

PILOT OPERATED SOLENOID VALVES

PM Series

Metal Seal, In-line Mounting/Sub-base Mounting



KURODA

ENGINEERING YOUR SUCCESS.

LAPPED SPOOL & SLEEVE, PILOT OPERATED SOLENOID VALVES

PM Series

The solenoid operated air valves of this series are types with an internal-pilot-type metal seal and a spool valve.

This provides a choice of 3-way (3 ports), 4-way (5 ports), 2-position with single or double solenoid, and 3-position with closed center or exhaust center models, in conformity with customer's requirements.



FEATURES

Small, Light and High Flow Rate

The compact size is achieved by the well-designed flow path construction and aluminum-alloy bases and small pilot solenoid valves, and a larger Cv Factor as well as a light weight are being accomplished for its sizes.

Long Service Life

The valve incorporates a metal seal system composed of a sleeve and a spool on which KURODA's super precision machining technique in making various kinds of gauges are embodied. The sleeve and spool assembly is made of special stainless steel that provides anti-corrosion and is being hardened at Rockwell C60 for anti-weariness. Besides the assemblies being made to fit with a several micron clearance one another results slightest air leak and allow the spool to float in the sleeve. Accordingly this not only can be used under without lubrication but also assures a long service life for its small friction that affects a minimum wear and high sealing effects.

No Coil Burn Out

These valves are operated by pneumatic power to shift the spool to obtain greater shifting force. And because of its small resin-molded solenoid coil a low power consumption is expected.

This coil will not burn out in cases of sleeve or spool malfunction which would be typical causes for failure by presence of deteriorated compressor oil, pipe scale, sand or unnecessary viscous oil in the lubricator if a direct operated valve was used.

Quick Response and Positive Shifting

Minimized internal volume of the pilot portion provides short response time though a pilot type. Pneumatic power gives a greater shifting power for positive switching of the spool.

Plug-in Connector

A plug-in connector (DIN43650) is used in the electric joint portion for the ease of connection. The conduit opening of the connector can be directed in any direction.

Locking Manual override

To enable manual operation, a locking button of KURODA's unique design comes as option. (None lock manual override is standard)

Flow Pattern

As the standard solenoid valves are internal pilot type, air pressure must be fed from its port 1. But by plugging other ports these can be used as 2-way, 3-way, or 4-way valves.

Mounting

These solenoid valves are sub-base mounting types in discrete use but manifold mounting is available for the demand of combination use (except for 3-way model).

The same interface is being placed between the valve body and sub-base as used with KURODA's direct operated solenoid valves so that these valve bodies are interchangeable with the direct types.

VARIATION

Model No.	Port	Solenoid	Positions	Port size	Effective area (mm ²)	Cv value	Refer to Page :
PMS246	5	Single	2	Rc ¹ / ₈	6.5	0.35	11
PMD246		Double					
PMD346			3-Exhaust center				
PME346							
PMS2306	3	Single	2	Rc ¹ / ₈ , ¹ / ₄	11	0.60	14
PMS2406	5				Double	12.5	
PMD2406		3-Closed center	12			0.65	
PMD3406		3-Exhaust center					
PME3406							
PMS2308	3	Single	2	Rc ¹ / ₄ , ³ / ₈	22	1.19	17
PMS2408	5				Double	30	
PMD2408		3-Closed center	25			1.35	
PMD3408		3-Exhaust center					
PME3408							
PMS2310	3	Single	2	Rc ³ / ₈ , ¹ / ₂	38	2.06	20
PMS2410	5				Double	50	
PMD2410		3-Closed center					
PMD3410		3-Exhaust center					
PME3410							
PMS2315	3	Single	2	Rc ¹ / ₂ , ³ / ₄	80	4.34	23
PMS2415	5				Double	75	
PMD2415		3-Closed center					
PMD3415		3-Exhaust center					
PME3415							
PMS2325	3	Single	2	Rc ³ / ₄ , 1	190	10.3	26
PMS2425	5			Double	Rc ³ / ₄ , 1, 1 ¹ / ₄	170 (Rc ³ / ₄)	
PMD2425		3-Closed center	200 (Rc1)			10.84 (Rc1)	
PMD3425		3-Exhaust center	210 (Rc1 ¹ / ₄)	11.39 (Rc1 ¹ / ₄)			
PME3425				165 (Rc ³ / ₄)		8.94 (Rc ³ / ₄)	
				190 (Rc1)	10.29 (Rc1)		
				195 (Rc1 ¹ / ₄)	10.57 (Rc1 ¹ / ₄)		

CONTENTS

FEATURES	P.1
VARIATION	P.3
INTRODUCTION OF KURODA CAD DATA LIBRARY	P.4
FOR SAFETY USE	P.5
SOLENOID VALVE/COMMON INSTRUCTIONS	P.6
5-PORT PAILOT OPERATED SOLENOID VALVE PM6 series	P.11
3/5-PORT PAILOT OPERATED SOLENOID VALVE PM06 series	P.14
3/5-PORT PAILOT OPERATED SOLENOID VALVE PM08 series	P.17
3/5-PORT PAILOT OPERATED SOLENOID VALVE PM10 series	P.20
3/5-PORT PAILOT OPERATED SOLENOID VALVE PM15 series	P.23
3/5-PORT PAILOT OPERATED SOLENOID VALVE PM25 series	P.26
INDIVIDUAL WIRING TYPE MANIFOLD MF -C	P.29

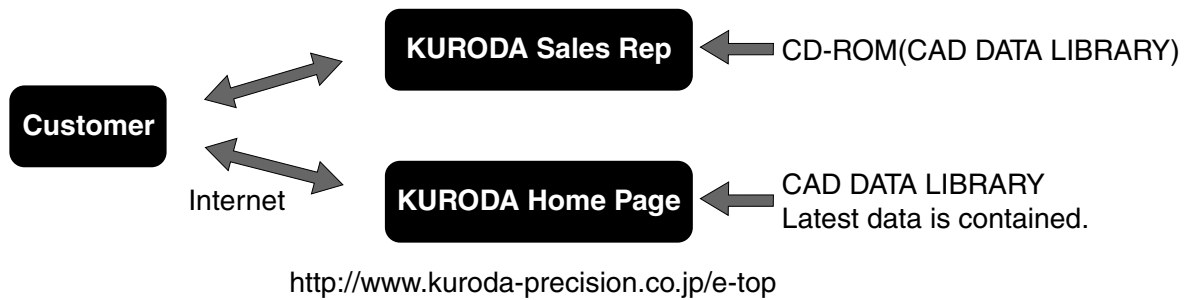
INTRODUCTION OF KURODA CAD DATA LIBRARY

KURODA CAD DATA LIBRARY contains CAD data of pneumatic equipment, ball screws, support units and single-axis modules.

In addition, various tools for selecting pneumatic equipment and ball screws are listed in it. Please use this library to improve the design performance of your FA related equipment.

How to Obtain CAD Data Library

CAD Data Library is available from CD-ROM supplied by our company or our company's Home Page via Internet. For a CD-ROM, please ask KURODA sales representative in charge of your company.



Kind of CAD data

Type of data		CD-ROM	Home Page
DXF	r12		
DWG(AUTO CAD) *1	r12		*2

1 : Name of CAD software is our company's registered trademark.
 2 : Some of DWG type product data are not contained

How to Download from Home Page



(Note) CAD data is classified by each product and contained in a self-extracting executable file format (.exe).

CAD Data of Main Pneumatic Equipment

Pneumatic Actuators

Series of air cylinders and rotary actuators are listed in CAD DATA LIBRARY.

Pneumatic Grippers/Vacuum Equipment

Series of parallel grippers, rotary opening/closing grippers, vacuum units and pads are listed in it.

Control Valves

Series of solenoid valves such as ADEX VALVES are listed in it.

Other Equipment

Series of speed controllers, joints, etc. are listed in it.

Air Cleaning Equipment

Series of FRL combination QUBE are listed in it.





FOR SAFETY USE

Be sure to read the following instructions before use.
For common and individual instructions, refer to the text of this catalogue.

The following safety precautions are provided to prevent damage and danger to personnel and to provide instructions on the correct usage of this product. These precautions are classified into 3 categories; “CAUTION”, “WARNING” and “DANGER” according to the degree of possible injury or damage and the degree of impendence of such injury or damage.

Be sure to comply with all precautions along with JIS B8370^(※1) and ISO 4414^(※2), as they include important content regarding safety.

	CAUTION	<ul style="list-style-type: none">• Indicates a potentially hazardous situation which may arise due to improper handling or operation and could result in personal injury or property-damage-only accidents.
	WARNING	<ul style="list-style-type: none">• Indicates a potentially hazardous situation which may arise due to improper handling or operation and could result in serious personal injury or death.
	DANGER	<ul style="list-style-type: none">• Indicates an impending hazardous situation which may arise due to improper handling or operation and could result in serious personal injury or death.

(※1) JIS B8370 : General Rules for Pneumatic Systems

(※2) ISO 4414 : Pneumatic fluid power-General rules relating to systems

WARNING

● **The applicability of pneumatic equipment to the intended system should be judged by the pneumatic system designer or the personnel who determined specifications for such system.**

As operating conditions for products contained in this catalogue are diversified, the applicability of pneumatic equipment to the intended system should be determined by the pneumatic system designer or the personnel who determined specifications for such system after conducting an analysis or testing as necessary.

The system designer shall be responsible for assuring the intended system performance and safety.

Before making a system, the system designer should thoroughly examine all specifications for such a system and also take into consideration the possibility of any trouble with the equipment.

● **The pneumatic equipment should be handled by persons who have sufficient knowledge and rich experience.**

Inproper handling of compressed air will result in danger.

Assembling, operation and maintenance of machinery using pneumatic equipment should be performed by persons who have sufficient knowledge and rich experience.

● **Never operate machinery nor remove the equipment until safety is assured.**

- Before checking or servicing machinery and equipment, be sure to check that steps for prevention of dropping or runaway of the driven component have been completely taken.

- When removing the equipment, make sure that the above-mentioned safety measures have been done beforehand.

Then turn off air supply and power to the system and purge compressed air in the system.

- When restarting machinery and equipment, check that proper prevention of malfunction has been provided for and then restart carefully.

● **When using the pneumatic equipment in the following conditions or environments, take the proper safety measures and consult KURODA beforehand.**

- Conditions and environments other than specified and outdoor use.

- Applications to nuclear power equipment, railroads, aircraft, vehicles, medical equipment, equipment connected with food and drink, amusement facilities and safety devices such as emergency interruption devices, clutch/brake circuits for a press and the likes.

- Applications which require extreme safety and will also greatly affect men and property.



SOLENOID VALVES/COMMON INSTRUCTIONS

Be sure to read them before use.

Also refer to Par. "For Safety Use" and instructions mentioned for each series of solenoid valves.

DESIGN

! WARNING

• Stopping actuator at intermediate position

When stopping the actuator at an intermediate position using a solenoid valve listed in this catalogue, it is difficult to stop it accurately because of the compressibility of air, unlike a hydraulic cylinder can do so.

In addition, as the solenoid valve and air cylinder allow a certain degree of air leak, they cannot stop at the fixed position for a long period of time according to circumstances. When it is required to stop them at the fixed position for a long period of time, contact KURODA.

• Keeping pressure (including vacuum)

As the solenoid valve is designed to allow a certain degree of air leak, it cannot be used to keep pressure (including vacuum) in a pressure vessel etc.

• Do not use for emergency shutoff valves.

Solenoid valves listed in this catalogue are not designed for use in emergency shutoff valves and other safety applications.

When using the solenoid valve for such applications, provide an independent means to assure safety.

• Exhausting residual air

Provide a residual air exhausting function in due consideration of maintenance and inspection. Doing maintenance and inspection without exhausting residual air may sometimes malfunction the actuator.

When using a 3-position closed center type solenoid valve, compressed air is shut in between solenoid valve and actuator even if residual air from the air supply side to the solenoid valve is exhausted.

Therefore, provide a means to exhaust the residual air pressure separately.

• Use in vacuum

When using a solenoid valve for diverting vacuum and other applications, check specifications for the valve and select a proper one that can be used in vacuum.

In order to prevent sucking foreign matters from the suction pad and exhaust port, provide an inline filter between the suction pad and solenoid valve and at the exhaust port.

• Applying current continuously for long time

When using a solenoid valve while applying current to it continuously for a long period of time, contact KURODA beforehand.

• Avoid applying current simultaneously.

When using a double-solenoid valve while applying current to it continuously for a long period of time, do not apply current to both solenoids simultaneously; otherwise the coil may be burnt out or the main valve may malfunction.

• Remodeling the solenoid valve

Do not remodel the solenoid valve.

