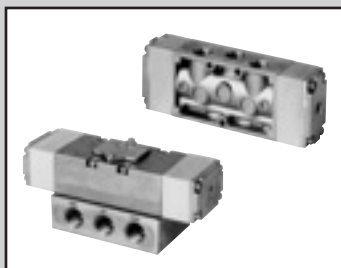


4GA/B
M4GA/B
MN4GA/B
4GA/B
(master)
4GB
With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B
(master)
4F
4F
(master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys
(Total Air)
TotAirSys
(Gamma)
Ending



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

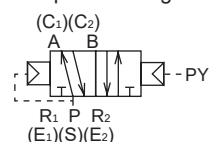
4F Series

● Cylinder bore size: ø10 to ø250

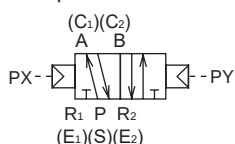
RoHS

● JIS symbol

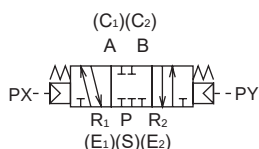
2-position single



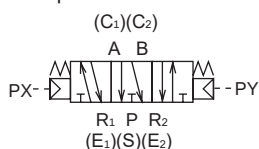
2-position double



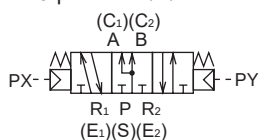
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



Common specifications

Item	Description
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 (discrete 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	Model No.	*1 Port size				Main pressure MPa	Pilot signal pressure MPa
						Air supply port S	Cylinder port C	Exhaust port E Pilot exhaust port PE	Pilot port		
●					4F0 Series	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
	●									0 to 1.0	P ≥ 0.15
		●			4F1 Series	Rp 1/8 Rp 1/4	Rp 1/8 Rp 1/4	Rp 1/8	Rc 1/8	0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
			●							0 to 1.0	P ≥ 0.15
				●						0 to 1.0	P ≥ 0.2
●										0 to 1.0	P ≥ 0.2
	●				4F2 Series	Rp 1/4	Rp 1/4	E:Rp 1/4 PE:Rp 1/8	Rc 1/8	0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
		●								0 to 1.0	P ≥ 0.15
			●							0 to 1.0	P ≥ 0.2
●				●						0 to 1.0	P ≥ 0.2
	●				4F3 Series	Rp 1/4 Rp 3/8	Rp 1/4 Rp 3/8	E:Rp 1/4 Rp 3/8 PE:Rp 1/8	Rc 1/8	0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
		●								0 to 1.0	P ≥ 0.15
			●							0 to 1.0	P ≥ 0.2
●				●						0 to 1.0	P ≥ 0.2
	●				4F4 Series	Rc 1/4 Rc 3/8	Rc 1/4 Rc 3/8	E:Rc 1/4 Rc 3/8 PE:Rc 1/8	Rc 1/8	0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
		●								0 to 1.0	P ≥ 0.15
			●							0 to 1.0	P ≥ 0.2
●				●						0 to 1.0	P ≥ 0.2
	●				4F5 Series	Rc3/8 Rc1/2	Rc3/8 Rc1/2	E:Rc 3/8 Rc 1/2 PE:Rc 1/8	Rc 1/8	0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
		●								0 to 1.0	P ≥ 0.15
			●							0 to 1.0	P ≥ 0.2
●				●						0 to 1.0	P ≥ 0.2
	●				4F6 Series	Rc1/2 Rc3/4	Rc1/2 Rc3/4	E:Rc 1/2 Rc 3/4 PE:Rc 1/4	Rc 1/8	0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
		●								0 to 1.0	P ≥ 0.15
			●							0 to 1.0	P ≥ 0.2
●				●						0 to 1.0	P ≥ 0.2
	●				4F7 Series	Rc3/4 Rc1	Rc3/4 Rc1	E:Rc 3/4 Rc1 PE:Rc 1/4	Rc 1/8	0.15 to 1.0	P ≥ 0.6 x main pressure + 0.06
		●								0 to 1.0	P ≥ 0.15
			●							0 to 1.0	P ≥ 0.2
●				●						0 to 1.0	P ≥ 0.2

*1: There are options available for port size other than those in the above table. Refer to the model No. display on page 1456.

