



GENERAL KNOWLEDGE

General Instruction for Solenoid

For your own safety, please read the instruction below before you inquiring / using our products.

Application

- Fluid in the pipeline MUST BE same as instruction shows on a solenoid.
- The fluid's temperature needs to be lower than valve's standard temperature.
- Our products normally allowed fluid's viscosity under 20 CST.
- If the highest working pressure difference lower than 0.05 MPa, please select Direct-Acting type. If the difference higher than 0.05 Mpa, please select Pilot-Operated type (Diaphragm type).
- Originally our products are working ONE DIRECTION, please install by fluid flow direction to avoid the reverse pressure. Could install stop-check valve if the counter current shows.
- Please install filter before installing Solenoid valve if the fluid isn't clean, to reduce any wastes and impurities from the pipeline.
- Please check your available flow aperture and nozzle diameter.
- Normally our products only have ON / OFF two switches, if its available, please install side-manual switch for your maintenance convenience.
- When there's water hammer phenomenon, please aware of valve switching time adjustment and choose the suitable product.
- Be aware of the effect caused by environmental temperature.

- Power voltage can allowed about $\pm 10\%$ fluctuation, volt-ampere is higher while using AC starts.
- The solenoid valve can be divided into two types. N.C. (Normal Closed) and N.O. (Normal Open), please select your suitable type.

Security

- Solenoids are not suitable for power on for a long time because of its design principles. If it powered on too long, metal coil will overheat cause shortened life and malfunction.
- Regular-type solenoid is not waterproof, please select waterproof type if the environment not allowed.
- Solenoid's highest standard pressure must exceed the highest pressure in the pipeline or it will cause shortened life and other malfunction.
- Please select full-stainless steel type if its corrosive fluid. High acid and alkaline fluids are suitable for PTFE valve body style.
- Dangerous environment that may cause explosion needs to select corresponding explosion-proof products.

Install Caution

- Clean the pipeline with fluids, make sure it already removed any dusts, impurities, rust and stop tapes.
- Please keep 1.5~2 turns screw thread while wrapping stop tapes.
- Sealant might be easily flow into the product, and may cause malfunction if using too much sealant while installing.

- It's better install with horizontal direction and coil face up.
- Make sure you have enough space for maintenance.
- Do not press coil parts while installing.
- Check the pipeline direction, leak or not, wire connection after the installment.

(Aluminum alloy)

Caliber	Tightening torque suggest
Rc 1/8	7~9 N•m
Rc 1/4	12~14 N•m
Rc 3/8	22~24 N•m
Rc 1/2	28~30 N•m
Rc 3/4	31~33 N•m
Rc 1	36~38 N•m
Rc 1-1/4	40~42 N•m
Rc 1-1/2	48~50 N•m
Rc 2	57~56 N•m

(Brass, Stainless steel)

Caliber	Tightening torque suggest
Rc 1/8	18~20 N•m
Rc 1/4	23~25 N•m
Rc 3/8	31~33 N•m
Rc 1/2	41~43 N•m
Rc 3/4	62~65 N•m
Rc 1	83~86 N•m
Rc 1-1/4	97~100 N•m
Rc 1-1/2	104~108 N•m
Rc 2	132~136 N•m