DESIGN

! CAUTION

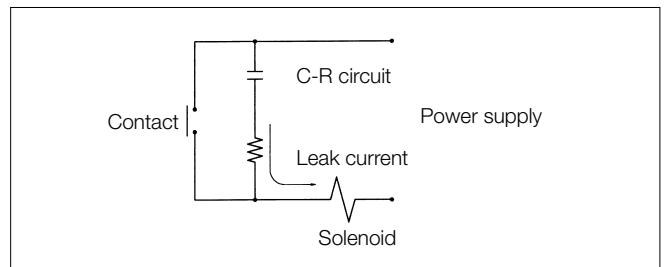
• Applying current momentarily

When using a double-solenoid type valve, apply current for the prescribed period of time (0.1 sec.). If current is not applied for the prescribed period of time, the solenoid valve may not perform the diverting action according to circumstances.

• Leak current

When a C-R element is used in the contact protective circuit (surge voltage protection), leak current will flow through the C-R element.

If this leak current becomes large, a malfunction will occur. Therefore, reduce leak current to less than 1 mA.



• Use at low temperature

When using a solenoid valve at 5 °C or below, provide an air dryer or other proper means to prevent moisture from solidifying or freezing.

• Use with air blow

When using a solenoid valve with air blow, select a direct-operated type or external pilot type solenoid valve.

When an internal pilot type solenoid valve is used, it may not perform the diverting action due to a pressure drop at the time of air blow.

When an external pilot type solenoid valve is used, supply compressed air within the specified pressure range to the pilot port.

• Mounting position and direction

A solenoid valve can be mounted in any position and direction as a general.

However, a metal seal type double-solenoid valve and a 3-position solenoid valve should be mounted so that the spool may be horizontal.

• Shock and vibration

Reduce shocks and vibrations applied to the solenoid valve to less than the prescribed value. (refer to specifications.)

Applying shocks and vibrations exceeding the prescribed value may result in a malfunction of the solenoid valve.



SOLENOID VALVES/COMMON INSTRUCTIONS

Be sure to read them before use.

Also refer to Par. "For Safety Use" and instructions mentioned for each series of solenoid valves.

SELECTION

! WARNING

• **Refer to specifications.**

Solenoid valves listed in this catalogue are designed for compressed air. When using other fluid than compressed air, contact KURODA beforehand.

Do not use a solenoid valve at pressure and temperature outside the range of specifications, otherwise resulting in a breakdown or malfunction.

MOUNTING

! WARNING

• **When mounting the solenoid valve, firmly fix it while using care to prevent the stationary part and joint from loosening.**

If the solenoid valve is mounted with insufficient strength, it may sometimes come off.

• **Do not start the system until it is ensured that equipment works properly.**

After mounting the solenoid valve, connect power supply and then perform a functional test and a leak test. Check that it has been correctly mounted and works properly, before starting the system.

• **Coating with paint**

When coating the resin portion with paint, it may be adversely affected by paint and solvent. For the propriety of painting, contact KURODA beforehand.

Do not peel off the nameplate affixed on the solenoid valve and do not erase or smear out the letter on it.

• **Provide space for maintenance and inspection.**

! CAUTION

• **Fit an air muffler to the exhaust port (ports 3, 5) of the solenoid valve.**

Dust or foreign matter that enters it may cause a malfunction of the solenoid valve.

• **Do not wipe off the model name inscribed on a nameplate etc. with organic solvent.**

The inscribed indication may be erased.

PIPING

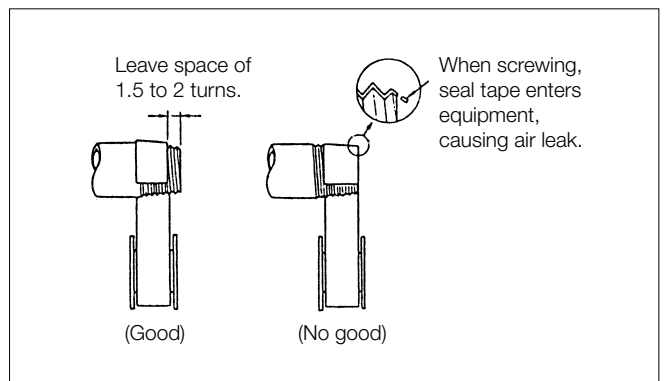
! CAUTION

• **Before piping**

Thoroughly flush the inside of each pipe to remove chips, coolant, dust, etc. before piping.

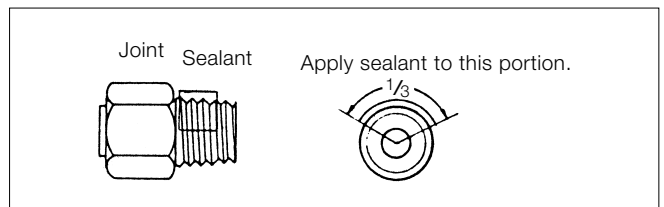
• **How to wind a seal tape**

When winding a seal tape around the threaded portion, leave space of 1.5 to 2 thread turns.



• **How to apply liquid sealant**

When applying liquid sealant to the threaded portion, apply a proper amount to about 1/3 of the periphery of the threaded portion and then screw it.



• **Screw of pipe and joint**

When screwing the pipe and joint, use care to prevent chips and sealant from entering the pipe and joint.

Tighten them within a proper range of clamping torque.

Port size	Clamping torque (N·m)
M3	0.3 ~ 0.5
M5	1.5 ~ 2.0
R, Rc ¹ / ₈	7.0 ~ 9.0
R, Rc ¹ / ₄	12 ~ 14
R, Rc ³ / ₈	2 ~ 24
R, Rc ¹ / ₂	28 ~ 30
R, Rc ³ / ₄	28 ~ 30
R, Rc1	36 ~ 38
R, Rc1 ¹ / ₄	40 ~ 42
R, Rc1 ¹ / ₂	48 ~ 50



SOLENOID VALVES/COMMON INSTRUCTIONS

Be sure to read them before use.

Also refer to Par. "For Safety Use" and instructions mentioned for each series of solenoid valves.

PIPING

CAUTION

- **Avoid wrong piping.**

When connecting a pipe to a solenoid valve, be careful not to mistake the supply port by referring to the nameplate affixed to the product or the product catalogue.

- **When using a 3-position closed center type solenoid valve :**

Thoroughly check the piping between solenoid valve and actuator for air leak.

WIRING

WARNING

- **When doing wiring work, be sure to turn off compressed air and power supplies beforehand.**

Wiring work without turning off air and power supplies may cause an electric shock or malfunction ; this sometimes results in an injury to the human body or a damage to property.

- **Avoid mis-wiring.**

Some solenoid valves have polarity : Those operating on DC with built-in indicator light and those equipped with surge protective circuit.

When wiring to a solenoid valve, check whether or not it has polarity.

For a solenoid valve having polarity, check the lead wire color and symbol of the polarity by the catalogue or actual article beforehand and then make correct wiring.

Mis-wiring will result in the following problems :

(Where no polarity protective diode is incorporated :)

Wiring to the wrong polarity will burn out the diode in the solenoid valve, the switching element on the control unit side or the power supply unit.

(Where a polarity protective diode is provided :)

Wiring to the wrong polarity will not cause the solenoid valve to perform a diverting action.

- **Avoid applying stress and tensile force to lead wire repeatedly.**

Wiring made in such a manner that stress and tensile force are repeatedly applied to the lead wire will result in the breaking of wire. Provide some degree of margin for wiring.

- **Check that there is no insulation failure.**

If an insulation failure occurs in the lead wire connection, extension cable and terminal base, an excess flows to the switching element of the solenoid valve or control unit, sometimes resulting in a damage.

- **Do not mistake applied voltage.**

Mistake in applied voltage in case of wiring to a solenoid valve will cause an operation failure or burn out the coil.

- **After completion of wiring, check for wrong connection before turning on power.**

OPERATING ENVIRONMENTS

DANGER

- Do not use solenoid valve in a explosive environment.

WARNING

- Do not use a solenoid valve in atmospheres containing corrosive gases, chemicals, seawater, water and vapor and in places where a solenoid valve contacts these matters.
- Do not use a solenoid valve in a place where vibrations or shocks are directly applied to it.
- When a solenoid valve is exposed to the direct sunlight, fit a protective cover to the solenoid valve.
- When a solenoid valve is located around a heat source, shut off the radiant heat.
- When installing a solenoid valve in the control panel, take proper heat-radiating measures so that the inside temperature may be kept within the specified temperature range.
- When using a solenoid valve in a place where it is exposed to welding spatters, provide a protective cover or other proper prevention.
Welding spatars may burn out the plastic parts of the solenoid valve, sometimes resulting in a fire.

LUBRICATION

CAUTION

- **Solenoid valves listed in this catalogue are non-lubrication.**

The non-lubricated solenoid valve can be used without lubrication, but can be used with lubrication.

When using it with lubrication, do not discontinue supplying oil. Otherwise, the applied lubricant may run off, sometimes resulting in an operation failure.

When using a lubricant, Class 1 turbine oil ISO VG 32 (containing additive) is recommended.



SOLENOID VALVES/COMMON INSTRUCTIONS

Be sure to read them before use.

Also refer to Par. "For Safety Use" and instructions mentioned for each series of solenoid valves.

QUALITY OF AIR

WARNING

- **Use pure air.**

Compressed air containing corrosive gases, chemicals, salt, etc. causes a breakdown or operation failure. So do not use such air.

CAUTION

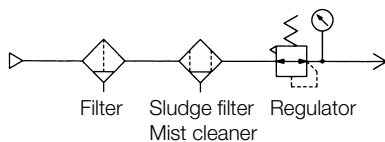
- **Fit an air filter with filtration of 5 μm or fine.**

- **Install an air dryer.**

Compressed air containing much drainage causes the operation failure of pneumatic equipment. Install an air dryer, lower the temperature and reduce drainage.

- **Take proper countermeasures against sludge.**

If sludge produced in compressor oil enters pneumatic equipment, it will cause the operation failure of pneumatic equipment. It is recommendable to use compressor oil (NISSEKI FAIRCALL A68, IDEMITSU DAPHUNY SUPER CS68) featuring minimized sludge production or use a sludge filter or mist cleaner to prevent sludge from entering the pneumatic equipment.



MAINTENANCE AND INSPECTION

WARNING

- **Inspection before maintenance**

First check that load drop prevention has been provided.

Then shut off air and power supplies to the system and exhaust residual air in the system beforehand.

For a 3-position closed center type solenoid valve, compressed air is sealed between solenoid valve and cylinder.

Exhaust this residual compressed air.

- **Inspection after maintenance**

When restarting the system, check that preventive measures against flying-out of the actuator have been taken. Then connect compressed air supply to the pneumatic system, and perform a proper functional test and a leak test to check that it works safely without fail, before starting the system.

- **Operation at low frequency**

To prevent an operation failure, perform the switching action of the solenoid valve once per 30 days. (Be careful of air supply.)

- **Manual operation**

When the solenoid valve is manually operated, the system connected to it is also operated. Make sure safety before operation.

- **Disassembly of solenoid valve**

When disassembling the solenoid valve, contact KURODA beforehand.

CAUTION

- **Draining**

To keep the quality of air to a certain level, drain the air filter at periodical intervals.



PM SERIES/INDIVIDUAL INSTRUCTIONS

Be sure to read them before use.

Also refer to Par. "For Safety Use" and common instructions.