Flow characteristics

Series	Model No.	Port size	C[dm³/(s·bar)]	b	S(mm²)	
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		4.5	0.42		
	4F351		4.0	0.35		
	4F311	Rp3/8	5.8	0.30	-	
	4F321					
	4F331		4.4	0.42		
	4F341		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		5.3	0.29		
	4F451		5.3	0.29		
4F5	4F511	Rc3/8 Rc1/2	10.0	0.32	-	
	4F521					
	4F531		9.7	0.28		
	4F541		9.8	0.25		
	4F551					
4F6	4F611	Rc1/2 Rc3/4	18.0	0.31	-	
	4F621					
	4F631		15.0	0.23		
	4F641					
	4F651					
4F7	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 (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

4F Series

Master valve; single unit manifold

How to order single valve/body piping

4F2 **1** **1** - **08** - **P**

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) will be A4F011.

A Model No.

Body piping

A4F011 4F1 4F2 4F3

Code	Description	A4F011	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	Rp 1/8	●	●		
08	Rp 1/4		●	●	●
10	Rp 3/8				●
06N	NPT 1/8		●		
08N	NPT 1/4		●	●	●
10N	NPT 3/8				●
06G	G 1/8		●		
08G	G 1/4		●	●	●
10G	G 3/8				●
D Option					
Blank	No	●	●	●	●
P	Installation feet (for 2-position single)	●	●	●	●
P1	Installation feet	●	●	●	●
N	Plug included (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

4F4 **1** **1** - **08** - **P**

A Model No.

B Solenoid position

C Port size

D Option

[Model No. example]

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.

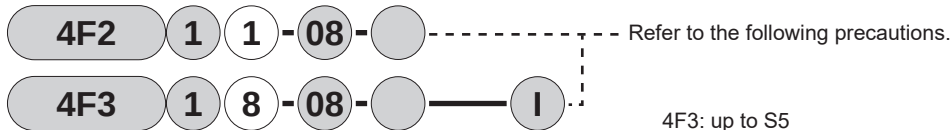
Sub-plate piping

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	Rc 1/4	●			
10	Rc 3/8	●	●		
15	Rc 1/2		●	●	
20	Rc 3/4			●	●
25	Rc 1				●
08N	NPT 1/4	●			
10N	NPT 3/8	●	●		
15N	NPT 1/2		●	●	
20N	NPT 3/4			●	●
25N	NPT 1				●
08G	G 1/4	●			
10G	G 3/8	●	●		
15G	G 1/2		●	●	
20G	G 3/4			●	●
25G	G 1				●
D Option					
Blank	No	●	●	●	●
P	Installation feet	●	●	●	●
N	Plug included (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



For mix manifolds, create a manifold specifications sheet (pages 1448 and 1449).

A Model No.

B Solenoid position

C Port size

! Precautions for model No. selection

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

■ When 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

■ When 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 (F) is C: blank, when I: write I)

The gasket kit is attached.

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

D Other options

E Station No.

F Exhaust installation method

Code	Description	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	Rp 1/8	●	●		
08	Rp 1/4		●	●	●
10	Rp 3/8				●
06N	NPT 1/8		●		
08N	NPT 1/4		●	●	●
10N	NPT 3/8				●
06G	G 1/8		●		
08G	G 1/4		●	●	●
10G	G 3/8				●
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		●	●	●

[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

4GA/B

M4GA/B

MN4GA/B

4GA/B (master)

4GB With sensor

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

MN3E

MN4E

W4GA/B2

W4GB4

MN3S0

MN4S0

4SA/B0

4KA/B

4KA/B (master)

4F

4F (master)

PV5G

GMF

PV5

GMF

PV5S-0

3Q

MV3QR

3MA/B0

3PA/B

P/M/B

NP/INAP

N/P

4C*0EJ

4F*0EX

4F*0E

HMV

HSV

2QV

3QV

SKH

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

4F4 1 8 - 00 -

● Manifold

M 4F4 1 1 - 08 - 3 - C - S₁ S₂ S₃ S₄ S₅ MP

For mix manifolds, create a manifold specifications sheet (pages 1450 and 1451).

A Model No.

B Solenoid position

C Port size

D Other options

E Station No.

