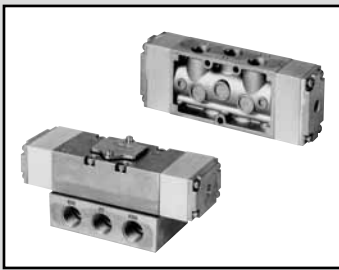


Master valve single unit/manifold
Pilot operated 5-port pneumatic valve

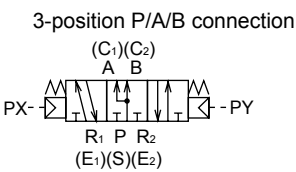
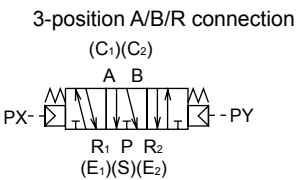
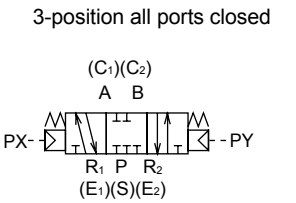
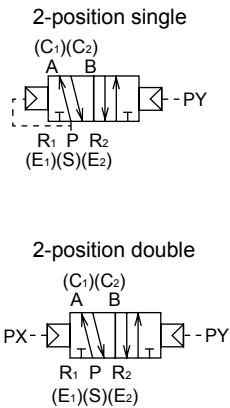
4F Series

● Cylinder bore size: $\phi 10$ to $\phi 250$



- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (mastr)
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
MN4E
- W4GA/B2
- W4GB4
- 4TB
- 4L2-4/
LMF0
- MN3S0
MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (mastr)
- 4F**
- 4F (mastr)
- PV5G
GMF
- PV5
GMF
- PV5S-0
- 3QR
3QB
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP/
NVP
- 4F*0EX
- 4F*0E
- HMV
HSV
- 2QV
3QV
- SKH
- PCD
- Silencer
- TotAirSys
(Total Air)
- TotAirSys
(Gamma)
- Ending

● JIS symbol



Common specifications

Descriptions	Content
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)
Min. working pressure MPa	Refer to main pressure section in the table below
Ambient temperature °C (*1)	-10 (14°F) to 60 (140°F) (no freezing)
Fluid temperature °C	5 (41°F) to 60 (140°F)
Lubrication	Not required (use turbine oil ISO VG32 if lubrication is necessary)
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.

