



Single valve/sub-plate piping
Pilot operated 5-port pneumatic valve

4F4/5/6/7-W Series

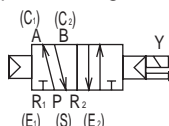
● Cylinder bore size: $\varnothing 63$ to $\varnothing 250$



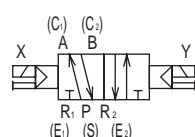
JIS symbol

● 5-port valve

2 position single

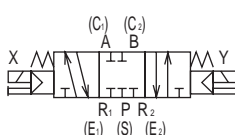


2-position double

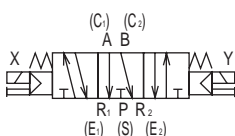


3-position

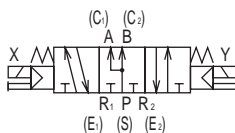
All ports closed



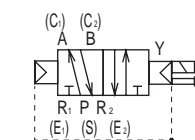
3-position A/B/R connection



3-position P/A/B connection



● External pilot



(Code indicates 2-position single)

Common specifications

Item	Description
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	1.0
Min. working pressure MPa (*2)	Refer to Individual specifications listed below
Proof pressure MPa	1.5
Ambient temperature °C (*1)	-10 to 60 (no freezing)
Fluid temperature °C	5 to 60
Lubrication	Not required (turbine oil ISO VG32 if necessary for lubrication)
Degree of protection	Dust-proof
Vibration resistance m/s ²	50 or less
Shock resistance m/s ²	300 or less
Atmosphere	Cannot be used in corrosive gas environment.

*1: The ambient temperature indicates the temperature for storage and upon installation, which will differ from the fluid temperature during operation.

*2: The working pressure range is 0 to 1.0 MPa when the external pilot (option code: K) is selected. Set the external pilot pressure between 0.15 and 1.0 MPa.

Electrical specifications

Item		4F4 to 7		
Rated voltage V	AC	100, 200, 110, 220(50/60Hz)		
	DC	12,24		
Voltage fluctuation range		±10%		
Starting current	A	AC	100V	0.170/0.140
			200V	0.090/0.070
			110V	0.15/0.13
			220V	0.08/0.06
	DC	12V	0.500	
		24V	0.250	
Holding current	A	AC	100V	0.100/0.080
			200V	0.050/0.040
			110V	0.09/0.07
			220V	0.05/0.04
	DC	12V	0.500	
		24V	0.250	
Power consumption	W	AC	100V	5.0/4.0
			200V	5.0/4.0
			110V	5.0/4.0
			220V	5.0/4.0
	DC	12V	6.0	
		24V	6.0	
Thermal class		B (molded coil)		

Reference: Rated voltage 100 VAC 50/60Hz is available at 110 VAC 60Hz, while 200 VAC 50/60Hz is available at 220 VAC 60Hz.

Individual specifications

Item			4F4		4F5		4F6		4F7	
Min. working Pressure MPa	2-position	Single	0.10		0.10		0.15		0.15	
		Double								
	3-position	All ports closed	0.15							
		A/B/R connection								
		P/A/B connection								
Port size			Rc1/4 NPT1/4 G1/4	Rc3/8 NPT3/8 G3/8	Rc3/8 NPT3/8 G3/8	Rc1/2 NPT1/2 G1/2	Rc1/2 NPT1/2 G1/2	Rc3/4 NPT3/4 G3/4	Rc3/4 NPT3/4 G3/4	Rc1 NPT1 G1

Performance / Characteristics by model

Item	4F4	4F5	4F6	4F7
Response time *1 ms	60	70	200	300

*1: The response times are values with working pressure of 0.5 MPa, without lubrication, and with the power ON. They depend on the pressure and the lubricant quality.

Weight

Item			4F4	4F5	4F6	4F7
Weight	kg	Single	1.01	1.26	1.92	3.46
		Double	1.29	1.58	2.26	3.78
	3-position		1.45	1.84	2.56	4.80