F Exhaust installation method

[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

A Model No.
Sub-plate piping

Code	Description	4	4	4	4
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	Rc 1/4	●			
10	Rc 3/8		●		
D15	Rc 1/2			●	
E20	Rc 3/4				●
08N	NPT 1/4	●			
10N	NPT 3/8		●		
D15N	NPT 1/2			●	
E20N	NPT 3/4				●
08G	G 1/4	●			
10G	G 3/8		●		
D15G	G 1/2			●	
E20G	G 3/4				●
D Other options					
Blank	No option	●	●	●	●
NC	3-way valve used plug assembly (C1(A).E1(R 1)Assembly)	●	●	●	●
NO	3-way valve used plug assembly (C2(B).E2(R 2)Assembly)	●	●	●	●
E Station No.					
2	2 stations	●	●	●	●
to	to				
10	10 stations				
F Exhaust installation method					
C	Common exhaust	●	●	●	●

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

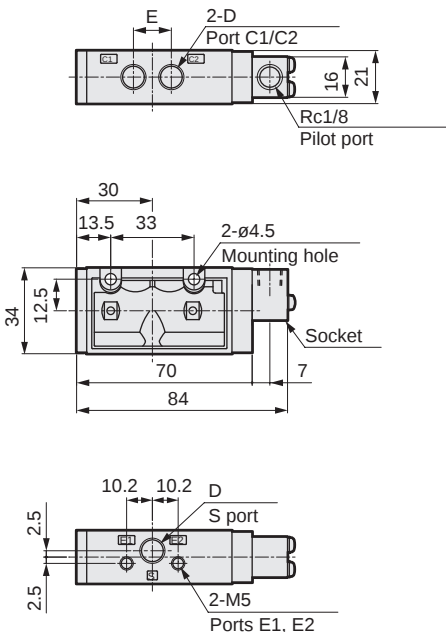
4F0 to 4F1 Series

Master valve; body piping

Dimensions

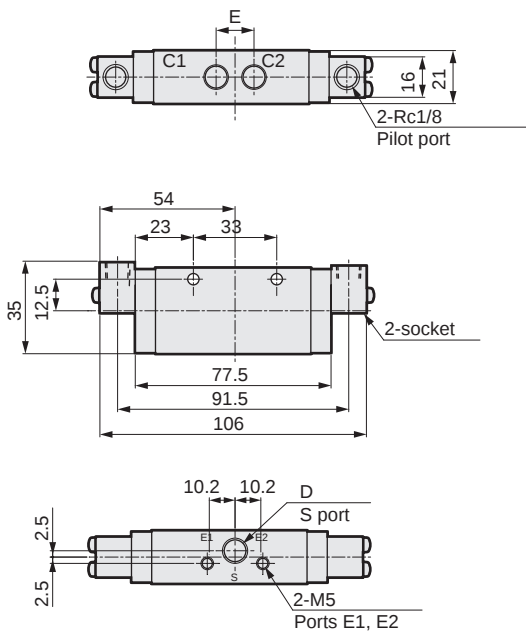
A4F011

● 2-position single



