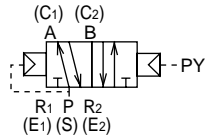


# Master valve Discrete/manifold 5 port pilot operated valve 4F Series

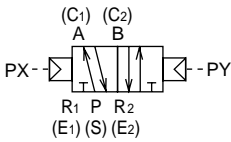
- Applicable cylinder bore size: 10 to 250mm

### • JIS symbol

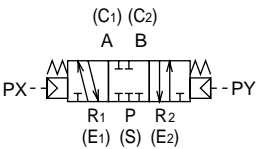
#### 2-position single



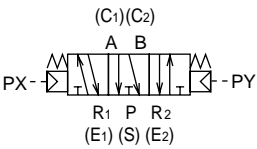
#### 2-position double



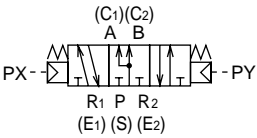
#### 3-position all ports closed



#### 3-position A/B/R connection



#### 3-position P/A/B connection



### Common specifications

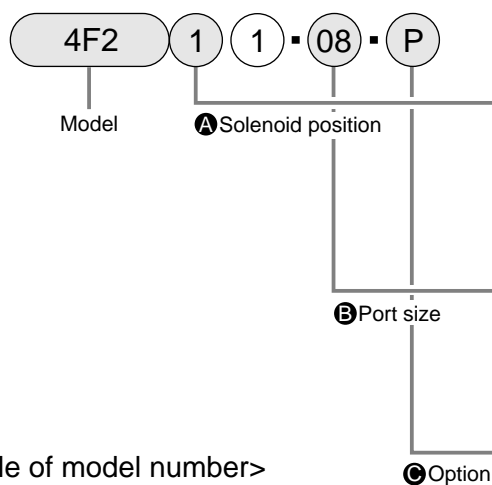
Descriptions		Pilot operated soft spool	
Valve and solenoid type		Pilot operated soft spool	
Working fluid		Compressed air	
Max. working pressure	MPa	1.0	
Min. working pressure	MPa	Refer to the main pressure on the below table.	
Ambient temperature	°C	-10 to 60	
Fluid temperature	°C	5 to 60	
Lubrication		Not required	
Vibration/impact	m/s <sup>2</sup> (G)	50 (5) or less/300 (30) or less	
Working environment		Not to be subject to corrosive environment	

### Individual specifications (valve discrete/manifold)

Position No. of solenoid						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				Effective sectional area mm <sup>2</sup>	Main pressure MPa	Pilot signal pressure MPa		
						Air supply port S	Cylinder port C	Exhaust port E Pilot exhaust port PE	Pilot port					
Model	Series Model No.													
●	●					4F0 series	A4F011 4F021	M5 Rp 1/8	M5 Rp 1/8	M5	Rc 1/8	2 (M5) 3 (Rp 1/8)	0.15 to 1.0 0 to 1.0	P <sub>≥</sub> 0.6 X main pressure + 0.06 P <sub>≥</sub> 0.15
●	●					4F1 series	4F111	Rp 1/8 Rp 1/4	Rp 1/8 Rp 1/4	Rp 1/8	Rc 1/8	11	0 to 1.0	P <sub>≥</sub> 0.6 X main pressure + 0.06 P <sub>≥</sub> 0.15
	●				4F121									
		●			4F131									
			●		4F141									
	●					4F2 series	4F211	Rp 1/4	Rp 1/4	E: Rp 1/4 PE: Rp 1/8	Rc 1/8	18	0.15 to 1.0 0 to 1.0	P <sub>≥</sub> 0.6 X main pressure + 0.06 P <sub>≥</sub> 0.15
	●				4F221									
		●			4F231									
			●		4F241									
●	●					4F3 series	4F311	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	25 (Rp 1/4) 32 (Rp 3/8)	0.15 to 1.0 0 to 1.0	P <sub>≥</sub> 0.6 X main pressure + 0.06 P <sub>≥</sub> 0.15
	●				4F321									
		●			4F331									
			●		4F341									
				●	4F351									
●	●					4F4 series	4F411	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	32	0.15 to 1.0 0 to 1.0	P <sub>≥</sub> 0.6 X main pressure + 0.06 P <sub>≥</sub> 0.15
	●				4F421									
		●			4F431									
			●		4F441									
	●					4F5 series	4F451	Rc 3/8 Rc 1/2	Rc 3/8 Rc 1/2	E: Rc 3/8 Rc 1/2 PE: Rc 1/8	Rc 1/8	22	0.15 to 1.0 0 to 1.0	P <sub>≥</sub> 0.6 X main pressure + 0.06 P <sub>≥</sub> 0.15
	●				4F511									
		●			4F521									
			●		4F531									
				●		4F6 series	4F541	Rc 1/2 Rc 3/4	Rc 1/2 Rc 3/4	E: Rc 3/8 Rc 1/2 PE: Rc 1/8	Rc 1/8	43	0.15 to 1.0 0 to 1.0	P <sub>≥</sub> 0.6 X main pressure + 0.06 P <sub>≥</sub> 0.15
	●				4F611									
		●			4F621									
			●		4F631									
				●		4F7 series	4F641	Rc 3/4 Rc 1	Rc 3/4 Rc 1	E: Rc 3/4 Rc 1 PE: Rc 1/4	Rc 1/8	90	0.15 to 1.0 0 to 1.0	P <sub>≥</sub> 0.6 X main pressure + 0.06 P <sub>≥</sub> 0.15
	●				4F651									
		●			4F711									
			●		4F721									
				●		4F7 series	4F731	Rc 3/4 Rc 1	Rc 3/4 Rc 1	E: Rc 3/4 Rc 1 PE: Rc 1/4	Rc 1/8	160	0.15 to 1.0 0 to 1.0	P <sub>≥</sub> 0.6 X main pressure + 0.06 P <sub>≥</sub> 0.15
				●	4F741									
				●	4F751									

• 1: Port sizes other than the table above are available as option. Refer to "How to order" on the following page.

### How to order discrete valve/body porting



<Example of model number>

**4F111-06-P**

Model: 4F1

**A** Solenoid position : 2-position single

**B** Port size : Rp 1 / 8

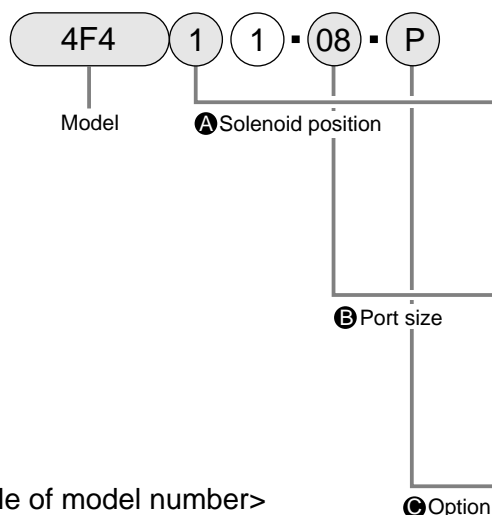
**C** Option : P type foot bracket

		Model			
		Body porting			
		4F0	4F1	4F2	4F3
4SA/B0					
4SA/B1					
4GA/B					
MN4GA/B					
4GA/B (master)					
MN3S0/ MN4S0					
4TB					
4L2-4/ LMFO					
4KA/B					
<b>4F</b>					
PV5/ CMF					
3MA/B0					
3PA/B					

Symbol	Descriptions	4F0	4F1	4F2	4F3
<b>A Solenoid position</b>					
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				●
<b>B Port size</b>					
M5	M5	●			
06	Rp 1/8	●	●		
08	Rp 1/4		●	●	●
10	Rp 3/8				●
<b>C Option</b>					
P	Mounting bracket (2-position single)	●	●	●	●
P1	Mounting bracket	●	●	●	●
N	Plug attached (3 port valve)	●	●	●	●
H	Check valve attached (only for 3-position all ports closed)			●	●

### How to order discrete valve/sub base porting



<Example of model number>

**4F411-08-P**

Model: 4F4

**A** Solenoid position : 2-position single

**B** Port size : Rc 1 / 4

**C** Option : P type foot bracket

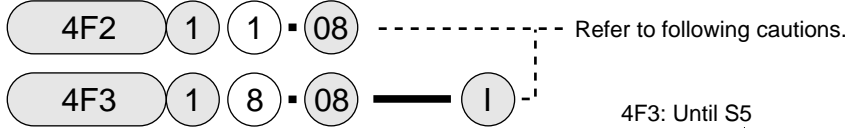
		Model			
		Sub base porting			
		4F4	4F5	4F6	4F7
P/M/B					
NP/NAP/ NVP					
4F**0E					
HMV/ HSV					
Uniwire system					
SKH					
PCD/ FS/FD					
5 port pilot operated valve					

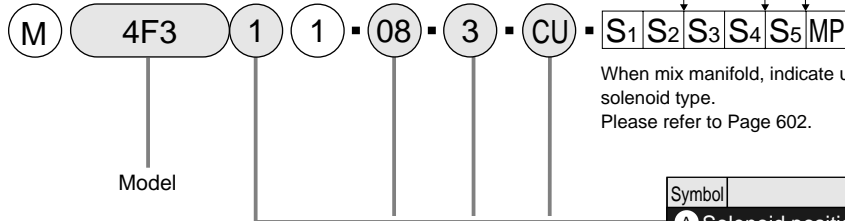
Symbol	Descriptions	4F4	4F5	4F6	4F7
<b>A Solenoid position</b>					
1	2-position single	●	●	●	●
2	2-position double	●	●	●	●
3	3-position all ports closed	●	●	●	●
4	3-position A/B/R connection	●	●	●	●
5	3-position P/A/B connection	●	●	●	●
<b>B Port size</b>					
08	Rc 1/4	●			
10	Rc 3/8	●	●		
15	Rc 1/2		●	●	
20	Rc 3/4			●	●
25	Rc 1				●
<b>C Option</b>					
P	Mounting bracket	●	●	●	●
N	Plug attached (3 port valve)	●	●	●	●
H	Check valve attached (only for 3-position all ports closed)	●	●	●	●

### How to order manifold/body porting

• Master valve for manifold



• Manifold



4F3: Until S5  
4F1.2: Until S4  
4F0: Until S2

When mix manifold, indicate usage of solenoid type. Please refer to Page 602.

Discrete model  
Manifold symbol

Model			
Body porting			
M	M	M	M
4	4	4	4
F	F	F	F
0	1	2	3

Symbol	Descriptions				
<b>A Solenoid position</b>					
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	●	●	●	●
<b>B Port size</b>					
M5	M5	●			
06	Rp 1/8	●	●		
08	Rp 1/4		●	●	●
10	Rp 3/8				●
<b>C Station #</b>					
2	2 station				
to	to	●	●	●	●
10	10 station				
<b>D Exhaust air mounting style</b>					
CL	Common exhaust/L bracket (2-position single)	●	●	●	●
CU	Common exhaust/U bracket	●	●	●	●
IL	Individual exhaust/L bracket (2-position single)	●	●	●	●
IU	Individual exhaust/U bracket			●	●
C	Common exhaust			●	●
I	Individual exhaust			●	●

### ⚠ Caution for model No. selection

Use the proper discrete master valve of manifold according to following examples.

• When 4F0 to 4F1



When repair parts are necessary, please purchase gasket kit as following together.

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

• When 4F2/4F3

• Exhaust air mounting style CL, CU, IL, IU



When repair parts are necessary, please purchase gasket kit as following together.

- M4F2-GASKET KIT
- M4F3-GASKET KIT

• When exhaust air mounting style C and I



(When "D" is C: Blank, while I: Indicate I.)

When repair parts are necessary, please purchase gasket kit as following together.

- M4F2-2-GASKET KIT
- M4F3-2-GASKET KIT

### <Example of model number>

#### M4F341-08-5-C

Model: M4F3

- A** Solenoid position : 3-position A/B/R connection
- B** Port size : Rp 1 / 4
- C** Station No. : 5 station
- D** Exhaust air mounting style : Common exhaust

### How to order manifold/sub base porting

- Master valve for manifold



- Manifold



When mix manifold, indicate usage of solenoid type.  
Please refer to Page 626.

Discrete model  
Manifold symbol

Model			
Sub base porting			
M	M	M	M
4	4	4	4
F	F	F	F
4	5	6	7

Symbol	Descriptions				
<b>A Solenoid position</b>					
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	●	●	●	●
<b>B Port size</b>					
08	Rc 1/4	●			
08Y	Rp1/4 (cylinder port rear side)	●			
10	Rc 3/8		●		
10Y	Rc 3/8 (cylinder port on rear side)		●		
D15	Rc 1/2			●	
E20	Rc 3/4				●
<b>C Station #</b>					
2	2 station				
to	to	●	●	●	●
10	10 station				
<b>D Exhaust air mounting style</b>					
C	Common exhaust	●	●	●	●

**A** Solenoid position

**B** Port size

**C** Station No.

**D** Exhaust air mounting style

<Example of model number>

**M4F441-08-5-C**

Model: M4F4

- A** Solenoid position : 3-position A/B/R connection
- B** Port size : Rc 1 / 4
- C** Station No. : 5 station
- D** Exhaust air mounting style : Common exhaust

4SA/B0

4SA/B1

4GA/B

MN4GA/B

4GA/B (master)

MN3S0/ MN4S0

4TB

4L2-4/ LMF0

4KA/B

**4F**

PV5/ CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/ NVP

4F\*\*0E

HMV/ HSV

Uniwire system

SKH

PCD/ FS/FD

5 port pilot operated valve  
Master valve

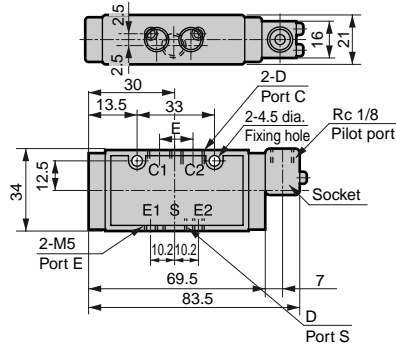
# 4F0 to 4F1 Series

## Master valve: Body porting

### Dimensions

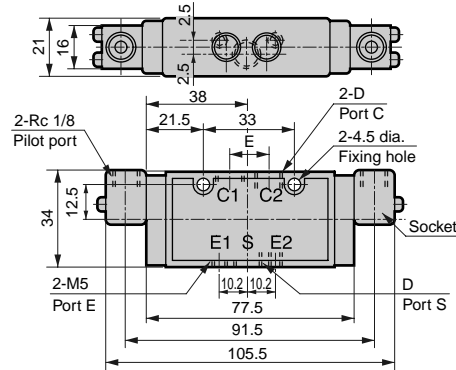
#### A4F011

- 2-position single



#### 4F021

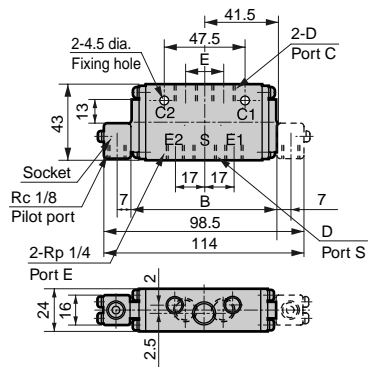
- 2-position double



Symbol	D	E
Port size		
M5	M5 X 0.8	10.4
06	Rp 1/8	15

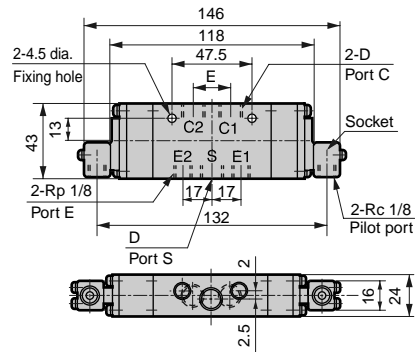
#### 4F111/4F121

- 2-position single, double



#### 4F131/4F141

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



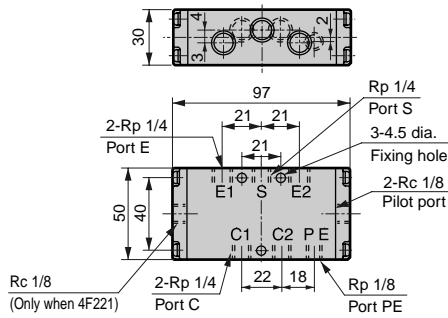
Symbol	B
Port size	
4F111	84.5
4F121	86

Symbol	D	E
Port size		
06	Rp 1/8	20
08	Rp 1/4	22

### Dimensions

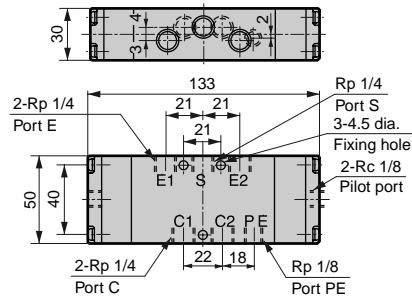
#### 4F211/4F221

- 2-position single, double



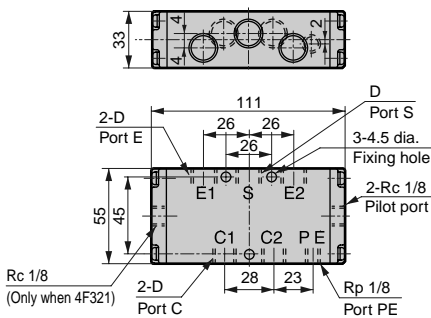
#### 4F231/4F241

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



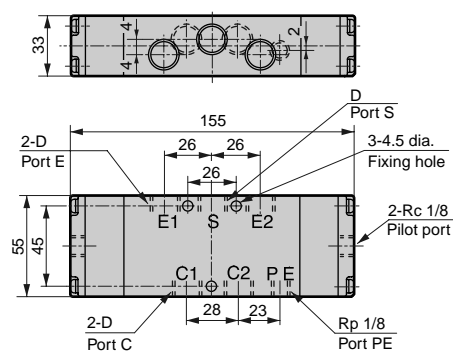
#### 4F311/4F321

- 2-position single, double



#### 4F331/4F341

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



Symbol	D
Port size	
08	Rc 1/4
10	Rc 3/8

4SA/B0

4SA/B1

4GA/B

MN4GA/B

4GA/B (master)

MN3S0/  
MN4S0

4TB

4L2-4/  
LMFO

4KA/B

4F

PV5/  
CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/  
NVP

4F\*\*0E

HMV/  
HSV

Uniwire  
system

SKH

PCD/  
FS/FD

5 port pilot operated valve  
Master valve

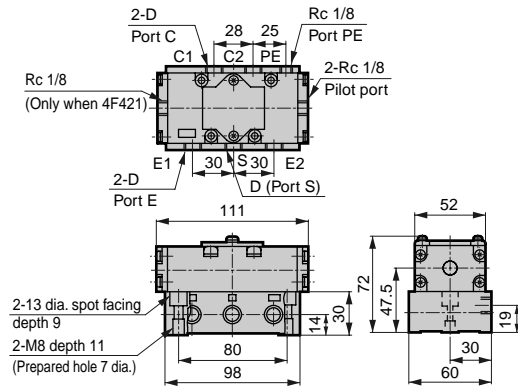
# 4F4 to 4F5 Series

Master valve: Sub base porting

## Dimensions

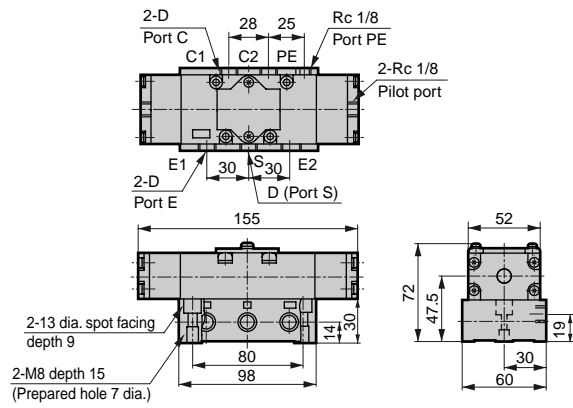
### 4F411/4F421

- 2-position single



### 4F431/4F441/4F451

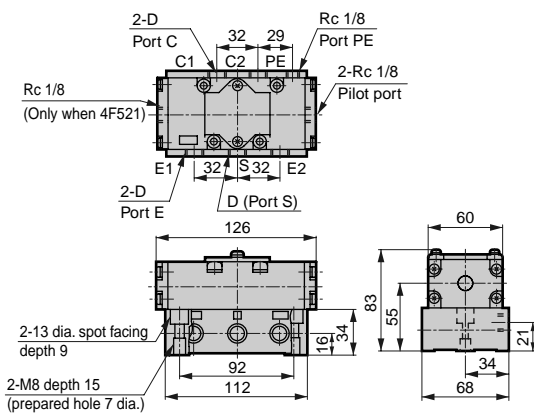
- 3-position all ports closed, A/B/R connection



Symbol	D
08	Rc 1/4
10	Rc 3/8

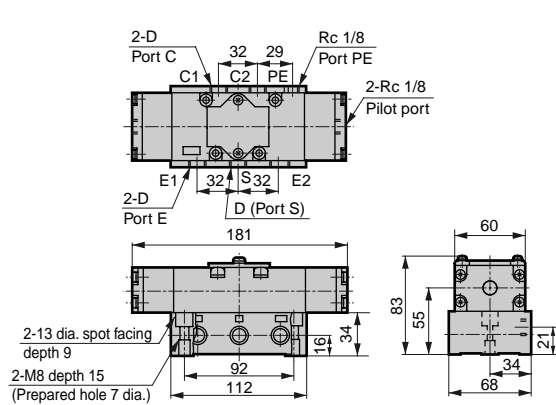
### 4F511/4F521

- 2-position single, double



### 4F531/4F541/4F551

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

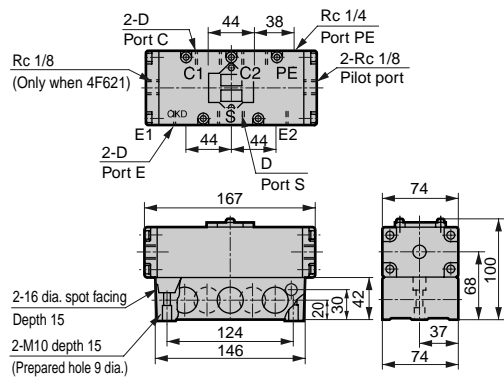


Symbol	D
10	Rc 3/8
15	Rc 1/2

## Dimensions

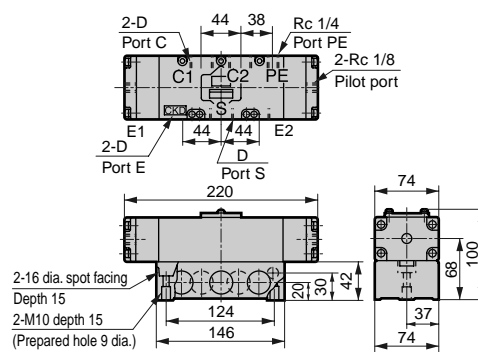
### 4F611/4F621

- 2-position single, double



### 4F631/4F641/4F651

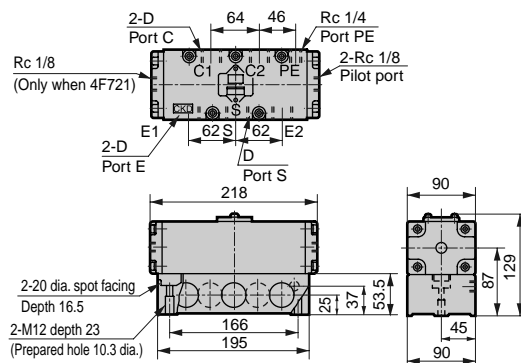
- 3-position all ports closed, A/B/R connection



Symbol	D
Port size	
15	Rc 1/2
20	Rc 3/4

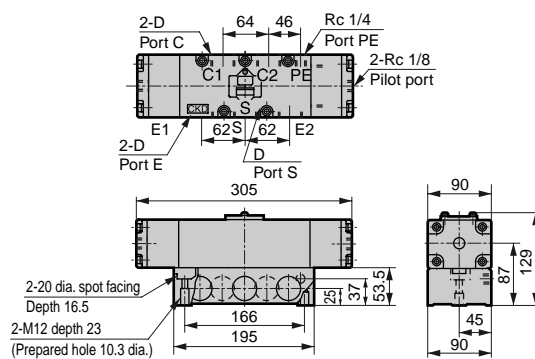
### 4F711/4F721

- 2-position single, double



### 4F731/4F741/4F751

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



Symbol	D
Port size	
20	Rc 3/4
25	Rc 1

4SA/B0

4SA/B1

4GA/B

MN4GA/B

4GA/B (master)

MN3S0/ MN4S0

4TB

4L2-4/ LMF0

4KA/B

**4F**

PV5/ CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/ NVP

4F\*\*0E

HMV/ HSV

Uniwire system

SKH

PCD/ FS/FD

5 port pilot operated valve  
Master valve