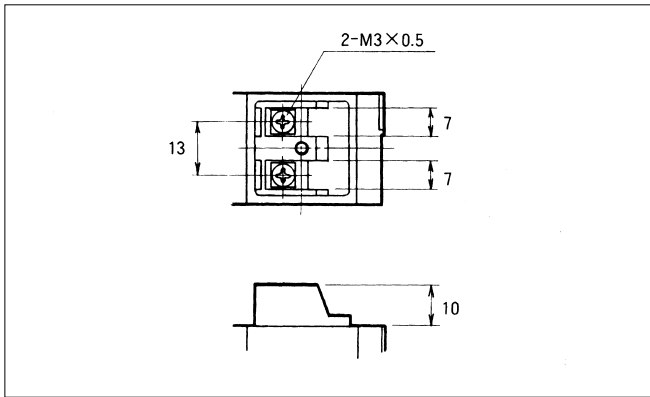
WIRING SPECIFICATIONS

! CAUTION

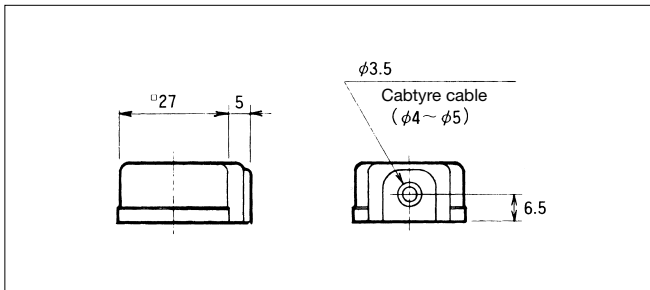
Lead wire

0.3mm² × 500 ℓ (O.D. 1.7)
AWG22(UL1007)

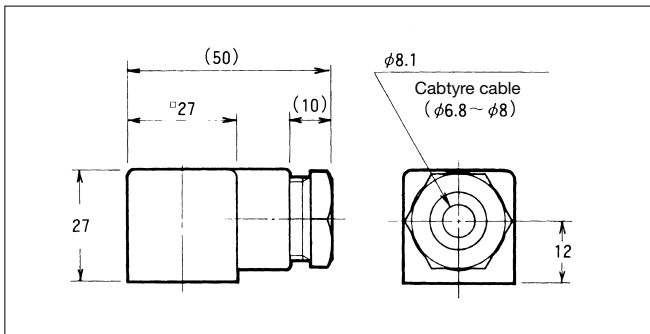
Terminal of grommet and conduit



Grommet cover



Conduit cover



With surge suppressor

The following varistor type surge suppressor
AC100V : TNR9G271K or equivalent of Z7D271
AC200V : TNR9G471K or equivalent of Z7D471
DC24V : TNR9G470K or equivalent of Z7D470

FLOW RATE

Flow rate can be calculated from the following formula :

For values in the sonic velocity zone, find out from the attached table.

$$P_H = 1.89P_L \text{ (Subsonic velocity zone)}$$

$$Q = 240 \times S \times \sqrt{P_H - P_L} \times \frac{293}{T_H}$$

$$P_H = 1.89P_L \text{ (Sonic velocity zone)}$$

$$Q = 120 \times S \times P_H \times \frac{273}{T_H}$$

Q : Flow rate ℓ /min(ANR)

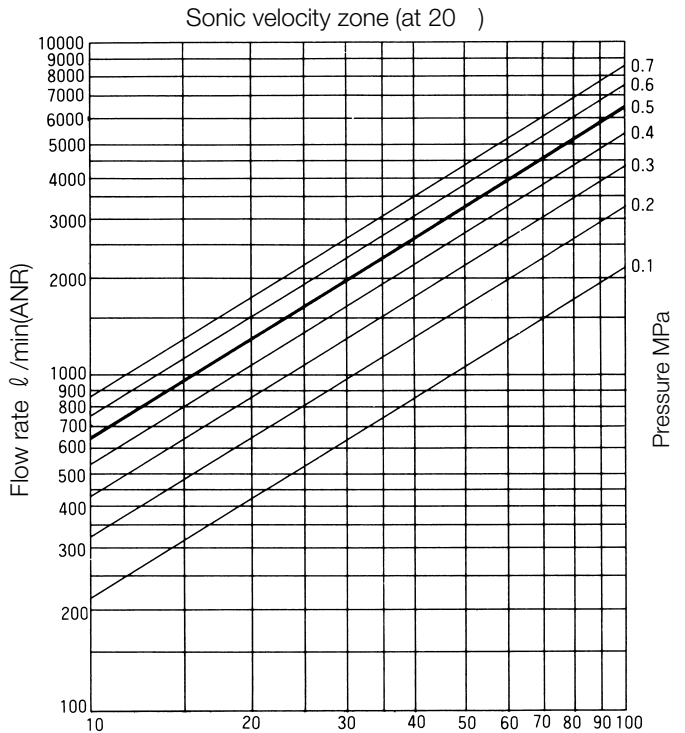
S : Effective area of orifice mm²

P_H : Pressure on upper stream MPa abs

P_L : Pressure on down stream MPa abs

T_H : Absolute temperature on upper stream K

(Note) Absolute pressure (MPa) = Supply pressure + 0.100 (MPa)



Effective area mm²
(When the value of effective area is × 10⁻¹ or × 10ⁿ,
multiply the same figure by the flow rate.)

EFFECTIVE AREA

Effective areas mentioned in this catalog are measured between ports 1, 2, 4 in accordance with JIS (JAPANESE INDUSTRIAL STANDARD) B8374/8375.

5-PORT PILOT OPERATED SOLENOID VALVES

PM6 Series

Metal Seal, Sub-base Mounting type

PMS246	2-position Single solenoid
PMD246	2-position Double solenoid
PMD346	3-position Closed center
PME346	3-position Exhaust center



SPECIFICATIONS

Model No	Unit	PMS246	PMD246	PMD346	PME346	
Fluid		Non-lubricated/lubricated air				
Port size		Rc $\frac{1}{8}$				
Effective area	mm ²	6.5				
Cv value		0.35				
Operating ambient temperature		- 5 ~ 60				
Operating pressure range	MPa	0.15 ~ 1		0.2 ~ 1		
Maximum frequency	Cycle/min	360				
Response time (at 0.5MPa)	s (Average)	ON 0.022 OFF 0.012	ON 0.010	ON 0.015 OFF 0.015		
Rated voltage	V	AC100/110、200/220 DC24				
Grade of insulation		JIS grade B				
Permissible voltage fluctuation	%	AC ± 10 DC $\begin{matrix} +10 \\ -15 \end{matrix}$				
Rated frequency	Hz	50/60				
Power consumption	AC	Holding	50Hz	VA		3.2 (100/200)
			60Hz	VA		2.6 (100/200)
		Inrush	50Hz	VA		5 (100/200)
			60Hz	VA		4.5 (100/200)
Power consumption DC	W	2				
Wiring		Lead wire, Grommet with terminal, Conduit with terminal, DIN connector				
Mass	kg	0.16	0.24	0.26	0.26	

(Note) • When temperature of valve site goes down below 5 °C, complete dry air shall be supplied to prevent from freezing.

- Effective area shown above is value between ports 1 and 2, 4.
- Response time shown above is in accordance with JIS B 8375.

ORDERING INSTRUCTION

PMS246

-M5-
100
L
L

Model No.

PMS246
PMD246
PMD346
PME346

Special specification

No mark	Standard (Internal pilot)
X	External pilot (Pilot port on sub-base)

Port size

NB	Without sub-base
01	Rc ¹ / ₈

Voltage

100	AC100/110V
200	AC200/220V
D24	DC24V

Wiring

L	Lead wire
G	Grommet with terminal
GK	Grommet with surge suppressor
C	Conduit with terminal
CK	Conduit with surge suppressor
D	DIN connector

Option

No mark	Without option (Standard)
L	With locking button

: Made to order

OPTIONAL PARTS AND SPARE PARTS

Parts Name		Model No.
Sub-base	Rc ¹ / ₈	PM6-SB-01
	Rc ¹ / ₈ (For external pilot)	PM6-SB-X01
Base gasket		PM6-G
Spring	For 2-position	PM6-SS
	For 3-position	

· Pilot valve

PM26

-100
L
L

Model

PM26	For 2-position
PM36	For 3-position

Voltage

100	AC100/110V
200	AC200/220V
D24	DC24V

Wiring

L	Lead wire
G	Grommet with terminal
GK	Grommet with surge suppressor
C	Conduit with terminal
CK	Conduit with surge suppressor
D	DIN connector

Option

No mark	Without option (Standard)
L	With locking button

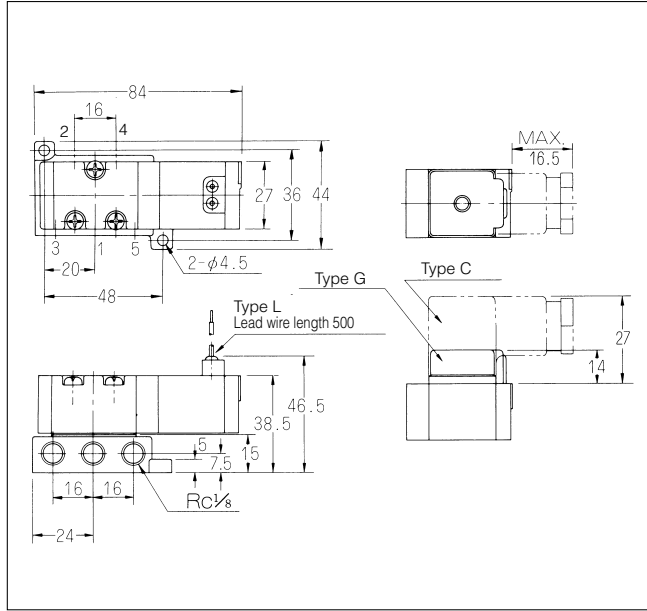
: Made to order

PM6 Series

DIMENSIONS

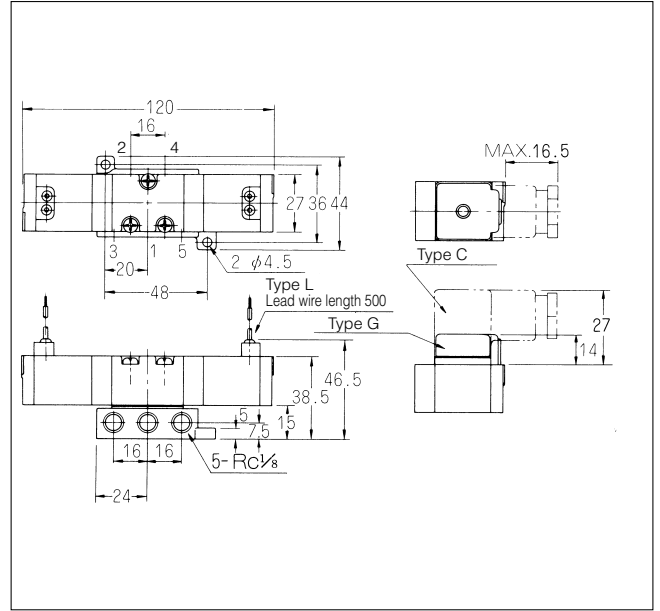
PMS246

(Unit : mm)



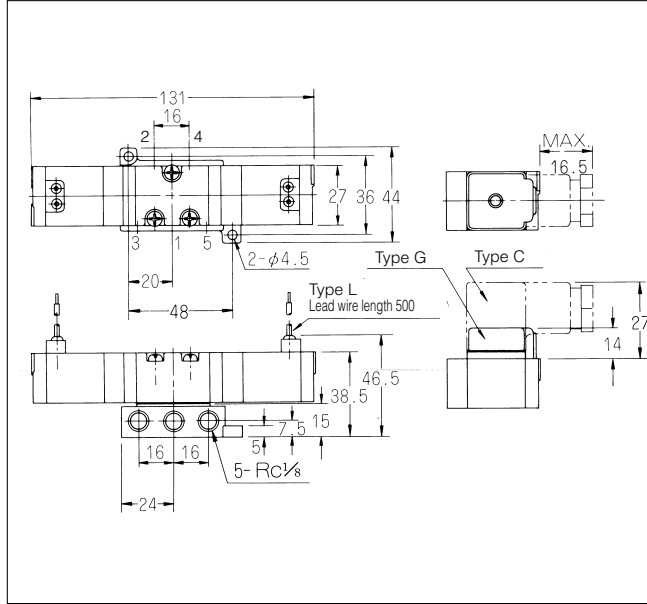
PMD246

(Unit : mm)



PMD346、PME346

(Unit : mm)

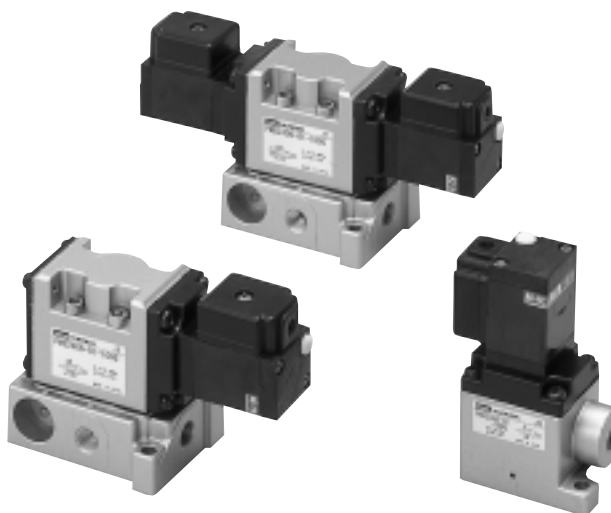


3/5-PORT PILOT OPERATED SOLENOID VALVES

PM06 Series

Metal Seal, In-line Mounting/Sub-base Mounting type

PMS2306	2-position Single solenoid
PMS2406	2-position Single solenoid
PMD2406	2-position Double solenoid
PMD3406	3-position Closed center
PME3406	3-position Exhaust center



SPECIFICATIONS

Model No	Unit	PMS2306	PMS2406	PMD2406	PMD3406	PME3406	
Fluid		Non-lubricated/lubricated air					
Port size		Rc $\frac{1}{8}$, $\frac{1}{4}$					
Effective area	mm ²	11	12.5		12		
Cv value		0.60	0.68		0.65		
Operating ambient temperature		- 5 ~ 60					
Operating pressure range	MPa	0.2 ~ 0.7	0.2 ~ 0.8				
Maximum frequency	Cycle/min	360					
Response time (at 0.5MPa)	s (Average)	ON 0.010 OFF 0.020	ON 0.010 OFF 0.020	ON 0.010		ON 0.015 OFF 0.030	
Rated voltage	V	AC100/110, 200/220 DC24					
Grade of insulation		JIS grade B					
Permissible voltage fluctuation	%	AC ± 10 DC $\begin{matrix} +10 \\ -15 \end{matrix}$					
Rated frequency	Hz	50/60					
Power consumption	AC	Holding	50Hz	VA		3.2 (100/200)	
			60Hz	VA		2.6 (100/200)	
		Inlush	50Hz	VA		5 (100/200)	
			60Hz	VA		4.5 (100/200)	
Power consumption DC	W	2					
Wiring		Grommet with terminal, Conduit with terminal, DIN connector					
Mass	kg	0.3	0.4	0.5	0.5	0.5	

(Note) • When temperature of valve site goes down below 5 °C, complete dry air shall be supplied to prevent from freezing.