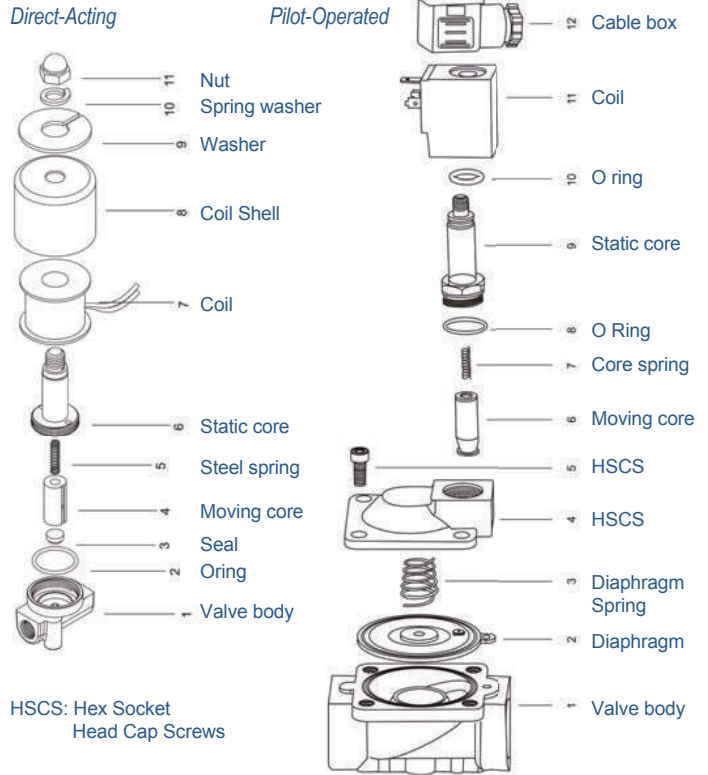


GENERAL KNOWLEDGE

Precautions in maintenance

- Solenoid coil and its drive element will heat after power on, please DO NOT touch or it will cause scald.
- If you need to decompose our product to inspect, please remove the power, and release the rest of the pressure in the pipeline. Make sure you are safe then continue the progress.
- To avoid rubber parts in the valve expansion or deformation, Please use neutral cleaner when you are cleaning the parts of valve.
- If you are not going to use our product of a long time after you used, please completely remove the rest of the fluid in the valve. If there's any fluid residue, it will get rusty in the next time you use and cause poor product performance.
- To keep its best situation, please arrange regular inspect and change parts by its usage frequency.

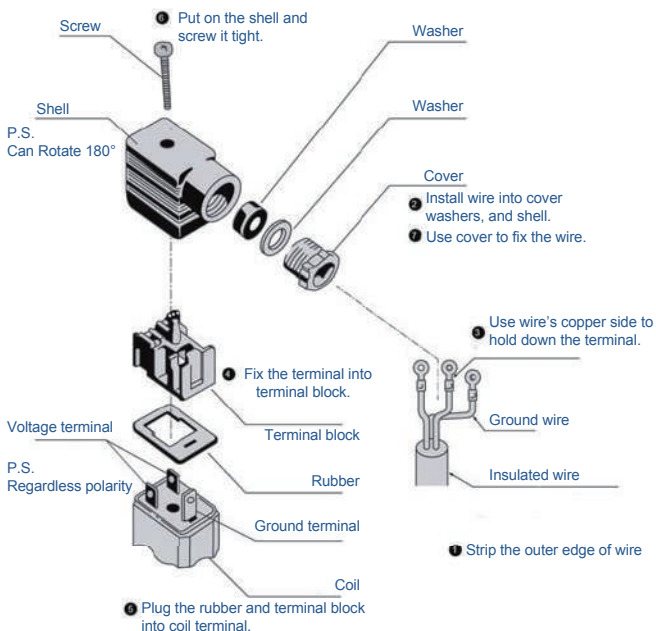
Exploded view



Cable box connection

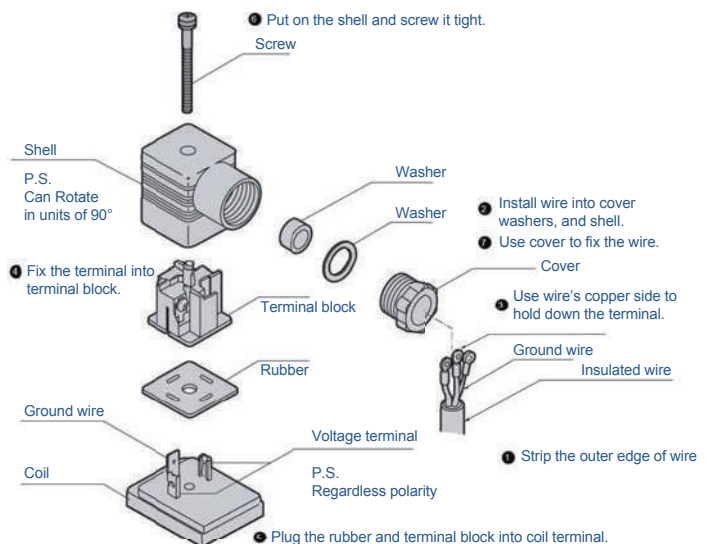
DIN Cable box (Pg9)

