

Master valve single unit/manifold (metal base)
Body piping

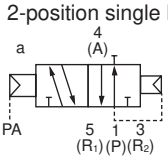
(M)3GA1/2/3 / (M)4GA1/2/3 Series

● Applicable cylinder bore size: ø20 to ø100

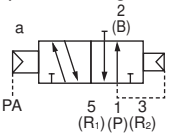
RoHS CAD

JIS symbol

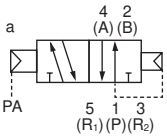
● 3-port valve
2-position single NC



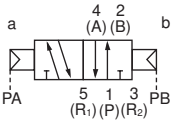
2-position single NO



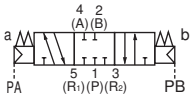
● 5-port valve
2-position single



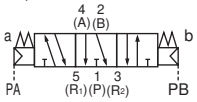
2-position double



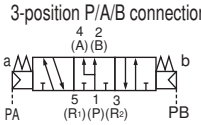
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Common specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		Description
Valve and operation		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure	MPa	0.7 (≈101 psi, 7 bar)
Min. working pressure *1	MPa	Refer to main pressure section in the table below
Proof pressure	MPa	1.05 (≈152 psi, 10 bar)
Ambient temperature	°C	-5 (23°F) to 55 (131°F) (no freezing)
Fluid temperature	°C	5 (41°F) to 55 (131°F)
Manual override		Non-locking/locking common
Pilot exhaust method (manual operation)		Main valve/pilot valve common exhaust
Lubrication	*2	Not required
Vibration resistance	m/s^2	50 or less
Shock resistance	m/s^2	300 or less
Atmosphere		Cannot be used in corrosive gas environments

*1: When operating manually, supply pressure to port P as shown in the table below is required.
2-position 0.1 MPa and over
3-position 0.2 MPa and over

*2: Use turbine oil Class 1 ISO VG32 for lubrication.
Excessive or intermittent lubrication results in unstable operation.

Individual specifications

Body piping (discrete/manifold)

No. of ports	Model No.		Solenoid position	Pilot port PA/PB	Main pressure	Pilot signal pressure MPa	Other specifications Page *
	Single unit	Manifold					
3-port	3GA1**1R	M3GA1**1R	2-position single NC/NO	M5	0.2 to 0.7	(0.6 × main pressure + 0.06) to 0.7	Single unit: Page 12 Manifold: Page 96
	3GA2**1R	M3GA2**1R					
	3GA3**1R	M3GA3**1R					
5-port	4GA111R	M4GA111R	2-position single	M5	0.2 to 0.7	(0.6 × main pressure + 0.06) to 0.7	
	4GA121R	M4GA121R	2-position double		0 to 0.7	0.2 to 0.7	
	4GA1$^{3}_{5}$1R	M4GA1$^{3}_{5}$1R	3-position				
	4GA211R	M4GA211R	2-position single	M5	0.2 to 0.7	(0.6 × main pressure + 0.06) to 0.7	
	4GA221R	M4GA221R	2-position double		0 to 0.7	0.2 to 0.7	
	4GA2$^{3}_{5}$1R	M4GA2$^{3}_{5}$1R	3-position				
	4GA311R	M4GA311R	2-position single	M5	0.2 to 0.7	(0.6 × main pressure + 0.06) to 0.7	
	4GA321R	M4GA321R	2-position double		0 to 0.7	0.2 to 0.7	
	4GA3$^{3}_{5}$1R	M4GA3$^{3}_{5}$1R	3-position				

* Other specifications are the same as those of 4G Series. Refer to pages for each specification.

How to order

Single master valve

4GA2 1 1R - C4 - H

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

Code	Description	Ⓐ Model No. 3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Ⓑ Solenoid position							
1	2 position single				●	●	●
2	2-position double				●	●	●
3	3-position all ports closed				●	●	●
4	3-position ABR connection				●	●	●
5	3-position PAB connection				●	●	●
1	2-position single: normally closed (*1)	●	●	●			
11	2-position single: normally open (*1)	●	●	●			
Ⓒ Port size							
Port	A/BPort	P/R1/Port R2 ①=M5 ②= Rc1/8 ③=Rc1/4					
C4	ø4 push-in fitting	①	②		①	②	
C6	ø6 push-in fitting	①	②	③	①	②	③
C8	ø8 push-in fitting		②	③		②	③
C10	ø10 push-in fitting			③			③
M5	M5	①			①		
06	Rc1/8		②			②	
08	Rc1/4			③			③
Port	4(A)/2(B) port	Port P/R1/R2 (1)=M5 (5)=1/8NPT (6)=Rc1/4NPT					
C3N	ø1/8" push-in fitting	①			①		
C4N	ø5/32" push-in fitting	①			①		
C6N	ø1/4" push-in fitting		⑤			⑤	
C8N	ø5/16" push-in fitting (*5)		⑤	⑥		⑤	⑥
C10N	ø3/8" push-in fitting (*5)			⑥			⑥
06 N	NPT1/8		⑤			⑤	
08 N	NPT1/4 (*5)			⑥			⑥
Port	4(A)/2(B) port	Port P/R1/R2 ⑧=G1/8 ⑨=G1/4					
C4G	ø4 push-in fitting		⑧			⑧	
C6G	ø6 push-in fitting		⑧			⑧	
C8G	ø8 push-in fitting		⑧	⑨		⑧	⑨
C10G	ø10 push-in fitting			⑨			⑨
06G	G1/8		⑧			⑧	
08G	G1/4			⑨			⑨
Ⓓ Option							
Blank	No	●	●	●	●	●	●
H	With exhaust check valve (*2)	●	●	●	●	●	●
P	With mounting plate (*3)	●	●	●	●	●	●
A	Ozone/coolant proof product	●	●	●	●	●	●
F	Port A/B filter built in (*4)	●	●	●	●	●	●

is not available.

⚠ Precautions for model No. selection

*1 For the 3G A normally closed, the piping connection 2 (B) and 3 (R2) ports are plugged. For 3GA normally open type, avoid plugging the 5 (R1) port. This may cause malfunction.

***2 3-position all ports closed and P A B connection are not provided with the exhaust check valve specifications (H). Refer to page 851 for details on the exhaust check valve.**

3 For option code P, that normal mounting is not possible because of the pilot port direction.

*4 A filter is built into port P as standard.

*5 4G3 is a made-to-order product.

How to order

Manifold

M 4GA2 1 1R - C4 - H D - 8

Discrete master valve for manifold (gasket, mounting screw, PR check valve attached)

4GA2 1 8R - C4 - H

- Ⓐ Model No.
- Ⓑ Solenoid position
- Ⓒ Port size
- Ⓓ Option
- Ⓔ Mount type
- Ⓕ Station No.

Code	Description	Ⓐ Model No. M3GA1	M3GA2	M3GA3	M4GA1	M4GA2	M4GA3
Ⓑ Solenoid position							
1	2 position single				●	●	●
2	2-position double				●	●	●
3	3-position all ports closed				●	●	●
4	3-position ABR connection				●	●	●
5	3-position PAB connection				●	●	●
1	2-position single normally closed	●	●	●			
11	2-position single normally open	●	●	●			
8	Mix manifold(for multiple solenoid positions)	●	●	●	●	●	●
Ⓒ Port size							
Port	Port A/B	P/R1/Port R2 ②= Rc1/8 ③=Rc1/4 ④=Rc3/8					
C4	ø4 push-in fitting	②	③		②	③	
C6	ø6 push-in fitting	②	③	④	②	③	④
C8	ø8 push-in fitting		③	④		③	④
C10	ø10 push-in fitting			④			④
CX	Push-in fitting mix (*1)	②	③	④	②	③	④
M5	M5	②			②		
06	Rc1/8		③			③	
08	Rc1/4			④			④
Port	4(A)/2(B) port	Port P/R1/R2 ⑤=1/8NPT ⑥=1/4NPT ⑦=3/8NPT					
C3N	ø1/8" push-in fitting	⑤			⑤		
C4N	ø5/32" push-in fitting	⑤			⑤		
C6N	ø1/4" push-in fitting		⑥			⑥	
C8N	ø5/16" push-in fitting		⑥	⑦		⑥	⑦
C10N	ø3/8" push-in fitting			⑦			⑦
CXN	Push-in fitting mix (*1)	⑤	⑥	⑦	⑤	⑥	⑦
M5N	M5	⑤			⑤		
06 N	NPT1/8		⑥			⑥	
08 N	NPT1/4 (*6))			⑦			⑦
Port	4(A)/2(B) port	Port P/R1/R2 ⑧=G1/8 ⑨=G1/4 ⑩=G3/8					
C4G	ø4 push-in fitting	⑧	⑨		⑧	⑨	
C6G	ø6 push-in fitting	⑧	⑨		⑧	⑨	
C8G	ø8 push-in fitting		⑨	⑩		⑨	⑩
C10G	ø10 push-in fitting			⑩			⑩
CXG	Push-in fitting mix (*1)	⑧	⑨	⑩	⑧	⑨	⑩
M5G	M5	⑧			⑧		
06G	G1/8		⑨			⑨	
08G	G1/4			⑩			⑩
Ⓓ Option							
Blank	No	●	●	●	●	●	●
H	With exhaust check valve (*2)	●	●	●	●	●	●
A	Ozone/Coolant proof	●	●	●	●	●	●
F	Port A/B filter built in (*3)	●	●	●	●	●	●
Z1	Air supply spacer (*4)(*5)	●	●	●	●	●	●
Z2	In-stop valve spacer (*4))(*5)	●	●	●	●	●	●
Z3	Exhaust spacer (*4)(*5)	●	●	●	●	●	●
Ⓔ Mount type							
Blank	Direct mount	●	●	●	●	●	●
D	DIN rail mount	●	●	●	●	●	●
Ⓕ Station No.							
2	2 stations	●	●	●	●	●	●
to	to						
20	Refer to page 96 for the max. station No. per model.						

⚠ Precautions for model No. selection

*1 : The push-in fitting cannot be mixed with the discrete valve's 4(A) or 2(B) port.

*2 : 3-position all ports closed and PAB connection are not provided with the exhaust check valve specifications (H). Refer to page 851 for details on the exhaust check valve.

*3 : A filter is built into port P as standard.

*4 : Specify the spacer mounting position and quantity on the manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. For details, refer to page 188 to page 192.

*5 : Not available with the discrete master valve for manifold.

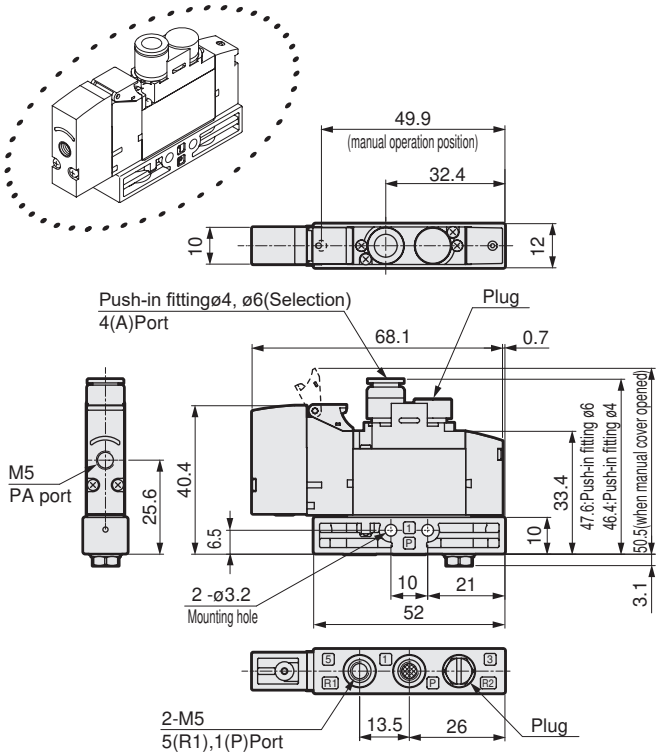
*6 : Made-to-order product.

is not available.

Dimensions CAD

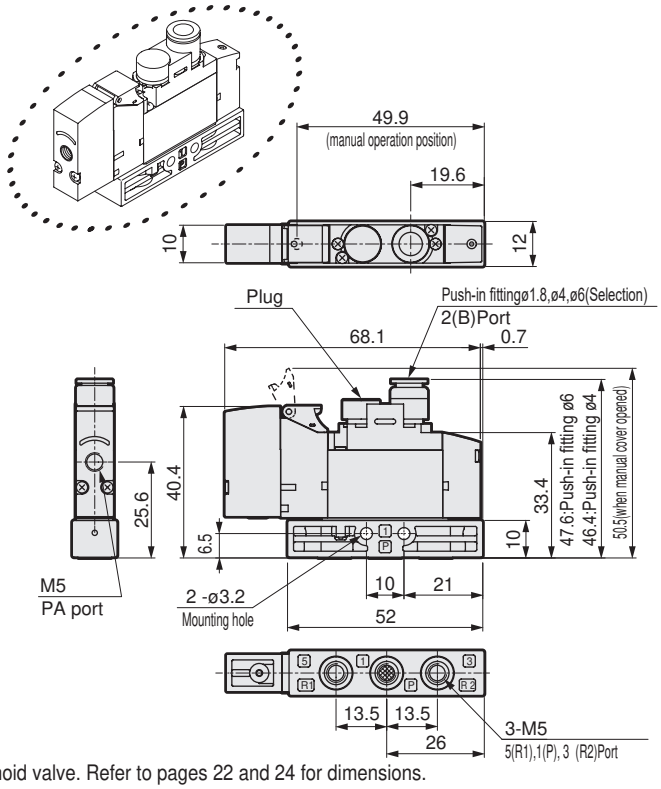
3GA111R

● 2-position single normally closed



3GA1111R

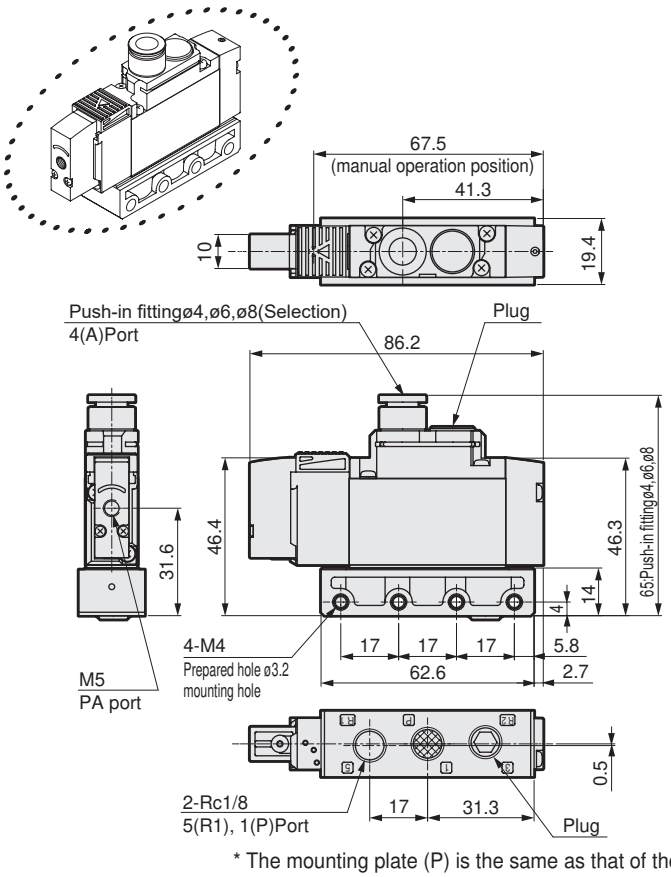
● 2-position single normally open



* The mounting plate (P) is the same as that of the solenoid valve. Refer to pages 22 and 24 for dimensions.
* For M5 thread dimensions, refer to pages 22 and 24.
* For NPT and G thread specifications, refer to the solenoid valve dimensions on pages 52 to 59.

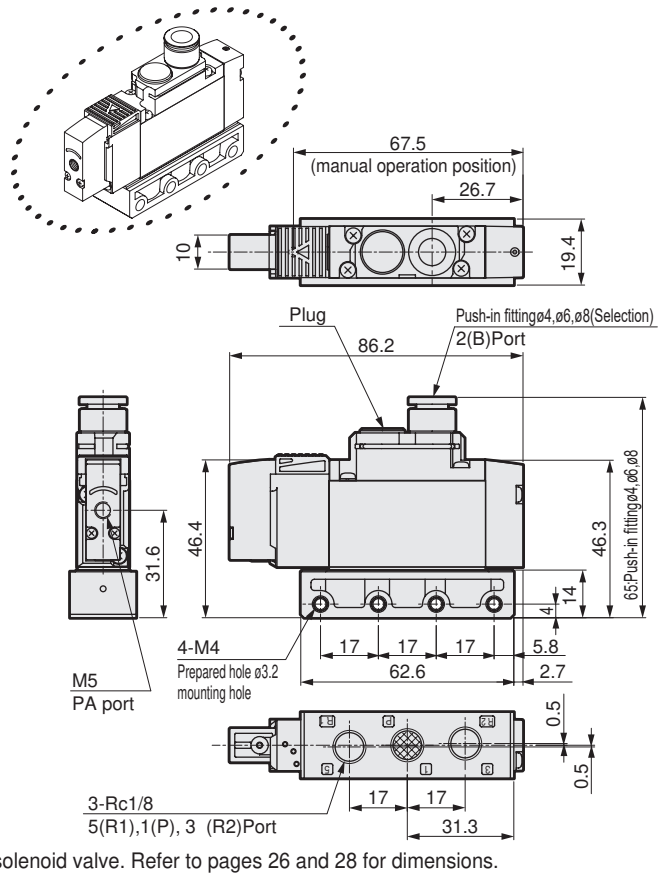
3GA211R

● 2-position single normally closed



3GA2111R

● 2-position single normally open

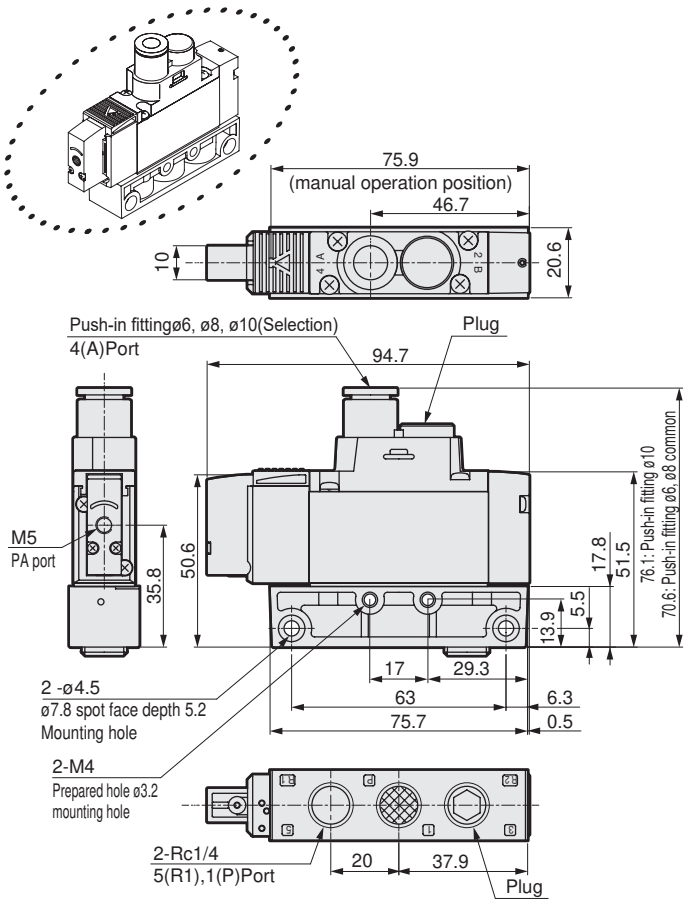


* The mounting plate (P) is the same as that of the solenoid valve. Refer to pages 26 and 28 for dimensions.
* For Rc1/8 thread (06) dimensions, refer to pages 26 and 28.
* For NPT and G thread specifications, refer to the solenoid valve dimensions on pages 52 to 59.
* Refer to page 853 for mounting hole details.

Dimensions CAD

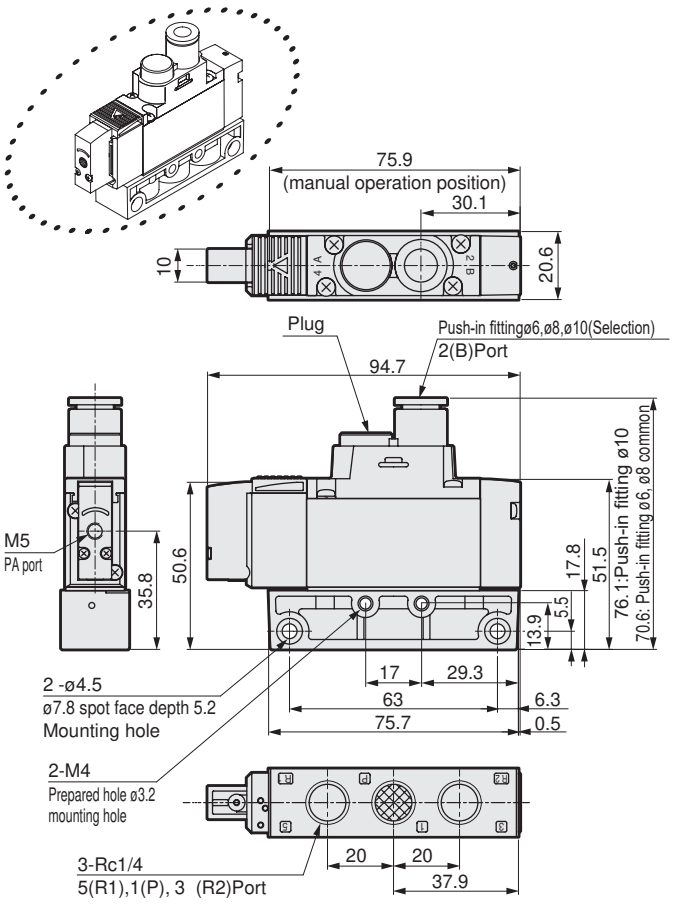
3GA311R

● 2-position single normally closed



3GA3111R

● 2-position single normally open



* The mounting plate (P) is the same as that of the solenoid valve. Refer to pages 30 and 32 for dimensions.
* For Rc1/4 thread (08) dimensions, refer to pages 30 and 32.
* For NPT and G thread specifications, refer to the solenoid valve dimensions on pages 52 to 59.