Flow characteristics

Model No.		Solenoid position	Port size	C[dm ³ /(s·bar)]	b	S (mm ²)
4F4	2-position	Single	Rc1/4, Rc3/8 NPT1/4, NPT3/8 G1/4, G3/8	5.0	0.21	-
		Double				
	3-position	All ports closed		4.7	0.24	
		A/B/R connection		5.3	0.29	
		P/A/B connection		5.3	0.29	
4F5	2-position	Single	Rc3/8, Rc1/2 NPT3/8, NPT1/2 G3/8, G1/2	10.0	0.32	-
		Double				
	3-position	All ports closed		9.7	0.28	
		A/B/R connection		9.8	0.25	
		P/A/B connection				
4F6	2-position	Single	Rc1/2, Rc3/4 NPT1/2, NPT3/4 G1/2, G3/4	18.0	0.31	-
		Double				
	3-position	All ports closed		15.0	0.23	
		A/B/R connection				
		P/A/B connection				
4F7	2-position	Single	Rc3/4, Rc1 NPT3/4, NPT1 G3/4, G1	-	-	160
		Double				
	3-position	All ports closed				
		A/B/R connection				
		P/A/B connection				

*1: Effective cross-sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

Drain separator
F.R.L. unit

Pneumatic auxiliary
components

Pneumatic
valves

Fluid control
valves

Pneumatic
cylinders

Related
products

Safety
precautions

4F4 to 7-W Series

How to order single valve/sub-plate piping

4F4 1 0 -08-M2 B W - AC100V

● Discrete solenoid valve Discrete

4F4 1 9 -00-M2 B W - AC100V

(4F4.5.6.7)

A Model No.

B Solenoid position

C Port size

D Manual override

E Electrical connections

⚠ Precautions for model No. selection

*1: Use of vacuum with external pilot (K), cylinder pressurizing and exhaust pressurizing, contact CKD separately. NPT and G thread cannot be selected. Manual override M3 cannot be selected.

*2: BL/GL DC12V is not supported.

*3: BL, The DC type of GL has a built-in surge suppressor.

*4: Contact CKD as WC outdoor specifications (low temperature environments) are made to order supported.

*5: The warranty period of option G is 3 years from the date of delivery or 1 year from initial use.

*6: For option G, the specifications and drawings must be agreed upon. Refer to page 101 for details.

F Other options

[Model No. example]

4F440-08-M2BW-AC100V

- A Model : 4F4
- B Solenoid position : 3-position A/B/R connection
- C Port size : Rc1/4
- D Manual override : Non-locking
- E Electrical connections : Round terminal box (G1/2)
- F Other options : No option
- G Voltage : 100 VAC

G Voltage

A Model No.

4F4 4F5 4F6 4F7

Code	Description	4F4	4F5	4F6	4F7
B Solenoid position					
1	2 position single	●	●	●	●
2	2-position double	●	●	●	●
3	3-position all ports closed	●	●	●	●
4	3-position A/B/R connection	●	●	●	●
5	3-position P/A/B connection	●	●	●	●

C Port size					
08	Rc1/4	●			
10	Rc3/8	●	●		
15	Rc1/2		●	●	
20	Rc3/4			●	●
25	Rc1				●
08N	NPT1/4	●			
10N	NPT3/8	●	●		
15N	NPT1/2		●	●	
20N	NPT3/4			●	●
25N	NPT1				●
08G	G1/4	●			
10G	G3/8	●	●		
15G	G1/2		●	●	
20G	G3/4			●	●
25G	G1				●
00	Solenoid valve Discrete for manifold (without adaptor)	●	●	●	●
D00	Solenoid valve Discrete for manifold (with adaptor)			●	
E00	Solenoid valve Discrete for manifold (with adaptor)				●

D Manual override					
Blank	Locking	●	●	●	●
M2	Non-locking	●	●	●	●
M3	Locking with manual lever	●	●	●	●

E Electrical connections					
B1	Round terminal box(G3/4)	●	●	●	●
B	Round terminal box(G1/2)	●	●	●	●
BL	Round terminal box(G1/2) with / lamp (*2)(*3)	●	●	●	●
G	Round terminal box Gland(A-15a)with	●	●	●	●
GL	Round terminal box Gland(A-15a)/ with lamp (*2)(*3)	●	●	●	●