1. Please use insulated wire, Outer diameter $\varnothing 6 \sim \varnothing 10$ mm, section area $0.5 \sim 1.5 \text{ mm}^2$.
2. Tightening torque suggest $0.5 \text{ N} \cdot \text{m}$
3. If you need to change wire direction, take out cable box from shell, rotate 180 degrees then press into shell again.
4. Follow instruction from step 1 to step 7.



DIN Cable box (Pg11)

1. Please use insulated wire, Outer diameter $\varnothing 6 \sim \varnothing 10$ mm, section area $0.5 \sim 1.5 \text{ mm}^2$.
2. Tightening torque suggest $0.5 \text{ N} \cdot \text{m}$
3. If you need to change wire direction, take out cable box from shell, rotate 90 degrees then press into shell again.
4. Follow instruction from step 1 to step 7.





PRODUCT/ SOLENOID VALVE

4V Series 5 Port Solenoid Valve

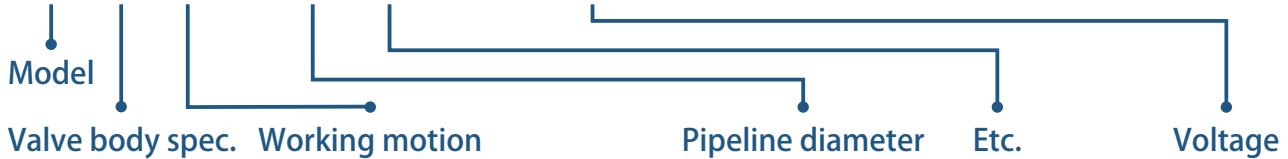


Specifications Characteristics






Model	4V Series
Structure	Direct-Acting, 5 port 2 position N. C. (Normal Close)
Fluid	Compressed air (Filtered by 40 μm filter)
Temperature	-5°C - 70°C
Environment	Temp. -10 - 55°C ; Humidity. 10 - 90% RH
Caliber	Thread M5 - 1/2" G (Standard)
Pressure	1.5 - 8 kgf/cm ²
Withstand pressure	10 kgf/cm ²
Material	Aluminum alloy
Voltage	Reference below, Allowed voltage flow range ± 10%
Consumption	AC 5.5VA ; DC 4.8W
Highest frequency	3 times / sec (No load)
Protect Level	IP65
Install	According to the fluid flow direction.

How to select model

4V - 06 - AC220V



Body size	Code
1/8"	1
1/4"	2
3/8"	3
1/2"	4

Name	Symbol	Code
Single coil 5 port 2 way		10
Twin coil 5 port 2 way		20
Middle close 5 port 3 way		30C
Middle exhaust 5 port 3 way		30R
Middle intake 5 port 3 way		30P

Body size	Diameter	Code
1/8"	M5	M5
	1/8"	06
1/4"	1/8"	06
	1/4"	08
3/8"	3/8"	08
	1/2"	10
1/2"	1/2"	15

