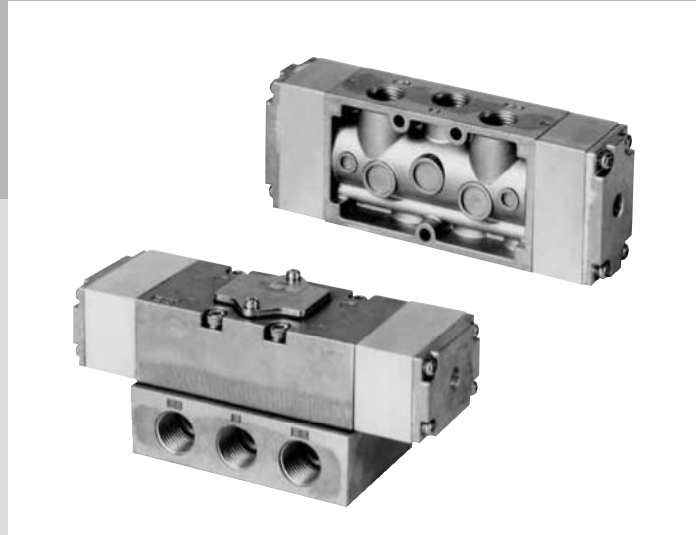


4F

Pilot operated 5-port valve

Pneumatic valve/master valve



CONTENTS

| | |
|--------------------------------|------|
| Single valve | |
| ● Body piping (M4F0 to 3) | 1420 |
| ● Sub-plate piping (4F4 to 7) | 1420 |
| Manifold | |
| ● Body piping (4F0 to 3) | 1420 |
| ● Sub-plate piping (M4F4 to 7) | 1420 |
| ⚠ Safety precautions | 1430 |

| |
|--------------------------|
| 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 |

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

3-position A/B/R connection

PV5S-0

3QR
3QB

PV3QR

3MA/B0

3PA/B

P/M/B

NP/NAP/
NVP

4F*0EX

4F*0E

HMV
HSV

2QV
3QV

SKH

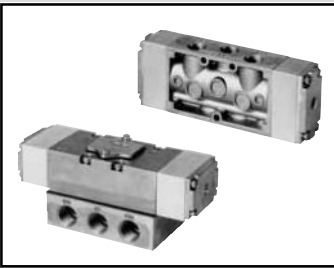
PCD

Silencer

TotAirSys
(Total Air)

TotAirSys
(Gamma)

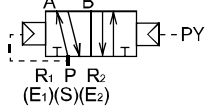
Ending



● JIS symbol

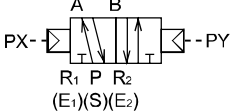
2-position single

(C₁)(C₂)



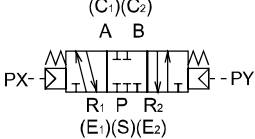
2-position double

(C₁)(C₂)



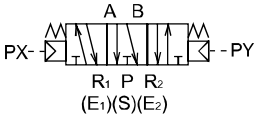
3-position all ports closed

(C₁)(C₂)



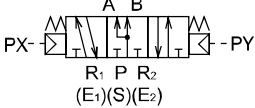
3-position A/B/R connection

(C₁)(C₂)



3-position P/A/B connection

(C₁)(C₂)