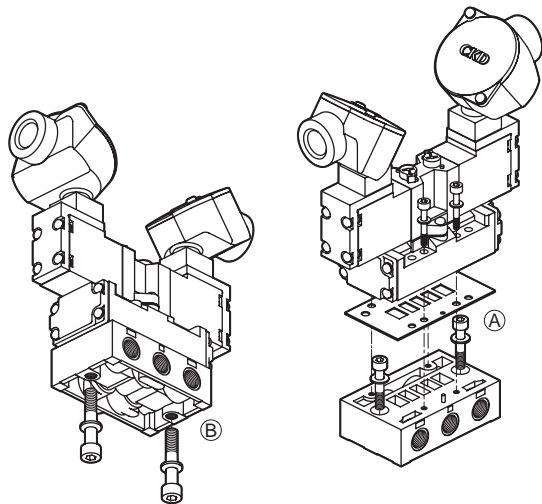
F Other options					
Blank	No option	●	●	●	●
K	External pilot (*1)	●	●	●	●
S	Surge suppressor included	●	●	●	●
H	(Check valve included)(3-position all ports closed only)	●	●	●	●
N	Plug included(for 3-port valve)	●	●	●	●
NC	3-way valve used plug assembly (C1(A).E1(R1)Assembly)	●	●	●	●
NO	3-way valve used plug assembly (C2(B).E2(R2)Assembly)	●	●	●	●
G	3-year warranty after delivery *5, *6 (with inspection certificate, inspection guidelines, traceability system diagram)	●	●	●	●

G Voltage					
AC100V	100 VAC 50/60 Hz	●	●	●	●
AC200V	200 VAC 50/60 Hz	●	●	●	●
DC12 V	12 VDC	●	●	●	●
DC24V	24 VDC	●	●	●	●
AC110V	110 VAC 50/60 Hz	●	●	●	●
AC220V	220 VAC 50/60 Hz	●	●	●	●

* Other made-to-order products					
48 VDC		●	●	●	●
100 VDC		●	●	●	●
110 VDC		●	●	●	●

4F4 to 7 Discrete installation method

● Mounting



	For B	For A
4F4	M8	M6
4F5	M8	M6
4F6	M10	M8
4F7	M12	M10

Drain separator
F.R.L. unit

Pneumatic auxiliary
components

Pneumatic
valves

Fluid control
valves

Pneumatic
cylinders

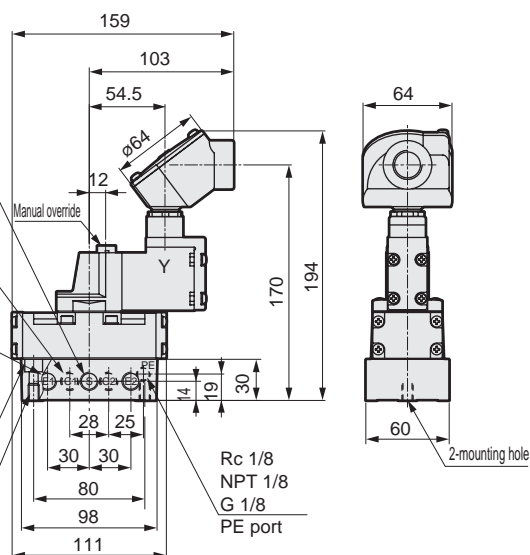
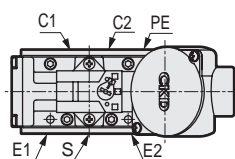
Related
products

Safety
precautions

Dimensions

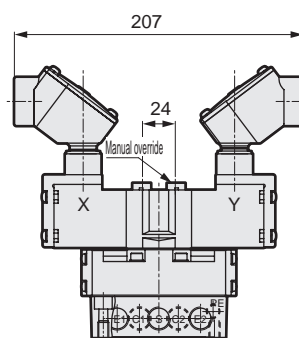
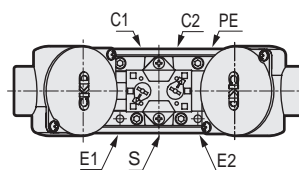
4F410

● 2-position single



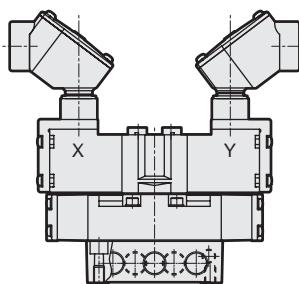
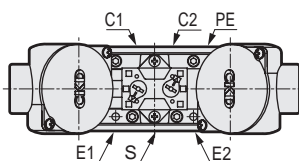
4F420

