2 3

①Accessories code	②Valve type	③Accessories type
F: Mounting accessories	2WA030: 030 Series valve 2WA050: 050 Series valve	LB: LB Type

2WA Series (Direct-acting and normally closed)

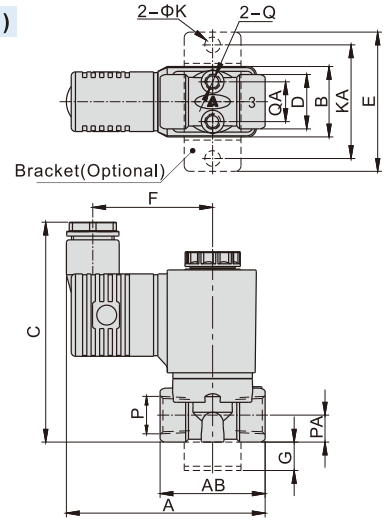
Flow chart



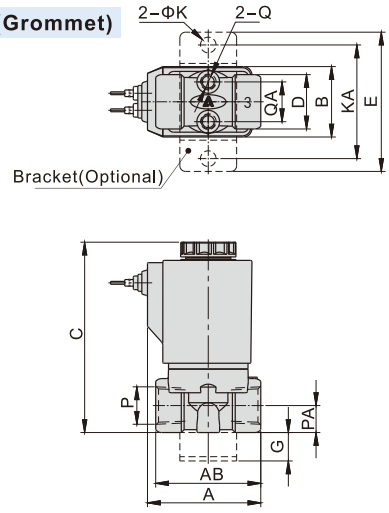


Dimensions

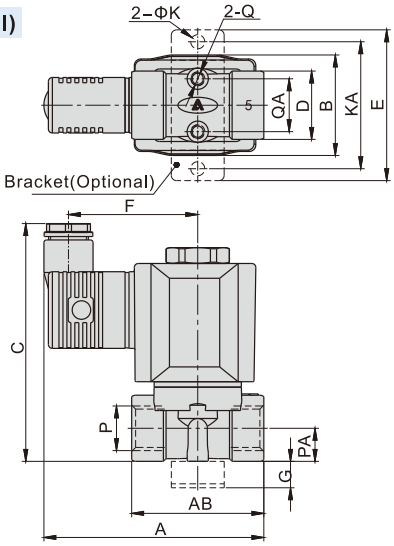
2WA□030 (Terminal)



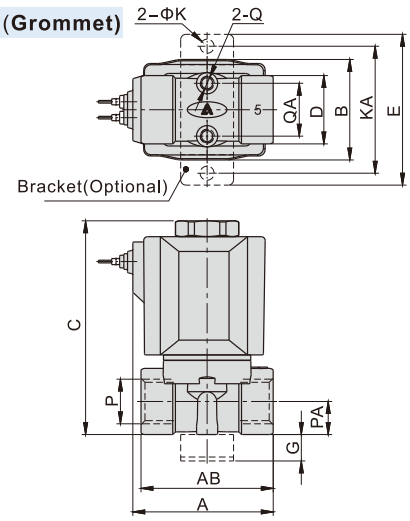
2WA□030 (Grommet)



2WA□050 (Terminal)



2WA□050 (Grommet)



Model\Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2WA□030-06	70	37	25	77.5	19	49	42	10	5.5	40	1/8"	9.5	M5	13.5
2WAT□030-06	71.5	39.5	25	77.5	19	49	42	10	5.5	40	1/8"	9.5	M5	13.5
2WA□030-08	70	37	25	77.5	19	49	42	10	5.5	40	1/4"	9.5	M5	13.5
2WAT□030-08	71.5	39.5	25	77.5	19	49	42	10	5.5	40	1/4"	9.5	M5	13.5
2WA□050-10	83	50	38	90	26	57	49	10	5.5	48	3/8"	12.5	M5	19.5
2WAT□050-10	84	51	38	93	26	57	49	10	5.5	48	3/8"	12.5	M5	19.5
2WA□050-15	83	50	38	90	26	57	49	10	5.5	48	1/2"	12.5	M5	19.5
2WAT□050-15	84	51	38	93	26	57	49	10	5.5	48	1/2"	12.5	M5	19.5

Model\Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2WA□030-06	40	37	25	67	19	49	10	5.5	40	1/8"	9.5	M5	13.5
2WAT□030-06	41.5	39.5	25	67	19	49	10	5.5	40	1/8"	9.5	M5	13.5
2WA□030-08	40	37	25	67	19	49	10	5.5	40	1/4"	9.5	M5	13.5
2WAT□030-08	41.5	39.5	25	67	19	49	10	5.5	40	1/4"	9.5	M5	13.5
2WA□050-10	53	50	38	81	26	57	10	5.5	48	3/8"	12.5	M5	19.5
2WAT□050-10	54	51	38	84	26	57	10	5.5	48	3/8"	12.5	M5	19.5
2WA□050-15	53	50	38	81	26	57	10	5.5	48	1/2"	12.5	M5	19.5
2WAT□050-15	54	51	38	84	26	57	10	5.5	48	1/2"	12.5	M5	19.5

Fluid control valve(2/2way)

2WA Series (Internally piloted and normally closed)

Specification

Model\Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2WA150-15	1/2"	15.0	5.50	100.0	575	Max: 1.0 Min: 0.05	Max: 150 Min: 10	1.5	220
2WA200-20	3/4"	20.0	9.50	170.0	735				
2WA250-25	1"	25.0	12.5	220.0	1035				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, grommet valve's weight is 10g less than terminal's.

Symbol

Product feature

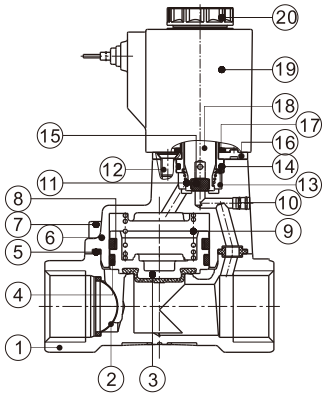
1. Indirect acting(Internal pilot) and normally closed type 2/2 way fluid valve. Its can change direction quickly and has large flow.
2. It is compact, small and light weight. Easy to install and dismantle;
3. The valve body is made of brass . The coil has a Heat resistance classification of Class F. The standard seal material is FPM-F. Please contact us if other seal material are required.
4. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2WA150 2WA200 2WA250	CDA110 CLA110	AC	50	±15%	Terminal (CDA) Grommet (CLA)	10.0VA	Class F	35
			60			8.0VA		30
		DC	-	±10%		6.5W		30

Inner structure

2WA150 (Grommet)



No.	Item
1	Body
2	Filter
3	Piston
4	Wear ring
5	O-ring
6	Cover
7	Screw
8	Spring
9	Spring
10	Spacer
11	Spring
12	Screw
13	Steel bushing
14	O-ring
15	Airtight ring
16	Fixed plate
17	O-ring
18	Movable core
19	Coil assembly
20	Coil nut

Valve's specification

Acting	Internally piloted				
Initial state	Normally closed				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Ordering code

Ordering code of valves

2WA 150 15 A □ □

①Model	②Orifice size	③Port size	④Voltage	⑤Electrical entry	⑥Thread type
2WA: 2/2 way internally piloted and normally closed	150: Φ15mm	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet [Note]	Blank: PT G: G T: NPT
	200: Φ20mm	20: 3/4"			
	250: Φ25mm	25: 1"			

[Note] The wire length is 0.5m.

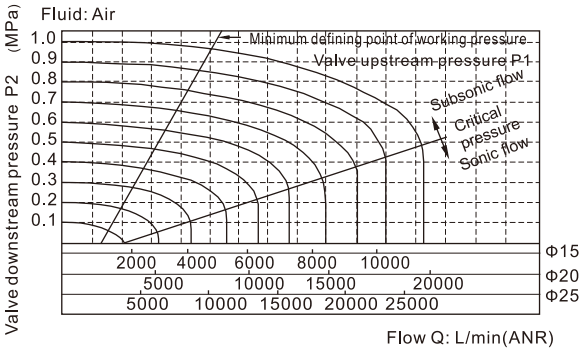
Ordering code of accessories

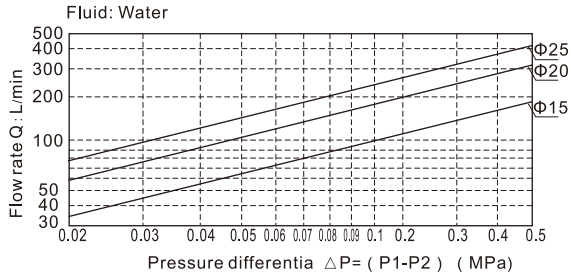
F–2WA150 LB

①Accessories code	②Valve type	③Accessories type
F: Mounting accessories	2WA150: 150 Series valve 2WA200: 200 Series valve 2WA250: 250 Series valve	LB: LB Type

2WA Series (Internally piloted and normally closed)

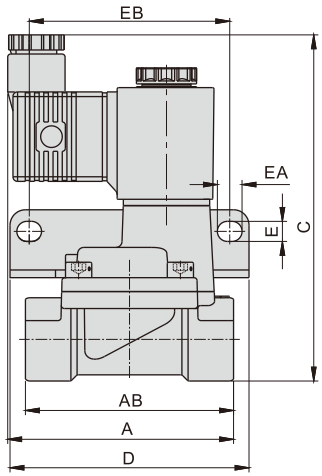
Flow chart

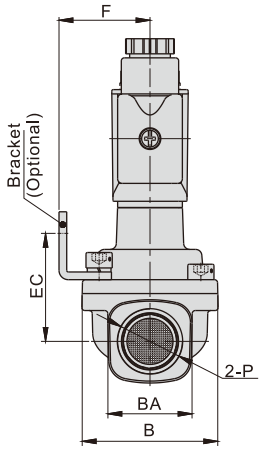




Dimensions

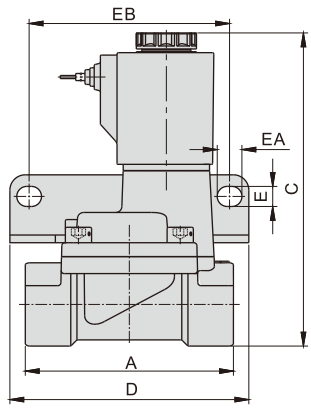
Terminal

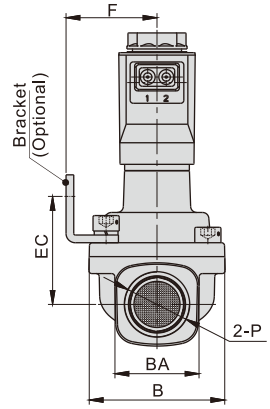




Model\Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
2WA150-15	73.5	67.5	44	27.5	112	77.5	6.5	8	65	35	29.5	1/2"
2WA200-20	75.5	79.5	51	33	119	87.5	6.5	8	75	38	33	3/4"
2WA250-25	77.5	90	57	40	126	93	6.5	8	80	42	35	1"

Grommet





Model\Item	A	B	BA	C	D	E	EA	EB	EC	F	P
2WA150-15	67.5	44	27.5	102	77.5	6.5	8	65	35	29.5	1/2"
2WA200-20	79.5	51	33.5	109	87.5	6.5	8	75	38	33	3/4"
2WA250-25	90	57	40.5	116	93	6.5	8	80	42	35	1"

Fluid control valve(2/2 way)

2KWA Series (Direct-acting and normally opened)

Symbol

Product feature

1. Direct acting and normally opened type 2/2 way fluid valve. Its high sensibility allows it to change direction quickly;
2. It has wide pressure range, including extra high pressure (X), high pressure (H), standard and large volume(L) to choose from;
3. It is compact, small size and light weight. Easy to install and dismantle.
4. The valve body is made of brass . Its coil has a Heat resistance classification of Class F. The standard seal material is FPM-F. Please contact us if other seal material are required.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Specification

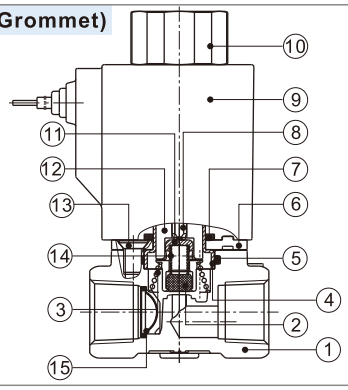
Model\Item		Port size [Note1]	Cv	Orifice size (Φmm)	Valid area or section (mm^2)	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
							MPa	psi	Mpa	psi
2KWAX030	-06	1/8"	0.10	1.5	1.8	245	2.0	300	3.0	450
	-08	1/4"				235				
2KWAH030	-06	1/8"	0.18	2.0	3.0	245	1.5	220		
	-08	1/4"				235				
2KWA030	-06	1/8"	0.33	3.0	6.0	245	0.7	100		
	-08	1/4"				235				
2KWAL030	-06	1/8"	0.55	4.0	10.0	245	0.4	60		
	-08	1/4"				235				
2KWAX050	-10	3/8"	0.34	3.0	6.1	530	2.0	300		
	-15	1/2"				510				
2KWAH050	-10	3/8"	0.55	4.0	10.0	530	1.5	220		
	-15	1/2"				510				
2KWA050	-10	3/8"	0.83	5.0	15.0	530	0.7	100		
	-15	1/2"				510				
2KWAL050	-10	3/8"	1.40	7.0	25.0	530	0.4	60		
	-15	1/2"				510				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2KWA030 series grommet valve's weight is 10g less than terminal's. 2KWA050series grommet valve's weight is 20g less than terminal's.

Inner structure

2KWA030(Grommet)



No.	Item	No.	Item	No.	Item
1	Body	6	Fixed plate	11	Airtight bush
2	Airtight ring	7	O-ring	12	Electromagnet
3	Spring	8	Mandril	13	Screw
4	Coil axis	9	Coil assembly	14	Spring
5	O-ring	10	Coil nut	15	Filter

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2KWA□030	CDA110 CLA110	AC	50	±15%	Terminal (CDA) Grommet (CLA)	15.0VA	Class F	50
			60			11.0VA		40
		DC	-	±10%		6.5W		30
2KWA□050	CDA160 CLA160	AC	50	±15%		35.0VA		65
			60			30.0VA		60
		DC	-	±10%		12.0W		40

Valve's specification

Acting	Direct acting				
Initial state	Normally opened				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Ordering code

Ordering code of valves

2KWA H 030 08 A □ □

① ② ③ ④ ⑤ ⑥ ⑦

①Model	②Pressure condition	③Size series	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
2KWA: 2/2 way direct-acting and normally opened	X: Extra high pressure H: High pressure Blank: Standard L: Large volume	030: 030 Series	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
		050: 050 Series	10: 3/8" 15: 1/2"			

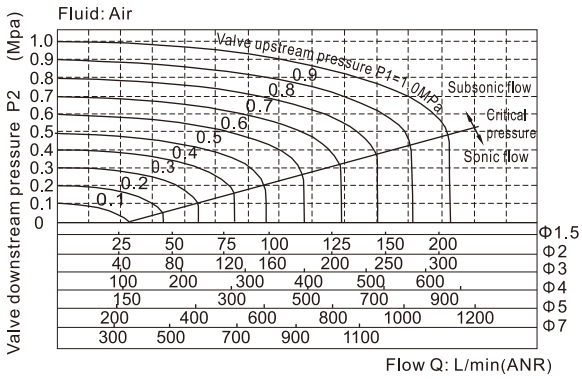
[Note] The wire length is 0.5m.

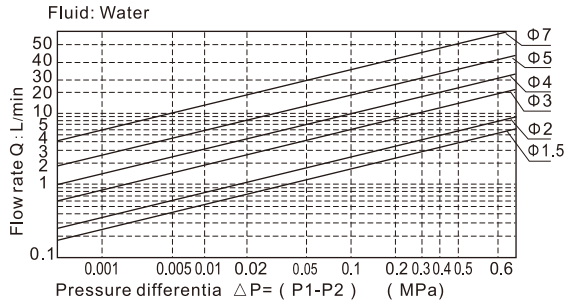
Ordering code of accessories

Ordering code of accessories is the same as 2WA series valve's,Please refer to P164 for details of ordering code.

2KWA Series (Direct-acting and normally opened)

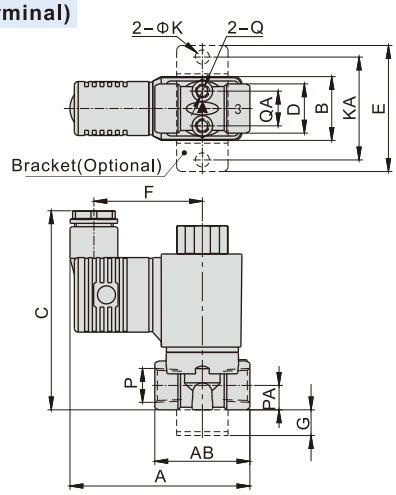
Flow chart



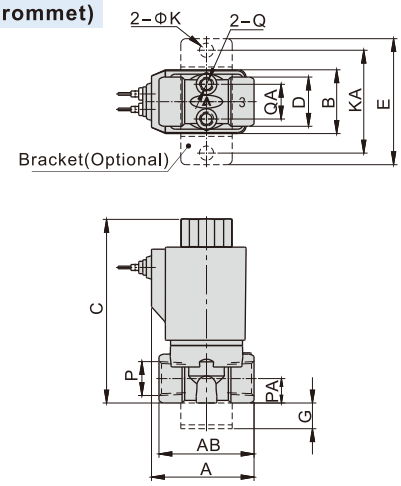


Dimensions

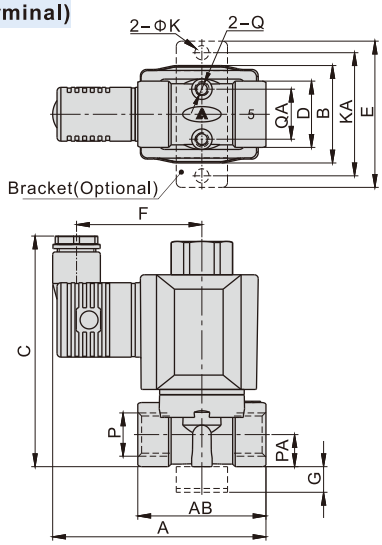
2KWA□030 (Terminal)



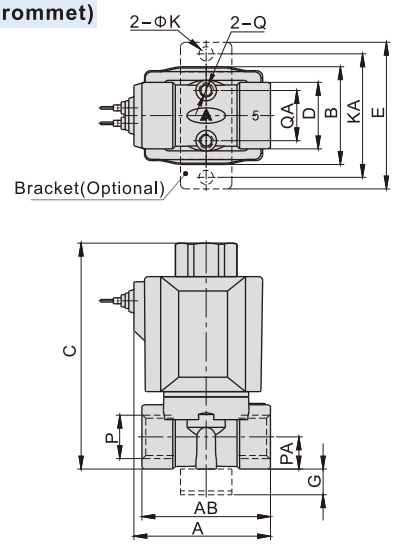
2KWA□030(Grommet)



2KWA□050(Terminal)



2KWA□050(Grommet)



Model\Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2KWA□030-06	70	37	25	77.5	19	49	42	10	5.5	40	1/8"	9.5	M5	13.5
2KWA□030-08	70	37	25	77.5	19	49	42	10	5.5	40	1/4"	9.5	M5	13.5
2KWA□050-10	83	50	38	90	26	57	49	10	5.5	48	3/8"	12.5	M5	19.5
2KWA□050-15	83	50	38	90	26	57	49	10	5.5	48	1/2"	12.5	M5	19.5

Model\Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2KWA□030-06	40	37	25	74	19	49	10	5.5	40	1/8"	9.5	M5	13.5
2KWA□030-08	40	37	25	74	19	49	10	5.5	40	1/4"	9.5	M5	13.5
2KWA□050-10	53	50	38	90	26	57	10	5.5	48	3/8"	12.5	M5	19.5
2KWA□050-15	53	50	38	90	26	57	10	5.5	48	1/2"	12.5	M5	19.5

Fluid control valve(2/2 way)

2KWA Series (Internally piloted and normally opened)

Specification

Model\Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2KWA150-15	1/2"	15.0	5.50	100.0	575	Max: 0.7 Min: 0.05	Max: 100 Min: 10	1.5	220
2KWA200-20	3/4"	20.0	9.50	170.0	735				
2KWA250-25	1"	25.0	12.5	220.0	1035				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, grommet valve's weight is 10g less than terminal's.

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2KWA150 2KWA200 2KWA250	CDA110 CLA110	AC	50	±15%	Terminal (CDA) Grommet (CLA)	15.0VA	Class F	50
			60			11.0VA		40
		DC	-	±10%		6.5W		30

Symbol

Valve's specification

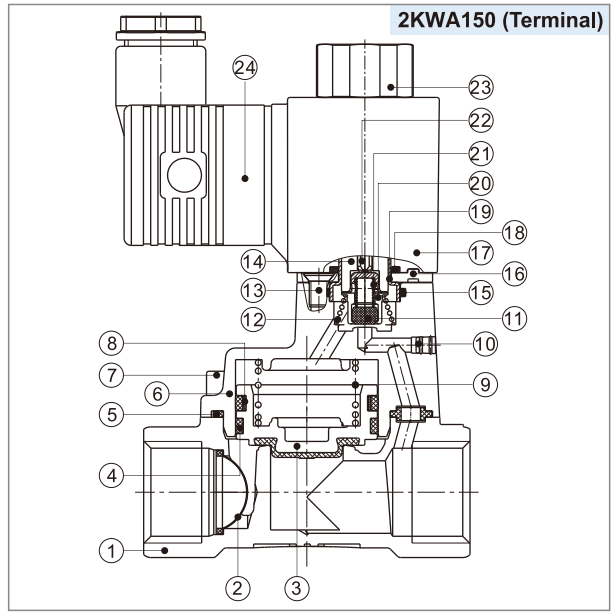
Acting	Internally piloted				
Initial state	Normally opened				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Product feature

1. Indirect acting(Internal pilot) and normally opened type 2/2 way fluid valve. Its can change direction quickly and has large flow.
2. It is compact, small and light weight. Easy to install and dismantle;
3. The valve body is made of brass . The coil has a Heat resistance classification of Class F. The standard seal material is FPM-F. Please contact us if other seal material are required.
4. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Inner structure



No.	Item
1	Body
2	Filter
3	Piston
4	Wear ring
5	O-ring
6	Cover
7	Screw
8	Bonnet spring
9	Spring
10	Bushing
11	Airtight ring
12	Spring
13	Screw
14	Electromagnet
15	O-ring
16	Fixed plate
17	Coil assembly
18	O-ring
19	Coil axis
20	Airtight ring
21	Spring
22	Mandrill
23	Coil nut
24	Connector

Ordering code

Ordering code of valves

2KWA 150 15 A □ □

1 2 3 4 5 6

①Model	②Orifice size	③Port size	④Voltage	⑤Electrical entry	⑥Thread type
2KWA: 2/2 way internally piloted and normally opened	150: Φ15mm	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet [Note]	Blank:PT G: G T: NPT
	200: Φ20mm	20: 3/4"			
	250: Φ25mm	25: 1"			

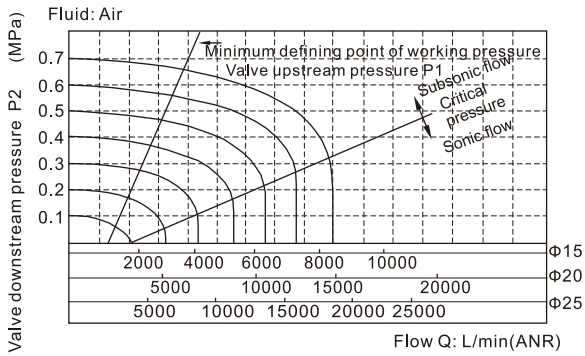
[Note] The wire length is 0.5m.

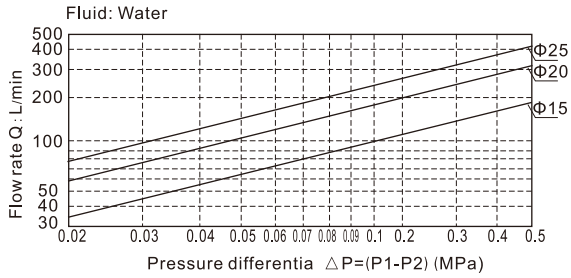
Ordering code of accessories

Ordering code of accessories is the same as 2WA series valve's, Please refer to P166 for details of ordering code.

2KWA Series (Internally piloted and normally opened)

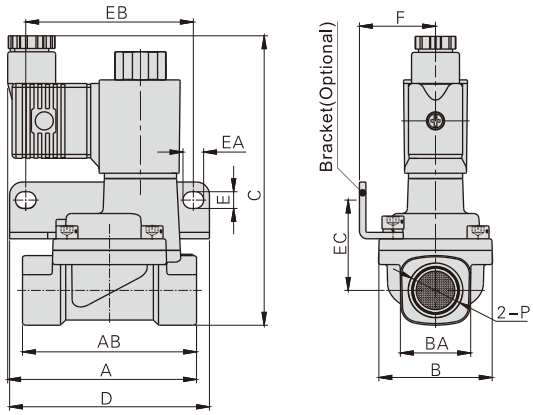
Flow chart





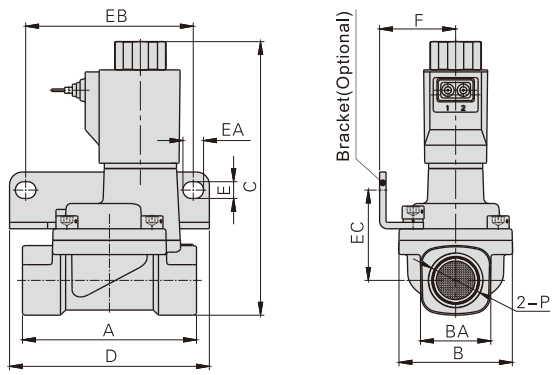
Dimensions

Terminal



Model\Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
2KWA150-15	73.5	67.5	44	27.5	112	77.5	6.5	8	65	35	29.5	1/2"
2KWA200-20	75.5	79.5	51	33.5	119	87.5	6.5	8	75	38	33	3/4"
2KWA250-25	77.5	90	57	40.5	126	93	6.5	8	80	42	35	1"

Grommet



Model\Item	A	B	BA	C	D	E	EA	EB	EC	F	P
2KWA150-15	67.5	44	27.5	109	77.5	6.5	8	65	35	29.5	1/2"
2KWA200-20	79.5	51	33.5	116	87.5	6.5	8	75	38	33	3/4"
2KWA250-25	90	57	40.5	123	93	6.5	8	80	42	35	1"

Fluid control valve(2/2way)

2SA Series (Direct-acting and normally closed)

Symbol

Product feature

1. Direct acting and normally closed type 2/2 way fluid valve. Its high sensibilily allows it to change direction quickly;
2. It has wide pressure range, including extra high pressure (X), high pressure (H), standard , large volume(L) and extra large volume (T);
3. It is compact, small size and light weight. Easy to install and dismantle.
4. The valve body is made of SUS304 . Its coil has a Heat resistance classification of Class F. The standard seal material is FPM-F. Please contact us if other seal material are required.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Specification

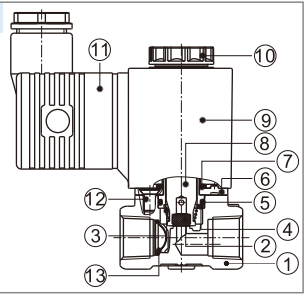
Model\Item		Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
							MPa	psi	MPa	psi
2SAX030	-06	1/8"	1.5	0.10	1.8	245	3.0	450	5.0	750
	-08	1/4"				235				
2SAH030	-06	1/8"	2.0	0.18	3.0	245	2.0	300		
	-08	1/4"				235				
2SA030	-06	1/8"	3.0	0.33	6.0	245	1.0	150		
	-08	1/4"				235				
2SAL030	-06	1/8"	4.0	0.55	10.0	245	0.5	75		
	-08	1/4"				235				
2SAT030	-06	1/8"	6.0	1.10	12.0	245	0.1	15		
	-08	1/4"				235				
2SAX050	-10	3/8"	3.0	0.34	6.1	530	3.0	450		
	-15	1/2"				510				
2SAH050	-10	3/8"	4.0	0.55	10.0	530	2.0	300		
	-15	1/2"				510				
2SA050	-10	3/8"	5.0	0.83	15.0	530	1.0	150		
	-15	1/2"				510				
2SAL050	-10	3/8"	7.0	1.40	25.0	530	0.5	75		
	-15	1/2"				510				
2SAT050	-10	3/8"	10.0	2.20	40.0	530	0.1	15		
	-15	1/2"				510				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2SA030 series grommet valve's weight is 10g less than terminal's. 2SA050series grommet valve's weight is 20g less than terminal's.

Inner structure

2SA030(Terminal)



No.	Item	No.	Item	No.	Item
1	Body	6	Fixed plate	11	Connecter
2	Airtight ring	7	O-ring	12	Screw
3	Spring	8	Movable core	13	Filter [Note]
4	Steel bushing	9	Coil assembly		
5	O-ring	10	Coil nut		

[Note] Extra large volume type has no filter element.

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2SA□030	CDA110 CLA110	AC	50	±15%	Terminal (CDA) Grommet (CLA)	10.0VA	Class F	35
			60			8.0VA		30
		DC	-	±10%		6.5W		30
2SA□050	CDA160 CLA160	AC	50	±15%		25.0VA		60
			60			22.0VA		55
		DC	-	±10%		12.0W		40

Valve's specification

Acting	Direct acting				
Initial state	Normally closed				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Ordering code

Ordering code of valves

2SA L 030 08 A □ □

1 2 3 4 5 6 7

①Model	②Pressure condition	③Size series	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
2SA: 2/2 way direct-acting and normally closed	X: Extra high pressure H: High pressure Blank: Standard L: Large volume T: Extra large volume	030: 030 Series	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
		050: 050 Series	10: 3/8" 15: 1/2"			

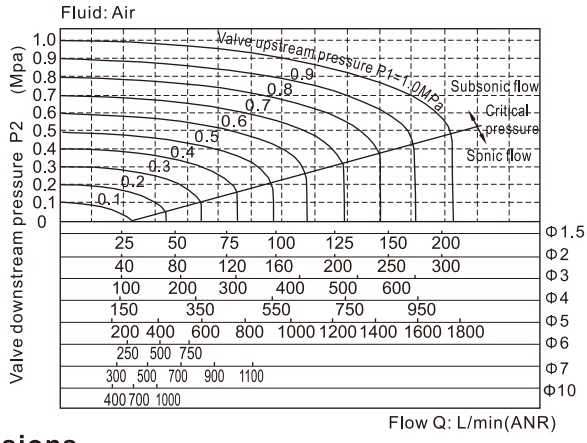
[Note] The wire length is 0.5m.

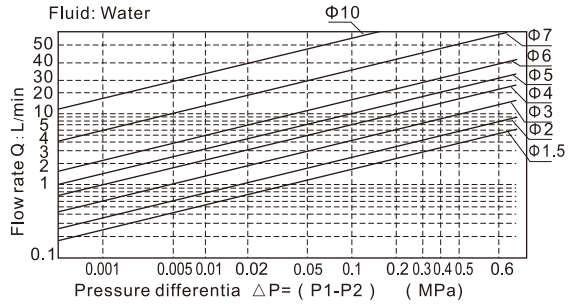
Ordering code of accessories

Ordering code of accessories is the same as 2WA series valve's,Please refer to P164 for details of ordering code.

2SA Series (Direct-acting and normally closed)

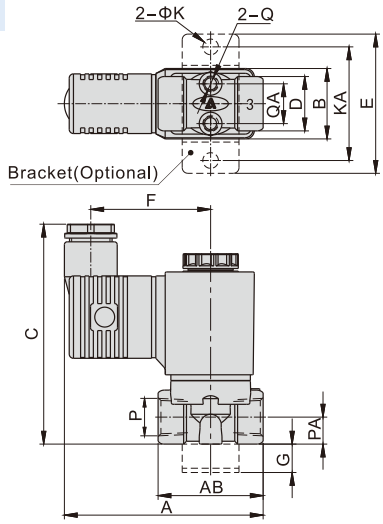
Flow chart



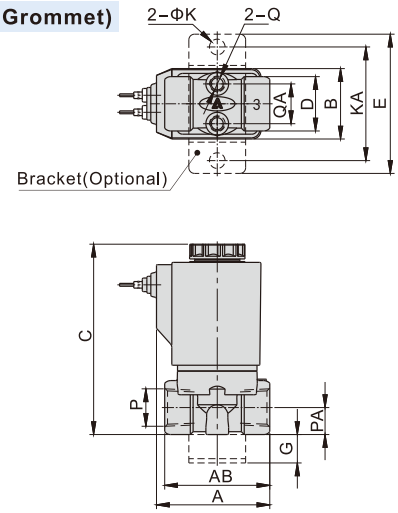


Dimensions

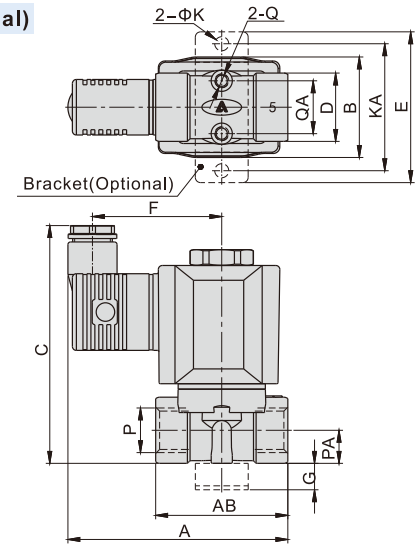
2SA□030 (Terminal)



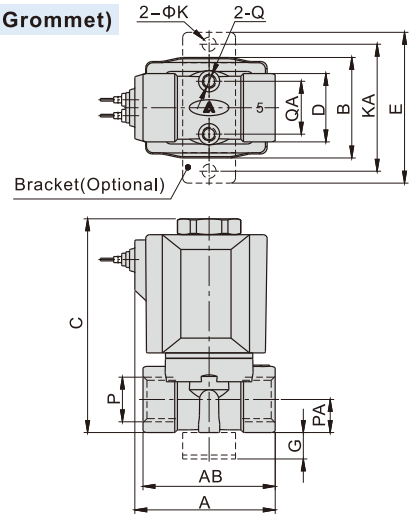
2SA□030(Grommet)



2SA□050 (Terminal)



2SA□050(Grommet)



Model\Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2SA□030-06	70	37	25	77.5	19	49	42	10	5.5	40	1/8"	9.5	M5	13.5
2SAT□030-06	71.5	39.5	25	77.5	19	49	42	10	5.5	40	1/8"	9.5	M5	13.5
2SA□030-08	70	37	25	77.5	19	49	42	10	5.5	40	1/4"	9.5	M5	13.5
2SAT□030-08	71.5	39.5	25	77.5	19	49	42	10	5.5	40	1/4"	9.5	M5	13.5
2SA□050-10	83	50	38	90	26	57	49	10	5.5	48	3/8"	12.5	M5	19.5
2SAT□050-10	84	51	38	90	26	57	49	10	5.5	48	3/8"	12.5	M5	19.5
2SA□050-15	83	50	38	90	26	57	49	10	5.5	48	1/2"	12.5	M5	19.5
2SAT□050-15	84	51	38	90	26	57	49	10	5.5	48	1/2"	12.5	M5	19.5

Model\Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2SA□030-06	40	37	25	67	19	49	10	5.5	40	1/8"	9.5	M5	13.5
2SAT□030-06	41.5	39.5	25	67	19	49	10	5.5	40	1/8"	9.5	M5	13.5
2SA□030-08	40	37	25	67	19	49	10	5.5	40	1/4"	9.5	M5	13.5
2SAT□030-08	41.5	39.5	25	67	19	49	10	5.5	40	1/4"	9.5	M5	13.5
2SA□050-10	53	50	38	81	26	57	10	5.5	48	3/8"	12.5	M5	19.5
2SAT□050-10	54	51	38	81	26	57	10	5.5	48	3/8"	12.5	M5	19.5
2SA□050-15	53	50	38	81	26	57	10	5.5	48	1/2"	12.5	M5	19.5
2SAT□050-15	54	51	38	81	26	57	10	5.5	48	1/2"	12.5	M5	19.5

Fluid control valve(2/2way)

2SA Series (Internally piloted and normally closed)

Specification

Model\Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2SA150-15	1/2"	15.0	5.50	100.0	575	Max: 1.0 Min: 0.05	Max: 150 Min: 10	1.5	220
2SA200-20	3/4"	20.0	9.50	170.0	735				
2SA250-25	1"	25.0	12.50	220.0	1035				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, Grommet valve's weight is 10g less than terminal's.

Symbol

Product feature

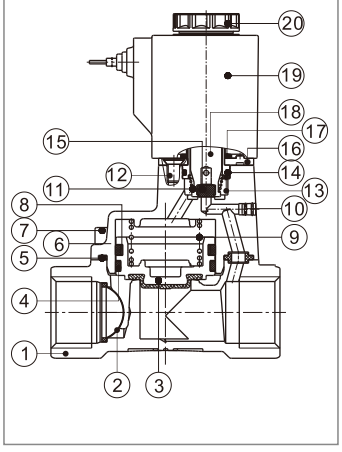
1. Indirect acting(Internal pilot) and normally closed type 2/2 way fluid valve. Its can change direction quickly and has large flow.
2. It is compact, small and light weight. Easy to install and dismantle;
3. The valve body is made of SUS304 . The coil has a Heat resistance classification of Class F. The standard seal material is FPM-F. Please contact us if other seal material are required.
4. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2SA150 2SA200 2SA250	CDA110 CLA110	AC	50	±15%	Terminal (CDA) Grommet (CLA)	10.0VA	Class F	35
			60			8.0VA		30
		DC	-	±10%		6.5W		30

Inner structure

2SA150(Grommet)



No.	Item
1	Body
2	Filter
3	Piston
4	Wear ring
5	O-ring
6	Cover
7	Screw
8	Spring
9	Spring
10	Spacer
11	Spring
12	Screw
13	Steel bushing
14	O-ring
15	Airtight ring
16	Fixed plate
17	O-ring
18	Movable core
19	Coil assembly
20	Coil nut

Valve's specification

Acting	Internally piloted				
Initial state	Normally closed				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Ordering code

Ordering code of valves

2SA 150 15 A □ □

1 2 3 4 5 6

①Model	②Orifice size	③Port size	④Voltage	⑤Electrical entry	⑥Thread type
2SA: 2/2 way internally piloted and normally closed	150: Φ15mm	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet [Note]	Blank: PT G: G T: NPT
	200: Φ20mm	20: 3/4"			
	250: Φ25mm	25: 1"			

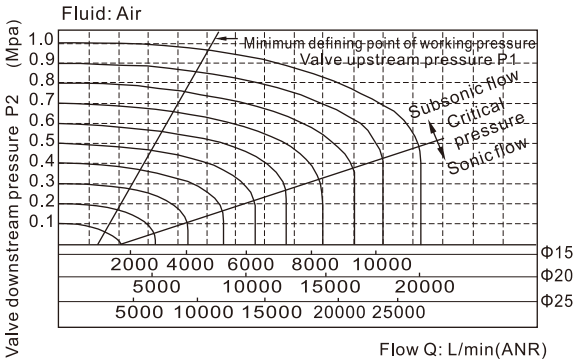
[Note] The wire length is 0.5m.

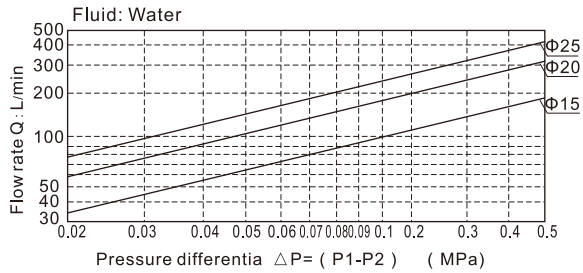
Ordering code of accessories

Ordering code of accessories is the same as 2WA series valve's, Please refer to P166 for details of ordering code.

2SA Series (Internally piloted and normally closed)

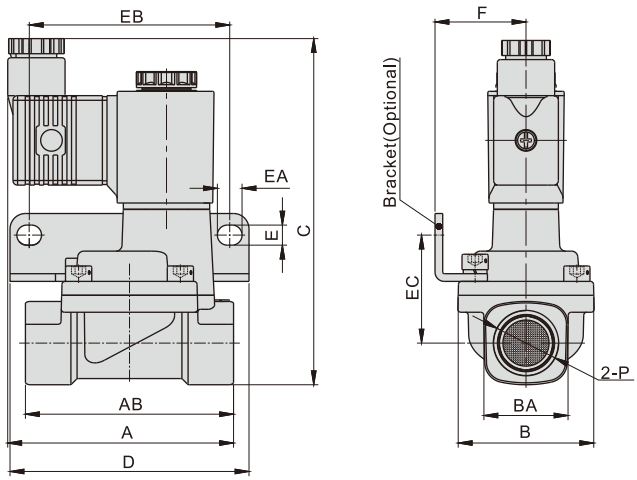
Flow chart





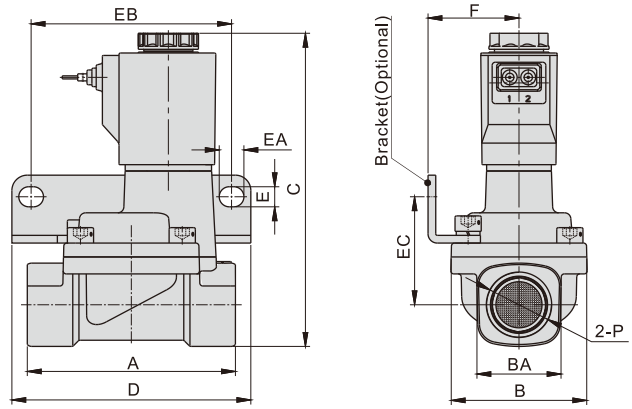
Dimensions

Terminal



Model\Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
2SA150-15	73.5	67.5	44	27.5	112	77.5	6.5	8	65	35	29.5	1/2"
2SA200-20	75.5	79.5	51	33.5	119	87.5	6.5	8	75	38	33	3/4"
2SA250-25	77.5	90	57	40.5	126	93	6.5	8	80	42	35	1"

Grommet



Model\Item	A	B	BA	C	D	E	EA	EB	EC	F	P
2SA150-15	67.5	44	27.5	102	77.5	6.5	8	65	35	29.5	1/2"
2SA200-20	79.5	51	33.5	109	87.5	6.5	8	75	38	33	3/4"
2SA250-25	90	57	40.5	116	93	6.5	8	80	42	35	1"

Fluid control valve(2/2 way)

2KSA Series (Direct-acting and normally opened)

Symbol

Product feature

1. Direct acting and normally opened type 2/2 way fluid valve. Its high sensibilily allows it to change direction quickly;
2. It has wide pressure range, including extra high pressure (X), high pressure (H), standard and large volume(L);
3. It is compact, small size and light weight. Easy to install and dismantle.
4. The valve body is made of SUS304 . Its coil has a Heat resistance classification of Class F. The standard seal material is FPM-F. Please contact us if other seal material are required.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Specification

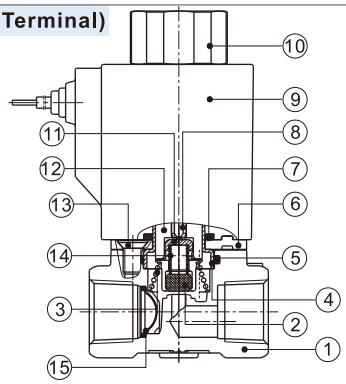
Model\Item		Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section(mm^2)	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
							MPa	psi	MPa	psi
2KSAX030	-06	1/8"	1.5	0.10	1.8	245	2.0	300	3.0	450
	-08	1/4"				235				
2KSAH030	-06	1/8"	2.0	0.18	3.0	245	1.5	220		
	-08	1/4"				235				
2KSA030	-06	1/8"	3.0	0.33	6.0	245	0.7	100		
	-08	1/4"				235				
2KSAL030	-06	1/8"	4.0	0.55	10.0	245	0.4	60		
	-08	1/4"				235				
2KSAX050	-10	3/8"	3.0	0.34	6.1	530	2.0	300		
	-15	1/2"				510				
2KSAH050	-10	3/8"	4.0	0.55	10.0	530	1.5	220		
	-15	1/2"				510				
2KSA050	-10	3/8"	5.0	0.83	15.0	530	0.7	100		
	-15	1/2"				510				
2KSAL050	-10	3/8"	7.0	1.40	25.0	530	0.4	60		
	-15	1/2"				510				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2KSA030 series grommet valve's weight is 10g less than terminal's. 2KSA050series grommet valve's weight is 20g less than terminal's.

Inner structure

2KSA030(Terminal)



No.	Item	No.	Item	No.	Item
1	Body	6	Fixed plate	11	Airtight bush
2	Airtight ring	7	O-ring	12	Electromagnet
3	Spring	8	Mandril	13	Screw
4	Coil axis	9	Coil assembly	14	Spring
5	O-ring	10	Coil nut	15	Filter

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2KSA□030	CDA110 CLA110	AC	50	±15%	Terminal (CDA)	15.0VA	Class F	50
			60			11.0VA		40
		DC	-	±10%		6.5W		30
2KSA□050	CDA160 CLA160	AC	50	±15%	Grommet (CLA)	35.0VA		65
			60			30.0VA		60
		DC	-	±10%		12.0W		40

Valve's specification

Acting	Direct acting				
Initial state	Normally opened				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Ordering code

Ordering code of valves

2KSA H 030 08 A □ □

1 2 3 4 5 6 7

①Model	②Pressure condition	③Size series	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
2KSA: 2/2 way direct-acting and normally opened	X: Extra high pressure H: High pressure Blank: Standard L: Large volume	030: 030 Series	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
		050: 050 Series	10: 3/8" 15: 1/2"			

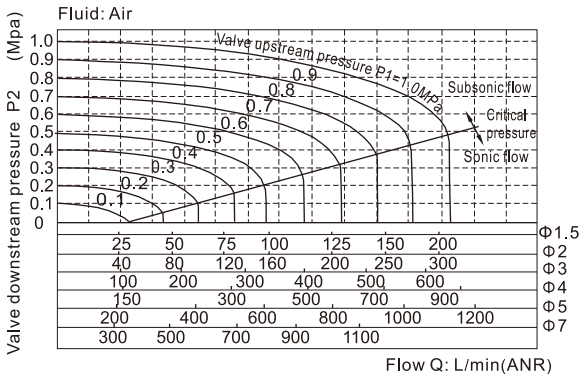
[Note] The wire length is 0.5m.

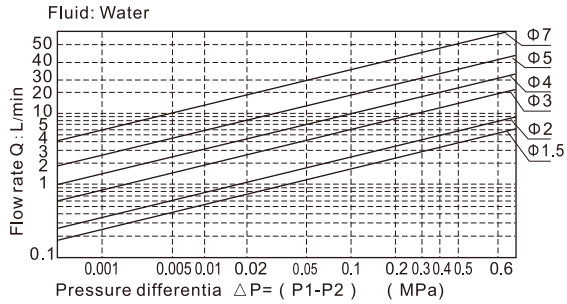
Ordering code of accessories

Ordering code of accessories is the same as 2WA series valve's,Please refer to P164 for details of ordering code.

2KSA Series (Direct-acting and normally opened)

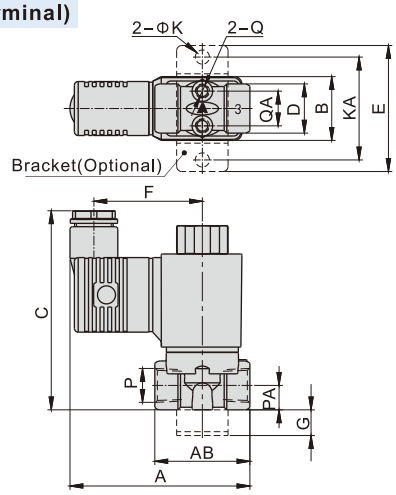
Flow chart



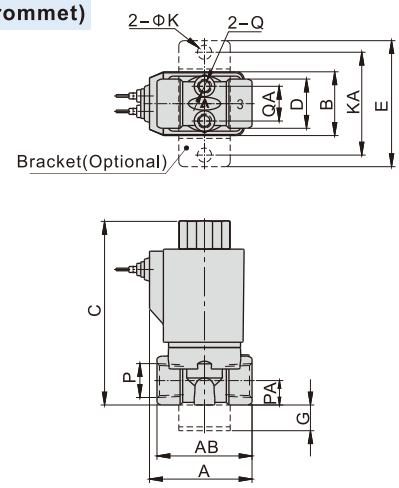


Dimensions

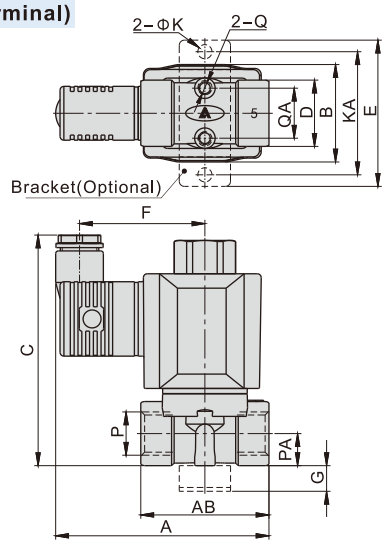
2KSA□030 (Terminal)



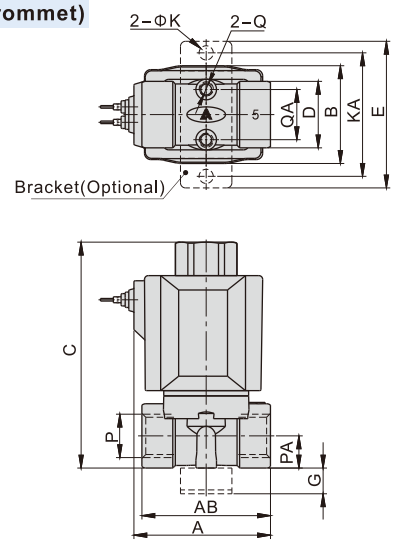
2KSA□030(Grommet)



2KSA□050 (Terminal)



2KSA□050(Grommet)



Model\Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2KSA□030-06	70	37	25	77.5	19	49	42	10	5.5	40	1/8"	9.5	M5	13.5
2KSA□030-08	70	37	25	77.5	19	49	42	10	5.5	40	1/4"	9.5	M5	13.5
2KSA□050-10	83	50	38	90	26	57	49	10	5.5	48	3/8"	12.5	M5	19.5
2KSA□050-15	83	50	38	90	26	57	49	10	5.5	48	1/2"	12.5	M5	19.5

Model\Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2KSA□030-06	40	37	25	74	19	49	10	5.5	40	1/8"	9.5	M5	13.5
2KSA□030-08	40	37	25	74	19	49	10	5.5	40	1/4"	9.5	M5	13.5
2KSA□050-10	53	50	38	90	26	57	10	5.5	48	3/8"	12.5	M5	19.5
2KSA□050-15	53	50	38	90	26	57	10	5.5	48	1/2"	12.5	M5	19.5

Fluid control valve(2/2 way)

2KSA Series (Internally piloted and normally opened)

Specification

Model\Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2KSA150-15	1/2"	15.0	5.50	100.0	575	Max: 0.7 Min: 0.05	Max: 100 Min: 10	1.5	220
2KSA200-20	3/4"	20.0	9.50	170.0	735				
2KSA250-25	1"	25.0	12.50	220.0	1035				

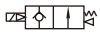
[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, Grommet valve's weight is 10g less than terminal's.

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2KSA150 2KSA200 2KSA250	CDA110 CLA110	AC	50	±15%	Terminal (CDA) Grommet (CLA)	15.0VA	Class F	50
			60			11.0VA		40
		DC	–	±10%		6.5W		30

Symbol



Valve's specification

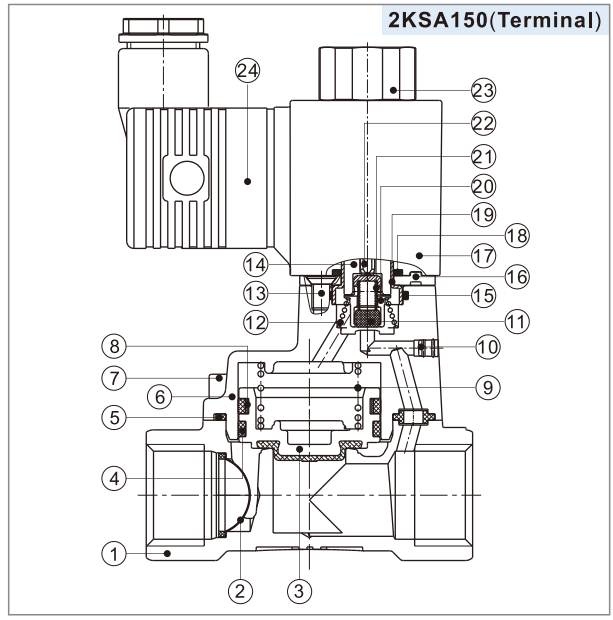
Acting	Internally piloted				
Initial state	Normally opened				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Product feature

1. Indirect acting(Internal pilot) and normally opened type 2/2 way fluid valve. Its can change direction quickly and has large flow.
2. It is compact, small and light weight. Easy to install and dismantle;
3. The valve body is made of SUS304 . The coil has a Heat resistance classification of Class F. The standard seal material is FPM-F. Please contact us if other seal material are required.
4. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Inner structure



No.	Item
1	Body
2	Filter
3	Piston
4	Wear ring
5	O-ring
6	Cover
7	Screw
8	Spring
9	Spring
10	Spacer
11	Airtight ring
12	Spring
13	Screw
14	Movable core
15	O-ring
16	Fixed plate
17	Coil assembly
18	O-ring
19	Coil axis
20	Airtight ring
21	Spring
22	Man drill
23	Coil nut
24	Connector

Ordering code

Ordering code of valves

2KSA 150 15 A □ □

(1) (2) (3) (4) (5) (6)

①Model	②Orifice size	③Port size	④Voltage	⑤Electrical entry	⑥Thread type
2KSA: 2/2 way internally piloted and normally opened	150: Φ15mm	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet [Note]	Blank: PT G: G T: NPT
	200: Φ20mm	20: 3/4"			
	250: Φ25mm	25: 1"			

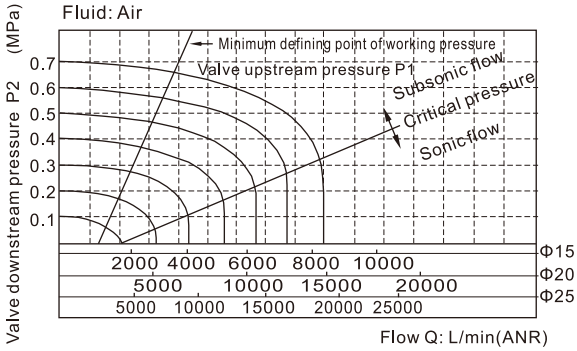
[Note] The wire length is 0.5m.

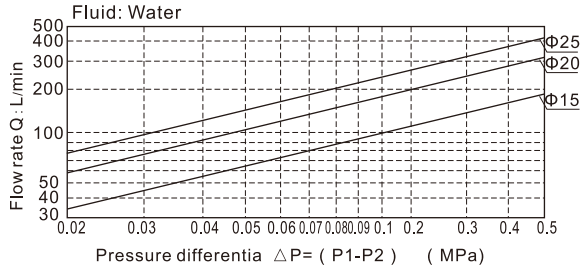
Ordering code of accessories

Ordering code of accessories is the same as 2WA series valve's, Please refer to P166 for details of ordering code.

2KSA Series (Internally piloted and normally opened)

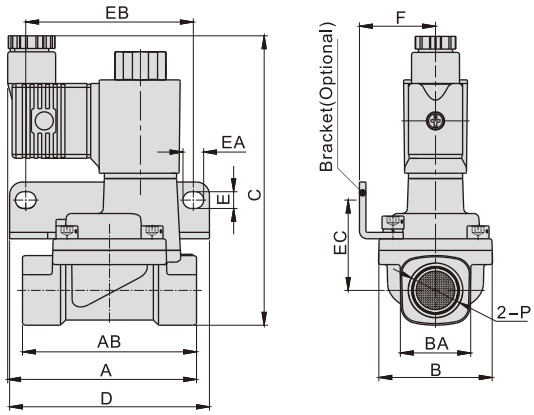
Flow chart





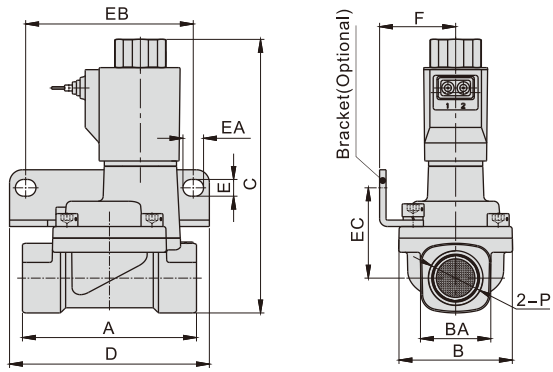
Dimensions

Terminal



Model\Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
2KSA150-15	73.5	67.5	44	27.5	112	77.5	6.5	8	65	35	29.5	1/2"
2KSA200-20	75.5	79.5	51	33.5	119	87.5	6.5	8	75	38	33	3/4"
2KSA250-25	77.5	90	57	40.5	126	93	6.5	8	80	42	35	1"

Grommet

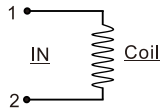


Model\Item	A	B	BA	C	D	E	EA	EB	EC	F	P
2KSA150-15	67.5	44	27.5	109	77.5	6.5	8	65	35	29.5	1/2"
2KSA200-20	79.5	51	33.5	116	87.5	6.5	8	75	38	33	3/4"
2KSA250-25	90	57	40.5	123	93	6.5	8	80	42	35	1"

Specification

Model\Item	Power type	Voltage (V)	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W) For NC	Power Consumption (VA/W) For NO	Insulation	Temp.rise (℃) NC	Temp.rise (℃) NO
110 Series	AC	220	50	±15%	DIN Terminal Grommet	10.0VA	15.0VA	Class F	35	50
			60			8.0VA	11.0VA		30	40
		110	50			10.0VA	15.0VA		35	50
			60			8.0VA	11.0VA		30	40
		24	50			10.0VA	15.0VA		35	50
			60			8.0VA	11.0VA		30	40
	DC	24	–	±10%		6.5W			30	30
		12								
160 Series	AC	220	50	±15%	DIN Terminal Grommet	25.0VA	35.0VA		60	65
			60			22.0VA	30.0VA		55	60
		110	50			25.0VA	35.0VA		60	65
			60			22.0VA	30.0VA		55	60
		24	50			25.0VA	35.0VA		60	65
			60			22.0VA	30.0VA		55	60
	DC	24	–	±10%		12.0W			40	40
		12								

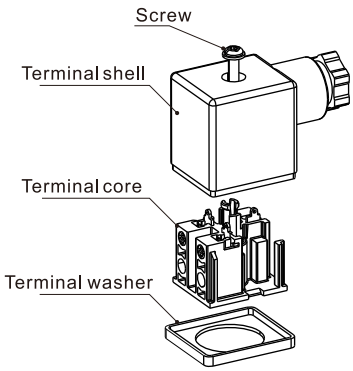
Hookup

Coil's type			Hookup
110 Series	CDA110 (Terminal)	AC	
		DC	
	CLA110 (Grommet)	AC	
		DC	
160 Series	CDA160 (Terminal)	AC	
		DC	
	CLA160 (Grommet)	AC	
		DC	

How to select coil

Valve type\Coil type		110Series Class F	110Series Class H	160 Series Class F	160 Series Class H
2SA□030	2KSA□030	●	×	×	×
2SA□050	2KSA□050	×	×	●	×
2SA150~250	2KSA150~250	●	×	×	×
2WA□030	2KWA□030	●	×	×	×
2WA□050	2KWA□050	×	×	●	×
2WA150~250	2KWA150~250	●	×	×	×

How to use connector



How to select accessories

Valve type\ Accessories type		F-2WA030LB	F-2WA050LB	F-2WA150LB	F-2WA200LB	F-2WA250LB
2SA□030	2KSA□030	●	×	×	×	×
2SA□050	2KSA□050	×	●	×	×	×
2SA150	2KSA150	×	×	●	×	×
2SA200	2KSA200	×	×	×	●	×
2SA250	2KSA250	×	×	×	×	●
2WA□030	2KWA□030	●	×	×	×	×
2WA□050	2KWA□050	×	●	×	×	×
2WA150	2KWA150	×	×	●	×	×
2WA200	2KWA200	×	×	×	●	×
2WA250	2KWA250	×	×	×	×	●

Ordering code of coil

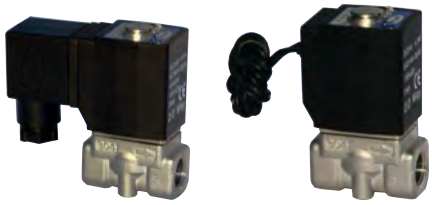
CD A110 A □

① ② ③ ④

①Coil type	②Coil's bore	③Voltage	④Temperature resistance class
CD: Terminal CL: Grommet	A110: Coil Specification (Bore sizeΦ10.0mm) A160: Coil Specification (Bore sizeΦ16.0mm)	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: F Class H: H Class

Fluid control valve(2/2way)

2S Series (Direct-acting and normally closed)



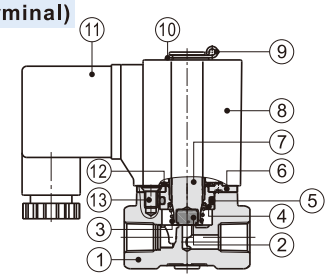
Symbol

Product feature

1. Direct acting and normally closed type 2/2 way solenoid valve. Its high sensibilily allows it to change direction quickly;
2. It has wide pressure range, including extra high pressure (X), high pressure (H), standard , large volume(L) and extra large volume (T) to choose from;
3. It is compact, small size and light weight. It is easy to install and dismantle.
4. The valve body is made of SUS304 . Its coil has a Heat resistance classification of Class B. The standard seal material is FPM-F. Please contact us if other material are required.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Inner structure

2S030(Terminal)



No.	Item	No.	Item
1	Body	8	Coil assembly
2	Airtight ring	9	E Clip
3	Spring	10	Gasket
4	Fixed cap	11	Connecter
5	O-ring	12	Washer
6	Fixed plate	13	Screw
7	Movable core		

Specification

Model\Item		Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
							MPa	psi	MPa	psi
2SX030	-06	1/8"	1.5	0.10	1.8	300	3.0	450	5.0	750
	-08	1/4"				295				
2SH030	-06	1/8"	2.0	0.18	3.0	300	2.0	300		
	-08	1/4"				290				
2S030	-06	1/8"	3.0	0.33	6.0	300	1.0	150		
	-08	1/4"				290				
2SL030	-06	1/8"	4.0	0.55	10.0	300	0.5	75		
	-08	1/4"				290				
2ST030	-06	1/8"	6.0	1.10	12.0	300	0.1	15		
	-08	1/4"				290				
2SX050	-10	3/8"	3.0	0.34	6.1	600	3.0	450		
	-15	1/2"				590				
2SH050	-10	3/8"	4.0	0.55	10.0	600	2.0	300		
	-15	1/2"				590				
2S050	-10	3/8"	5.0	0.83	15.0	600	1.0	150		
	-15	1/2"				590				
2SL050	-10	3/8"	7.0	1.40	25.0	600	0.5	75		
	-15	1/2"				590				
2ST050	-10	3/8"	10.0	2.20	40.0	600	0.1	15		
	-15	1/2"				590				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2S030 series grommet valve's weight is 10g less than terminal's. 2S050series grommet valve's weight is 20g less than terminal's.

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2S□030	CDA116 CLA116	AC	50	±15%	Terminal (CDA)	10.0VA	Class B	35
			60			8.0VA		30
		DC	-	±10%		6.5W		30
2S□050	CDA170 CLA170	AC	50	±15%	Grommet (CLA)	25.0VA		60
			60			22.0VA		55
		DC	-	±10%		12.0W		40

Valve's specification

Acting	Direct acting				
Initial state	Normally closed				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Ordering code

Ordering code of valves

2S L 030 08 A □ □

1 2 3 4 5 6 7

①Model	②Pressure condition	③Size series	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
2S: 2/2 way direct-acting and normally closed	X: Extra high pressure H: High pressure Blank: Standard L: Large volume T: Extra large volume	030: 030 Series	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
		050: 050 Series	10: 3/8" 15: 1/2"			

[Note] The wire length is 0.5m.

Ordering code of accessories

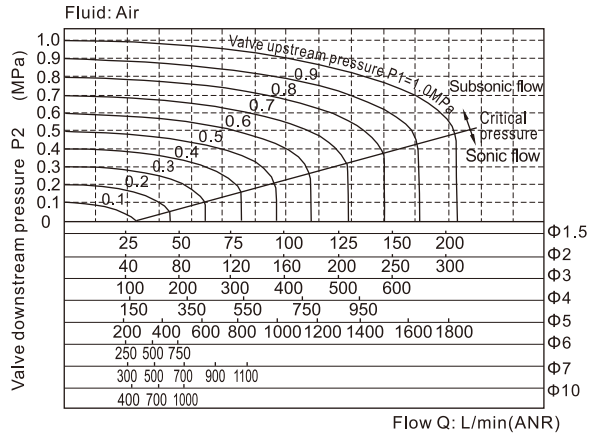
F-2S030 LB

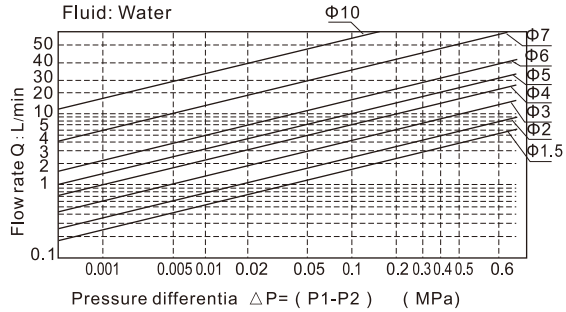
1 2 3

①Accessories code	②Valve type	③Accessories type
F: Mounting accessories	2S030: 030 Series valve 2S050: 050 Series valve	LB: LB Type

2S Series (Direct-acting and normally closed)

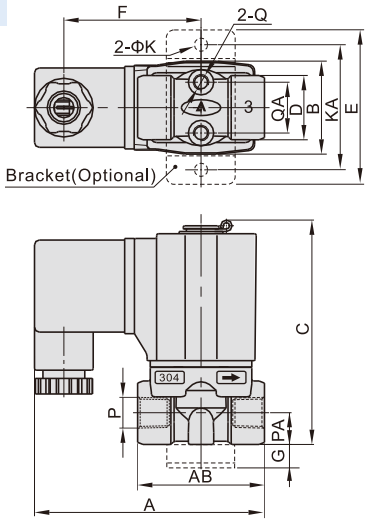
Flow chart



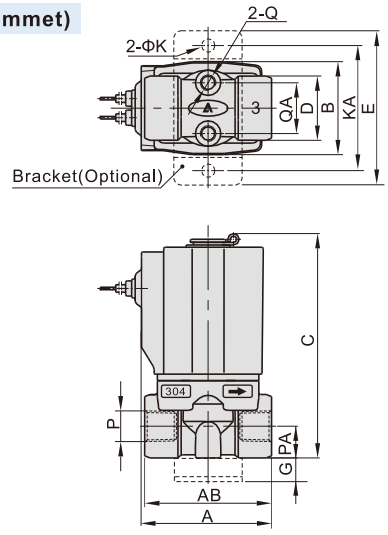


Dimensions

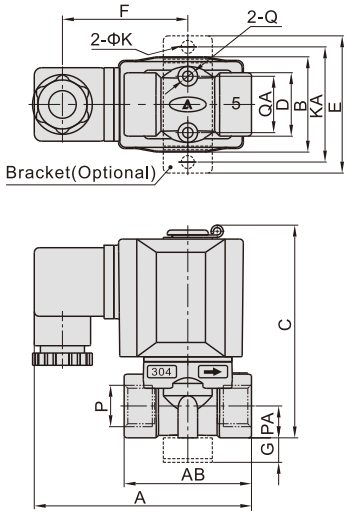
2S□030 (Terminal)



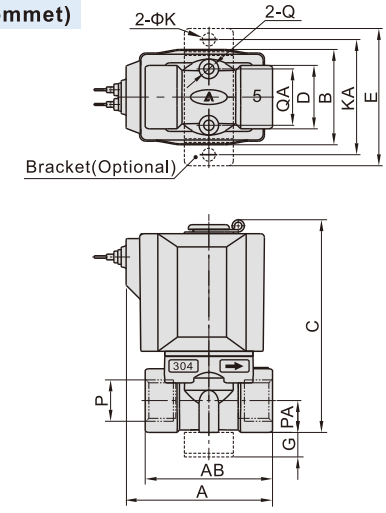
2S□030(Grommet)



2S□050 (Terminal)



2S□050(Grommet)



Model\Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2S□030-06	72.5	40	29.5	71	20	49	43.5	10	5.3	40	1/8"	10	M5	16
2S□030-08	72.5	40	29.5	71	20	49	43.5	10	5.3	40	1/4"	10	M5	16
2S□050-10	89.5	52	39	87	26	56	51	10	5.3	48	3/8"	13	M5	23
2S□050-15	89.5	52	39	87	26	56	51	10	5.3	48	1/2"	13	M5	23

Model\Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2S□030-06	41	40	29.5	71	20	49	10	5.3	40	1/8"	10	M5	16
2S□030-08	41	40	29.5	71	20	49	10	5.3	40	1/4"	10	M5	16
2S□050-10	60	52	39	87	26	56	10	5.3	48	3/8"	13	M5	23
2S□050-15	60	52	39	87	26	56	10	5.3	48	1/2"	13	M5	23

Fluid control valve(2/2way)

2S Series (Internally piloted and normally closed)

Specification

Model\Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2S150-15	1/2"	15.0	5.50	100.0	675	Max: 1.0 Min: 0.05	Max: 150 Min: 10	1.5	220
2S200-20	3/4"	20.0	9.50	170.0	875				
2S250-25	1	25.0	12.50	220.0	1120				
2S320-32	1 1/4"	35.0	23.00	420.0	2700				
2S400-40	1 1/2"	40.0	31.00	560.0	3250				
2S500-50	2"	50.0	49.00	880.0	4300				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2S150~250 series grommet valve's weight is 10g less than terminal's. 2S320~500 series grommet valve's weight is 20g less than terminal's.

Symbol

Product feature

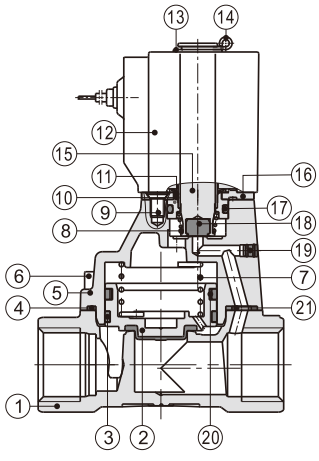
1. Indirect acting(Internal pilot) and normally closed type 2/2 way solenoid valve. Its can change direction quickly and has large flow.
2. It is compact, small and light weight. It is easy to install and dismantle;
3. The valve body is made of SUS304 . The coil has a Heat resistance classification of Class B. The standard seal material is FPM-F. Please contact us if other material are required.
4. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2S150 2S200 2S250	CDA116 CLA116	AC	50	±15%	Terminal (CDA) Grommet (CLA)	10.0VA	Class B	35
			60			8.0VA		30
		DC	-	±10%		6.5W		30
2S320 2S400 2S500	CDA170 CLA170	AC	50	±15%		25.0VA		60
			60			22.0VA		55
		DC	-	±10%		12.0W		40

Inner structure

2S150(Grommet)



No.	Item
1	Body
2	Piston
3	Wear ring
4	O-ring
5	Cover
6	Screw
7	Spring
8	Spring
9	Screw
10	Fixed cap
11	Washer
12	Coil assembly
13	Washer
14	E Clip
15	Movable core
16	Fixed plate
17	O-ring
18	Airtight ring
19	Plug
20	Spring
21	Spacer

Valve's specification

Acting	Internally piloted				
Initial state	Normally closed				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Ordering code

Ordering code of valves

2S 150 15 A □ □

1 2 3 4 5 6

①Model	②Orifice size	③Port size	④Voltage	⑤Electrical entry	⑥Thread type
2S: 2/2 way internally piloted and normally closed	150: Φ15mm	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet [Note]	Blank: PT G: G T: NPT
	200: Φ20mm	20: 3/4"			
	250: Φ25mm	25: 1"			
	320: Φ35mm	32: 1 1/4"			
	400: Φ40mm	40: 1 1/2"			
	500: Φ50mm	50: 2"			

[Note] The wire length is 0.5m.

Ordering code of accessories

F-2S150 LB

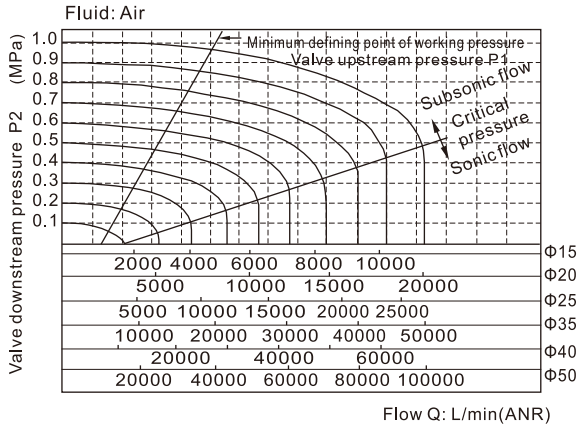
1 2 3

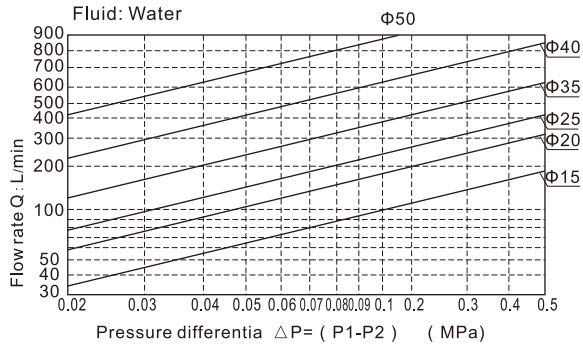
①Accessories code	②Valve type	③Accessories type
F: Mounting accessories	2S150: 150 Series valve 2S200: 200 Series valve 2S250: 250 Series valve	LB: LB Type

[[Note] 320\400\500 series valves do not have mounting accessories.

2S Series (Internally piloted and normally closed)

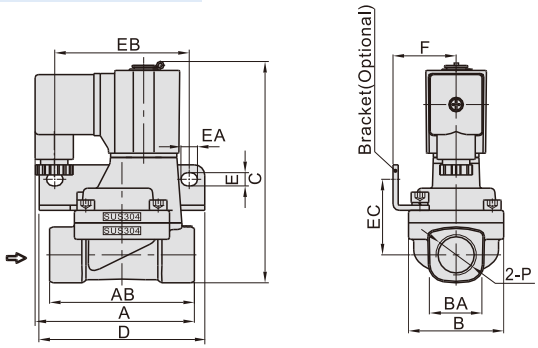
Flow chart



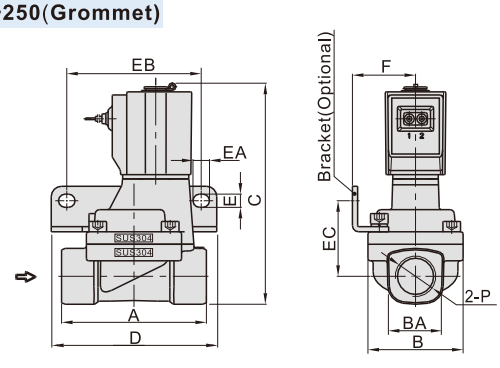


Dimensions

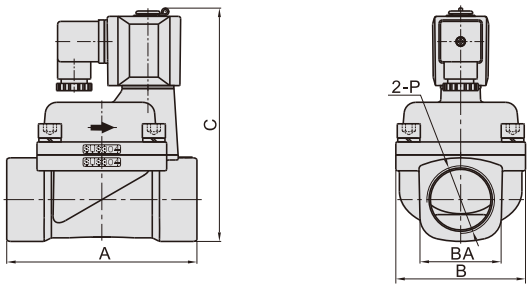
2S150~250 (Terminal)



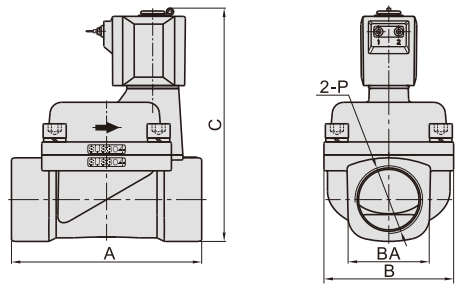
2S150~250(Grommet)



2S320~500 (Terminal)



2S320~500(Grommet)



Model\Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
2S150-15	77	70	46	27.5	107	80	6.4	8	65	36.5	30.5	1/2"
2S200-20	78.5	82	53	33.5	115.5	90	6.4	8	75	40	34	3/4"
2S250-25	81	92	59	40.5	124	95	6.4	8	80	44.5	36	1
2S320-32	125	-	80	52	154.5	-	-	-	-	-	-	1 1/4"
2S400-40	132	-	90	58	162	-	-	-	-	-	-	1 1/2"
2S500-50	150	-	100	70	177	-	-	-	-	-	-	2"

Model\Item	A	B	BA	C	D	E	EA	EB	EC	F	P
2S150-15	70	46	27.5	107	80	6.4	8	65	36.5	30.5	1/2"
2S200-20	82	53	33.5	115.5	90	6.4	8	75	40	34	3/4"
2S250-25	92	59	40.5	124	95	6.4	8	80	44.5	36	1
2S320-32	125	80	52	154.5	-	-	-	-	-	-	1 1/4"
2S400-40	132	90	58	162	-	-	-	-	-	-	1 1/2"
2S500-50	150	100	70	177	-	-	-	-	-	-	2"

Fluid control valve(2/2 way)

2KS Series (Direct-acting and normally opened)

Symbol

Product feature

1. Direct acting and normally opened type 2/2 way solenoid valve. Its high sensibilily allows it to change direction quickly;
2. It has wide pressure range, including extra high pressure (X), high pressure (H), standard and large volume(L) to choose from;
3. It is compact, small size and light weight. It is easy to install and dismantle.
4. The valve body is made of SUS304 . Its coil has a Heat resistance classification of Class B. The standard seal material is FPM-F. Please contact us if other material are required.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Specification

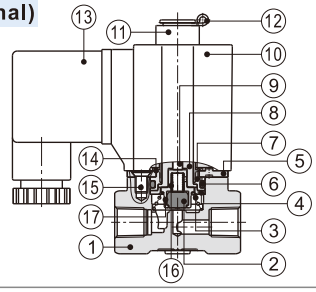
Model\Item		Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
							MPa	psi	MPa	psi
2KSX030	-06	1/8"	1.5	0.10	1.8	305	2.0	300	3.0	450
	-08	1/4"				295				
2KSH030	-06	1/8"	2.0	0.18	3.0	305	1.5	220		
	-08	1/4"				295				
2KS030	-06	1/8"	3.0	0.33	6.0	305	0.7	100		
	-08	1/4"				295				
2KSL030	-06	1/8"	4.0	0.55	10.0	305	0.4	60		
	-08	1/4"				295				
2KSX050	-10	3/8"	3.0	0.34	6.1	610	2.0	300		
	-15	1/2"				600				
2KSH050	-10	3/8"	4.0	0.55	10.0	610	1.5	220		
	-15	1/2"				600				
2KS050	-10	3/8"	5.0	0.83	15.0	610	0.7	100		
	-15	1/2"				600				
2KSL050	-10	3/8"	7.0	1.40	25.0	610	0.4	60		
	-15	1/2"				600				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2KS030 series grommet valve's weight is 10g less than terminal's. 2KS050series grommet valve's weight is 20g less than terminal's.

Inner structure

2KS030(Terminal)



No.	Item	No.	Item
1	Body	10	Coil assembly
2	Airtight ring	11	Position ring
3	Spring	12	E Clip
4	Bead flange	13	Connector
5	Fixed plate	14	Washer
6	O-ring	15	Screw
7	Fixed cap	16	Spring
8	Electromagnet	17	Airtight bush
9	Mandril		

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2KS□030	CDA116 CLA116	AC	50	±15%	Terminal (CDA) Grommet (CLA)	15.0VA	Class B	50
			60			11.0VA		40
		DC	-	±10%		6.5W		30
2KS□050	CDA170 CLA170	AC	50	±15%		35.0VA		65
			60			30.0VA		60
		DC	-	±10%		12.0W		40

Valve's specification

Acting	Direct acting				
Initial state	Normally opened				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Ordering code

Ordering code of valves

2KS H 030 08 A □ □

(1) (2) (3) (4) (5) (6) (7)

①Model	②Pressure condition	③Size series	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
2KS: 2/2 way direct-acting and normally opened	X: Extra high pressure H: High pressure Blank: Standard L: Large volume	030: 030 Series	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
		050: 050 Series	10: 3/8" 15: 1/2"			

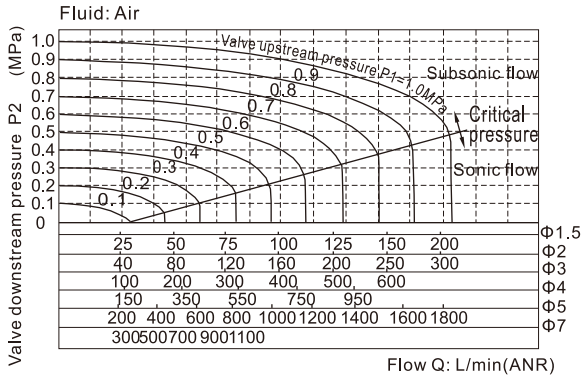
[Note] The wire length is 0.5m.

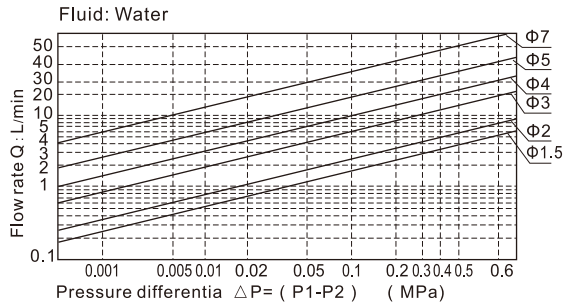
Ordering code of accessories

Ordering code of accessories is the same as 2S series valve's,Please refer to P181 for details of ordering code.

2KS Series (Direct-acting and normally opened)

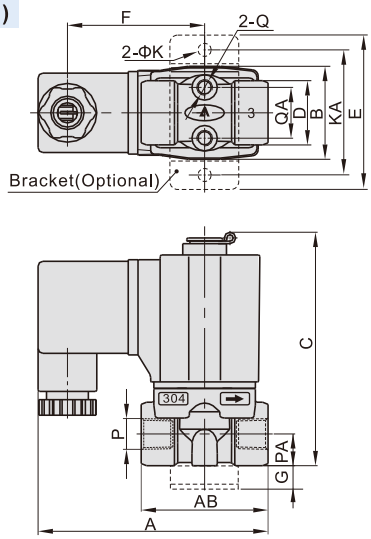
Flow chart



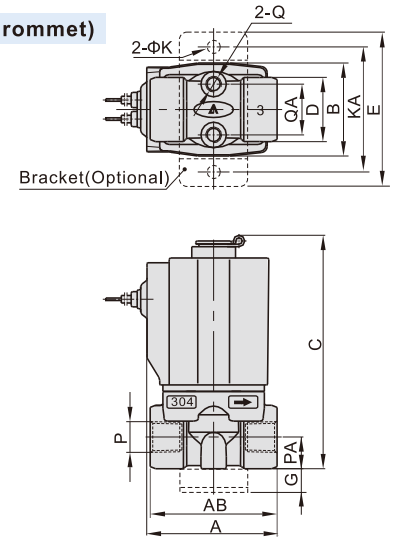


Dimensions

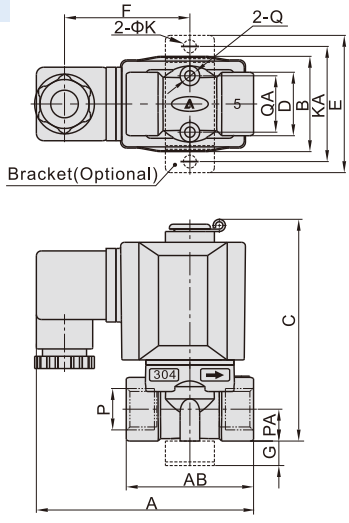
2KS□030 (Terminal)



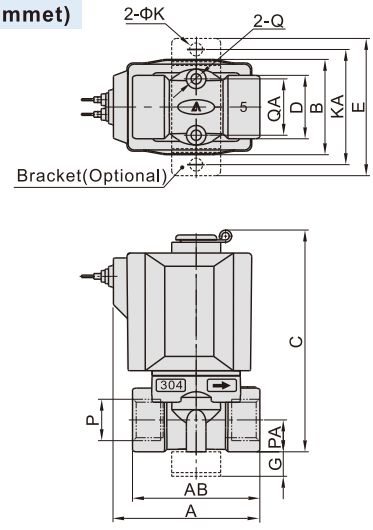
2KS□030(Grommet)



2KS□050 (Terminal)



2KS□050(Grommet)

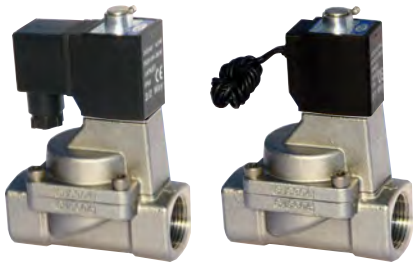


Model\Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2KS□030-06	72.5	40	29.5	76	20	49	43.5	10	5.3	40	1/8"	10	M5	16
2KS□030-08	72.5	40	29.5	76	20	49	43.5	10	5.3	40	1/4"	10	M5	16
2KS□050-10	89.5	52	39	92	26	56	51	10	5.3	48	3/8"	13	M5	23
2KS□050-15	89.5	52	39	92	26	56	51	10	5.3	48	1/2"	13	M5	23

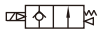
Model\Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2KS□030-06	41	40	29.5	76	20	49	10	5.3	40	1/8"	10	M5	16
2KS□030-08	41	40	29.5	76	20	49	10	5.3	40	1/4"	10	M5	16
2KS□050-10	60	52	39	92	26	56	10	5.3	48	3/8"	13	M5	23
2KS□050-15	60	52	39	92	26	56	10	5.3	48	1/2"	13	M5	23

Fluid control valve(2/2 way)

2KS Series (Internally piloted and normally opened)



Symbol



Specification

Model\Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2KS150-15	1/2"	15.0	5.50	100.0	680	Max: 0.7 Min: 0.05	Max: 100 Min: 10	1.5	220
2KS200-20	3/4"	20.0	9.50	170.0	880				
2KS250-25	1	25.0	12.50	220.0	1125				
2KS320-32	1 1/4"	35.0	23.00	420.0	2710				
2KS400-40	1 1/2"	40.0	31.00	560.0	3260				
2KS500-50	2"	50.0	49.00	880.0	4310				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2KS150~250 series grommet valve's weight is 10g less than terminal's. 2KS320~500 series grommet valve's weight is 20g less than terminal's.

Product feature

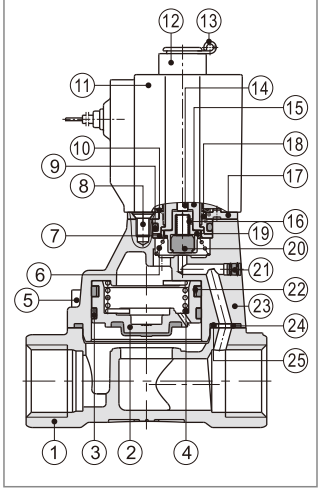
1. Indirect acting(Internal pilot) and normally opened type 2/2 way solenoid valve. Its can change direction quickly and has large flow.
2. It is compact, small and light weight. It is easy to install and dismantle;
3. The valve body is made of SUS304 . The coil has a Heat resistance classification of Class B. The standard seal material is FPM-F. Please contact us if other material are required.
4. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2KS150 2KS200 2KS250	CDA116 CLA116	AC	50	±15%	Terminal (CDA)	15.0VA	Class B	50
			60			11.0VA		40
		DC	-	±10%		6.5W		30
2KS320 2KS400 2KS500	CDA170 CLA170	AC	50	±15%	Grommet (CLA)	35.0VA		65
			60			30.0VA		60
		DC	-	±10%		12.0W		40

Inner structure

2KS150(Grommet)



No.	Item
1	Body
2	Piston
3	Wear ring
4	Spring
5	Screw
6	Spring
7	Fixed ring
8	Screw
9	O-ring
10	Washer
11	Coil assembly
12	Position ring
13	E Clip
14	Mandril
15	Movable core
16	Spring
17	Fixed plate
18	Fixed cap
19	Airtight bushing
20	Airtight ring
21	Plug
22	Spring
23	Cover
24	Spacer
25	O-ring

Valve's specification

Acting	Internally piloted				
Initial state	Normally opened				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Ordering code

Ordering code of valves

2KS 150 15 A □ □

1 2 3 4 5 6

①Model	②Orifice size	③Port size	④Voltage	⑤Electrical entry	⑥Thread type
2KS: 2/2 way internally piloted and normally opened	150: Φ15mm	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet [Note]	Blank: PT G: G T: NPT
	200: Φ20mm	20: 3/4"			
	250: Φ25mm	25: 1"			
	320: Φ35mm	32: 1 1/4"			
	400: Φ40mm	40: 1 1/2"			
	500: Φ50mm	50: 2"			

[Note] The wire length is 0.5m.

Ordering code of accessories

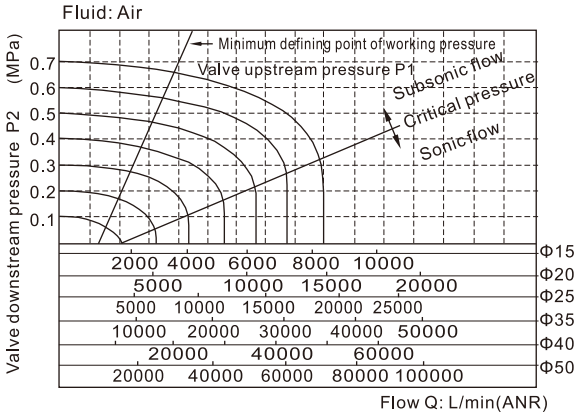
Ordering code of accessories is the same as 2S series valve's, please refer to P183 for details of ordering code.

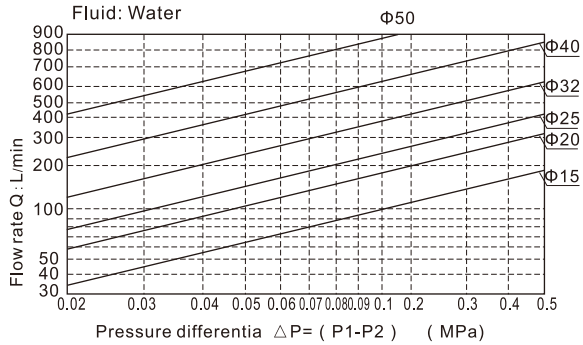
[Note] 320\400\500 series valves do not have mounting accessories.

Fluid control valve(2/2 way)

2KS Series (Internally piloted and normally opened)

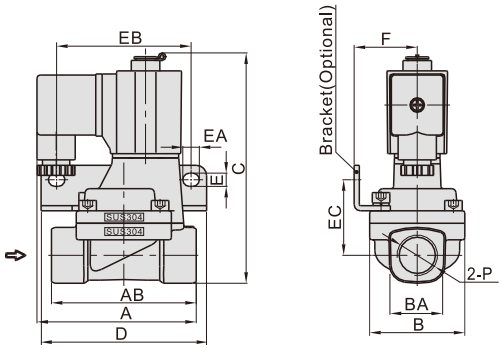
Flow chart



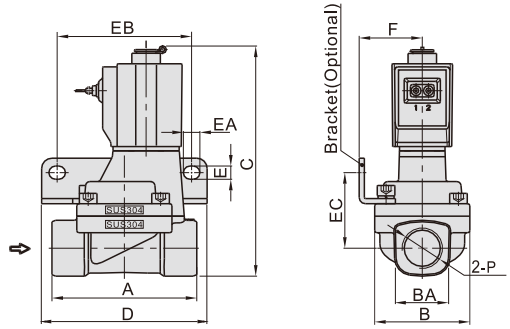


Dimensions

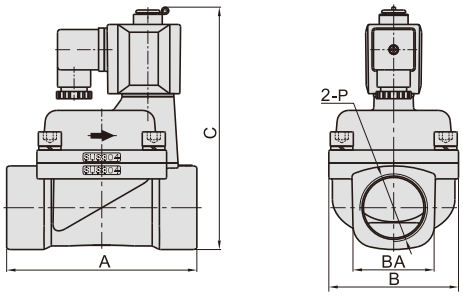
2KS150~250 (Terminal)



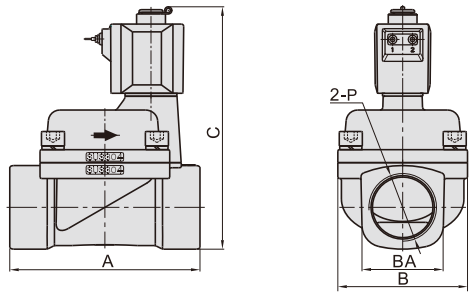
2KS150~250(Grommet)



2KS320~500 (Terminal)



2KS320~500(Grommet)



Model\Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
2KS150-15	77	70	46	27.5	112.5	80	6.4	8	65	36.5	30.5	1/2"
2KS200-20	78.5	82	53	33.5	121	90	6.4	8	75	40	34	3/4"
2KS250-25	81	92	59	40.5	129.5	95	6.4	8	80	44.5	36	1
2KS320-32	125	-	80	52	160	-	-	-	-	-	-	1 1/4"
2KS400-40	132	-	90	58	167	-	-	-	-	-	-	1 1/2"
2KS500-50	150	-	100	70	182	-	-	-	-	-	-	2"

Model\Item	A	B	BA	C	D	E	EA	EB	EC	F	P
2KS150-15	70	46	27.5	112.5	80	6.4	8	65	36.5	30.5	1/2"
2KS200-20	82	53	33.5	121	90	6.4	8	75	40	34	3/4"
2KS250-25	92	59	40.5	129.5	95	6.4	8	80	44.5	36	1
2KS320-32	125	80	52	160	-	-	-	-	-	-	1 1/4"
2KS400-40	132	90	58	167	-	-	-	-	-	-	1 1/2"
2KS500-50	150	100	70	182	-	-	-	-	-	-	2"

Fluid control valve(2/2way)

2W Series (Direct-acting and normally closed)

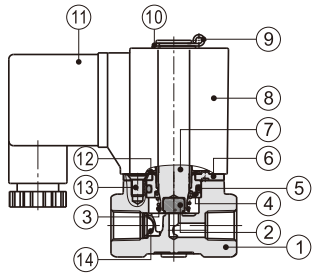
Symbol

Product feature

1. Direct acting and normally closed type 2/2 way solenoid valve. Its high sensibility allows it to change direction quickly;
2. It has wide pressure range, including extra high pressure (X), high pressure (H), standard , large volume(L) and extra large volume (T) to choose from;
3. It is compact, small size and light weight. It is easy to install and dismantle.
4. The valve body is made of brass . Its coil has a Heat resistance classification of Class B. The standard seal material is FPM-F. Please contact us if other material are required.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Inner structure

2W030 (Terminal)



No.	Item	No.	Item
1	Body	8	Coil assembly
2	Airtight ring	9	E Clip
3	Spring	10	Gasket
4	Fixed cap	11	Connecter
5	O-ring	12	Washer
6	Fixed plate	13	Screw
7	Movable core	14	Filter [Note]

[Note] Extra large volume type has no filter element.

Specification

Model\Item		Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
							MPa	psi	MPa	psi
2WX030	-06	1/8"	1.5	0.10	1.8	305	3.0	450	5.0	750
	-08	1/4"				295				
2WH030	-06	1/8"	2.0	0.18	3.0	305	2.0	300		
	-08	1/4"				295				
2W030	-06	1/8"	3.0	0.33	6.0	305	1.0	150		
	-08	1/4"				295				
2WL030	-06	1/8"	4.0	0.55	10.0	305	0.5	75		
	-08	1/4"				295				
2WT030	-06	1/8"	6.0	1.10	12.0	305	0.1	15		
	-08	1/4"				295				
2WX050	-10	3/8"	3.0	0.34	6.1	620	3.0	450		
	-15	1/2"				600				
2WH050	-10	3/8"	4.0	0.55	10.0	620	2.0	300		
	-15	1/2"				600				
2W050	-10	3/8"	5.0	0.83	15.0	620	1.0	150		
	-15	1/2"				600				
2WL050	-10	3/8"	7.0	1.40	25.0	620	0.5	75		
	-15	1/2"				600				
2WT050	-10	3/8"	10.0	2.20	4M0	620	0.1	15		
	-15	1/2"				600				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2W030 series grommet valve's weight is 10g less than terminal's. 2W050series grommet valve's weight is 20g less than terminal's.

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2W□030	CDA116 CLA116	AC	50	±15%	Terminal (CDA)	10.0VA	Class B	35
			60			8.0VA		30
		DC	-	±10%		6.5W		30
2W□050	CDA170 CLA170	AC	50	±15%	Grommet (CLA)	25.0VA		60
			60			22.0VA		55
		DC	-	±10%		12.0W		40

Valve's specification

Acting	Direct acting				
Initial state	Normally closed				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Ordering code

Ordering code of valves

2W L 030 08 A □ □

1 2 3 4 5 6 7

①Model	②Pressure condition	③Size series	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
2W: 2/2 way direct-acting and normally closed	X: Extra high pressure H: High pressure Blank: Standard L: Large volume T: Extra large volume	030: 030 Series	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
		050: 050 Series	10: 3/8" 15: 1/2"			

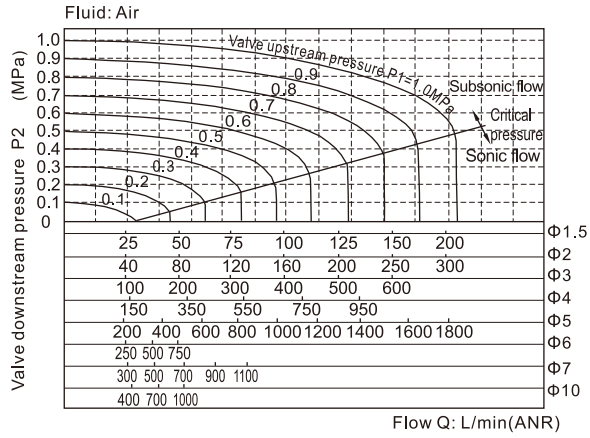
[Note] The wire length is 0.5m.

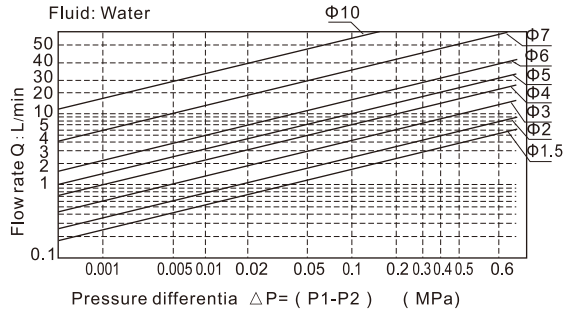
Ordering code of accessories

Ordering code of accessories is the same as 2S series valve's,Please refer to P181 for details of ordering code.

2W Series (Direct-acting and normally closed)

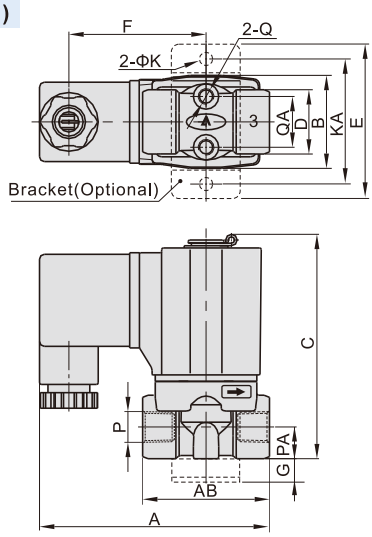
Flow chart



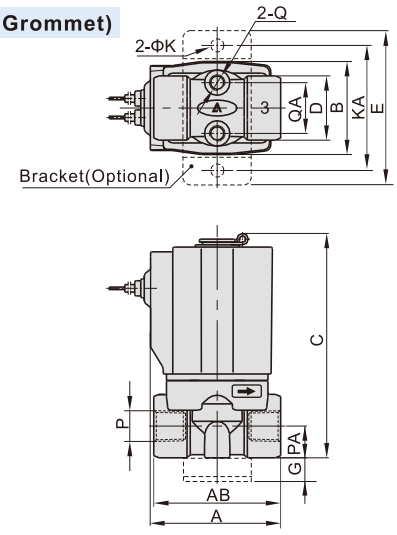


Dimensions

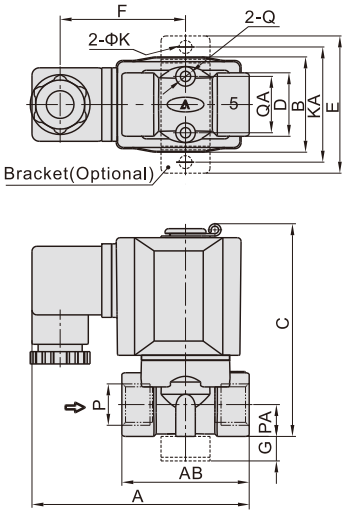
2W□030 (Terminal)



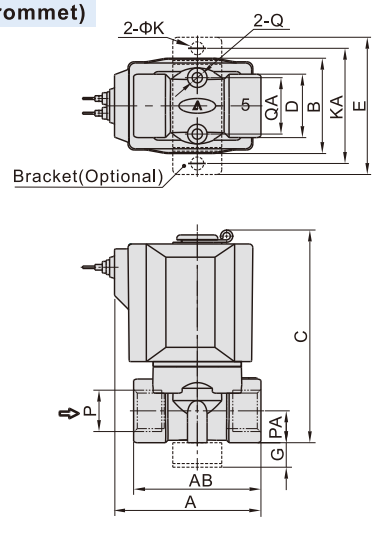
2W□030 (Grommet)



2W□050 (Terminal)



2W□050 (Grommet)



Model\Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2W□030-06	72.5	40	29.5	71	20	49	43.5	10	5.3	40	1/8"	10	M5	16
2W□030-08	72.5	40	29.5	71	20	49	43.5	10	5.3	40	1/4"	10	M5	16
2W□050-10	89.5	52	39	87	26	56	51	10	5.3	48	3/8"	13	M5	23
2W□050-15	89.5	52	39	87	26	56	51	10	5.3	48	1/2"	13	M5	23

Model\Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2W□030-06	41	40	29.5	71	20	49	10	5.3	40	1/8"	10	M5	16
2W□030-08	41	40	29.5	71	20	49	10	5.3	40	1/4"	10	M5	16
2W□050-10	60	52	39	87	26	56	10	5.3	48	3/8"	13	M5	23
2W□050-15	60	52	39	87	26	56	10	5.3	48	1/2"	13	M5	23

Fluid control valve(2/2way)

2W Series (Internally piloted and normally closed)

Specification

Model\Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2t 150-15	1/2"	15.0	5.50	100.0	720	Max: 1.0 Min: 0.05	Max: 150 Min: 10	1.5	220
2W200-20	3/4"	20.0	9.50	170.0	950				
2W250-25	1"	25.0	12.5	220.0	1200				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, grommet valve's weight is 10g less than terminal's.

Symbol

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2W150 2W200 2W250	CDA116 CLA116	AC	50	±15%	Terminal (CDA) Grommet (CLA)	10.0VA	Class B	35
			60			8.0VA		30
		DC	-	±10%		6.5W		30

Product feature

1. Indirect acting(Internal pilot) and normally closed type 2/2 way solenoid valve. Its can change direction quickly and has large flow.
2. It is compact, small and light weight. It is easy to install and dismantle;
3. The valve body is made of brass . The coil has a Heat resistance classification of Class B. The standard seal material is FPM-F. Please contact us if other material are required.
4. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

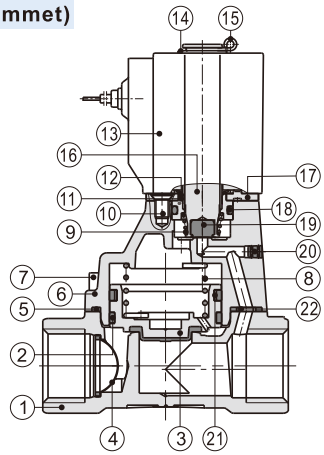
Valve's specification

Acting	Internally piloted				
Initial state	Normally closed				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Inner structure

2W150 (Grommet)



No.	Item	No.	Item	No.	Item
1	Body	9	Spring	16	Movable core
2	Filter	10	Screw	17	Fixed plate
3	Piston	11	Fixed cap	18	O-ring
4	Wear ring	12	Washer	19	Airtight ring
5	O-ring	13	Coil assembly	20	Plug
6	Cover	14	Washer	21	Spring
7	Screw	15	E Clip	22	Spacer
8	Spring				

Ordering code

Ordering code of valves

2W 150 15 A □ □

1 2 3 4 5 6

①Model	②Orifice size	③Port size	④Voltage	⑤Electrical entry	⑥Thread type
2W: 2/2 way internally piloted and normally closed	150: Φ15mm	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
	200: Φ20mm	20: 3/4"			
	250: Φ25mm	25: 1"			

[Note] The wire length is 0.5m.

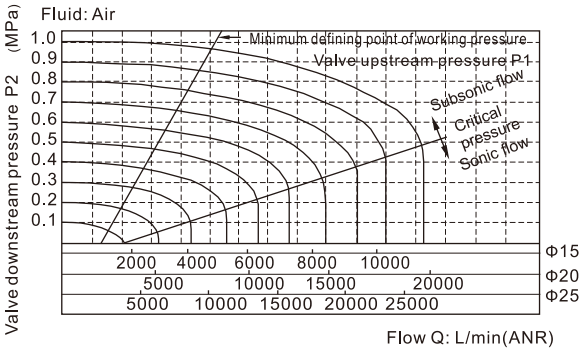
Ordering code of accessories

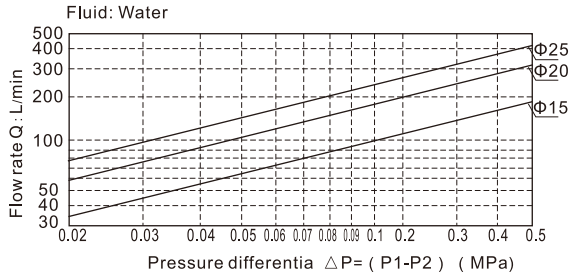
Ordering code of accessories is the same as 2S series valve's, Please refer to P183 for details of ordering code.

[Note] 320\400\500 series valves do not have mounting accessories.

2W Series (Internally piloted and normally closed)

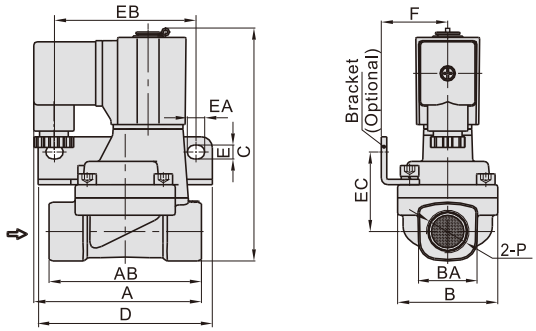
Flow chart





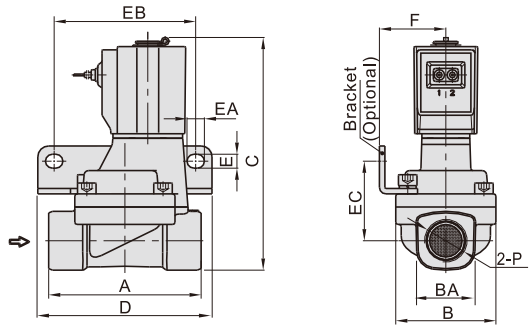
Dimensions

Terminal



Model\Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
OWN50-15	77	70	46	27.5	107	80	6.4	8	65	36.5	30.5	1/2"
2W200-20	78.5	82	53	33.5	115.5	90	6.4	8	75	40	34	3/4"
2W250-25	81	92	59	40.5	124	95	6.4	8	80	44.5	36	1"

Grommet



Model\Item	A	B	BA	C	D	E	EA	EB	EC	F	P
2W150-15	70	46	27.5	107	80	6.4	8	65	36.5	30.5	1/2"
2W200-20	82	53	33.5	115.5	90	6.4	8	75	40	34	3/4"
2W250-25	92	59	40.5	124	95	6.4	8	80	44.5	36	1"

Fluid control valve(2/2 way)

2KW Series (Direct-acting and normally opened)

Symbol

Product feature

1. Direct acting and normally opened type 2/2 way solenoid valve. Its high sensibility allows it to change direction quickly;
2. It has wide pressure range, including extra high pressure (X), high pressure (H), standard and large volume(L) to choose from;
3. It is compact, small size and light weight. It is easy to install and dismantle.
4. The valve body is made of brass . Its coil has a Heat resistance classification of Class B. The standard seal material is FPM-F. Please contact us if other material are required.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Specification

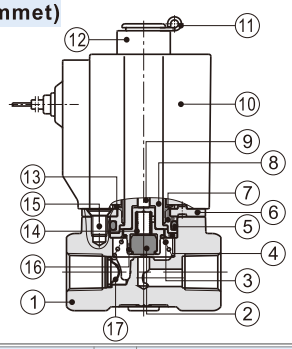
Model\Item		Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
							MPa	psi	MPa	psi
2KWX030	-06	1/8"	1.5	0.10	1.8	315	2.0	300	3.0	450
	-08	1/4"				305				
2KWH030	-06	1/8"	2.0	0.18	3.0	315	1.5	220		
	-08	1/4"				305				
2KW030	-06	1/8"	3.0	0.33	6.0	315	0.7	100		
	-08	1/4"				305				
2KWL030	-06	1/8"	4.0	0.55	10.0	315	0.4	60		
	-08	1/4"				305				
2KWX050	-10	3/8"	3.0	0.34	6.1	635	2.0	300		
	-15	1/2"				615				
2KWH050	-10	3/8"	4.0	0.55	10.0	635	1.5	220		
	-15	1/2"				615				
2KW050	-10	3/8"	5.0	0.83	15.0	635	0.7	100		
	-15	1/2"				615				
2KWL050	-10	3/8"	7.0	1.40	25.0	635	0.4	60		
	-15	1/2"				615				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2KW030 series grommet valve's weight is 10g less than terminal's. 2KW050series grommet valve's weight is 20g less than terminal's.

Inner structure

2KW030(Grommet)



No.	Item	No.	Item
1	Body	10	Coil assembly
2	Airtight ring	11	E Clip
3	Spring	12	Position ring
4	Bead flange	13	Washer
5	O-ring	14	Spring
6	Fixed plate	15	Screw
7	Fixed cap	16	Airtight bush
8	Electromagnet	17	Filter
9	Mandril		

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2KW□030	CDA116 CLA116	AC	50	±15%	Terminal (CDA) Grommet (CLA)	15.0VA	Class B	50
			60			11.0VA		40
		DC	-	±10%		6.5W		30
2KW□050	CDA170 CLA170	AC	50	±15%		35.0VA		65
			60			30.0VA		60
		DC	-	±10%		12.0W		40

Valve's specification

Acting	Direct acting				
Initial state	Normally opened				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Ordering code

Ordering code of valves

2KW H 030 08 A □ □

1 2 3 4 5 6 7

①Model	②Pressure condition	③Size series	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
2KW: 2/2 way direct-acting and normally opened	X: Extra high pressure H: High pressure Blank: Standard L: Large volume	030: 030 Series	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
		050: 050 Series	10: 3/8" 15: 1/2"			

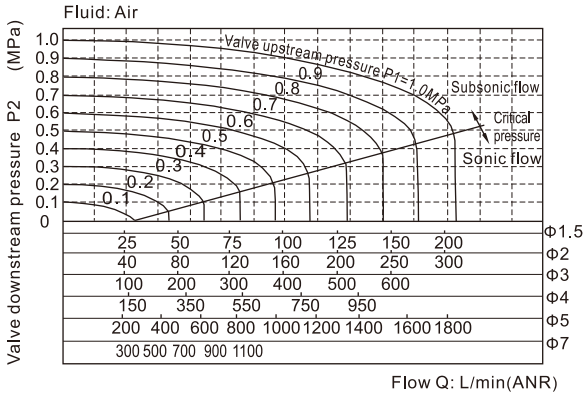
[Note] The wire length is 0.5m.

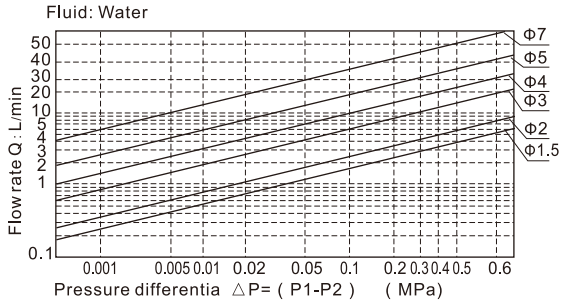
Ordering code of accessories

Ordering code of accessories is the same as 2S series valve's,Please refer to P181 for details of ordering code.

2KW Series (Direct-acting and normally opened)

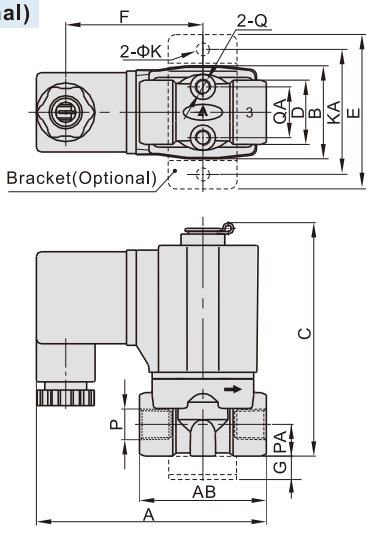
Flow chart



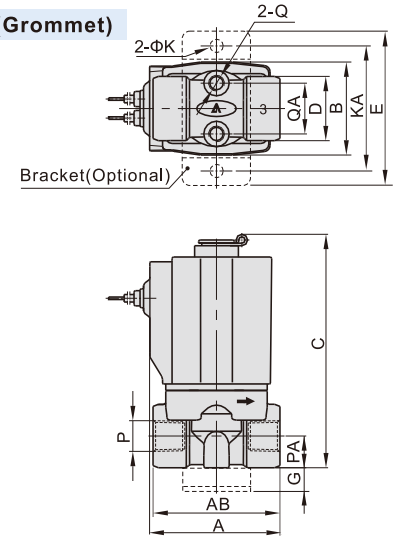


Dimensions

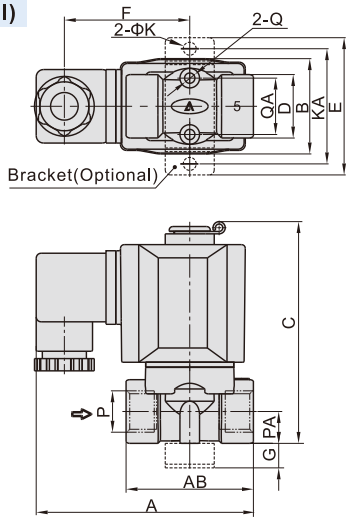
2KW□030 (Terminal)



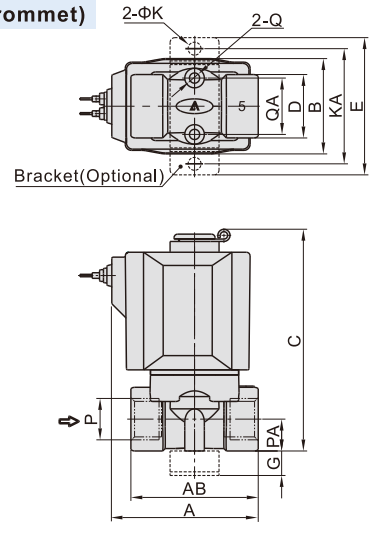
2KW□030(Grommet)



2KW□050(Terminal)



2KW□050(Grommet)



Model\Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2KW□030-06	72.5	40	29.5	76	20	49	43.5	10	5.3	40	1/8"	10	M5	16
2KW□030-08	72.5	40	29.5	76	20	49	43.5	10	5.3	40	1/4"	10	M5	16
2KW□050-10	89.5	52	39	92	26	56	51	10	5.3	48	3/8"	13	M5	23
2KW□050-15	89.5	52	39	92	26	56	51	10	5.3	48	1/2"	13	M5	23

Model\Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2KW□030-06	41	40	29.5	76	20	49	10	5.3	40	1/8"	10	M5	16
2KW□030-08	41	40	29.5	76	20	49	10	5.3	40	1/4"	10	M5	16
2KW□050-10	60	52	39	92	26	56	10	5.3	48	3/8"	13	M5	23
2KW□050-15	60	52	39	92	26	56	10	5.3	48	1/2"	13	M5	23

Fluid control valve(2/2 way)

2KW Series (Internally piloted and normally opened)

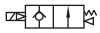
Specification

Model\Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2KW150-15	1/2"	15.0	5.50	100.0	730	Max: 0.7 Min: 0.05	Max: 100 Min: 10	1.5	220
2KW200-20	3/4"	20.0	9.50	170.0	960				
2KW250-25	1"	25.0	12.5	220.0	1210				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, grommet valve's weight is 10g less than terminal's.

Symbol



Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2KW150 2KW200 2KW250	CDA116 CLA116	AC	50	±15%	Terminal (CDA) Grommet (CLA)	15.0VA	Class B	50
			60			11.0VA		40
		DC	-	±10%		6.5W		30

Product feature

1. Indirect acting(Internal pilot) and normally opened type 2/2 way solenoid valve. Its can change direction quickly and has large flow.
2. It is compact, small and light weight. It is easy to install and dismantle;
3. The valve body is made of brass . The coil has a Heat resistance classification of Class B. The standard seal material is FPM-F. Please contact us if other material are required.
4. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

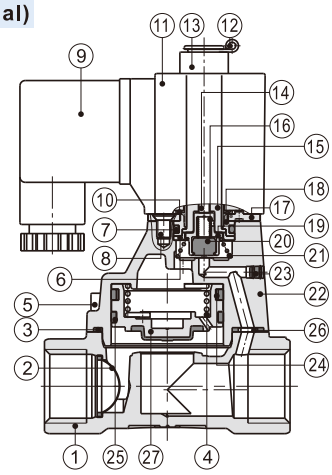
Valve's specification

Acting	Internally piloted				
Initial state	Normally opened				
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(℃) or less ; [Note2] 50CST or less.

Inner structure

2KW150 (Terminal)



No.	Item	No.	Item	No.	Item
1	Body	10	Washer	19	Airtight bushing
2	Filter	11	Coil assembly	20	Airtight ring
3	O-ring	12	E Clip	21	Spring
4	Spring	13	Position ring	22	Cover
5	Screw	14	Mandril	23	Plug
6	Bead flange	15	Movable core	24	Bonnet spring
7	O-ring	16	Spring	25	Wear ring
8	Screw	17	Fixed plate	26	Spacer
9	Connector	18	Fixed cap	27	Piston

Ordering code

Ordering code of valves

2KW 150 15 A □ □

1 2 3 4 5 6

①Model	②Orifice size	③Port size	④Voltage	⑤Electrical entry	⑥Thread type
2KW: 2/2 way internally piloted and normally opened	150: Φ15mm	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank:PT G: G T: NPT
	200: Φ20mm	20: 3/4"			
	250: Φ25mm	25: 1"			

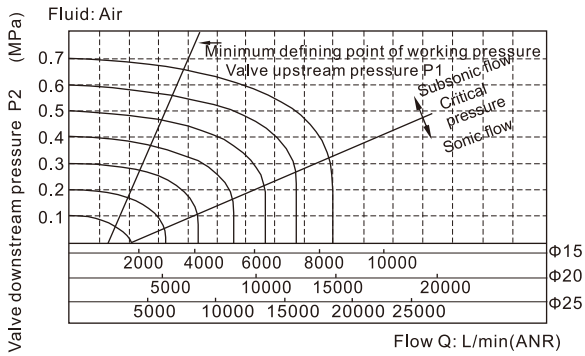
[Note] The wire length is 0.5m.

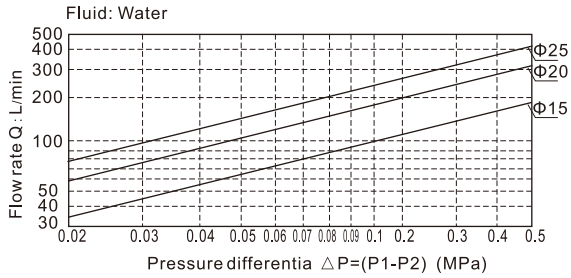
Ordering code of accessories

Ordering code of accessories is the same as 2S series valve's, Please refer to P183 for details of ordering code.

2KW Series (Internally piloted and normally opened)

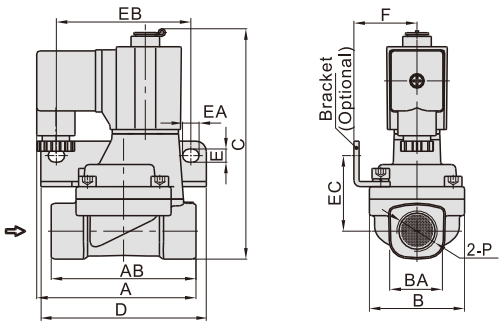
Flow chart





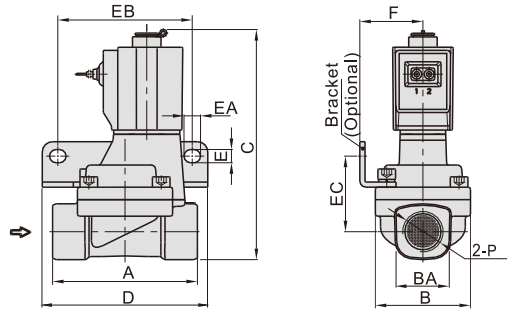
Dimensions

Terminal



Model\Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
2KW150-15	77	70	46	27.5	112.5	80	6.4	8	65	36.5	30.5	1/2"
2KW200-20	78.5	82	53	33.5	121	90	6.4	8	75	40	34	3/4"
2KW250-25	81	92	59	40.5	129.5	95	6.4	8	80	44.5	36	1"

Grommet



Model\Item	A	B	BA	C	D	E	EA	EB	EC	F	P
2KW150-15	70	46	27.5	112.5	80	6.4	8	65	36.5	30.5	1/2"
2KW200-20	82	53	33.5	121	90	6.4	8	75	40	34	3/4"
2KW250-25	92	59	40.5	129.5	95	6.4	8	80	44.5	36	1"

Fluid control valve(2/2 way)

2L Series (Direct-acting and normally closed)

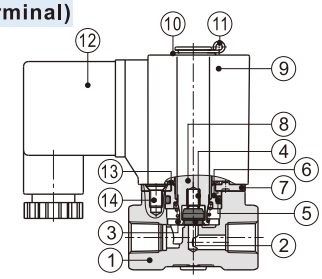
Symbol

Product feature

1. Direct acting and normally closed type 2/2 way solenoid valve. Its high sensibility allows it to change direction quickly;
2. It has wide pressure range, including standard high pressure (H) to choose from;
3. It is compact, small size and light weight. It is easy to install and dismantle.
4. The valve body is made of SUS304 . Its coil has a Heat resistance classification of Class H. The standard seal material is PTFE(Teflon) whichis suitable for a variety of working medium such as water with high temperature and vapour.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Inner structure

2L030 (Terminal)



No.	Item	No.	Item	No.	Item
1	Body	6	Fixed cap	11	E Clip
2	Airtight ring	7	Fixed plate	12	Connector
3	Spring	8	Movable core	13	Washer
4	Spring	9	Coil assembly	14	Screw
5	O-ring	10	Washer		

Specification

Model\Item		Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
							MPa	psi	MPa	psi
2LH030	-06	1/8"	2.0	0.18	3.0	300	2.0	300	3.0	450
	-08	1/4"				290				
2L030	-06	1/8"	3.0	0.33	6.0	300	1.0	150		
	-08	1/4"				290				
2LH050	-10	3/8"	4.0	0.55	10.0	600	2.0	300		
	-15	1/2"				590				
2L050	-10	3/8"	5.0	0.83	15.0	600	1.0	150		
	-15	1/2"				590				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2L030 series grommet valve's weight is 10g less than terminal's. 2L050series grommet valve's weight is 20g less than terminal's.

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2L□030	CDA116 CLA116	AC	50	±15%	Terminal (CDA) Grommet (CLA)	10.0VA	Class H	35
			60			8.0VA		30
		DC	-	±10%		6.5W		30
2L□050	CDA170 CLA170	AC	50	±15%		25.0VA		60
			60			22.0VA		55
		DC	-	±10%		12.0W		40

Valve's specification

Acting	Direct acting				
Initial state	Normally closed				
Adaptable fluid	Steam, High temperature Water,Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Oil	Water	Steam	Ambient
	Max.	150	150	183	100
	Min.	-10 [Note1]	1	-	-20

[Note1] 50CST or less.

Ordering code

Ordering code of valves

2L H 030 08 A □ □

1 2 3 4 5 6 7

①Model	②Pressure condition	③Size series	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
2L: 2/2 way direct-acting and normally closed	H: High pressure Blank: Standard	030: 030 Series	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
		050: 050 Series	10: 3/8" 15: 1/2"			

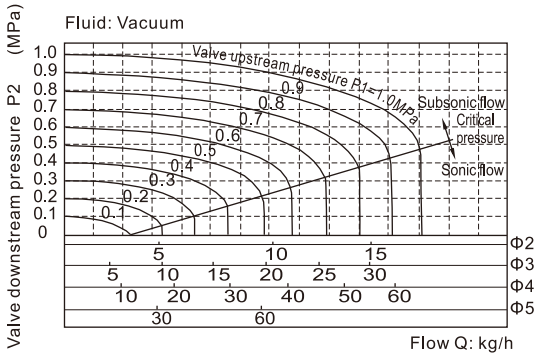
[Note] The wire length is 0.5m.

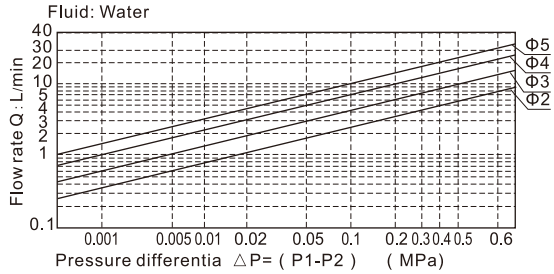
Ordering code of accessories

Ordering code of accessories is the same as 2S series valve's,Please refer to P181 for details of ordering code.

2L Series (Direct-acting and normally closed)

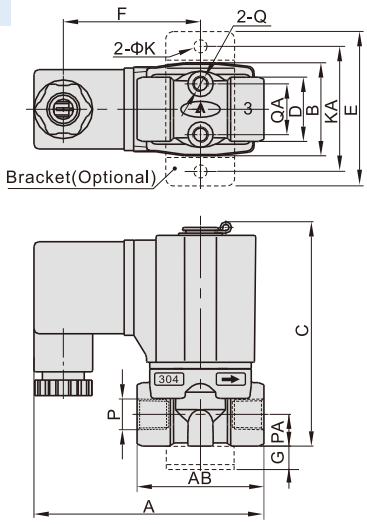
Flow chart



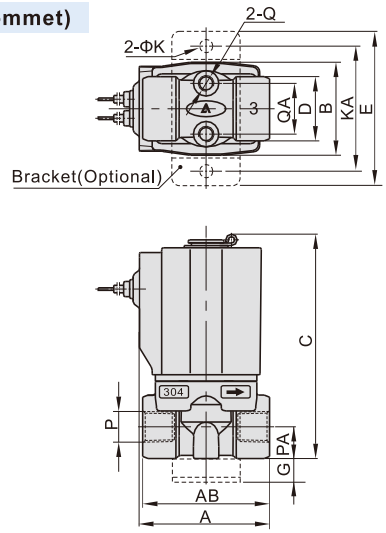


Dimensions

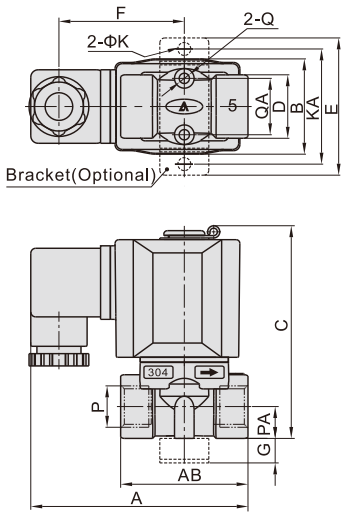
2L□030(Terminal)



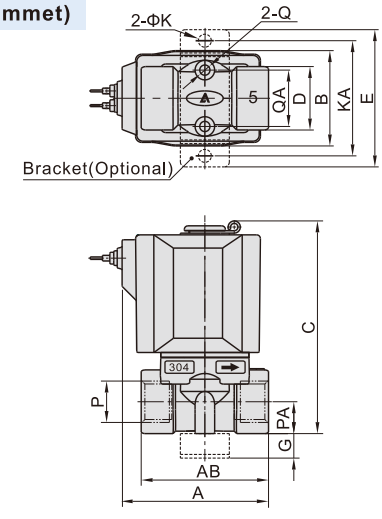
2L□030(Grommet)



2L□050(Terminal)



2L□050(Grommet)

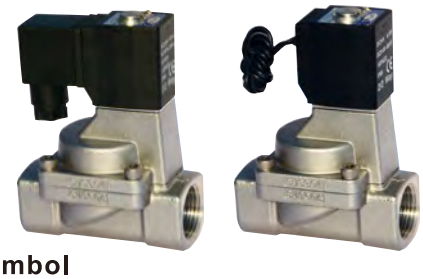


Model\Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2L□030-06	72.5	40	29.5	71	20	49	43.5	10	5.3	40	1/8"	10	M5	16
2L□030-08	72.5	40	29.5	71	20	49	43.5	10	5.3	40	1/4"	10	M5	16
2L□050-10	89.5	52	39	87	26	56	51	10	5.3	48	3/8"	13	M5	23
2L□050-15	89.5	52	39	87	26	56	51	10	5.3	48	1/2"	13	M5	23

Model\Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2L□030-06	41	40	29.5	71	20	49	10	5.3	40	1/8"	10	M5	16
2L□030-08	41	40	29.5	71	20	49	10	5.3	40	1/4"	10	M5	16
2L□050-10	60	52	39	87	26	56	10	5.3	48	3/8"	13	M5	23
2L□050-15	60	52	39	87	26	56	10	5.3	48	1/2"	13	M5	23

Fluid control valve(2/2 way)

2L Series (Internally piloted and normally closed)



Symbol

Product feature

1. Indirect acting(Internal pilot) and normally closed type 2/2 way solenoid valve. Its high sensibility allows it to change direction quickly.
2. It is compact, small size and light weight. It is easy to install and dismantle.
3. The valve body is made of SUS304 . Its coil has a Heat resistance classification of Class H. The standard seal material is PTFE(Teflon) whichis suitable for a variety of working medium such as water with high temperature and vapour.
4. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Specification

Model\Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2L150-15	1/2"	15.0	5.50	100.0	675	Max: 1.0 Min: 0.05	Max: 150 Min: 10	1.5	220
2L200-20	3/4"	20.0	9.50	170.0	875				
2L250-25	1"	25.0	12.50	220.0	1120				
2L320-32	1 1/4"	35.0	23.00	420.0	2700				
2L400-40	1 1/2"	40.0	31.00	560.0	3250				
2L500-50	2"	50.0	49.00	880.0	4300				

[Note1] PT thread, G thread and NPT thread are available.

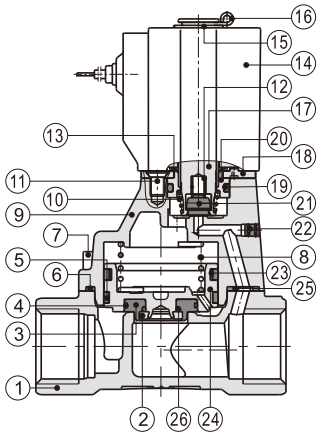
[Note2] The weight in the table is the terminal valve's weight, 2L150~250series grommet valve's weight is 10g less than terminal's. 2L320~500series grommet valve's weight is 20g less than terminal's.

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2L150 2L200 2L250	CDA116 CLA116	AC	50	±15%	Terminal (CDA) Grommet (CLA)	10.0VA	Class H	35
			60			8.0VA		30
		DC	-	±10%		6.5W		30
2L320 2L400 2L500	CDA170 CLA170	AC	50	±15%		25.0VA		60
			60			22.0VA		55
		DC	-	±10%		12.0W		40

Inner structure

2L150(Grommet)



No.	Item
1	Body
2	Fixed ring
3	Airtight gasket
4	O-ring
5	Wear ring
6	Gasket
7	Screw
8	Spring
9	Cover
10	Spring
11	Screw
12	Spring
13	Spring washer
14	Coil assembly
15	Washer
16	E Clip
17	Movable core
18	Fixed plate
19	O-ring
20	Fixed cap
21	Airtight ring
22	Plug
23	Spring
24	Piston
25	Spacer
26	O-ring

Valve's specification

Acting	Internally piloted				
Initial state	Normally closed				
Adaptable fluid	Steam,High temperature Water,Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Oil	Water	Steam	Ambient
	Max.	150	150	183	100
	Min.	-10 [Note1]	1	-	-20

[Note1] 50CST or less.

Ordering code

Ordering code of valves

2L 150 15 A □ □

① ② ③ ④ ⑤ ⑥

①Model	②Orifice size	③Port size	④Voltage	⑤Electrical entry	⑥Thread type
2L: 2/2 way internally piloted and normally closeded	150: Φ15mm	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
	200: Φ20mm	20: 3/4"			
	250: Φ25mm	25: 1"			
	320: Φ35mm	32: 1 1/4"			
	400: Φ40mm	40: 1 1/2"			
	500: Φ50mm	50: 2"			

[Note] The wire length is 0.5m.

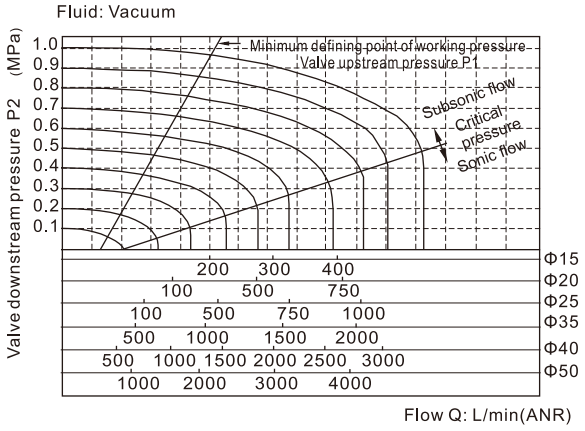
Ordering code of accessories

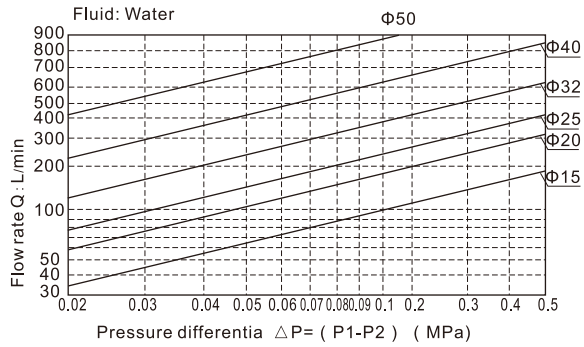
Ordering code of accessories is the same as 2S series valve's, please refer to P183 for details of ordering code.

[Note] 320\400\500 series valves do not have mounting accessories.

2L Series (Internally piloted and normally closed)

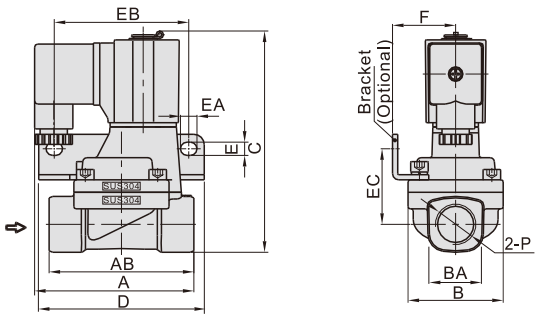
Flow chart



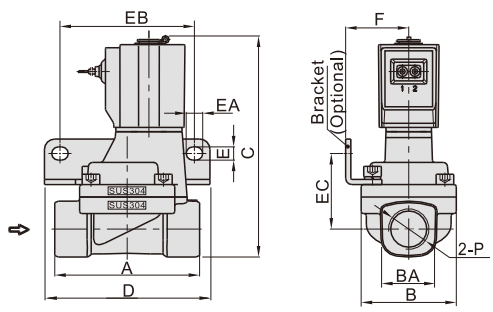


Dimensions

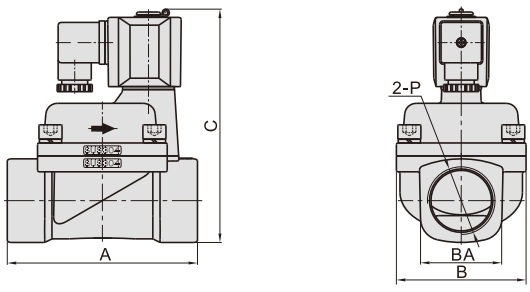
2L150~250(Terminal)



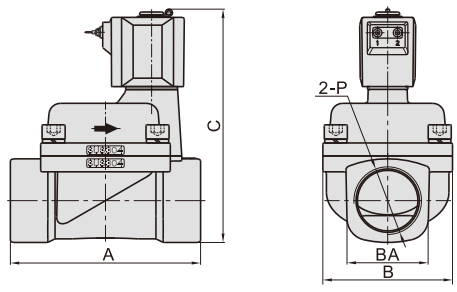
2L150~250(Grommet)



2L320~500(Terminal)



2L320~500(Grommet)

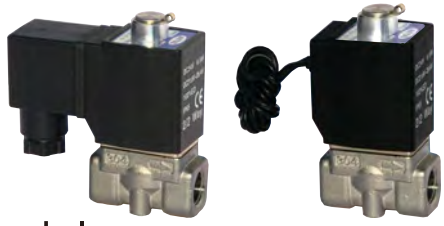


Model\Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
2L150-15	77	70	46	27.5	107	80	6.4	8	65	36.5	30.5	1/2"
2L200-20	78.5	82	53	33.5	115.5	90	6.4	8	75	40	34	3/4"
2L250-25	81	92	59	40.5	124	95	6.4	8	80	44.5	36	1"
2L320-32	125	-	80	52	154.5	-	-	-	-	-	-	1 1/4"
2L400-40	132	-	90	58	162	-	-	-	-	-	-	1 1/2"
2L500-50	150	-	100	70	177	-	-	-	-	-	-	2"

Model\Item	A	B	BA	C	D	E	EA	EB	EC	F	P
2L150-15	70	46	27.5	107	80	6.4	8	65	36.5	30.5	1/2"
2L200-20	82	53	33.5	115.5	90	6.4	8	75	40	34	3/4"
2L250-25	92	59	40.5	124	95	6.4	8	80	44.5	36	1"
2L320-32	125	80	52	154.5	-	-	-	-	-	-	1 1/4"
2L400-40	132	90	58	162	-	-	-	-	-	-	1 1/2"
2L500-50	150	100	70	177	-	-	-	-	-	-	2"

Fluid control valve(2/2 way)

2KL Series (Direct-acting and normally opened)



Symbol

Product feature

1. Direct acting and normally opened type 2/2 way solenoid valve. Its high sensibility allows it to change direction quickly;
2. It has wide pressure range, including standard high pressure (H) to choose from;
3. It is compact, small size and light weight. It is easy to install and dismantle.
4. The valve body is made of SUS304 . Its coil has a Heat resistance classification of Class H. The standard seal material is PTFE(Teflon) which is suitable for a variety of working medium such as water with high temperature and vapour.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Specification

Model\Item		Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
							MPa	psi	MPa	psi
2KLH030	-06	1/8"	2.0	0.18	3.0	305	1.5	220	3.0	450
	-08	1/4"				295				
2KL030	-06	1/8"	3.0	0.33	6.0	305	0.7	100		
	-08	1/4"				295				
2KLH050	-10	3/8"	4.0	0.55	10.0	610	1.5	220		
	-15	1/2"				600				
2KL050	-10	3/8"	5.0	0.83	15.0	610	0.7	100		
	-15	1/2"				600				

[Note1] PT thread, G thread and NPT thread are available.

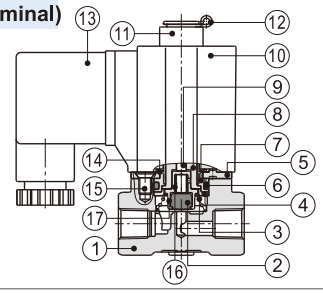
[Note2] The weight in the table is the terminal valve's weight, 2KL030 series grommet valve's weight is 10g less than terminal's. 2KL050series grommet valve's weight is 20g less than terminal's.

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2KL□030	CDA116 CLA116	AC	50	±15%	Terminal (CDA) Grommet (CLA)	15.0VA	Class H	50
			60			11.0VA		40
		DC	-	±10%		6.5W		30
2KL□050	CDA170 CLA170	AC	50	±15%		35.0VA		65
			60			30.0VA		60
		DC	-	±10%		12.0W		40

Inner structure

2KL030 (Terminal)



No.	Item	No.	Item	No.	Item
1	Body	7	Fixed cap	13	Connector
2	Airtight ring	8	Electromagnet	14	Spring washer
3	Spring	9	Mandril	15	Screw
4	Fixed ring	10	Coil assembly	16	Spring
5	Fixed plate	11	Position ring	17	Airtight bush
6	O-ring	12	E Clip		

Valve's specification

Acting	Direct acting				
Initial state	Normally opened				
Adaptable fluid	Steam,High temperature Water,Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Oil	Water	Steam	Ambient
	Max.	150	150	183	100
	Min.	-10 [Note1]	1	-	-20

[Note1] 50CST or less.

Ordering code

Ordering code of valves

2KL H 030 08 A □ □

1 2 3 4 5 6 7

①Model	②Pressure condition	③Size series	④Port size	⑤Voltage	⑥Electrical entry	⑦Thread type
2KL: 2/2 way direct-acting and normally opened	H: High pressure Blank: Standard	030: 030 Series	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
		050: 050 Series	10: 3/8" 15: 1/2"			

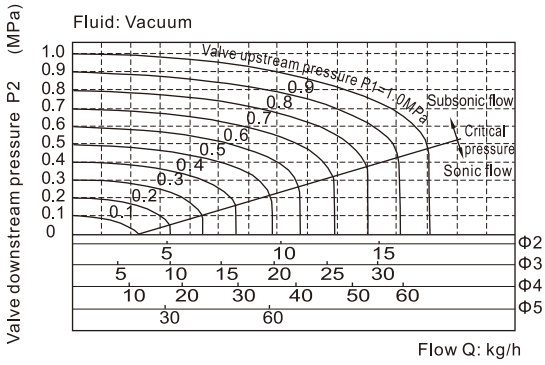
[Note] The wire length is 0.5m.

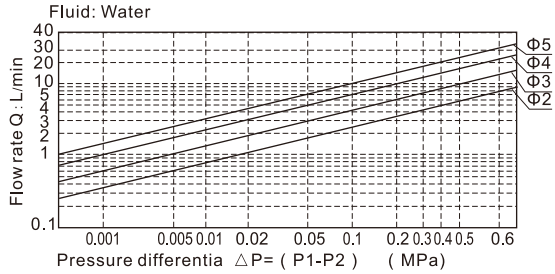
Ordering code of accessories

Ordering code of accessories is the same as 2S series valve's,Please refer to P181 for details of ordering code.

2KL Series (Direct-acting and normally opened)

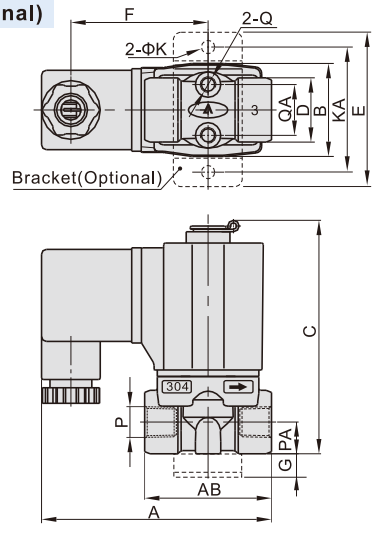
Flow chart



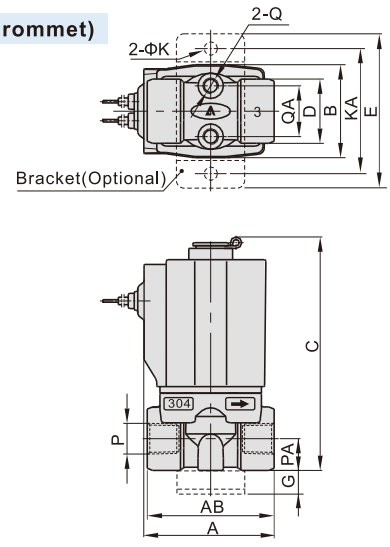


Dimensions

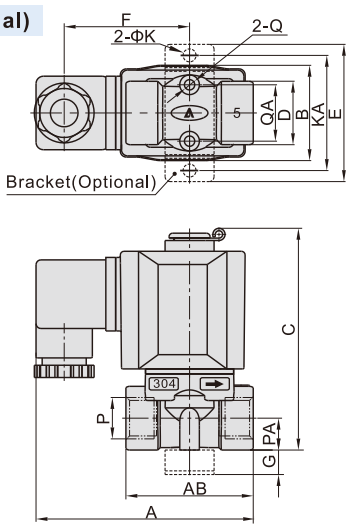
2KL□030(Terminal)



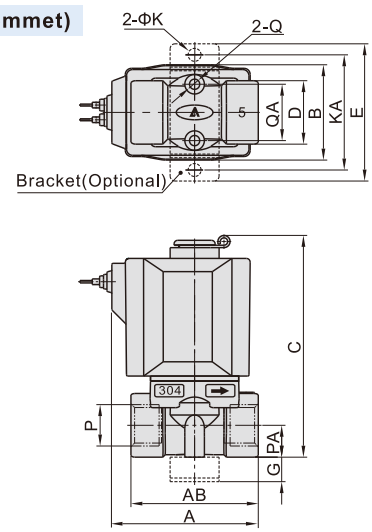
2KL□030(Grommet)



2KL□050(Terminal)



2KL□050(Grommet)

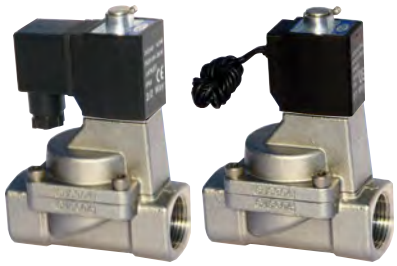


Model\Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2KL□030-06	72.5	40	29.5	76	20	49	43.5	10	5.3	40	1/8"	10	M5	16
2KL□030-08	72.5	40	29.5	76	20	49	43.5	10	5.3	40	1/4"	10	M5	16
2KL□050-10	89.5	52	39	92	26	56	51	10	5.3	48	3/8"	13	M5	23
2KL□050-15	89.5	52	39	92	26	56	51	10	5.3	48	1/2"	13	M5	23

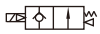
Model\Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2KL□030-06	41	40	29.5	76	20	49	10	5.3	40	1/8"	10	M5	16
2KL□030-08	41	40	29.5	76	20	49	10	5.3	40	1/4"	10	M5	16
2KL□050-10	60	52	39	92	26	56	10	5.3	48	3/8"	13	M5	23
2KL□050-15	60	52	39	92	26	56	10	5.3	48	1/2"	13	M5	23

Fluid control valve(2/2 way)

2KL Series (Internally piloted and normally opened)



Symbol

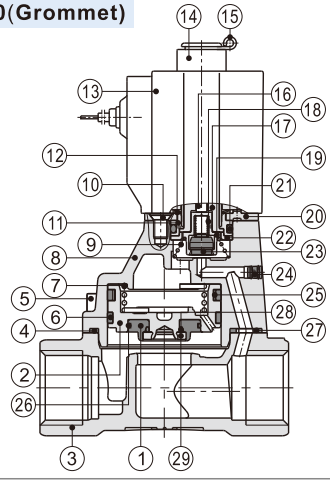


Product feature

1. Indirect acting(Internal pilot) and normally opened type 2/2 way solenoid valve. Its high sensibility allows it to change direction quickly.
2. It is compact, small size and light weight. It is easy to install and dismantle.
3. The valve body is made of SUS304 . Its coil has a Heat resistance classification of Class H. The standard seal material is PTFE(Teflon) which is suitable for a variety of working medium such as water with high temperature and vapour.
4. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

Inner structure

2KL150(Grommet)



No.	Item	No.	Item
1	Gasket	16	Mandril
2	Piston	17	Electromagnet
3	Body	18	Spring
4	Gasket	19	Airtight bush
5	Screw	20	Fixed plate
6	Wear ring	21	O-ring
7	Spring	22	Fixed ring
8	Cover	23	Airtight ring
9	Spring	24	Plug
10	Screw	25	Spring
11	Fixed cap	26	O-ring
12	Spring washer	27	Spacer
13	Coil assembly	28	O-ring
14	Position ring	29	Fixed ring
15	E Clip		

Specification

Model\Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm^2)	Weight [Note2](g)	Operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2KL150-15	1/2"	15.0	5.50	100.0	675	Max: 0.7 Min: 0.05	Max: 100 Min: 10	1.5	220
2KL200-20	3/4"	20.0	9.50	170.0	880				
2KL250-25	1"	25.0	12.50	220.0	1125				
2KL320-32	1 1/4"	35.0	23.00	420.0	2710				
2KL400-40	1 1/2"	40.0	31.00	560.0	3260				
2KL500-50	2"	50.0	49.00	880.0	4310				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2KL150~250 series grommet valve's weight is10g less than terminal's. 2KL320~500series grommet valve's weight is 20g less than terminal's.

Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(℃)
2KL150 2KL200 2KL250	CDA116 CLA116	AC	50	±15%	Terminal (CDA) Grommet (CLA)	15.0VA	Class H	50
			60			11.0VA		40
		DC	-	±10%		6.5W		30
2KL320 2KL400 2KL500	CDA170 CLA170	AC	50	±15%		35.0VA		65
			60			30.0VA		60
		DC	-	±10%		12.0W		40

Valve's specification

Acting	Internally piloted				
Initial state	Normally opened				
Adaptable fluid	Steam,High temperature Water,Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (℃)		Oil	Water	Steam	Ambient
	Max.	150	150	183	100
	Min.	-10 [Note1]	1	-	-20

[Note1] 50CST or less.

Ordering code

Ordering code of valves

2KL 150 15 A □ □

1 2 3 4 5 6

①Model	②Orifice size	③Port size	④Voltage	⑤Electrical entry	⑥Thread type
2KL: 2/2 way internally piloted and normally opened	150: Φ15mm	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet [Note]	Blank: PT G: G T: NPT
	200: Φ20mm	20: 3/4"			
	250: Φ25mm	25: 1"			
	320: Φ35mm	32: 1 1/4"			
	400: Φ40mm	40: 1 1/2"			
	500: Φ50mm	50: 2"			

[Note] The wire length is 0.5m.

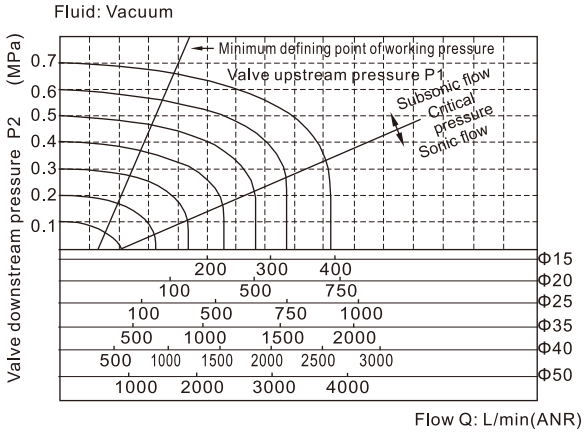
Ordering code of accessories

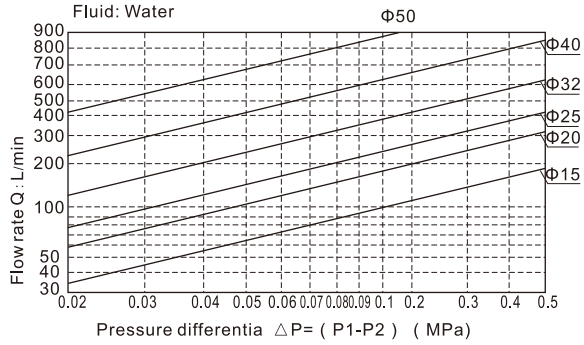
Ordering code of accessories is the same as 2S series valve's,
Please refer to P183 for details of ordering code.
[Note] 320\400\500 series valves do not have mounting accessories.

Fluid control valve(2/2 way)

2KL Series (Internally piloted and normally opened)

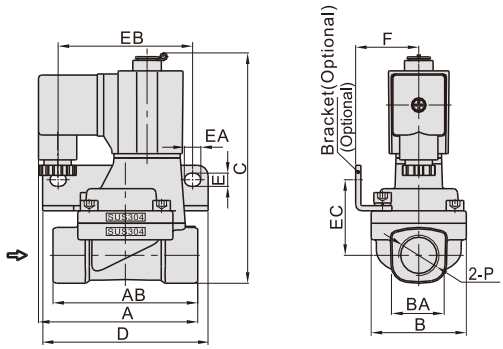
Flow chart



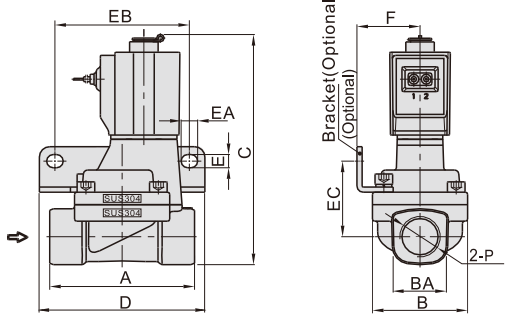


Dimensions

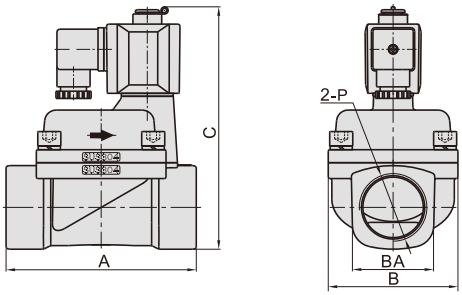
2KL150~250(Terminal)



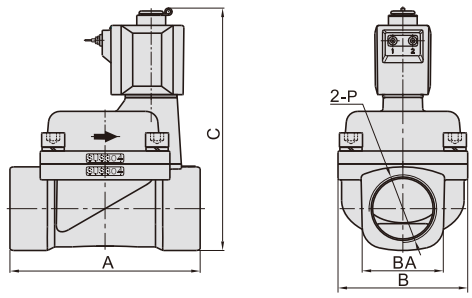
2KL150~250(Grommet)



2KL320~500(Terminal)



2KL320~500(Grommet)

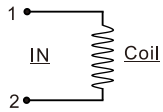


Model\Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
2KL150-15	77	70	46	27.5	112.5	80	6.4	8	65	36.5	30.5	1/2"
2KL200-20	78.5	82	53	33.5	121	90	6.4	8	75	40	34	3/4"
2KL250-25	81	92	59	40.5	129.5	95	6.4	8	80	44.5	36	1"
2KL320-32	125	-	80	52	160	-	-	-	-	-	-	1 1/4"
2KL400-40	132	-	90	58	167	-	-	-	-	-	-	1 1/2"
2KL500-50	150	-	100	70	182	-	-	-	-	-	-	2"

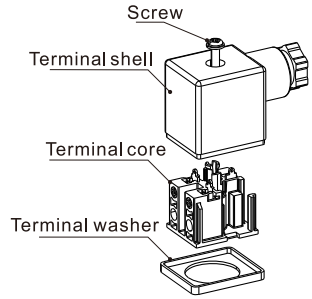
Model\Item	A	B	BA	C	D	E	EA	EB	EC	F	P
2KL150-15	70	46	27.5	112.5	80	6.4	8	65	36.5	30.5	1/2"
2KL200-20	82	53	33.5	121	90	6.4	8	75	40	34	3/4"
2KL250-25	92	59	40.5	129.5	95	6.4	8	80	44.5	36	1"
2KL320-32	125	80	52	160	-	-	-	-	-	-	1 1/4"
2KL400-40	132	90	58	167	-	-	-	-	-	-	1 1/2"
2KL500-50	150	100	70	182	-	-	-	-	-	-	2"

Coil and accessories

Hookup

Coil's type			Hookup	Connector's type
116 Series	CDA116 (Terminal)	AC		PL2925
		DC		
	CLA116 (Grommet)	AC		-
		DC		
170 Series	CDA170 (Terminal)	AC		PL3030
		DC		
	CLA170 (Grommet)	AC		-
		DC		

How to use connector



Specification

Model\Item	Power type	Voltage (V)	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W) For NC	Power Consumption (VA/W) For NO	Insulation	Temp.rise(℃) NC	Temp.rise(℃) NO
116 Series	AC	220	50	±15%	DIN Terminal	10.0VA	15.0VA	Class B Class H	35	50
			60			8.0VA	11.0VA		30	40
		110	50			10.0VA	15.0VA		35	50
			60			8.0VA	11.0VA		30	40
		24	50		Grommet	10.0VA	15.0VA		35	50
			60			8.0VA	11.0VA		30	40
	DC	24	-	±10%		6.5W			30	30
		12								
170 Series	AC	220	50	±15%	DIN Terminal	25.0VA	35.0VA		60	65
			60			22.0VA	30.0VA		55	60
		110	50			25.0VA	35.0VA		60	65
			60			22.0VA	30.0VA		55	60
		24	50		Grommet	25.0VA	35.0VA		60	65
			60			22.0VA	30.0VA		55	60
	DC	24	-	±10%		12.0W			40	40
		12								

How to select coil

Valve type\Coil type		116 Series Class B	116 Series Class H	170 Series Class B	170 Series Class H
2W□030\2KW□030	2S□030\2KS□030	●	×	×	×
2L□030	2KL□030	×	●	×	×
2W□050\2KW□050	2S□050\2KS□050	×	×	●	×
2L□050	2KL□050	×	×	×	●
2W150~250\2KW150~250	2S150~250\2KS150~250	●	×	×	×
2L150~250	2KL150~250	×	●	×	×
2S320~500	2KS320~500	×	×	●	×
2L320~500	2KL320~500	×	×	×	●

How to select accessories

Valve type\ Accessories type			F-2S030LB	F-2S050LB	F-2S150LB	F-2S200LB	F-2S250LB
2W□030\2KW□030	2S□030\2KS□030	2L□030\2KL□030	●	×	×	×	×
2W□050\2KW□050	2S□050\2KS□050	2L□050\2KL□050	×	●	×	×	×
2W150\2KW150	2S150\2KS150	2L150\2KL150	×	×	●	×	×
2W200\2KW200	2S200\2KS200	2L200\2KL200	×	×	×	●	×
2W250\2KW250	2S250\2KS250	2L250\2KL250	×	×	×	×	●
2S320~500\2KS320~500	2L320~500\2KL320~500		×	×	×	×	×

Ordering code of coil

CD A116 A □

① ② ③ ④

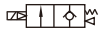
①Coil type	②Coil's bore	③Voltage	④Temperature resistance class of coil
CD: Terminal CL: Grommet	A116: Coil Specification(Bore sizeΦ11.6mm) A170: Coil Specification(Bore sizeΦ17.0mm)	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: B Class H: H Class

2V Series

Symbol

2V025

2V130□250



Product feature

2V025 series

1. Direct acting and normally closed type 2/2 way solenoid valve. Its high sensitivity allows it to change direction quickly.
2. The structure is small and compact.
3. The valve body is made of brass which is heat resistance and the coil conforms to Class B classification. The seals are made of fluorine rubber (VITON) which is suitable for several types of working medium.

2V130 and 250 series

1. This 2/2 way diaphragm piloted solenoid valve has low energy consumption and large air flow .
2. The starting pressure is low and the Min. operational differential pressure is 0.05MPa.
3. The valve body is made of brass which is heat resistance and the coil conforms to Class B classification . The seals are made of NBR.

Specification

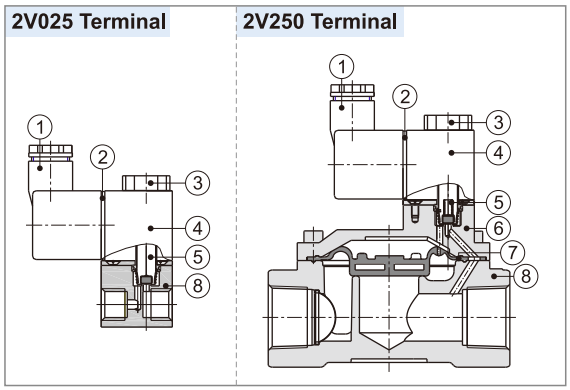
Model	2V025-06	2V025-08	2V130-10	2V130-15	2V250-20	2V250-25
Fluid	Air. Water. Oil					
Acting	Direct acting		Internally piloted acting			
Initial state	Normally closed					
Orifice size (mm)	2.5	2.5	13.0	13.0	25.0	25.0
Cv	0.23	0.25	6.20	6.20	13.00	13.00
Port size [Note]	1/8"	1/4"	3/8"	1/2"	3/4"	1"
Viscosity limit	Under 20CST					
Pressure range	0~1.0MPa(0~145psi)		0.05~1.0MPa(7~145psi)			
Proof pressure	1.5MPa(215psi)					
Material body	Brass with nickel plated		Brass			
Seal material	VITON		NBR			
Activating time	0.05 sec and below					

[Note] PT thread, G thread and NPT thread are available.

Specification of coil

Valve type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp.rise (℃)
2V025 2V130 2V250	AC	50	±15%	Terminal Grommet	7.0VA	Class B	35
		60					
	DC	-	±10%		7.0W		45

Inner structure



No.	Item	No.	Item	No.	Item
1	Connector	4	Coil	7	Diaphragm
2	Connector gasket	5	Armature assembly	8	Body
3	Coil nut	6	Body cover		

Usable fluid

Seal material\Fluid	Water	Dry air	Acetone*	ISOVG32 oil	Glycol*	Nitrogen	Heavy oil
NBR	○	◎	△	◎	○	◎	○

Seal material\Fluid	JIS# oil	JIS#3 oil	Vegetable Oil	Inorganic Oil	Start Oil	Silicagel Oil	CO_2	Argon
NBR	◎	○	◎	◎	○	◎	◎	◎

Note 1: ◎= Excellent(nearly without affect). ○= Good(workable though some affect). △= Poor(large affect).

Note 2: "*"means inflammable and explosive dangerous fluid. Please use the relative explosion proof coil.

Note 3: Please consult the technical department before using fluid that has not been shown in the above table.

Ordering code

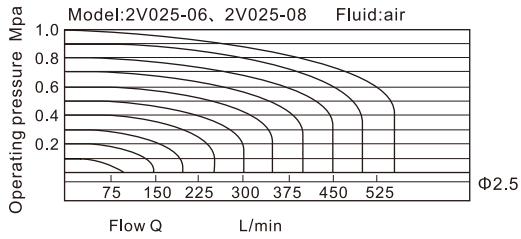
2V 025 08 A □ □

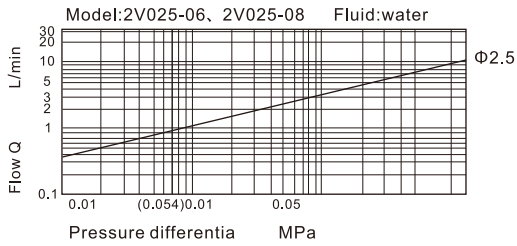
(1) (2) (3) (4) (5) (6)

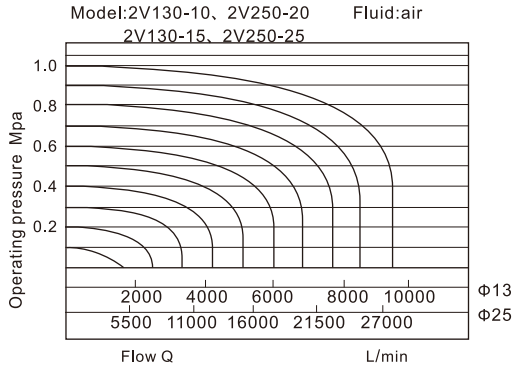
①Model	②Orifice size	③Port size	④Voltage	⑤Electrical entry	⑥Thread type
2V: 2 port 2 position fluid control valve	025: Φ2.5mm	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
	130: Φ13mm	10: 3/8" 15: 1/2"			
	250: Φ25mm	20: 3/4" 25: 1"			

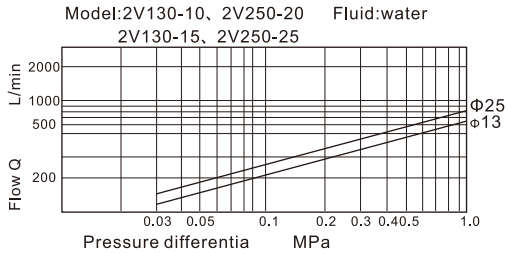
[Note] The wire length is 0.5m.

Flow chart



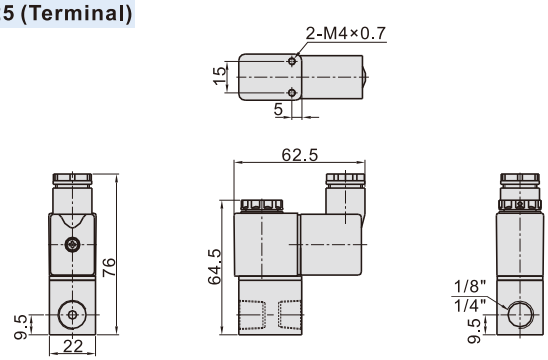




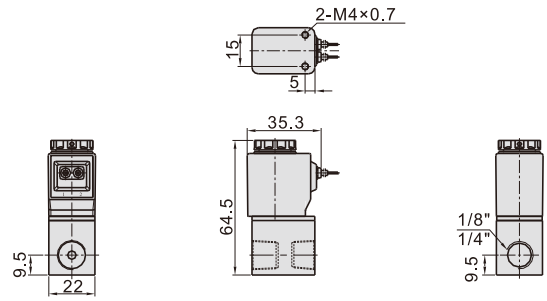


Dimensions

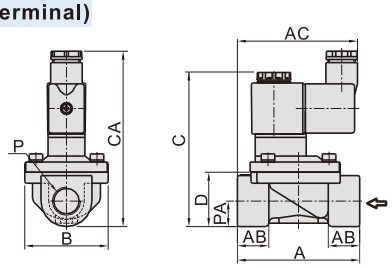
2V025 (Terminal)



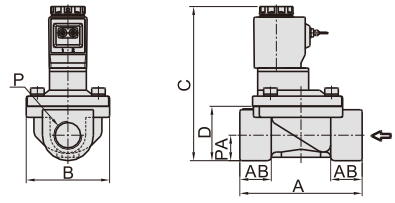
2V025 (Grommet)



2V130\250(Terminal)



2V130\250 (Grommet)



Model\Item	A	AB	AC	B	C	CA	D	P	PA
2V130-10	72	18.5	71	49	91	103	32	3/8"	15
2V130-15	72	18.5	71	49	91	103	32	1/2"	15
2V250-20	102	23	74	77.5	107.5	120	45	3/4"	21
2V250-25	102	23	74	77.5	107.5	120	45	1"	21

Angle seat valve(2/2 way)

2J Series

Symbol

(NC) (NO)

Product feature

1. Air piloted and can be used non electric, inflammable and explosive environment. The start-up pressure is low; and the high pressure could be controlled by the low pressure.
2. The accessories such as the noumenon and slide bar are made of stainless steel, which are of excellent rustproof quality. The seals are made of Teflon and can be applied extensively in areas with high temperature and strong corrosive liquids.
3. The structure of valve is angles at 45° degrees with streamline inner chamber design . The reduced tunnel resistance allows liquid to run more smoothly thus achieving high flow. Filtration core are added at inlet port to prevent the entrance of impurities and extend life span of the seals.
4. Actuator is fitted with visual position indicator. This allows for visual checking and adjustment of flowrate.
5. Control point is made of metal insert. Mounting plate can be used to for NAMUR value.
6. The actuator part can be rotated at 360° degrees and is easily installed.

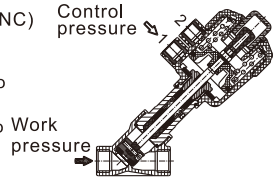
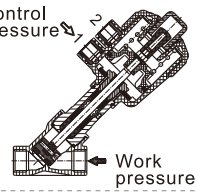
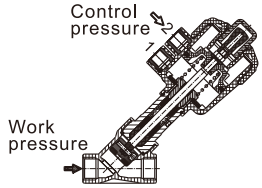
Specification

Model\Item		Port	Actuator size(mm)	Orifice size(mm)	Kv	Min.pilot pressure(bar)	Max.differentia pressure(bar)	Weight (kg)
2JS150 2JW150	-10	G3/8	40	15	4.4	4.8	13	0.8
	-15	G1/2						0.7
	-10	G3/8	50		4.8	4.3	16	0.8
	-15	G1/2						0.7
2JS200 2JW200	-20	G3/4	40	20	7.9	4.8	6.5	0.9
			50		8	4.3	11	0.95
			63		10	4.2	16	1.6
2JS250 2JW250	-25	G1	63	25	19	4.2	11	1.9
			80		20	5.0	16	2.5
2JS320 2JW320	-32	G1 1/4	63	32	27	4.2	6	2.5
			80		28	5.0	15	3.0
2JSK150 2JWK150	-10	G3/8	40	15	4.4	For details, please refer to normally-opened-type fluid pressure – control pressure curve	16	0.8
	-15	G1/2						0.7
	-10	G3/8	50		4.8		16	0.8
	-15	G1/2						0.7
2JSK200 2JWK200	-20	G3/4	40	20	7.9		16	0.9
			50		8		16	0.9
2JSK250 2JWK250	-25	G1	50	25	14.5		16	1.2
			63		19		16	1.6
2JSK320 2JWK320	-32	G1 1/4	63	32	27		16	2.2
			80		28		16	2.4
2JSY150 2JWY150	-10	G3/8	40	15	4.4	For details, please refer to normally-closed-water-hammer-type fluid pressure – control pressure curve	16	0.8
	-15	G1/2						0.7
	-10	G3/8	50		4.8		16	0.8
	-15	G1/2						0.7
2JSY200 2JWY200	-20	G3/4	40	20	7.9		16	0.9
			50		8		16	0.9
2JSY250 2JWY250	-25	G1	50	25	14.5		16	1.3
			63		19		16	1.7
2JSY320 2JWY320	-32	G1 1/4	63	32	27		16	2.3

Ordering code

2J S K 150 15 Q50 G

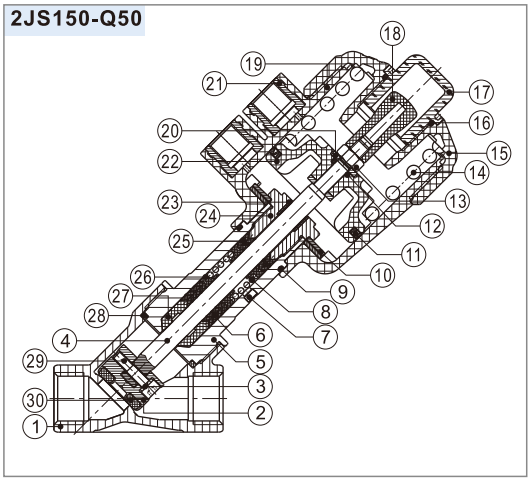
(1) (2) (3) (4) (5) (6) (7)

①Model	②Valve body meterial	③Acting type	④Orifice size	⑤Port size	⑥Size of actuator	⑦Thread type
2J: Angle seat valve(2/2 way)	S: SUS316L W: SUS304	Blank: No water-hammer(NC) The working medium flows to the down side of valve inlet (Flow from the bottom part to upper part of piston) 	150: Φ15mm	10: 3/8" 15: 1/2"	Q40: Φ40mm Q50: Φ50mm Q63: Φ63mm Q80: Φ80mm	G: G T: NPT
		Y: Water-hammer(NC) The working medium flows to the upper side of valve inlet (Flow from the upper part to bottom part of piston) 	200: Φ20mm	20: 3/4"		
		K: Normal opened The working medium flows to the down side of valve inlet (Flow from the bottom part to upper part of piston) 	250: Φ25mm	25: 1"		
			320: Φ32mm	32: 1 1/4"		

2J Series

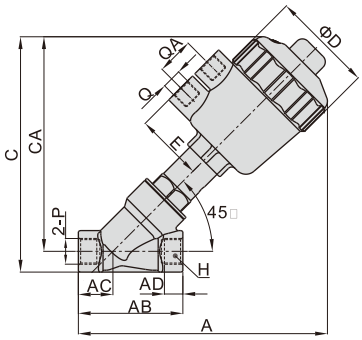
Inner structure

2JS150-Q50



No.	Item	Material	No.	Item	Material
1	Body	Stainless steel	16	O-ring	NBR
2	Piston	Stainless steel	17	Transparent cap	Plastic
3	Spring washer	Spring steel	18	Indicate rod	Plastic
4	Piston rod	Stainless steel	19	Cylinder body	PA6
5	Pitman	Stainless steel	20	Washer	SPCC
6	V-seals	PTFE	21	Built-in nut	Brass nickel-plate
7	Filter core	Bronze	22	Piston	PA6
8	Spring	Spring steel	23	DU dry bearing	Wear resistant material
9	O-ring	NBR	24	Connect nut	Brass
10	Bellville spring	Spring steel	25	O-ring	Viton
11	O-ring	NBR	26	Spring holder	PTFE
12	O-ring	NBR	27	Guide sleeve	PTFE
13	Hexagon nut	Steel	28	Seal washer	PTFE
14	Spring	Spring steel	29	Screw	Stainless steel
15	Top cover	PA6	30	Seal washer	PTFE

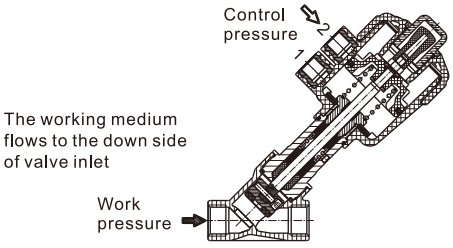
Dimensions

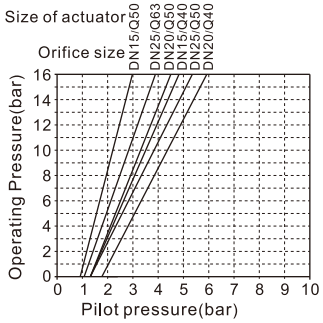


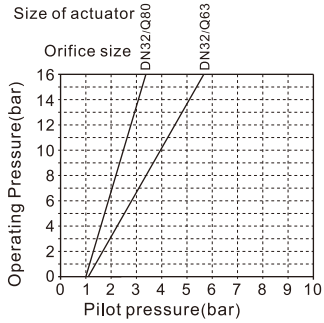
Orifice size(DN)	Size of actuator	A	AB	AC	AD	C	CA	ΦD	E	H	Port size(P)	Q	QA
15	Φ40	153	68	22.5	12	144	130	56	33	27	G3/8	G1/8	24
	Φ50	162				153	140	66	44		G1/2	G1/4	
20	Φ40	161	78	27	14	150	134	56	33	33	G3/4	G1/8	
	Φ50	170				160	143	66	44			G1/4	
	Φ63	200				189	172	82	51			G1/4	
25	Φ50	176	90	28		168	147	66	44	40	G1	G1/4	
	Φ63	205				197	176	82	51			G1/4	
	Φ80	221				213	193	102	60			G1/4	
32	Φ63	220	110	35	18	210	185	82	51	50	$G1^1/_4$	G1/4	
	Φ80	237				227	202	102	60			G1/4	

Fluid pressure — control pressure curve

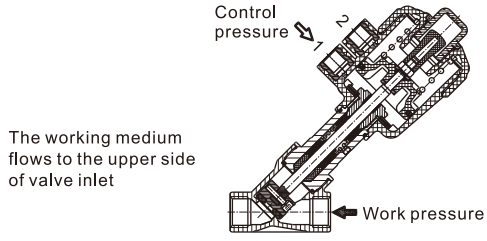
Normal opened

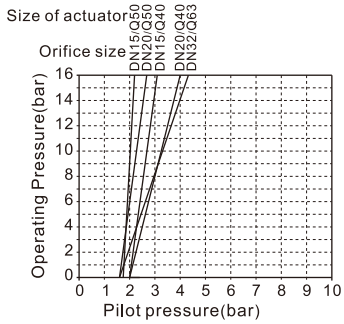


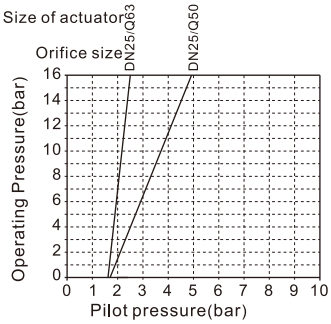




Water-hammer(NC)







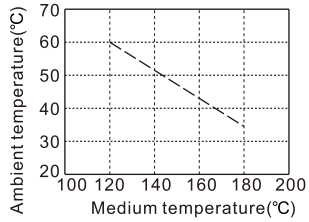
Ambient and medium temperature

Control medium	Air, neutral air(to be filtered by 40μm filter element)
Max. control pressure	Size of actuatorΦ40/50/63 : 10bar
	Size of actuatorΦ80 : 7bar
Medium [Note1]	air, liquid, vacuum, steam
Viscosity limit	600mm²/s below
Temperature [Note2]	-20~+180℃
Ambient temp [Note3]	-10~+60℃

[Note1]: The water-hammer-type can be used for air, or steam only, and can not be used for liquid.

Note 2]: Dew point: -20℃ or less.

[Note3]: Relationship of working medium temperature and ambient temperature is shown in following figure.



Operation and maintenance

1. Before using, please verify that if the working status of product is identical with data in catalogue, and it should not exceed the limits.
2. Before the pressure releasing and cooling of system, no maintenance, examination and installation of product should be conducted.
3. For the normally-closed-type , when its valve is disassembled, due to the pre-pressure of the relatively large spring power in controller, the “1” hole should be opened for ventilation in advance so to make sure the piston could be completely moved to the position, then rotate the screw thread between the valve and the connection bar, direct rotation is forbidden, otherwise the disassembling would not be conducted in result of the scuffing of screw thread.
4. If maintenance of actuator part is needed, special tools should be used for disassembling and installation, while disassembling, the loading spring could cause damage. If the customer can not conduct the maintenance, please return the valve to manufacturer for maintenance.