4F021

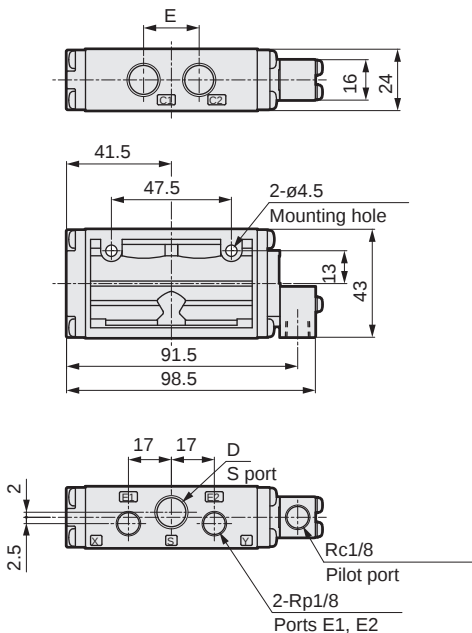
● 2-position double



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

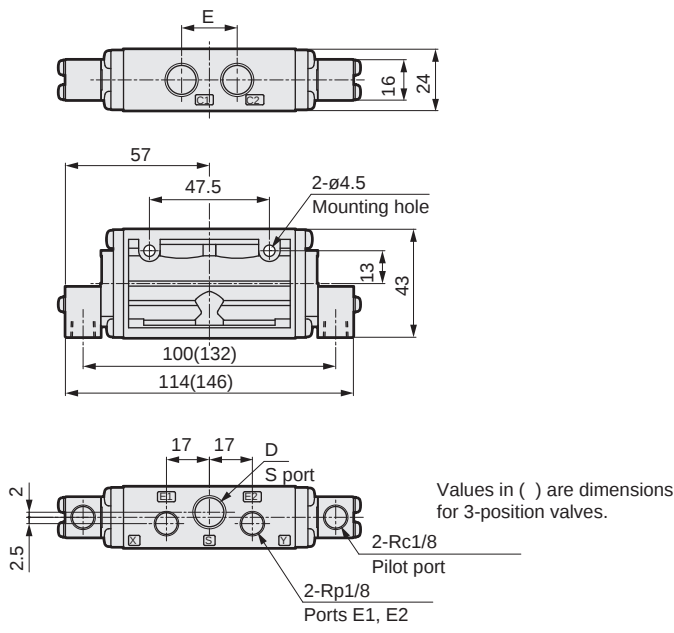
4F111

● 2-position single



4F121/4F131/4F141

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



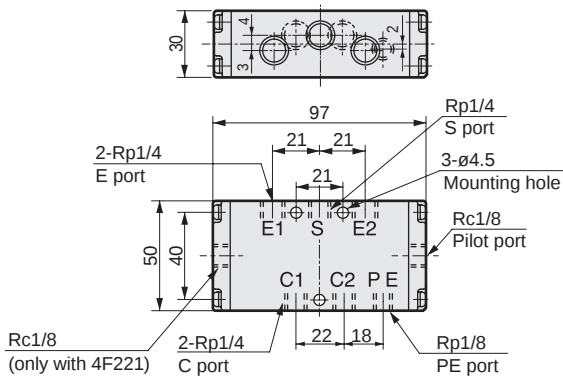
Code	D	E
Bore size		
06	Rp1/8	20
08	Rp1/4	22

* Refer to pages 1378 and 1380 for type with mounting plate (P, P1).

Dimensions

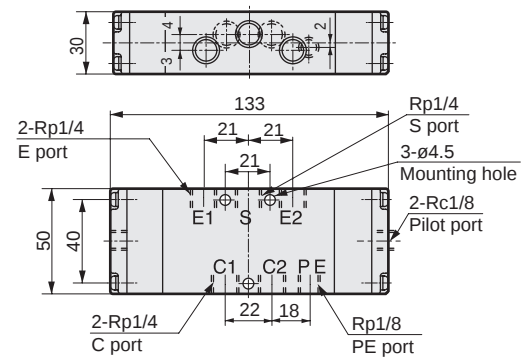
4F211/4F221

- 2-position single, double



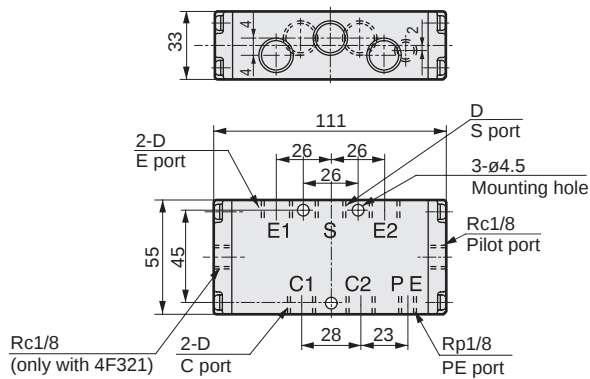
4F231/4F241

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



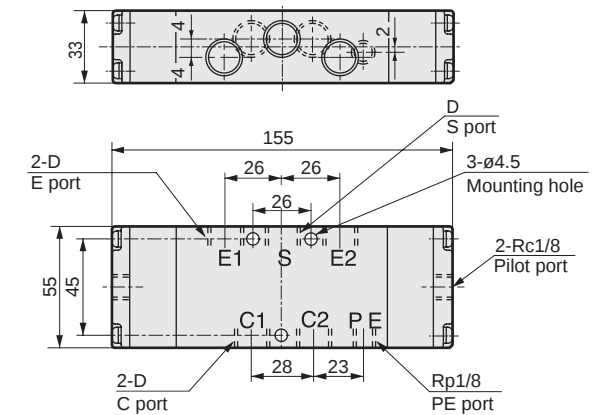
4F311/4F321

- 2-position single, double



4F331/4F341/4F351

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



Code	D
Bore size	
08	Rp1/4
10	Rp3/8

* Refer to pages 1382 and 1384 for type with mounting plate (P).