● 2-position double



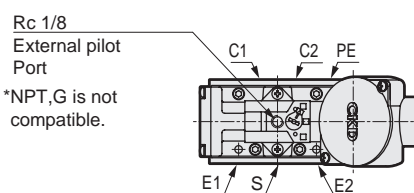
4F440

● 3-position

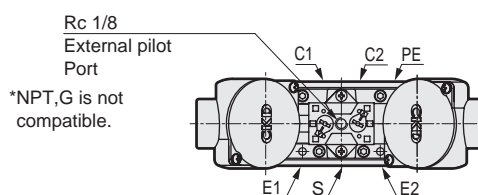


4F4

● External pilot (K)
• 2 position single



• 2-position double solenoid/3-position

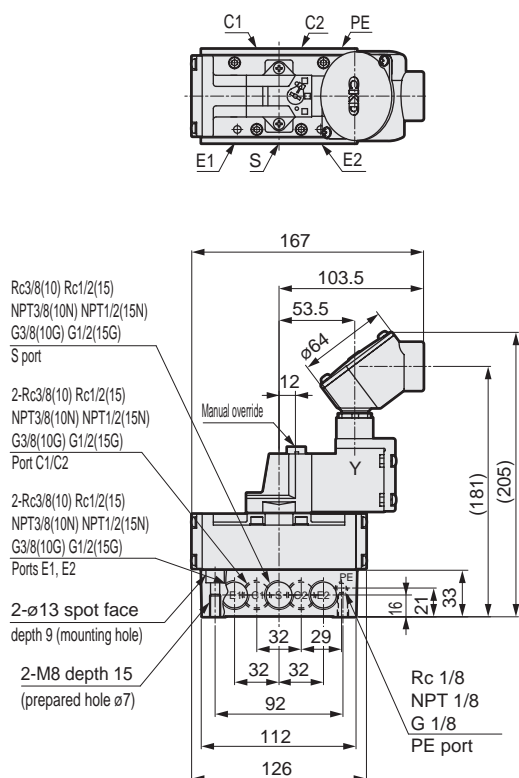


* Refer to "Pneumatic Valves (Catalog No.CB-023SA)" for check valves.

Dimensions

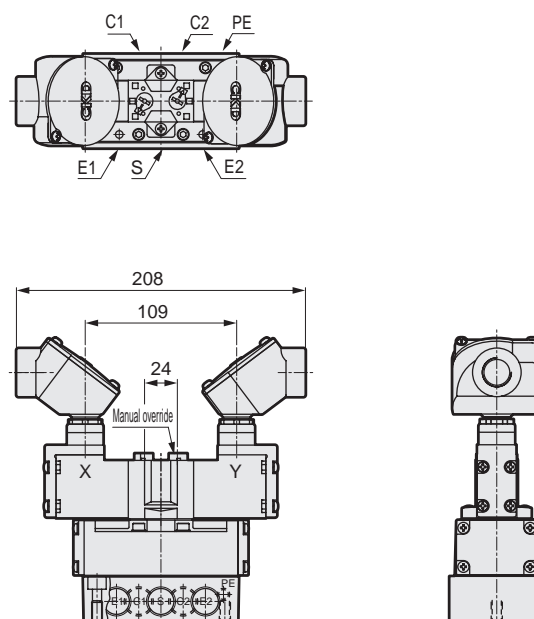
4F510

- 2-position single



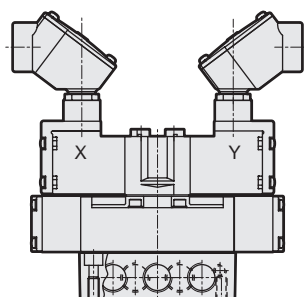
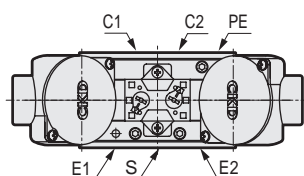
4F520