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 | | | | | Air supply port S | Cylinder port C | Exhaust port E Pilot exhaust port PE | Pilot port | Main pressure MPa | Pilot signal pressure MPa | | |
|---------------------------|-------------------|-------------------|-----------------------------|-----------------------------|-----------------------------|-------------------|-----------------|---|---------------------------------|-------------------|---------------------------|--------------------------------|----|
| | 2-position single | 2-position double | 3-position all ports closed | 3-position A/B/R connection | 3-position P/A/B connection | | | | | | | Port size | |
| | | | | | | | | | | | | *1 | *1 |
| ● | ● | ● | ● | ● | 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 | 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 | |
| ● | ● | ● | ● | ● | 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 PE:Rp 1/8 | Rc 1/8 | 0 to 1.0 | P ≥ 0.15 | |
| ● | ● | ● | ● | ● | 4F4 Series | 4F411 | | | | | 0.15 to 1.0 | P ≥ 0.6 x main pressure + 0.06 | |
| | | | | | | 4F421 | Rc 1/4 | Rc 1/4 | E:Rc 1/4 Rc 3/8 PE:Rc 1/8 | Rc 1/8 | 0 to 1.0 | P ≥ 0.15 | |
| ● | ● | ● | ● | ● | 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 PE:Rc 1/8 | Rc 1/8 | 0 to 1.0 | P ≥ 0.15 | |
| ● | ● | ● | ● | ● | 4F6 Series | 4F611 | | | | | 0.15 to 1.0 | P ≥ 0.6 x main pressure + 0.06 | |
| | | | | | | 4F621 | Rc1/2 | Rc1/2 | E:Rc 1/2 Rc 3/4 PE:Rc 1/4 | Rc 1/8 | 0 to 1.0 | P ≥ 0.15 | |
| ● | ● | ● | ● | ● | 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 PE:Rc 1/4 | Rc 1/8 | 0 to 1.0 | P ≥ 0.15 | |
| ● | ● | ● | ● | ● | 4F8 Series | 4F811 | | | | | 0.15 to 1.0 | P ≥ 0.6 x main pressure + 0.06 | |
| | | | | | | 4F821 | Rc1 | Rc1 | E:Rc 1 Rc 1/2 PE:Rc 1/4 | Rc 1/8 | 0 to 1.0 | P ≥ 0.15 | |

*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 | | 2.5 | 0.43 | | | |
| | 4F231 | | | | | | |
| | 4F241 | | | | | | |
| 4F3 | 4F311 | Rp1/4 | 3.9 | 0.42 | - | | |
| | 4F321 | | | | | | |
| | 4F331 | | | | | 4.0 | 0.35 |
| | 4F341 | | | | | 4.5 | 0.42 |
| | 4F351 | Rp3/8 | 4.0 | 0.35 | | | |
| | 4F311 | | 5.8 | 0.30 | | | |
| | 4F321 | | 4.4 | 0.42 | | | |
| | 4F331 | | | | | | |
| | 4F341 | | | | | 5.1 | 0.46 |
| | 4F351 | | | | | 4.4 | 0.42 |
| 4F4 | 4F411 | Rc1/4 Rc3/8 | 5.0 | 0.21 | - | | |
| | 4F421 | | 4.7 | 0.24 | | | |
| | 4F431 | | | | | | |
| | 4F441 | | | | | 5.3 | 0.29 |
| | 4F451 | | | | | 5.3 | 0.29 |
| 4F5 | 4F511 | Rc3/8 Rc1/2 | 10.0 | 0.32 | - | | |
| | 4F521 | | 9.7 | 0.28 | | | |
| | 4F531 | | | | | | |
| | 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 $S \approx 5.0 \times C$.

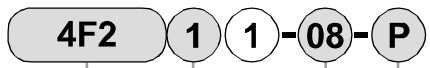
| |
|--------------------------|
| 4GA/B |
| M4GA/B |
| MN4GA/B |
| 4GA/B (mastr) |
| 4GD/E |
| M4GD/E |
| MN4GD/E |
| 4GA4/B4 |
| MN3E MN4E |
| W4GA/B2 |
| W4GB4 |
| 4TB |
| 4L2-4/ LMF0 |
| MN3S0 MN4S0 |
| 4SA/B0 |
| 4KA/B |
| 4KA/B (mastr) |
| 4F |
| 4F (mastr) |
| PV5G GMF |
| PV5 GMF |
| PV5S-0 |
| 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

- 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



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

[Example of model No.]

4F111-06-P

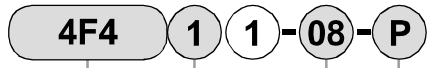
A Model : 4F1
B Solenoid position : 2-position single
C Port size : Rp1/8
D Option : with P type installation feet

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

| A Model No. | | | |
|-------------|-----|-----|-----|
| Body piping | | | |
| *A4F0 | 4F1 | 4F2 | 4F3 |

| Code | Content | *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

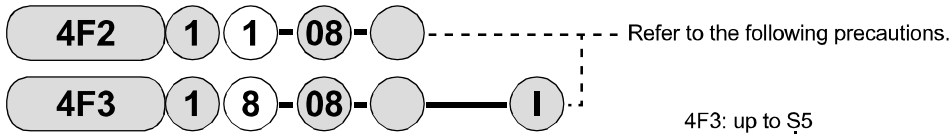
A Model : 4F4
B Solenoid position : 2-position single
C Port size : Rp1/4
D Option : with P type installation feet

| A Model No. | | | |
|------------------|-----|-----|-----|
| Sub-plate piping | | | |
| 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 | ● | ● | ● | ● |
| 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

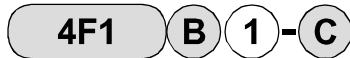
E Station No.

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 **F** 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 | | | |
| | | | | 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 | | | | | ● | ● |

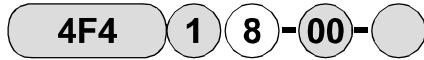
- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (mastr)
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- 4TB
- 4L2-4/LMF0
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (mastr)
- 4F
- 4F (mastr)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3QR
- 3QB
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP/NVP
- 4F*0EX
-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

4F Series

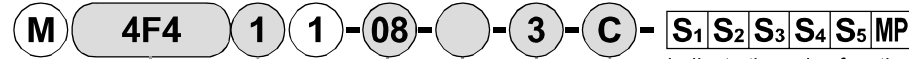
Master valve; single unit manifold

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

| Code | Content | Sub-plate piping | | | |
|--------------------------------------|---|------------------|-----|-----|-----|
| | | 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 |

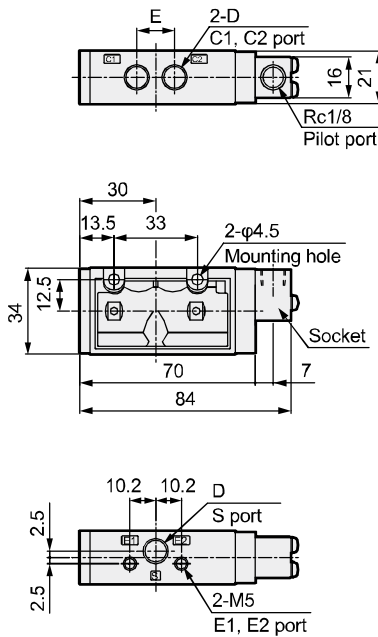
4F0 to 4F1 Series

Master valve; body piping

Dimensions

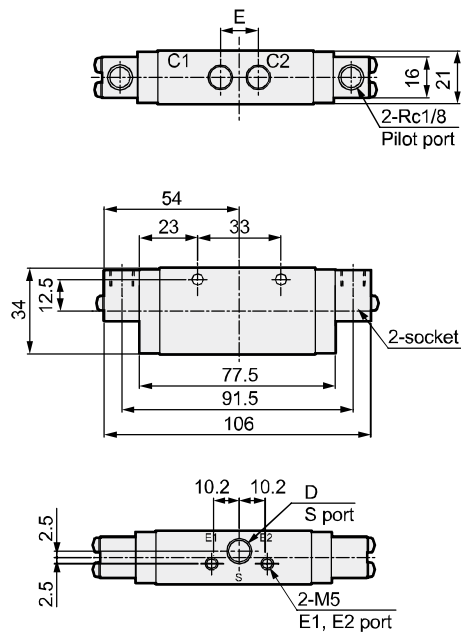
A4F011

● 2-position single



4F021

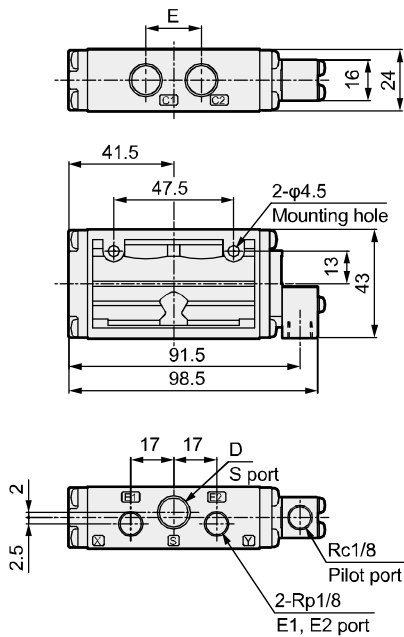
● 2-position double



| Code | D | E |
|------------------------|--------|------|
| Bore size M5 | M5x0.8 | 10.4 |
| 06 | Rp1/8 | 15 |

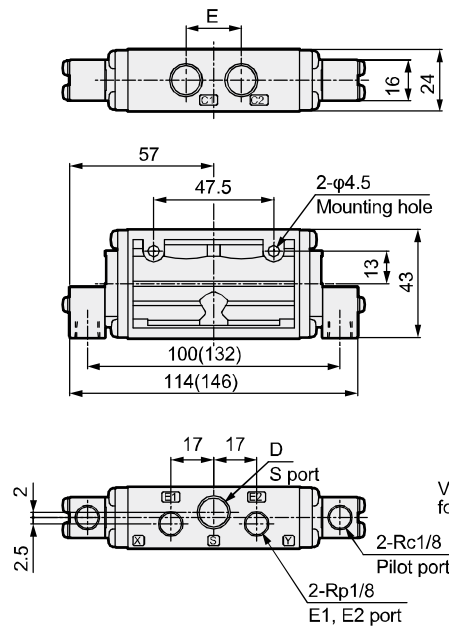
4F111

● 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).

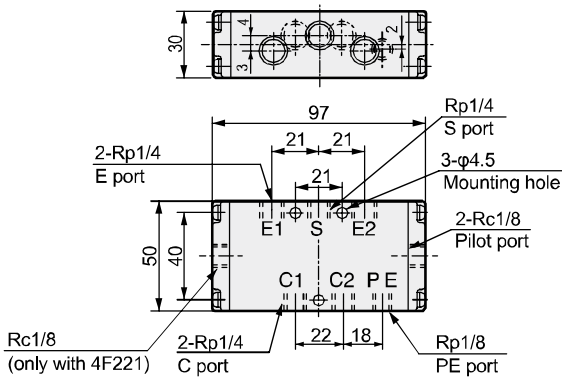
4F2 to 4F3 Series

Master valve; body piping

Dimensions

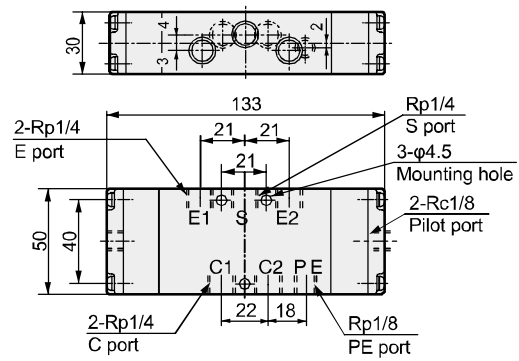
4F211/4F221

- 2-position single, double



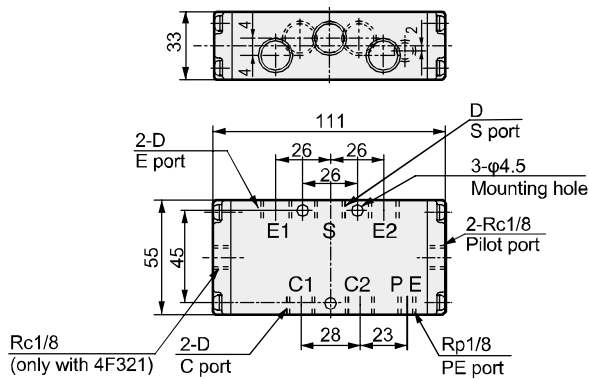
4F231/4F241

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



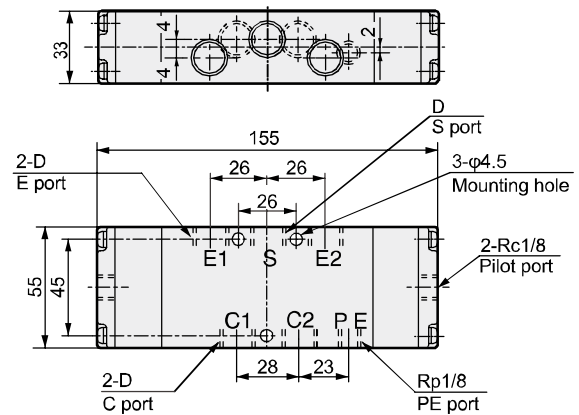
4F311/4F321

- 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 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 |

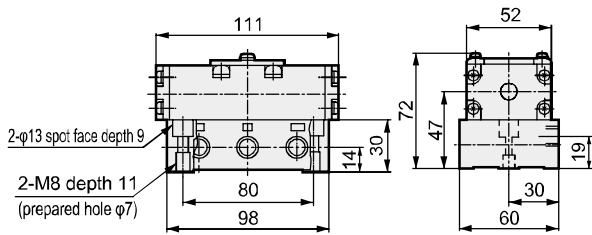
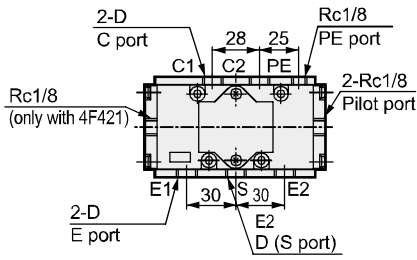
4F4 to 4F5 Series

Master valve; sub-plate piping

Dimensions

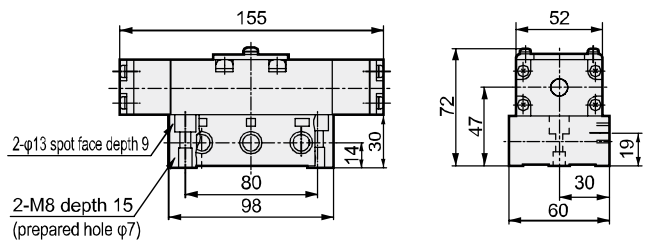
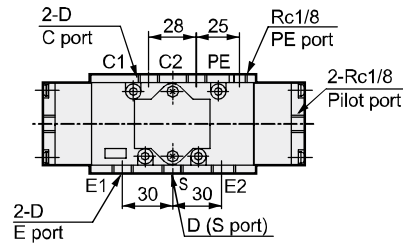
4F411/4F421

● 2-position single



4F431/4F441/4F451

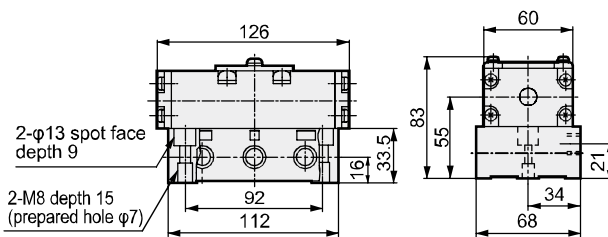
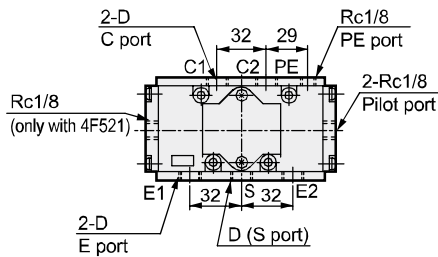
● 3-position all ports closed, A/B/R connection



| Code | D |
|------|-------|
| 08 | Rc1/4 |
| 10 | Rc3/8 |

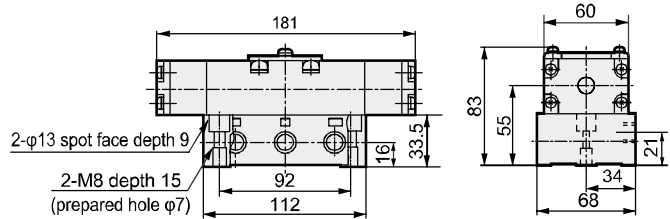
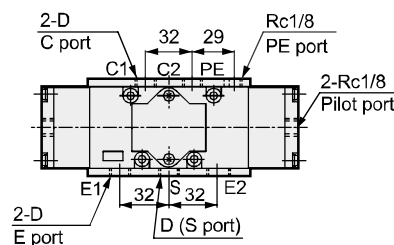
4F511/4F521

● 2-position single, double



4F531/4F541/4F551

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



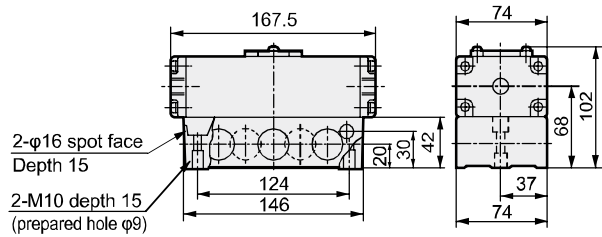
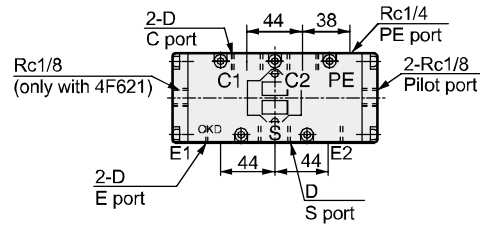
| Code | D |
|------|-------|
| 10 | Rc3/8 |
| 15 | Rc1/2 |

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

Dimensions

4F611/4F621

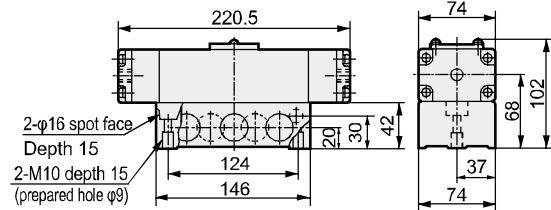
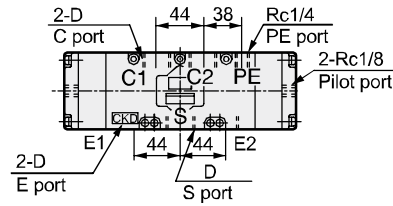
- 2-position single, double



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

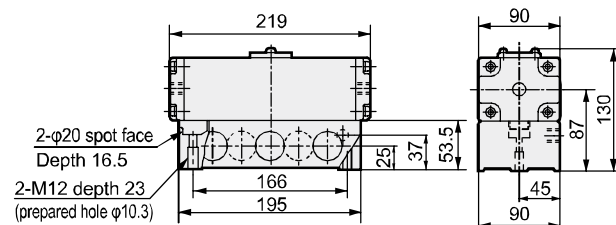
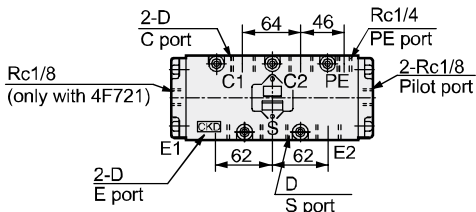
4F631/4F641/4F651

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



4F711/4F721

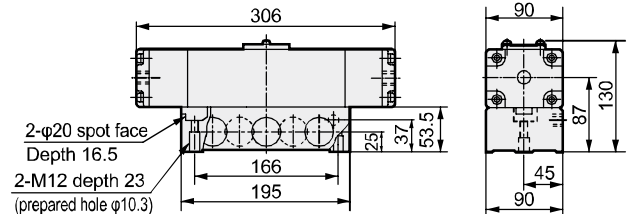
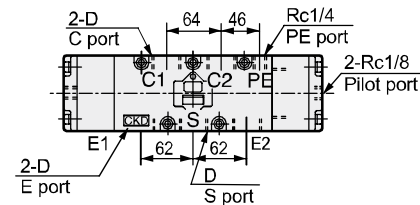
- 2-position single, double



| 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 |



Safety Precautions

Be sure to read this section before use.

Refer to Intro Page 59 for general precautions for using valves.

Product-specific cautions: Pilot operated 5-port valve 4F Series

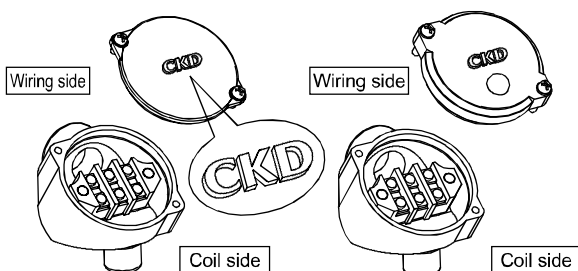
Use/maintenance

1. Common

CAUTION

- Do not block the PE port.
Pilot pressure will not be discharged and will fail to operate.
- With the DIN terminal box, as using the unit with a high ambient temperature and continuously powered specifications will promote deterioration of the gaskets, be sure to regularly replace the gaskets.
- The external pilot is designed with low pressure specifications specifically for P (S) port pressurization. Contact CKD for applications with vacuums or pressurization from other ports.
- Use the manual button for confirmation of operation during test operation. When used for a long period of time in the locked state, the locking mechanism may fail and switch the unit from ON to OFF.
- Station No.
When operating 6 or more stations of valves at the same time, configure the air supply pressure (S) from both ends of the manifold block and release the exhaust (E) into the atmosphere from both ends as well. Not configuring these from both sides may cause malfunctions due to the exhaust pressure.
- With the 4F0 to 4F3 series, the connection port is prepared with Rp threading (parallel threading). In order to prevent leakage with the connection of piping, connect the pipes upon securely wrapping sealing tape or applying an adhesive.

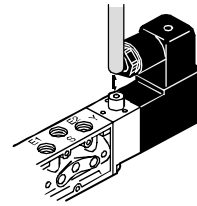
- Precautions upon assembly of round terminal box cap
The cap must be assembled in a certain direction. When the cap is to be assembled after performing wiring work, etc., make sure to assemble the cap with attention to the assembly direction. (In the figure below, align with the direction of the CKD logo mark) When placed in the opposite direction, the cap cannot be assembled.



2. Manual override

CAUTION

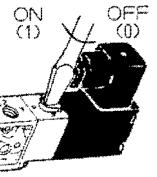
- Manual override
As this is a pilot solenoid valve, the main valve will not be switched even if the manual override is operated unless air is supplied to the S port.
- Non-locking manual override
With the non-locking manual override, push the manual shaft with a rod. With the 2-position single solenoid and 3-position solenoid, the valve will be in the same state as when energized when the shaft is being pressed and will recover when the shaft is released. With the 2-position double solenoid, pressing the manual shaft of the X (Y) side will switch the unit into the same state as when X (Y) is energized and the main valve will retain this state even after the manual shaft has been released. For return, operate the manual shaft on the Y (X) side.



Push with a rod $\phi 7$ or less
(With the 4F0 and 1 types,
push with a rod $\phi 3$ or less.)

- Locking manual override

Turning the locking manual override by approximately 45° with a screwdriver will create a state that is the same as when energized, where the valve is locked. Rotation is only in the clockwise direction. Do not force the rotation, as rotating the device further after the valve has been locked will cause damage. Be sure to release the lock (0 position) of the locking manual override prior to starting normal operation.



3. Outdoor

CAUTION

- When using the unit outdoors, do not configure the exhaust ports (E1, E2, and PE ports) for atmosphere release, and be sure to implement measures to prevent foreign matter, dust, and rainwater from entering the body.
In addition, implement waterproof measures for the electrical wires and piping with the use of cable glands, etc.
- After delivery of the product, do not change the direction of the conduits of the terminal box. Doing so may cause water to infiltrate the charging sections.
- This product is provided with performance which enables outdoor use in standard environmental conditions. This product satisfies certain performance requirements after implementation of an accelerated weathering test (sunshine weathering meter) for 1000 hours and a (salt, dry, moisture) compound cycle test for 960 hours.
However, the risk of defects such as rust occurring in a short amount of time may increase when using the unit in a special environment. Consult with CKD when using this device in a special environment.