

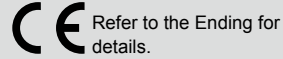
4GA/B  
M4GA/B  
MN4GA/B  
4GA/B (mastr)  
4GD/E  
M4GD/E  
MN4GD/E  
4GA4/B4  
MN3E  
MN4E  
W4GA/B2  
W4GB4  
4TB  
4L2-4/  
LMF0  
MN3S0  
MN4S0  
**4SA/B0**  
4KA/B  
4KA/B (mastr)  
4F  
4F (mastr)  
PV5G  
GMF  
PV5  
GMF  
PV5S-0  
3QR  
3QB  
MV3QR  
3MA/B0  
3PA/B  
P/M/B  
NP/NAP/  
NVP  
4F\*0EX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



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

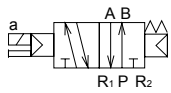
# 4SA0/4SB0 Series

● Cylinder bore size:  $\phi 6$  to  $\phi 25$



## JIS symbol

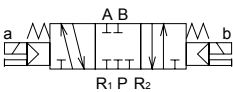
- 5-port valve  
2-position single



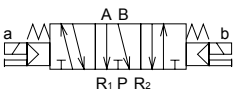
- 2-position double



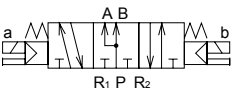
- 3-position all ports closed



- 3-position A/B/R connection



- 3-position P/A/B connection



## Common specifications

Descriptions	Content
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7 ( $\approx 100$ psi, 7 bar)
Min. working pressure MPa	0.2 ( $\approx 29$ psi, 2 bar)
Proof pressure MPa	1.05 ( $\approx 150$ psi, 10.5 bar)
Ambient temperature $^{\circ}\text{C}$	5 ( $41^{\circ}\text{F}$ ) to 50 ( $122^{\circ}\text{F}$ )
Fluid temperature $^{\circ}\text{C}$	5 ( $41^{\circ}\text{F}$ ) to 50 ( $122^{\circ}\text{F}$ )
Lubrication	Not required
Degree of protection	Dust-proof
Vibration resistance $\text{m/s}^2$	50 or less
Shock resistance $\text{m/s}^2$	300 or less
Atmosphere	Cannot be used in corrosive gas environment.

\*1: 4SA0 is a pilot atmosphere release.  
The pilot exhaust for 4SB0 is centralized with the R port.

## Electrical specifications

Descriptions	Content	
Rated voltage V	24 DC	12 DC
Voltage fluctuation range	$\pm 10\%$	
Holding current A	0.025 *2 (0.029)	0.050 (0.058)
Power consumption W *3	0.6(0.7)	0.6(0.7)
Thermal class	B	
Temperature rise $^{\circ}\text{C}$	50	

\*2: The values in ( ) are with a surge suppressor and indicator lamp.

\*3: The power consumption for 6/5 VDC will be 0.9 (1.0) W.  
The power consumption for ozone-proof specifications (P11) will be 0.9 (1.0) W.

## Individual specifications

Descriptions		4SA0		4SB0
Port size	P/A/B port	M3	$\phi 4$ Barbed fitting	M5
	R <sub>1</sub> /R <sub>2</sub> port	M3		M5
Response time *4 ms	2-position	20 or less		
	3-position	30 or less		
Weight g	2-position	Single	23	43
		Double	35	55
	3-position	39	59	

\*4: The response time is the value at 0.5 MPa supply pressure, with no lubrication, and with the power ON. It depends on the pressure and the lubricant quality.

## Flow characteristics

Model No.	Solenoid position	Port size	P $\rightarrow$ A/B		A/B $\rightarrow$ R		S ( $\text{mm}^2$ )	
			C [ $\text{dm}^3/(\text{s}\cdot\text{bar})$ ]	b	C [ $\text{dm}^3/(\text{s}\cdot\text{bar})$ ]	b		
4SA0	2-position	P/A/B port:	-	-	-	-	0.9	
	3-position	All ports closed	-	-	-	-		
		A/B/R connection	-	-	-	-		
		P/A/B connection	R <sub>1</sub> , R <sub>2</sub> port: M3	-	-	-		-
4SB0	2-position	M5	0.32	0.20	0.30	0.21	-	
	3-position		All ports closed	0.32	0.19	0.29	0.11	-
			A/B/R connection	0.31	0.18	0.29	0.22	-
			P/A/B connection	0.33	0.20	0.29	0.21	-

\*5: Effective cross-sectional area S and sonic conductance C are converted as  $S \approx 5.0 \times C$ .

**Ozone-proof specifications** (Ending Page 5)

\*\* - Voltage - **P11**

## How to order single valve

4SA0 1 0 - M3 - M1 C2 - 3

● Single solenoid valve for manifold (body piping)

4SA0 1 9 - M3 - M1 C2 - 3

● Single solenoid valve for manifold (sub-plate piping)

4SB0 1 9 - 00 - M1 C2 - 3

A Model No.

Fixed code

B Solenoid position

C Port size

D Manual override

E Electrical connections

\*3

Note: Refer to page 1208 for the circuit diagram with a surge suppressor/lamp.

### ⚠ Precautions for model No. selection

\*1: The CKD compatible fittings of M3 are as listed below.

FTS4-M3, GWS3-M3-S

\*2: For T4, barbed fitting FTS4-M3 screws into the A/B-port.

\*3: The lead wire used is AWG26 size. (7/0.16, outer diameter φ1.35, 0.13 mm<sup>2</sup>)

\*4: C4 and D4 are only single solenoid valves for 4SBO manifolds. A reduced wiring socket assembly (length of 270 mm) will be attached.

[Example of model No.]

**4SA010-M3-M1P-3**

A Model: 4SA0

B Solenoid position : 2-position single

C Port size : M3

D Manual override : Locking manual override

E Electrical connections: Grommet lead wire (standard)

F Other options : Mounting plate

G Voltage : 24 VDC

F Other options

G Voltage

A Model No.	
Body piping	Sub-plate piping
4SA0	4SB0

Code	Content	4SA0	4SB0
<b>B 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>C Port size</b>			
Port	P/A/B	R <sub>1</sub> /R <sub>2</sub>	
M3	M3		● *1
M5	M5		●
T4	φ4 Barbed fitting	M3	● *2

<b>D Manual override</b>			
Blank	Non-locking manual override	●	●
M1	Locking manual override	●	●

<b>E Electrical connections</b>			
<b>Grommet lead wire</b>			
Blank	Grommet lead wire (300 mm)	●	●

<b>C type connector (lead wire lateral direction)</b>			
C	Lead wire (300 mm)	●	●
C00	Lead wire (500 mm)	●	●
C01	Lead wire (1000 mm)	●	●
C02	Lead wire (2000 mm)	●	●
C1	Without lead wire (with socket)	●	●
C2	Lead wire (300 mm), surge suppressor/indicator lamp	●	●
C20	Lead wire (500 mm), surge suppressor/indicator lamp	●	●
C21	Lead wire (1000 mm), surge suppressor/indicator lamp	●	●
C22	Lead wire (2000 mm), surge suppressor/indicator lamp	●	●
C2N	No lead wire (without socket), surge suppressor/indicator lamp	●	●
C3	No lead wire (with socket), surge suppressor/indicator lamp	●	●
C4	With surge suppressor/lamp (for T31/T50) *4	●	●

<b>D type connector (lead wire upward direction)</b>			
D	Lead wire (300 mm)	●	●
D00	Lead wire (500 mm)	●	●
D01	Lead wire (1000 mm)	●	●
D02	Lead wire (2000 mm)	●	●
D1	Without lead wire (with socket)	●	●
D2	Lead wire (300 mm), surge suppressor/indicator lamp	●	●
D20	Lead wire (500 mm), surge suppressor/indicator lamp	●	●
D21	Lead wire (1000 mm), surge suppressor/indicator lamp	●	●
D22	Lead wire (2000 mm), surge suppressor/indicator lamp	●	●
D2N	No lead wire (without socket), surge suppressor/indicator lamp	●	●
D3	No lead wire (with socket), surge suppressor/indicator lamp	●	●
D4	With surge suppressor/lamp (T30) *4	●	●

<b>F Other options</b>			
Blank	Without mounting plate	●	●
P	Mounting plate (compatible only with 2-position single)	●	●

<b>G Voltage</b>				
3	Standard	24 VDC	●	●
4		12 VDC	●	●
DC6V	Option	6 VDC	●	●
DC5V		5 VDC	●	●