- 2-position double



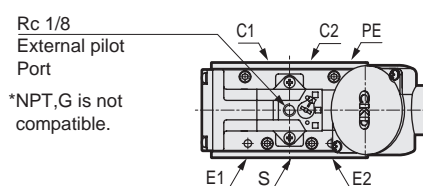
4F540

- 3-position

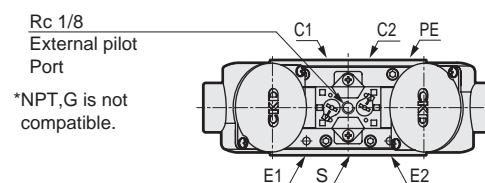


4F5

- External pilot (K)
- 2 position single



- 2-position double solenoid/3-position

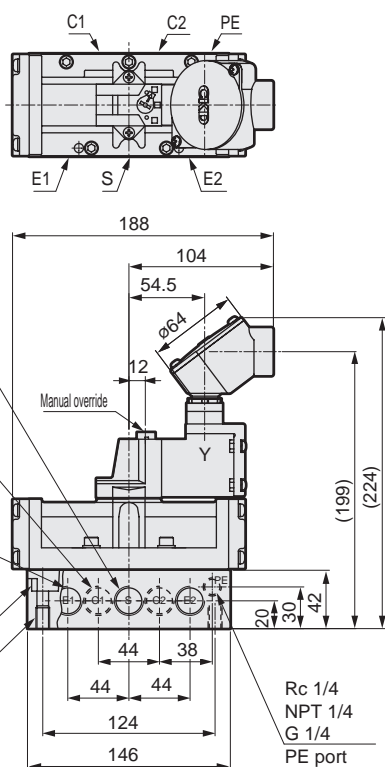


* Refer to "Pneumatic Valves (Catalog No.CB-023SA)" for check valves.

Dimensions

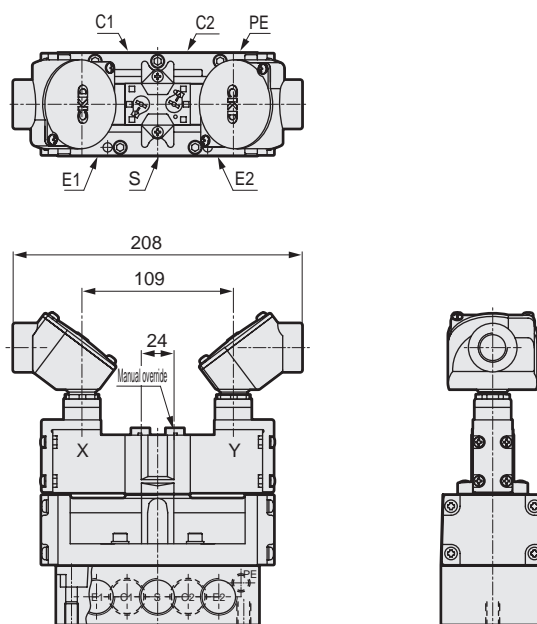
4F610

● 2-position single



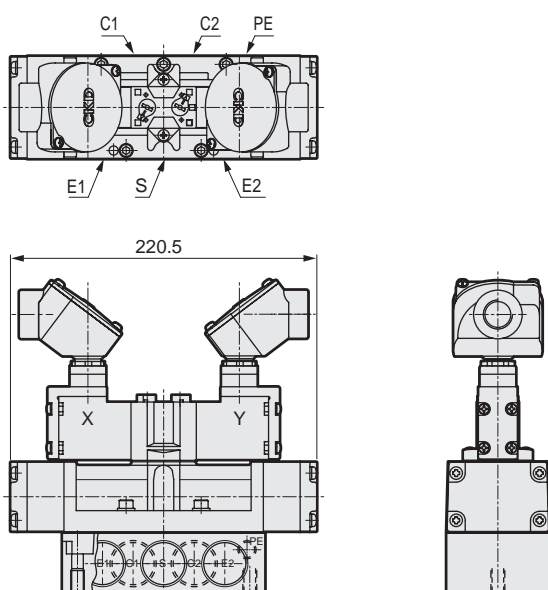
4F620

● 2-position double



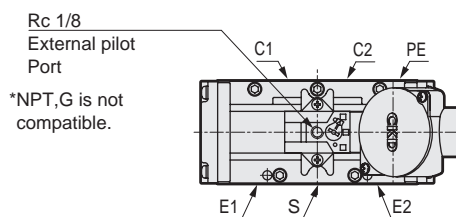
4F640

● 3-position

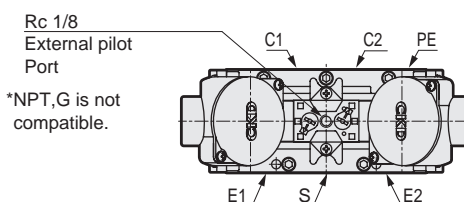


4F6

● External pilot (K)
• 2 position single



• 2-position double solenoid/3-position

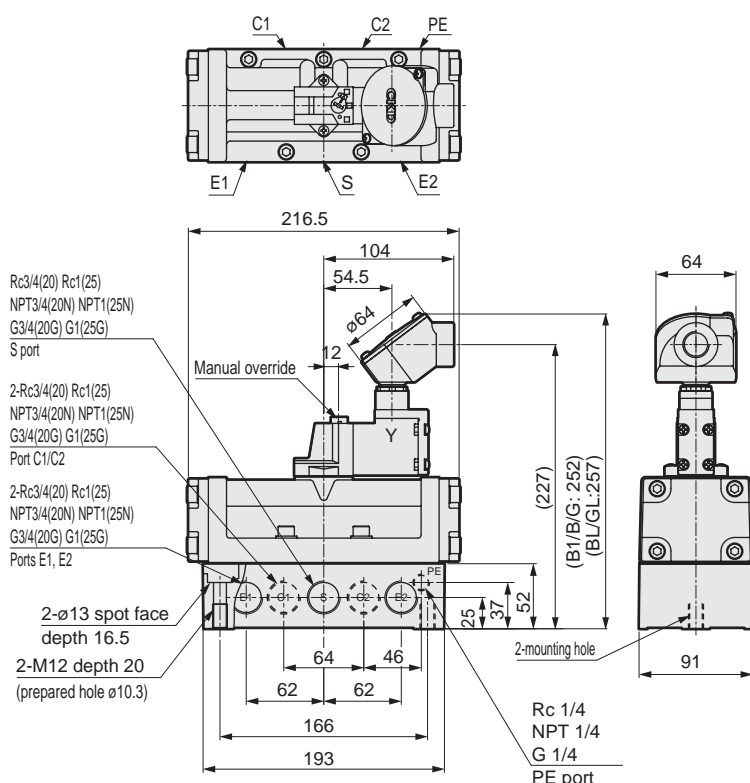


* Refer to "Pneumatic Valves (Catalog No.CB-023SA)" for check valves.

Dimensions

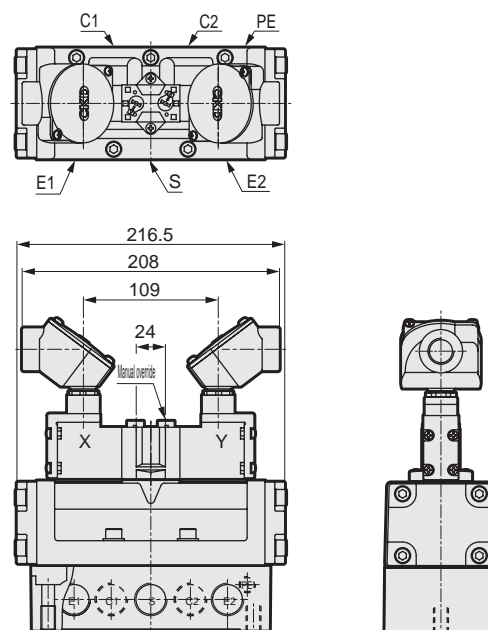
4F710

- 2-position single



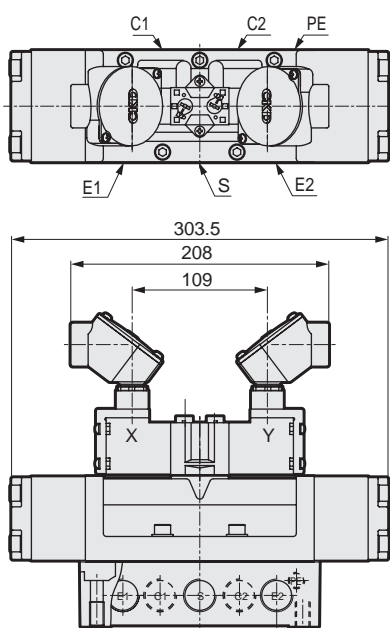
4F720

- 2-position double



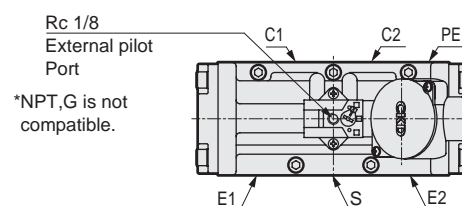
4F740

- 3-position

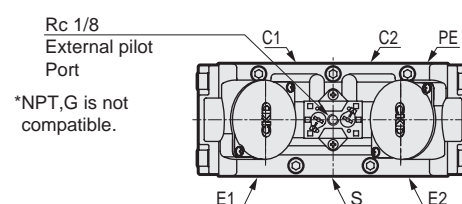


4F7

- External pilot (K)
- 2 position single



- 2-position double solenoid/3-position



* Refer to "Pneumatic Valves (Catalog No.CB-023SA)" for check valves.