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

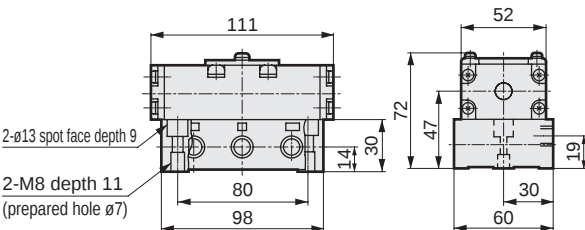
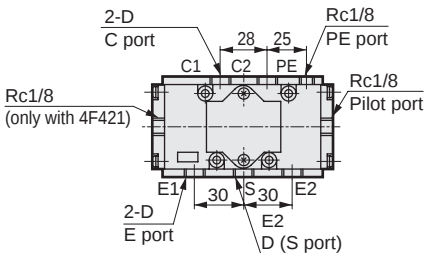
4F4 to 4F5 Series

Master valve; sub-plate piping

Dimensions

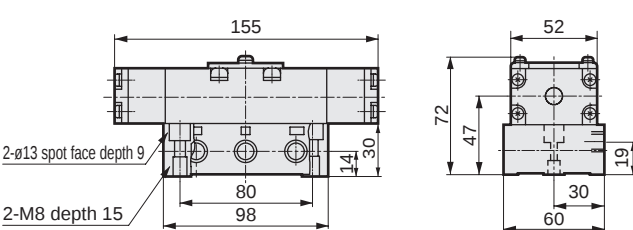
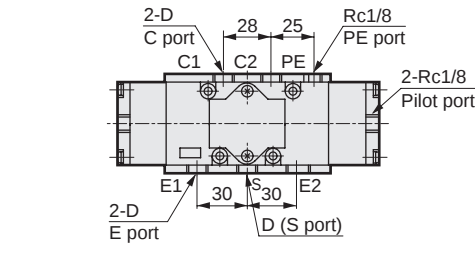
4F411/4F421

● 2-position single



4F431/4F441/4F451

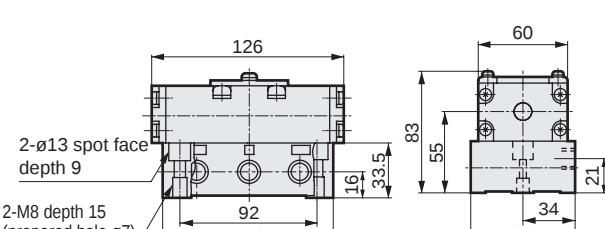
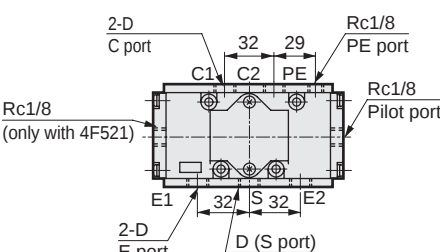
● 3-position all ports closed, A/B/R connection



Code	D
Bore	
08	Rc1/4
10	Rc3/8

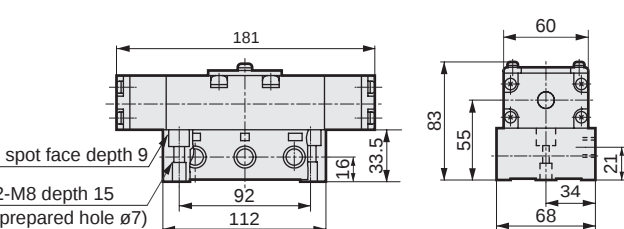
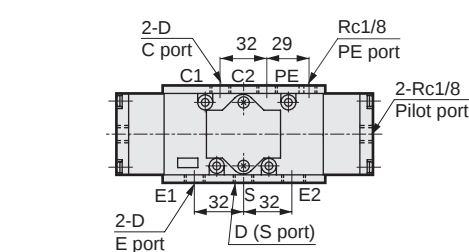
4F511/4F521