- Effective area shown above is value between ports 1 and 2, 4.
- Response time shown above is in accordance with JIS B 8375.

PM06 Series

ORDERING INSTRUCTION

PMS2406 - **02** - **100 G L**

Model No.

PMS2306	
PMS2406	
PMD2406	
PMD3406	
PME3406	

Port size

NB	Without sub-base
01	Rc ¹ / ₈
02	Rc ¹ / ₄

Voltage

100	AC100/110V
200	AC200/220V
D24	DC24V

Wiring

G	Grommet with terminal
GK	Grommet with surge suppressor
C	Conduit with terminal
CK	Conduit with surge suppressor
D	DIN connector

Option

No mark	Without option (Standard)
L	With locking button

: Made to order

Special specification

No mark	Standard (Internal pilot)
U	External pilot (Pilot port on valve body)

OPTIONAL PARTS AND SPARE PARTS

Parts Name	Model No.	
Sub-base	Rc ¹ / ₈	PM06-SB-01
	Rc ¹ / ₄	PM06-SB-02
Base gasket	A06-G	
Spring	For 2-position	PM06-SS
	For 3-position	PM06-3S

• Pilot valve

SS231 - **NB** - **100 G L**

Voltage

100	AC100/110V
200	AC200/220V
D24	DC24V

Wiring

G	Grommet with terminal
GK	Grommet with surge suppressor
C	Conduit with terminal
CK	Conduit with surge suppressor
D	DIN connector

Option

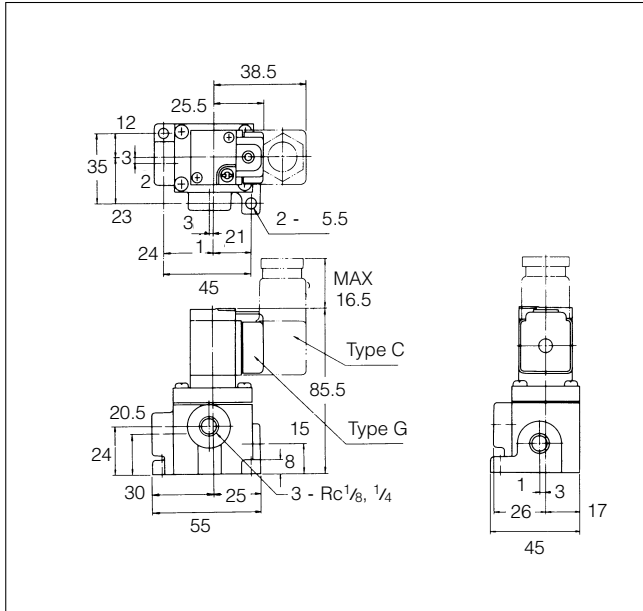
No mark	Without option (Standard)
L	With locking button

: Made to order

DIMENSIONS

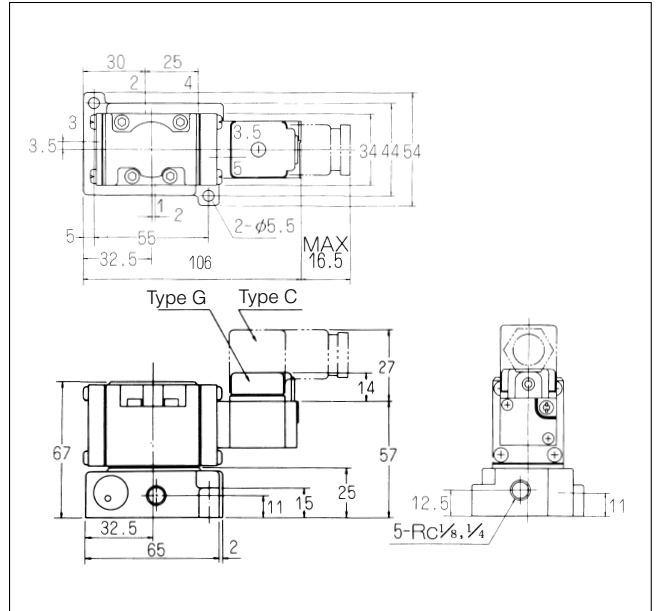
PMS2306

(Unit : mm)



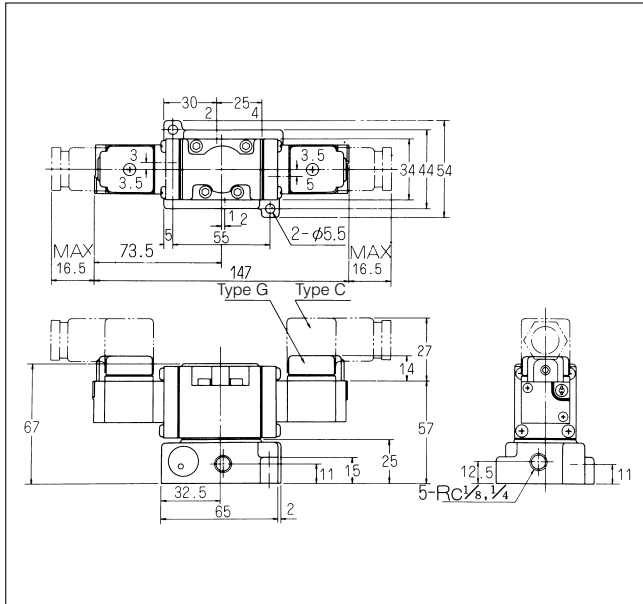
PMS2406

(Unit : mm)



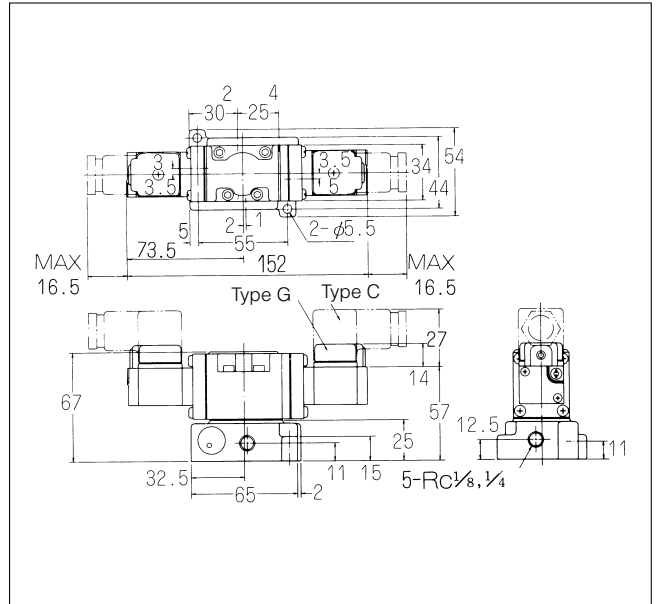
PMD2406

(Unit : mm)



PMD3406、PME3406

(Unit : mm)

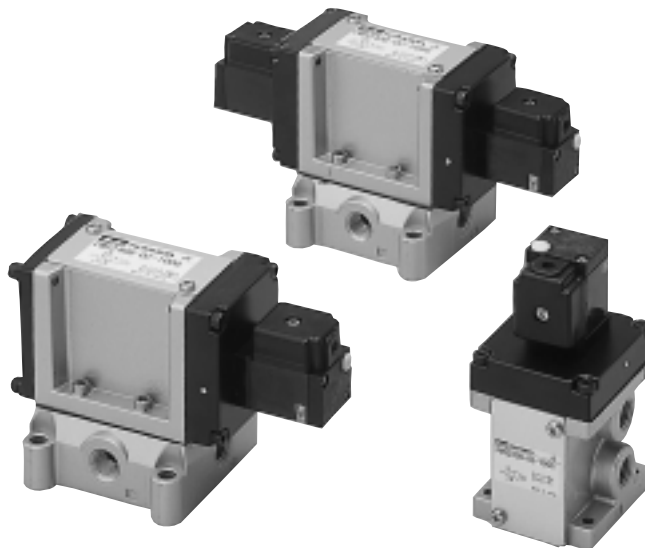


3/5-PORT PILOT OPERATED SOLENOID VALVES

PM08 Series

Metal Seal, In-line Mounting/Sub-base Mounting type

PMS2308	2-position Single solenoid
PMS2408	2-position Single solenoid
PMD2408	2-position Double solenoid
PMD3408	3-position Closed center
PME3408	3-position Exhaust center



SPECIFICATIONS

Model No	Unit	PMS2308	PMS2408	PMD2408	PMD3408	PME3408	
Fluid		Non-lubricated/lubricated air					
Port size		Rc $\frac{1}{4}$, $\frac{3}{8}$					
Effective area	mm ²	22	30		25		
Cv value		1.19	1.63		1.35		
Operating ambient temperature		- 5 ~ 60					
Operating pressure range	MPa	0.2 ~ 0.7	0.2 ~ 0.8				
Maximum frequency	Cycle/min	360			300		
Response time (at 0.5MPa)	s (Average)	ON 0.010 OFF 0.030	ON 0.010 OFF 0.030	ON 0.010	ON 0.015 OFF 0.040		
Rated voltage	V	AC100/110、200/220 DC24					
Grade of insulation		JIS grade B					
Permissible voltage fluctuation	%	AC ± 10 DC $\begin{matrix} +10 \\ -15 \end{matrix}$					
Rated frequency	Hz	50/60					
Power consumption	AC	Holding	50Hz	VA			3.2 (100/200)
			60Hz	VA			2.6 (100/200)
		Inlush	50Hz	VA			5 (100/200)
			60Hz	VA			4.5 (100/200)
Power consumption DC	W	2					
Wiring		Grommet with terminal, Conduit with terminal, DIN connector					
Mass	kg	0.5	0.9	1.1	1.2	1.2	

(Note) • When temperature of valve site goes down below 5 °C, complete dry air shall be supplied to prevent from freezing.

• Effective area shown above is value between ports 1 and 2, 4.

• Response time shown above is in accordance with JIS B 8375.

ORDERING INSTRUCTION

PMS2408 - **02** - **100 G L**

Model No.

PMS2308	
PMS2408	
PMD2408	
PMD3408	
PME3408	

Port size

NB	Without sub-base
02	Rc $\frac{1}{4}$
03	Rc $\frac{3}{8}$

Voltage

100	AC100/110V
200	AC200/220V
D24	DC24V

Wiring

G	Grommet with terminal
GK	Grommet with surge suppressor
C	Conduit with terminal
CK	Conduit with surge suppressor
D	DIN connector

Option

No mark	Without option (Standard)
L	With locking button

: Made to order

Special specification

No mark	Standard (Internal pilot)
U	External pilot (Pilot port on valve body)

OPTIONAL PARTS AND SPARE PARTS

Parts Name		Model No.
Sub-base	Rc $\frac{1}{8}$	PM08-SB-02
	Rc $\frac{1}{4}$	PM08-SB-03
Base gasket		A08-G
Spring	For 2-position	PM08-SS
	For 3-position	PM08-3S

· Pilot valve

SS231 - **NB** - **100 G L**

Voltage

100	AC100/110V
200	AC200/220V
D24	DC24V

Wiring

G	Grommet with terminal
GK	Grommet with surge suppressor
C	Conduit with terminal
CK	Conduit with surge suppressor
D	DIN connector

Option

No mark	Without option (Standard)
L	With locking button

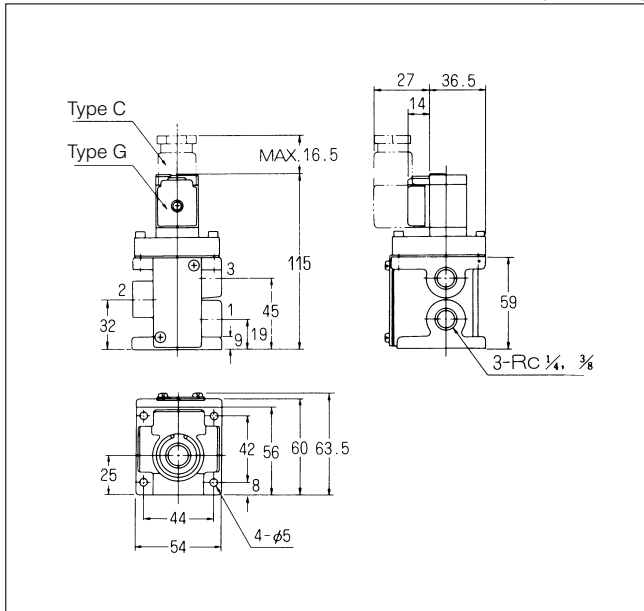
: Made to order

PM08 Series

DIMENSIONS

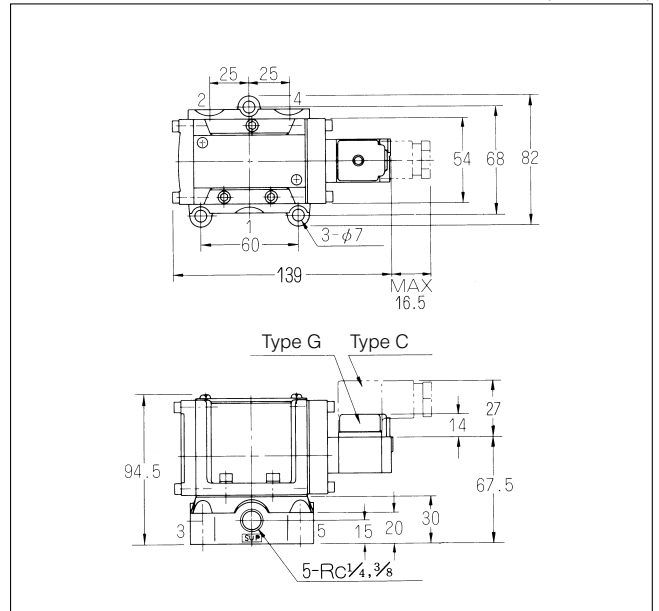
PMS2308

(Unit : mm)



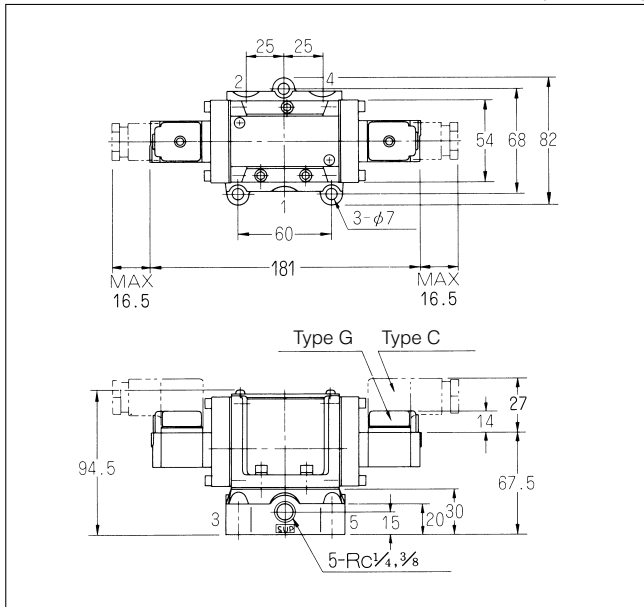
PMS2408

(Unit : mm)



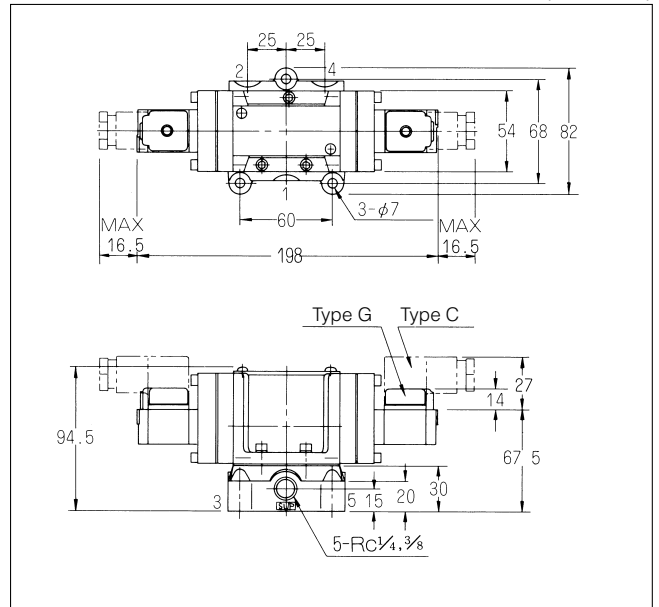
PMD2408

(Unit : mm)



PMD3408, PME3408

(Unit : mm)

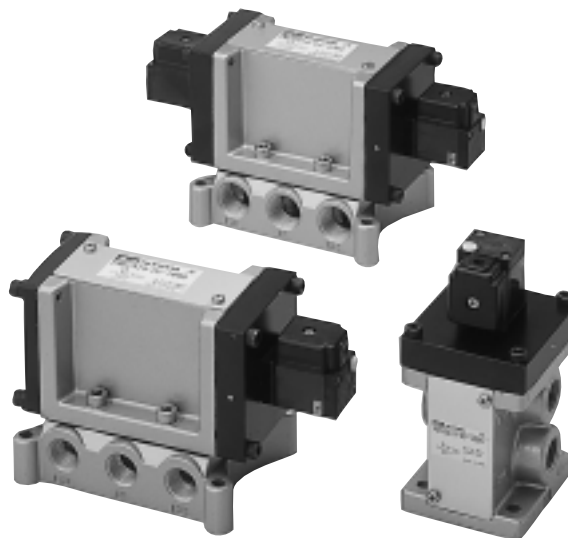


3/5-PORT PILOT OPERATED SOLENOID VALVES

PM10 Series

Metal Seal, In-line Mounting/Sub-base Mounting type

PMS2310	2-position Single solenoid
PMS2410	2-position Single solenoid
PMD2410	2-position Double solenoid
PMD3410	3-position Closed center
PME3410	3-position Exhaust center



SPECIFICATIONS

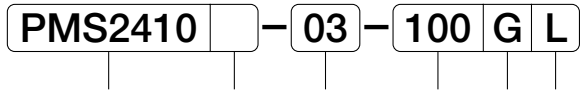
Model No	Unit	PMS2310	PMS2410	PMD2410	PMD3410	PME3410	
Fluid		Non-lubricated/lubricated air					
Port size		Rc ³ / ₈ , 1/2					
Effective area	mm ²	38		50			
Cv value		2.06		2.71			
Operating ambient temperature		- 5 ~ 60					
Operating pressure range	MPa	0.2 ~ 0.7	0.2 ~ 0.8				
Maximum frequency	Cycle/min	300			240		
Response time (at 0.5MPa)	s (Average)	ON 0.015 OFF 0.035	ON 0.015 OFF 0.035	ON 0.015		ON 0.020 OFF 0.060	
Rated voltage	V	AC100/110, 200/220				DC24	
Grade of insulation		JIS grade B					
Permissible voltage fluctuation	%	AC ± 10 DC ⁺¹⁰ / ₋₁₅					
Rated frequency	Hz	50/60					
Power consumption	AC	Holding	50Hz	VA			3.2 (100/200)
			60Hz	VA			2.6 (100/200)
		Inrush	50Hz	VA			5 (100/200)
			60Hz	VA			4.5 (100/200)
Power consumption DC	W	2					
Wiring		Grommet with terminal, Conduit with terminal, DIN connector					
Mass	kg	0.8	1.5	1.6	1.9	1.9	

(Note) • When temperature of valve site goes down below 5 °C, complete dry air shall be supplied to prevent from freezing.

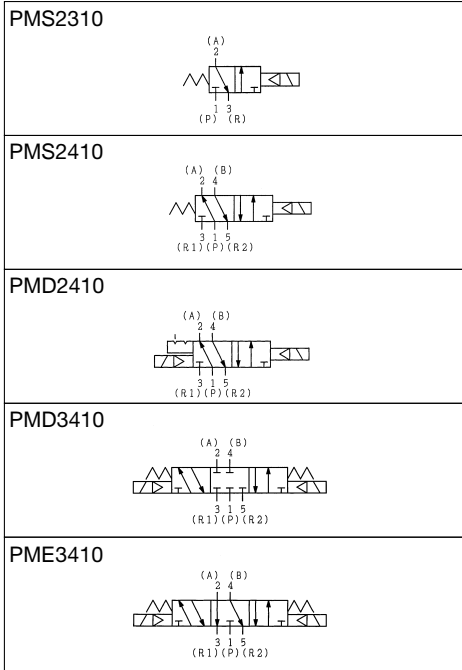
- Effective area shown above is value between ports 1 and 2, 4.
- Response time shown above is in accordance with JIS B 8375.

PM10 Series

ORDERING INSTRUCTION



Model No.



Port size

NB	Without sub-base
03	Rc ³ / ₈
04	Rc ¹ / ₂

Voltage

100	AC100/110V
200	AC200/220V
D24	DC24V

Wiring

G	Grommet with terminal
GK	Grommet with surge suppressor
C	Conduit with terminal
CK	Conduit with surge suppressor
D	DIN connector

Option

No mark	Without option (Standard)
L	With locking button

: Made to order

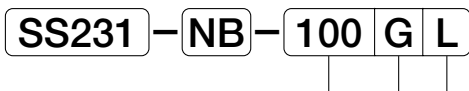
Special specification

No mark	Standard (Internal pilot)
U	External pilot (Pilot port on valve body)

OPTIONAL PARTS AND SPARE PARTS

Parts Name		Model No.
Sub-base	Rc ³ / ₈	PM10-SB-03
	Rc ¹ / ₂	PM10-SB-04
Base gasket		A10-G
Spring	For 2-position	PM10-SS
	For 3-position	PM10-3S

• Pilot valve



Voltage

100	AC100/110V
200	AC200/220V
D24	DC24V

Wiring

G	Grommet with terminal
GK	Grommet with surge suppressor
C	Conduit with terminal
CK	Conduit with surge suppressor
D	DIN connector

Option

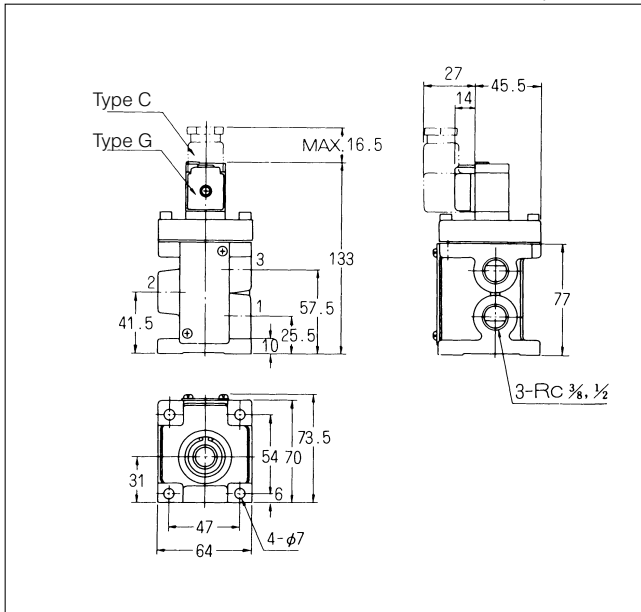
No mark	Without option (Standard)
L	With locking button

: Made to order

DIMENSIONS

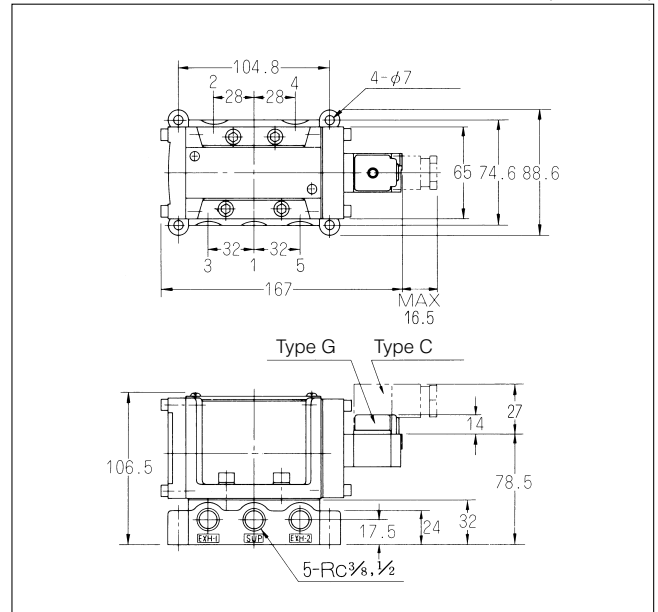
PMS2310

(Unit : mm)



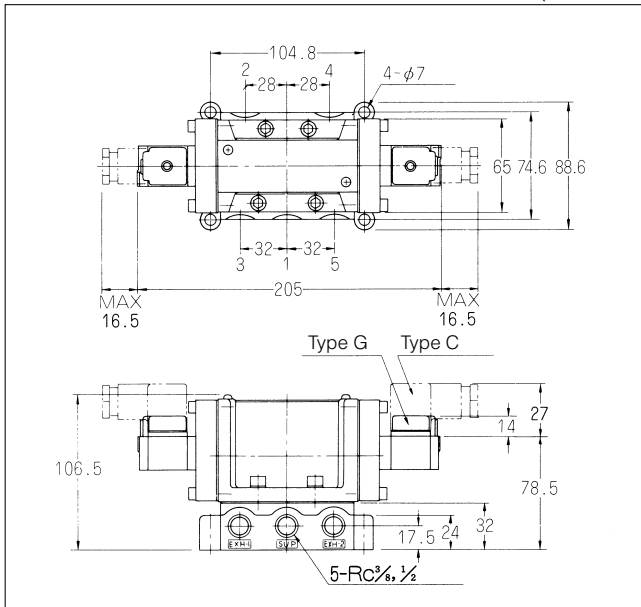
PMS2410

(Unit : mm)



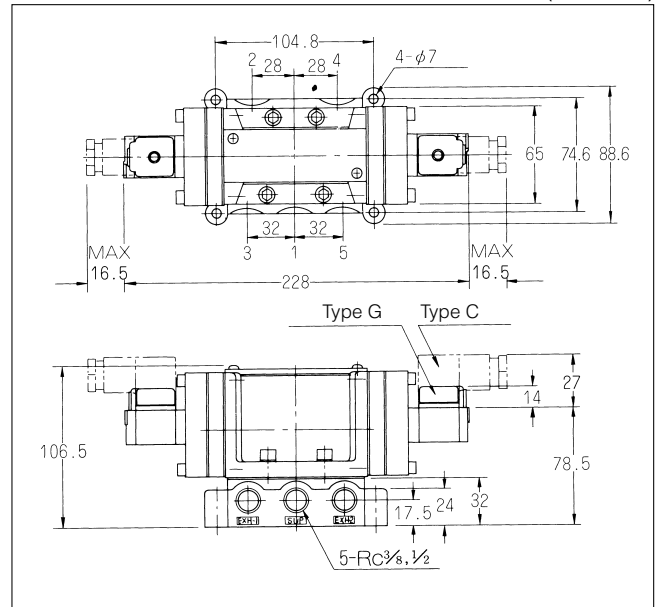
PMD2410

(Unit : mm)



PMD3410、PME3410

(Unit : mm)



3/5-PORT PILOT OPERATED SOLENOID VALVES

PM15 Series

Metal Seal, In-line Mounting /Sub-base Mounting type

PMS2315	2-position Single solenoid
PMS2415	2-position Single solenoid
PMD2415	2-position Double solenoid
PMD3415	3-position Closed center
PME3415	3-position Exhaust center



SPECIFICATIONS

Model No	Unit	PMS2315	PMS2415	PMD2415	PMD3415	PME3415	
Fluid		Non-lubricated/lubricated air					
Port size		Rc ¹ / ₂ , ³ / ₄					
Effective area	mm ²	80	75				
Cv value		4.34	4.07				
Operating ambient temperature		- 5 ~ 60					
Operating pressure range	MPa	0.2 ~ 0.7	0.2 ~ 0.8				
Maximum frequency	Cycle/min	120					
Response time (at 0.5MPa)	s (Average)	ON 0.020 OFF 0.055	ON 0.022 OFF 0.055	ON 0.020	ON 0.030 OFF 0.100		
Rated voltage	V	AC100/110、200/220 DC24					
Grade of insulation		JIS grade B					
Permissible voltage fluctuation	%	AC ± 10 DC ⁺¹⁰ / ₋₁₅					
Rated frequency	Hz	50/60					
Power consumption	AC	Holding	50Hz	VA			3.2 (100/200)
			60Hz	VA			2.6 (100/200)
		Inrush	50Hz	VA			5 (100/200)
			60Hz	VA			4.5 (100/200)
Power consumption DC	W	2					
Wiring		Grommet with terminal, Conduit with terminal, DIN connector					
Mass	kg	1.2	2.3	2.4	2.7	2.7	

(Note) • When temperature of valve site goes down below 5 °C, complete dry air shall be supplied to prevent from freezing.

- Effective area shown above is value between ports 1 and 2, 4.
- Response time shown above is in accordance with JIS B 8375.

ORDERING INSTRUCTION

PMS2415 - **04** - **100 G L**

Model No.

PMS2315	
PMS2415	
PMD2415	
PMD3415	
PME3415	

Port size

NB	Without sub-base
04	Rc ¹ / ₂
06	Rc ³ / ₄

Voltage

100	AC100/110V
200	AC200/220V
D24	DC24V

Wiring

G	Grommet with terminal
GK	Grommet with surge suppressor
C	Conduit with terminal
CK	Conduit with surge suppressor
D	DIN connector

Option

No mark	Without option (Standard)
L	With locking button

: Made to order

Special specification

No mark	Standard (Internal pilot)
U	External pilot (Pilot port on valve body)

OPTIONAL PARTS AND SPARE PARTS

Parts Name		Model No.
Sub-base	Rc ¹ / ₂	PM15-SB-04
	Rc ³ / ₄	PM15-SB-06
Base gasket		A15-G
Spring	For 2-position	PM15-SS
	For 3-position	PM15-3S

• Pilot valve

SS231 - **NB** - **100 G L**

Voltage

100	AC100/110V
200	AC200/220V
D24	DC24V

Wiring

G	Grommet with terminal
GK	Grommet with surge suppressor
C	Conduit with terminal
CK	Conduit with surge suppressor
D	DIN connector

Option

No mark	Without option (Standard)
L	With locking button

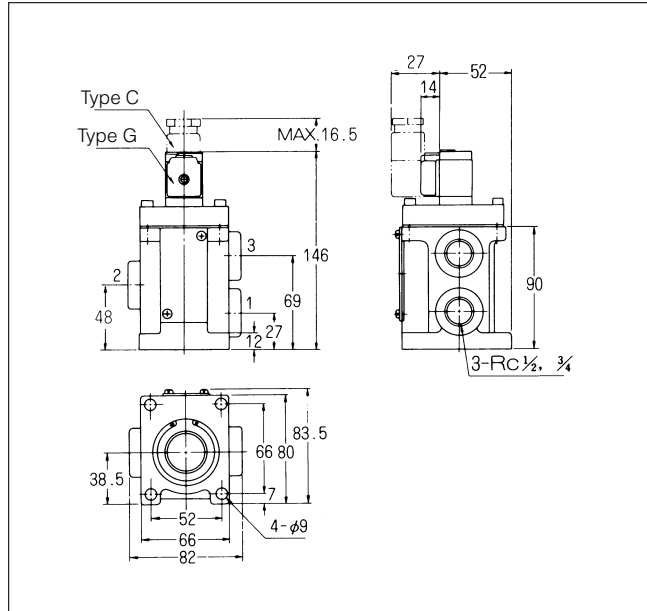
: Made to order

PM15 Series

DIMENSIONS

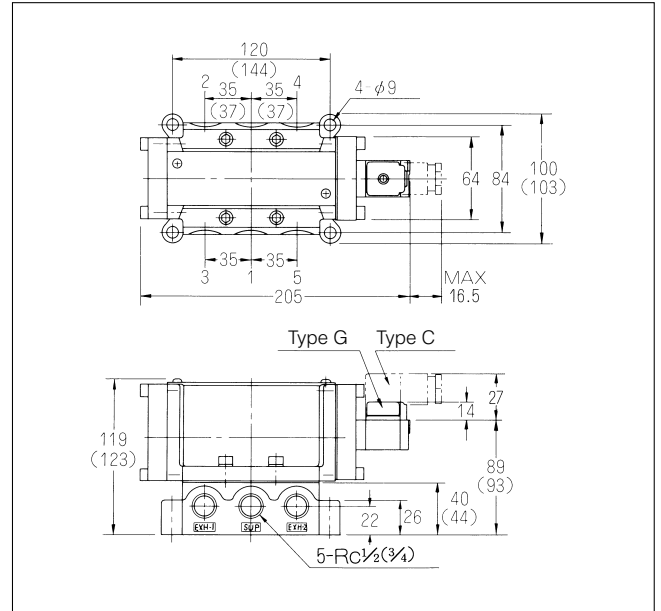
PMS2315

(Unit : mm)



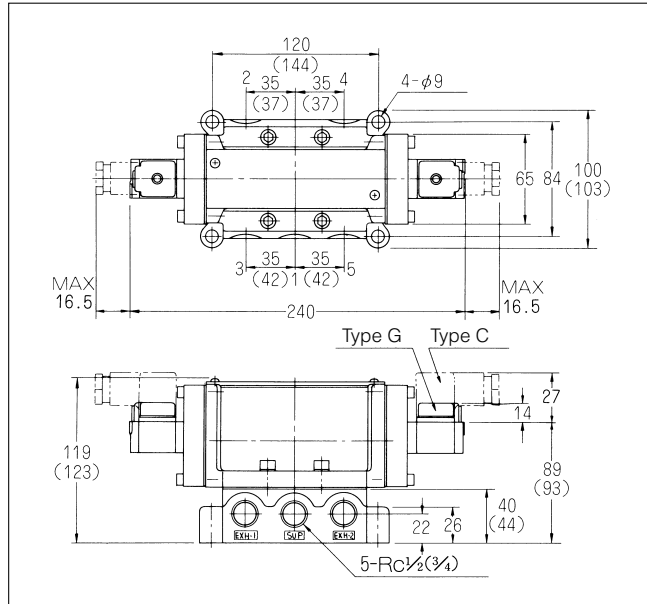
PMS2415

(Unit : mm)



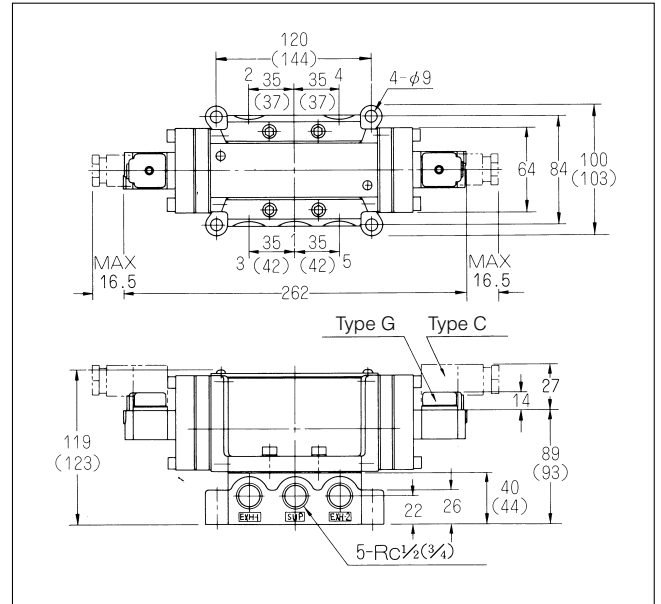
PMD2415

(Unit : mm)



PMD3415、PME3415

(Unit : mm)



(Note) Dimensions in bracket () shown with Rc $\frac{3}{4}$ ported sub-base.

3/5-PORT PILOT OPERATED SOLENOID VALVES

PM25 Series

Metal Seal, In-line Mounting/Sub-base Mounting type

PMS2325	2-position Single solenoid
PMS2425	2-position Single solenoid
PMD2425	2-position Double solenoid
PMD3425	3-position Closed center
PME3425	3-position Exhaust center



SPECIFICATIONS

Model No	Unit	PMS2325	PMS2425	PMD2425	PMD3425	PME3425	
Fluid		Non-lubricated/lubricated air					
Port size		Rc ³ / ₄ , 1	Rc ³ / ₄ , 1, 1 ¹ / ₄				
Effective area	mm ²	190	170(Rc ³ / ₄) 200(Rc1) 210(Rc1 ¹ / ₄)		165(Rc ³ / ₄) 190(Rc1) 195(Rc1 ¹ / ₄)		
Cv value		10.3	9.22(Rc ³ / ₄) 10.84(Rc1) 11.39(Rc1 ¹ / ₄)		8.94(Rc ³ / ₄) 10.29(Rc1) 10.57(Rc1 ¹ / ₄)		
Operating ambient temperature		- 5 ~ 60					
Operating pressure range	MPa	0.2 ~ 0.7	0.2 ~ 0.8				
Maximum frequency	Cycle/min	60					
Response time (at 0.5MPa)	s (Average)	ON 0.040 (0.050) OFF 0.220 (0.300)		ON 0.060 (0.070)	ON 0.060 (0.070) OFF 0.290 (0.300)		
Rated voltage	V	AC100/110, 200/220 DC24					
Grade of insulation		JIS grade B					
Permissible voltage fluctuation	%	AC ± 10 DC + ¹⁰ / ₋₁₅					
Rated frequency	Hz	50/60					
Power consumption	AC	Holding	50Hz	VA			3.2 (100/200)
			60Hz	VA			2.6 (100/200)
		Inlush	50Hz	VA			5 (100/200)
			60Hz	VA			4.5 (100/200)
Power consumption DC	W	2 (100/200)					
Wiring		Grommet with terminal, Conduit with terminal, DIN connector					
Mass	kg	3	6.1	6.3	6.9	6.9	

(Note) • When temperature of valve site goes down below 5 °C, complete dry air shall be supplied to prevent from freezing.

- Effective area shown above is value between ports 1 and 2, 4.
- Response time shown above is in accordance with JIS B 8375.
- Response time in bracket () shown with DC24V.

PM25 Series

ORDERING INSTRUCTION

PMS2425 - **06** - **100 G L**

Model No.

PMS2325	
PMS2425	
PMD2425	
PMD3425	
PME3425	

Port size

NB	Without sub-base
06	Rc $\frac{3}{4}$
08	Rc1
10	Rc1 $\frac{1}{4}$

Voltage

100	AC100/110V
200	AC200/220V
D24	DC24V

Wiring

G	Grommet with terminal
GK	Grommet with surge suppressor
C	Conduit with terminal
CK	Conduit with surge suppressor
D	DIN connector

Option

No mark	Without option (Standard)
L	With locking button

: Made to order

パイロット仕様

No mark	Standard (Internal pilot)
U	External pilot (Pilot port on valve body)

OPTIONAL PARTS AND SPARE PARTS

Parts Name	Model No.	
Sub-base	Rc $\frac{3}{4}$	PM25-SB-06
	Rc1	PM25-SB-08
	Rc1 $\frac{1}{4}$	PM25-SB-10
Base gasket	A25-G	
Spring	For 2-position	PM25-SS
	For 3-position	PM25-3S

• Pilot valve

SS231 - **NB** - **100 G L**

Voltage

100	AC100/110V
200	AC200/220V
D24	DC24V

Wiring

G	Grommet with terminal
GK	Grommet with surge suppressor
C	Conduit with terminal
CK	Conduit with surge suppressor
D	DIN connector

Option

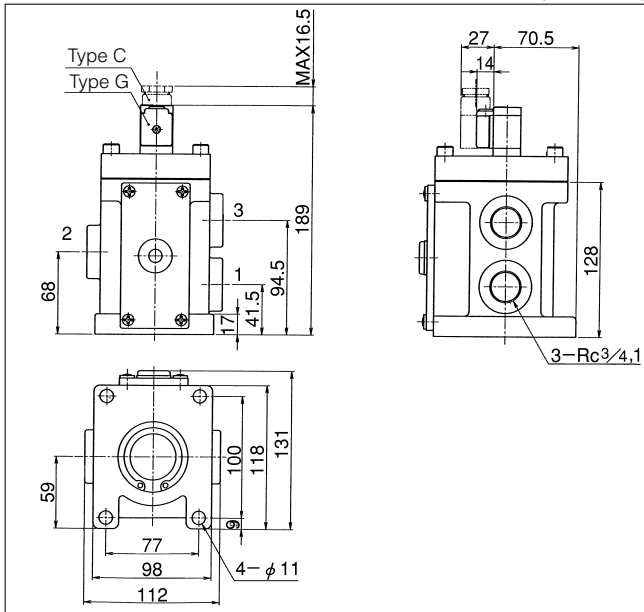
No mark	Without option (Standard)
L	With locking button

: Made to order

DIMENSIONS

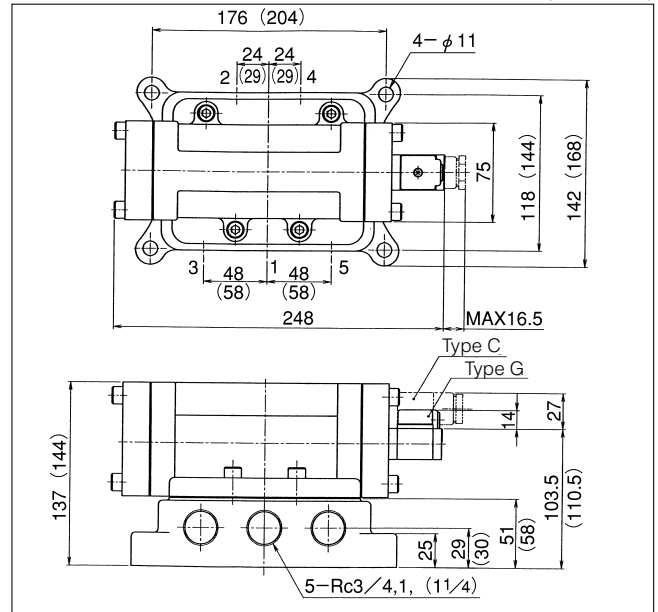
PMS2325

(Unit : mm)



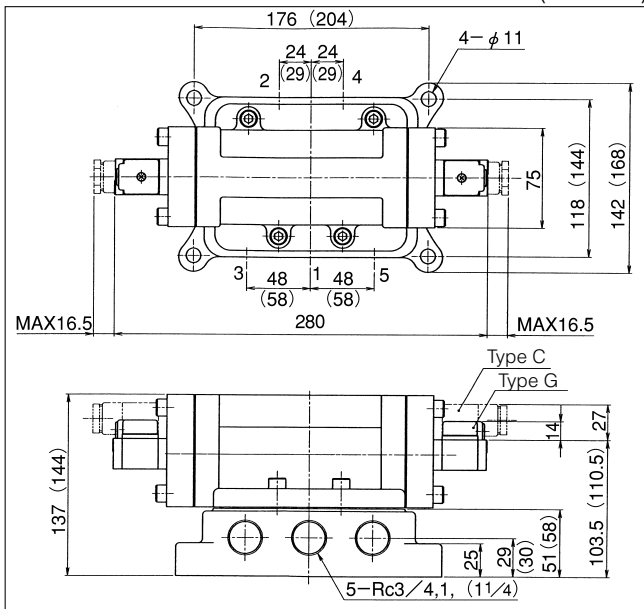
PMS2425

(Unit : mm)



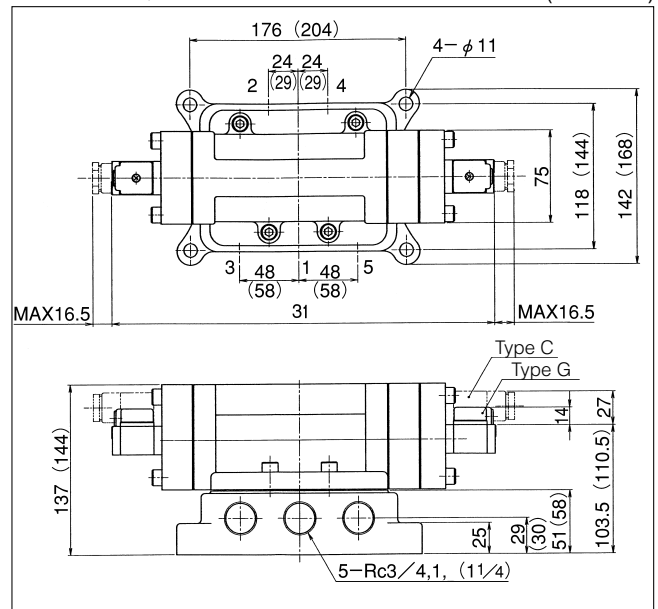
PMD2425

(Unit : mm)



PMD3425、PME3425

(Unit : mm)



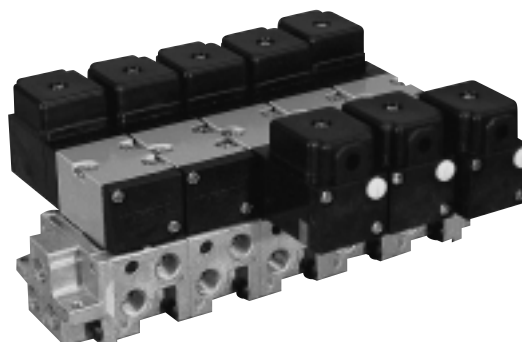
(Note)Dimensions in bracket () shown with Rc11/4 ported sub-base

INDIVIDUAL WIRING TYPE MANIFOLD

MF -C

Separate type

MF -CC	Common SUP, Common EXH Ports 2 & 4 on side
MF -CI	Common SUP, Individual EXH Ports 2 & 4 on side
MF -CS	Comon SUP, Captured EXH Ports 2 & 4 on side



MANIFOLD SPECIFICATIONS

Type of manifold		MF -CC6	MF -CS6	MF -CC06	MF -CC08	MF -CC10	MF -CC15	MF -CC25	
		Common SUP, common EXH	Common SUP, captured EXH	Common SUP, common EXH	Common SUP, common EXH	Common SUP, common EXH	Common SUP, common EXH	Common SUP, common EXH	
Port size	Port 1	Rc $\frac{1}{8}$, $\frac{1}{4}$	Rc $\frac{1}{8}$, $\frac{1}{4}$	Rc $\frac{1}{4}$	Rc $\frac{3}{8}$	Rc $\frac{1}{2}$	Rc $\frac{3}{4}$	Rc1	
	Port 3, 5	Rc $\frac{1}{8}$	Rc $\frac{1}{4}$ (1 place)	Rc $\frac{1}{4}$	Rc $\frac{3}{8}$	Rc $\frac{1}{2}$	Rc $\frac{3}{4}$	Rc1	
	Port 2, 4	Rc $\frac{1}{8}$	Rc $\frac{1}{8}$	Rc $\frac{1}{8}$, $\frac{1}{4}$	Rc $\frac{1}{4}$, $\frac{3}{8}$	Rc $\frac{3}{8}$, $\frac{1}{2}$	Rc $\frac{1}{2}$	Rc $\frac{3}{4}$, 1	
Number of stations		2 ~ 10							
Mountable solenoid valve		PMS246-NB PMD246-NB PMD346-NB PME346-NB	PMS2406-NB PMD2406-NB PMD3406-NB PME3406-NB	PMS2408-NB PMD2408-NB PMD3408-NB PME3408-NB	PMS2410-NB PMD2410-NB PMD3410-NB PME3410-NB	PMS2415-NB PMD2415-NB PMD3415-NB PME3415-NB	PMS2425-NB PMD2425-NB PMD3425-NB PME3425-NB		
Blank plate		CC6-BP	CC06-BP	CC08-BP	CC10-BP	CC15-BP	CC25-BP		

Type of manifold		MF -CI6	MF -CI06	MF -CI08	MF -CI10	MF -CI15	MF -CI25		
		Common SUP, individual EXH	Common SUP, individual EXH	Common SUP, individual EXH	Common SUP, individual EXH	Common SUP, individual EXH	Common SUP, individual EXH		
Port size	Port 1	Rc $\frac{1}{8}$, $\frac{1}{4}$	Rc $\frac{1}{4}$	Rc $\frac{3}{8}$	Rc $\frac{1}{2}$	Rc $\frac{3}{4}$	Rc1		
	Port 3, 5	Rc $\frac{1}{8}$	Rc $\frac{1}{8}$	Rc $\frac{1}{4}$, $\frac{3}{8}$	Rc $\frac{1}{2}$	Rc $\frac{3}{4}$	Rc1		
	Port 2, 4	Rc $\frac{1}{8}$	Rc $\frac{1}{8}$, $\frac{1}{4}$	Rc $\frac{1}{4}$, $\frac{3}{8}$	Rc $\frac{3}{8}$, $\frac{1}{2}$	Rc $\frac{1}{2}$	Rc $\frac{3}{4}$, 1		
Number of stations		2 ~ 10							
Mountable solenoid valve		PMS246-NB PMD246-NB PMD346-NB PME346-NB	PMS2406-NB PMD2406-NB PMD3406-NB PME3406-NB	PMS2408-NB PMD2408-NB PMD3408-NB PME3408-NB	PMS2410-NB PMD2410-NB PMD3410-NB PME3410-NB	PMS2415-NB PMD2415-NB PMD3415-NB PME3415-NB	PMS2425-NB PMD2425-NB PMD3425-NB PME3425-NB		
Blank plate		CC6-BP	CC06-BP	CC08-BP	CC10-BP	CC15-BP	CC25-BP		

ORDERING INSTRUCTION

Manifold

MF 5 - CC 08 - 02

Number of stations

2	2 station
:	:
10	10 station

Type of manifold

CC	Common SUP, common EXH
CI	Common SUP, individual EXH
CS	Common SUP, captured EXH

Mountable solenoid valve

6	PM6 series
06	PM06 series
08	PM08 series
10	PM10 series
15	PM15 series
25	PM25 series

Size of ports 2 and 4

01	Rc $\frac{1}{8}$
02	Rc $\frac{1}{4}$
03	Rc $\frac{3}{8}$
04	Rc $\frac{1}{2}$
06	Rc $\frac{3}{4}$
08	Rc1

Mountable solenoid valve (For details refer to Pages 11 to 28.)

PMS2408 - NB - 100 G L

Model No.

Special specification

No mark	Standard (Internal pilot)
U	External pilot (Pilot port on valve body)

Port size

NB	Without sub-base
----	------------------

Voltage

100	AC100/110V
200	AC200/220V
D24	DC24V

Wiring

L	Lead wire
G	Grommet with terminal
GK	Grommet with surge suppressor
C	Conduit with terminal
CK	Conduit with surge suppressor
D	DIN connector

(Note) L : PM6 series only

Option

No mark	Without option (Standard)
L	With locking button

: Made to order

HOW TO ORDER

- List solenoid valves to be mounted.
- When mounting solenoid valves of different type, specify the type and quantity of solenoid valves from port 1 side.
- When ordering a solenoid valve of special specifications, refer to "Specification for Manifold" which is separately available.

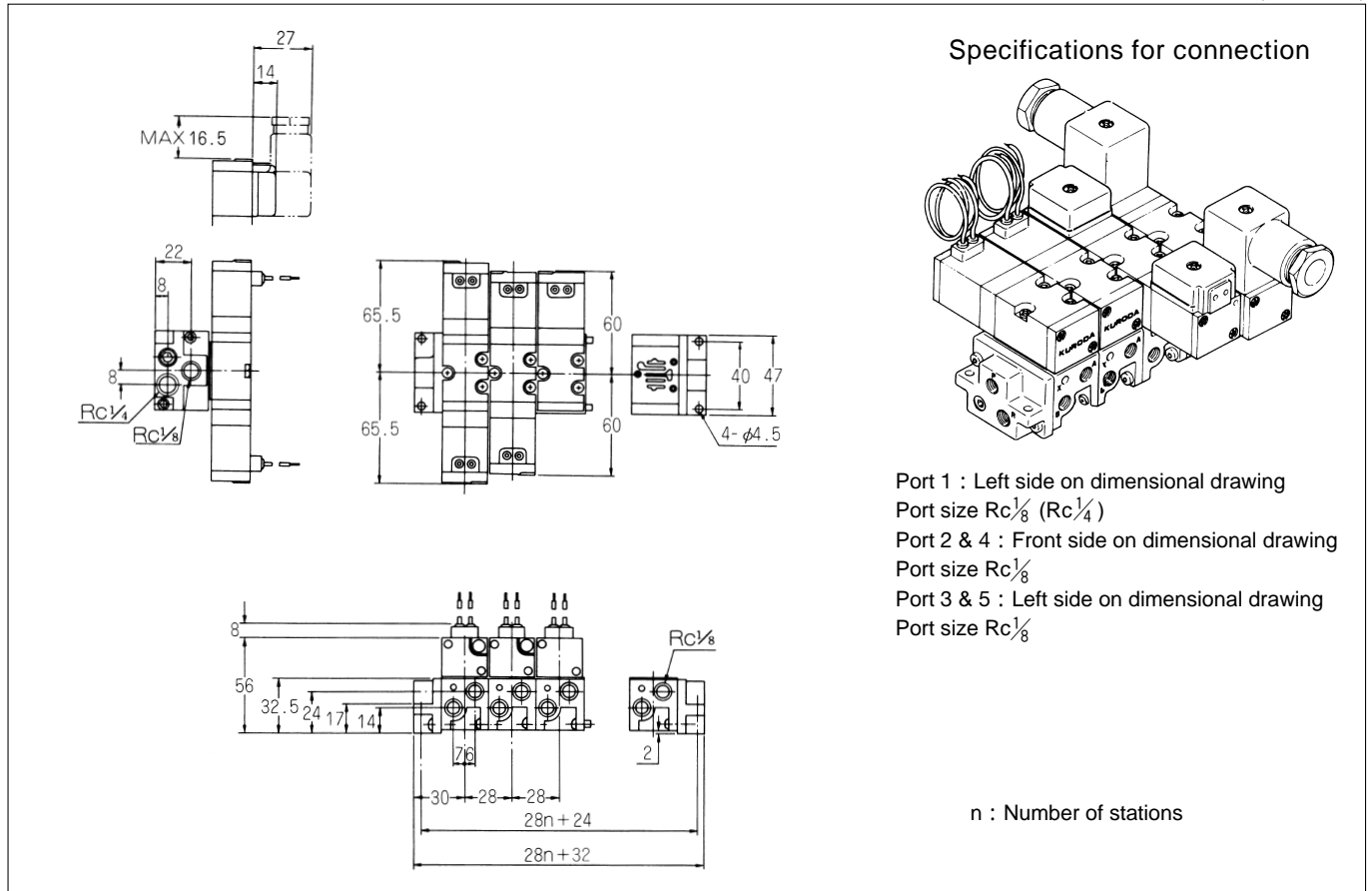
(Example)

MF5-CC08-02	1 pc.
PMS2408-NB-100	2 pcs.
PMD2408-NB-100	2 pcs.
CC08-BP	1 pc.

DIMENSIONS

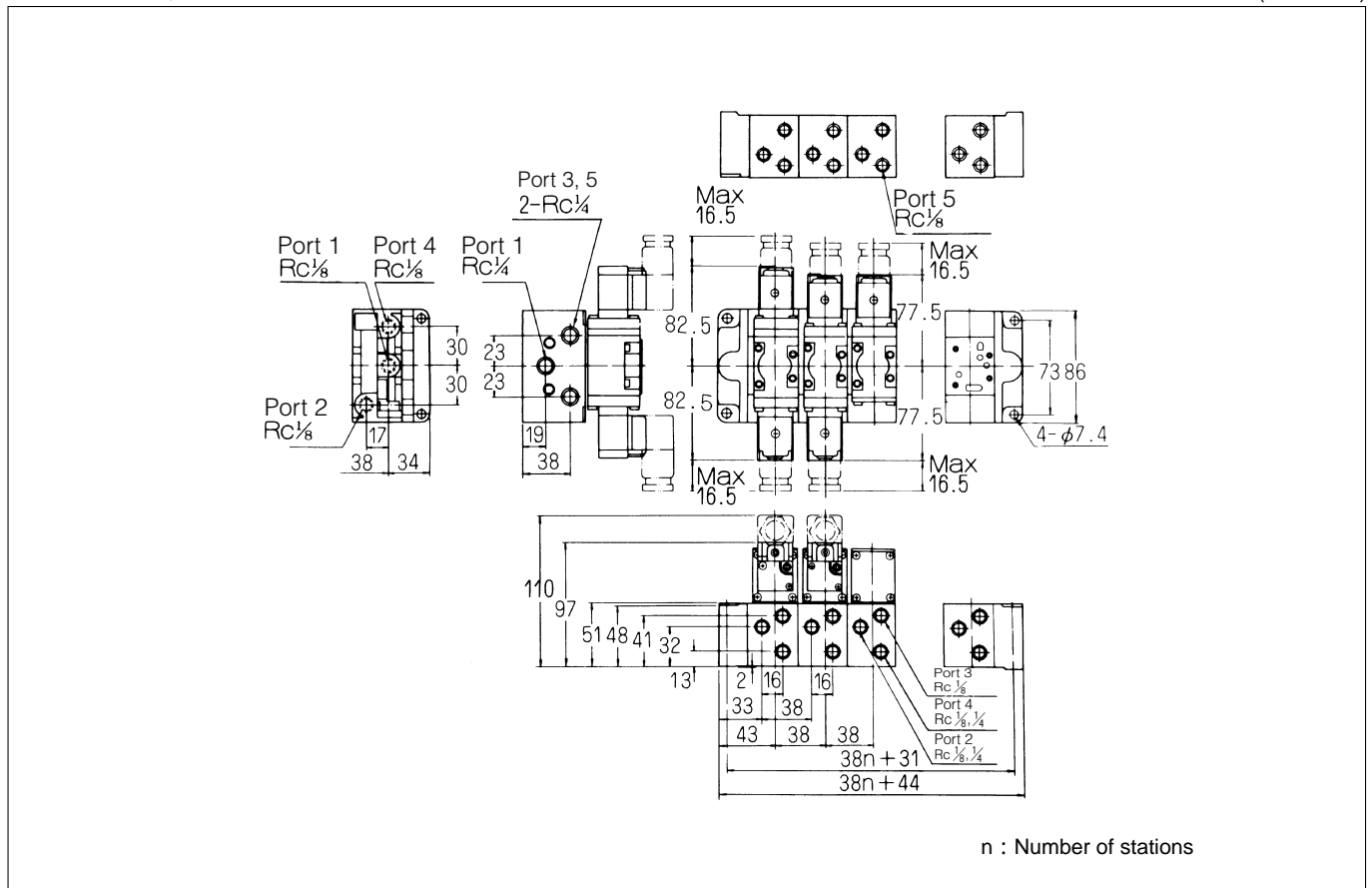
MF -CS6

(Unit : mm)



MF -CC06、MF -CI06

(Unit : mm)



PM Series

DIMENSIONS

MF -CC08 ~ 25

specifications for connection

Port 1 : Left side on dimensional drawing
 Port 2 & 4 : Front side on dimensional drawing
 Port 3 & 5 : Left side on dimensional drawing

MF -CI08 ~ 25

specifications for connection

Port 1 : Left side on dimensional drawing
 Port 2 & 4 : Front side on dimensional drawing
 Port 3 : Front side on dimensional drawing
 Port 5 : Back side on dimensional drawing

(Unit : mm)

Model No.	A	B	C	C'	D	E	F	F'	G	H	J	K	L	M	N	O	P	P'	Q	Q'	R	R'	S	S'	T	U	V	W	X	Y	Z
MF-CC08	1/4	3/8	3/8	-	70n	70n	117	116.5	52	51	-	16.	23	110	52	4	84	122	94	118	88	112	87	111	90	74	8.5	5	35	35	22
MF-CI 08	3/8	3/8	-	1/4(3/8)	+80	+64					39.																				
MF-CC10	3/8	1/2	1/2	-	90n	90n	129	127.5	54	48	5	5	29	150	72	4	115	138	114	138	103	127	102	126	120	100	10.	15	50	30	32
MF-CI 10	1/2	1/2	-	3/8(1/2)	+90	+60																									
MF-CC15	1/2	3/4	3/4	-	110n	110n	149	145	69	60	39.	18.	70	32	4	48	98	155	131	155	120	144	120	144	144	120	5	19	75	35	37
MF-CI 15	3/4	3/4	-	1/2	+110	+80					5																				
MF-CC25	3/4	1	1	-	150n	150n	187	200	85	80	-	5	90	43	4	64	114	182	159	175	140	156	159	175	200	170	12.	30	90	50	54
MF-CI 25	(1)	(1)	-	3/4(1)	+140	+110					49																				

(Note) • "n" in Table means the number of stations of manifold.
 • Port size in parentheses is made to order.

BOTTOM OF MANIFOLD PORTED (Custom-made)

(Unit : mm)

Model No.	Port size	A	B	K	J	H
MF - $\frac{CC}{C}$ 08	Rc $\frac{1}{4}$, $\frac{3}{8}$	90	70	20	28	12
MF - $\frac{CC}{C}$ 10	Rc $\frac{3}{8}$, $\frac{1}{2}$	120	90	25	34	17
MF - $\frac{CC}{C}$ 15	Rc $\frac{1}{2}$, $\frac{3}{4}$	144	110	30	45	22.5
MF - $\frac{CC}{C}$ 25	Rc $\frac{3}{4}$, 1	200	150	45	60	30

ADAPTOR

Used to connect a manifold of different size.

(Unit : mm)

Model No.	MFA-C0608	MFA-C0810	MFA-C1015	MFA-C1525
Applicable manifold	MF-C 06	MF-C 08	MF-C 10	MF-C 15
	MF-C 08	MF-C 10	MF-C 15	MF-C 25
X	24	30	40	50



WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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