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

# 4SA0 Series

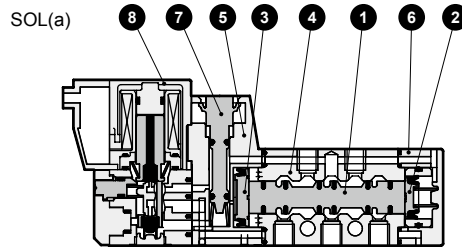
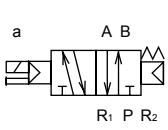
Single valve; body piping

## Internal structure and parts list

- 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

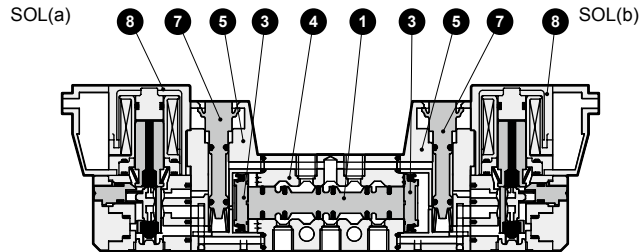
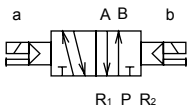
### 4SA010

● 2-position single



### 4SA020

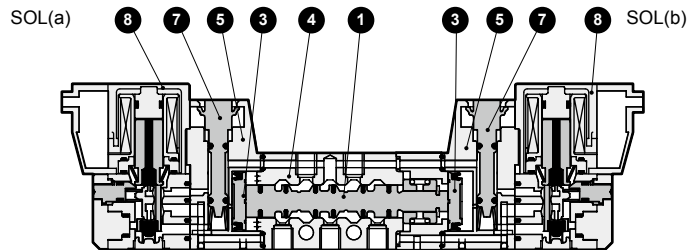
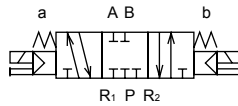
● 2-position double



### 4SA030

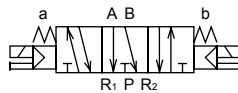
● 3-position

All ports closed



### 4SA040

A/B/R connection



### 4SA050

P/A/B connection



## Main parts list

No.	Part name	Material
1	Spool assembly	-
2	Piston S assembly	-
3	Piston D assembly	-
4	Body	Aluminum
5	Piston chamber	Resin
6	Cap	Resin
7	Manual override	Resin
8	Coil assembly	-

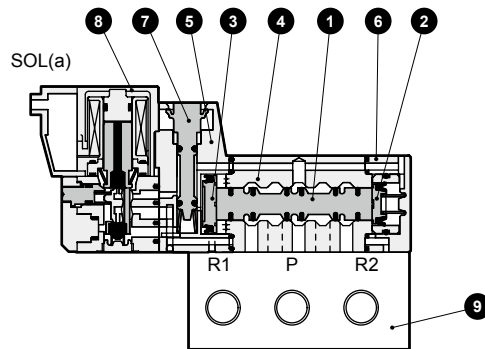
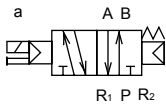
## Parts list

No.	Part name	Model No.
8	Coil assembly	4S0 - [electrical connections] - COIL - [voltage] ↑ Blank for grommet lead wire

## Internal structure and parts list

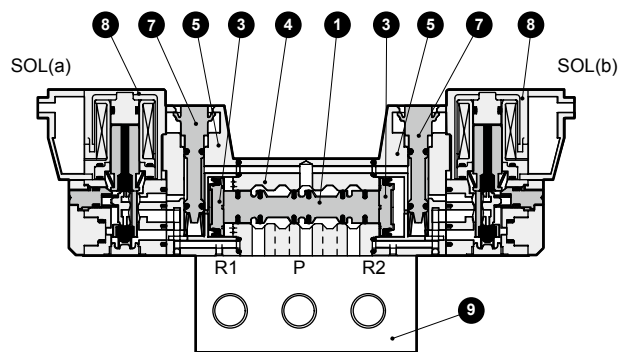
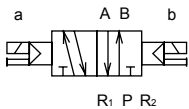
### 4SB010

● 2-position single



### 4SB020

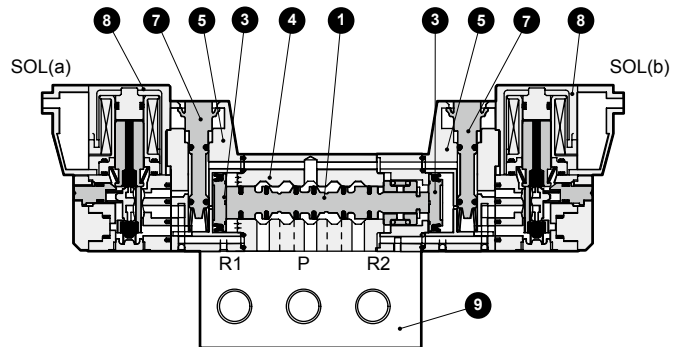
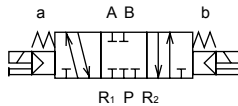
● 2-position double



### 4SB030

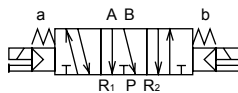
● 3-position

All ports closed



### 4SB040

A/B/R connection



### 4SB050

P/A/B connection



## Main parts list

No.	Part name	Material
1	Spool assembly	-
2	Piston S assembly	-
3	Piston D assembly	-
4	Body	Aluminum
5	Piston chamber	Resin
6	Cap	Resin
7	Manual override	Resin
8	Coil assembly	-
9	Sub-plate	Aluminum

## Parts list

No.	Part name	Model No.
8	Coil assembly	4S0 -[electrical connections] - COIL -[voltage] ↑ Blank for grommet lead wire

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/ LMFO
MN3S0 MN4S0
<b>4SA/B0</b>
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

# 4SA0 Series

Single valve; body piping

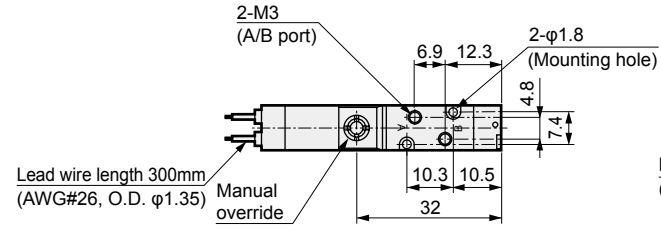
## Dimensions

- 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

### 4SA010-M3



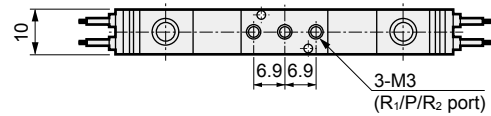
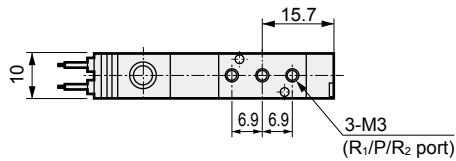
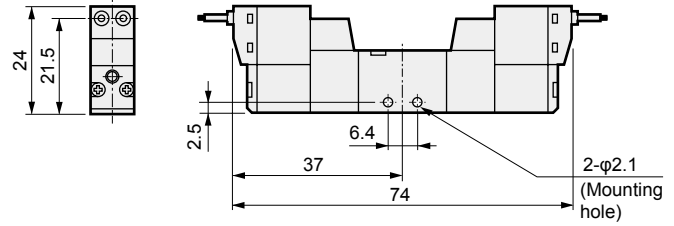
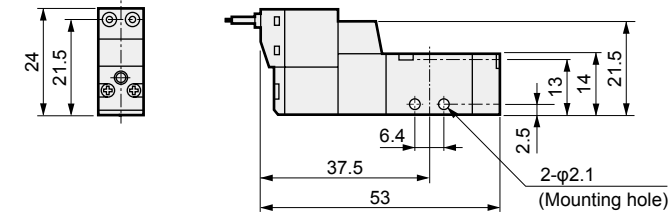
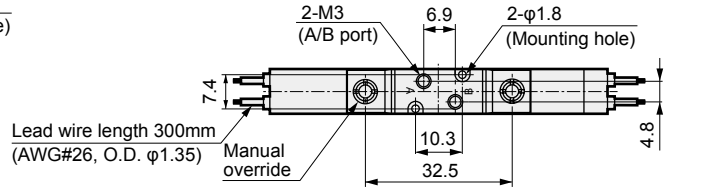
● 2-position single: grommet lead wire



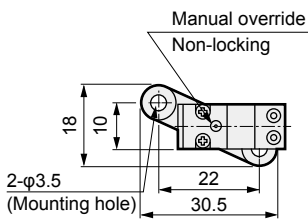
### 4SA020-M3



● 2-position double: grommet lead wire



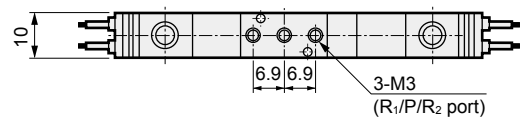
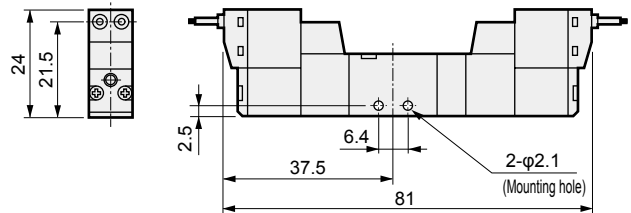
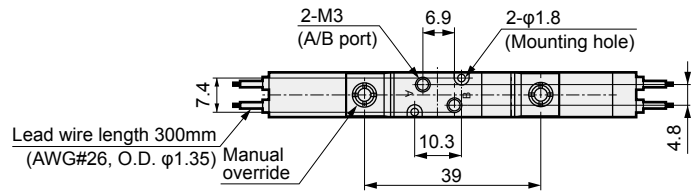
● Mounting plate: P (2-position single only)



### 4SA030-M3



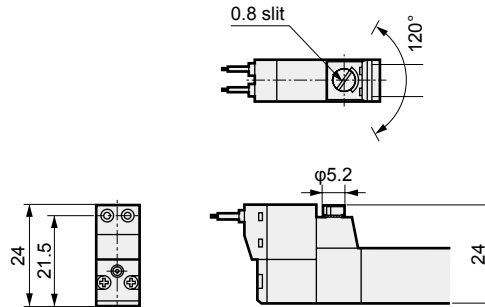
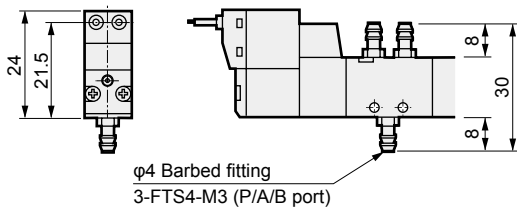
● 3-position: grommet lead wire



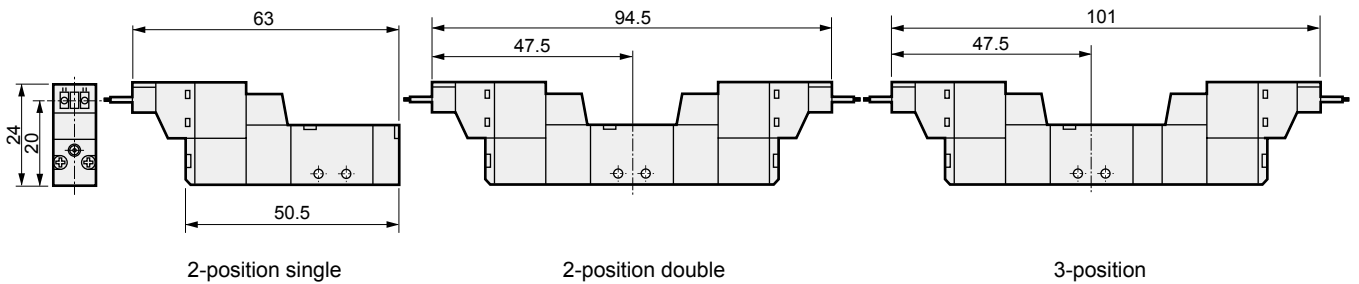
## Dimensions

●  $\phi 4$  barbed fitting: (T4)

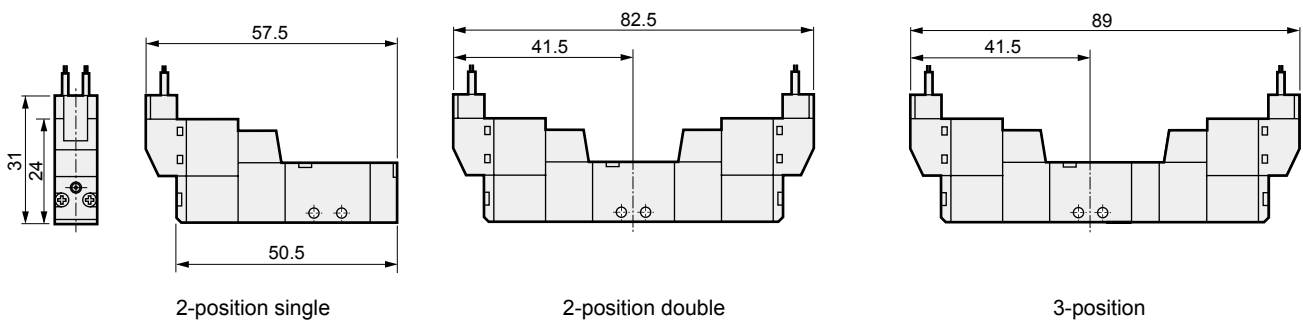
● Locking manual override: (M1)



● C type connector: (C/C0\*/C1/C2/C2\*/C3)



● D type connector: (D/D0\*/D1/D2/D2\*/D3)



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
<b>4SA/B0</b>
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

# 4SB0 Series

Single valve; sub-plate piping

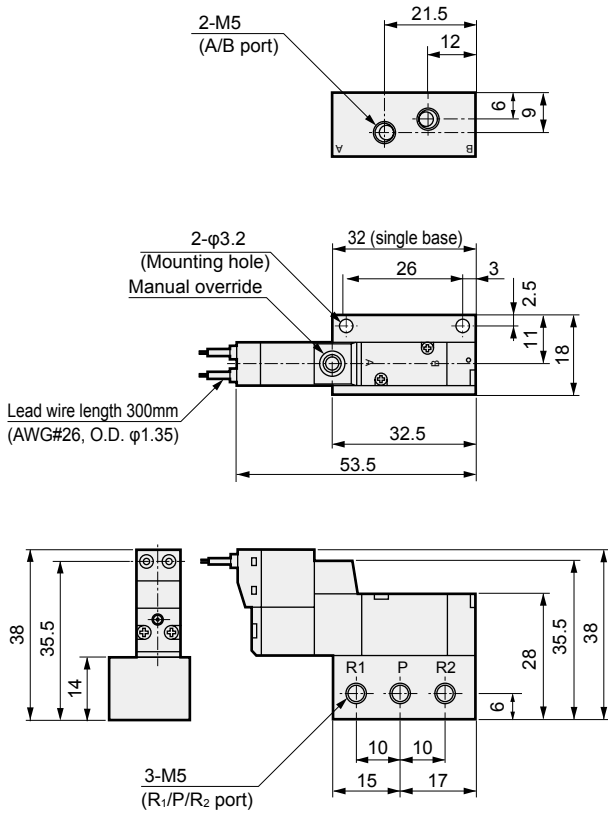
Dimensions



- 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

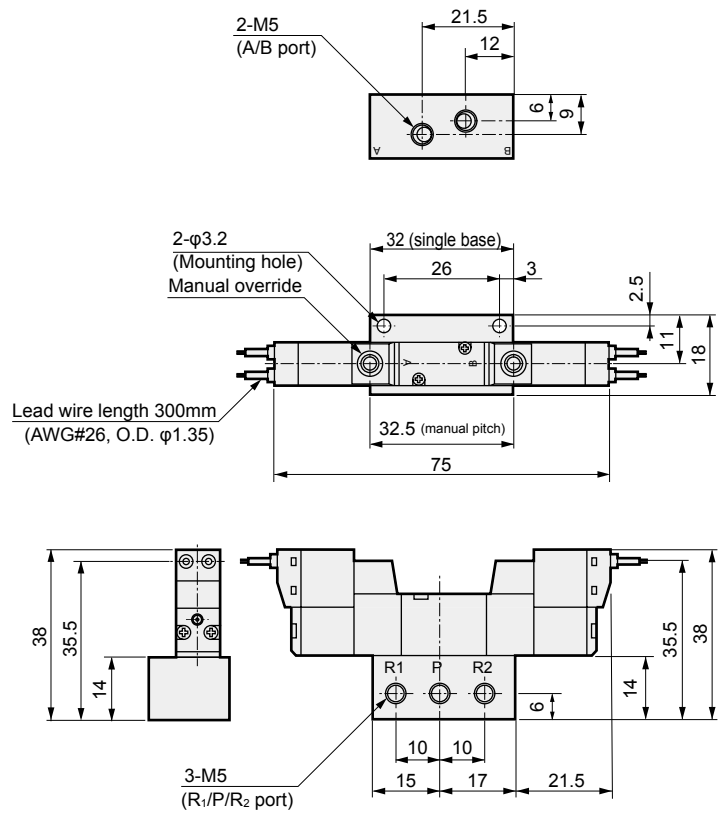
## 4SB010-M5

● 2-position single: grommet lead wire



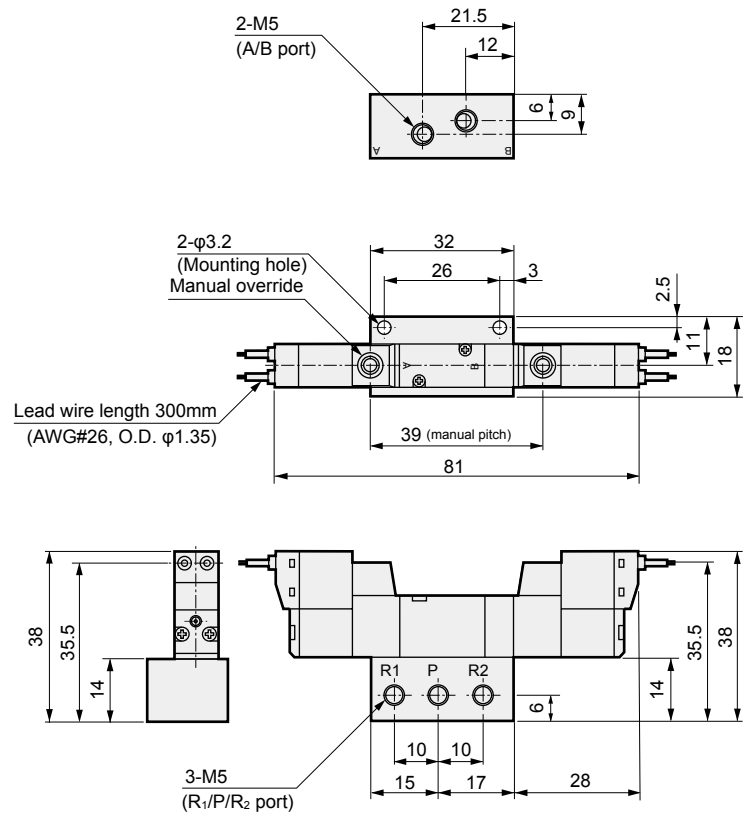
## 4SB020-M5

● 2-position double: grommet lead wire



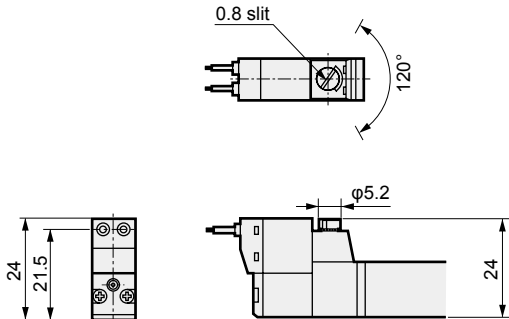
## 4SB0<sup>3</sup>/<sub>4</sub>/<sub>5</sub>0-M5

● 3-position: grommet lead wire

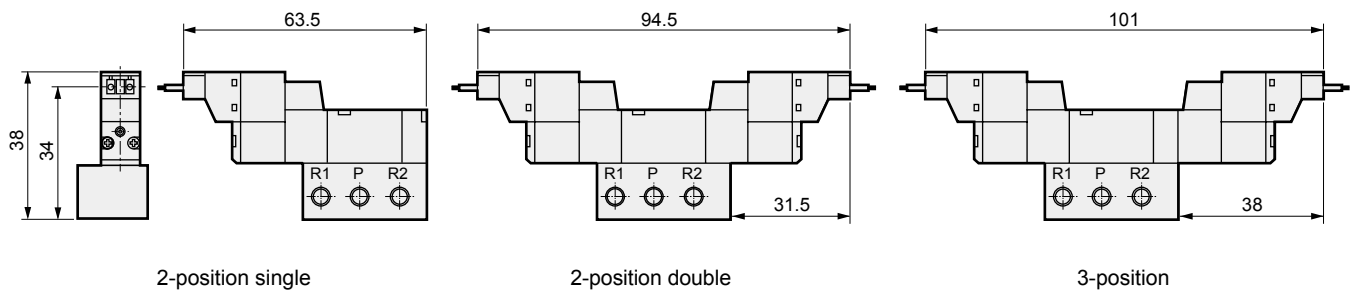


## Dimensions

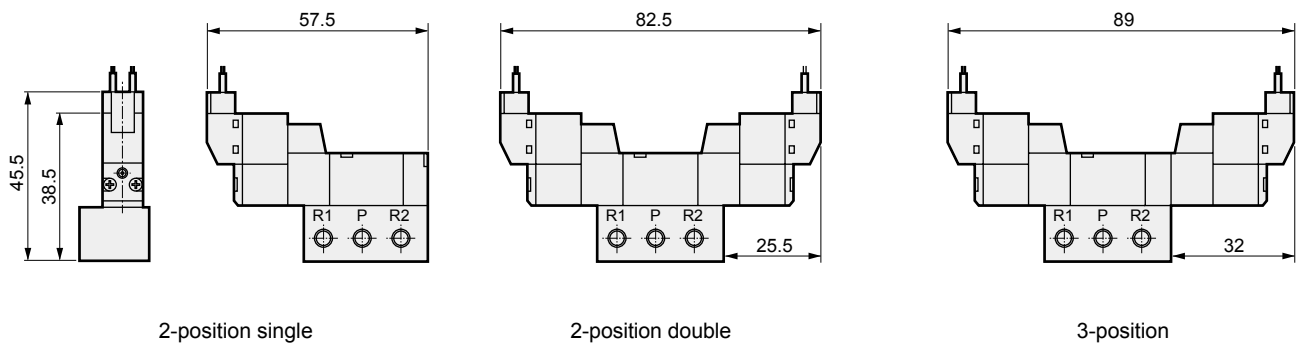
- Locking manual override: (M1)



- C type connector: (C/C0\*/C1/C2/C2\*/C3)

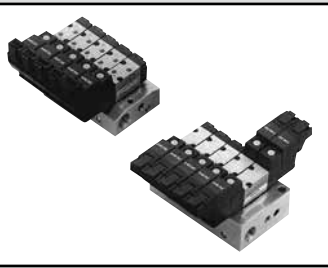


- D type connector: (D/D0\*/D1/D2/D2\*/D3)



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
<b>4SA/B0</b>
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

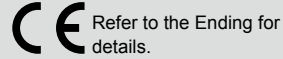




Individual wiring manifold,  
Pilot operated 5-port valve/small pneumatic valve  
Body piping/sub-plate piping

# M4SA0/M4SB0 Series

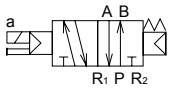
● Cylinder bore size:  $\phi 6$  to  $\phi 25$



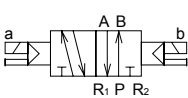
4GA/B  
M4GA/B  
MN4GA/B  
4GA/B (mastr)  
4GD/E  
M4GD/E  
MN4GD/E  
4GA4/B4  
MN3E  
MN4E  
W4GA/B2  
W4GB4  
4TB  
4L2-4/  
LMF0  
MN3S0  
MN4S0  
**4SA/B0**  
4KA/B  
4KA/B (mastr)  
4F  
4F (mastr)  
PV5G  
GMF  
PV5  
GMF  
PV5S-0  
3QR  
3QB  
MV3QR  
3MA/B0  
3PA/B  
P/M/B  
NP/NAP/  
NVP  
4F\*0EX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

## JIS symbol

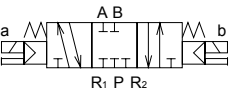
- 5-port valve  
2-position single



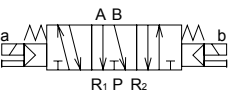
- 2-position double



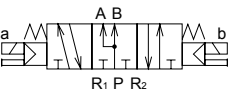
- 3-position all ports closed



- 3-position A/B/R connection



- 3-position P/A/B connection



## Common specifications

Descriptions	Content
Manifold method	Manifold integrated
Manifold	Common supply, common exhaust *1
Station No.	2 to 20 stations
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7 ( $\approx 100$ psi, 7 bar)
Min. working pressure MPa	0.2 ( $\approx 29$ psi, 2 bar)
Proof pressure MPa	1.05 ( $\approx 150$ psi, 10.5 bar)
Ambient temperature $^{\circ}\text{C}$	5 ( $41^{\circ}\text{F}$ ) to 50 ( $122^{\circ}\text{F}$ )
Fluid temperature $^{\circ}\text{C}$	5 ( $41^{\circ}\text{F}$ ) to 50 ( $122^{\circ}\text{F}$ )
Lubrication	Not required
Degree of protection	Dust-proof
Vibration resistance $\text{m/s}^2$	50 or less
Shock resistance $\text{m/s}^2$	300 or less
Atmosphere	Cannot be used in corrosive gas environment.

## Electrical specifications

Descriptions	Content	
Rated voltage V	24 DC	12 DC
Voltage fluctuation range	$\pm 10\%$	
Holding current A	0.025 (0.029)	0.050 (0.058)
Power consumption W *3	0.6(0.7)	0.6(0.7)
Thermal class	B	
Temperature rise $^{\circ}\text{C}$	50	

- \*1: 4SA0 is a pilot atmosphere release.  
The pilot exhaust for 4SB0 is centralized with the R-port.
- \*2: The values in ( ) are with a surge suppressor and indicator lamp.
- \*3: The power consumption for 6/5 VDC will be 0.9 (1.0) W.  
The power consumption for ozone-proof specifications (P11) will be 0.9 (1.0) W.

## Individual specifications

Descriptions		M4SA0	M4SB0
Port size *4	P-port	M5	M5/Rc1/8
	A/B-port	M3	M5
	R-port	Rc1/8	
Response time *5	2-position	20 or less	
	3-position	30 or less	
Manifold base weight calculation formula (n: station No.)	P-port: M5	13n+18	20n+36
	P-port: Rc1/8		21n+26

- \*4: For the port size of P and A/B-ports, there are options other than those listed above.  
Refer to item ④ in How to order on the next page.
- \*5: The response time is the value at 0.5 MPa supply pressure, with no lubrication, and with the power ON. It depends on the pressure and the lubricant quality.

## Flow characteristics

Model No.	Solenoid position	Port size	P $\rightarrow$ A/B		A/B $\rightarrow$ R	
			C [ $\text{dm}^3/(\text{s}\cdot\text{bar})$ ]	b	C [ $\text{dm}^3/(\text{s}\cdot\text{bar})$ ]	b
M4SA0	2-position	P-port: M5, A/B-port: M3	-	-	-	-
	3-position	R-port: Rc1/8	-	-	-	-
M4SB0	2-position	P-port: M5/Rc1/8	0.30	0.15	0.30	0.21
	3-position	A/B-port: M5, R-port: Rc1/8	0.29	0.14	0.30	0.20

- \*6: Be careful when using the T4 specifications ( $\phi 4$  barbed fitting use) as the flow rate will be constricted depending on the effective cross-sectional area of the fitting.
- \*7: Effective cross-sectional area S and sonic conductance C are converted as  $S \approx 5.0 \times C$ .

Example

The model No. when using a combination manifold of 7 stations with an array such as that in the figure at left with the A/B/P-ports of M5 and 24 VDC is  
**M4SB080-M5-C02-7-3-222100**  
S1=1.6 S2=2.5 S3=3.4 S4=7  
Code Position

## [Mix manifold]

- How to list combination descriptions  
When selecting a combination manifold (write 8 from ⑧), list the code (refer to table at right) for required functions and the arrangement No. (numbering up to specified station No. with left side as 1) in the field for remarks below the normal model No. display as shown in the example.

Code	Function
S1	2-position single
S2	2-position double
S3	3-position all ports closed
S4	3-position A/B/R connection
S5	3-position P/A/B connection
MP	Masking plate

1	2	3	4	5	6	7
2-position Single (S1)	2-position Double (S2)	3-position All ports closed (S3)	3-position All ports closed (S3)	2-position Double (S2)	2-position Single (S1)	3-position A/B/R connection (S4)

- With a mix manifold, when using 10 or more actuators of the same model No., specify using the codes in the table below.

Actuator quantity	10	11	12	13	14	15	16	17	18	19
Code	A	B	C	D	E	F	G	H	I	J

S1	S2	S3	S4	S5	MP
2	2	2	1	0	0

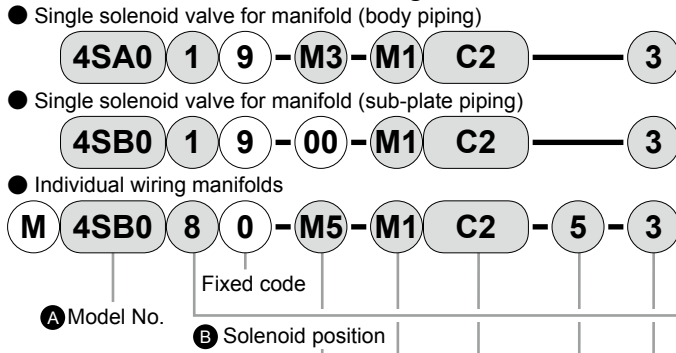
## Ozone-proof specifications (Ending Page 5)

\*\* - Voltage - **P11**

# M4SA0/M4SB0 Series

## Individual wiring manifold

### How to order individual wiring manifold



Indicate the valve function based quantity display position when using a mix manifold. Refer to page 1218.

A Model No.	
Body piping	Sub-plate piping
<b>4SA0</b>	<b>4SB0</b>

Code	Content		
<b>B 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 (when there are multiple solenoid positions)	●	●

C Port size				
Port	A/B	P	R	
M3	M 3	M 5	Rc1/8	● *1
M5	M 5			●
GS4	φ4 push-in fitting			● *3
T4	φ4 barbed fitting			● *4
T6	φ6 barbed fitting			● *4
PM5	M 5	Rc 1/8	Rc1/8	●
PGS4	φ4 push-in fitting			● *3
PT4	φ4 barbed fitting			● *4
PT6	φ6 barbed fitting			● *4

D Manual override			
Blank	Non-locking manual override	●	●
M1	Locking manual override	●	●

E Electrical connections			
<b>Grommet lead wire</b>			
Blank	Grommet lead wire (300 mm)	●	●
<b>C type connector (lead wire lateral direction)</b>			
C	Lead wire (300 mm)	●	●
C00	Lead wire (500 mm)	●	●
C01	Lead wire (1000 mm)	●	●
C02	Lead wire (2000 mm)	●	●
C1	Without lead wire (with socket)	●	●
C2	Lead wire (300 mm), surge suppressor/indicator lamp	●	●
C20	Lead wire (500 mm), surge suppressor/indicator lamp	●	●
C21	Lead wire (1000 mm), surge suppressor/indicator lamp	●	●
C22	Lead wire (2000 mm), surge suppressor/indicator lamp	●	●
C2N	No lead wire (without socket), surge suppressor/indicator lamp	●	●
C3	No lead wire (with socket), surge suppressor/indicator lamp	●	●

D type connector (lead wire upward direction)			
D	Lead wire (300 mm)	●	●
D00	Lead wire (500 mm)	●	●
D01	Lead wire (1000 mm)	●	●
D02	Lead wire (2000 mm)	●	●
D1	Without lead wire (with socket)	●	●
D2	Lead wire (300 mm), surge suppressor/indicator lamp	●	●
D20	Lead wire (500 mm), surge suppressor/indicator lamp	●	●
D21	Lead wire (1000 mm), surge suppressor/indicator lamp	●	●
D22	Lead wire (2000 mm), surge suppressor/indicator lamp	●	●
D2N	No lead wire (without socket), surge suppressor/indicator lamp	●	●
D3	No lead wire (with socket), surge suppressor/indicator lamp	●	●

F Station No.			
2 to 20	2 stations to 20 stations	●	●

G Voltage			
3	Standard	24 VDC	●
4	Standard	12 VDC	●
DC6V	Option	6 VDC	●
DC5V	Option	5 VDC	●

● Refer to page 1229 for how to order manifold bases and masking plates.

**E** Electrical connections  
 Note: Refer to page 1208 for the circuit diagram with a surge suppressor/lamp.

### ⚠ Precautions for model No. selection

#### For M4SA0

- \*1: The CKD compatible fittings of M3 are as listed below.  
 FTS4-M3, GWS3-M3-S
- \*2: For T4, barbed fitting FTS4-M3 screws into the A/B-port.

#### For M4SB0

- \*3: For GS4, push-in fitting GWS4-M5-S screws into the A/B-port.
- \*4: For T4 and T6, FTS4-M5 and FTS6-M5 screw into the A/B-port.

### [Example of model No.]

#### ● Individual wiring manifolds **M4SB010-M5-C2-2-3**

- A** Model No. : M4SB0
- B** Solenoid position : 2-position single
- C** Port size : A/B/P-port = M5, R-port = Rc1/8
- D** Manual override : Non-locking manual override
- E** Electrical connections: With C type connector lead wire (300 mm)/with surge suppressor and indicator lamp
- F** Station No. : 2 stations
- G** Voltage : 24 VDC

- F** Station No.
- G** Voltage

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
<b>4SA/B0</b>
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

# M4SA0/M4SB0 Series

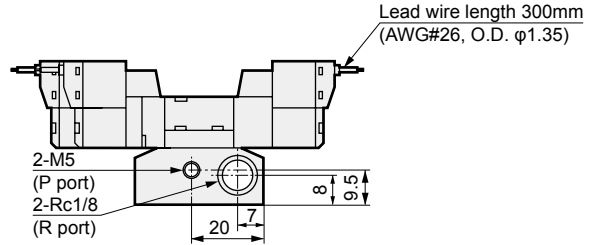
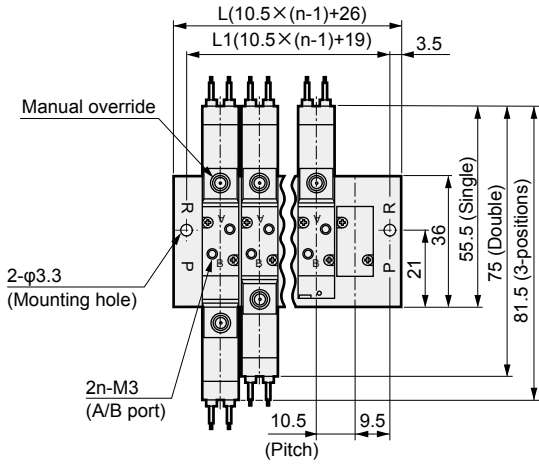
Individual wiring manifold; body piping/sub-plate piping

## 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

### M4SA0\*0-M3

● Body piping A type: grommet lead wire

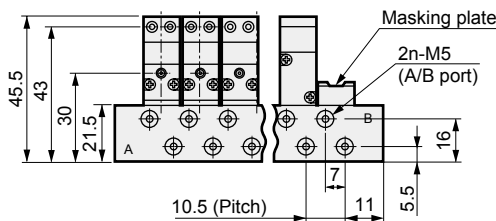
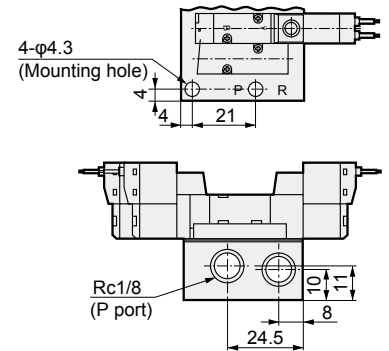
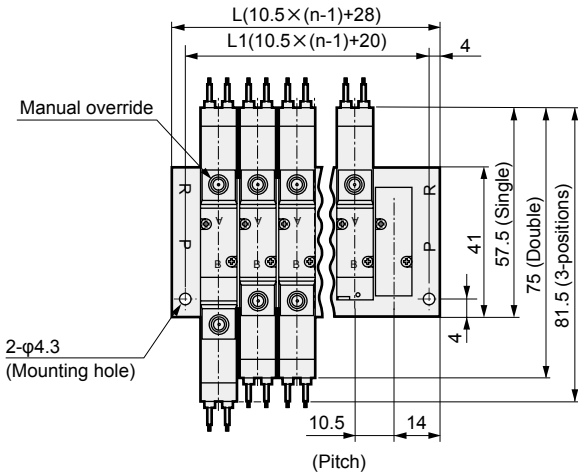


Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	29.5	40	50.5	61	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5	187	197.5	208	218.5
L	36.5	47	57.5	68	78.5	89	99.5	110	120.5	131	141.5	152	162.5	173	183.5	194	204.5	215	225.5

### M4SB0\*0-M5

● Sub-plate piping B type (P port M5): grommet lead wire

● P port Rc1/8



Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5
L	38.5	49	59.5	70	80.5	91	101.5	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5

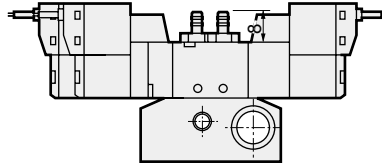
# M4SA0/M4SB0 Series

Individual wiring manifold; body piping/sub-plate piping

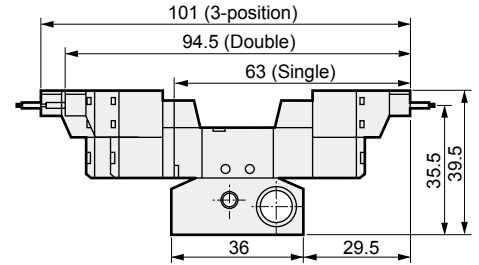
## Dimensions

Body piping A type →

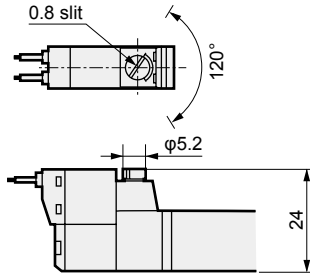
●  $\phi 4$  barbed fitting: (T4)



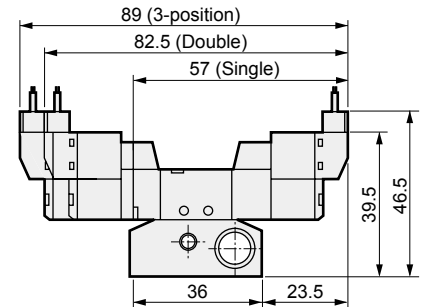
● C type connector:  
(C/C0\*/C1/C2/C2\*/C3)



● Locking manual override: (M1)

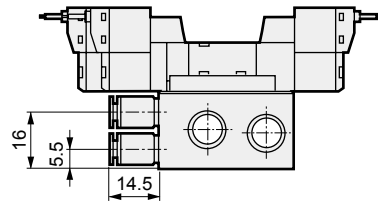


● D type connector:  
(D/D0\*/D1/D2/D2\*/D3)

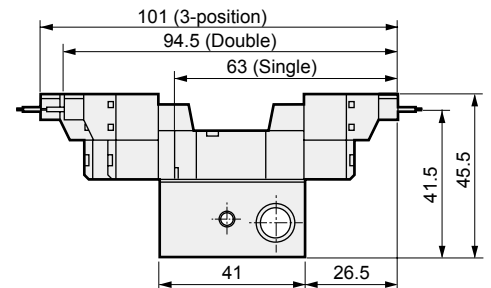


●  $\phi 4$  push-in fitting: (GS4/PGS4)

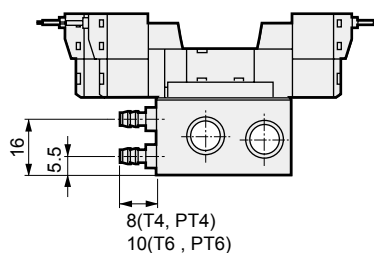
Sub-plate piping B type →



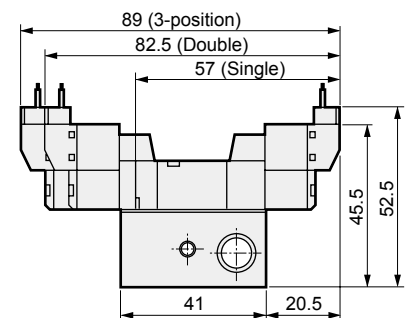
● C type connector:  
(C/C0\*/C1/C2/C2\*/C3)



●  $\phi 4/\phi 6$  barbed fitting:  
(T4/T6/PT4/PT6)

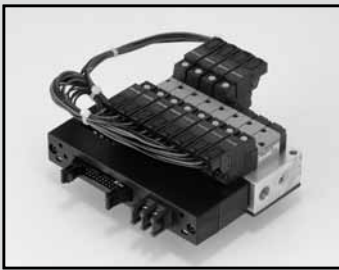


● D type connector:  
(D/D0\*/D1/D2/D2\*/D3)



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
<b>4SA/B0</b>
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

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



Reduced wiring manifold  
Pilot operated 5-port valve  
Sub-plate piping

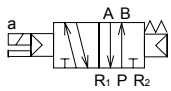
# M4SB0 Series

● Cylinder bore size:  $\phi 6$  to  $\phi 25$

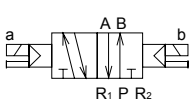


## JIS symbol

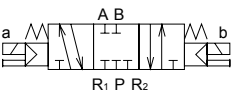
● 5-port valve  
2-position single



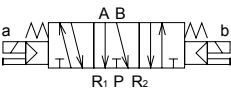
2-position double



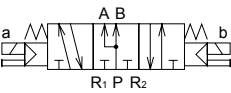
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



## Common specifications

Descriptions	Content
Manifold method	Manifold integrated
Manifold	Common supply, common exhaust *1
Station No.	2 to 20 stations
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7 ( $\approx 100$ psi, 7 bar)
Min. working pressure MPa	0.2 ( $\approx 29$ psi, 2 bar)
Proof pressure MPa	1.05 ( $\approx 150$ psi, 10.5 bar)
Ambient temperature $^{\circ}\text{C}$	5 ( $41^{\circ}\text{F}$ ) to 50 ( $122^{\circ}\text{F}$ )
Fluid temperature $^{\circ}\text{C}$	5 ( $41^{\circ}\text{F}$ ) to 50 ( $122^{\circ}\text{F}$ )
Lubrication	Not required
Degree of protection	Dust-proof
Vibration resistance $\text{m/s}^2$	50 or less
Shock resistance $\text{m/s}^2$	300 or less
Atmosphere	Cannot be used in corrosive gas environment.

## Electrical specifications

Descriptions	Content	
Rated voltage V	24 DC	12 DC
Voltage fluctuation range	$\pm 10\%$	
Holding current A	0.029	0.058
Power consumption W *2	0.7	0.7
Thermal class	B	
Temperature rise $^{\circ}\text{C}$	50	

\*1: The pilot exhaust for 4SB0 is centralized with the R-port.  
\*2: The power consumption for 6/5 VDC will be 1.0 W.  
The power consumption for ozone-proof specifications (P11) will be 1.0 W.

## Individual specifications

Descriptions	M4SB0	
Port size *3	P-port	M5/Rc1/8
	A/B-port	M5
	R-port	Rc1/8
Response time *4	2-position	20 or less
	3-position	30 or less
Manifold base weight calculation formula (n: station No.)	P-port: M5	20n+146
	P-port: Rc1/8	21n+136

\*3: For the port size of P and A/B-ports, there are options other than those listed above.

Refer to item ⑤ of How to order on the next page.

\*4: The response time is the value at 0.5 MPa supply pressure, with no lubrication, and with the power ON. It depends on the pressure and the lubricant quality.

\*5: The manifold weight is the value when equipped with wiring section.

## Flow characteristics

Model No.	Solenoid position	Port size	P $\rightarrow$ A/B		A/B $\rightarrow$ R	
			C[dm <sup>3</sup> /(s·bar)]	b	C[dm <sup>3</sup> /(s·bar)]	b
M4SB0	2-position	P-port: M5/Rc1/8	0.30	0.15	0.30	0.21
	3-position	A/B-Port: M5, port R: Rc1/8	0.29	0.14	0.30	0.20

\*6: Be careful when using the T4 specifications ( $\phi 4$  barbed fitting use) as the flow rate will be constricted depending on the effective cross-sectional area of the fitting.

\*7: Effective cross-sectional area S and sonic conductance C are converted as  $S \approx 5.0 \times C$ .

Example

The model No. when using a combination manifold of 7 stations with an array such as that in the figure at left with the A/B/P-ports of M5 and 24 VDC is  
**M4SB080-M5-C4T50-7-3-222100**  
S1=1,6 S2=2,5 S3=3,4 S4=7  
Code Position

## [Mix manifold]

● How to list combination descriptions  
When selecting a combination manifold (write 8 from ④), list the code (refer to table on right) for required functions and the arrangement No. (numbering up to specified station No. with left side as 1) in the field for remarks below the normal model No. display as shown in the example.

Code	Function	1	2	3	4	5	6	7
S1	2-position single	2-position Single (S1)	2-position Double (S2)	3-position All ports closed (S3)	3-position All ports closed (S3)	2-position Double (S2)	2-position Single (S1)	3-position A/B/R connection (S4)
S2	2-position double							
S3	3-position all ports closed							
S4	3-position A/B/R connection							
S5	3-position P/A/B connection							
MP	Masking plate							

● With a mix manifold, when using 10 or more actuators of the same model No., specify using the codes in the table below.

Actuator quantity	10	11	12	13	14	15	16	17	18	19
Code	A	B	C	D	E	F	G	H	I	J

S1	S2	S3	S4	S5	MP
2	2	2	1	0	0

## Ozone-proof specifications (Ending Page 5)

\*\* - Voltage - **P11**

### How to order reduced wiring manifold

- Single solenoid valve for manifold (sub-plate piping)

4SB0 1 9 - 00 - M1 C4 - 3

- Reduced wiring manifold

M 4SB0 8 0 - M5 - M1 C4T31 - 5 - 3 - 2 2 0 0 0 1

Indicate the valve function based quantity display position when using a mix manifold. Refer to page 1222.

Model No.

Fixed code

**A** Solenoid position

**B** Port size

**C** Manual override

**D** Electrical connections

Note: Refer to page 1208 for the circuit diagram with a surge suppressor/lamp.

**E** Station No.

**F** Voltage

- Refer to page 1229 for how to order manifold bases and masking plates.
- Refer to page 1227 for the model No. of cables with D sub-connector.
- Refer to page 1229 for the model No. of cables for a flat cable connector.

### ⚠ Precautions for model No. selection

- \*1: For GS4, push-in fitting GWS4-M5-S screws into the A/B-port.
- \*2: For T4 and T6, FTS4-M5 and FTS6-M5 screw into the A/B-port.
- \*3: C4 and D4 are only single solenoid valves for 4SB0 manifolds.  
A reduced wiring socket assembly (length of 270 mm) will be attached.
- \*4: T30/T31 has a max. number of single solenoids of 20 stations while T50 has a max. number of single solenoids of 16 stations.

### [Example of model No.]

● Reduced wiring manifold  
**M4SB010-M5-C4T50-7-3**

Model: M4SB0

- A** Solenoid position : 2-position single
- B** Port size : A/B/P-port = M5, R-port = Rc1/8
- C** Manual override : Non-locking manual override
- D** Electrical connections: Flat cable connector
- E** Station No. : 7 stations
- F** Voltage : 24 VDC

Code	Content		
<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 (when there are multiple solenoid positions)		
<b>B Port size</b>			
Port	A/B	P	R
M5	M5	M5	Rc1/8
GS4	φ4 push-in fitting *1		
T4	φ4 barbed fitting *2		
T6	φ6 barbed fitting *2	Rc1/8	Rc1/8
PM5	M5		
PGS4	φ4 push-in fitting *1		
PT4	φ4 barbed fitting *2		
PT6	φ6 barbed fitting *2		
<b>C Manual override</b>			
Blank	Non-locking manual override		
M1	Locking manual override		
<b>D Electrical connections</b>			
C4	C type connector (T31/T50) *3 with surge suppressor and indicator lamp		
D4	D type connector (T30) *3 with surge suppressor and indicator lamp		
C4T31	D sub-connector lateral facing with surge suppressor and indicator lamp		
D4T30	D sub-connector upward facing with surge suppressor and indicator lamp		
C4T50	Flat cable connector with surge suppressor and indicator lamp		
<b>E Station No.</b>			
4 to 20	4 stations to 20 stations *4		
<b>F Voltage</b>			
3	Standard	24 VDC	
4		12 VDC	
DC6V	Option	6 VDC	
DC5V		5 VDC	

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
<b>4SA/B0</b>
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



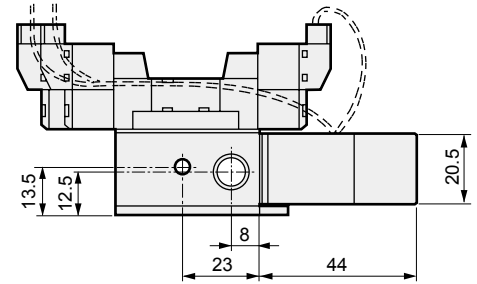
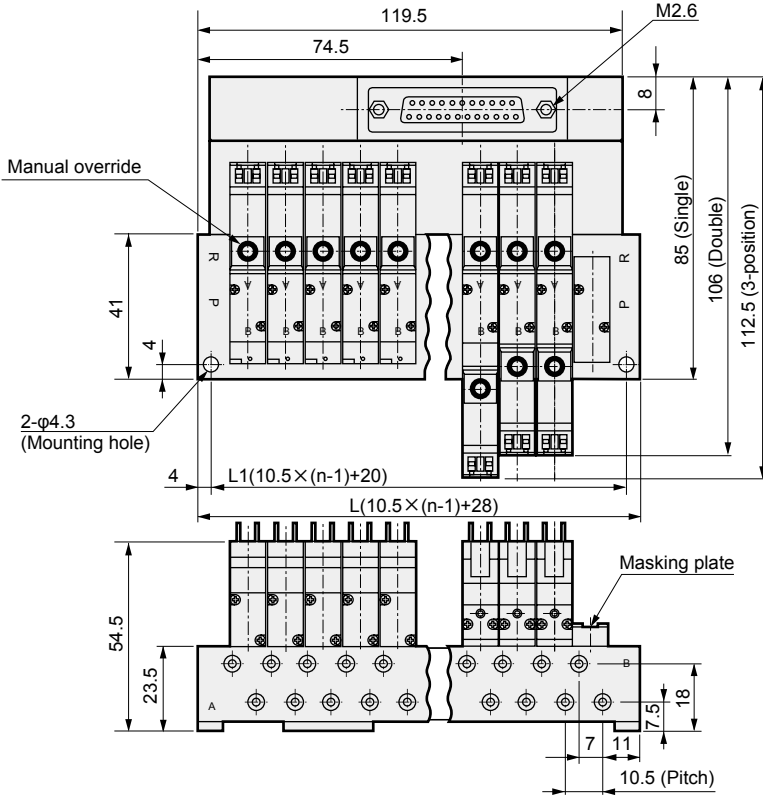
# M4SB0 Series

Reduced wiring manifold; sub-plate piping

## Dimensions

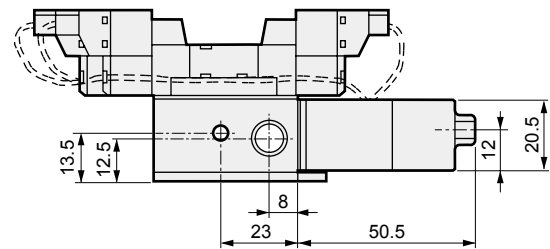
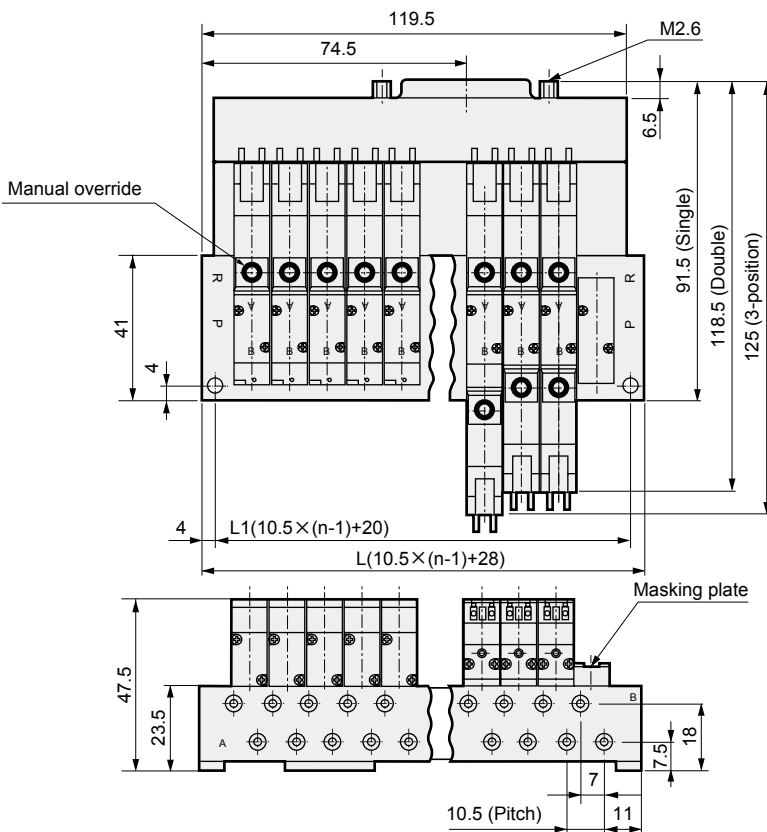
### M4SB0\*0-M5-D4T30

● D sub-connector upward facing: (P-port M5)



### M4SB0\*0-M5-C4T31

● D sub-connector lateral facing: (P-port M5)



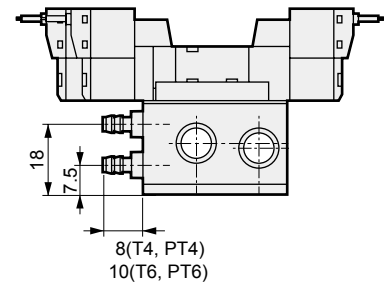
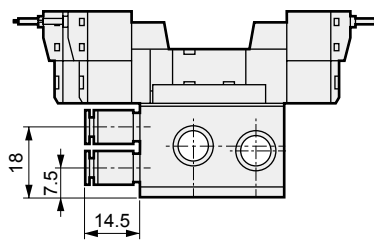
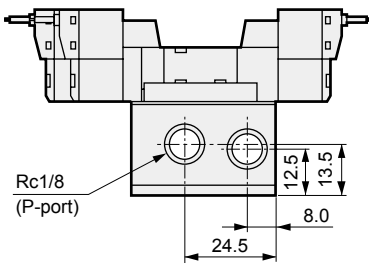
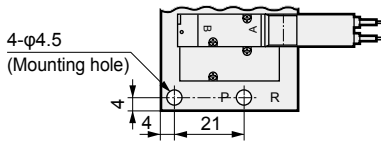
Station No.	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5
L	59.5	70	80.5	91	101.5	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5

### Dimensions

● A/B-port M5, P-port 1/8:  
(PM5)

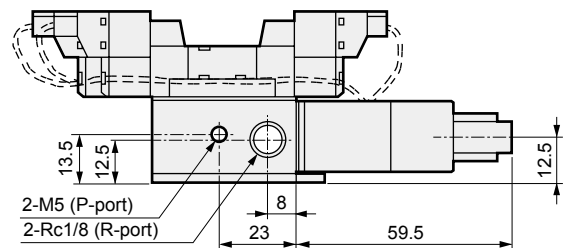
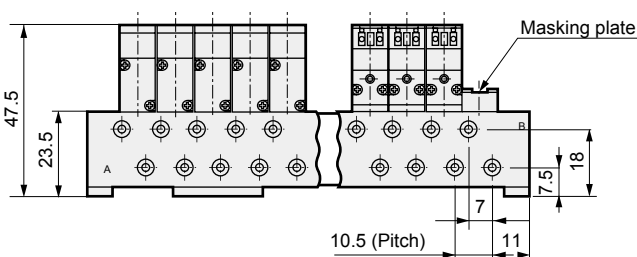
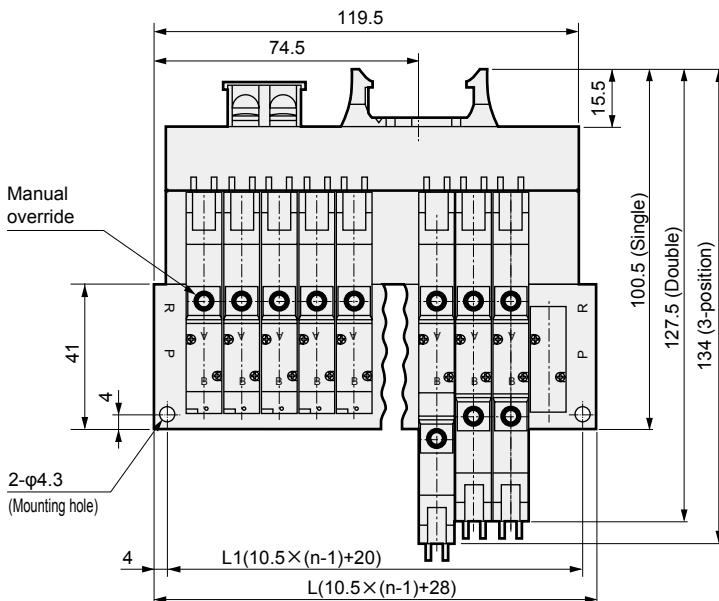
●  $\phi 4$  push-in fitting: (GS4/PGS4)

●  $\phi 4/\phi 6$  barbed fitting:  
(T4/T6/PT4/PT6)



### M4SB0\*0-M5-C4T50

● Flat cable connector: (P-port M5)



Station No.	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5
L	59.5	70	80.5	91	101.5	112	122.5	133	143.5	154	164.5	175	185.5

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
<b>4SA/B0</b>
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