Individual specifications (single valve/manifold) 1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Position No. of solenoids	Specifications												
	2-position single	2-position double	3-position all ports closed	3-position A/B/R connection	3-position P/A/B connection	*1 Port size							
						Air supply port S	Cylinder port C	Exhaust port E Pilot exhaust port PE	Pilot port	Main pressure MPa	Pilot signal pressure MPa		
●	●	●	●	●	●	4F0 Series	A4F011	M5, Rp 1/8	M5, Rp 1/8	M5	Rc 1/8	0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
							4F021					0 to 1.0	P ≥ 0.15
●	●	●	●	●	●	4F1 Series	4F111					0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
							4F121	Rp 1/8	Rp 1/8	Rp 1/8	Rc 1/8	0 to 1.0	P ≥ 0.15
●	●	●	●	●	●	4F2 Series	4F131	Rp 1/4	Rp 1/4			0 to 1.0	P ≥ 0.2
							4F141						
●	●	●	●	●	●	4F2 Series	4F211					0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
							4F221	Rp 1/4	Rp 1/4	E:Rp 1/4 PE:Rp 1/8	Rc 1/8	0 to 1.0	P ≥ 0.15
●	●	●	●	●	●	4F2 Series	4F231					0 to 1.0	P ≥ 0.2
							4F241						
●	●	●	●	●	●	4F3 Series	4F311					0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
							4F321	Rp 1/4	Rp 1/4	E:Rp 1/4 Rp 3/8	Rc 1/8	0 to 1.0	P ≥ 0.15
●	●	●	●	●	●	4F3 Series	4F331	Rp 3/8	Rp 3/8	PE:Rp 1/8		0 to 1.0	P ≥ 0.2
							4F341						
●	●	●	●	●	●	4F3 Series	4F351					0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
							4F411						
●	●	●	●	●	●	4F4 Series	4F421	Rc 1/4	Rc 1/4	E:Rc 1/4 Rc 3/8	Rc 1/8	0.15 to 1.0	P ≥ 0.15
							4F431	Rc 3/8	Rc 3/8	PE:Rc 1/8		0 to 1.0	P ≥ 0.2
●	●	●	●	●	●	4F4 Series	4F441					0 to 1.0	P ≥ 0.2
							4F451						
●	●	●	●	●	●	4F5 Series	4F511					0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
							4F521	Rc3/8	Rc3/8	E:Rc 3/8 Rc 1/2	Rc 1/8	0 to 1.0	P ≥ 0.15
●	●	●	●	●	●	4F5 Series	4F531	Rc1/2	Rc1/2	PE:Rc 1/8		0 to 1.0	P ≥ 0.2
							4F541						
●	●	●	●	●	●	4F5 Series	4F551					0 to 1.0	P ≥ 0.2
							4F611						
●	●	●	●	●	●	4F6 Series	4F621	Rc1/2	Rc1/2	E:Rc 1/2 Rc 3/4	Rc 1/8	0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
							4F631	Rc3/4	Rc3/4	PE:Rc 1/4		0 to 1.0	P ≥ 0.15
●	●	●	●	●	●	4F6 Series	4F641					0 to 1.0	P ≥ 0.2
							4F651						
●	●	●	●	●	●	4F7 Series	4F711					0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
							4F721	Rc3/4	Rc3/4	E:Rc 3/4 Rc 1	Rc 1/8	0 to 1.0	P ≥ 0.15
●	●	●	●	●	●	4F7 Series	4F731	Rc1	Rc1	PE:Rc 1/4		0 to 1.0	P ≥ 0.2
							4F741						
●	●	●	●	●	●	4F7 Series	4F751					0 to 1.0	P ≥ 0.2
							4F751						

*1: There are options available for port size other than those in the above table. Refer to the model No. display on page 1422.

Flow characteristics

Series	Model No.	Port size	C[dm ³ /(s·bar)]	b	S(mm ²)		
4F0	A4F011	M5	0.61	0.35	-		
	4F021						
	A4F011	Rp1/8	0.74	0.27	-		
	4F021						
4F1	4F111	Rp1/8	2.0	0.33	-		
	4F121						
	4F131	Rp1/4	1.5	0.31			
	4F141		1.6	0.29			
4F2	4F211	Rp1/4	3.0	0.33	-		
	4F221						
	4F231		2.5	0.43			
	4F241						
4F3	4F311	Rp1/4	3.9	0.42	-		
	4F321						
	4F331					4.0	0.35
	4F341						
	4F351	Rp3/8	4.0	0.35			
	4F311					5.8	0.30
	4F321						
	4F331					4.4	0.42
	4F341						
	4F351					5.1	0.46
4F351	4.4	0.42					
4F4	4F411	Rc1/4 Rc3/8	5.0	0.21	-		
	4F421						
	4F431					4.7	0.24
	4F441						
	4F451					5.3	0.29
4F5	4F511	Rc3/8 Rc1/2	10.0	0.32	-		
	4F521						
	4F531					9.7	0.28
	4F541						
	4F551					9.8	0.25
4F6	4F611	Rc1/2 Rc3/4	18.0	0.31	-		
	4F621						
	4F631					15.0	0.23
	4F641						
	4F651						
4F711	Rc3/4 Rc1	-	-	160			
4F721							
4F731							
4F741							
4F751							

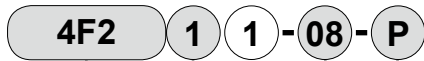
*1: Effective cross-sectional area "S" and sonic conductance "C" are converted as $S \approx 5.0 \times C$.

4GA/B
M4GA/B
MN4GA/B
4GA/B (mastr)
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
4TB
4L2-4/ LMF0
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (mastr)
4F
4F (mastr)
PV5G GMF
PV5 GMF
PV5S-0
3QR 3QB
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
PCD
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

4F Series

Master valve; single unit manifold

How to order single valve/body piping



- A** Model No.
- B** Solenoid position
- C** Port size
- D** Option

[Example of model No.]