Spec.	Diameter
DIN Standard Coil	
Cable coil	F

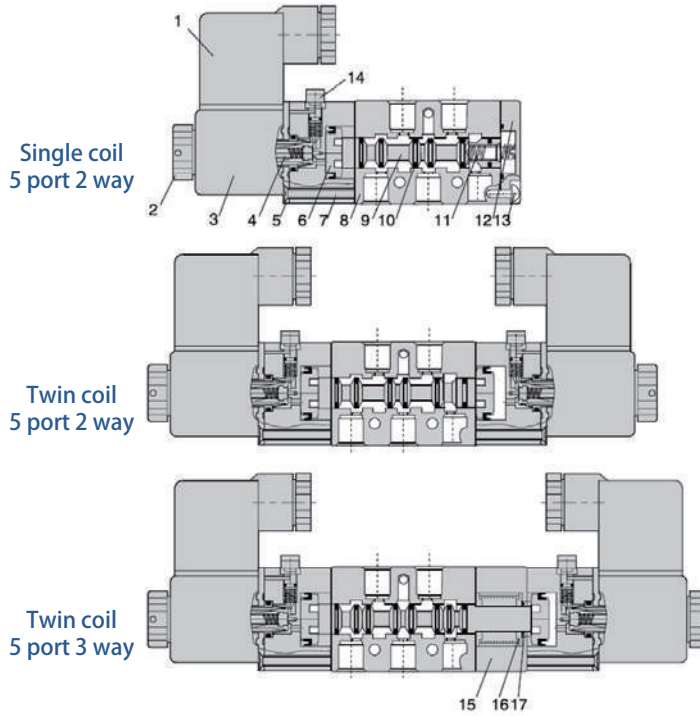
Voltage
AC110V
AC220V
AC380V
AC12V
DC12V
DC24V



PRODUCT/ SOLENOID VALVE

Internal structure

No.	Designation
1	Connector
2	Nut
3	Coil
4	Pilot units
5	Plate
6	Piston
7	Screw
8	Valve body
9	Spool
10	O-Ring
11	Spring
12	Rear cover
13	Screw
14	Manual override
15	Back seat
16	Spring seat
17	C-Type Buckle



Main Parts Material

Part name	Material
Valve body	Aluminum alloy
Spool	Aluminum alloy
Manual override O-ring	NBR
Manual override O-spring	Stainless steel
Spool O-ring	NBR
Spool O-spring	Stainless steel
Plate	steel
Rear cover	Zinc alloy
Seal	HNBR
Piston	POM
Back seat	Aluminum alloy
Spring seat	Aluminum alloy
Manual override	Plastic
Manual override spring	Stainless steel
Connector	Engineering Plastic
Connector washer	NBR
Pilot units	Pure steel + CU + Stainless steel
Diaphragm	NBR
Nut	POM + Carbon steel
Coil	BRASS wire+Heat resistance colophony