● 2-position single, double



4F531/4F541/4F551

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



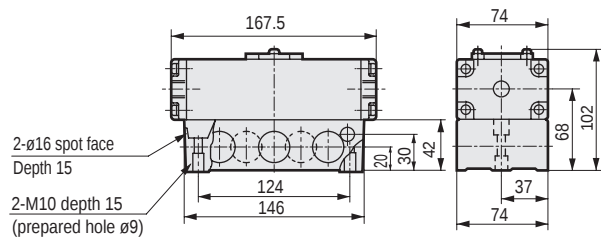
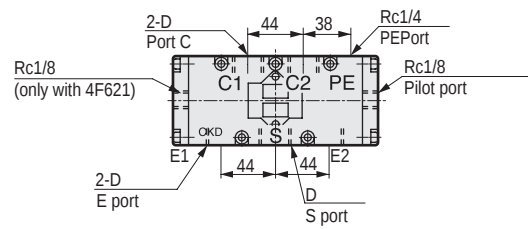
Code	D
Bore size	
10	Rc3/8
15	Rc1/2

* Refer to pages 1392 and 1394 for type with mounting plate (P).

Dimensions

4F611/4F621

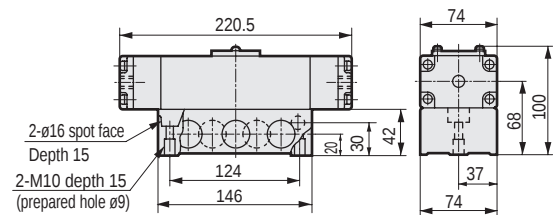
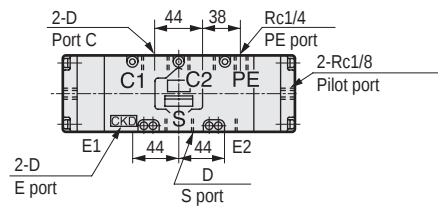
- 2-position single, double



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

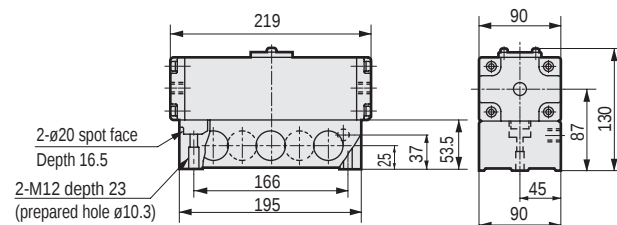
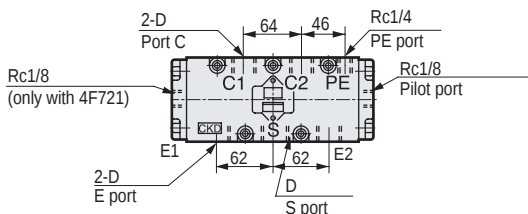
4F631/4F641/4F651

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



4F711/4F721

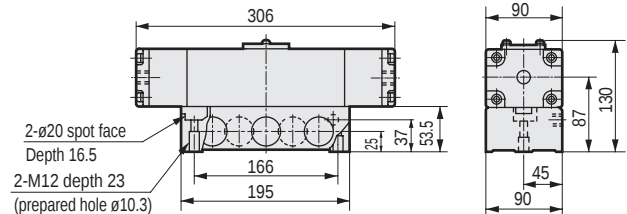
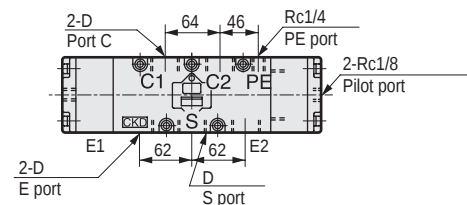
- 2-position single, double



Code	D
Bore size	
20	Rc3/4
25	Rc1

4F731/4F741/4F751

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



* Refer to pages 1396 and 1398 for type with mounting plate (P).

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending