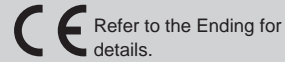




Discrete valve; body piping/sub-plate piping
Direct acting 3-port pneumatic valve

3PA/3PB Series

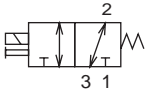
● Cylinder bore size: $\varnothing 16$ to $\varnothing 40$



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

JIS symbol

● 2-port/universal



Port numbers 1, 2, and 3 are
Port 1: P, NC
Port 2: A, COM
Port 3: R, NO

Common specifications 1 MPa = 10 bar

Item	Description
Valve and operation	Direct acting poppet valve
Working fluid	Compressed air, low vacuum
Max. working pressure MPa	0.70 (≈ 100 psi, 7 bar)
Min. working pressure KPa	-100 (≈ -15 psi, -1 bar)
Proof pressure MPa	1.05 (≈ 150 psi) (low vacuum: -101 KPa (≈ -15 psi))
Max. working pressure differential MPa	0.70 (≈ 100 psi, 7 bar)
Ambient temperature $^{\circ}\text{C}$	-5 (23 $^{\circ}\text{F}$) to 50 (122 $^{\circ}\text{F}$) (no freezing)
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 m/s^2	50 or less
Shock resistance m/s^2	300 or less
Atmosphere	Cannot be used in corrosive gas environment.

Electrical specifications

Item		3PA1 3PB1	3PA2 3PB2	
Rated voltage	AC	100, 200 (50/60 Hz)		
	V DC	24		
Voltage fluctuation range		$\pm 10\%$		
Starting current A	AC	100 V	0.032 / 0.027	0.068 / 0.054
		200 V	0.016 / 0.014	0.034 / 0.027
	DC	24 V	-	-
Holding current A	AC	100 V	0.028 / 0.022	0.041 / 0.032
		200 V	0.014 / 0.011	0.021 / 0.016
	DC	24 V	0.075	0.075
Power consumption W (With indicator lamp)	AC	100 V	1.8 / 1.4 (2.0 / 1.6)	2.2 / 1.8 (2.4 / 2.0)
		200 V	1.8 / 1.4 (2.0 / 1.6)	2.2 / 1.8 (2.4 / 2.0)
	DC	24 V	1.8 (2.0)	1.8 (2.0)
Thermal class		B (molded coil)		
Temperature rise $^{\circ}\text{C}$		30 (86 $^{\circ}\text{F}$)		

Reference: 100 VAC 50/60 Hz can be used with a rated voltage of 110 VAC 60 Hz and 200 VAC 50/60 Hz can be used with 220 VAC 60 Hz.

Individual specifications

Item	3PA1	3PA2	3PB1	3PB2
Port size *1	M5 ($\varnothing 4, \varnothing 6$ Push-in fitting)	Rc1/8 ($\varnothing 6, \varnothing 8$ Push-in fitting)	Rc1/8	Rc1/8, 1/4

*1: () shows options. As G and NPT threads can also be used for piping port screws, contact CKD for details.

Performance/characteristics by model

Item	3PA1	3PA2	3PB1	3PB2
Response time *2 ms	20 or less	20 or less	20 or less	20 or less

*2: 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.

Weight

Item	3PA1	3PA2	3PB1	3PB2
Weight g	54	127	84	175

Flow characteristics

Model No.	Port 1 \rightarrow 2		Port 2 \rightarrow 1		Port 2 \rightarrow 3		Port 3 \rightarrow 2	
	C[dm ³ /(s·bar)]	b	C[dm ³ /(s·bar)]	b	C[dm ³ /(s·bar)]	b	C[dm ³ /(s·bar)]	b
3PA1	0.34	0.29	0.35	0.42	0.38	0.43	0.35	0.32
3PA2	0.98	0.17	1.0	0.34	1.1	0.28	1.0	0.20
3PB1	0.37	0.05	0.33	0.21	0.41	0.28	0.42	0.08
3PB2	0.90	0.19	0.97	0.39	1.0	0.26	0.94	0.27

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

How to order single valve

● Body piping

3PA1 1 0 - **M5** - **M1** **LS** - **3**

● Sub-plate piping

3PB2 1 0 - **08** - **M1** **LS** - **3**

● Solenoid valve for manifold (sub-plate piping)

3PB1 1 9 - **00** - **M1** **B** - **3** * Gasket/mounting screw attached

A Model No.
Solenoid position
2 position single

B Port size

C Manual override

D Electrical connections
* For the circuit diagram with surge suppressor/lamp refer to page 1610.
*4

[Table 1] Compact terminal box L/LS compatibility table

Code	Description		3PA1	3PA2	3PB1	3PB2	Surge suppressor
L	Without lead wire	With indicator lamp	AC	●	●	●	●
		DC		●		●	
	With surge suppressor/indicator lamp	AC					
		DC	●		●		Integrated
LS	Without lead wire	With surge suppressor/indicator lamp	AC	●	●	●	●
		DC		●		●	Integrated

⚠ Precautions for model No. selection

- *1 : For GS4, screw push-in fitting GWS4-M5-S into the 1, 2, and 3 ports.
- *2 : For GS6, screw push-in fitting GWS6-M5-S (3PA1)/GWS6-6 (3PA2) into the 1, 2, and 3 ports.
- *3 : For GS8, screw push-in fitting GWS8-6 into the 1, 2, and 3 ports.
- *4 : The lead wire used is AWG 20 to 24 size.
- *5 : The surge suppressor for attachment is a suppression connector when the grommet lead wire is 24 VDC or less. (Refer to page 1609.)
- *6 : The surge suppressor can only be selected when the grommet lead wire or compact terminal box "B" has been selected for the electrical connections.

[Example of model No.]

3PA210-06-M1BP-3

A Model: 3PA2 (body piping)

Solenoid position: 2-position single

B Port size : Rc1/8

C Manual override : Locking manual override

D Electrical connections: Terminal box

E Other options : With mounting plate

F Voltage : 24 VDC

E Other options

F Voltage

Ozone-proof specifications (Ending Page 5)

Conforms to low-concentration ozone specifications as standard.

CE marking specifications

• Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".

** - Voltage - **ST**

		A Model No.				
		Body piping	Sub-plate piping			
		3PA1	3PA2	3PB1	3PB2	
B Port size	Code	Description				
	M5	M 5	●			
	06	Rc 1/8		●	●	
	08	Rc 1/4			●	
	GS4	ø4 push-in fitting *1	●			
	GS6	ø6 push-in fitting *2	●	●		
	GS8	ø8 push-in fitting *3		●		
C	Blank	Manual override of non-locking	●	●	●	
	M1	Locking manual override	●	●	●	
D Electrical connections	Grommet lead wire					
	Blank	Grommet lead wire (300 mm)	●	●	●	
	Compact terminal box					
	B	Without lead wire	●	●	●	
	L	Without lead wire	Refer to [Table 1] at left for details.			
	LS	No lead wire, with surge suppressor/lamp				
	C-connector (lead wire lateral direction)					
	C	Lead wire (300 mm)	●	●	●	
	C00	Lead wire (500 mm)	●	●	●	
	C01	Lead wire (1000 mm)	●	●	●	
C02	Lead wire (2000 mm)	●	●	●		
C03	Lead wire (3000 mm)	●	●	●		
C1	Without lead wire	●	●	●		
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	●	●	●		
C23	Lead wire (3000 mm), surge suppressor/indicator lamp	●	●	●		
C3	Lead/no lead wire, surge suppressor/indicator lamp	●	●	●		
D-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)	●	●	●		
D03	Lead wire (3000 mm)	●	●	●		
D1	Without lead wire	●	●	●		
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	●	●	●		
D23	Lead wire (3000 mm), surge suppressor/indicator lamp	●	●	●		
D3	No lead wire, with surge suppressor/indicator lamp	●	●	●		
E	Blank	Without mounting plate	●	●		
	P	With mounting plate	●	●		
	S	Surge suppressor included *5	●	●	●	
F Voltage	Standard	1	AC100V 50 / 60Hz	●	●	●
		2	AC200V 50 / 60Hz	●	●	●
		3	24 VDC	●	●	●
	Option	110 VAC	AC110V 50 / 60Hz	●	●	●
		220 VAC	AC220V 50 / 60Hz	●	●	●
		4	12 VDC	●	●	●
* Other custom order products						
AC24V			●	●	●	
AC115V			●	●	●	
AC120V			●	●	●	

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

3PA Series

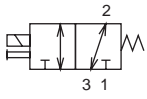
Discrete valve; body piping

Internal structure and parts list

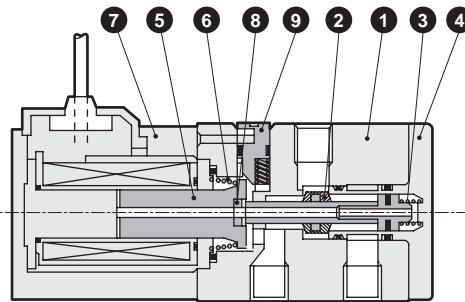
- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B**
- P/M/B
- NP/NAP
- NVP
- 4G*0EJ
- 4F*0EX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

3PA110

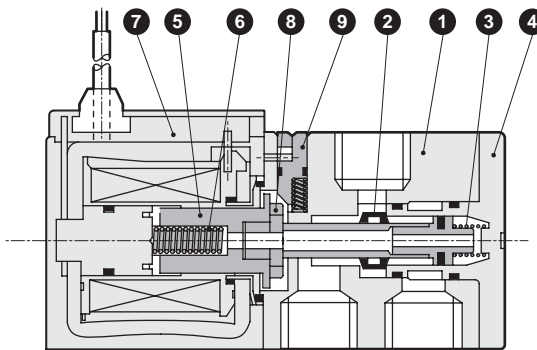
● 2-position single



* Port numbers 1, 2, and 3 are
 Port 1: P, NC
 Port 2: A, COM
 Port 3: R, NO



3PA210



Main parts list

No.	Part name	Material
1	Body	Aluminum alloy die-casting
2	Valving element (stem assembly)	-
3	Valve spring	Stainless steel
4	Cap	Resin
5	Plunger	Stainless steel
6	Plunger spring	Stainless steel
7	Coil assembly	-
8	Knock	Resin
9	Manual button	Resin

Repair parts list

No./part name	Model No.	5 6 7 8
		Coil assembly *
	3PA110	3P1 - electrical connections - COIL - voltage Blank for grommet lead wire
	3PA210	3P2 - electrical connections - COIL - voltage Blank for grommet lead wire

- * 1: The plunger assembly is attached with the coil assembly. As there are limitations with the combinations of coils and plungers, do not replace these.
- * 2: The compact terminal box and connector of the coil assembly will come assembled and attached with the options indicated with How to order.
- * 3: When combining a coil assembly into a valve, contact CKD for precautions regarding the work.

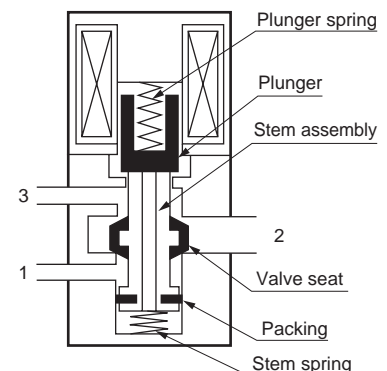
Operational principle

3P Series structure is a pressure balanced type poppet valve, which is not affected by the working pressure and achieves a low wattage large flow rate performance.

Port can be pressurized from any of ports 1, 2, or 3.

The stem assembly valve seat and packing have the same diameter, so each port pressure differential is canceled by the stem assembly's through hole and pressure is balanced at both ON and OFF.

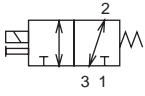
- When not energized
 The stem assembly is pushed toward port 1 side by the plunger spring force transmitted by the plunger.
 Port 1 is closed due to the stem assembly valve seat and packing. Ports 2 and 3 are opened.



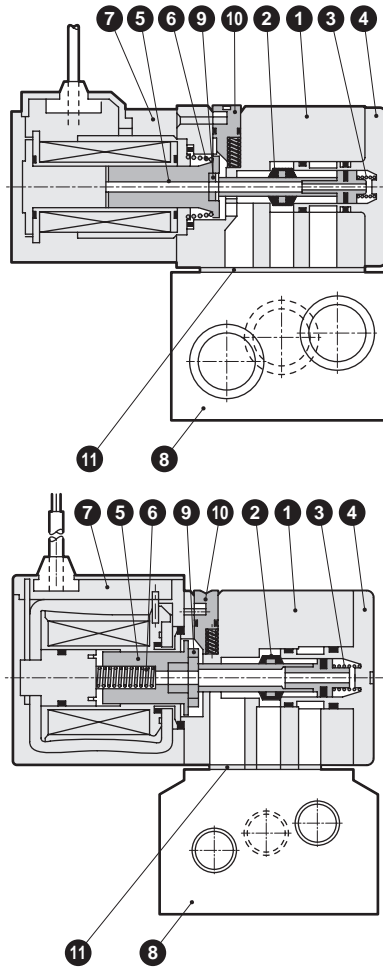
Internal structure and parts list

3PB110

● 2-position single



* Port numbers 1, 2 and 3 are
 Port 1: P, NC
 Port 2: A, COM
 Port 3: R, NO



3PB210

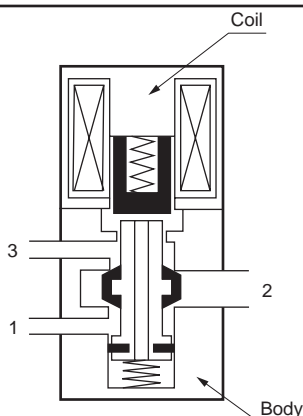
Main parts list

No.	Part name	Material
1	Body	Aluminum alloy die-casting
2	Valving element (stem assembly)	-
3	Valve spring	Stainless steel
4	Cap	Resin
5	Plunger	Stainless steel
6	Plunger spring	Stainless steel
7	Coil assembly	-
8	Sub-plate	Aluminum alloy die-casting
9	Knock	Resin
10	Manual button	Resin
11	Gasket	Nitrile rubber

Repair parts list

No./part name Model No.	5 6 7 9 Coil assembly *
3PB110	3P1 - <input type="text"/> electrical connections - COIL - <input type="text"/> voltage ↳ Blank for grommet lead wire
3PB210	3P2 - <input type="text"/> electrical connections - COIL - <input type="text"/> voltage ↳ Blank for grommet lead wire

* 1: The plunger assembly is attached with the coil assembly. As there are limitations with the combinations of coils and plungers, do not replace these.
 * 2: The compact terminal box and connector of the coil assembly will come assembled and attached with the options indicated with How to order.
 * 3: When combining a coil assembly into a valve, contact CKD for precautions regarding the work.



● When energized

When the coil is energized, the plunger is suctioned to the coil side, the stem assembly is actuated by the stem spring, and ports 1 and 2 open. Port 3 is closed.

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

3PA1/3PA2 Series

Discrete valve; body piping

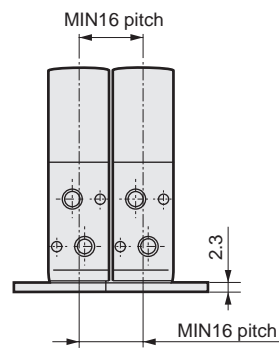
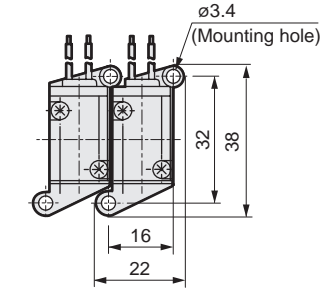
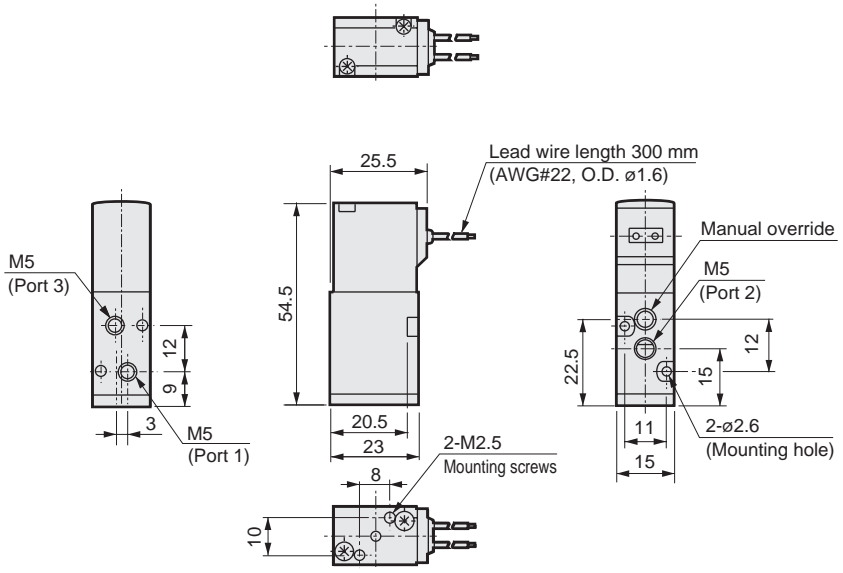
4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys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

Dimensions

3PA110-M5

● 2-position single: grommet lead wire

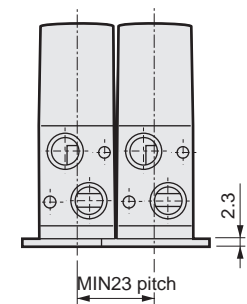
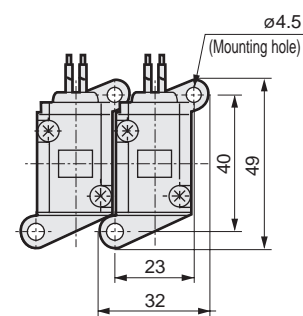
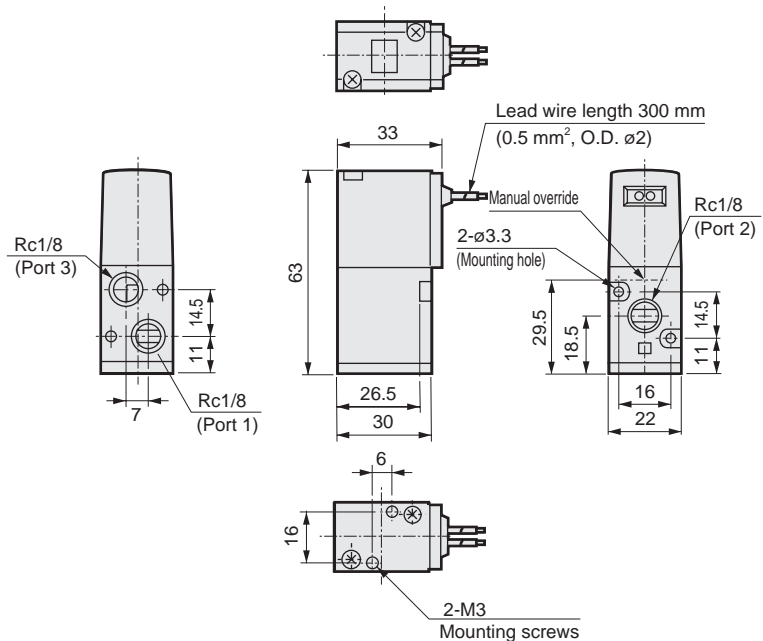
● With mounting plate: (P)



3PA210-06

● 2-position single: grommet lead wire

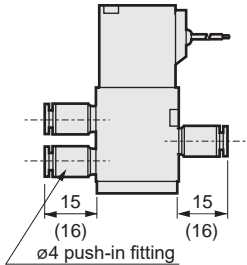
● With mounting plate: (P)



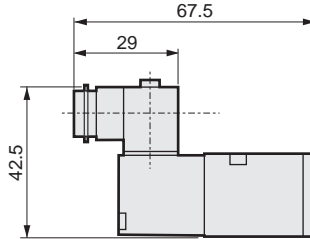
Dimensions

For 3PA1

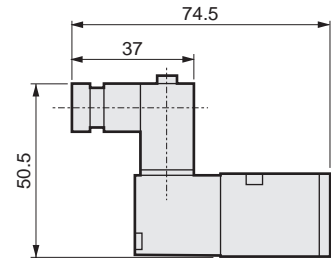
- $\phi 4$, $\phi 6$ push-in fitting: (GS4/GS6)



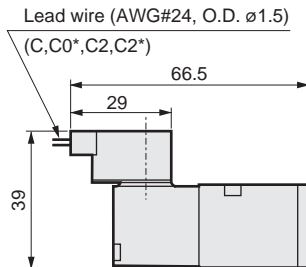
- Terminal box: (B)



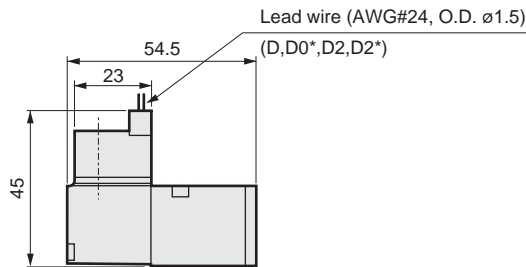
- Terminal box with lamp: (L/LS)



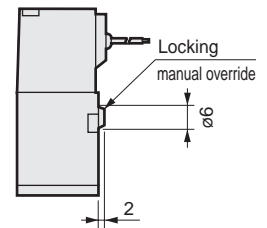
- C-connector: (C/C0*/C1/C2*/C3)



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

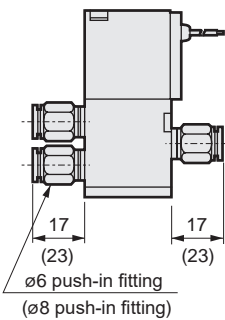


- Locking manual override: (M1)

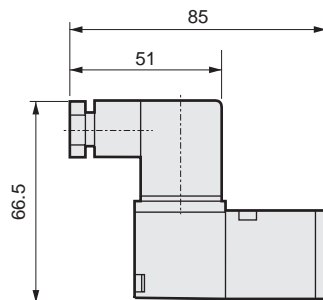


For 3PA2

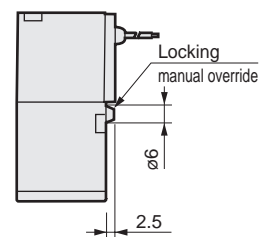
- $\phi 6$, $\phi 8$ push-in fitting: (GS6/GS8)



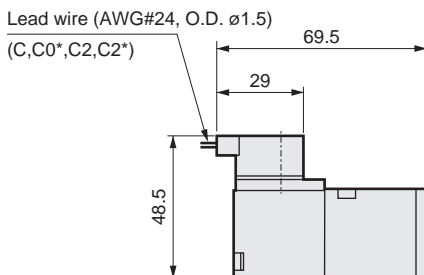
- Terminal box: (B/L/LS)



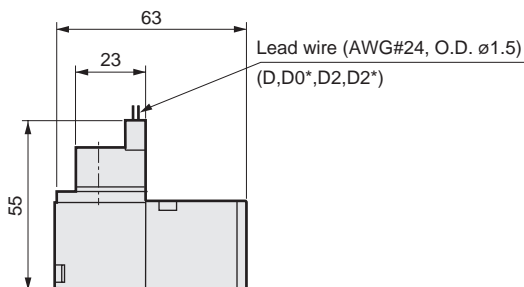
- Locking manual override: (M1)



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



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



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

3PB1/3PB2 Series

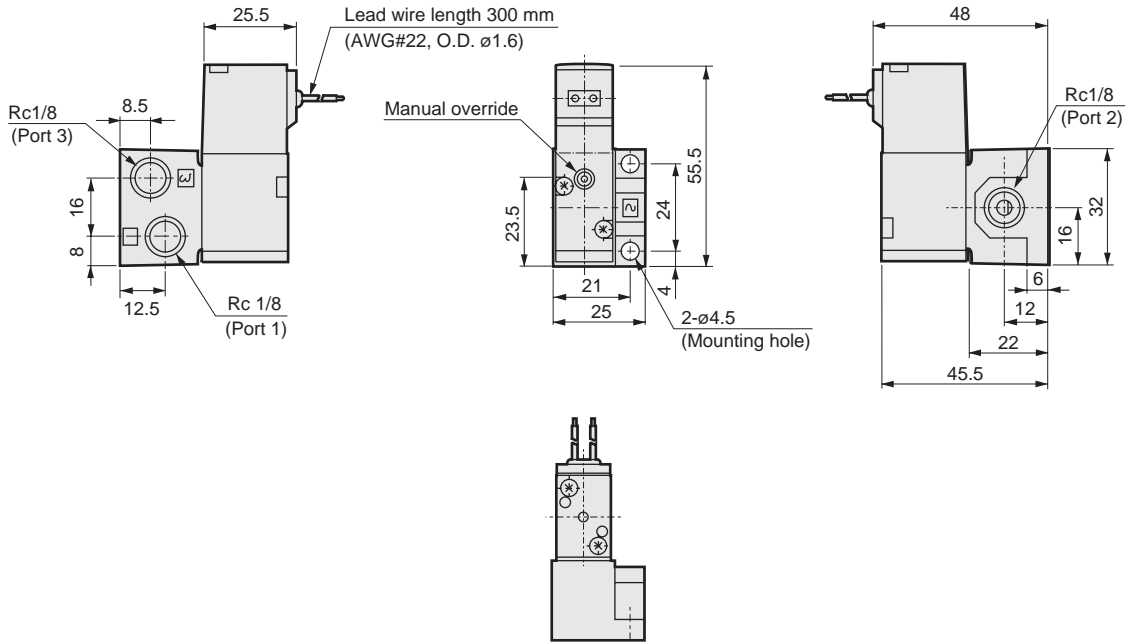
Discrete valve; sub-plate piping



Dimensions

3PB110-06

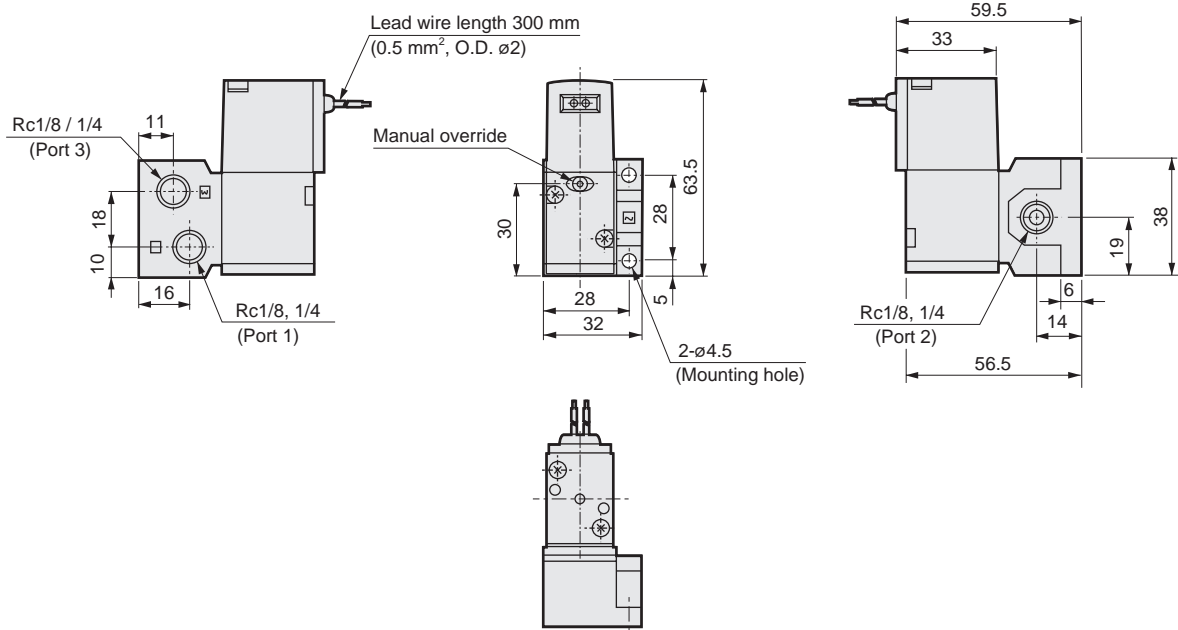
● 2-position single: grommet lead wire



3PB210-06

08

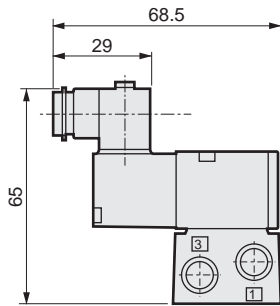
● 2-position single: grommet lead wire



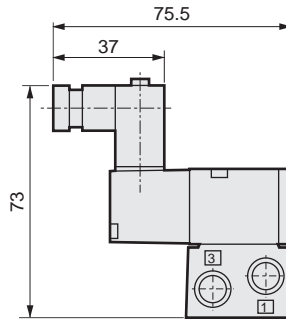
Dimensions

For 3PB1

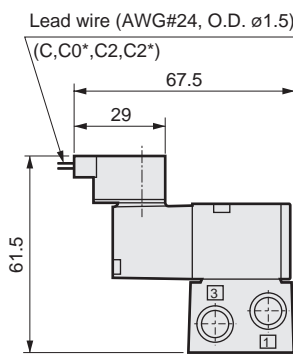
- Terminal box: (B)



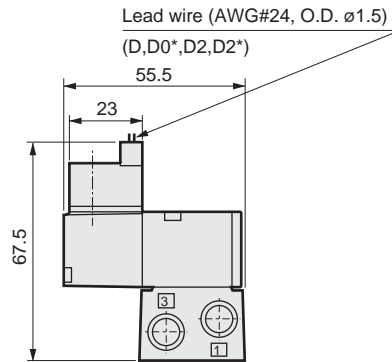
- Terminal box with lamp: (L/LS)



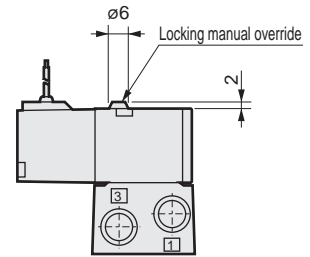
- C-connector: (C/C0*/C1/C2*/C3)



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

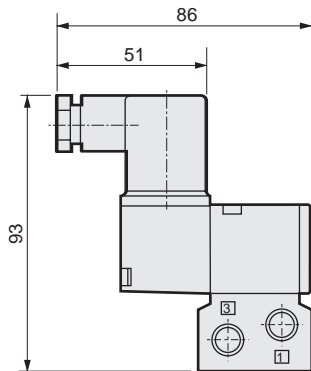


- Locking manual override: (M1)

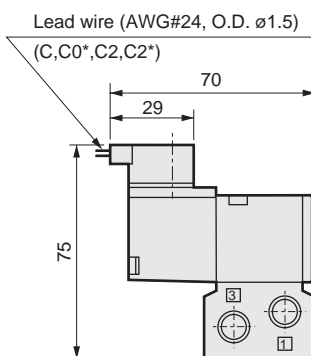


For 3PB2

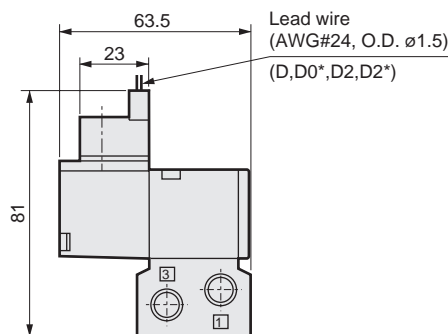
- Terminal box: (B/L/LS)



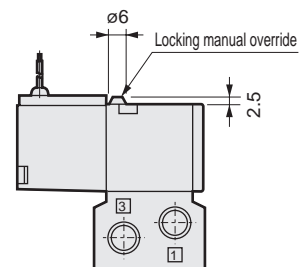
- C-connector: (C/C0*/C1/C2*/C3)



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



- Locking manual override: (M1)



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



Individual wiring manifold body piping / sub-plate piping
Direct acting 3-port pneumatic valve

M3PA, M3PB Series

● Cylinder bore size: $\varnothing 16$ to $\varnothing 40$



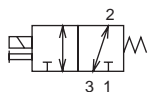
Refer to the Ending for details.



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

JIS symbol

● 2-port/universal



Port numbers 1, 2, and 3 are
Port 1: P, NC
Port 2: A, COM
Port 3: R, NO

Common specifications 1 MPa = 10 bar

Item	Description
Manifold method	Sub-plate integrated
Station No.	2 to 20 stations
Valve and operation	Direct acting poppet valve
Working fluid	Compressed air, low vacuum
Max. working pressure MPa	0.70
Min. working pressure KPa	-100
Proof pressure MPa	1.05 (low vacuum: -101 kPa)
Max. working Press Diff. (MPa)	0.70
Ambient temperature °C	-5 to 50 (no freezing)
Fluid temperature °C	5 to 50
Lubrication	Not required
Degree of protection	Dust-proof
Vibration resistance m/s ²	50 or less
Shock resistance m/s ²	300 or less
Atmosphere	Cannot be used in corrosive gas environment.

Electrical specifications

Item	3PA1 3PB1		3PA2 3PB2		
	Rated voltage	AC	100, 200 (50 / 60 Hz)		
	V	DC	24		
Voltage fluctuation range		±10%			
Starting current	A	AC 100 V	0.032 / 0.027	0.068 / 0.054	
		AC 200 V	0.016 / 0.014	0.034 / 0.027	
		DC 24 V	-	-	
Holding current	A	AC 100 V	0.028 / 0.022	0.041 / 0.032	
		AC 200 V	0.014 / 0.011	0.021 / 0.016	
		DC 24 V	0.075	0.075	
Power consumption	W	AC 100 V	1.8 / 1.4 (2.0 / 1.6)	2.2 / 1.8 (2.4 / 2.0)	
		AC 200 V	1.8 / 1.4 (2.0 / 1.6)	2.2 / 1.8 (2.4 / 2.0)	
		DC 24 V	1.8 (2.0)	1.8 (2.0)	
Thermal class		B (molded coil)			
Temperature rise °C		30			

Reference: 100 VAC 50/60 Hz can be used with a rated voltage of 110 VAC 60 Hz and 200 VAC 50/60 Hz can be used with 220 VAC 60 Hz.

Individual specifications

Item	M3PA1	M3PA2	M3PB1	M3PB2
Manifold	Port 2 : Individual Port 1/3: Common	Port 2 : Individual Port 1/3: Common	Port 2 : Individual Port 1/3: Common Port 2/3: Individual Port 1 : Common Port 1/2: Individual Port 3 : Common	Port 2 : Individual Port 1/3: Common Port 2/3: Individual Port 1 : Common Port 1/2: Individual Port 3 : Common
Port size *1	Port 1	Rc1/4	Rc1/4	Common: Rc1/4 Individual: Rc1/8
	Port 2	M 5 ($\varnothing 4$, $\varnothing 6$ push-in fitting)	Rc1/8 ($\varnothing 6$, $\varnothing 8$ push-in fitting)	Rc1/8 ($\varnothing 4$, $\varnothing 6$ push-in fitting)
	Port 3	Rc 1/4	Rc 1/4	Common: Rc1/4 Individual: Rc1/8

*1: As G and NPT threads can also be used for piping port screws, contact CKD for details.

Performance/characteristics by model

Item	M3PA1	M3PA2	M3PB1	M3PB2
Response time *2 ms	20 or less	20 or less	20 or less	20 or less

*2: 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.

Weight

Item	M3PA1	M3PA2	M3PB1	M3PB2
Weight (n: station No.) g	104xn+48	184xn+46	102xn+48	182xn+45

Flow characteristics

Model No.	Port 1→2		Port 2→1		Port 2→3		Port 3→2	
	C[dm ³ /(s·bar)]	b	C[dm ³ /(s·bar)]	b	C[dm ³ /(s·bar)]	b	C[dm ³ /(s·bar)]	b
M3PA1	0.38	0.17	0.37	0.46	0.47	0.45	0.40	0.18
M3PA2	0.93	0.25	1.0	0.35	1.1	0.32	0.97	0.31
M3PB1	0.36	0.22	0.32	0.43	0.33	0.48	0.31	0.24
M3PB2	0.86	0.25	0.93	0.38	0.94	0.22	0.88	0.27

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

Ozone-proof specifications (Ending Page 5)

Conforms to low-concentration ozone specifications as standard.

CE marking specifications

** - Voltage - **ST**

• Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".

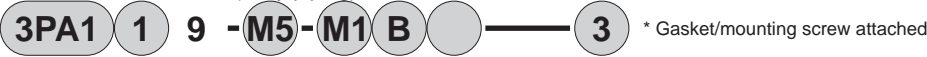
4GA/B
4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys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

M3PA/M3PB Series

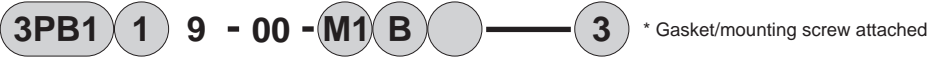
Individual wiring manifold

How to order individual wiring manifold

- Solenoid valve for manifold (body piping)



- Solenoid valve for manifold (sub-plate piping)



- Manifold



A Model No.

B Solenoid position

C Port size

- * : The values of port size port 1/3 are,
 (1) 1/3 = Rc1/4 common
 (2) 1 = Rc1/4 common, 3 = Rc1/8 individual
 (3) 1 = Rc1/8 individual, 3 = Rc1/4 common

E Electrical connections

* For the circuit diagram with surge suppressor/lamp, refer to page 1610.
 *4

- For how to order masking plates, refer to the next page.

D Manual override

F Other options

G Station No.

H Voltage

[Table 1] Compact terminal box L/LS compatibility table

Code	Description		3PA1	3PA2	3PB1	3PB2	Surge suppressor	
L	Without lead wire	With indicator lamp	AC	●	●	●	●	
		DC		●		●		
	Surge suppressor indicator lamp	AC						
		DC			●			Integrated
LS	Without lead wire	Surge suppressor indicator lamp	AC	●	●	●	●	Integrated
		DC		●		●		Integrated

⚠ Precautions for model No. selection

- *1 : For GS4, screw push-in fitting GWS4-M5-S (3PA1)/GWJS4-6 (3PB1) into the 2 port.
- *2 : For GS6, screw push-in fitting GWS6-M5-S (3PA1)/GWJS6-6(3PA2)/GWJS6-6(3PB1) into the 2 port.
- *3 : For GS8, screw push-in fitting GWS8-6(3PA2, 3PB2) into Port 2.
- *4 : The lead wire size used is AWG20 to 24.
- *5 : The surge suppressor for attachment is a suppression connector for 24 VDC or less. (Refer to page 1609.)
- *6 : The surge suppressor can only be selected when the grommet lead wire or compact terminal box "B" has been selected for the electrical connections.

[Example of model No.]

M3PA210-06-S-7-1

- A** Model: M3PA2 (body piping)
- B** Solenoid position : 2-position single
- C** Port size : Port 2 Rc1/8
- D** Manual override : Non-locking manual override
- E** Electrical connections: Grommet lead wire
- F** Other options : Surge suppressor attached
- G** Station No. : 7 stations
- H** Voltage : 100 VAC

		A Model No.			
		Body piping		Sub-plate piping	
		3PA1	3PA2	3PB1	3PB2
Code	Description				
B 1	2-position single	●	●	●	●
8	Mix manifold (for multiple solenoid positions)	●	●	●	●

Port size	Port 2 individual		Port 1/3	
	M5	M 5	(1)	(1)
06	Rc1/8		(1)	(1)
GS4	ø4 push-in fitting *1		(1)	(1)
GS6	ø6 push-in fitting *2		(1)	(1)
GS8	ø8 push-in fitting *3		(1)	(1)
06Y	Rc1/8 (rear piping)			(1) (1)
06A	Rc1/8			(2) (2)
06B	Rc1/8			(3) (3)

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

E Electrical connections					
Grommet lead wire					
Blank	Grommet lead wire (300 mm)	●	●	●	●

Compact terminal box					
B	Without lead wire	●	●	●	●
L	Without lead wire				
LS	No lead wire, with surge suppressor/lamp	Refer to [Table 1] at left for details.			

C-connector (lead wire lateral direction)					
C	Lead wire (300 mm)	●	●	●	●
C00	Lead wire (500 mm)	●	●	●	●
C01	Lead wire (1000 mm)	●	●	●	●
C02	Lead wire (2000 mm)	●	●	●	●
C03	Lead wire (3000 mm)	●	●	●	●
C1	Without lead wire	●	●	●	●
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	●	●	●	●
C23	Lead wire (3000 mm), surge suppressor/indicator lamp	●	●	●	●
C3	No lead wire, with surge suppressor/indicator lamp	●	●	●	●

D-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)	●	●	●	●
D03	Lead wire (3000 mm)	●	●	●	●
D1	Without lead wire	●	●	●	●
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	●	●	●	●
D23	Lead wire (3000 mm), surge suppressor/indicator lamp	●	●	●	●
D3	No lead wire, with surge suppressor/indicator lamp	●	●	●	●

F Blank	No option	●	●	●	●
S	Surge suppressor attached *5, *6	●	●	●	●

Stn No.	G					
	to	to				
20	20 stations					

Voltage	Standard					
		1	100 VAC(50/60 Hz)	●	●	●
2	200 VAC(50/60 Hz)	●	●	●	●	
3	DC 24 V	●	●	●	●	
Option	AC110V	110 VAC 50/60 Hz	●	●	●	●
	AC220V	220 VAC 50/60 Hz	●	●	●	●
	4	DC 12 V	●	●	●	●

* Other custom order products					
AC24V		●	●	●	●
AC115V		●	●	●	●
AC120V		●	●	●	●

How to order masking plate kit

3PA1 -MP-KIT * Gasket/mounting screw attached

A Model No.

A Model No.
3PA1
3PB1
3PA2
3PB2

How to order mix manifold

M **3PB1** **8** **0** - **06** - **M1** **B** - **7** - **3** -

S1	MP
5	2

Mix manifold "8" S1 = 1 to 5, MP = 6 to 7

How to fill in form for ordering a mix manifold

- (1) List the quantity for each function (solenoid position) at the end of How to order. The functions and codes are as shown below.

Example: 2-position single → S1

Code	Function (solenoid position)
S1	2-position single
MP	Masking plate

-

S1	MP
5	2

List the quantity

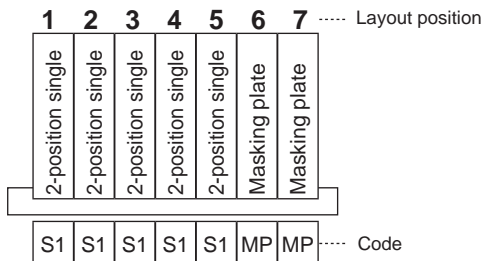
- (2) List the function (solenoid position) and layout position in the field for remarks.

Solenoid position code = ○, ○th station (where the left side is the 1st station when the piping port is facing forward.)

Example: S1 = 1 to 5 (1st to 5th stations are 2-position single)

[Example of model No.]

For 7 stations



2-position single (S1) : 5 pcs (1st to 5th stations)
Masking plate : 2 pcs (6th, 7th stations)

↓

M3PB180-06-M1-B-7-3 -

S1	MP
5	2

S1=1 to 5 MP=6 to 7

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

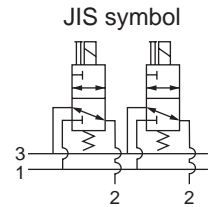
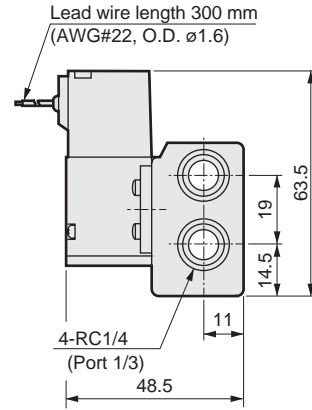
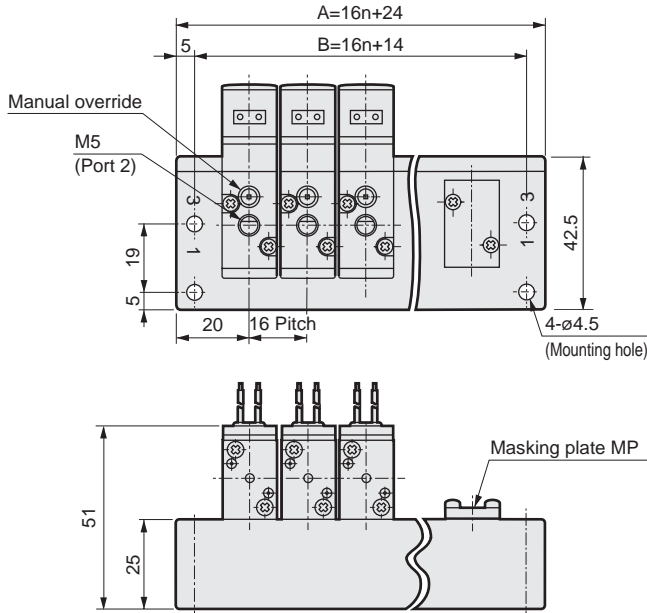
M3PA1/M3PA2 Series

Individual wiring manifold; body piping

Dimensions 

M3PA180-M5

● Port 2 - individual piping, port 1/3 - common piping: grommet lead wire

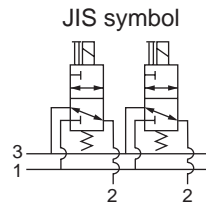
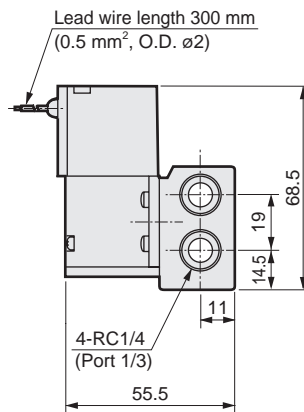
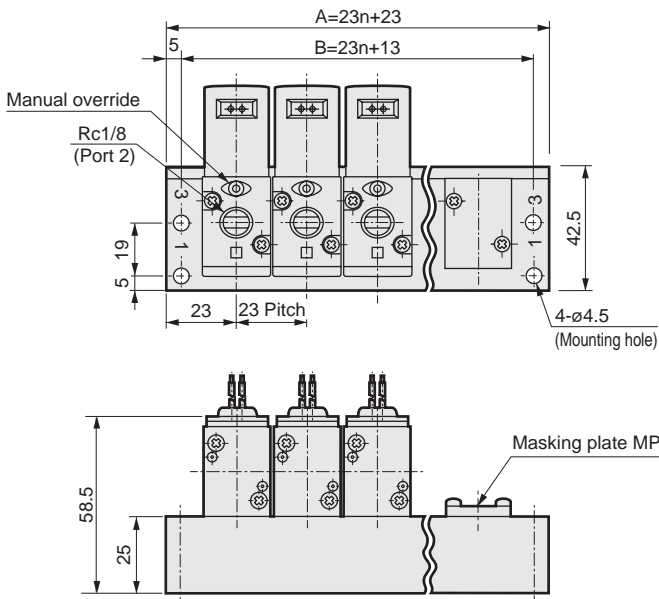


■ Model No. of single unit solenoid valve unit for manifold
3PA119-M5-option-voltage

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328	344
B	46	62	78	94	110	126	142	158	174	190	206	222	238	254	270	286	302	318	334

M3PA280-06

● Port 2 - individual piping, port 1/3 - common piping: grommet lead wire



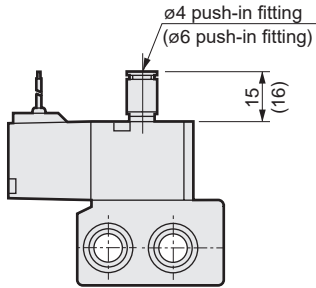
■ Model No. of single unit solenoid valve unit for manifold
3PA219-06-option-voltage

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	69	92	115	138	161	184	207	230	253	276	299	322	345	368	391	414	437	460	483
B	59	82	105	128	151	174	197	220	243	266	289	312	335	358	381	404	427	450	473

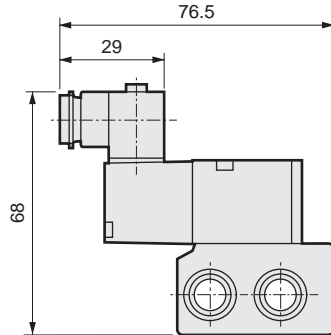
Dimensions

For M3PA1

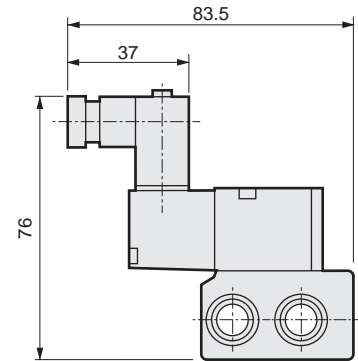
- $\varnothing 4$, $\varnothing 6$ push-in fitting: (GS4/GS6)



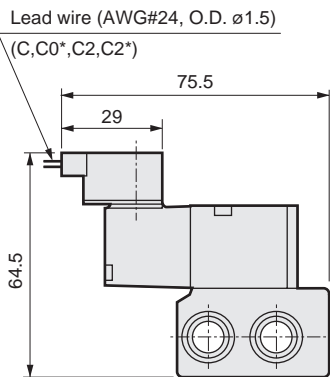
- Terminal box: (B)



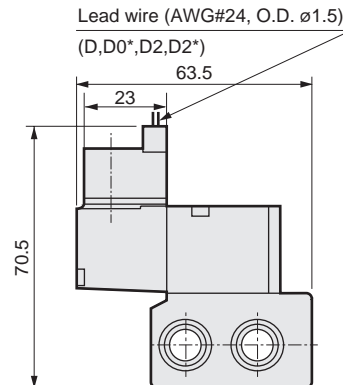
- Terminal box with lamp: (L/LS)



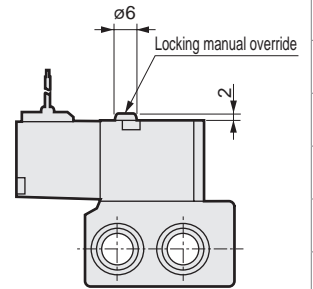
- C-connector: (C/C0*/C1/C2*/C3)



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

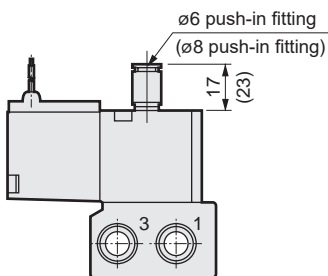


- Locking manual override: (M1)

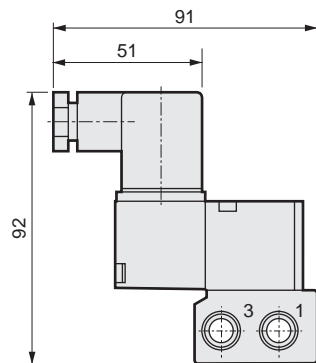


For M3PA2

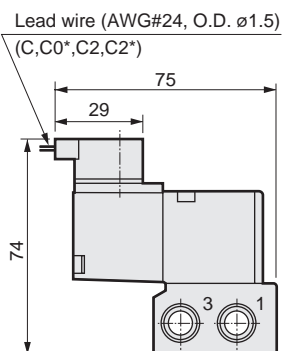
- $\varnothing 6$, $\varnothing 8$ push-in fitting: (GS6/GS8)



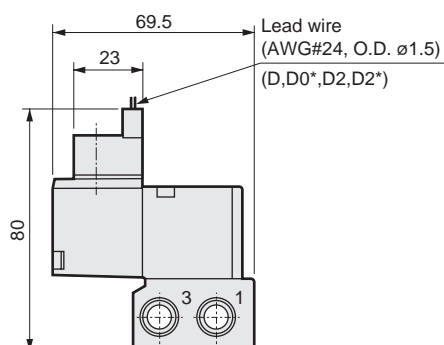
- Terminal box: (B/L/LS)



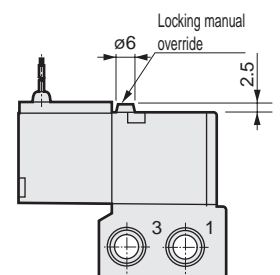
- C-connector: (C/C0*/C1/C2*/C3)



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




- Locking manual override: (M1)



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

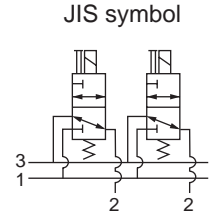
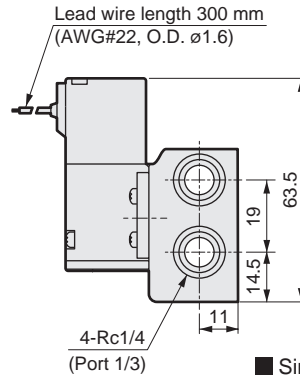
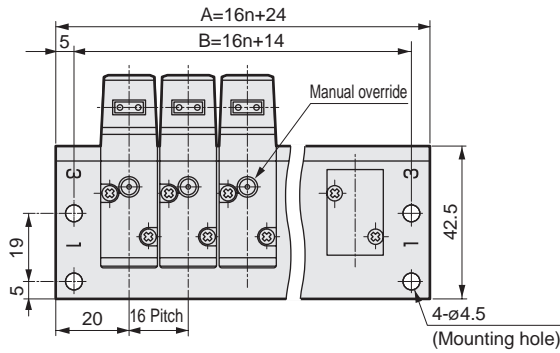
M3PB1 Series

Individual wiring manifold: sub-plate piping

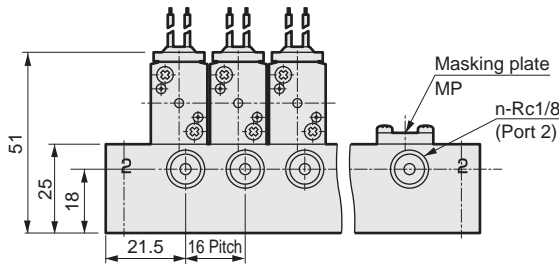
Dimensions 

M3PB180-06

● Port 2 - individual piping, port 1/3 - common piping: grommet lead wire

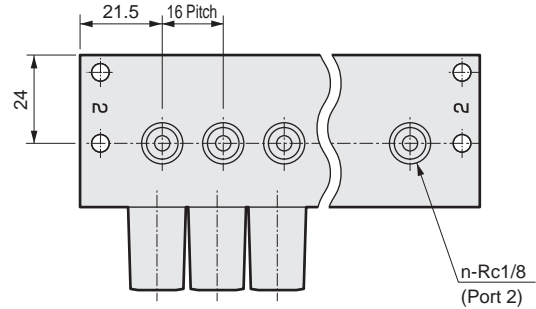


■ Single solenoid valve model No. for manifold
3PB119-00-option - voltage



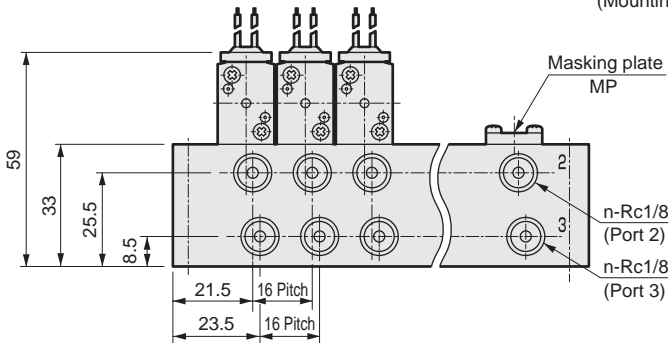
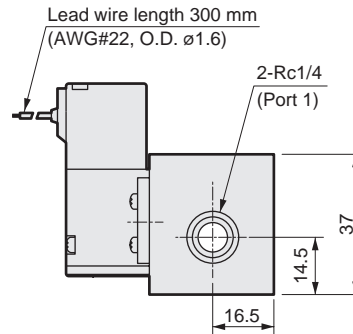
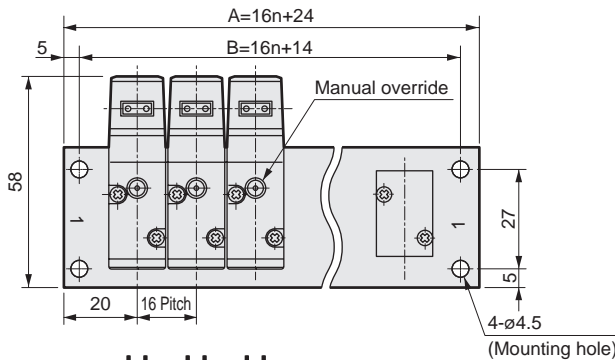
M3PB180-06Y

● Port 2 - rear piping, port 1/3 - common piping

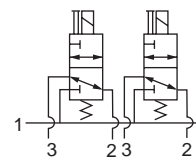


M3PB180-06A

● Port 2/3 - individual piping, port 1 - common piping: grommet lead wire



JIS symbol



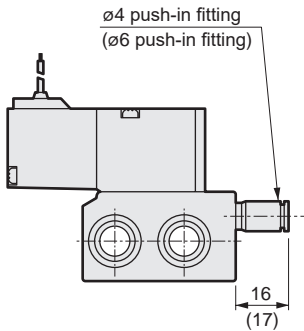
■ Single solenoid valve model No. for manifold
3PB119-00-option - voltage

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328	344
B	46	62	78	94	110	126	142	158	174	190	206	222	238	254	270	286	302	318	334

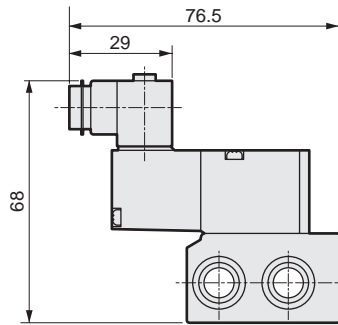
Dimensions

For M3PB1

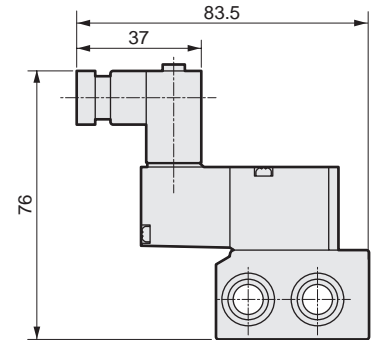
● $\phi 4$, $\phi 6$ push-in fitting: (GS4/GS6)



● Terminal box: (B)

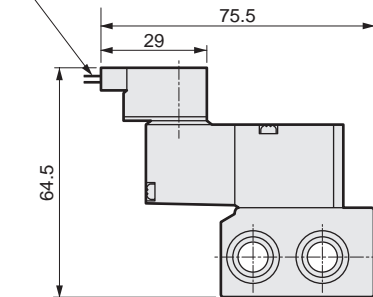


● Terminal box with lamp: (L/LS)

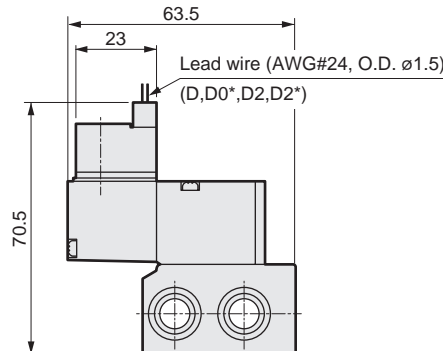


● C-connector: (C/C0*/C1/C2*/C3)

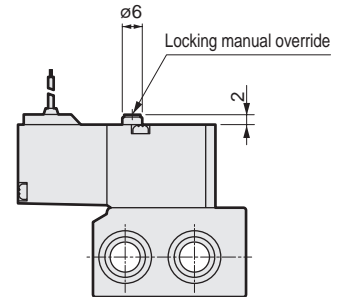
Lead wire (AWG#24, O.D. $\phi 1.5$)
(C, C0*, C2, C2*)



● D-connector: (D/D0*/D1/D2*/D3)



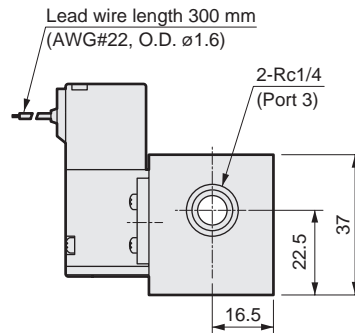
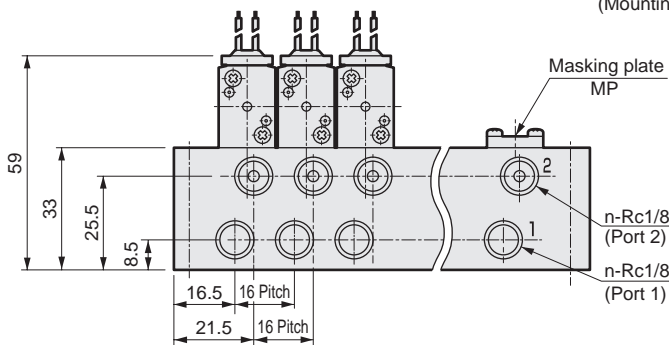
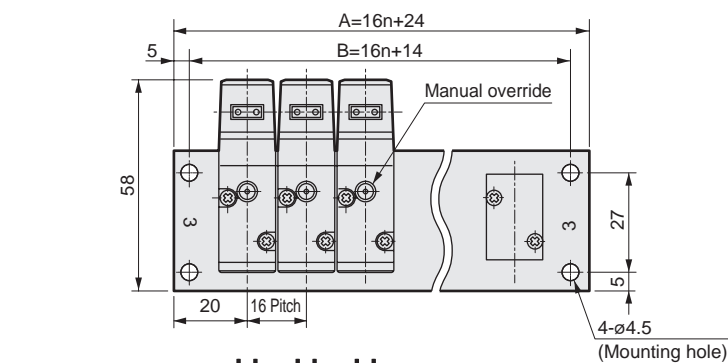
● Locking manual override: (M1)



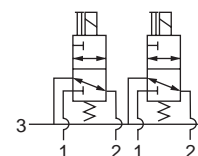
M3PB180-06B



● Port 1/2 - individual piping, port 3 - common piping: grommet lead wire



JIS symbol




■ Model No. of single unit solenoid valve unit for manifold
3PB119-00-option-voltage

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328	344
B	46	62	78	94	110	126	142	158	174	190	206	222	238	254	270	286	302	318	334

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

M3PB2 Series

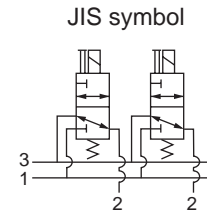
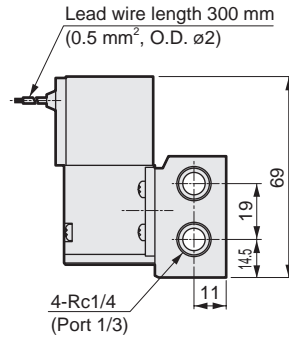
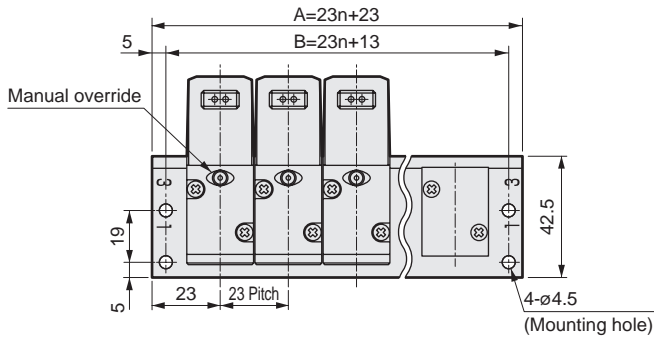
Individual wiring manifold: sub-plate piping

Dimensions 

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

M3PB280-06

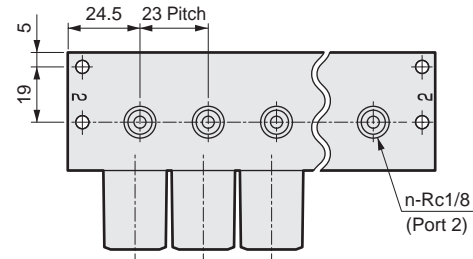
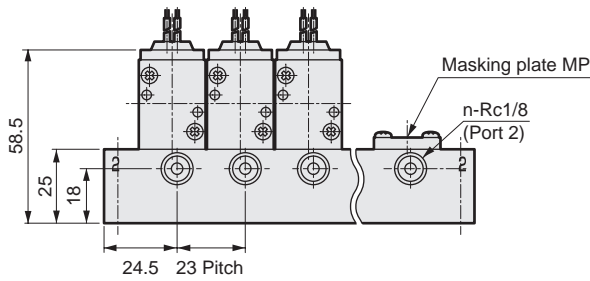
● Port 2 - individual piping, port 1/3 - common piping: grommet lead wire



■ Single solenoid valve model No. for manifold
3PB219-00- option - voltage

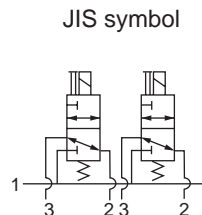
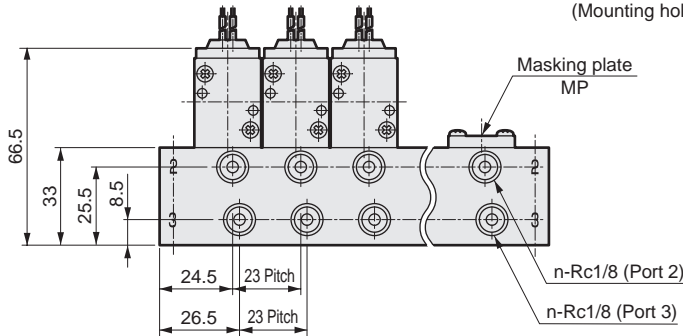
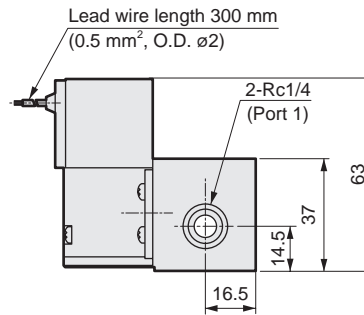
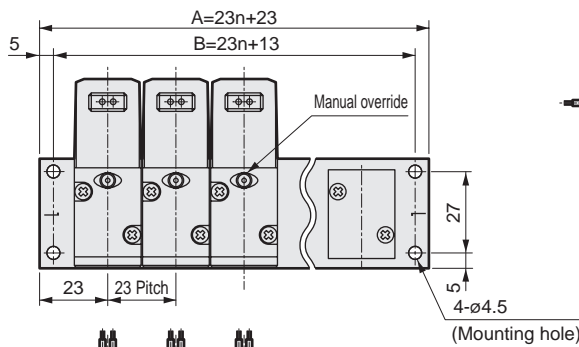
M3PB280-06Y

● Port 2 - rear piping, port 1/3 - common piping



M3PB280-06A

● Port 2/3 - individual piping, port 1 - common piping: grommet lead wire



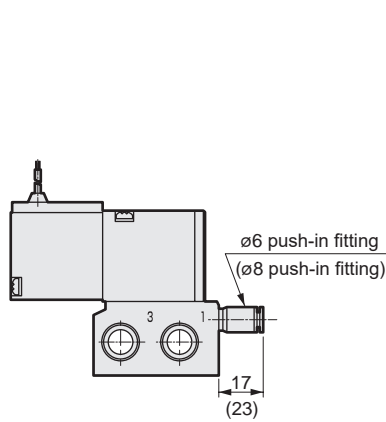
■ Single solenoid valve model No. for manifold
3PB219-00- option - voltage

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	69	92	115	138	161	184	207	230	253	276	299	322	345	368	391	414	437	460	483
B	59	82	105	128	151	174	197	220	243	266	289	312	335	358	381	404	427	450	473

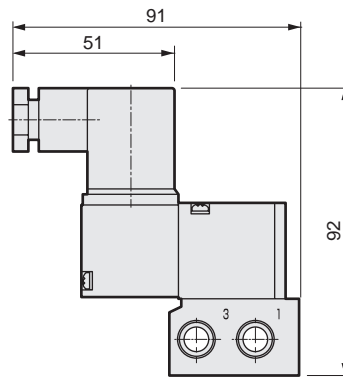
Dimensions

For M3PB2

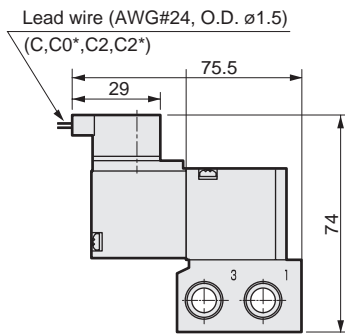
● $\phi 6$, $\phi 8$ push-in fitting: (GS6/GS8)



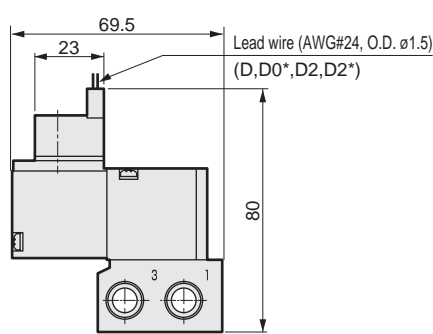
● Terminal box: (B/L/LS)



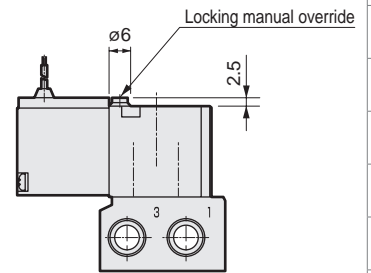
● C-connector: (C/C0*/C1/C2*/C3)



● D-connector: (D/D0*/D1/D2*/D3)



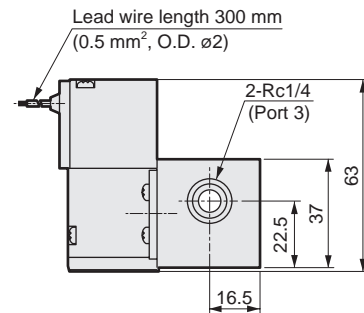
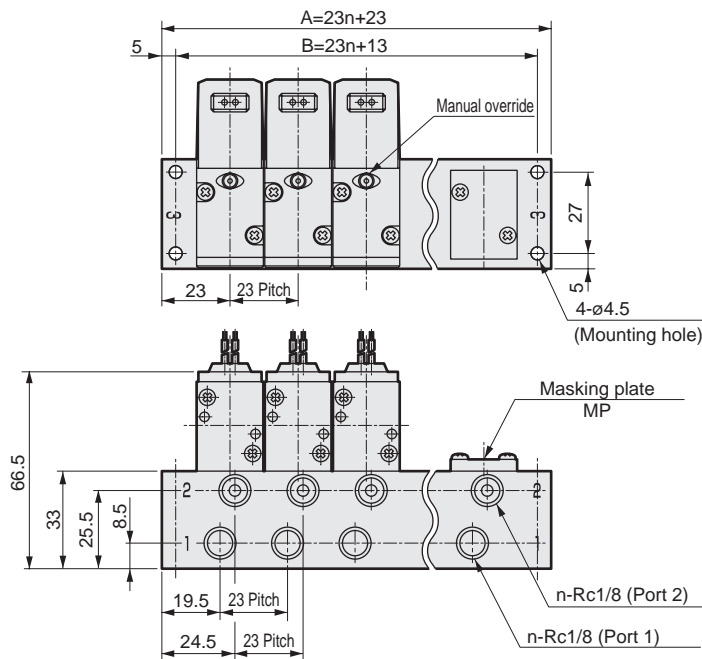
● Locking manual override: (M1)



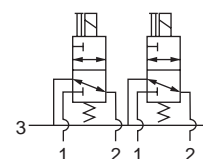
M3PB280-06B



● Port 1/2 - individual piping, port 3 - common piping: grommet lead wire



JIS symbol



■ Single solenoid valve model No. for manifold
3PB219-00- option - voltage

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	69	92	115	138	161	184	207	230	253	276	299	322	345	368	391	414	437	460	483
B	59	82	105	128	151	174	197	220	243	266	289	312	335	358	381	404	427	450	473

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