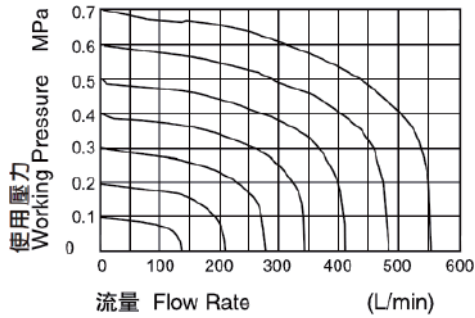


PRODUCT/ SOLENOID VALVE

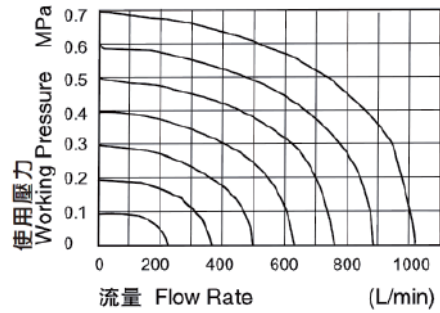
Flow Chart

4V1

Diameter code : M5

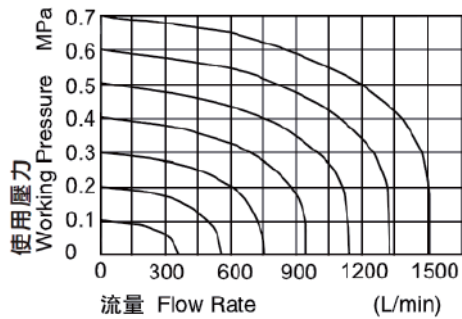


Diameter code : 06

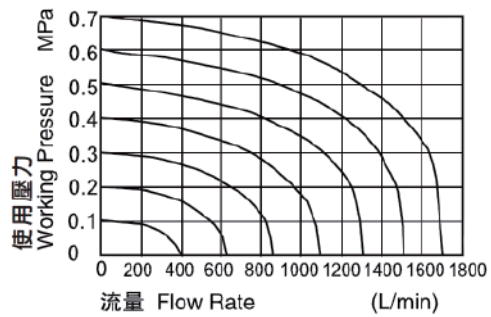


4V2

Diameter code : 06

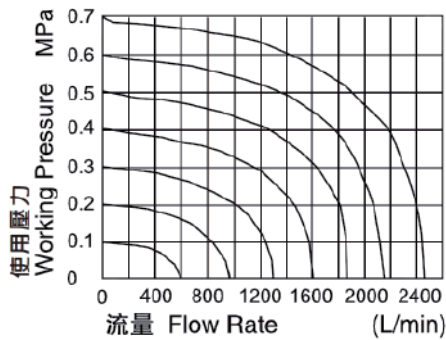


Diameter code : 08

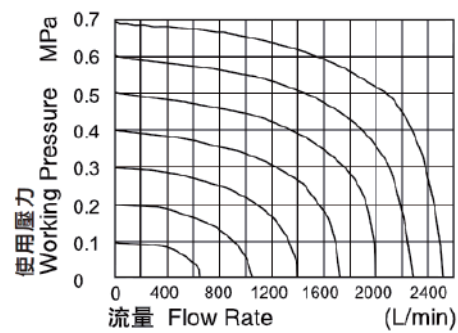


4V3

Diameter code : 08

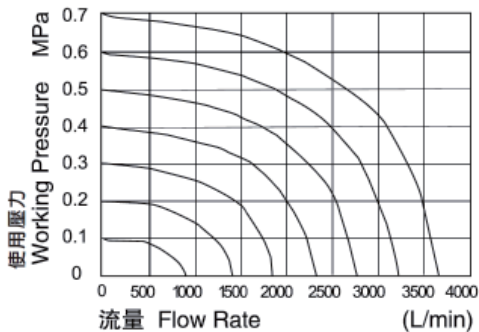


Diameter code : 10



4V4

Diameter code : 15

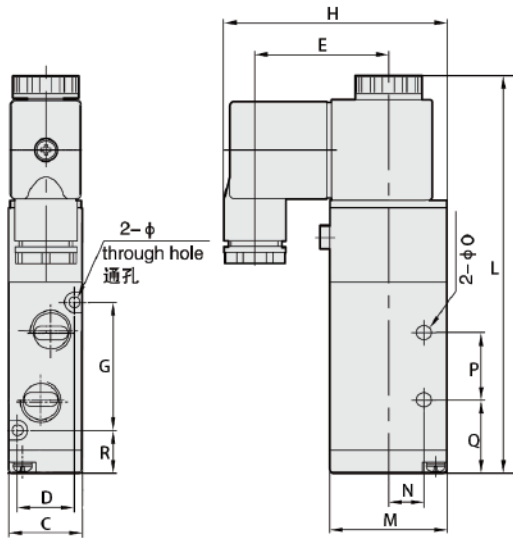




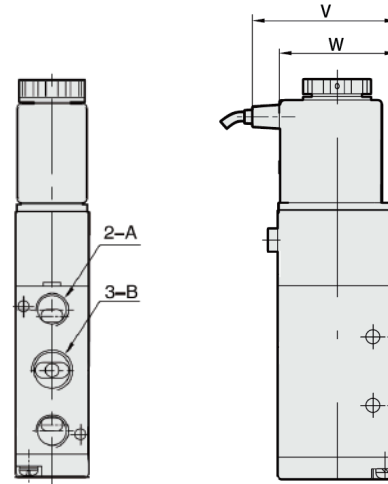
PRODUCT/ SOLENOID VALVE

Main Dimension (mm)

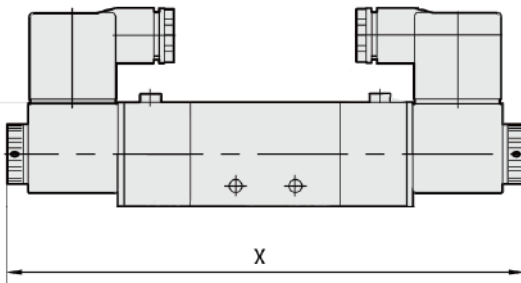
Single coil 5 port 2 way (DIN coil)



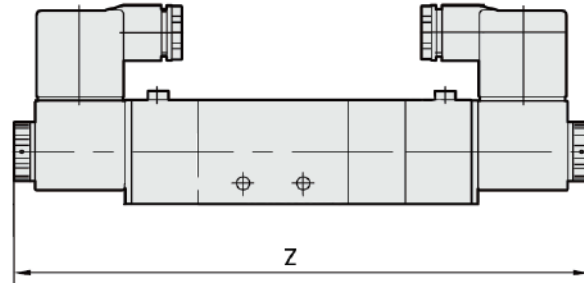
Cable coil (Wire length 300 mm)



Twin coil 5 port 2 way (DIN coil)



Twin coil 5 port 3 way (DIN coil)



Spec.	A	B	C	D	E	ΦF	G	H	L	M	N	ΦO	P	Q	R	V	W	X	Z
4V1□0-M5	M5	M5	18	13	33	3.2	30	53	99	27	9.5	3.2	14	21.2	13.2	31	26	143	158
4V1□0-06	1/8"	1/8"	18	13	33	3.2	30	53	99	27	9.5	3.2	14	21.2	13.2	31	26	143	158
4V2□0-06	1/8"	1/8"	22	17	38	3.2	38	65	117	35	10.5	4.2	20	21.3	12.5	40	34	171	190
4V2□0-08	1/8"	1/4"	22	17	38	3.2	38	65	117	35	10.5	4.2	20	21.3	12.5	40	34	171	190
4V3□0-08	1/4"	1/4"	27	20	38	4.2	50	67	135	40	13.5	4.2	24	25.7	14.6	43	37	191	209
4V3□0-10	1/4"	3/8"	27	20	38	4.2	50	67	135	40	13.5	4.2	24	25.7	14.6	43	37	191	209
4V4□0-15	1/2"	1/2"	34	27	38	4.2	72	72	166	50	17.5	5.4	28	40.7	18.6	48	42	223	244

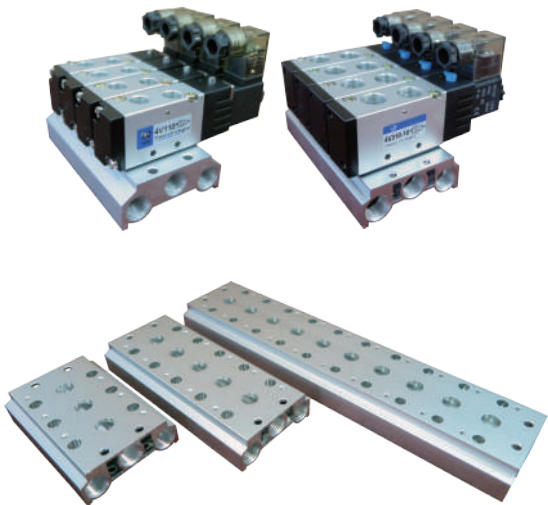


TXMC



PRODUCT/ SOLENOID VALVE

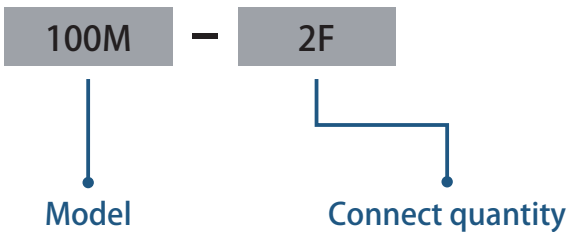
4V Series Solenoid Valve Base



Specifications Characteristics

Model	100M	200M	300M	400M
Fluid	Compressed air (Filtered by 40 μ m filter)			
Temperature	-5°C - 70°C			
Environment	Temp. -10 - 55°C ; Humidity. 10 - 90% RH			
Material	Aluminum alloy			
Caliber	1/4" G	1/4" G	3/8" G	1/2" G
Suitable model	4V100 Series	4V200 Series	4V300 Series	4V400 Series
Amount	2 - 16F	2 - 16F	2 - 12F	2 - 7F
Accessories	Base body, Base gasket, screws.			
Plate model	P-100MR2	P-200MR2	P-300MR2	P-400MR2

How to select model



Name	Code
4V100 Series	100M
4V200 Series	200M
4V300 Series	300M
4V400 Series	400M

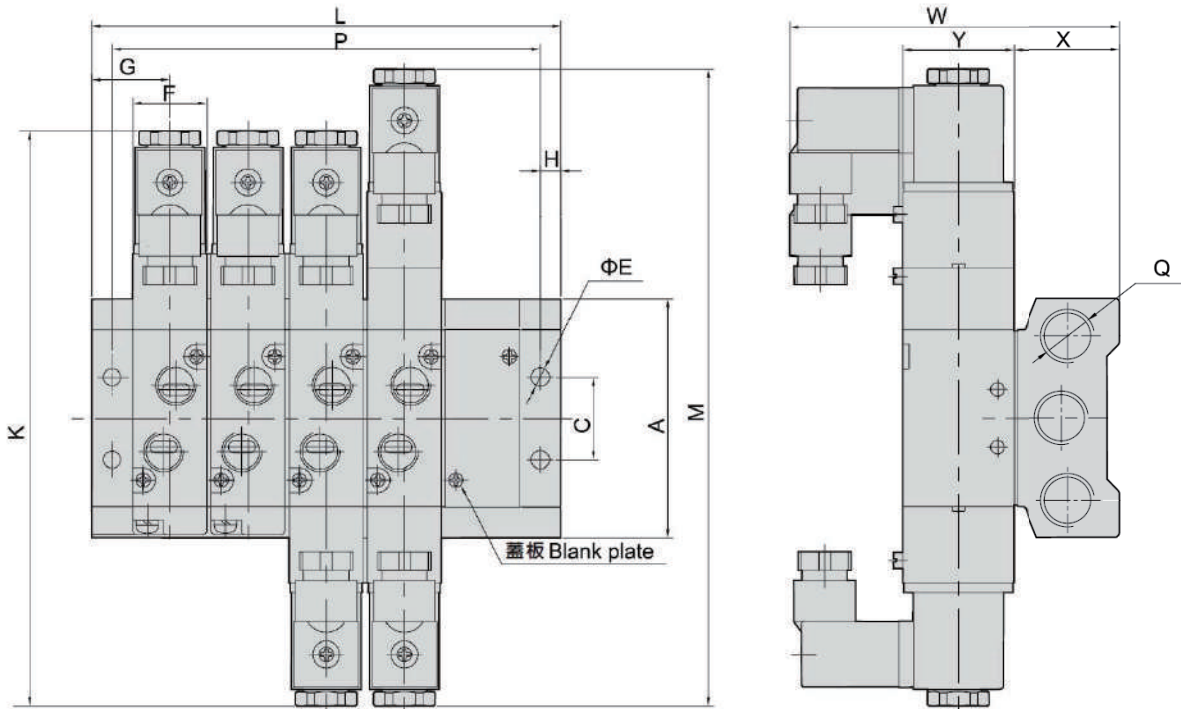
QTY	Code	QTY	Code	QTY	Code
2	2F	9	9F	16	16F
3	3F	10	10F		
4	4F	11	11F		
5	5F	12	12F		
6	6F	13	13F		
7	7F	14	14F		
8	8F	15	15F		





PRODUCT/ SOLENOID VALVE

Main Dimension (mm)



Spec.	A	C	ΦE	F	G	H	K	M	Q	W	X	Y
100M	58	20	4.5	18.3	19	5	143	158	1/4"G	79	25	27
200M	61	21	4.5	22.4	23	6	171	190	1/4"G	93	26	35
300M	75	26	4.5	27.3	27	6	191	209	3/8"G	100	30	40
400M	104	32	5.5	34.3	31.5	7	223	244	1/2"G	113	38	50

Spec.	L															
	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F	
100M	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323	
200M	69	92	115	138	161	184	207	230	253	276	299	322	345	368	391	
300M	82	110	138	166	194	222	250	278	306	334	362					
400M	98	133	168	203	238	273										

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