4F111-06-P

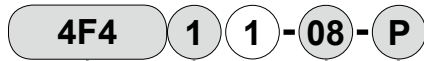
- A** Model : 4F1
- B** Solenoid position : 2-position single
- C** Port size : Rp1/8
- D** Option : with P type installation feet

*1: With the single type, (A) is A4F011.

A Model No.
Body piping

Code	Content	*1 A4F0	4F1	4F2	4F3
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					
M5	M5	●			
06	Rp1/8	●	●		
08	Rp1/4		●	●	●
10	Rp3/8				●
D Option					
Blank	None	●	●	●	●
P	Installation feet (for 2-position single)	●	●	●	●
P1	Installation feet	●	●	●	●
N	Plug attached (for 3-port valve)	●	●	●	●
H	Check valve attached (only for 3-position all ports closed)			●	●
NC	3-way valve used plug assembly (C1 (A), E1 (R1) assembly)	●	●	●	●
NO	3-way valve used plug assembly (C2(B), E2(R2) assembly)	●	●	●	●

How to order single valve/sub-plate piping



- A** Model No.
- B** Solenoid position
- C** Port size
- D** Option

[Example of model No.]

4F411-08-P

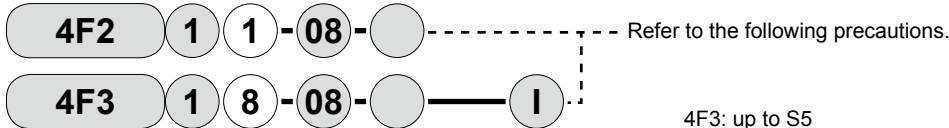
- A** Model : 4F4
- B** Solenoid position : 2-position single
- C** Port size : Rp1/4
- D** Option : with P type installation feet

A Model No.
Sub-plate piping

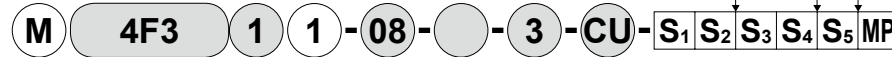
Code	Content	4F4	4F5	4F6	4F7
B Solenoid position					
1	2-position single	●	●	●	●
2	2-position double	●	●	●	●
3	3-position all ports closed	●	●	●	●
4	3-position A/B/R connection	●	●	●	●
5	3-position P/A/B connection	●	●	●	●
C Port size					
08	Rc1/4	●			
10	Rc3/8	●	●		
15	Rc1/2		●	●	
20	Rc3/4			●	●
25	Rc1				●
D Option					
Blank	None	●	●	●	●
P	Installation feet	●	●	●	●
N	Plug attached (for 3-port valve)	●	●	●	●
H	Check valve attached (for 3-position all ports closed)	●	●	●	●
NC	3-way valve used plug assembly (C1 (A), E1 (R1) assembly)	●	●	●	●
NO	3-way valve used plug assembly (C2(B), E2(R2) assembly)	●	●	●	●

How to order manifold/body piping

● Master valve for manifold



● Manifold



Indicate the valve function based quantity display position when using a mix manifold. Refer to page 1380.

A Model No.

B Solenoid position

C Port size

D Other options

E Station No.

F Exhaust installation method

⚠ Precautions for model No. selection

Separate use of the single master valves for manifolds as listed below depending on the model.

■ For 4F0 to 4F1



When using the unit as a repair item, separately also purchase the gasket kit listed below depending on the model.

- M4F0-GASKET-KIT
- M4F1-GASKET-KIT
- M4F1-I-GASKET-KIT

■ For 4F2 / 4F3

Exhaust installation method CL, CU, IL, IU

* Installed on the manifold.



When using the unit as a repair item, separately also purchase the gasket kit listed below depending on the model.

- M4F2-GASKET-KIT
- M4F3-GASKET-KIT

■ When the exhaust installation method is C or I

* Connect the body.



(However, when item **E** is C: blank, when I: write I)

The gasket kit is attached.

*1: With the single type, (A) is A4F011.

[Example of model No.]

M4F341-08-NO-5-C

- A** Model : M4F3
- B** Solenoid position : 3-position A/B/R connection
- C** Port size : Rp1/4
- D** Other options : 3-way valve used plug assembly (C2:B, E2:R2)
- E** Station No. : 5 stations
- F** Exhaust installation method : Common exhaust

Code		Content		A Model No.				
				Body piping				
				1	A4F0	4F1	4F2	4F3
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							●
8	Mix manifold			●	●	●	●	●
C Port size								
M5	M5			●				
06	Rp1/8			●	●			
08	Rp1/4					●	●	●
10	Rp3/8							●
D Other options								
Blank	No option			●	●	●	●	●
NC	3-way valve used plug assembly (C1 (A), E1 (R1) assembly)			●	●	●	●	●
NO	3-way valve used plug assembly (C2(B), E2(R2) assembly)			●	●	●	●	●
E Station No.								
2	2 stations							
to	to			●	●	●	●	●
10	10 stations							
F Exhaust installation method								
CL	Common exhaust/with L bracket (for 2-position single)			●	●	●	●	●
CU	Common exhaust/with U bracket			●	●	●	●	●
IL	Individual exhaust/with L bracket (for 2-position single)			●	●	●	●	●
IU	Individual exhaust/with U bracket			●	●	●	●	●
C	Common exhaust					●	●	●
I	Individual exhaust					●	●	●

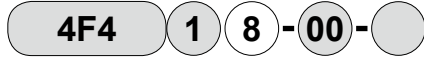
- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (mastr)
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- 4TB
- 4L2-4/LMF0
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (mastr)
- 4F
- 4F (mastr)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3QR
- 3QB
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP/NVP
- 4F*0EX
- 4F*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- PCD
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

4F Series

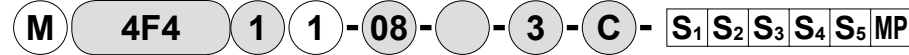
Master valve; single unit manifold

How to order manifold/sub-plate piping

● Master valve for manifold



● Manifold



Indicate the valve function based quantity display position when using a mix manifold. Refer to page 1407.

A Model No.

B Solenoid position

C Port size

D Other options

E Station No.

F Exhaust installation method

A Model No.
Sub-plate piping

	4F4	4F5	4F6	4F7
--	-----	-----	-----	-----

Code	Content	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	●	●	●	●
8	Mix manifold	●	●	●	●
C Port size					
08	Rc1/4	●			
10	Rc3/8		●		
D15	Rc1/2			●	
E20	Rc3/4				●
D Other options					
Blank	No option	●	●	●	●
NC	3-way valve used plug assembly (C1 (A), E1 (R1) assembly)	●	●	●	●
NO	3-way valve used plug assembly (C2(B), E2(R2) assembly)	●	●	●	●
E Station No.					
2	2 stations	●	●	●	●
to	to				
10	10 stations				
F Exhaust installation method					
C	Common exhaust	●	●	●	●

[Example of model No.]

M4F441-08-NC-5-C

- A** Model : M4F4
- B** Solenoid position : 3-position A/B/R connection
- C** Port size : Rp1/4
- D** Other options : 3-way valve used plug assembly (C1:A, E1:R1)
- E** Station No. : 5 stations
- F** Exhaust installation method : Common exhaust

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (mastr)
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- 4TB
- 4L2-4/LMF0
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (mastr)
- 4F**
- 4F (mastr)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3QR
- 3QB
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP/NVP
- 4F*0EX
- 4F*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- PCD
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

MEMO

4GA/B
M4GA/B
MN4GA/B
4GA/B (mastr)
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
4TB
4L2-4/ LMF0
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (mastr)
4F
4F (mastr)
PV5G GMF
PV5 GMF
PV5S-0
3QR 3QB
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
PCD
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

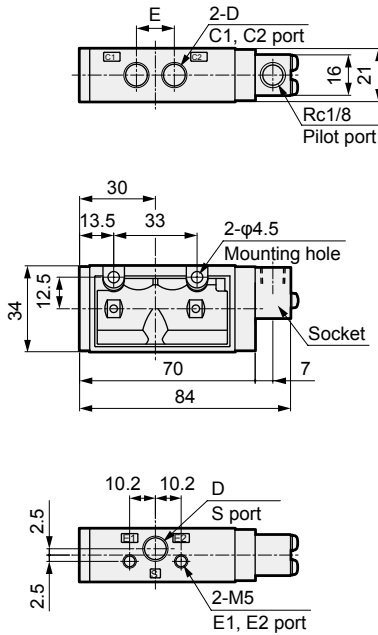
4F0 to 4F1 Series

Master valve; body piping

Dimensions

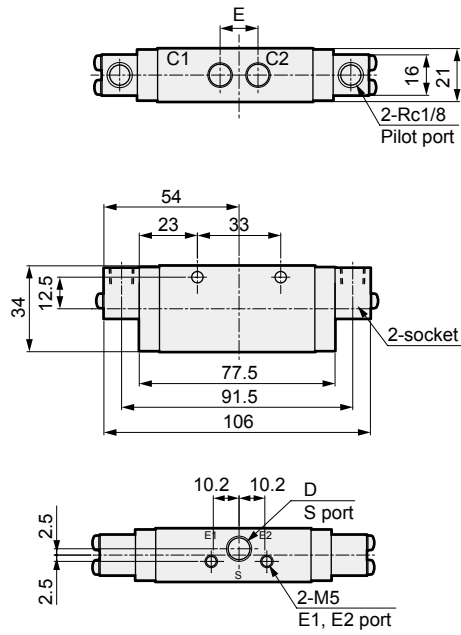
4A4F011

● 2-position single



4F021

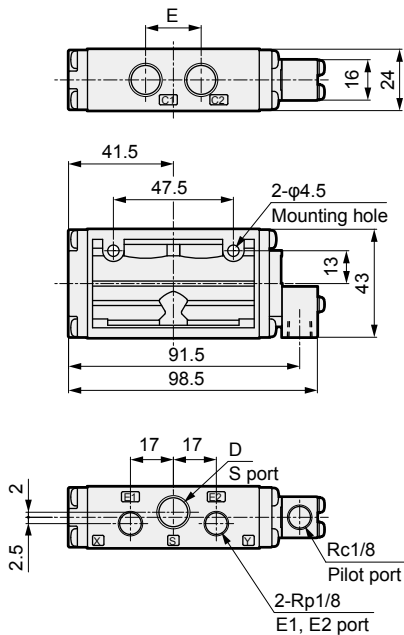
● 2-position double



Code	D	E
Bore size		
M5	M5×0.8	10.4
06	Rp1/8	15

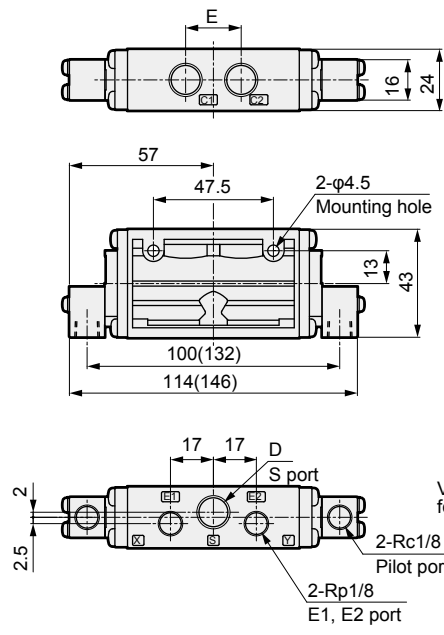
4F111

● 2-position single



4F121/4F131/4F141

● 2-position double solenoid, 3-position all ports closed, A/B/R connection



Values in () are dimensions for 3-position valves.

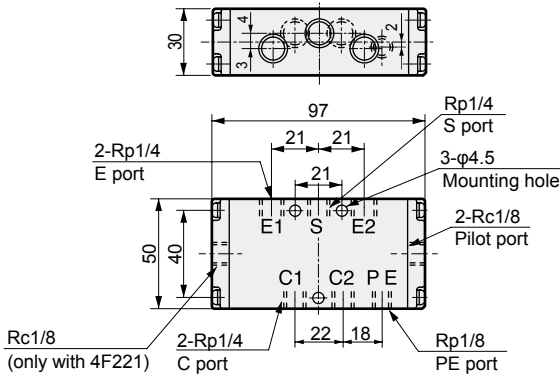
Code	D	E
Bore size		
06	Rp1/8	20
08	Rp1/4	22

* Refer to pages 1350 and 1352 for type with mounting plate (P, P1).

Dimensions

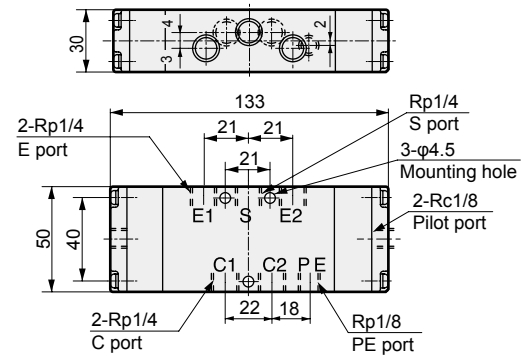
4F211/4F221

- 2-position single, double



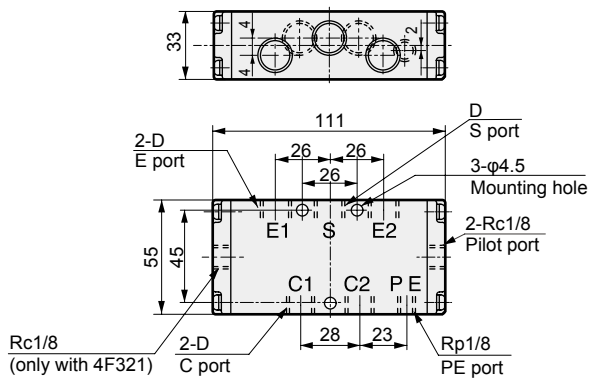
4F231/4F241

- 3-position all ports closed, A/B/R connection



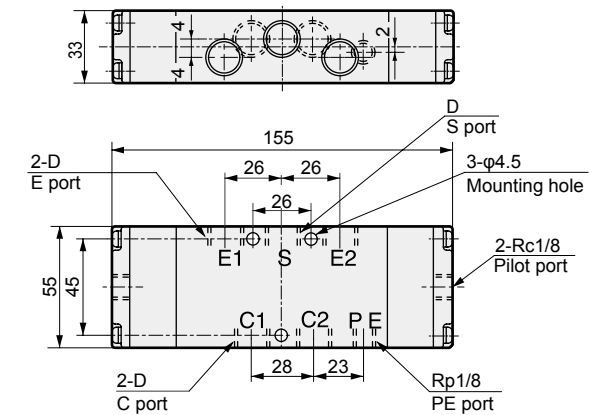
4F311/4F321

- 2-position single, double



4F331/4F341/4F351

- 3-position all ports closed, A/B/R connection



Code	D
08	Rp1/4
10	Rp3/8

* Refer to pages 1354 and 1356 for type with mounting plate (P).

4GA/B
M4GA/B
MN4GA/B
4GA/B (mastr)
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E
MN4E
W4GA/B2
W4GB4
4TB
4L2-4/LMF0
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (mastr)
4F
4F (mastr)
PV5G
GMF
PV5
GMF
PV5S-0
3QR
3QB
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

4F4 to 4F5 Series

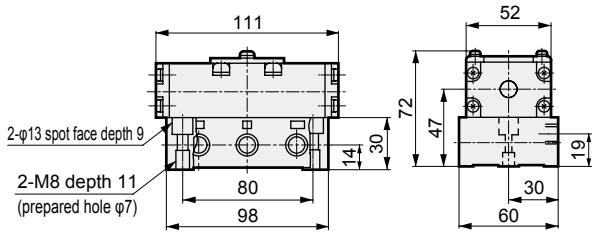
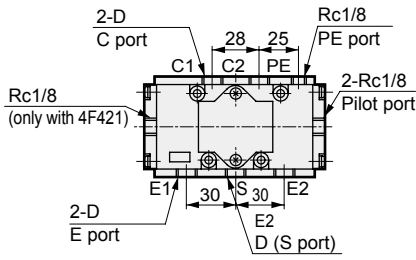
Master valve; sub-plate piping

Dimensions

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (mastr)
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- 4TB
- 4L2-4/LMF0
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (mastr)
- 4F**
- 4F (mastr)**
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3QR
- 3QB
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP/NVP
- 4F*0EX
- 4F*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- PCD
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

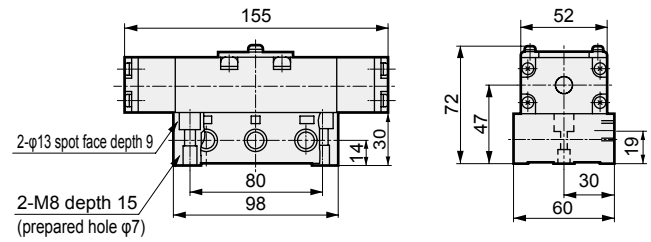
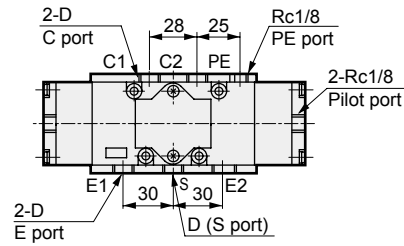
4F411/4F421

● 2-position single



4F431/4F441/4F451

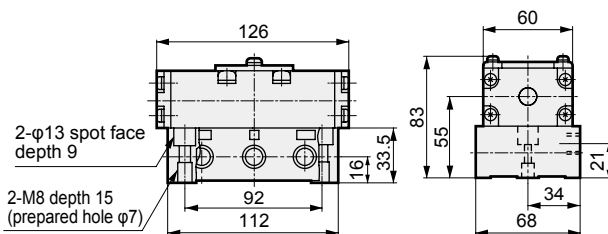
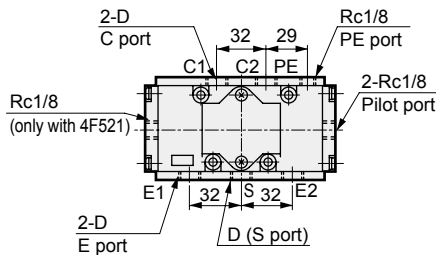
● 3-position all ports closed, A/B/R connection



Code	D
08	Rc1/4
10	Rc3/8

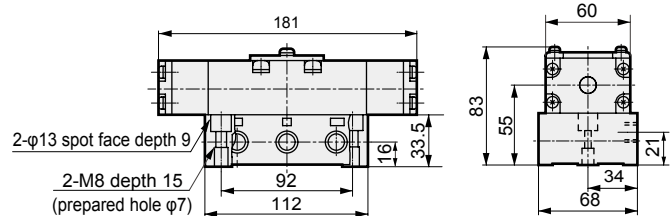
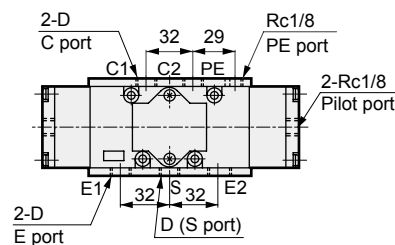
4F511/4F521

● 2-position single, double



4F531/4F541/4F551

● 3-position all ports closed, A/B/R connection



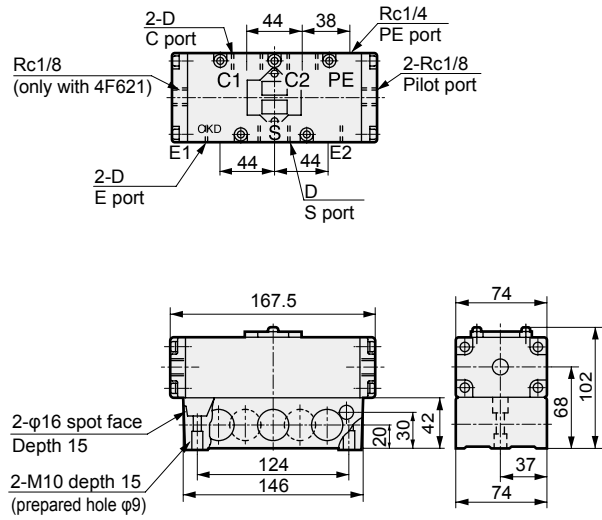
Code	D
10	Rc3/8
15	Rc1/2

* Refer to pages 1364 and 1366 for type with mounting plate (P).

Dimensions

4F611/4F621

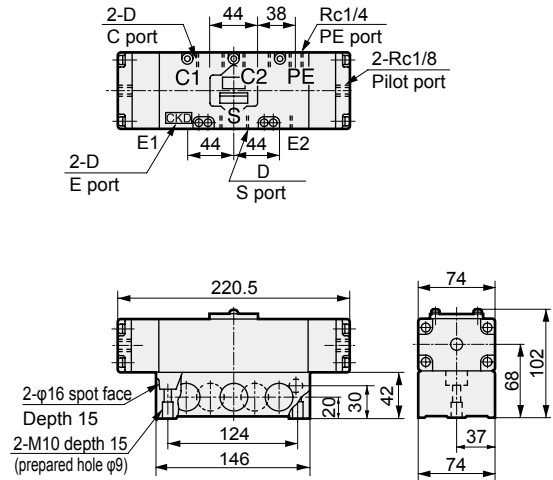
- 2-position single, double



Code	D
Bore size	
15	Rc1/2
20	Rc3/4

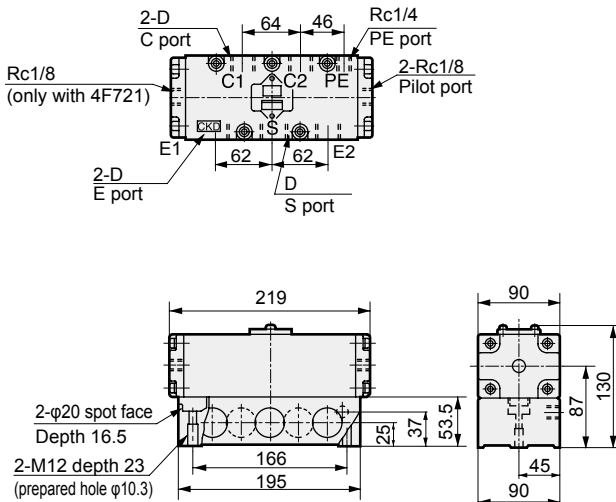
4F631/4F641/4F651

- 3-position all ports closed, A/B/R connection



4F711/4F721

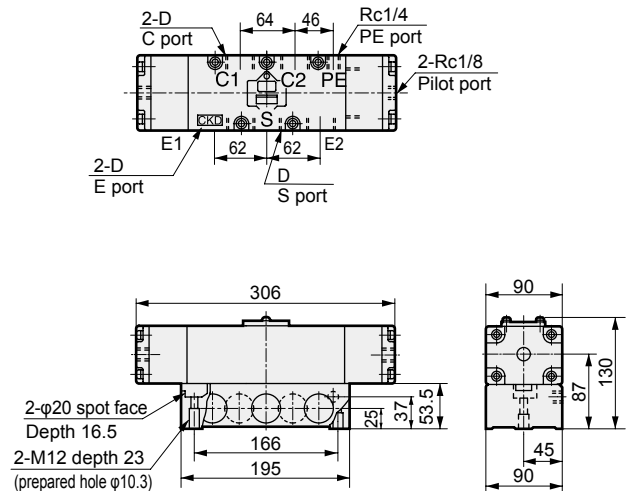
- 2-position single, double



Code	D
Bore size	
20	Rc3/4
25	Rc1

4F731/4F741/4F751

- 3-position all ports closed, A/B/R connection



* Refer to pages 1368 and 1370 for type with mounting plate (P).

4GA/B
M4GA/B
MN4GA/B
4GA/B (mastr)
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E
MN4E
W4GA/B2
W4GB4
4TB
4L2-4/LMF0
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (mastr)
4F
4F (mastr)
PV5G
GMF
PV5
GMF
PV5S-0
3QR
3QB
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending