Pilot operated 3, 5-port valve 4G Series

Overview

User-friendly and environment-friendly space saving/high performance pneumatic 5-port valves.
Equipped with safety function for improved reliability/usability.
Suitable for operating cylinders of ø20 to ø160.

Features

Environmental performance

- Continuous energization OK
- Lower power consumption

Safety

- The manual operating device is equipped with protection cover as standard
- With internal exhaust check valve (4G1 to 3 Series)
- The air supply port is equipped with a filter as standard and the check mechanism is adopted for the connecting key (MN4G)

Reliability

- Service life: Life rating 100 million or more cycles (tested under conditions for single solenoid given by CKD)
- Response time: 12 ms ± 2 ms is realized (4G1 Series)
- Low wattage: 0.1 W (Low exoergic/energy-saving circuit built-in) 0.35 W (standard)

Easy to use

- Wiring connector with common top/side
- Reduced wiring connector/rotation
- Tool-free manual operating device is adopted
- 4G1/4G2 mix manifold is available. (MN4G)

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Metal base **4GA1** to **3/4GB1** to **3** Series	425
Block manifold **MN4GA/4GB** Series	625
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The New 4G. Get ready.

The new 4G presents new developments while preserving the existing 4G Series concept. Here it is.

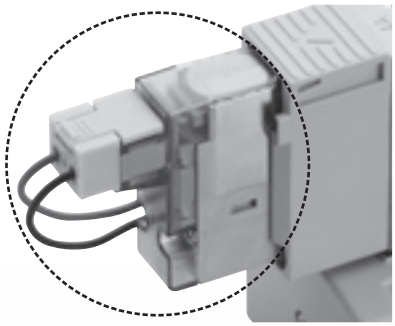
Power consumption **0.1 W** With low exoergic / energy saving circuit

Power consumption **0.35 W** Standard

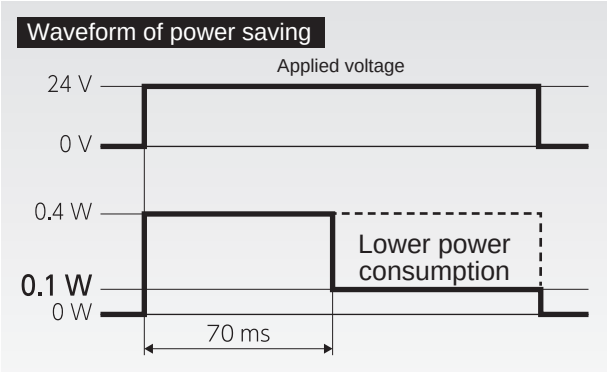
Environmental performance

Continuous energization OK (With low exoergic/ energy saving circuit)

New coil actuator adopted



Lower power consumption



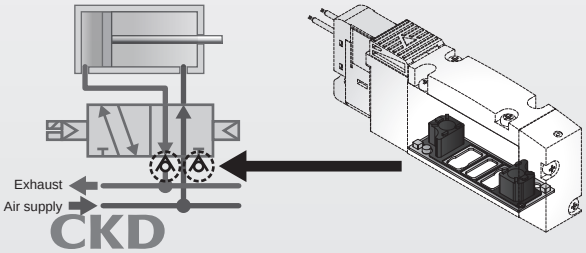
Safety

Prevents manual misoperation

Manual override has a protective cover.

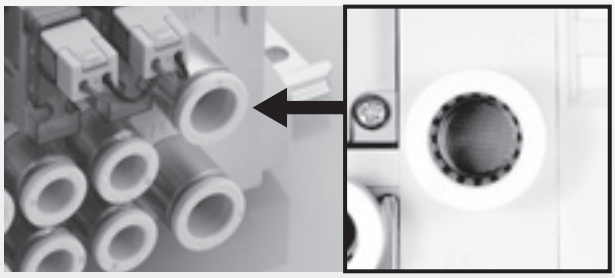
Helps prevent misoperations

[Exhaust check valve]
Standard for both metal-base and resin block designs.

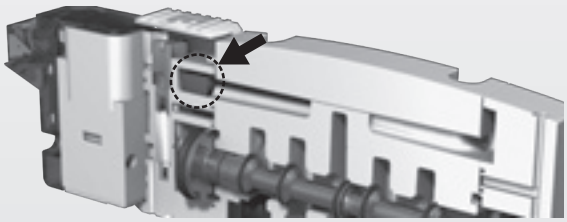


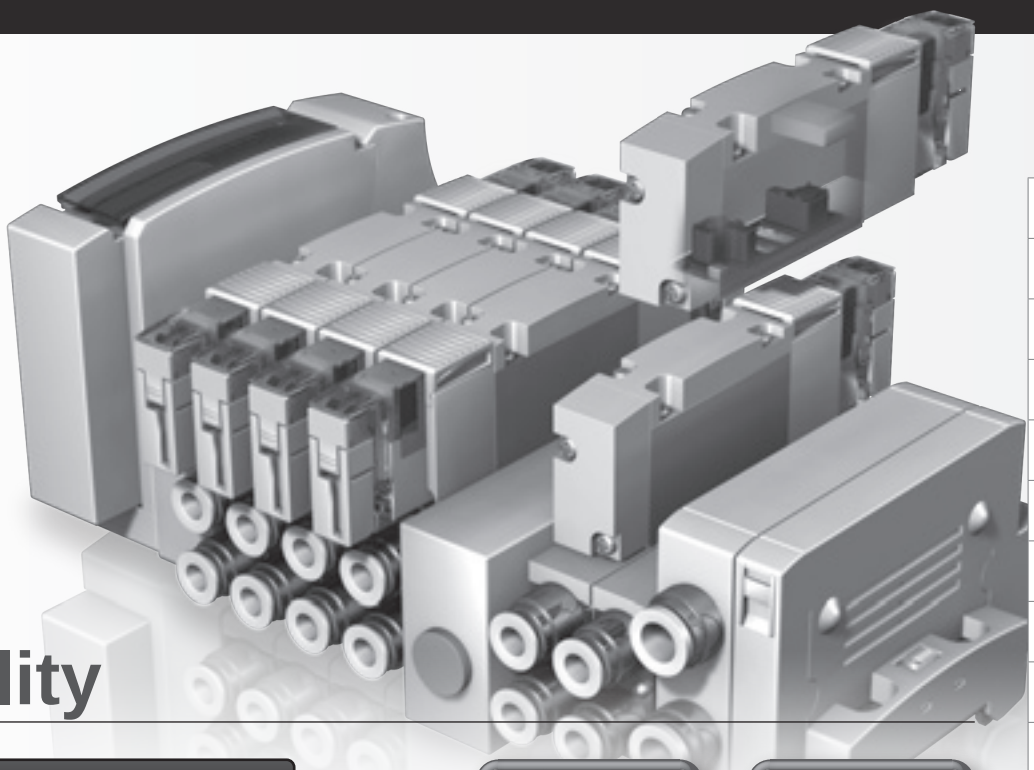
Prevents entry of foreign matter

- Supply filter equipped as standard (on A/B ports available as an option)



- Internal pilot filter is equipped as standard.

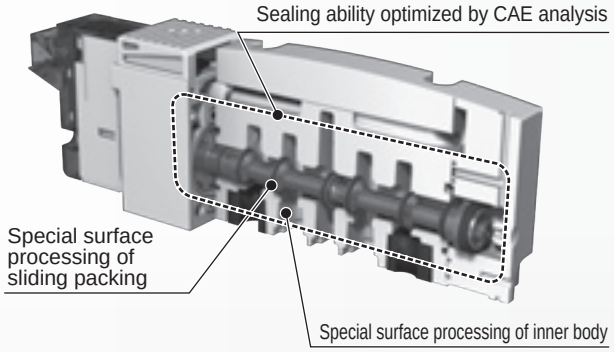




Reliability

Low friction with improved service life

Advanced sliding mechanism of main valve, achieves low friction/long service life.



Durability
More than 100 million cycles
Single solenoid, under CKD set conditions.

Response time
12±2 ms
4G1

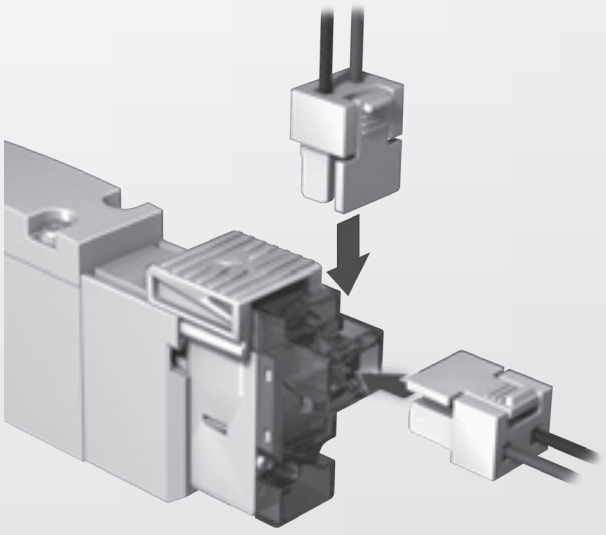
Improved response to unattended situation

Smooth start-up after weekend shut-down. Useful as measures against Monday morning troubles and unexplained stoppages.

Easy to use

Wiring connector facing-up/lateral common

Easy selection. Changes at gauging installation are supported.

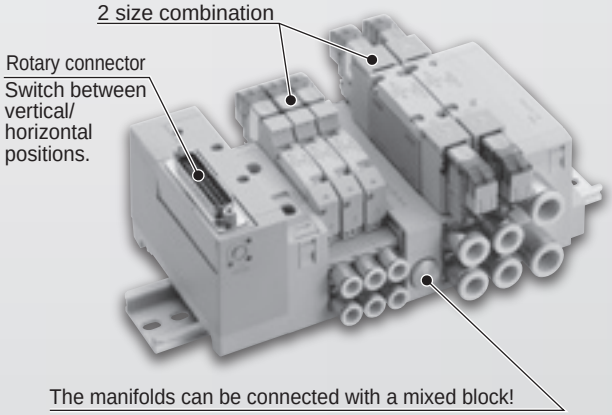


Uses a rotating connector

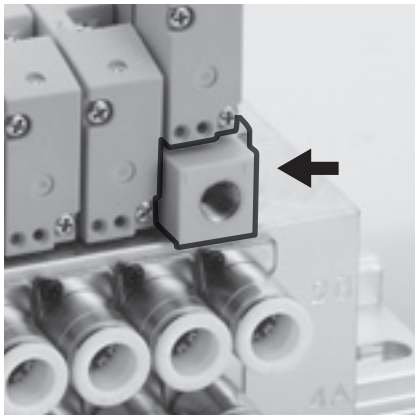
Switch between vertical/horizontal positions.

Combination of 2 sizes

The manifolds can be connected with a mix block.

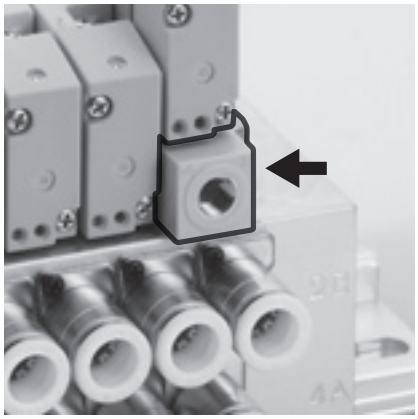


Variety of options



Air supply spacer

Ideal for cylinder thrust adjustments by increasing/ decreasing individual valve pressure!

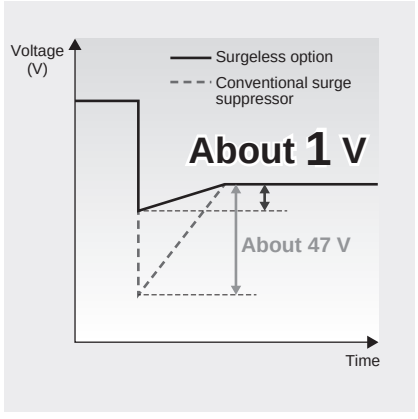


Exhaust spacer

Single acting cylinder malfunction prevention with individual exhaust!

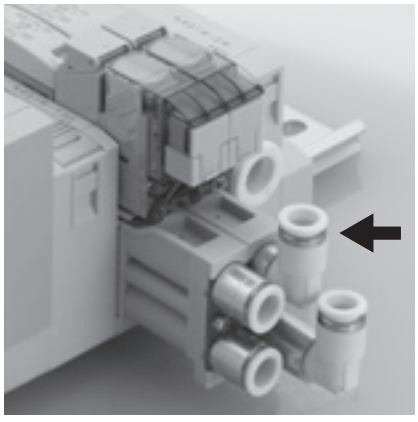
4G1 metal manifold for C8, 4G2 metal manifold for C10

Larger fitting enables increased cylinder operation speed!



Voltage surgeless option

Coil surge voltage is reduced to around 1 V to protect the output contacts!

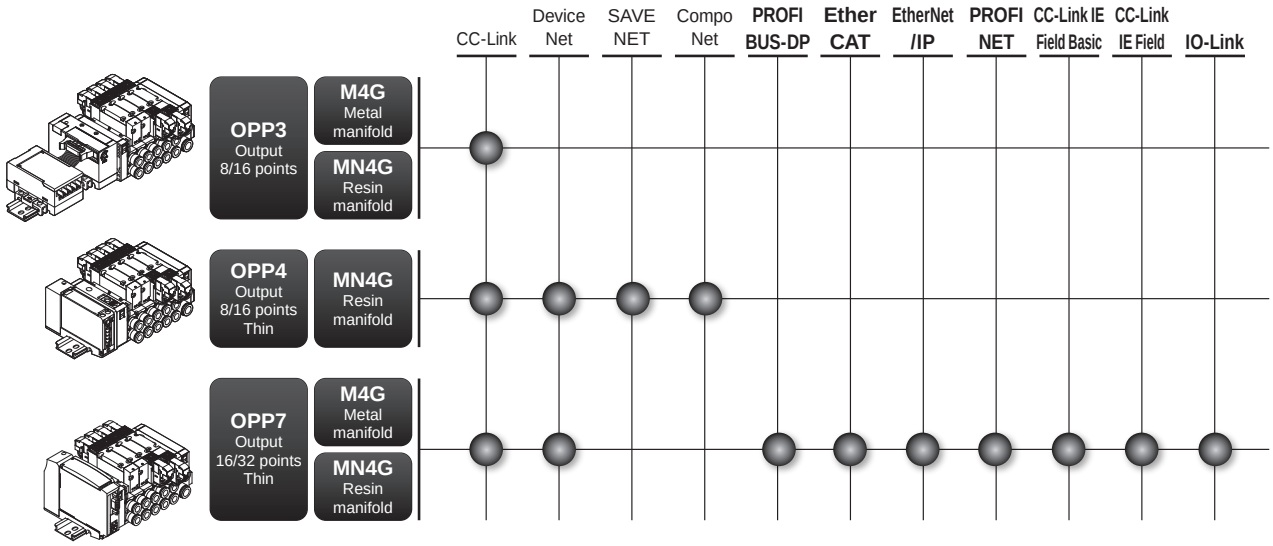


Piping adaptor option for block MF

Increasing flexibility to valve mounting by with variations of piping direction!

Communication Variety

EtherCAT, EtherNet/IP, PROFIBUS-DP and CC-Link, which are used as industrial networks at all levels, are now available in a series with 32 outputs and separate power supplies. (NPN, PNP standards supported)



Comparison of application/environment 4GA/B, 4GD/E

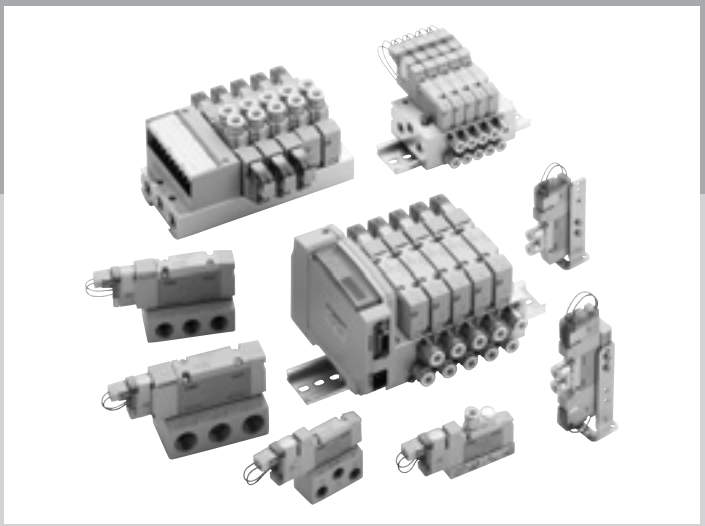
Key points are "Air quality and required options."			High functionality type 4GA/B R
Reliability	Air quality	Ultra-dry air N2	◉
		Dry air	◉
		Oil-contaminated air/low ozone	○
		Drain air	◉
		Measures against Monday disease/temporary halt	◉
		Measures against low vacuum problem	○
Safety		Exhaust check function	○
		Manual misoperation prevention function	○
		Prevention of foreign matter entry	○
Easy to use		Piping direction change	○
		External pilot	○
		Wiring connector facing-up/lateral common	○
		No tool required for manual operating device	○

◉ Recommended ○ Supported

4GA1 to 3/4GB1 to 3

Metal base

3, 5-port pilot operated valve



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Electrical connections list (wire connection/circuit) 429
Product introduction 420

Discrete valve

● **Body piping (3GA1 to 3/4GA1 to 3)** **430**
● **Base piping (3GB1 to 2/4GB1 to 3)** **472**

Individual wiring manifold

● **Body piping (M3GA1 to 3/M4GA1 to 3)** **504**
● **Base piping (M3GB1 to 2/M4GB1 to 3)** **518**

Reduced wiring manifold

● **Body piping (M3GA1 to 3-T* (D) /M4GA1 to 3-T* (D))**
• **Common terminal block D sub-connector/flat cable connector/ Serial transmission** **540**
● **Base piping (M3GB1 to 2-T* (D) /M4GB1 to 3-T* (D))**
• **Common terminal block D sub-connector/flat cable connector/ Serial transmission** **562**

Related products (air supply spacer/exhaust spacer/plug/DIN rail) 592
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(2) Notes on wiring 713
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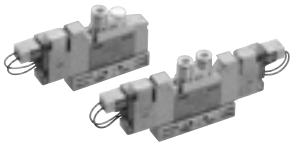
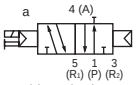
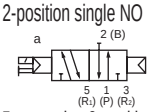
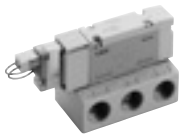
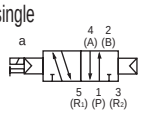
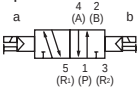
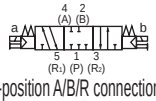
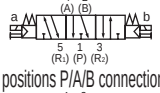
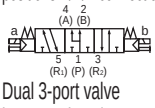
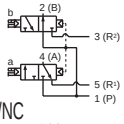
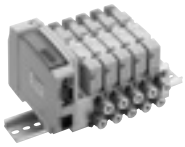
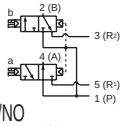
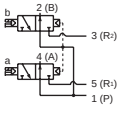
⚠ Safety precautions 750

Series variation

4GA1 to 3/4GB1 to 3 Series

* Refer to page 625 for a block manifold.

Appearance of series external					Model No.	Position No. of solenoid JIS symbol	Valve performance: Flow characteristics [dm³/(s·bar)] (*1)	Valve performance: Applicable cylinder bore size (ø)	Voltage (V)	Switching position: 2-position: Normally closed	2-position: Normally open	2-position: Single	2-position: Double	3-position: All ports closed	3-position: ABR connection	3-position: PAB connection
Discrete	3GA110R-E* 4GA120R-E* 	Body piping	3-port		3GA1	● 3-port valve 2-position single NC 	0.66 to 0.70	20 to 40	AC100 AC200 DC24 DC12 DC3 DC5 (*2)	●	●					
					3GA2		2.2 to 2.7	40 to 80		●	●					
					3GA3		3.9	63 to 100		●	●					
			5-port		4GA1		0.66 to 0.70	20 to 40				●	●	●	●	●
					4GA2		2.4 to 2.7	40 to 80				●	●	●	●	●
					4GA3	2-position single NO 	3.2 to 4.0	63 to 100				●	●	●	●	●
	4GB310R-E* 	Base piping	3-port		3GB1		1.0	20 to 40								
					3GB2		2.1	40 to 80								
			5-port		4GB1	● 5-port valve 2-position single 	1.1 to 1.3	20 to 40				●	●	●	●	●
					4GB2		2.2 to 2.5	40 to 80				●	●	●	●	●
					4GB3		3.2 to 4.2	63 to 100				●	●	●	●	●
Individual wiring manifold	M4GA280R-E*D 	Body piping	Direct mount DIN rail mount (-D)		M4GA1		0.66 to 1.0	20 to 40	AC100 AC200 DC24 DC12 DC3 DC5 (*2)	●	●	●	●	●	●	●
					M4GA2		1.7 to 2.5	40 to 80		●	●	●	●	●	●	●
					M4GA3	2-position double 	2.5 to 3.3	63 to 100		●	●	●	●	●	●	●
	M4GB110R-E*D 	Base piping	Direct mount DIN rail mount (-D)		M4GB1		0.67 to 1.0	20 to 40				●	●	●	●	●
					M4GB2		1.6 to 2.4	40 to 80				●	●	●	●	●
					M4GB3	3-position all ports closed 	2.6 to 3.3	63 to 100				●	●	●	●	●
Reduced wiring manifold	M4GA280R-T10 	Body piping	Direct mount	Terminal (-T1□) Connector (-T30, -T5□)	M4GA1		0.66 to 1.0	20 to 40	DC24 DC12	●	●	●	●	●	●	●
					M4GA2		1.7 to 2.5	40 to 80		●	●	●	●	●	●	●
					M4GA3	3-position A/B/R connection 	2.5 to 3.3	63 to 100		●	●	●	●	●	●	●
				Serial transmission (-T8□)	M4GA1		0.66 to 1.0	20 to 40	DC24	●	●	●	●	●	●	●
					M4GA2		1.7 to 2.5	40 to 80		●	●	●	●	●	●	●
					M4GA3	3 positions P/A/B connection 	2.5 to 3.3	63 to 100		●	●	●	●	●	●	●
	M4GA180R-T8D 		Mount DIN rail	Terminal (-T1□D) Connector (-T30D, -T5□D)	M4GA1		0.66 to 1.0	20 to 40	DC24 DC12	●	●	●	●	●	●	●
					M4GA2		1.7 to 2.5	40 to 80		●	●	●	●	●	●	●
					M4GA3	● Dual 3-port valve integrated NC/NC 	2.5 to 3.3	63 to 100		●	●	●	●	●	●	●
				Serial transmission (-T6G1D) (-T8□D)	M4GA1		0.66 to 1.0	20 to 40	DC24	●	●	●	●	●	●	●
					M4GA2		1.7 to 2.5	40 to 80		●	●	●	●	●	●	●
					M4GA3	NC/NC 	2.5 to 3.3	63 to 100		●	●	●	●	●	●	●
	M4GB210R-T8* 	Base piping	Direct mount	Terminal (-T1□) Connector (-T30, -T5□)	M4GB1		0.67 to 1.0	20 to 40	DC24 DC12			●	●	●	●	●
					M4GB2		1.6 to 2.4	40 to 80				●	●	●	●	●
					M4GB3		2.6 to 3.3	63 to 100				●	●	●	●	●
				Serial transmission (-T8□)	M4GB1		0.66 to 1.0	20 to 40	DC24			●	●	●	●	●
					M4GB2		1.7 to 2.5	40 to 80				●	●	●	●	●
					M4GB3	NO/NC 	2.5 to 3.3	63 to 100				●	●	●	●	●
			Mount DIN rail	Terminal (-T1□D) Connector (-T30D, -T5□D)	M4GB1		0.67 to 1.0	20 to 40	DC24 DC12			●	●	●	●	●
					M4GB2		1.6 to 2.4	40 to 80				●	●	●	●	●
					M4GB3		2.6 to 3.3	63 to 100				●	●	●	●	●
				Serial transmission (-T6G1D) (-T8□D)	M4GB1		0.67 to 1.0	20 to 40	DC24			●	●	●	●	●
					M4GB2		1.6 to 2.4	40 to 80				●	●	●	●	●
					M4GB3	NO/NO 	2.6 to 3.3	63 to 100				●	●	●	●	●

Series variation

*1: Effective cross-sectional area S and sonic conductance C are converted as S≒5.0XC.
*2: The grommet lead wire specifications are for DC voltages only.
*3: The two 3-port valves integrated type is compatible with 3GA1/2 and 3GB1/2.
*4: P/R piping port is either M5 or Rc thread.
*5: Only compatible with base piping 2-position single model.
*6: P/R piping port is NPT thread.
*7: P/R piping port is G thread.
*8: Specification for reduced wiring manifold built-in. Only compatible with DC12/24V.
*9: "○" indicates made to order.

Switching position		A/B Piping port (*4)																				A/B piping port (*6, *9)									A/B piping port (*7)								Electrical connections											Page
		Barbed fitting	Push-in fitting					Push-in fitting L type (upward) (*5)					Push-in fitting L type (downward)					Female thread				Push-in fitting					Female thread				Push-in Fitting				Female thread				Discrete, individual wiring				Reduced wiring							
3 Port valve 2 Integrated (*3)	Mix	ø1.8	ø1.8	ø4	ø6	ø8	ø10	ø1.8	ø4	ø6	ø8	ø10	ø1.8	ø4	ø6	ø8	ø10	M5	Rc 1/8	Rc 1/4	Rc 3/8	ø1/8"	ø5/32"	ø1/4"	ø5/16"	ø3/8"	M5	1/8NPT	1/4NPT	3/8NPT	ø4	ø6	ø8	ø10	M5	G1/8	G1/4	G3/8	Grommet lead wire (*2)	E connector	EJ connector	DIN terminal box	A connector (*8)	Common terminal block	D sub-connector	Flat cable with power supply terminal	Flat cable without power supply terminal	Serial transmission	Serial transmission	
		CF	C18	C4	C6	C8	C10	CL18	CL4	CL6	CL8	CL10	CD18	CD4	CD6	CD8	CD10	M5	06	08	10	C3N	C4N	C6N	C8N	C10N	M5N	06 N	08 N	10 N	C4G	C6G	C8G	C10G	M5G	06G	08G	10G	Blank	E□	E□J	B□	A2N	T1*	T30	T50	T5*	T6G1	T8*	
●		●	●	●	●													●				●	●																●	●	●									430
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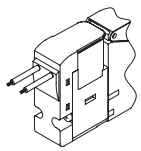
Electrical connections

Discrete valve/individual wiring manifold

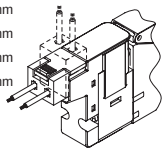
Blank Grommet lead wire Ⓐ

● **Lead wire length**
300 mm

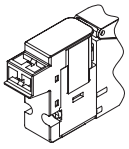


E0 E connector Ⓐ

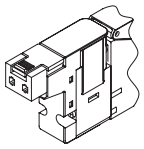
● **Lead wire length**
300 mm
500 mm
1000 mm
2000 mm
3000 mm



E0N E connector without socket

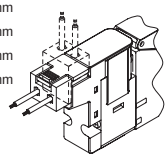


E1 E connector with socket/terminal

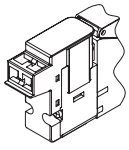


E2 E connector ⒶⒷⒸ

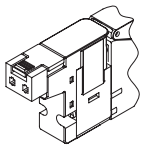
● **Lead wire length**
300 mm
500 mm
1000 mm
2000 mm
3000 mm



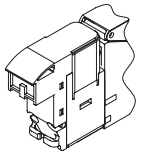
E2N E connector without socket ⒷⒸ



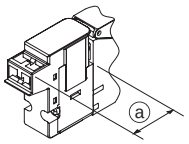
E3 E connector socket terminal attached ⒷⒸ



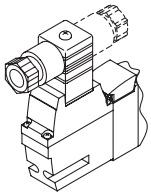
A2N A connector facing down without socket



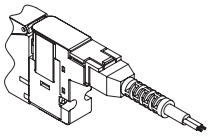
● For AC voltage, dimension a is 3.5 mm ⓐ longer than that for DC voltage.



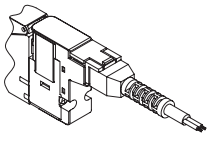
B BN DIN terminal box (BN: no terminal box)



E0*J EJ connector Ⓐ

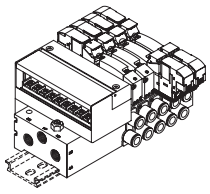


E2*J EJ connector ⒶⒷⒸ

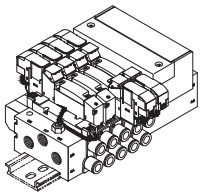


Reduced wiring manifold

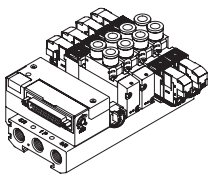
T10 T11 Common terminal block (left side) M3 thread/clamping



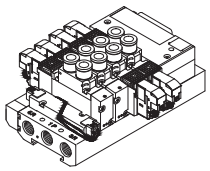
T10R T11R Common terminal block (right side) M3 thread/clamping



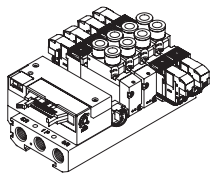
T30 D sub-connector (left)



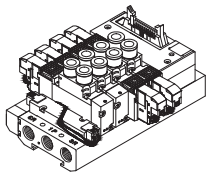
T30R D sub-connector (right)



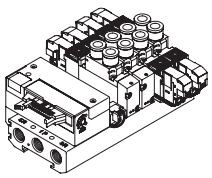
T50 Flat cable with power supply terminal (left side)



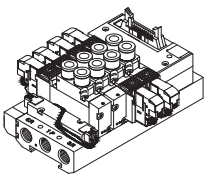
T50R Flat cable with power supply terminal (right side)



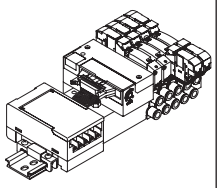
T51 T52 T53 Flat cable without power supply terminal (left side)



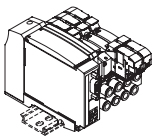
T51R T52R T53R Flat cable without power supply terminal (right side)



T6*$^{0}_{1}$ Serial transmission



T8*$^{1}_{2}$ Serial transmission (thin)

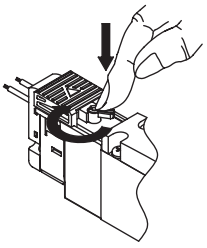


Ⓐ: with lead wire
Ⓑ: with lamp
Ⓒ: with surge suppressor

Manual override

Blank Non-locking/locking common

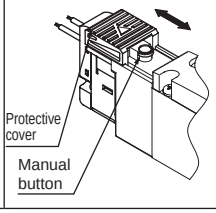
(standard)



(1) For non-locking, push to turn ON, release to turn OFF

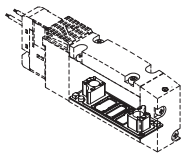
(2) For locking, push and turn 90° clockwise to hold the ON state. Turn counterclockwise to unlock OFF

M Non-locking



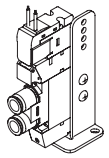
Other options

H With exhaust check valve



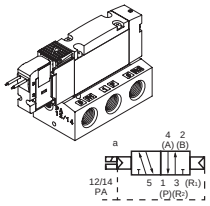
Provided as standard for pilot exhaust

P Mounting plate



Discrete
(only body piping)

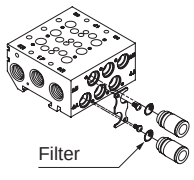
K External pilot



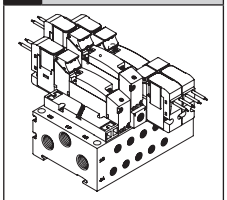
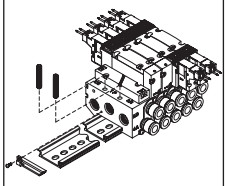
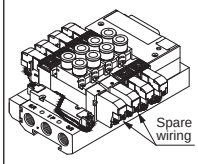
A Ozone/cutting oil proof

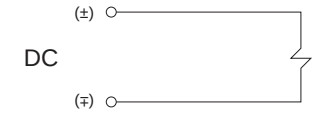
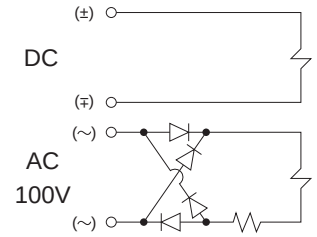
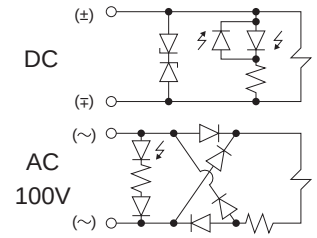
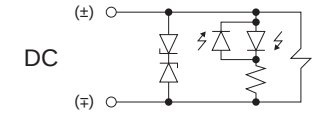
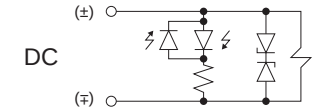
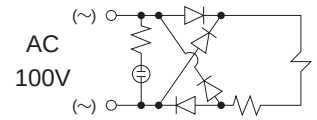
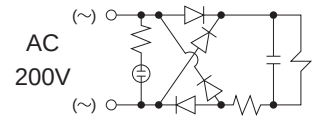
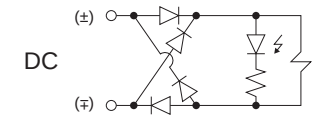
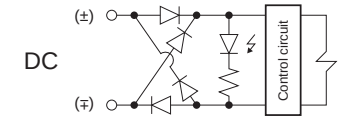
Select for cutting oil inflow and ozone measures.

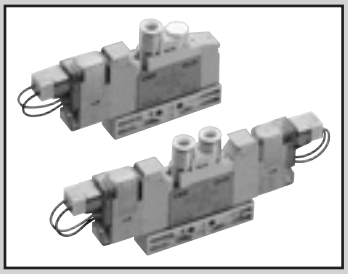
F A/B port filter integrated



Electric connection circuit diagram

Other options
Z1 Air supply spacer **Z3** Exhaust spacer

D DIN rail mount

W1 Double wiring (with single spare wiring)


	Electrical connections		Without lead wire	With lead wire	With lamp	With surge suppressor	Without socket	Circuit diagram
	Blank	Grommet lead wire		●				
	E0	E connector		●				
	E0*J	EJ connector		●				
	E0N	E connector					●	
	E1	E connector	●					
	E2	E connector		●	●	●		
	E2*J	EJ connector		●	●	●		
	E2N	E connector			●	●	●	
	E3	E connector	●		●	●		
	A2N	A connector			●	●	●	
	B	DIN terminal box	●		●	●		
	BN	DIN terminal box (No terminal box)	●			●		 
Option S	**E2**	E connector		●	●	●		
Option S	**E2*J**	EJ connector		●	●	●		
Option S	**E2N**	E connector			●	●	●	
Option E	**E2**	E connector		●	●	●		
Option E	**E2*J**	EJ connector		●	●	●		
Option E	**E2N**	E connector			●	●	●	



Discrete valve
Body piping

3GA1, 2, 3/4GA1, 2, 3 Series

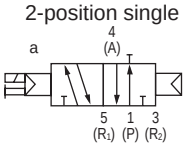
● Applicable cylinder bore size: ø20 to ø100

CE RoHS CAD

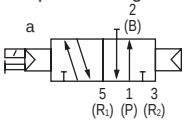
JIS symbol

● 3-port valve

2-position single NC

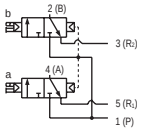


2-position single NO

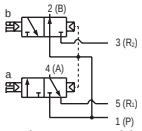


● Dual 3-port valve integrated

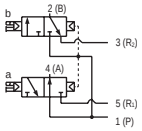
(A side valve: NC, B side valve: NC)



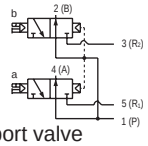
(A side valve: NC, B side valve: NO)



(A side valve: NO, B side valve: NC)

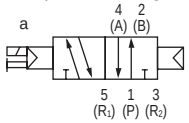


(A side valve: NO, B side valve: NO)

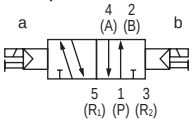


● 5-port valve

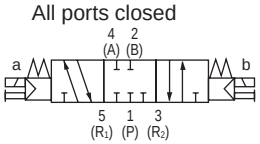
2-position single



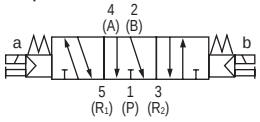
2-position double



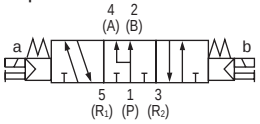
3-position
All ports closed



3-position A/B/R connection



3 positions P/A/B connection



Structure and material restriction

	Structure	Material restriction			Model No.
P7 Series	Dust generation preventing				– P70
	Dust generation preventing	Copper-based materials prohibited	Silicon-based materials prohibited	Halogen-based materials prohibited (fluorine, chlorine, bromine)	– P74 Custom order product

Common specifications

Item	Description
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2
Proof pressure MPa	1.05
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking/locking common (standard)
Pilot exhaust method	Main valve/pilot valve common exhaust
Lubrication *1	Not required
Degree of protection *2	Dust-proof
Vibration resistance m/s2	50 or less
Shock resistance m/s2	300 or less
Atmosphere	Cannot be used in corrosive gas environments

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

*2: Avoid water drops or oil, etc., during use.IP65 (water jet proof) applies for DIN terminal box specifications. However, the specified outer diameter of the cord and tightening torque must be used for fixing in place.

Electrical specifications

Item		Description					
Rated voltage V		DC 24	DC 12	DC 5	DC 3	AC 100	AC 200
Voltage fluctuation range		±10%					
Holding current (A) (*3)	Standard	0.015 (0.017)	0.030 (0.034)	0.072 (0.082)	0.120 (0.136)	0.009 (0.009)	0.006 (0.006)
	With low exoergic/energy circuit	0.005	0.010	-		-	
Power consumption W (*3)	Standard	0.35(0.40)		0.35(0.40)		-	
	With low exoergic/energy circuit	0.1		-		-	
Apparent power VA (*3) (*4)	Standard	-		-		0.93 (0.98)	1.40
Thermal class		energy circuit					
Surge suppressor		Standard					
Indicator		Lamp (option)					

*3: Values in ( ) apply when a lamp is attached.In addition, the type with low exoergic/energy circuit is only available with lamp.

*4: 200 VAC is the value of DIN terminal box (with lamp).

Individual specifications

Port size		3GA1/4GA1	3GA2/4GA2	3GA3/4GA3
Rc thread, M5	A/B port	Barbed fitting ø1.8 push-in fitting ø1.8, ø4, ø6 M5	Push-in fitting ø4, ø6, ø8 Rc1/8	Push-in fitting ø6, ø8, ø10 Rc1/4
	P/R1/R2 port	M5	Rc1/8	Rc1/4
NPT thread, M5	A/B port	Push-in fitting ø1/8 inch, ø5/32 inch	Push-in fitting ø1/4 inch, ø5/16 inch 1/8NPT	Push-in fitting ø5/16 inch, ø3/8 inch 1/4NPT (*5)
	P/R1/R2 port	M5	1/8NPT	1/4NPT (*5)
G thread	A/B port	–	Push-in fitting ø4, ø6, ø8 G1/8	Push-in fitting ø8, ø10 G1/4
	P/R1/R2 port	–	G1/8	G1/4

*5: This is a custom order product.

Performance/characteristics by model

Item			3GA1		3GA2		3GA3		4GA1		4GA2		4GA3	
			ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
Response time ms	Dual 3-port valve integrated		9	12	12	29	–	–	–	–	–	–	–	–
	2-position	Single	12	12	19	19	25	28	12	12	19	19	25	28
		Double	–	–	–	–	–	–	9	–	18	–	24	–
	3-position	ABR connection	–	–	–	–	–	–	8	15	17	30	23	45

Values including a lamp surge suppressor. The response time is the value at the 0.5 MPa supply pressure, 20°C, with no lubrication. It depends on the pressure and the lubricant quality.

Weight

Item				3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Weight g	2-position	Single	Grommet lead wire	48 (41)	104 (74)	142 (100)	48 (41)	109 (79)	151 (109)
			E connector	50 (43)	106 (76)	144 (102)	50 (43)	111 (81)	153 (111)
			DIN terminal box	–	141 (111)	177 (135)	–	146 (116)	186 (144)
		Double	Grommet lead wire	–	–	–	65 (58)	127 (97)	174 (128)
			E connector	–	–	–	69 (62)	131 (101)	178 (132)
			DIN terminal box	–	–	–	–	169 (139)	214 (168)
	3-position	All ports closed	Grommet lead wire	–	–	–	67 (60)	139 (109)	183 (141)
			E connector	–	–	–	71 (64)	143 (113)	187 (145)
			DIN terminal box	–	–	–	–	181 (151)	223 (181)

- Values in ( ) do not include a piping adapter. Values for the E connector include the socket assembly (with 300 mm lead wire). For the EJ connector, add 16 g/connector to the E connector weight.
- The weight of dual 3-port valve integrated is the same as that of 2-position double.

Flow characteristics

Model No.	Solenoid position		P→A/B		A/B→R1/R2	
			C [dm³/(s·bar)]	b	C [dm³/(s·bar)]	b
3GA1 4GA1	Dual 3-port valve integrated		0.98	0.45	0.71	0.34
	2-position		1.2	0.47	0.72	0.37
	3-position	All ports closed	1.1	0.39	0.70	0.34
		ABR connection	1.1	0.33	0.72	0.34
		PAB connection	1.3	0.61	0.72	0.36
3GA2 4GA2	Dual 3-port valve integrated		1.8	0.29	2.3	0.32
	2-position		2.4	0.33	2.8	0.30
	3-position	All ports closed	2.2	0.28	2.5	0.28
		ABR connection	2.3	0.26	2.8	0.27
		PAB connection	2.5	0.38	2.4	0.30
3GA3 4GA3	2-position		3.4	0.29	4.0	0.24
	3-position	All ports closed	3.1	0.27	3.4	0.28
		ABR connection	3.1	0.33	4.1	0.20
		PAB connection	3.5	0.43	3.4	0.32

*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.

Ozone proof specifications • Cutting oil prohibited specifications

This can be set by selecting option “A” of Ⓔ in how to order on page 432.

3GA1, 2, 3/4GA1, 2, 3 Series

Discrete valve; body piping

How to order

4GA1 1 0 R - C6 - E2 [ ] - 1 - P70

3GA1 1 0 R - C6 - E2 [ ] - 1 - P70

Discrete valve for mounting base

4GA1 1 9 R - C6 - E2 H - 3 - P70

Discrete 3-port valve for mounting base

3GA1 1 9 R - C6 - E2 H - 3 - P70

Ⓐ Model No. — Ⓑ Solenoid position — Ⓒ Port size — Ⓓ Electrical connections — Ⓔ Option — Ⓕ Voltage — Ⓖ Clean room specifications

Ⓓ Electrical connections
Refer to page 429 for the circuit diagram with surge suppressor/lamp.

Precautions for model No. selection

*1: For the 3GA normally closed, the piping connection 2 (B) and 3 (R2) ports are plugged.
For the 3GA normally open, avoid plugging the 5 (R1) port. Not doing so could cause malfunctions.
*2: Dimensions are the same as the respective 2-position double solenoid.
*3: 4G3 is a custom order product.
4: 3-position all ports closed and PAB connection are not provided with the exhaust check valve. Refer to page 751 for details on the exhaust check valve.
5: Only E2 and E2*J connectors and 12/24 VDC are supported.
In addition, selecting a combination of surgeless "S" and the low exoergic/energy-saving circuit "E" is not allowed.
*6: Applicable to surgeless specifications
*7: P port is equipped with a filter as standard.
*8: Supported only for DIN terminal box.
*9: A (ozone compatible) and Ⓖ clean room specifications P74 cannot be combined.
*10: Specifications which do not allow copper-based/silicon-based/halogen-based materials apply to the main valve section.
*11: P74 Series is a custom order product.

Code	Content		Ⓐ 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 P/A/B connection					●	●	●
1	2-position single normally closed (*1)		●	●	●			
11	2-position single normally open (*1)		●	●	●			
66	Dual 3-port valve integrated *2	A side valve: Normally closed B side valve: Normally closed	●	●				
67	Dual 3-port valve integrated *2	A side valve: Normally closed B side valve: Normally open	●	●				
76	Dual 3-port valve integrated *2	A side valve: Normally open B side valve: Normally closed	●	●				
77	Dual 3-port valve integrated *2	A side valve: Normally open B side valve: Normally open	●	●				

Ⓒ Port size								
Port	4 (A)/2 (B) port	P/R1/R2 port (1) = M5 (2) = Rc1/8 (3) = Rc1/4					
CF	ø1.8 barbed fitting (applicable tube UP-9102-**)	(1)			(1)		
C18	ø1.8 push-in fitting (applicable tube UP-9402-**)	(1)			(1)		
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	P/R1/R2 port (1) = M5 (5) = 1/8NPT (6) = 1/4NPT					
C3N	ø1/8 inch push-in fitting	(1)			(1)		
C4N	ø5/32 inch push-in fitting	(1)			(1)		
C6N	ø1/4 inch push-in fitting		(5)			(5)	
C8N	ø5/16 inch push-in fitting (*3)		(5)	(6)		(5)	(6)
C10N	ø3/8 inch push-in fitting (*3)			(6)			(6)
06N	1/8NPT		(5)			(5)	
08N	1/4NPT (*3)			(6)			(6)
Port	4 (A)/2 (B) port	P/R1/R2 port (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)

Ⓓ Electrical connections
Refer to the electrical connection list on next page.

Ⓔ Option							
Blank	Non-locking and locking model shared manual override	●	●	●	●	●	●
M	Non-locking manual override	●	●	●	●	●	●
H	With exhaust check valve (*4)	●	●	●	●	●	●
P	Mounting plate	●	●	●	●	●	●
A	Ozone/cutting oil proof	●	●	●	●	●	●
S	Surgeless (*5)	●	●	●	●	●	●
E	Low exoergic/energy-saving circuit (*5), (*6)	●	●	●	●	●	●
F	A/B port filter integrated (*7)	●	●	●	●	●	●

Ⓕ Voltage							
1	100 VAC (with rectifier circuit)	●	●	●	●	●	●
2	200 VAC (with rectifier circuit) (*8)		●	●		●	●
3	24 VDC	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●
7	3 VDC	○	○	○	○	○	○
8	5 VDC	○	○	○	○	○	○

Ⓖ Clean room specifications (*9, 10, 11)								
	Structure	Material restriction						
P70	Exhaust treatment	-	●	●	●	●	●	●
P74	Exhaust treatment	Copper-based/silicon-based/ halogen-based materials (fluorine, chlorine, bromine) are prohibited.	○	○	○	○	○	○

is not available.
○ Custom order products. Contact CKD for details.

(Electrical connection list)

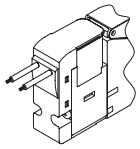
	Ⓓ Electrical connections	Ⓐ Model No. 3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Blank	Grommet lead wire (300 mm) (*9)	●	●	●	●	●	●
B	DIN terminal box (Pg7) with surge suppressor/lamp (*10)(*12)		●	●		●	●
BN	DIN terminal box (Pg7) (no terminal box) with surge suppressor (*10)(*12)		●	●		●	●
E connector (up/lateral common)							
E0	Lead wire (300 mm) (*11)	●	●	●	●	●	●
E00	Lead wire (500 mm) (*11)	●	●	●	●	●	●
E01	Lead wire (1000 mm) (*11)	●	●	●	●	●	●
E02	Lead wire (2000 mm) (*11)	●	●	●	●	●	●
E03	Lead wire (3000 mm) (*11)	●	●	●	●	●	●
E0N	Without lead wire (without socket)	●	●	●	●	●	●
E1	Without lead wire (with socket/terminal) (*11)	●	●	●	●	●	●
E2	Lead wire (300 mm) with surge suppressor/lamp	●	●	●	●	●	●
E20	Lead wire (500 mm) with surge suppressor/lamp	●	●	●	●	●	●
E21	Lead wire (1000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E22	Lead wire (2000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E23	Lead wire (3000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E2N	Without lead wire (without socket) with surge suppressor/lamp	●	●	●	●	●	●
E3	Without lead wire (with socket/terminal) with surge suppressor/lamp	●	●	●	●	●	●
EJ connector (socket with cover, up/lateral common)							
E01J	Lead wire (1000 mm) (*11)	●	●	●	●	●	●
E02J	Lead wire (2000 mm) (*11)	●	●	●	●	●	●
E03J	Lead wire (3000 mm) (*11)	●	●	●	●	●	●
E21J	Lead wire (1000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E22J	Lead wire (2000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E23J	Lead wire (3000 mm) with surge suppressor/lamp	●	●	●	●	●	●

*12: The grommet lead wire specifications are only applicable to DC voltages.
*13: AC voltage and 12/24 VDC are supported. The lamp is incorporated in the terminal box.
*14: AC voltage is provided with a rectifier circuit.
*15: The terminal box is a EN175301-803Type C (old DIN 43650-C) compliant product. Refer to pages 756 and 757 for details.

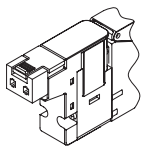
Electrical connections

Blank Grommet lead wire

● **Lead wire length**
300 mm

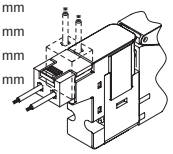


E1 E3 E connector with socket/terminal

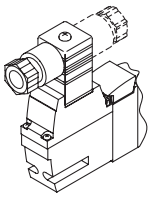


E0 E2 E connector

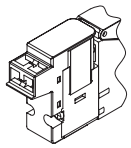
● **Lead wire length**
300 mm
500 mm
1000 mm
2000 mm
3000 mm



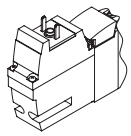
B DIN terminal box



E0N E2N E connector without socket

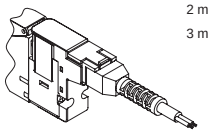


BN DIN terminal box No terminal box



E0*J E2*J EJ connector

● **Lead wire length**
1 m
2 m
3 m

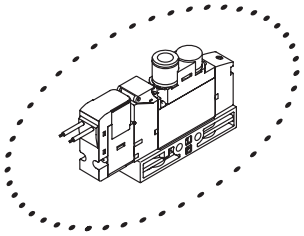


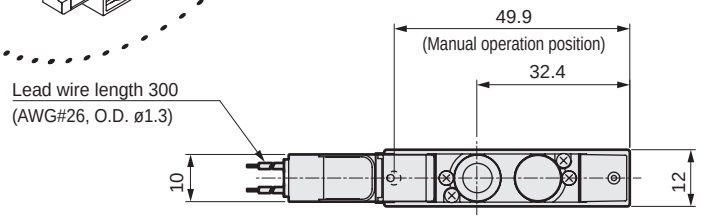
Dimensions CAD

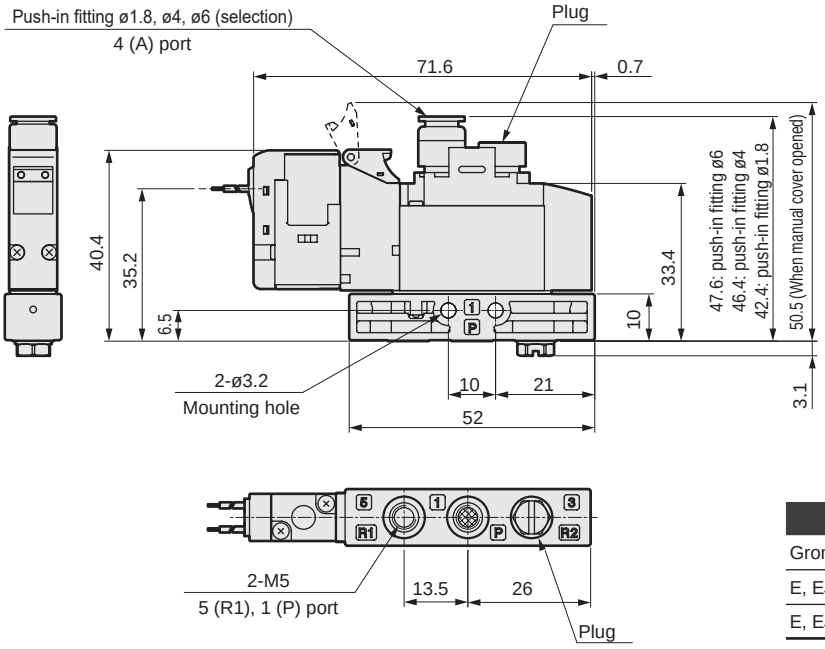
3GA110R-P7*

*For the NPT thread and G thread specifications, refer to pages 464 to 471.
*Refer to page 753 for details on mounting holes.

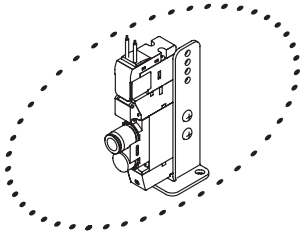
● 2-position single normally closed grommet lead wire (blank)

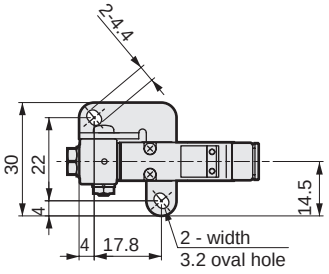


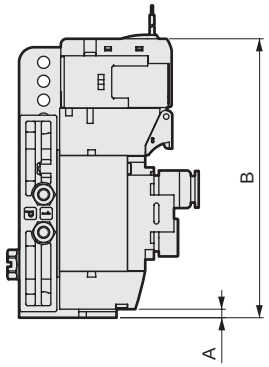




● Mounting plate (P)

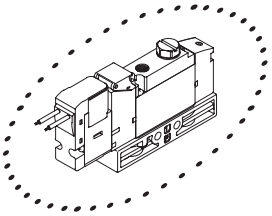


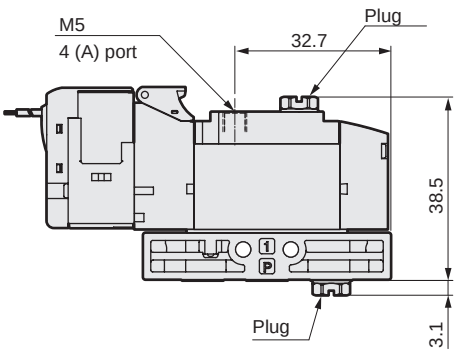




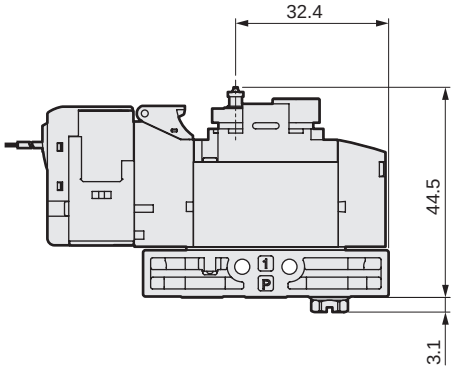
Electrical connections	A	B
Grommet lead wire	2.2	73.8
E, EJ connector (facing up), DC voltage		82
E, EJ connector (facing up), AC voltage		85.5

● M5 female thread (M5)



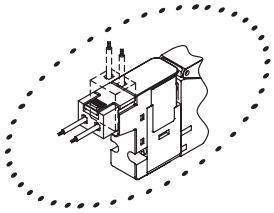


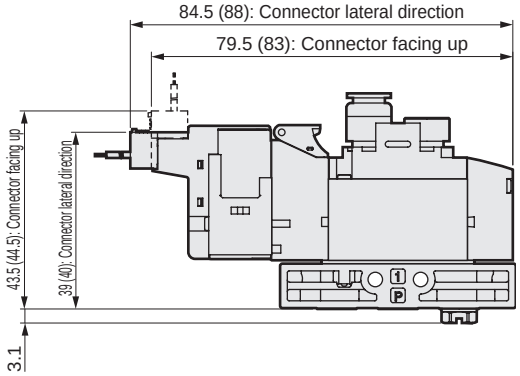
● ø1.8 barbed fitting (CF)



Dimensions

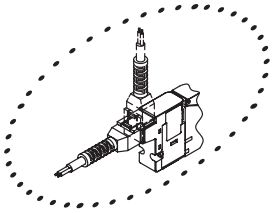
● E connector (E)

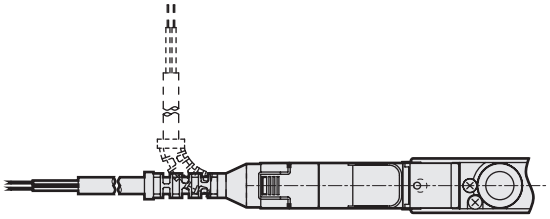


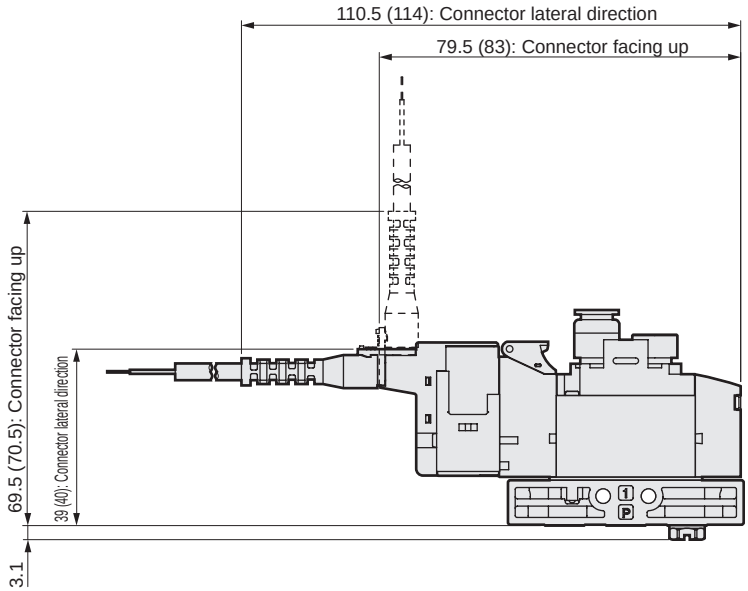


Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)





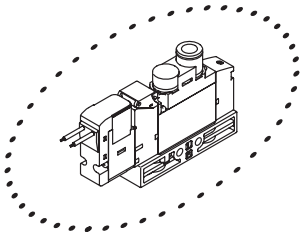


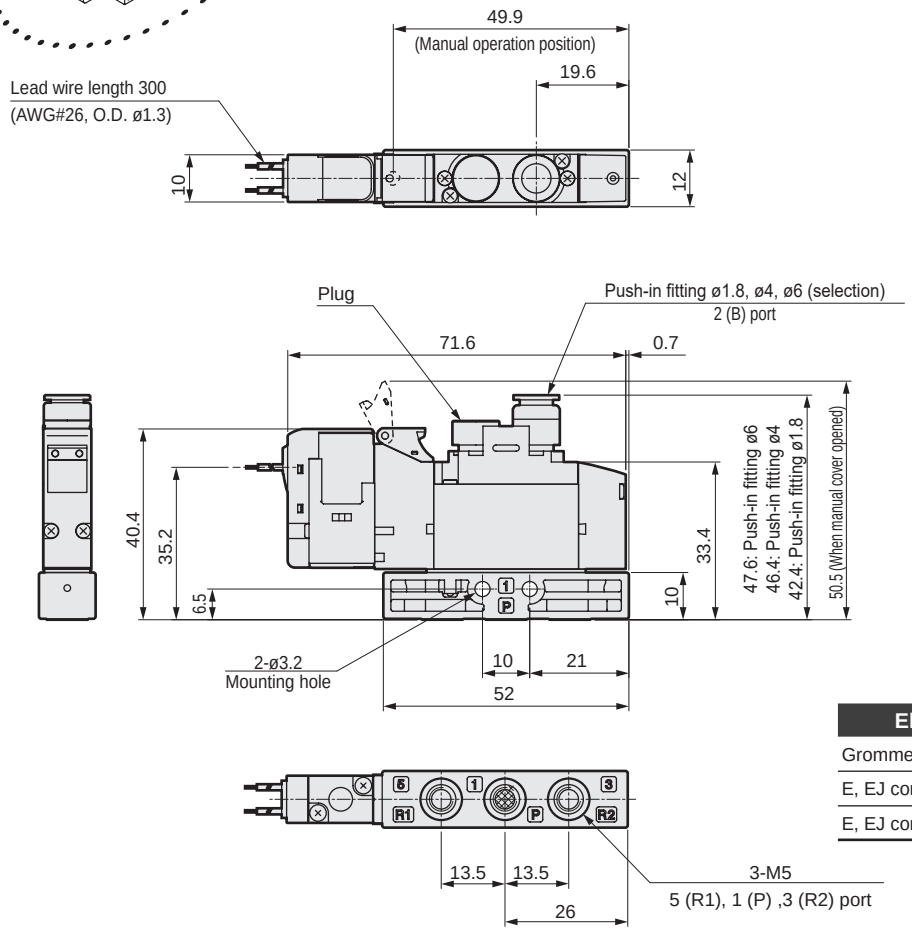
Note: Values in ( ) are applicable to AC voltages.

Dimensions CAD

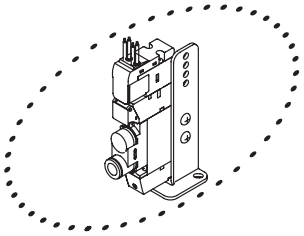
3GA1110R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

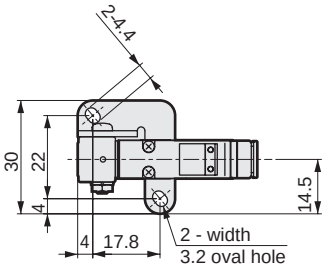
● 2-position single normally open grommet lead wire (blank)

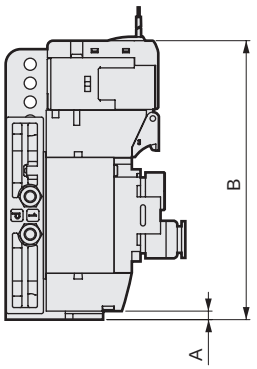




● Mounting plate (P)

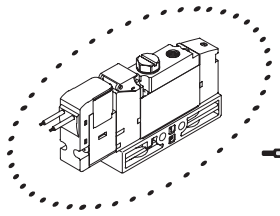


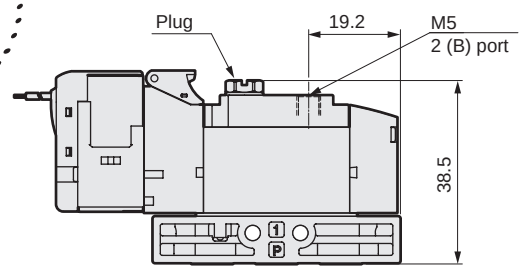




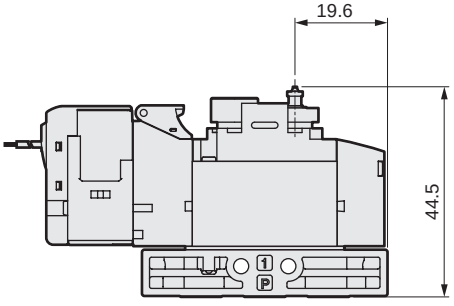
Electrical connections	A	B
Grommet lead wire	2.2	73.8
E, EJ connector (facing up), DC voltage		82
E, EJ connector (facing up), AC voltage		85.5

● M5 female thread (M5)



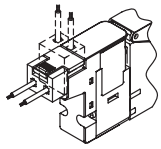


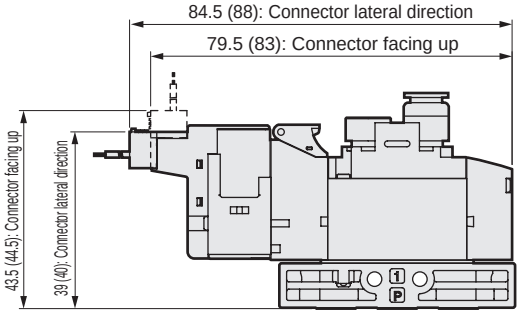
● ø1.8 barbed fitting (CF)



Dimensions

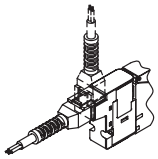
● E connector (E)

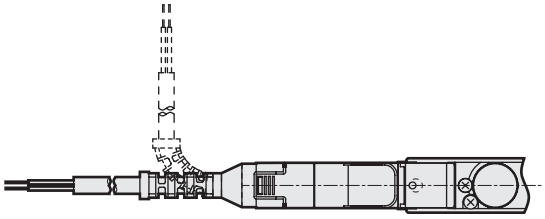


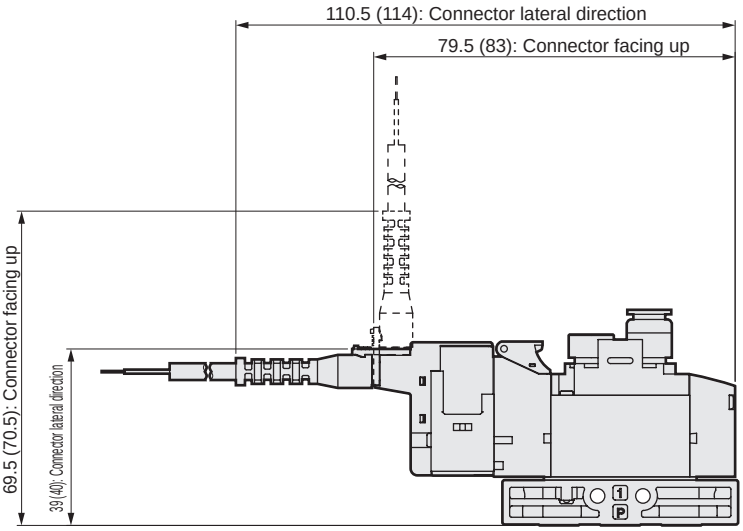


Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)





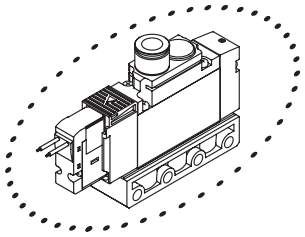


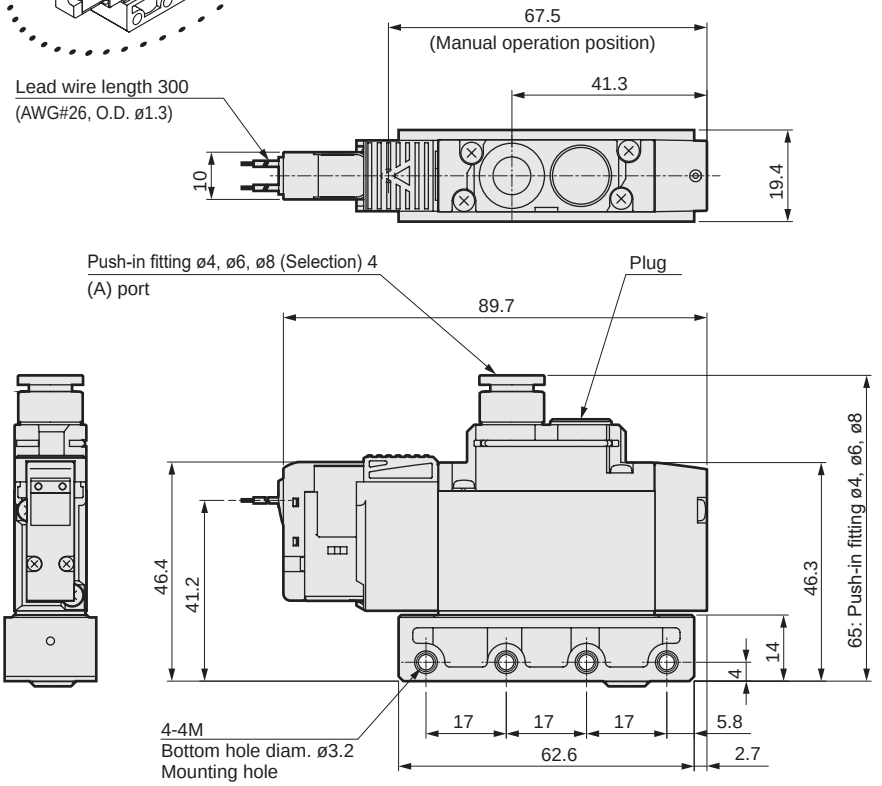
Note: Values in ( ) are applicable to AC voltages.

Dimensions CAD

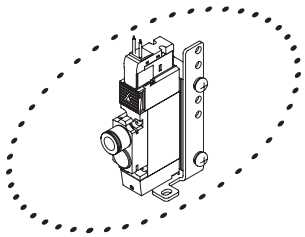
3GA210R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

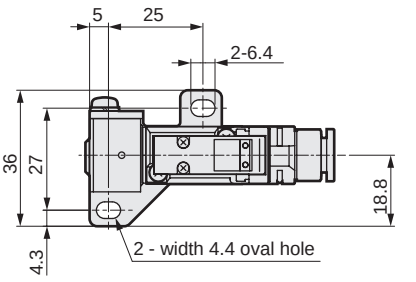
● 2-position single normally closed grommet lead wire (blank)

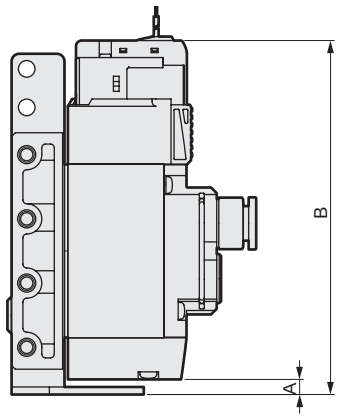




● Mounting plate (P)

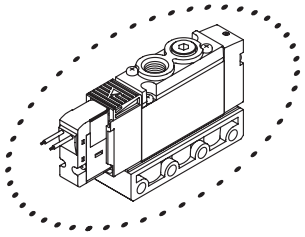


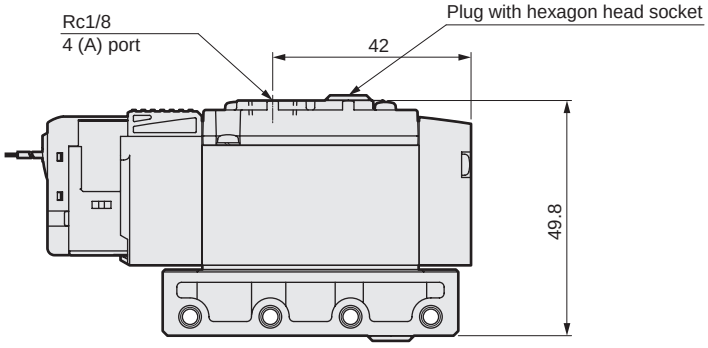




Electrical connections	A	B
Grommet lead wire	4	93.7
E, EJ connector (facing up), DC voltage		102
E, EJ connector (facing up), AC voltage		105.5
DIN terminal box (inner direction)		112.7

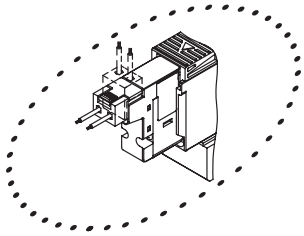
● Rc1/8 female thread (06)

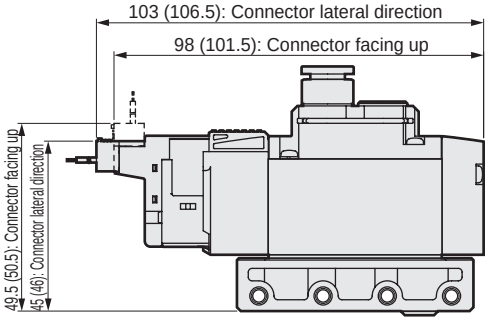




Dimensions

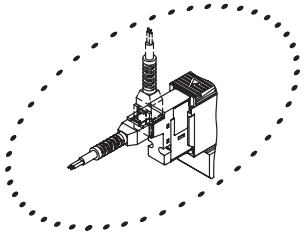
● E connector (E)

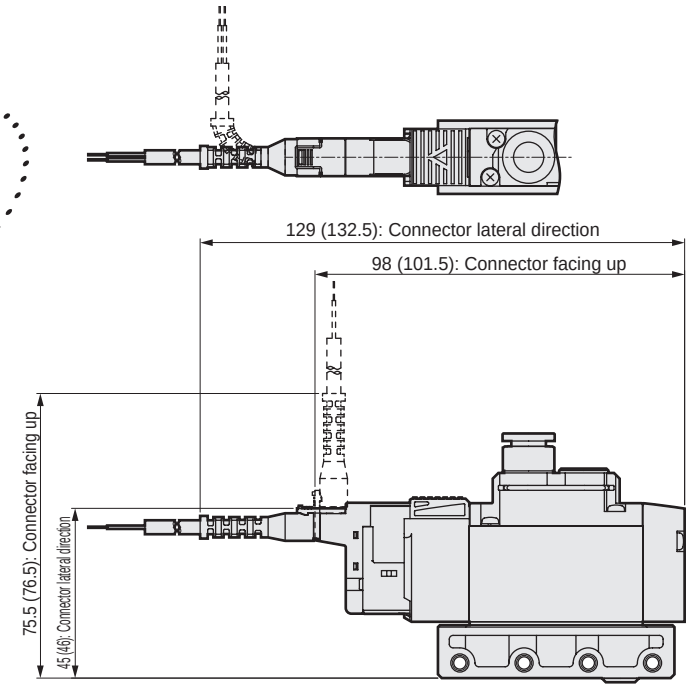




Note: Values in ( ) are applicable to AC voltages.

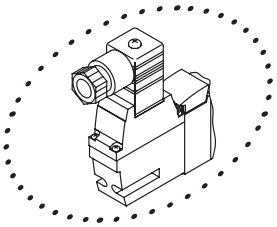
● EJ connector (E**J)

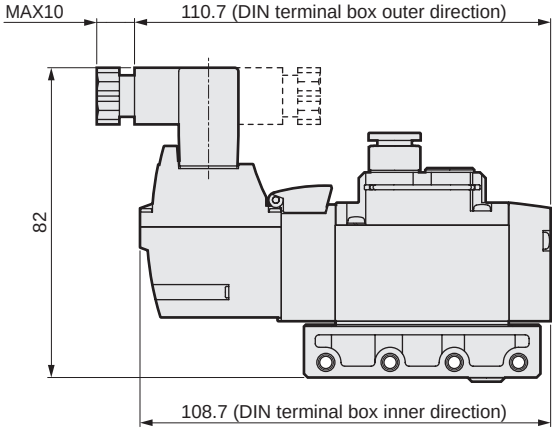




Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)



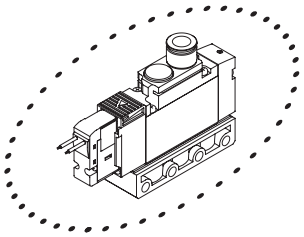


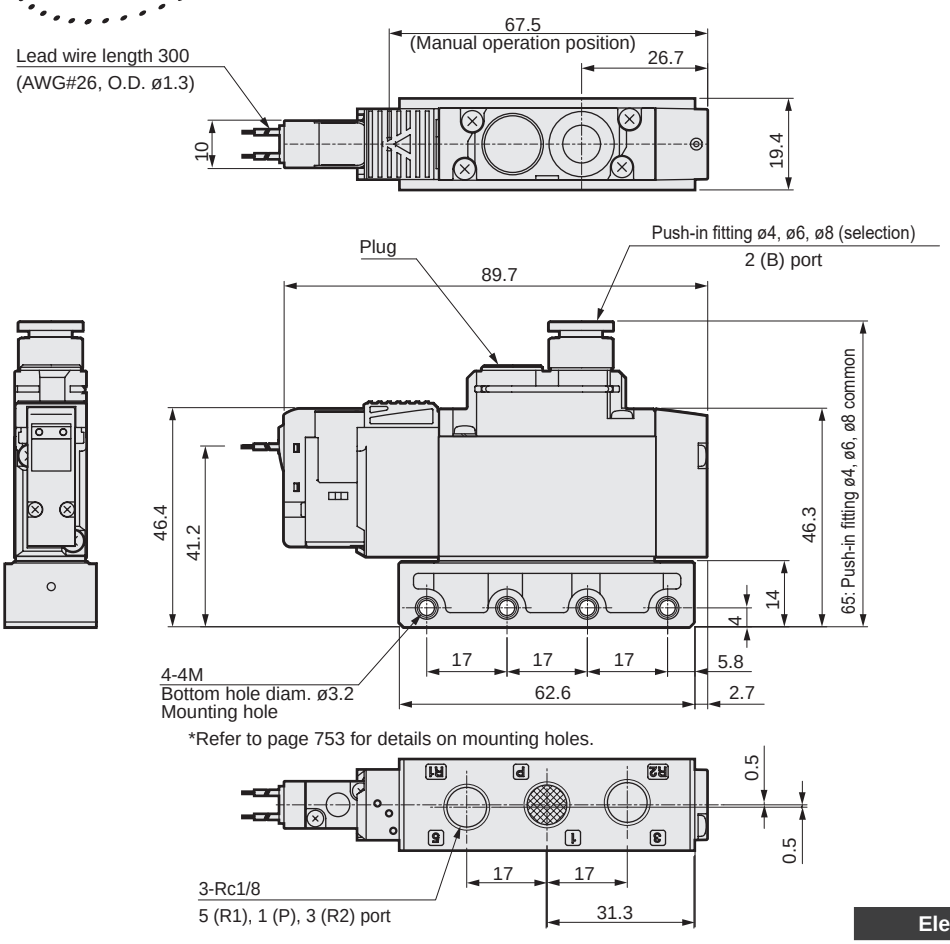
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

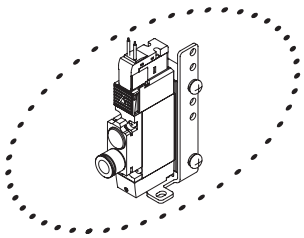
3GA2110R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

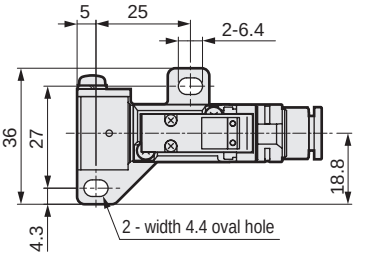
● 2 position single normally open grommet lead wire (blank)

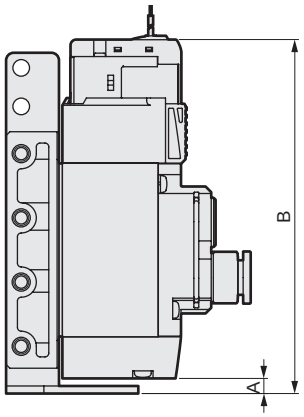




● Mounting plate (P)

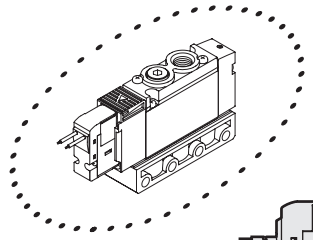


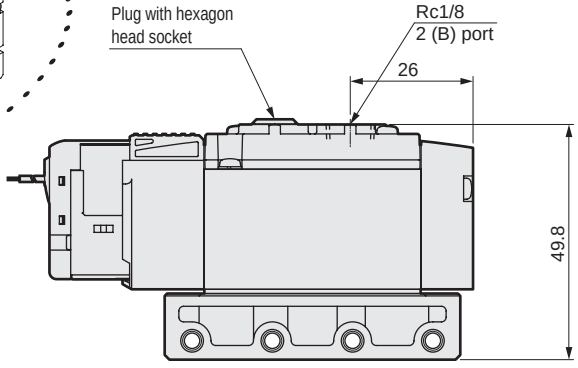




Electrical connections	A	B
Grommet lead wire	4	93.7
E, EJ connector (facing up), DC voltage		102
E, EJ connector (facing up), AC voltage		105.5
DIN terminal box (inner direction)		112.7

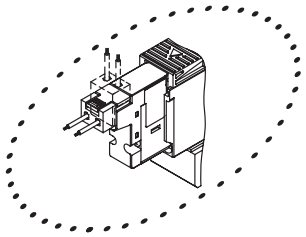
● Rc1/8 female thread (06)

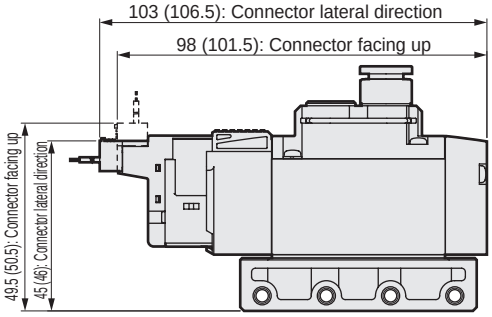




Dimensions

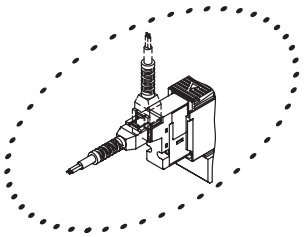
● E connector (E)

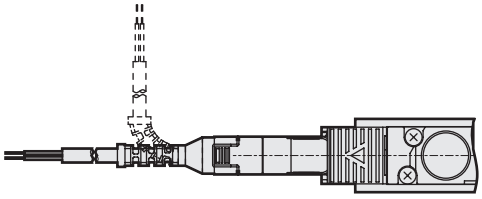


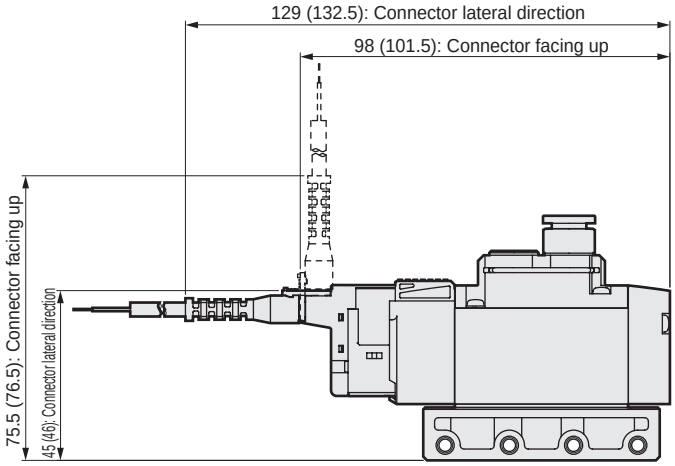


Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

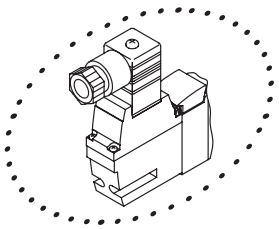


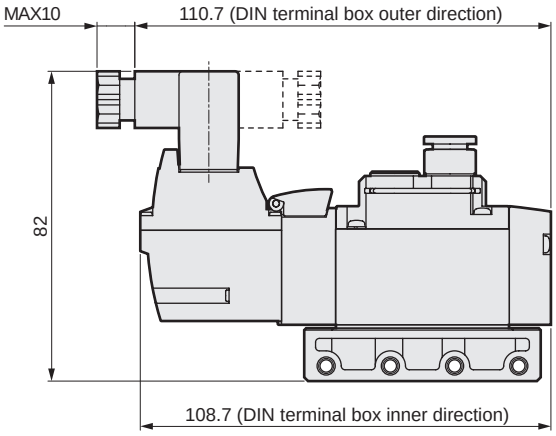




Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)



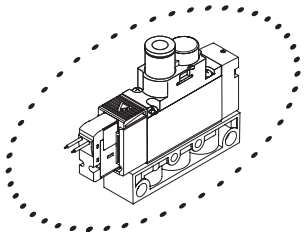


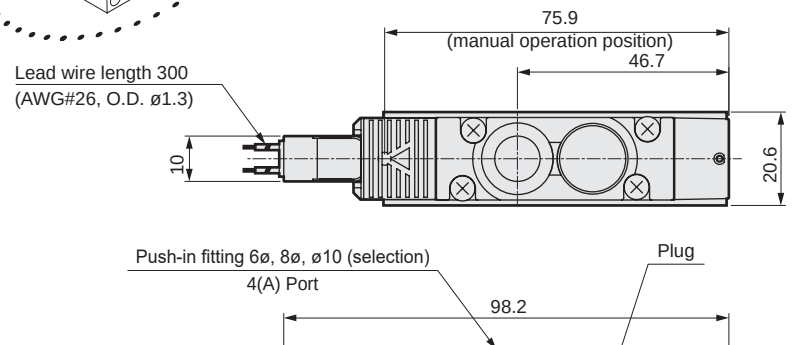
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

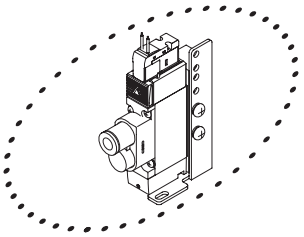
3GA310R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

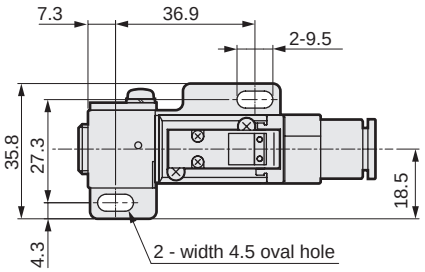
● 2-position single normally closed grommet lead wire (blank)

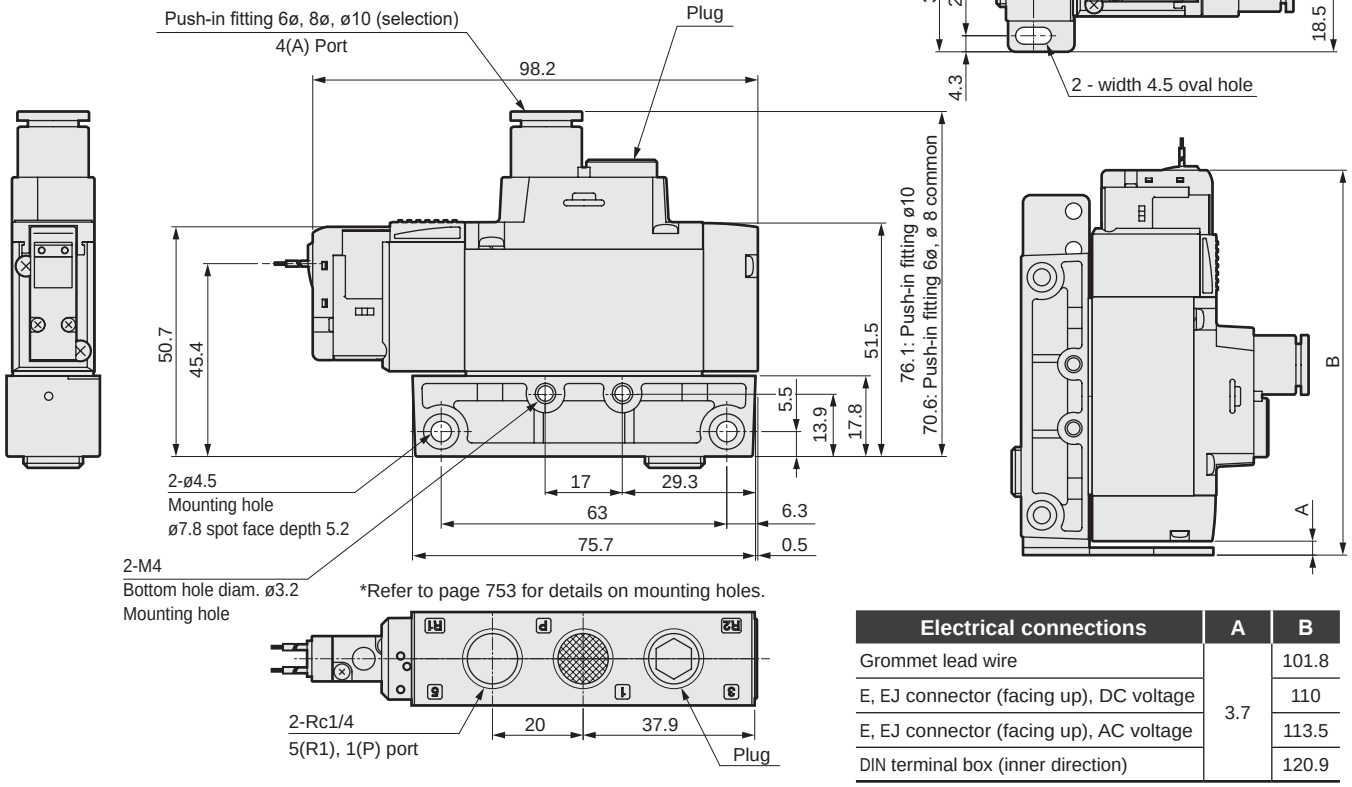




● Mounting plate (P)

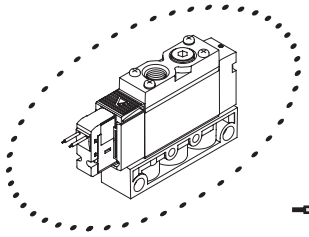


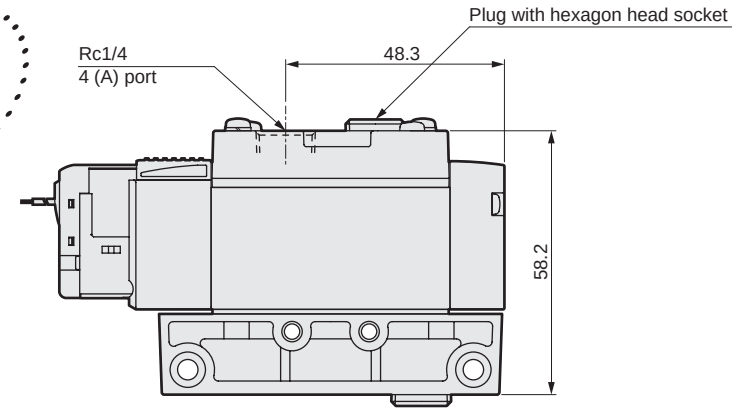




Electrical connections	A	B
Grommet lead wire	3.7	101.8
E, EJ connector (facing up), DC voltage		110
E, EJ connector (facing up), AC voltage		113.5
DIN terminal box (inner direction)		120.9

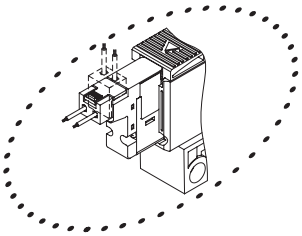
● RC1/4 female thread (08)

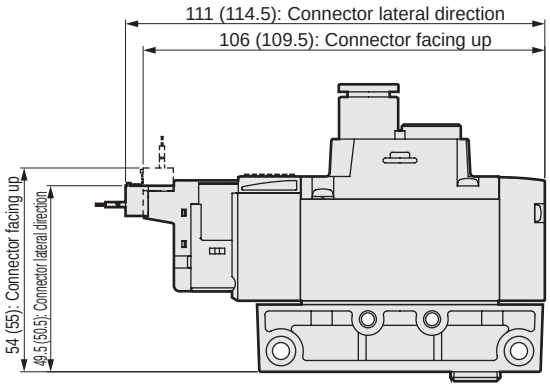




Dimensions

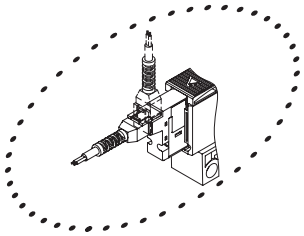
● E connector (E)

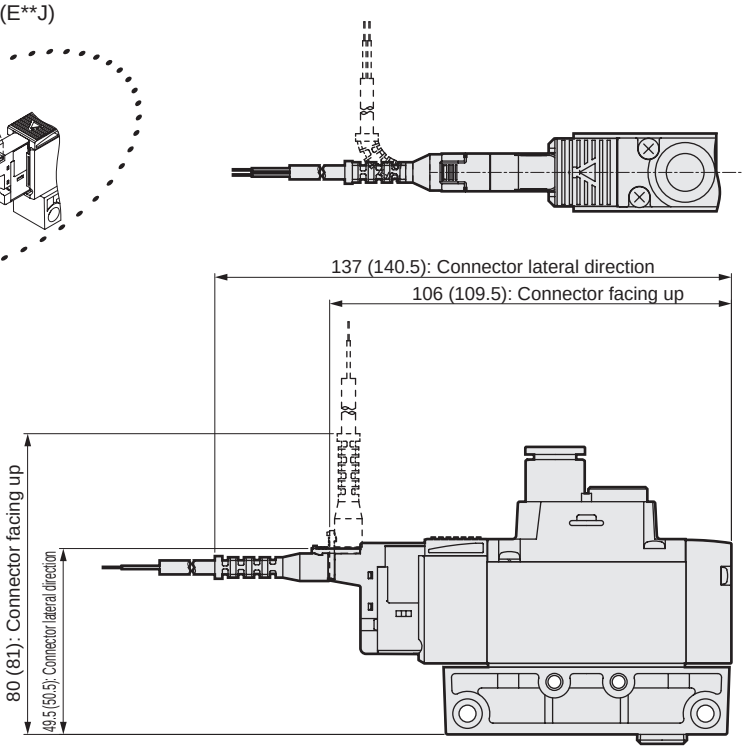




Note: Values in ( ) are applicable to AC voltages.

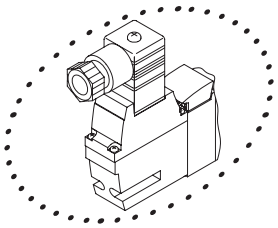
● EJ connector (E**J)

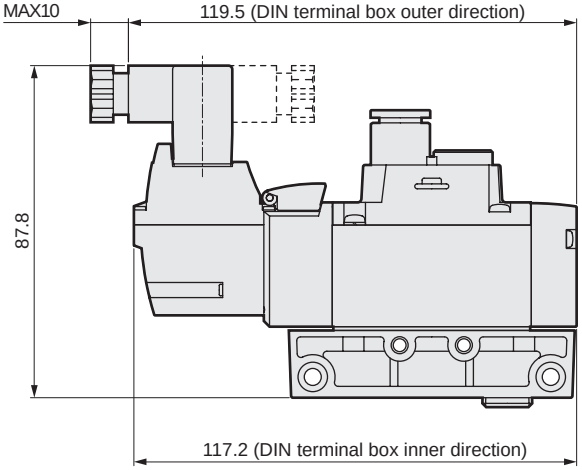




Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)



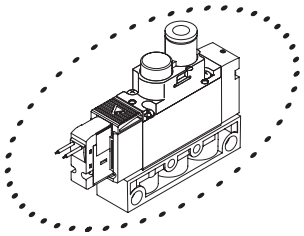


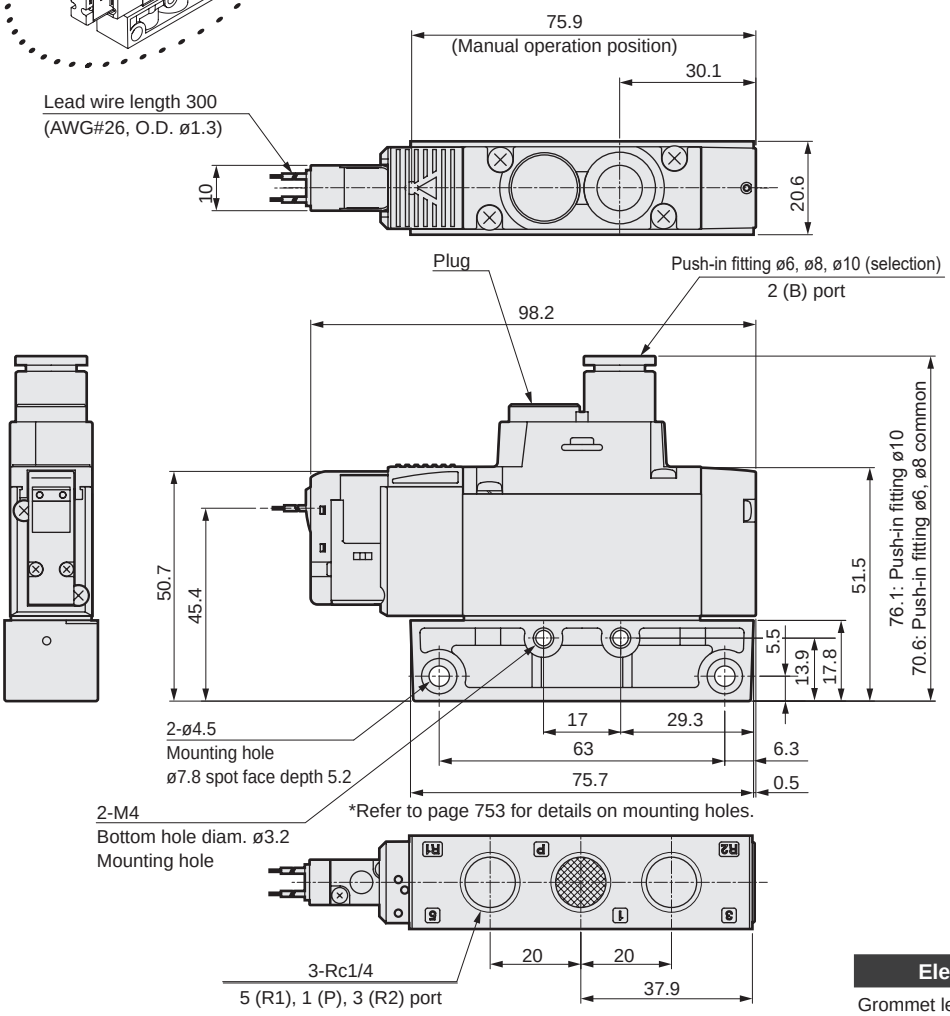
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

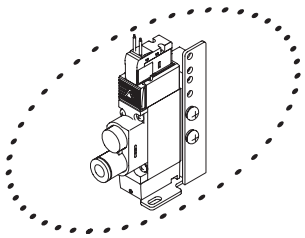
3GA3110R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

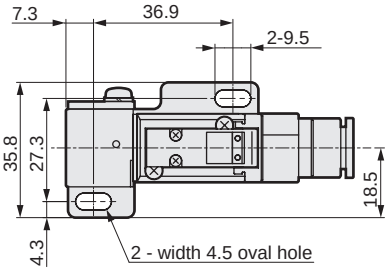
● 2 position single normally open grommet lead wire (blank)

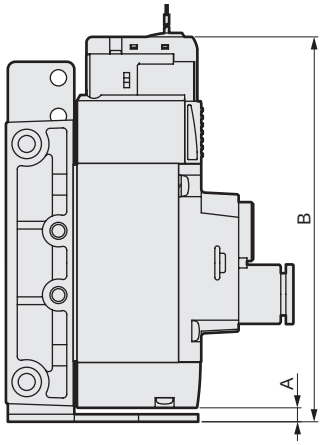




● Mounting plate (P)

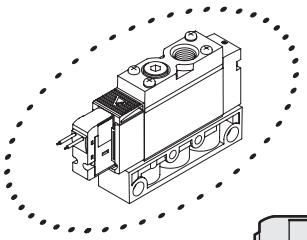


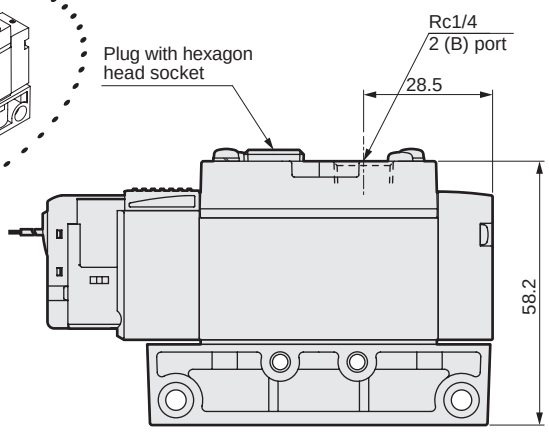




Electrical connections	A	B
Grommet lead wire	3.7	101.8
E, EJ connector (facing up), DC voltage		110
E, EJ connector (facing up), AC voltage		113.5
DIN terminal box (inner direction)		120.9

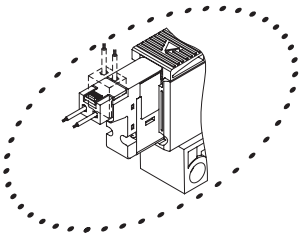
● RC1/4 female thread (08)

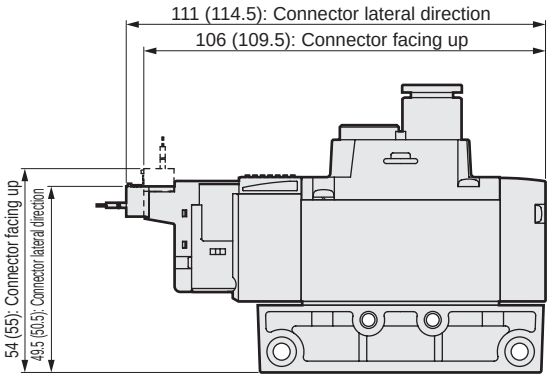




Dimensions

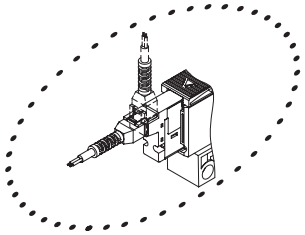
● E connector (E)

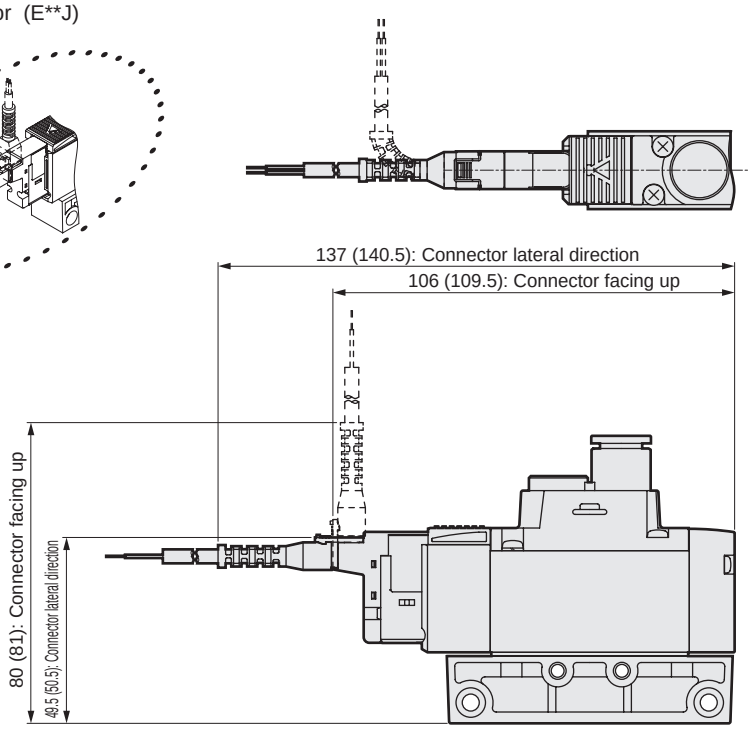




Note: Values in ( ) are applicable to AC voltages.

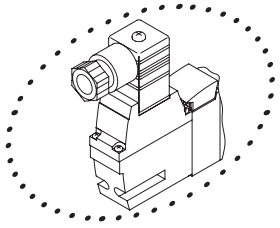
● EJ connector (E**J)

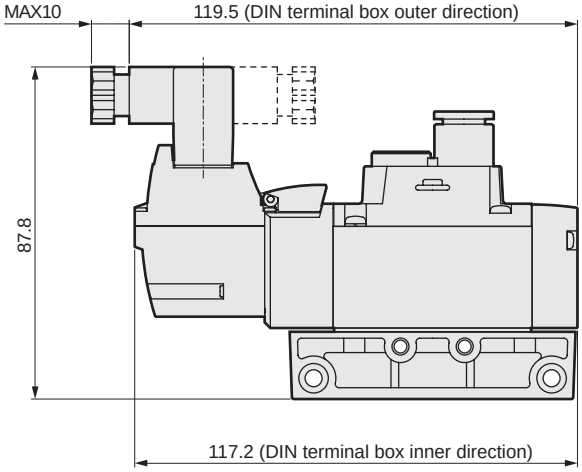




Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)



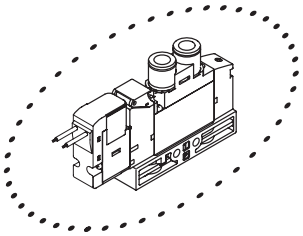


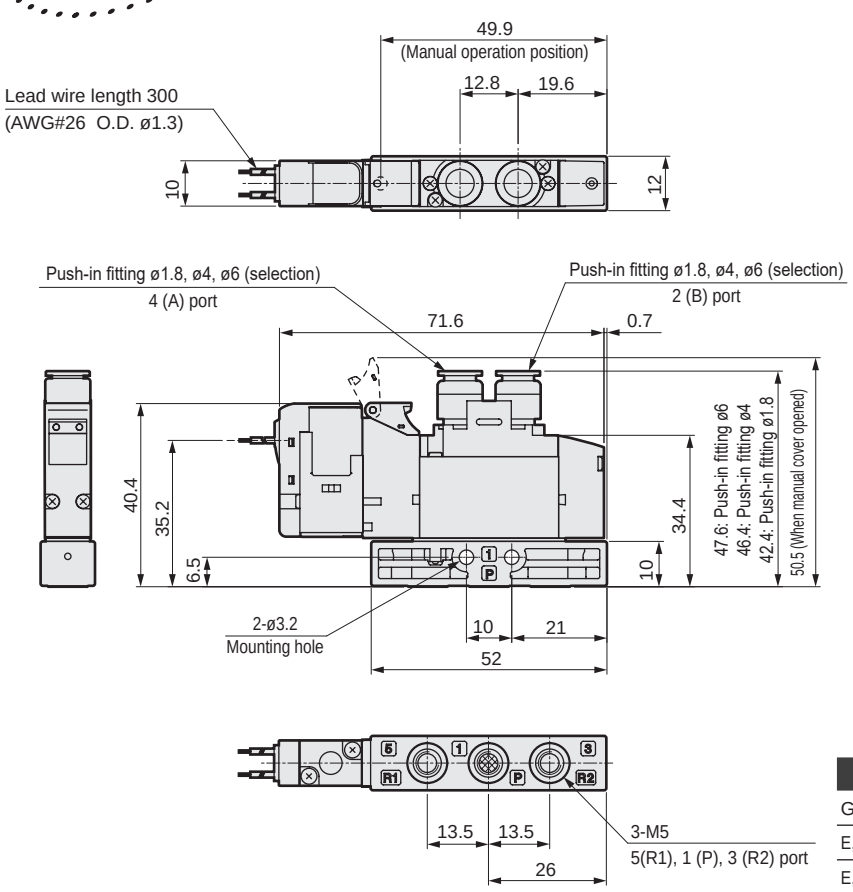
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

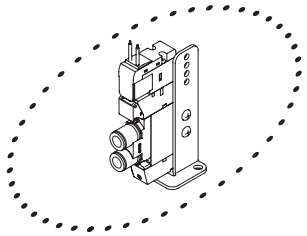
4GA110R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

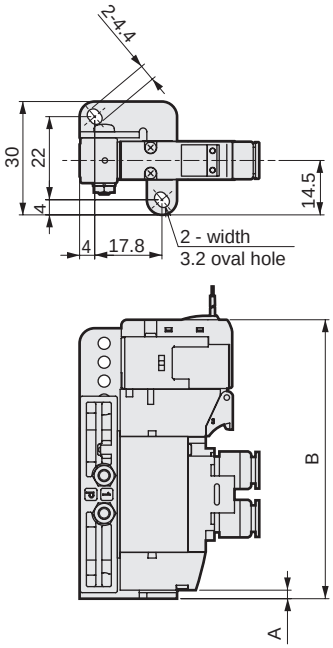
● 2-position single grommet lead wire (blank)





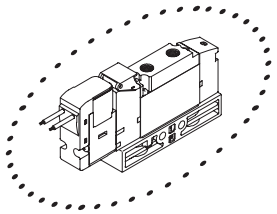
● Mounting plate (P)

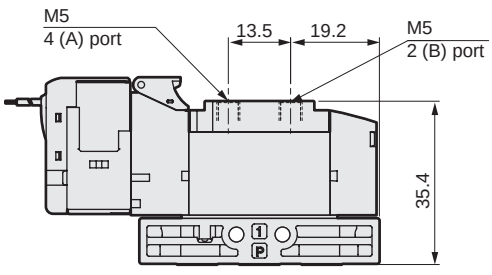




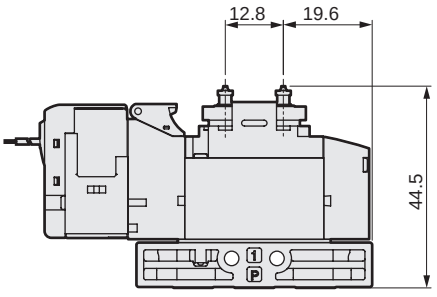
Electrical connections	A	B
Grommet lead wire	2.2	73.8
E, EJ connector (facing up), DC voltage		82
E, EJ connector (facing up), AC voltage		85.5

● M5 female thread (M5)



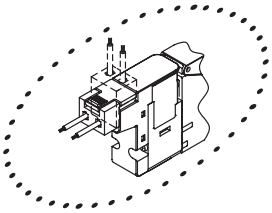


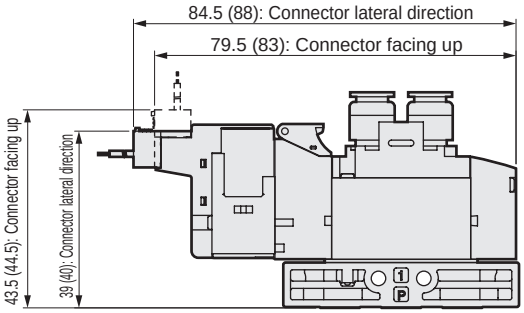
● ø1.8 barbed fitting (CF)



Dimensions

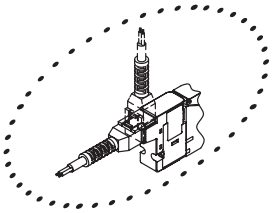
● E connector (E)

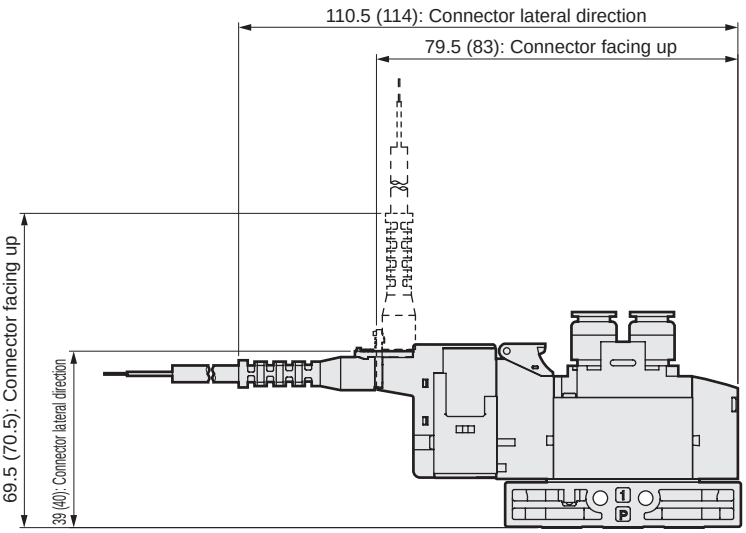




Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)





Note: Values in ( ) are applicable to AC voltages.

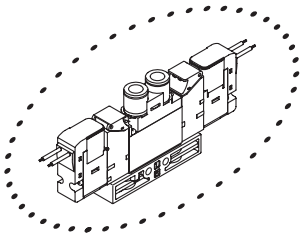
Dimensions CAD

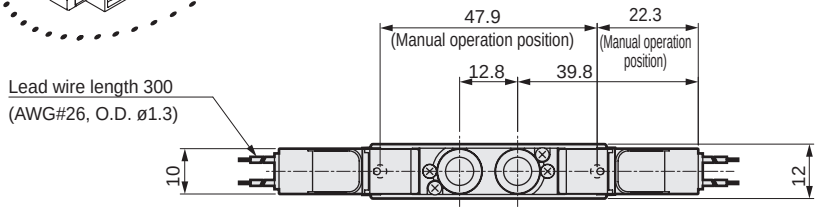
4GA120R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

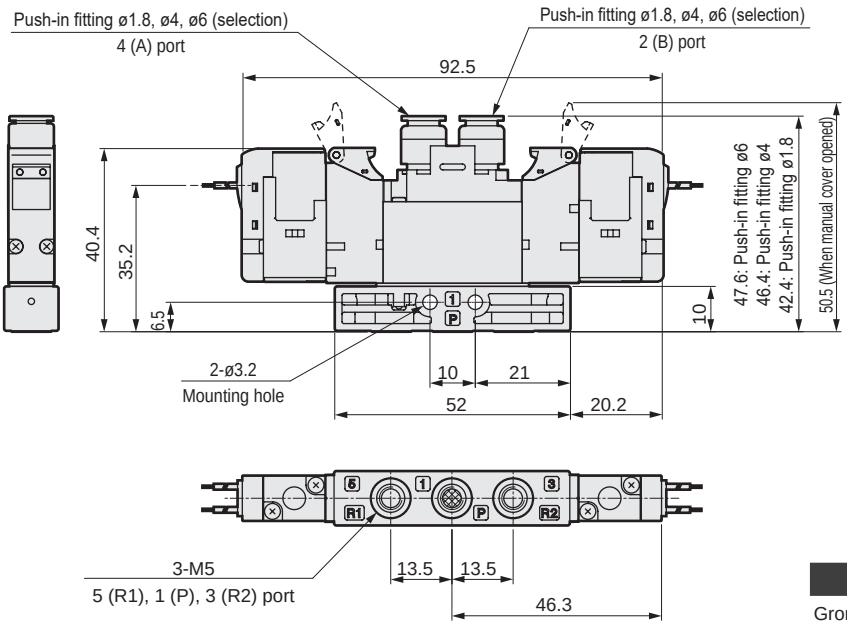
● 2-position double grommet lead wire (blank)

3GA1660R, 3GA1670R, 3GA1760R, 3GA1770R-P7*

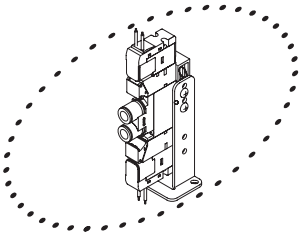
● Dual 3-port valve integrated grommet lead wire (blank)

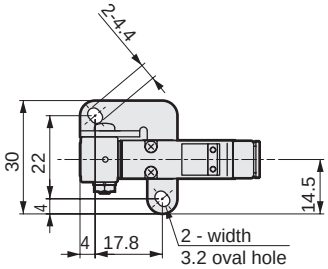


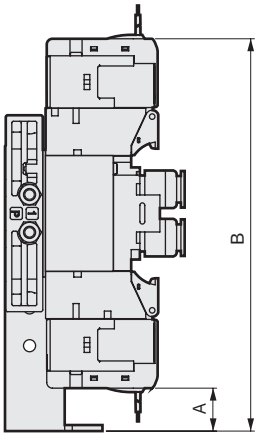




● Mounting plate (P)

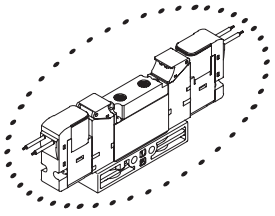


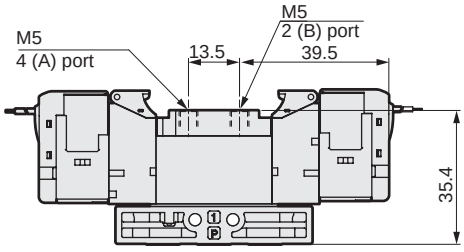




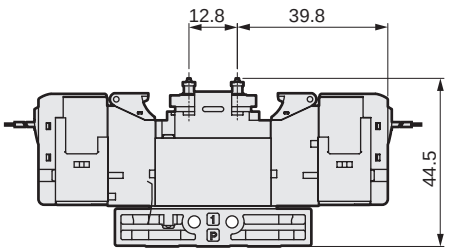
Electrical connections	A	B
Grommet lead wire	11.3	103.8
E, EJ connector (facing up), DC voltage	3	112
E, EJ connector (facing up), AC voltage	5	124

● M5 female thread (M5)



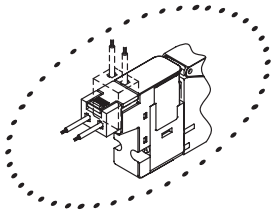


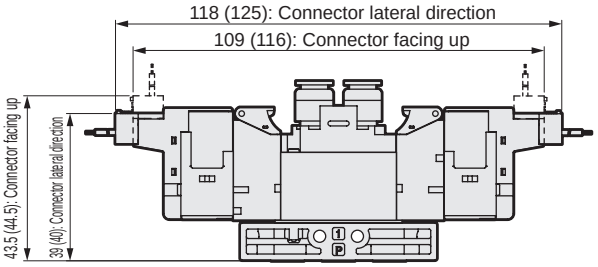
● ø1.8 barbed fitting (CF)



Dimensions

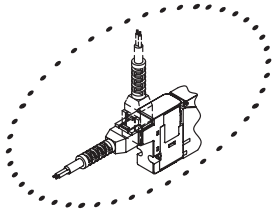
● E connector (E)

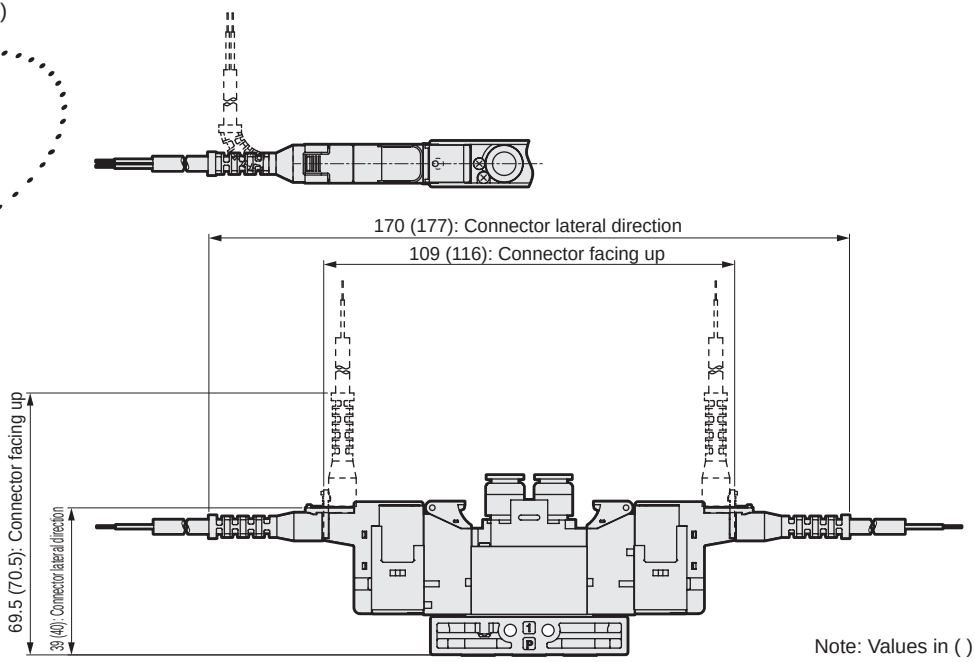




Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)



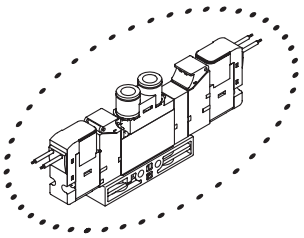


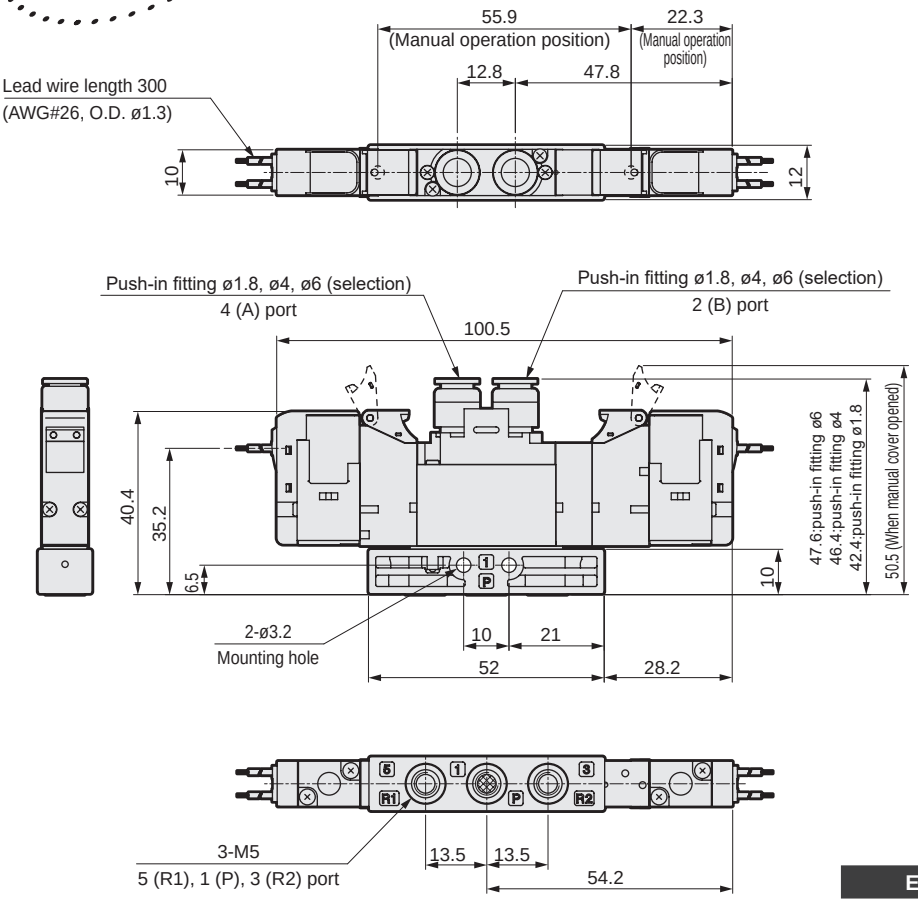
Note: Values in ( ) are applicable to AC voltages.

Dimensions CAD

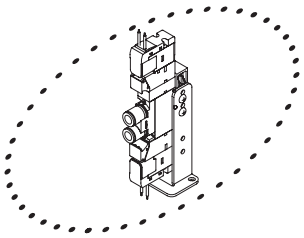
4GA1$^{3}_{4}_{5}$0R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

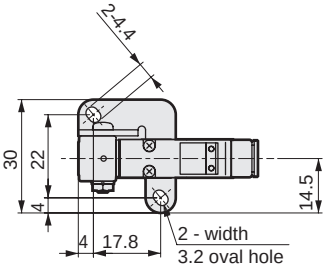
● 3 position grommet lead wire (blank)

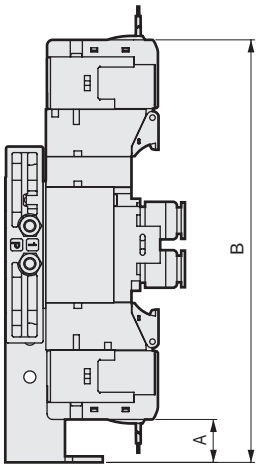




● Mounting plate (P)

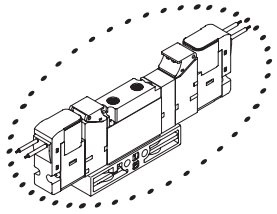


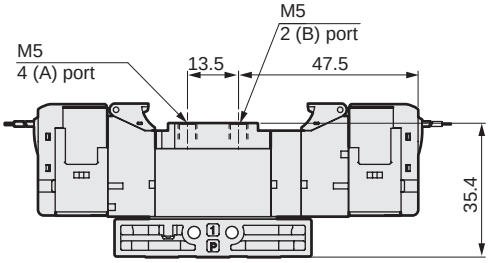




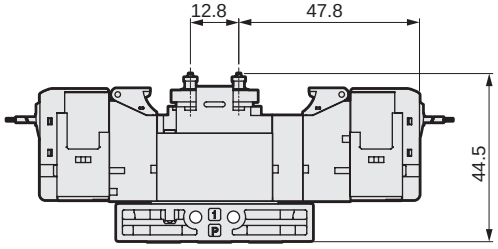
Electrical connections	A	B
Grommet lead wire	11.3	111.8
E, EJ connector (facing up), DC voltage	3	120
E, EJ connector (facing up), AC voltage	5	132

● M5 female thread (M5)



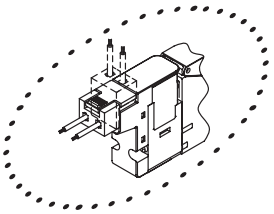


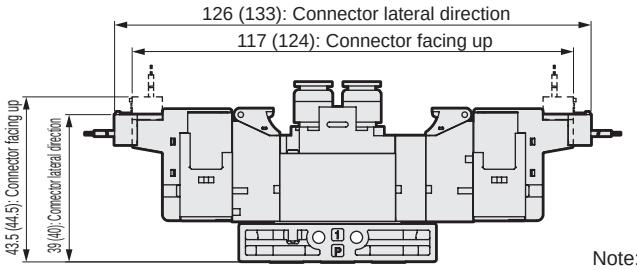
● ø1.8 barbed fitting (CF)



Dimensions

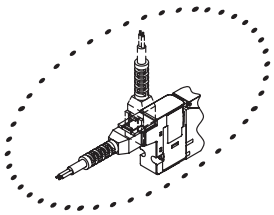
● E connector (E)

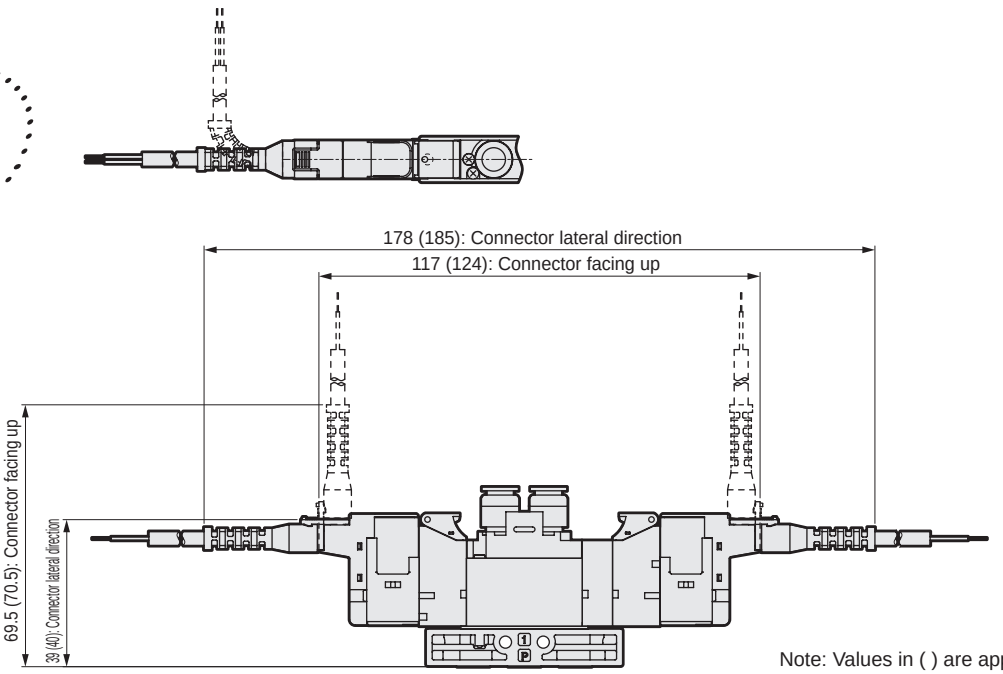




Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)



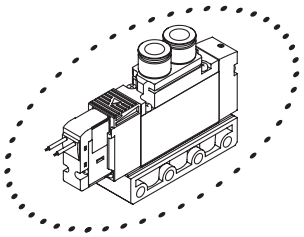


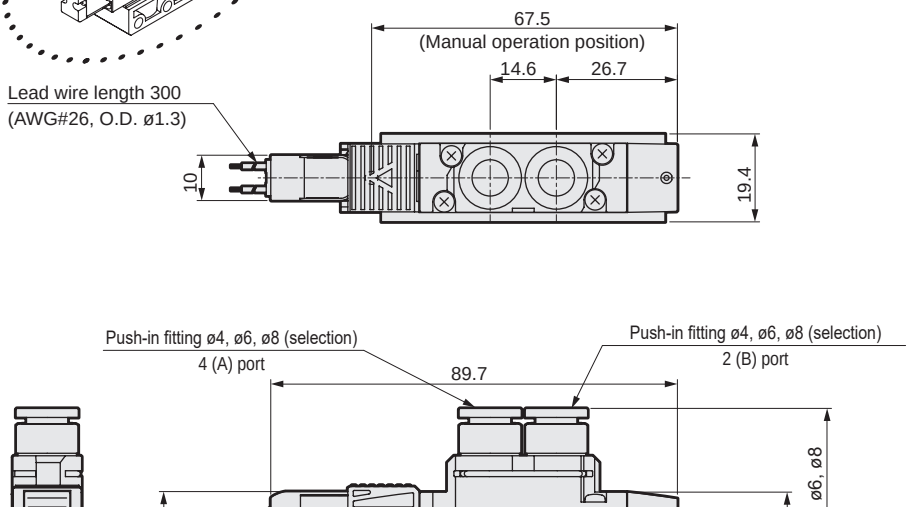
Note: Values in ( ) are applicable to AC voltages.

Dimensions CAD

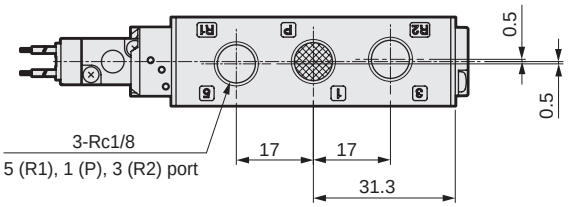
4GA210R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

● 2-position single grommet lead wire (blank)

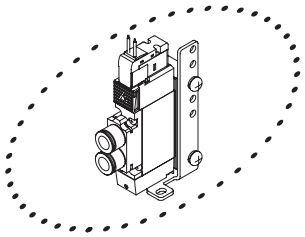


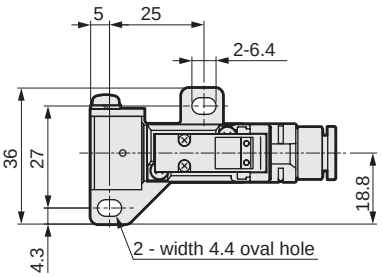


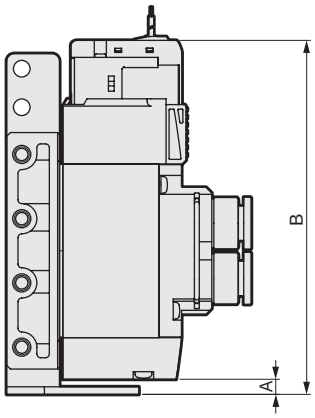
*Refer to page 753 for details on mounting holes.



● Mounting plate (P)

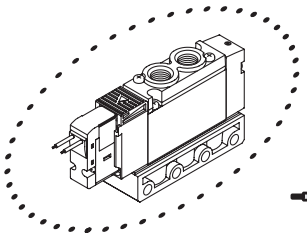


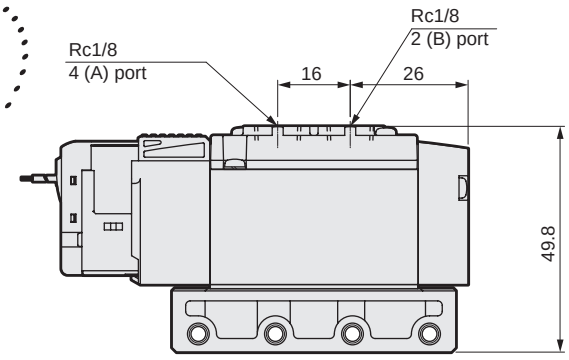




Electrical connections	A	B
Grommet lead wire	4	93.7
E, EJ connector (facing up), DC voltage		102
E, EJ connector (facing up), AC voltage		105.5
DIN terminal box (inner direction)		112.7

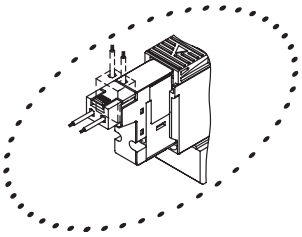
● Rc1/8 female thread (06)

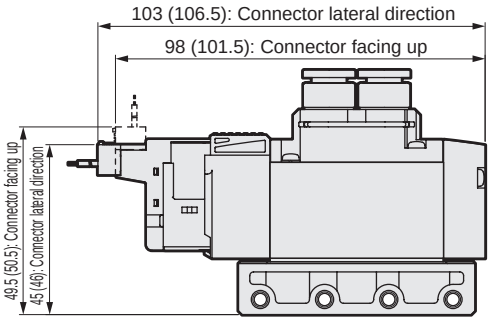




Dimensions

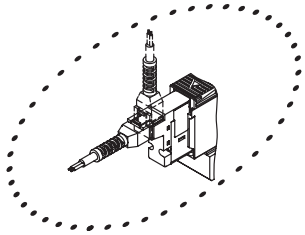
● E connector (E)

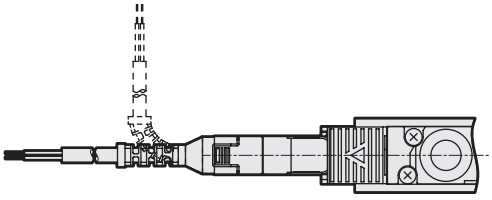


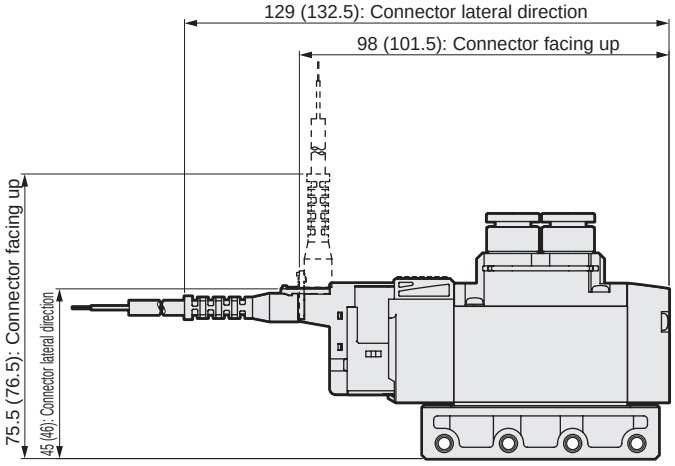


Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

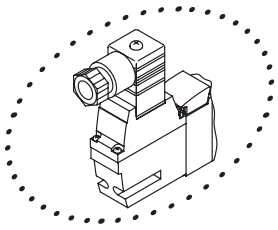


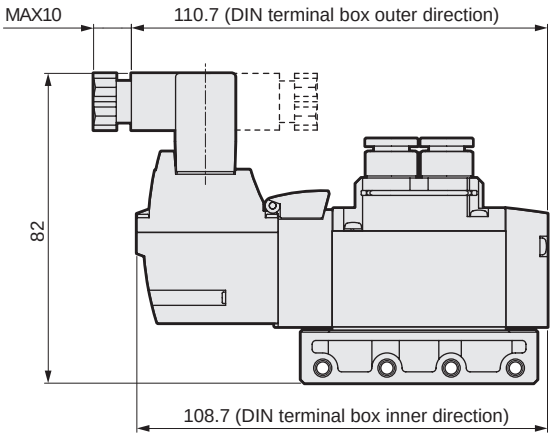




Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)





Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

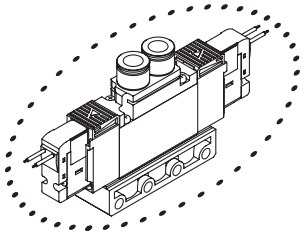
4GA220R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

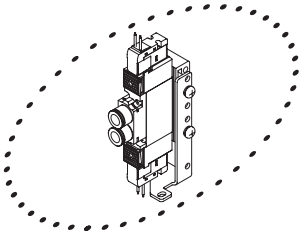
● 2-position double grommet lead wire (blank)

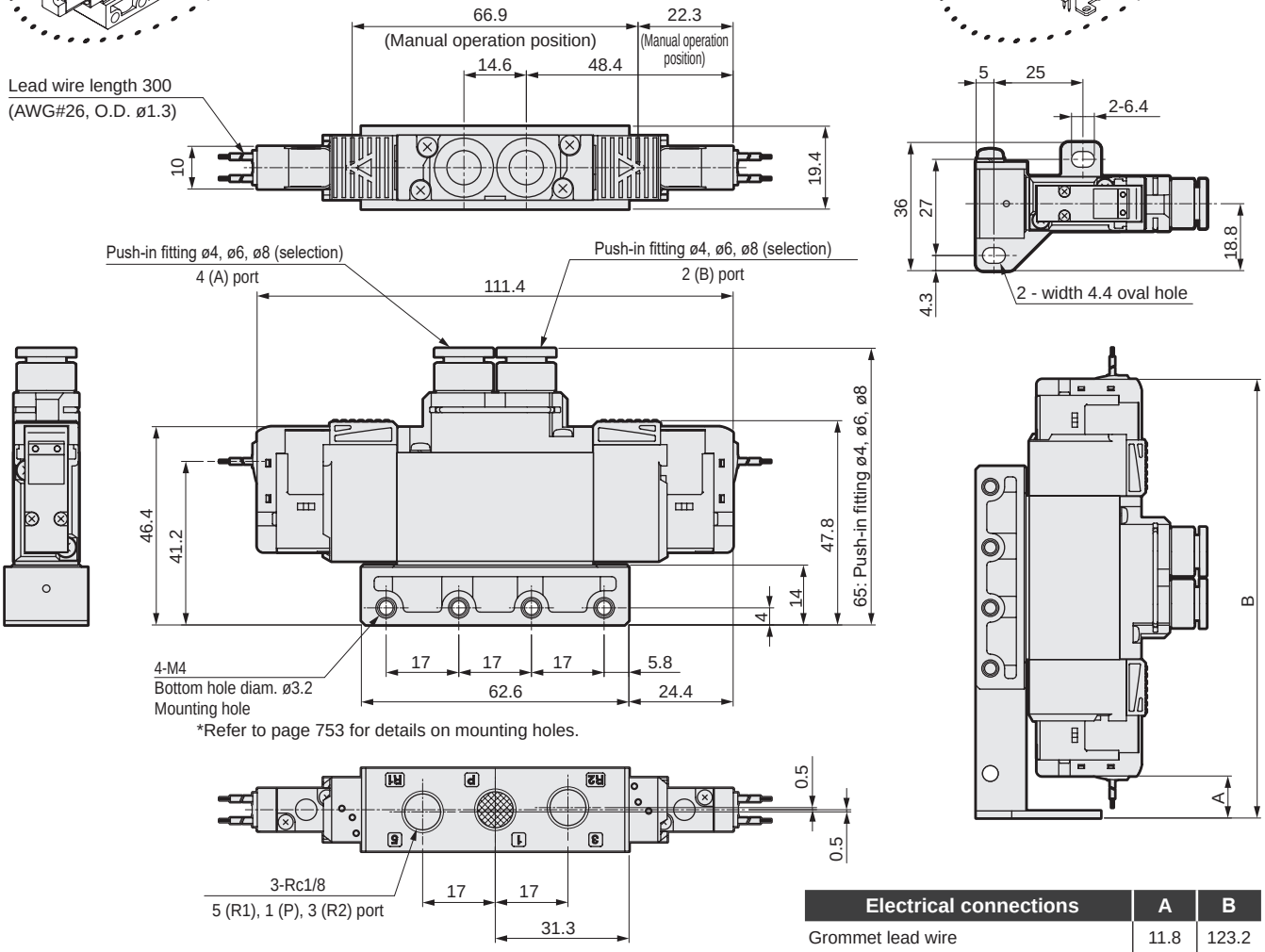
3GA2660R, 3GA2670R, 3GA2760R, 3GA2770R-P7*

● Dual 3-port valve integrated grommet lead wire (blank)

● Mounting plate (P)



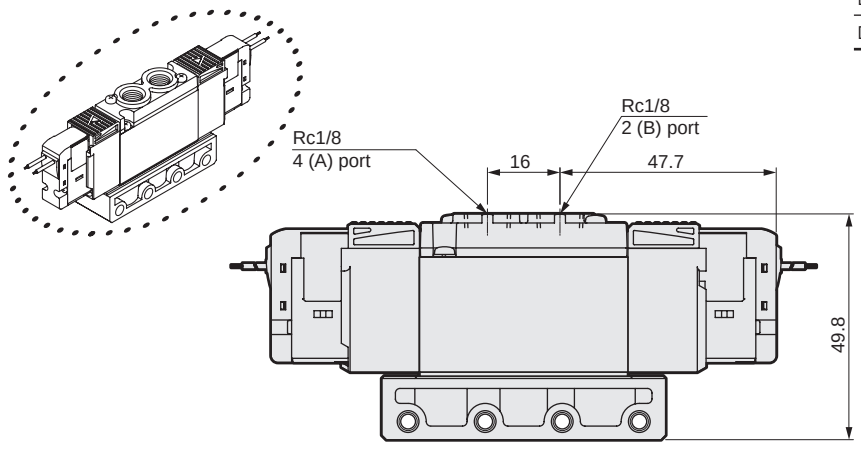




*Refer to page 753 for details on mounting holes.

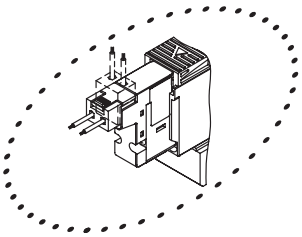
Electrical connections	A	B
Grommet lead wire	11.8	123.2
E, EJ connector (facing up), DC voltage	3.5	131.5
E, EJ connector (facing up), AC voltage	10.5	148.5
DIN terminal box (inner direction)	3	152.4

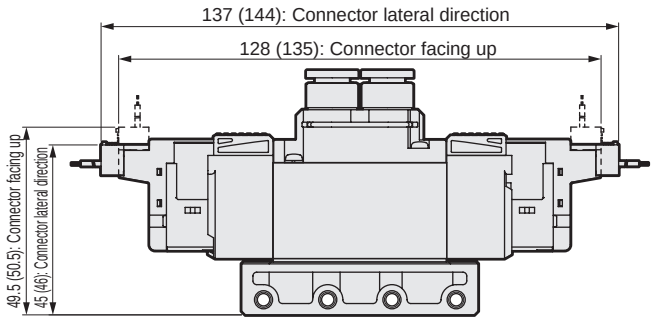
● Rc1/8 female thread (06)



Dimensions

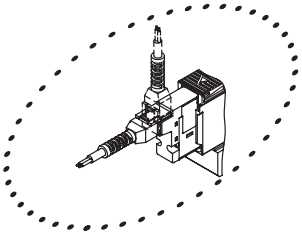
● E connector (E)

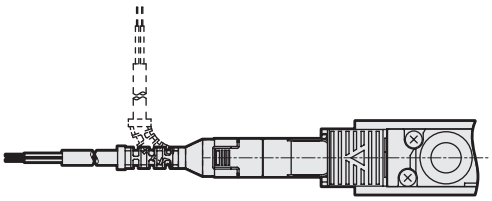


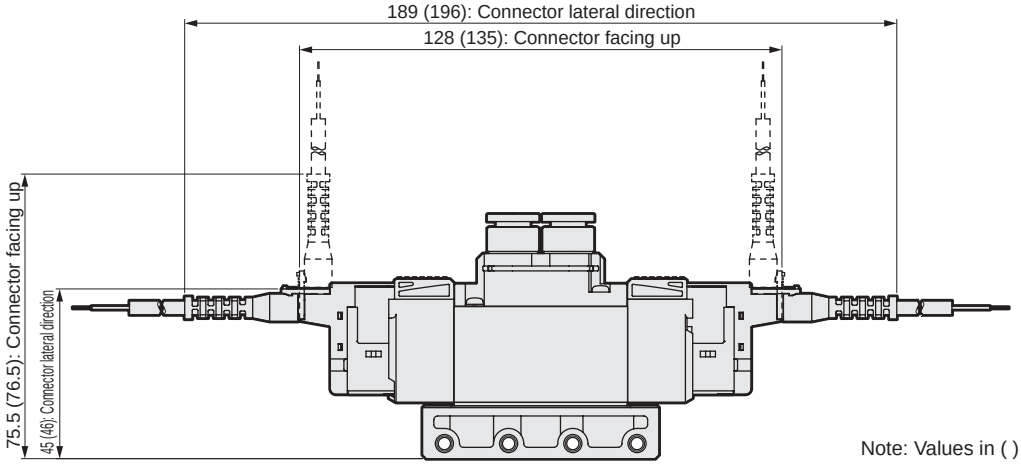


Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

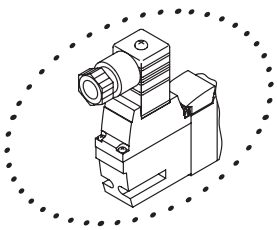


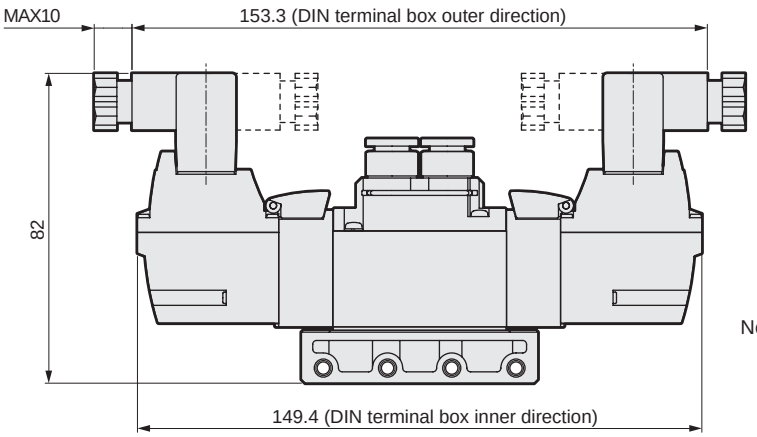




Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)



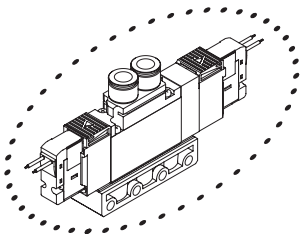


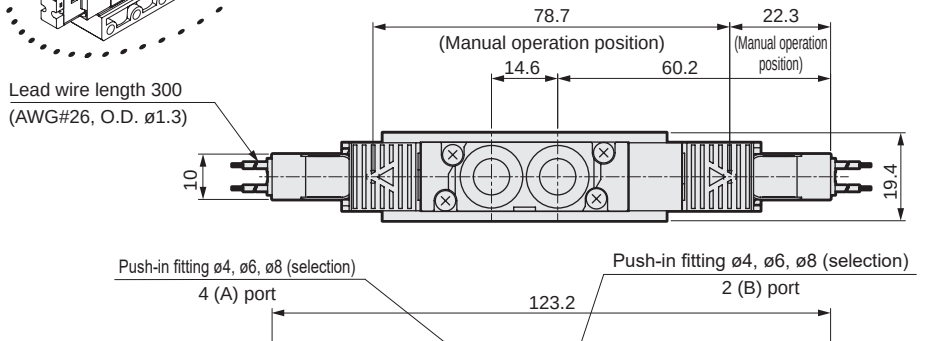
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

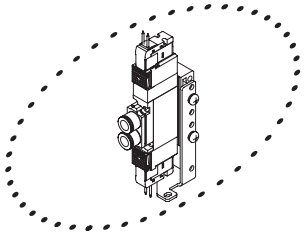
4GA2$^{3}_{4}_{5}$0R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

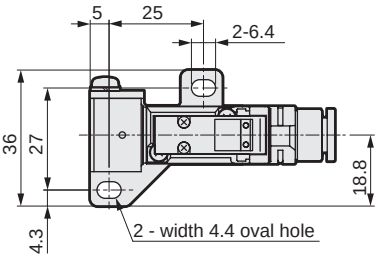
● 3 position grommet lead wire (blank)

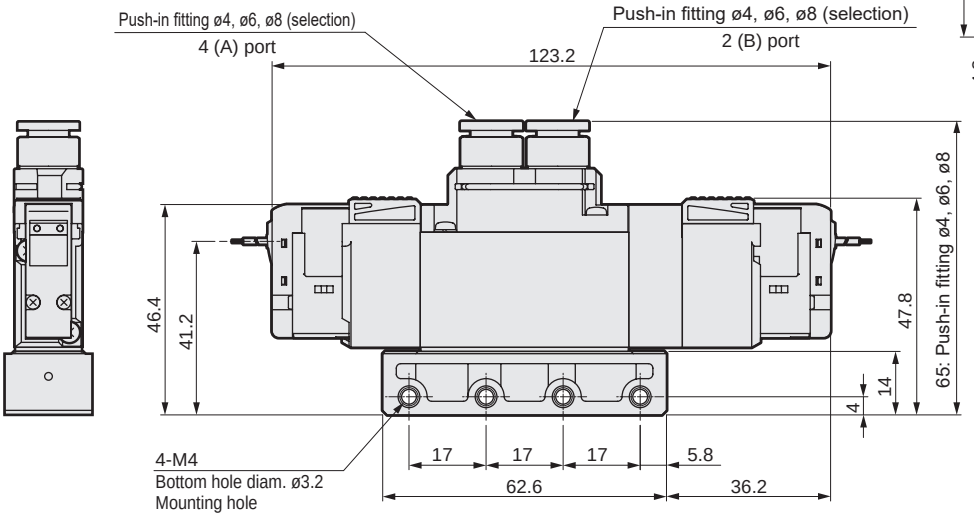


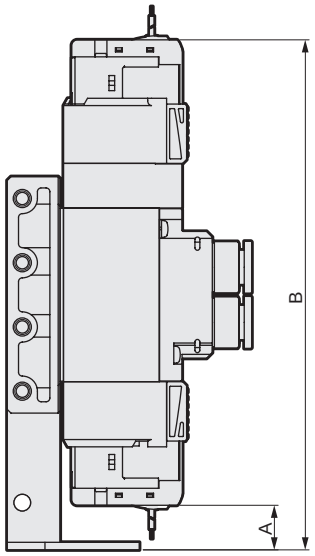


● Mounting plate (P)

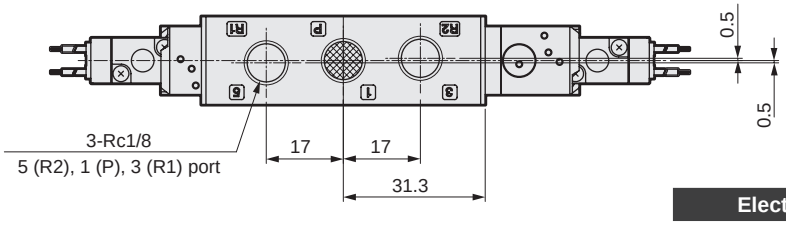






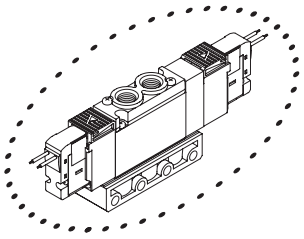


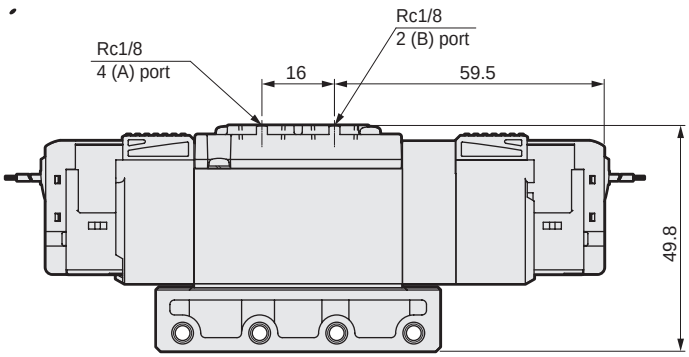
*Refer to page 753 for details on mounting holes.



Electrical connections	A	B
Grommet lead wire	11.8	135
E, EJ connector (facing up), DC voltage	3.5	143
E, EJ connector (facing up), AC voltage	10.5	160.5
DIN terminal box (inner direction)	3	164.2

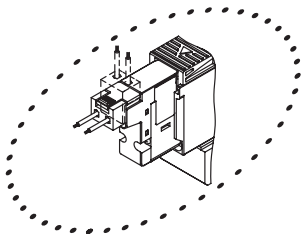
● Rc1/8 female thread (06)



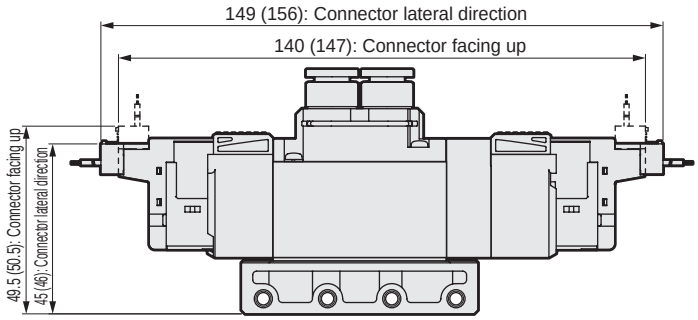


Dimensions

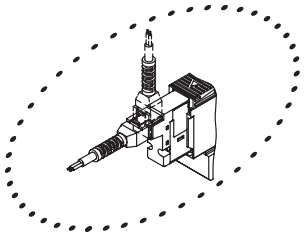
● E connector (E)

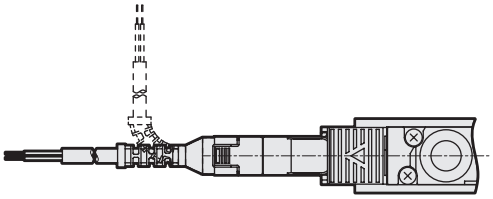


Note: Values in ( ) are applicable to AC voltages.

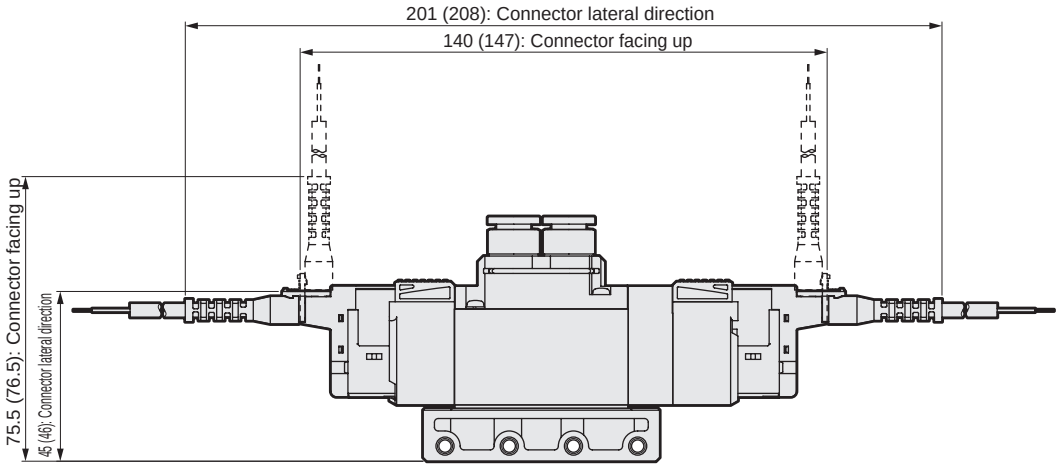


● EJ connector (E**J)

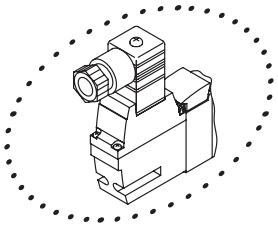


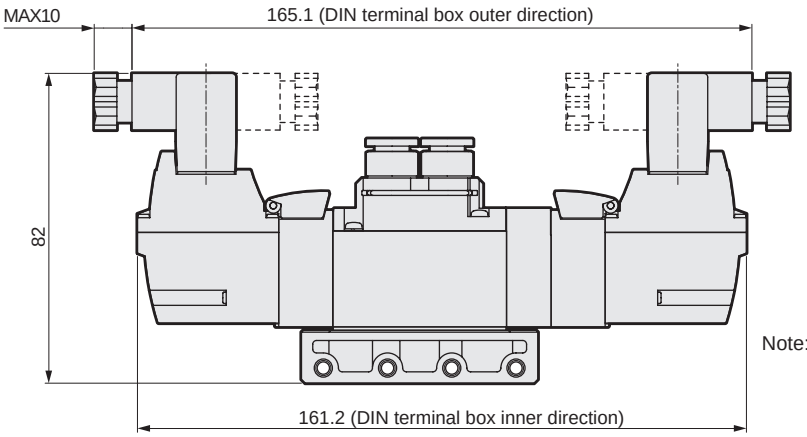


Note: Values in ( ) are applicable to AC voltages.



● DIN terminal box (B)



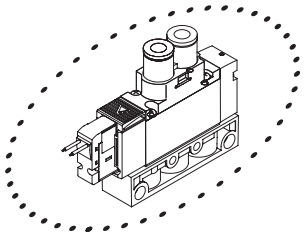


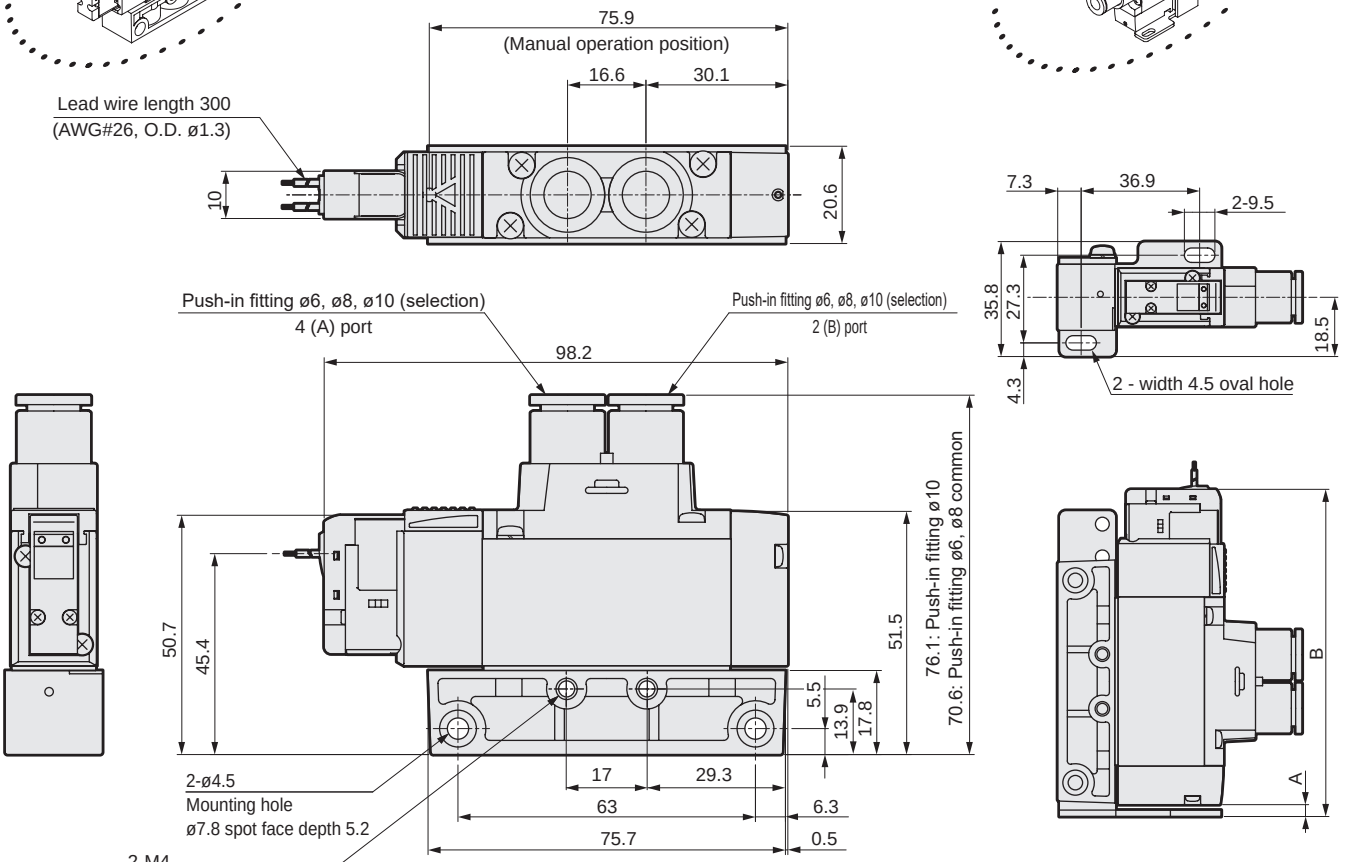
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

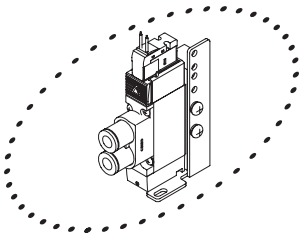
4GA310R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

● 2-position single grommet lead wire (blank)



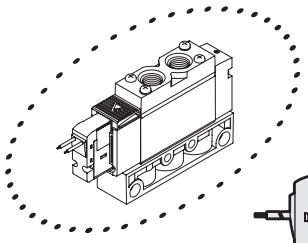


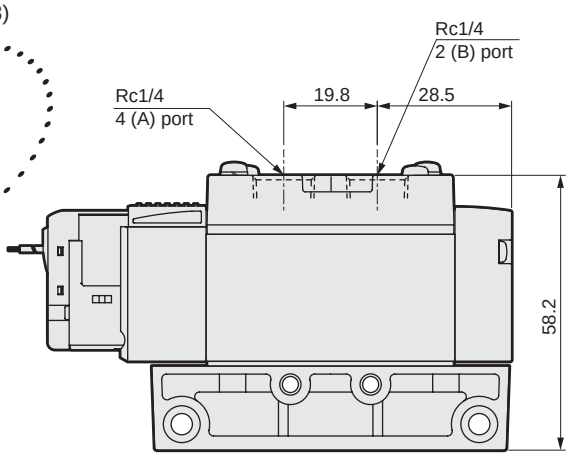
● Mounting plate (P)



Electrical connections	A	B
Grommet lead wire	3.7	101.8
E, EJ connector (facing up), DC voltage		110
E, EJ connector (facing up), AC voltage		113.5
DIN terminal box (inner direction)		120.9

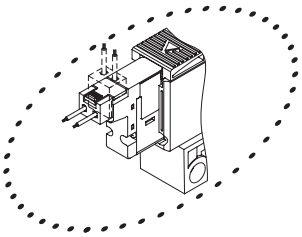
● Rc1/4 female thread (08)

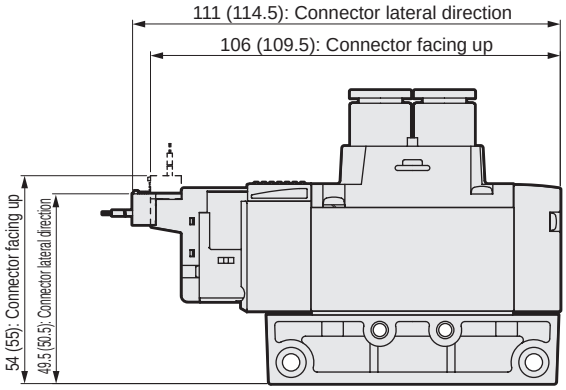




Dimensions

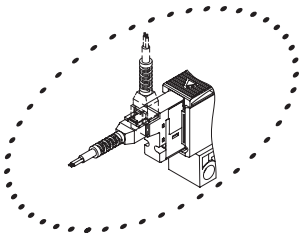
● E connector (E)

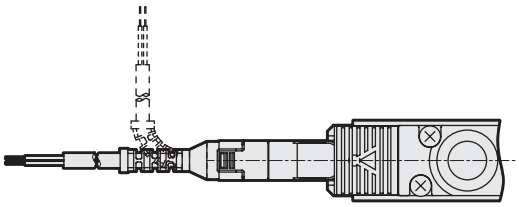


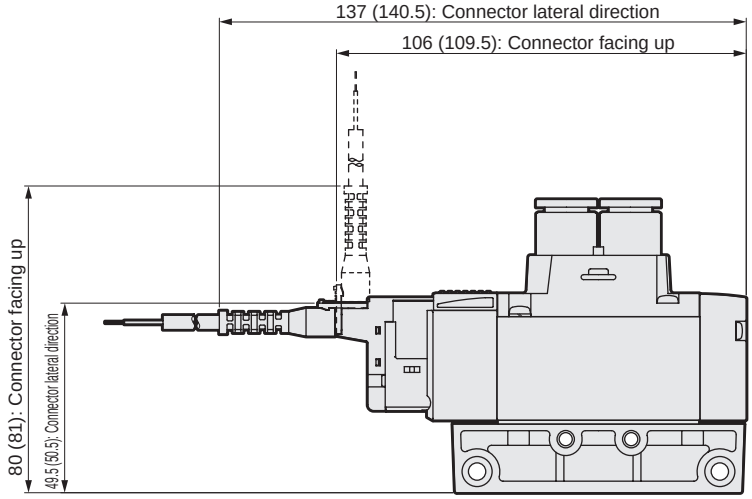


Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

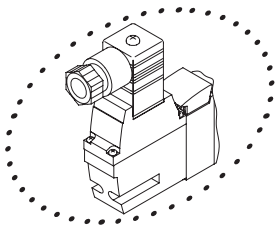


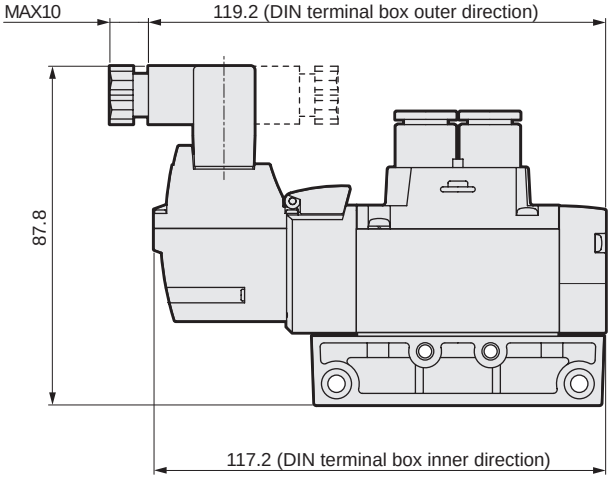




Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)



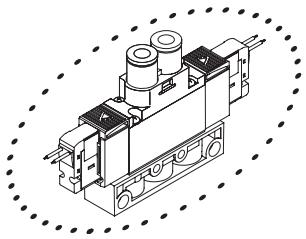


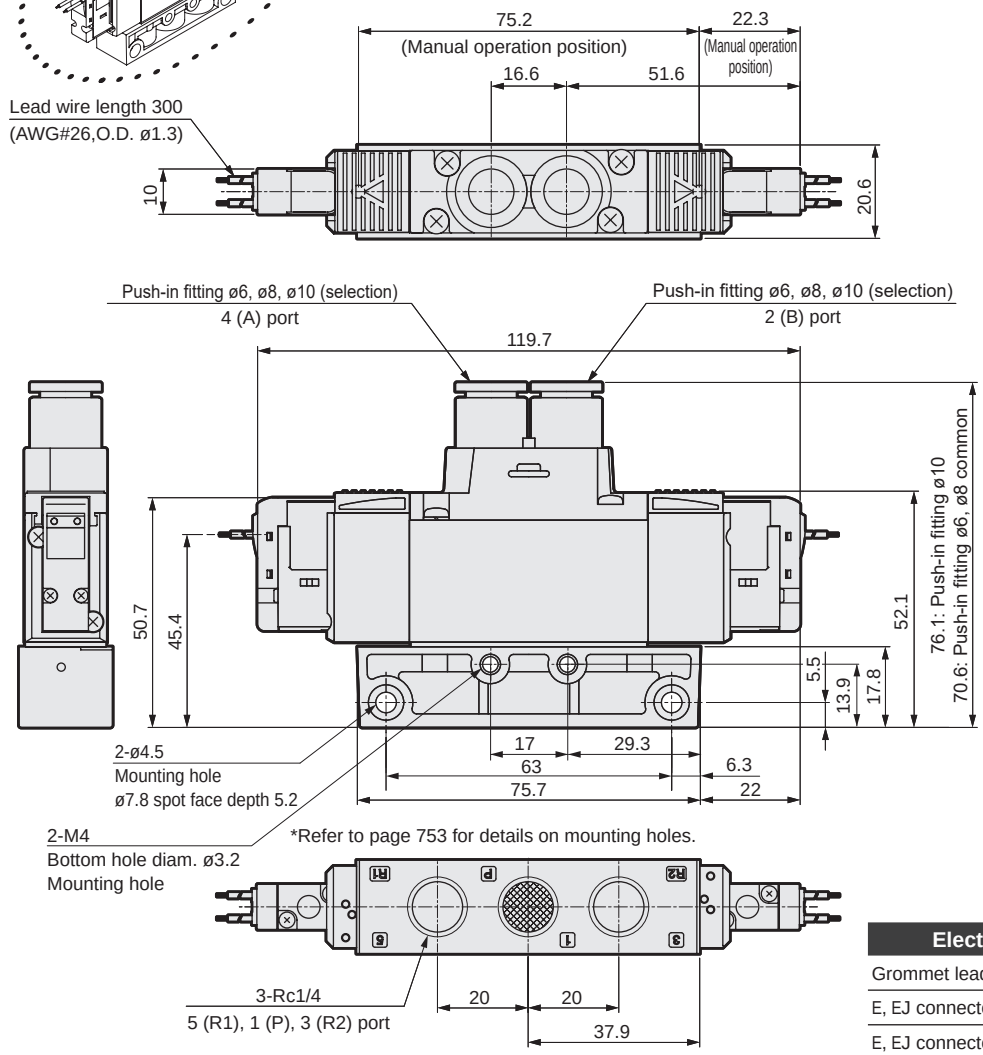
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

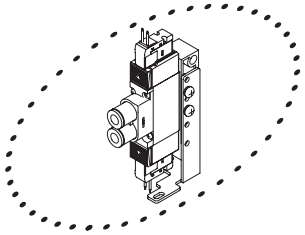
4GA320R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

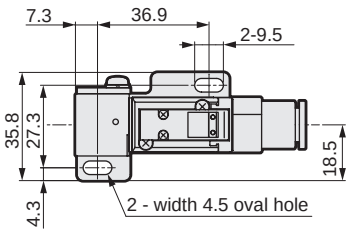
● 2-position double grommet lead wire (blank)

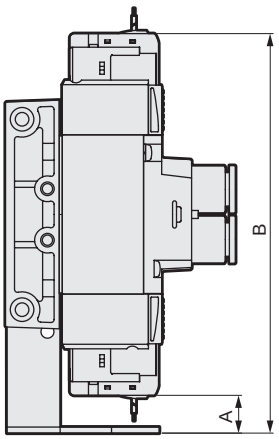




● Mounting plate (P)

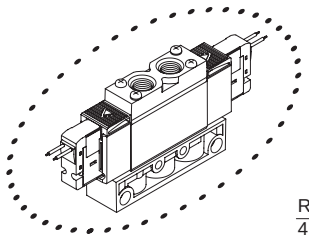


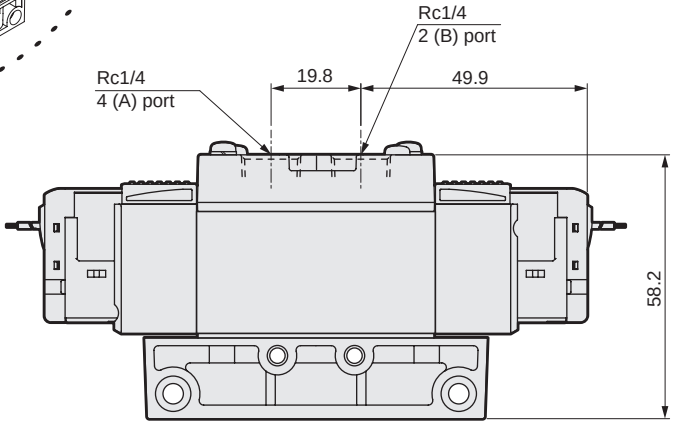




Electrical connections	A	B
Grommet lead wire	12.6	132.2
E, EJ connector (facing up), DC voltage	4.5	140.5
E, EJ connector (facing up), AC voltage	11	157.5
DIN terminal box (inner direction)	3.7	161.4

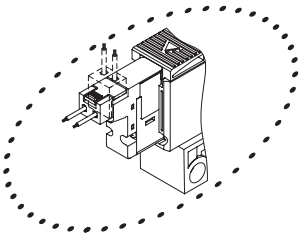
● Rc1/4 female thread (08)

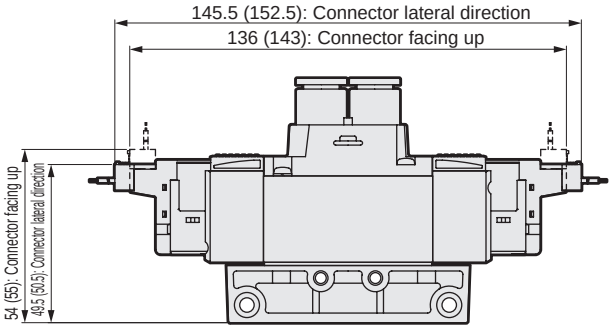




Dimensions

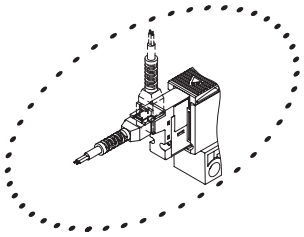
● E connector (E)

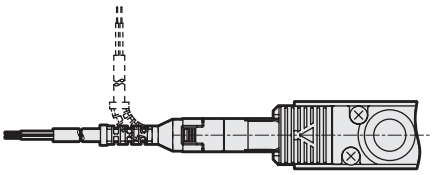


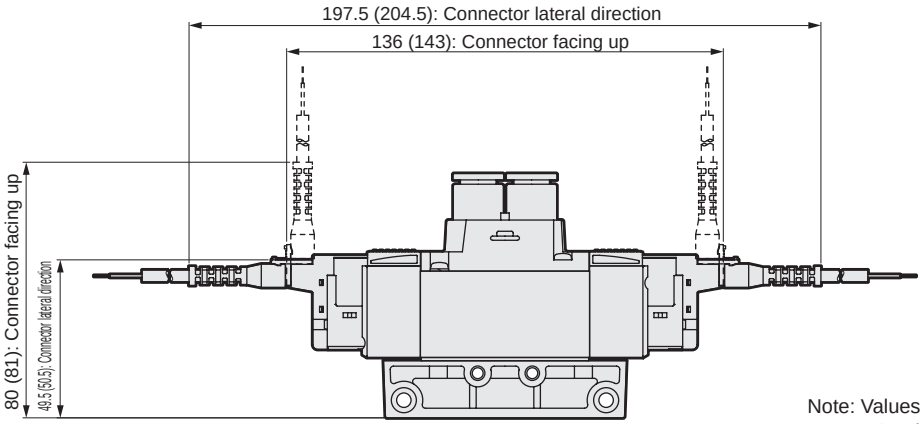


Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

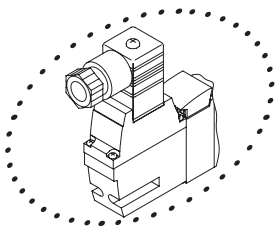


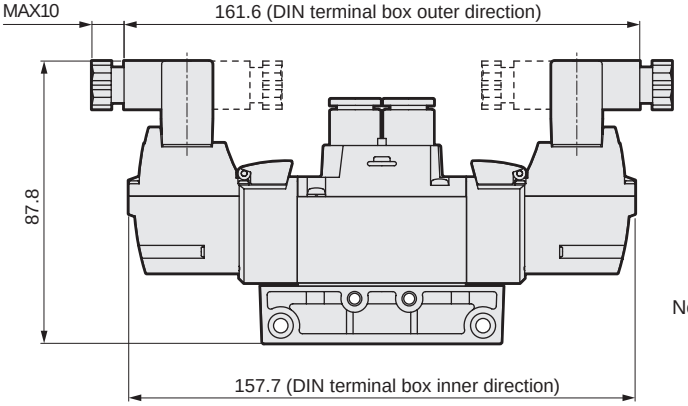




Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)



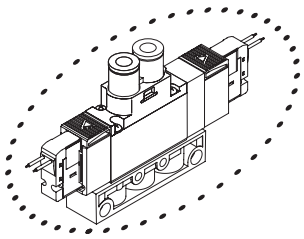


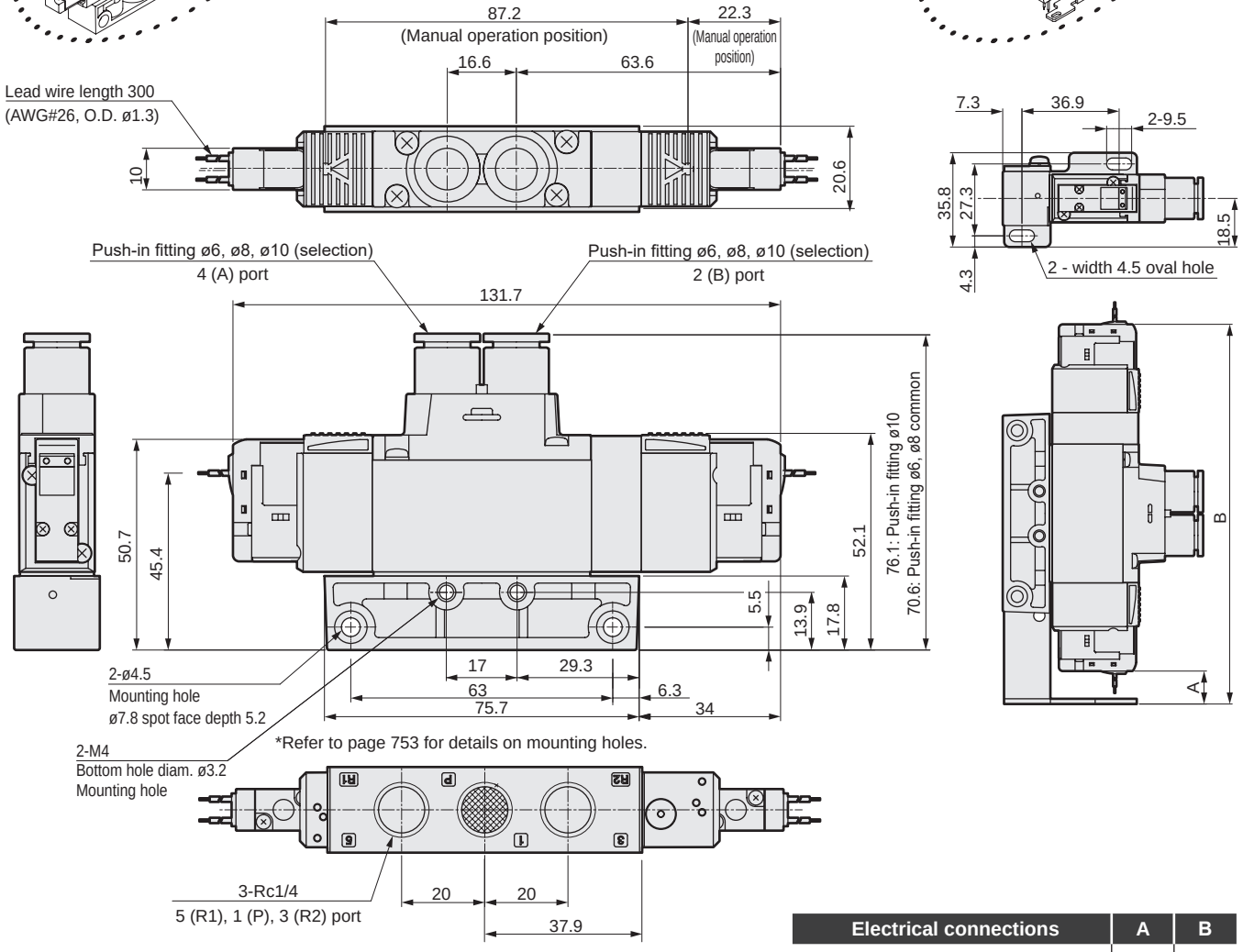
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

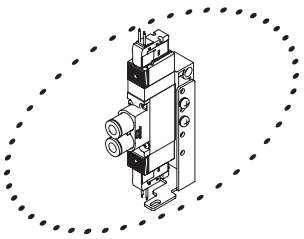
4GA3$^{3}_{4}_{5}$0R-P7* * For the NPT thread and G thread specifications, refer to pages 464 to 471.

● 3 position grommet lead wire (blank)



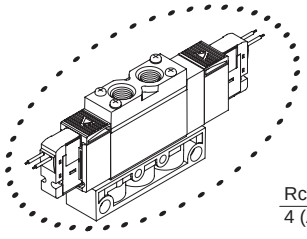


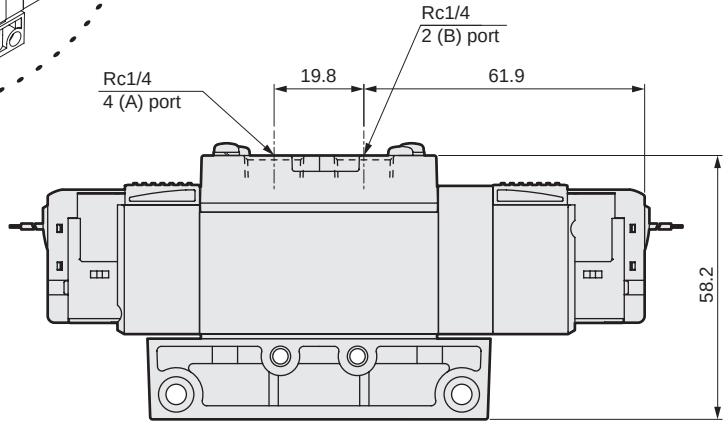
● Mounting plate (P)



Electrical connections	A	B
Grommet lead wire	12.6	144.3
E, EJ connector (facing up), DC voltage	4.5	152.5
E, EJ connector (facing up), AC voltage	11	169.5
DIN terminal box (inner direction)	3.7	173.4

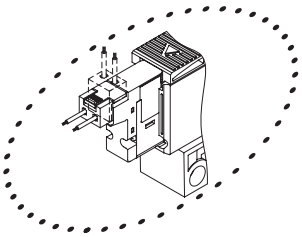
● Rc1/4 female thread (08)

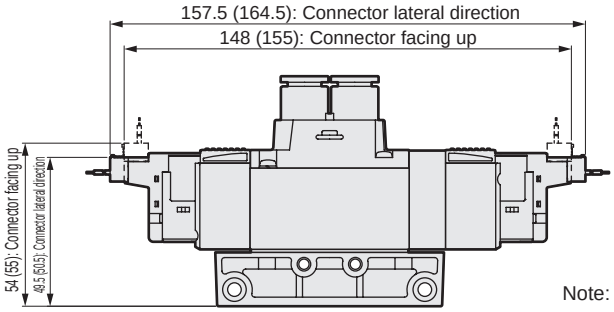




Dimensions

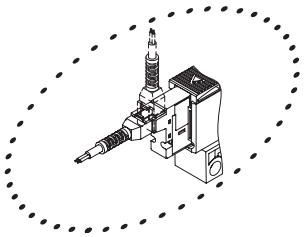
● E connector (E)

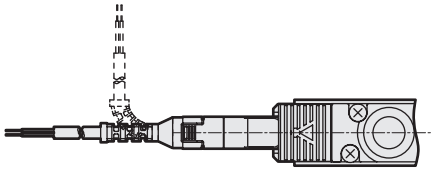


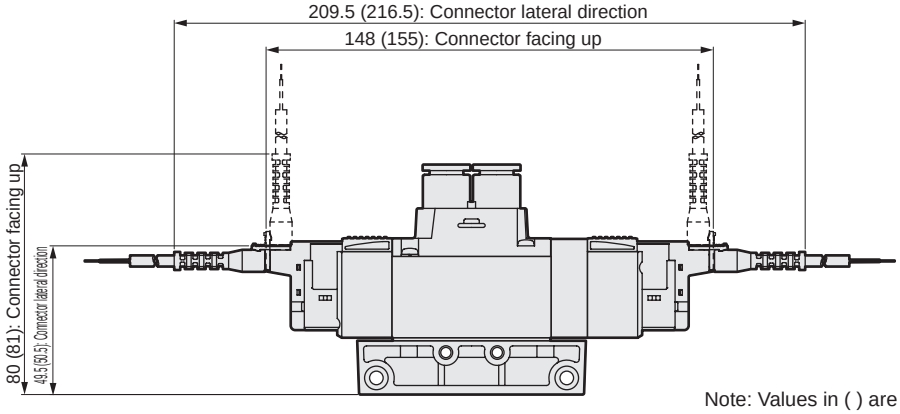


Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

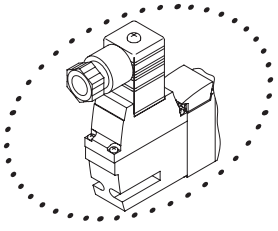


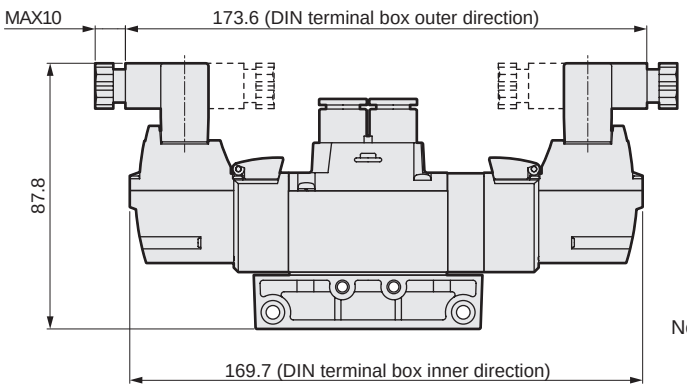




Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)



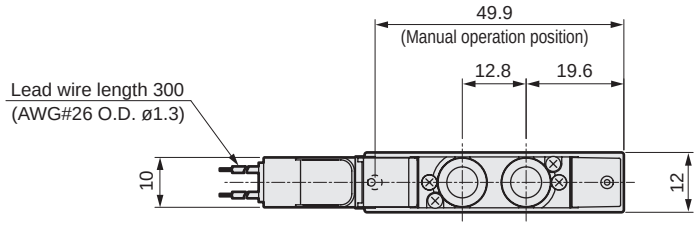


Note: The DIN terminal box assembly is shipped facing inward.

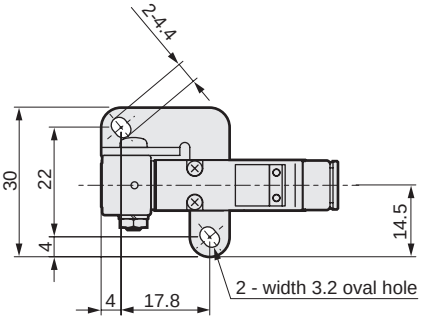
Dimensions Port size; NPT thread

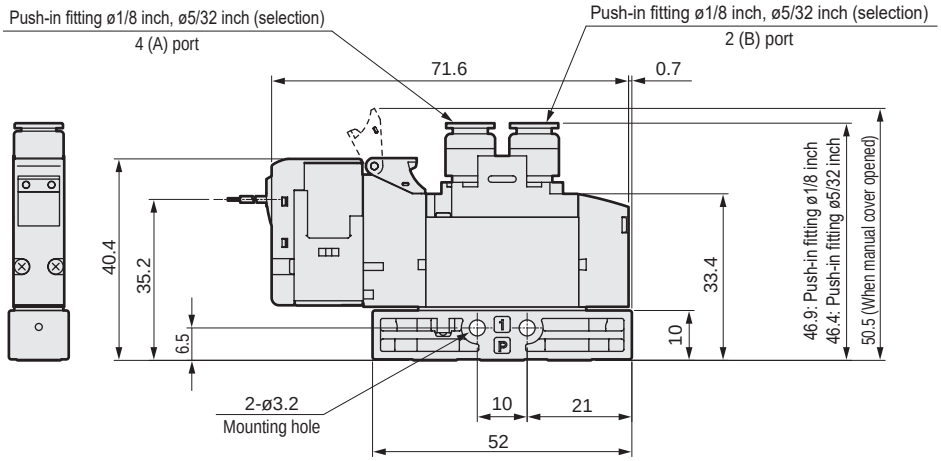
3GA1$^{1}_{11}{}^{1}_{66}{}^{1}_{67}{}^{1}_{76}{}^{1}_{77}$0R-P7*, 4GA1$^{1}_{2}{}^{1}_{3}{}^{1}_{4}{}^{1}_{5}$0R-P7*

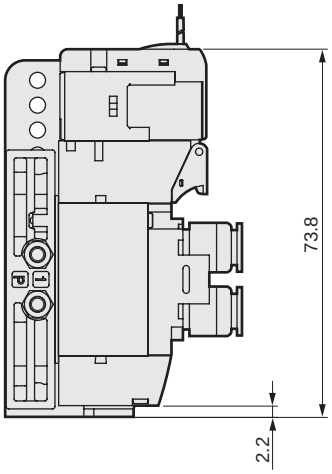
● 2-position single grommet lead wire (blank)

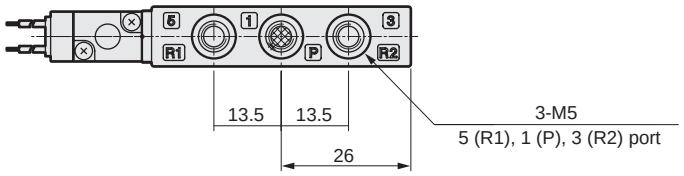


● Mounting plate (P)



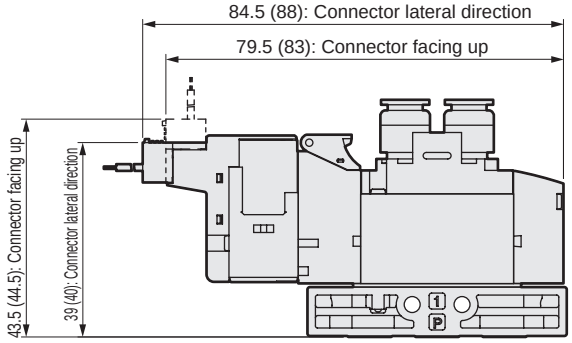






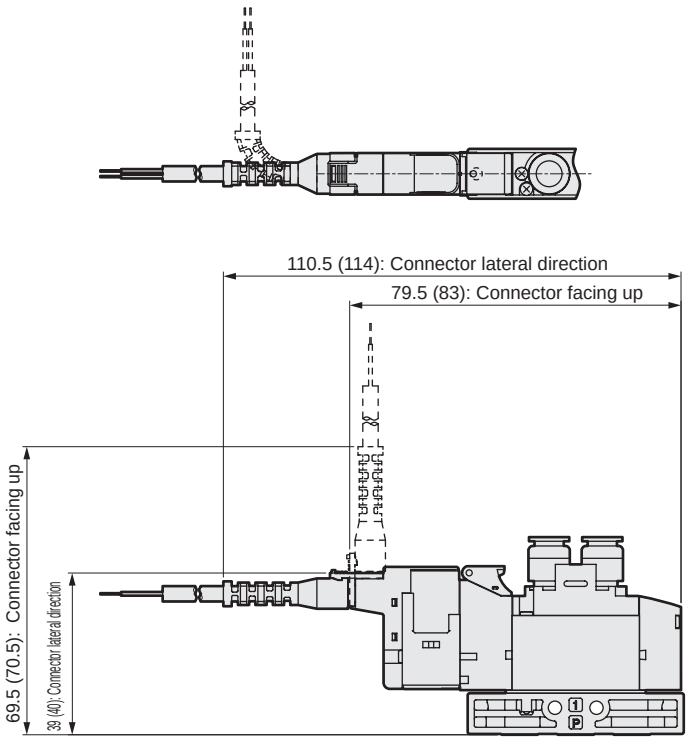
Dimensions Port size; NPT thread

● E connector (E)



Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)



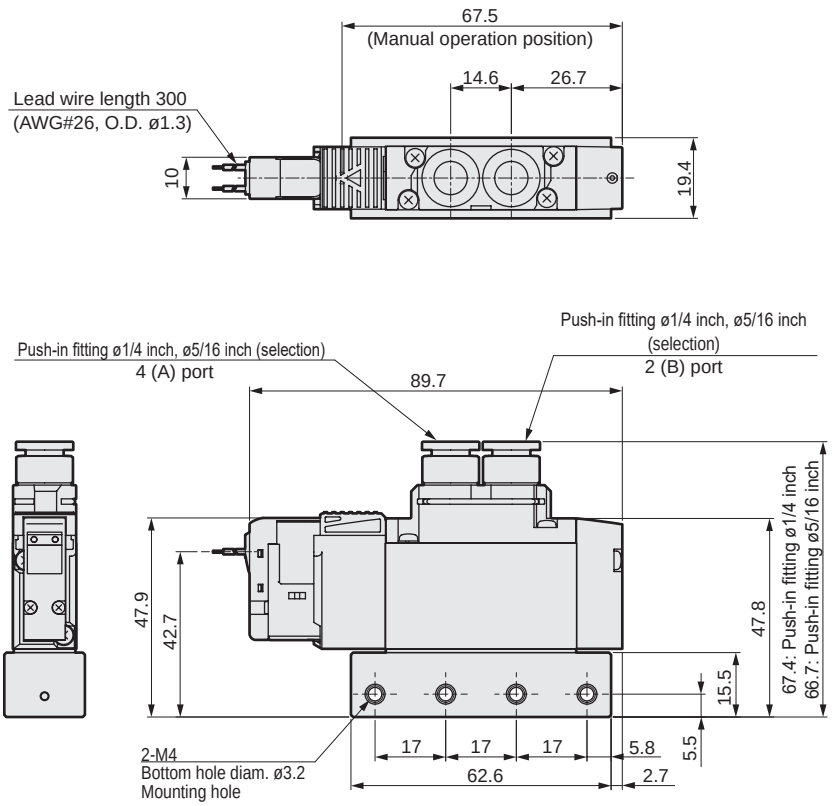
Note: Values in ( ) are applicable to AC voltages.

Dimensions Port size; NPT thread

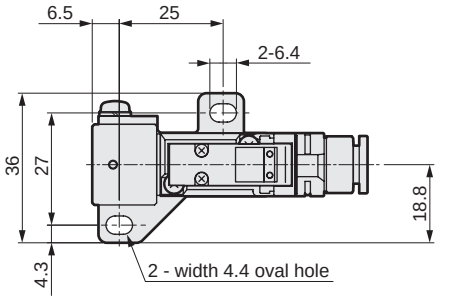
3GA2$^{1}_{11}$0R-P7*, 4GA2$^{1}_{2}$0R-P7*

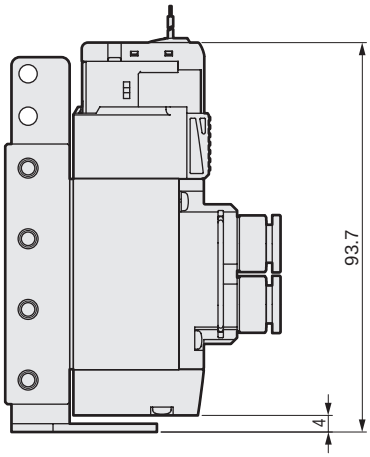
$^{66}_{67}$ $^{3}_{4}$
$^{76}_{77}$ $^{}_{5}$

● 2-position single grommet lead wire (blank)

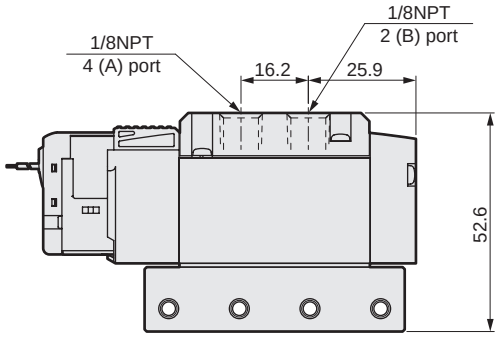


● Mounting plate (P)



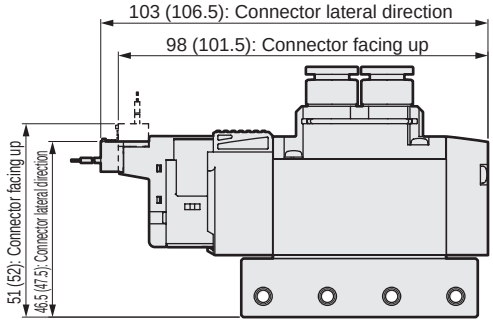


● 1/8NPT female thread (06N)



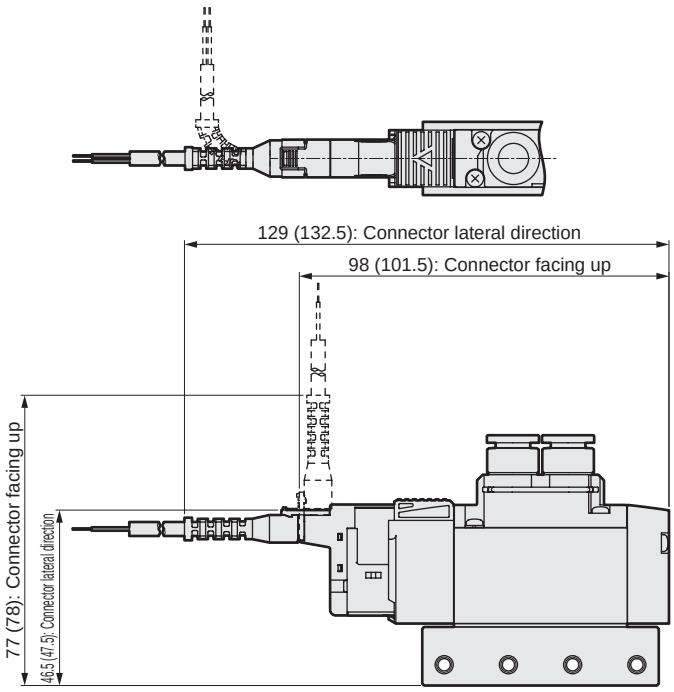
Dimensions Port size; NPT thread

● E connector (E)



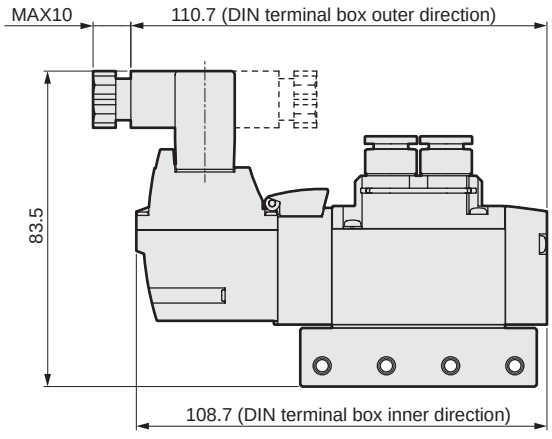
Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)



Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)

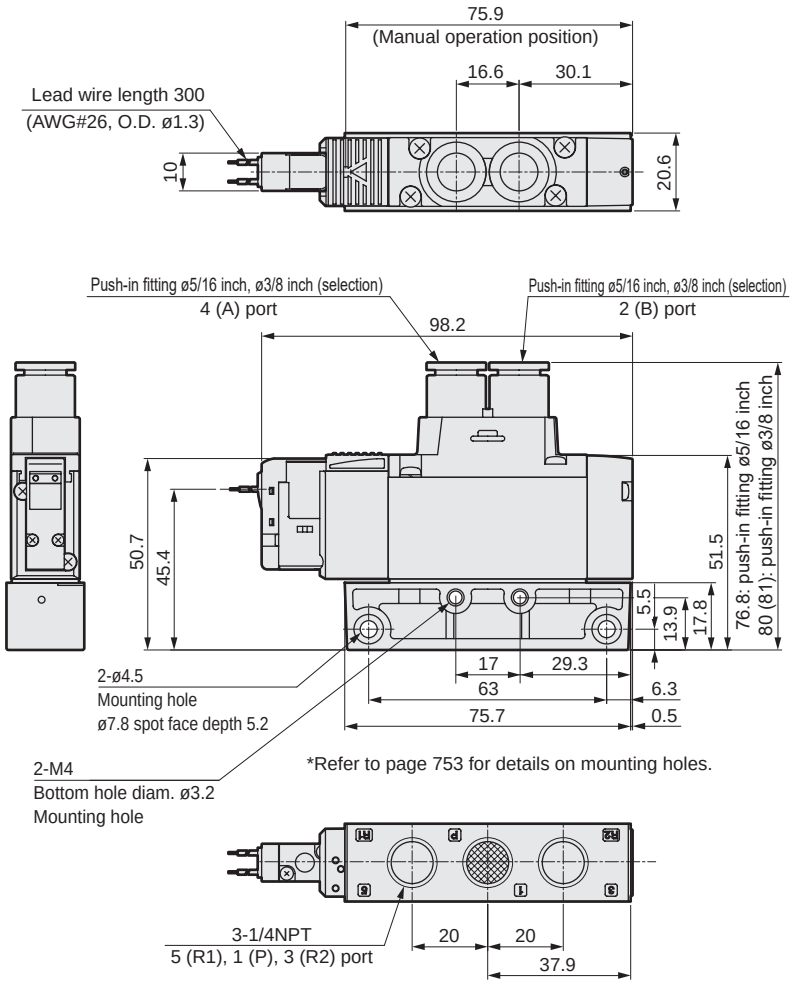


Note: The DIN terminal box assembly is shipped facing inward.

Dimensions Port size; NPT thread

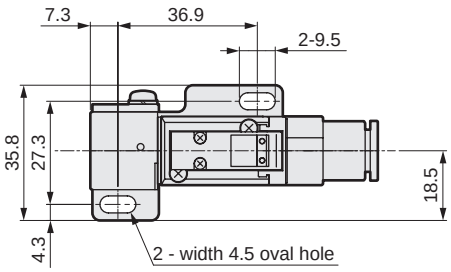
3GA3 $^{1}_{11}$ 0R-P7*, 4GA3 $^{1}_{2}{}^{2}_{3}{}^{3}_{4}{}^{4}_{5}$ 0R-P7*

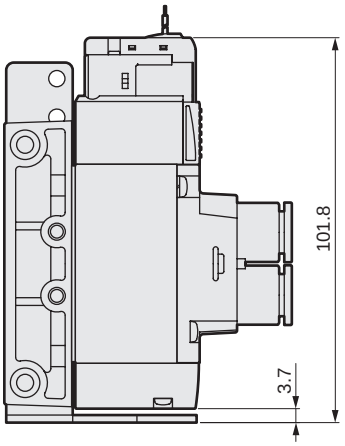
● 2-position single grommet lead wire (blank)



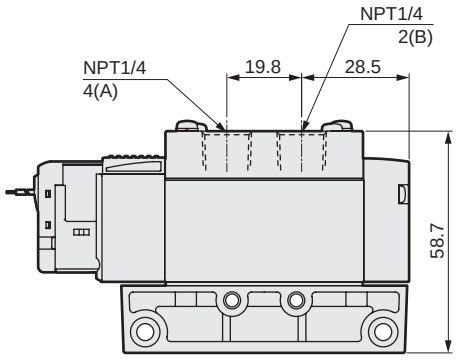
*Refer to page 753 for details on mounting holes.

● Mounting plate (P)

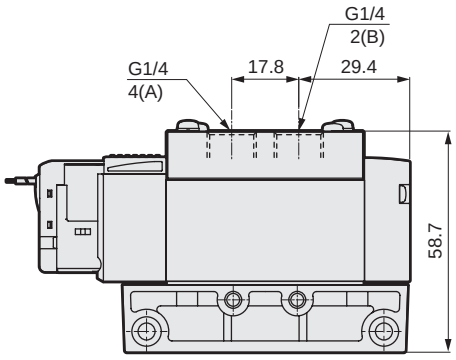




● NPT1/4 female thread (08N)

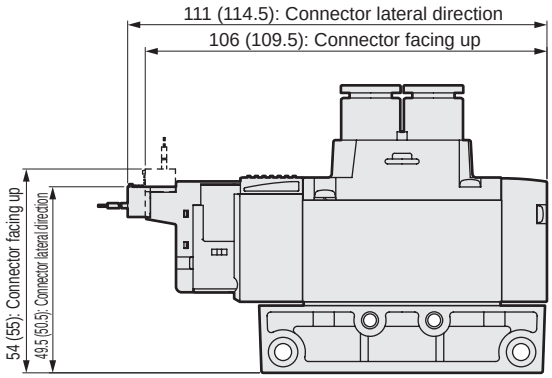


● G1/4 female thread (08G)



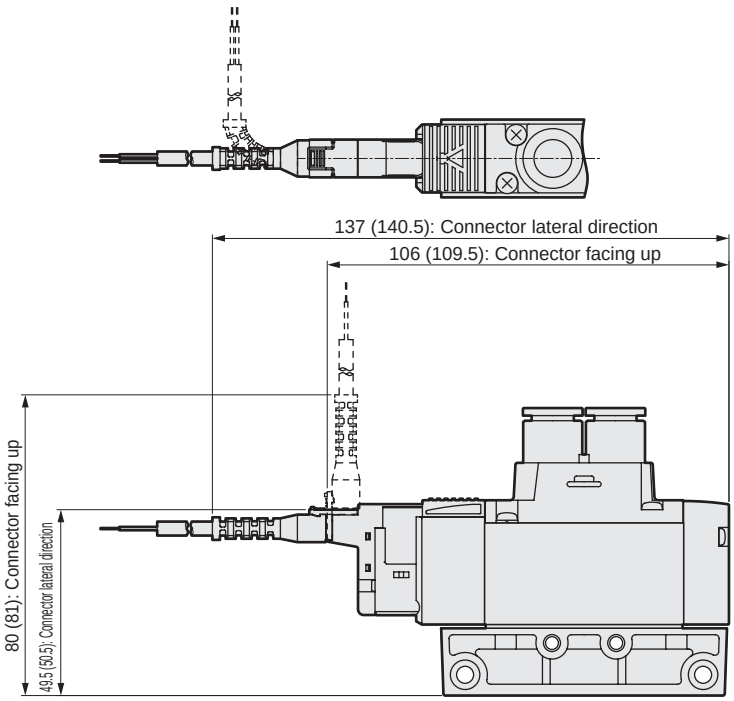
Dimensions Port size; NPT thread

● E connector (E)



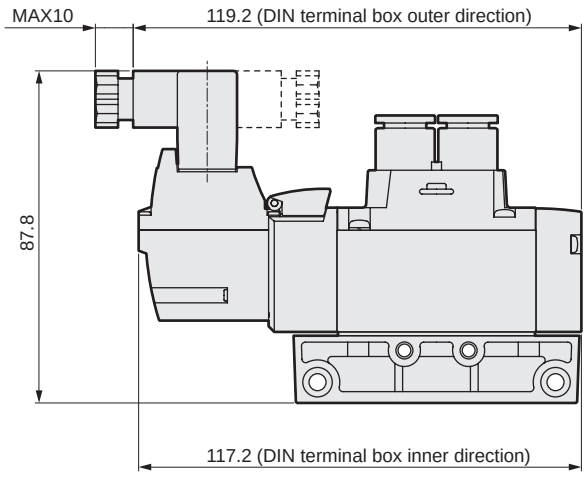
Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)



Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)

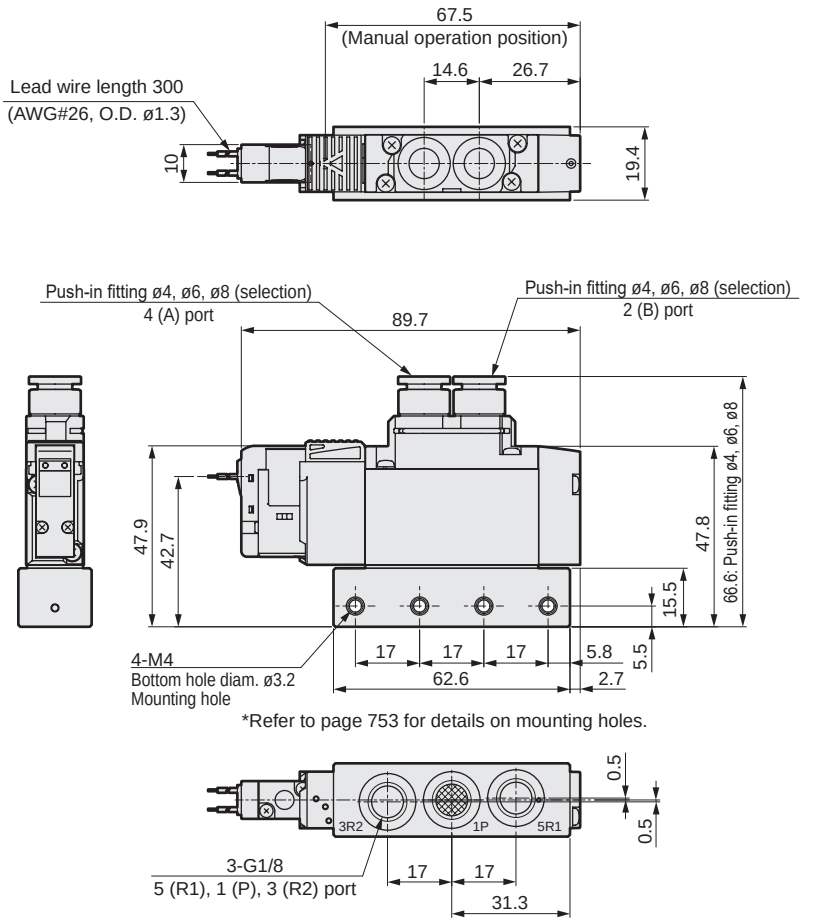


Note: The DIN terminal box assembly is shipped facing inward.

Dimensions Port size; G thread

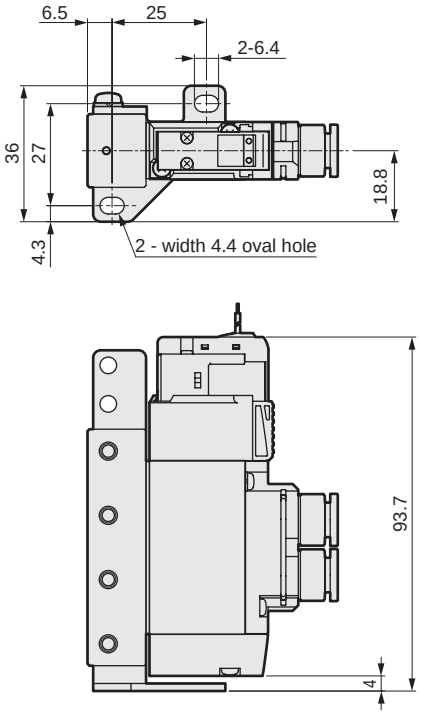
3GA2 $^{1}_{11}{}^{6}_{6}{}^{6}_{7}{}^{7}_{6}{}^{7}_{7}$0R-P7*, 4GA2 $^{1}_{2}{}^{3}_{4}{}^{4}_{5}$0R-P7*

● 2-position single grommet lead wire (blank)

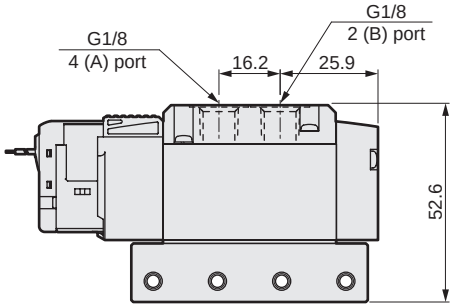


*Refer to page 753 for details on mounting holes.

● Mounting plate (P)

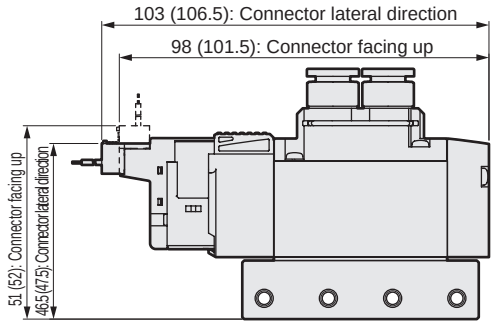


● G1/8 female thread (06G)



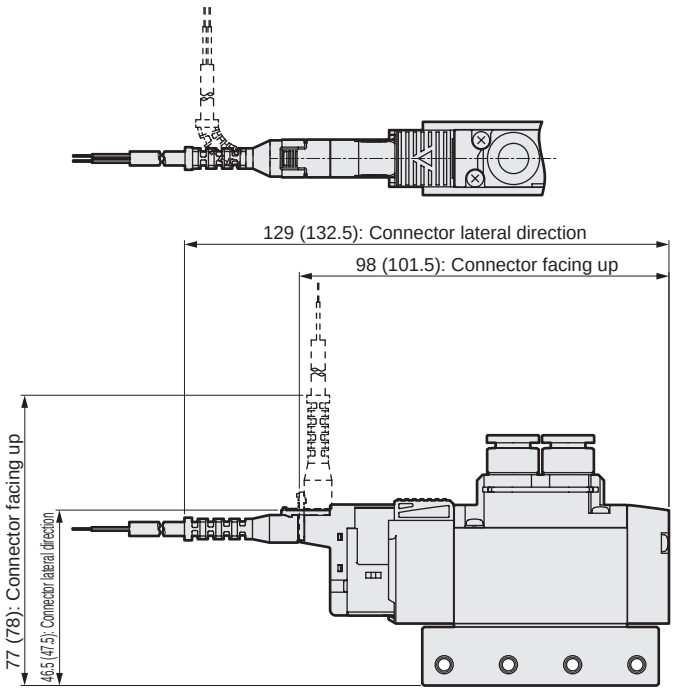
Dimensions Port size; G thread

● E connector (E)



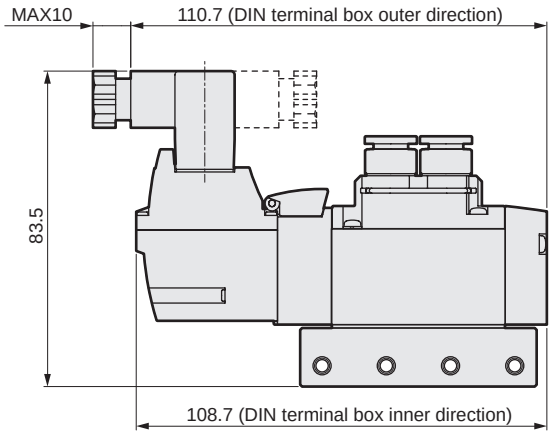
Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

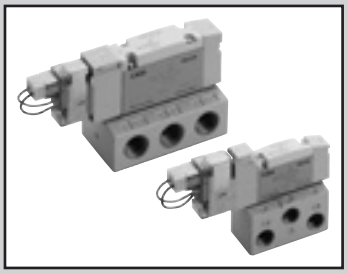


Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)



Note: The DIN terminal box assembly is shipped facing inward.



Discrete valve
Base piping

3GB1, 2/4GB1, 2, 3 Series

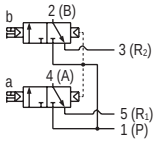
● Applicable cylinder bore size: ø 20 to ø 100

CE RoHS CAD

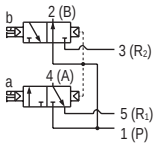
JIS symbol

● Dual 3-port valve integrated

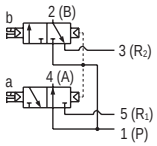
(A side valve: NC, B side valve: NC)



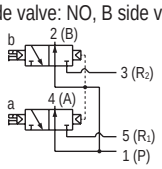
(A side valve: NC, B side valve: NO)



(A side valve: NO, B side valve: NC)

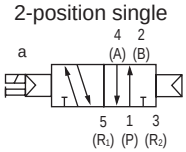


(A side valve: NO, B side valve: NO)

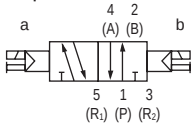


● 5-port valve

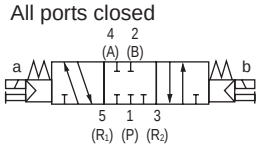
2-position single



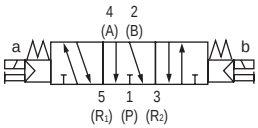
2-position double



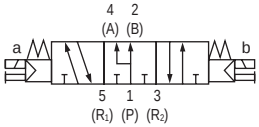
3-position
All ports closed



3-position A/B/R connection



3 positions P/A/B connection



Structure and material restriction

	Structure	Material restriction			Model No.
P7 Series	Dust generation preventing				−P70
	Dust generation preventing	Copper-based materials prohibited	Silicon-based materials prohibited	Halogen-based materials prohibited (fluorine, chlorine, bromine)	−P74 Custom order product

Common specifications

Item		Description
Valve and operation		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working press.	MPa	0.7
Min. working press.	MPa	0.2 (*3)
Proof pressure	MPa	1.05
Ambient temp	°C	-5 to 55 (no freezing)
Fluid temp	°C	5 to 55
Manual override		N oN-lock/locking common (standard)
Pilot exhaust method	Internal pilot	Main valve/pilot valve common exhaust
	External pilot	Main valve/pilot valve individual exhaust
Lubrication	(*1)	Not required
Degree of protection	(*2)	Dust-proof
Vibration resistance	m/s²	50 or less
Shock resistance	m/s²	300 or less
Atmosphere		Cannot be used in corrosive gas environments

*1 Use turbine oil Class 1 ISO VG32 for lubrication.Excessive or intermittent lubrication results in unstable operation.
*2 Avoid dripping water or oil, etc., during use. IP65 (water jet proof) applies for DIN terminal box specifications.However, the specified outer diameter of the cord and tightening torque must be used for fixing in place.
*3 The working pressure range is 0 to 0.7 MPa when the external pilot (option code: K) is selected.Set the external pilot pressure between 0.2 and 0.7 MPa.

Electrical specifications

Item		Description					
Rated voltage V		DC24	DC12	DC5	DC3	AC100	AC200
Voltage fluctuation range		±10%					
Holding current (A) (*4)	Standard	0.015 (0.017)	0.030 (0.034)	0.072 (0.082)	0.120 (0.136)	0.009 (0.009)	0.006 (0.006)
	With low exoergic/ energy circuit	0.005	0.010	-		-	
Power consumption W (*4)	Standard	0.35(0.40)		0.35(0.40)		-	
	With low exoergic/ energy circuit	0.1		-		-	
Apparent power VA (*4) (*5)	Standard	-		-		0.93 (0.98)	1.40
Thermal class		B					
Surge suppressor		Option					
Indicator		Lamp (option)					

*4: Values in ( ) apply when lamp is included.In addition, the type with low exoergic/energy circuit is only available with lamp.
*5: 200 VAC is the value of DIN terminal box with lamp.

Individual specifications

Port size		3GB1/4GB1	3GB2/4GB2	4GB3
Rc thread	A/B port	Rc1/8	Rc1/4	Rc1/4, Rc3/8
	P/R1/R2 port	Rc1/8	Rc1/4	Rc1/4, Rc3/8
NPT thread (*6)	A/B port	1/8NPT	1/4NPT	1/4NPT, 3/8NPT
	P/R1/R2 port	1/8NPT	1/4NPT	1/4NPT, 3/8NPT
G thread (*6)	A/B port	G1/8	G1/4	G1/4, G3/8
	P/R1/R2 port	G1/8	G1/4	G1/4, G3/8

*6: Available as made to order.

Performance/characteristics by model

Descriptions			3GB1/4GB1		3GB2/4GB2		4GB3	
			ON	OFF	ON	OFF	ON	OFF
Response time ms	Dual 3-port valve integrated		9	12	12	29	-	-
	2-position	Single	12	12	19	19	25	28
		Double	9	-	18	-	24	-
	3-position	ABR connection	8	15	17	30	23	45

Values with a lamp/surge suppressor are shown. The response time is the value at the 0.5 MPa supply pressure, 20°C, with no lubrication. It depends on the pressure and the lubricant quality.

Weight

Item				3GB1/4GB1	3GB2/4GB2	4GB3
Weight g	2-position	Single	Grommet lead wire	80 (38)	156 (74)	215 (96)
			E connector	82 (40)	158 (76)	217 (98)
			DIN terminal box	-	193 (111)	249 (130)
		Double	Grommet lead wire	97 (55)	173 (91)	233 (114)
			E connector	101 (59)	177 (95)	237 (118)
			DIN terminal box	-	216 (134)	273 (154)
	3-position	All ports closed	Grommet lead wire	98 (56)	184 (102)	242 (123)
			E connector	102 (60)	188 (106)	246 (127)
			DIN terminal box	-	227 (145)	282 (163)

・Values in ( ) do not include a discrete sub-plate. Values for the E connector include the socket assembly (with 300 mm lead wire). For the EJ connector, add 16 g/connector to the E connector weight.
・The weight of dual 3-port valve integrated is the same as that of 2-position double.

Flow characteristics

Model No.	Solenoid position		P→A/B		A/B→R1/R2	
			C [dm³/(s·bar)]	b	C [dm³/(s·bar)]	b
3GB1 4GB1	Dual 3-port valve integrated		0.92	0.08	1.1	0.26
	2-position		1.3	0.27	1.2	0.22
	3-position	All ports closed	1.1	0.31	1.1	0.27
		ABR connection	1.1	0.31	1.3	0.29
		PAB connection	1.4	0.30	1.1	0.26
3GB2 4GB2	Dual 3-port valve integrated		1.7	0.42	2.1	0.26
	2-position		2.6	0.20	2.6	0.19
	3-position	All ports closed	2.3	0.32	2.2	0.22
		ABR connection	2.2	0.23	2.6	0.16
		PAB connection	2.4	0.10	2.4	0.22
4GB3	2-position		4.3	0.24	4.2	0.24
	3-position	All ports closed	3.3	0.40	3.4	0.27
		ABR connection	3.3	0.36	4.2	0.18
		PAB connection	4.5	0.28	3.4	0.30

*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.

Ozone proof specifications ・ Cutting oil prohibited specifications

This can be set by selecting option “A” of Ⓔ in how to order on page 474.

3GB1, 2/4GB1, 2, 3 Series

Discrete valve; base piping

How to order

4GB1 1 0 R - 06 - E2 ○ - 3 - P7

3GB1 66 0 R - 06 - E2 ○ - 3 - P7

Discrete valve for mounting base

4GB1 1 9 R - 00 - E2 H - 3 - P7

3-port discrete valve for mounting base

3GB1 66 9 R - 00 - E2 H - 3 - P7

Ⓐ Model No. Ⓑ Solenoid position Ⓒ Port size Ⓖ Clean room specifications

Ⓓ Electrical connections
Refer to page 429 for the circuit diagram with surge suppressor/lamp.

Ⓔ Option

Ⓕ Voltage

Code	Content		Ⓐ Model No. 3GB1	3GB2	4GB1	4GB2	4GB3
Ⓑ 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				●	●	●
66	Dual 3-port valve integrated *1	A side valve: Normally closed B side valve: Normally closed	●	●			
67	Dual 3-port valve integrated *1	A side valve: Normally closed B side valve: Normally open	●	●			
76	Dual 3-port valve integrated *1	A side valve: Normally open B side valve: Normally closed	●	●			
77	Dual 3-port valve integrated *1	A side valve: Normally open B side valve: Normally open	●	●			
Ⓒ Port size							
Port	4 (A)/2 (B) port		P/R1/R2 port (2)=Rc1/8 (3)=Rc1/4 (4)=Rc3/8				
06	Rc1/8		(2)		(2)		
08	Rc1/4			(3)		(3)	(3)
10	Rc3/8						(4)
Port	4 (A)/2 (B) port		P/R1/R2 port (5)=1/8NPT (6)=1/4NPT (7)=3/8NPT				
06N	1/8NPT (*2)		(5)		(5)		
08N	1/4NPT (*2)			(6)		(6)	(6)
10N	3/8NPT (*2)						(7)
Port	4 (A)/2 (B) port		P/R1/R2 port (8)=G1/8 (9)=G1/4				
06G	G1/8 (*2)		(8)		(8)		
08G	G1/4 (*2)			(9)		(9)	(9)
10G	G3/8 (*2)						(10)
00	Discrete valve for mounting base		●	●	●	●	●
Ⓓ Electrical connections							
Blank	Grommet lead wire (300 mm) (*8)		●	●	●	●	●
B	DIN terminal box (Pg 7)	With surge suppressor/lamp (*9) (*11)		●		●	●
BN	DIN terminal box (Pg7) (no terminal box)	With surge suppressor (*9) (*11)		●		●	●
E-connector (upward/lateral common)							
E0	Lead wire (300 mm) (*10)		●	●	●	●	●
E00	Lead wire (500 mm) (*10)		●	●	●	●	●
E01	Lead wire (1000 mm) (*10)		●	●	●	●	●
E02	Lead wire (2000 mm) (*10)		●	●	●	●	●
E03	Lead wire (3000 mm) (*10)		●	●	●	●	●
E0N	No lead wire (without socket)(*10)		●	●	●	●	●
E1	No lead wire (socket/terminal attached)(*10)		●	●	●	●	●
E2	Lead wire (300 mm)	with surge suppressor and indicator lamp	●	●	●	●	●
E20	Lead wire (500 mm)	with surge suppressor and indicator lamp	●	●	●	●	●
E21	Lead wire (1000 mm)	with surge suppressor and indicator lamp	●	●	●	●	●
E22	Lead wire (2000 mm)	with surge suppressor and indicator lamp	●	●	●	●	●
E23	Lead wire (3000 mm)	with surge suppressor and indicator lamp	●	●	●	●	●
E2N	No lead wire (without socket)	with surge suppressor and indicator lamp	●	●	●	●	●
E3	No lead wire (socket/terminal attached)	with surge suppressor/indicator lamp	●	●	●	●	●
EJ-connector (socket with cover, upward/lateral common)							
E01J	Lead wire (1000 mm) (*10)		●	●	●	●	●
E02J	Lead wire (2000 mm) (*10)		●	●	●	●	●
E03J	Lead wire (3000 mm) (*10)		●	●	●	●	●
E21J	Lead wire (1000 mm)	with surge suppressor and indicator lamp	●	●	●	●	●
E22J	Lead wire (2000 mm)	with surge suppressor and indicator lamp	●	●	●	●	●
E23J	Lead wire (3000 mm)	with surge suppressor and indicator lamp	●	●	●	●	●
Ⓔ Option							
Blank	Non-locking and locking model shared manual override		●	●	●	●	●
M	Non-locking manual override		●	●	●	●	●
H	With exhaust check valve (*3)		●	●	●	●	●
K	External pilot				●	●	●
A	Ozone/cutting oil proof		●	●	●	●	●
S	Surgeless (*4)		●	●	●	●	●
E	Low exoergic/energy-saving circuit (*4), (*5)		●	●	●	●	●
F	A/B port filter integrated (*6)		●	●	●	●	●
Ⓕ Voltage							
1	100 VAC (with rectifier circuit)		●	●	●	●	●
2	200 VAC (with rectifier circuit) (*7)			●		●	●
3	24 VDC		●	●	●	●	●
4	12 VDC		●	●	●	●	●
7	3 VDC		○	○	○	○	○
8	5 VDC		○	○	○	○	○

Ⓖ Clean room specifications (*12, 13, 14)

	Structure	Material restriction						
P70	Exhaust treatment	-	●	●	●	●	●	●
P74	Exhaust treatment	Copper-/silicon-/halogen-based materials (fluorine, chlorine, bromine) are prohibited.	○	○	○	○	○	○

is not available.
○ Custom order products. Contact CKD for details.

⚠ Precautions for model No. selection

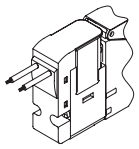
*1: Combinations with an external pilot (K) are not supported. In addition, the external dimensions are the same dimensions as each of the 2-position double solenoids.
*2: Custom order product
***3: 3-position all ports closed and PAB connection are not provided with the exhaust check valve. Refer to page 751 for details on the exhaust check valve.**
4: Only E2 and E2*J connectors and 12/24 VDC are supported. In addition, selecting a combination of surgeless "S" and the low exoergic/energy-saving circuit "E" is not allowed.
*5: Applicable to surgeless specifications
*6: P port is equipped with a filter as standard.
*7: Supported only for the DIN terminal box.
*8: The grommet lead wire specifications are only applicable to DC voltages.
*9: AC voltage and 12/24VDC are supported. The lamp is incorporated in the terminal box.
*10: AC voltage is provided with a rectifier circuit.
*11 Terminal box is EN175301-803Type C, (Old DIN 43650-C) compliant.
*12: A (ozone compatible) and Ⓖ clean room specifications P74 cannot be combined.
*13: Copper-, silicon-, and halogen-free specifications are available with support for the main valve section.
*14: P74 Series is a custom order product.

Electrical connections

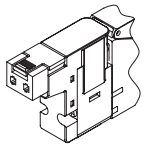
Discrete valve/ individual wiring manifold

Blank Grommet lead wire

● **Lead wire length**
300 mm

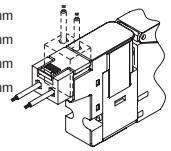


E1 E3 E connector with socket/terminal

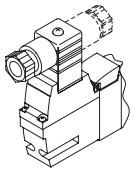


E0 E2 E connector

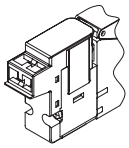
● **Lead wire length**
300 mm
500 mm
1000 mm
2000 mm
3000 mm



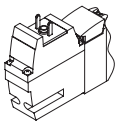
B DIN terminal box



E0N E2N E connector without socket

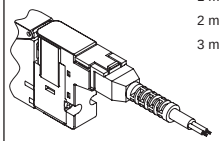


BN DIN terminal box (no terminal box)



E0*J E2*J EJ connector

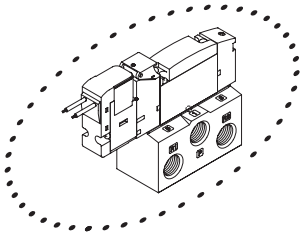
● **Lead wire length**
1 m
2 m
3 m

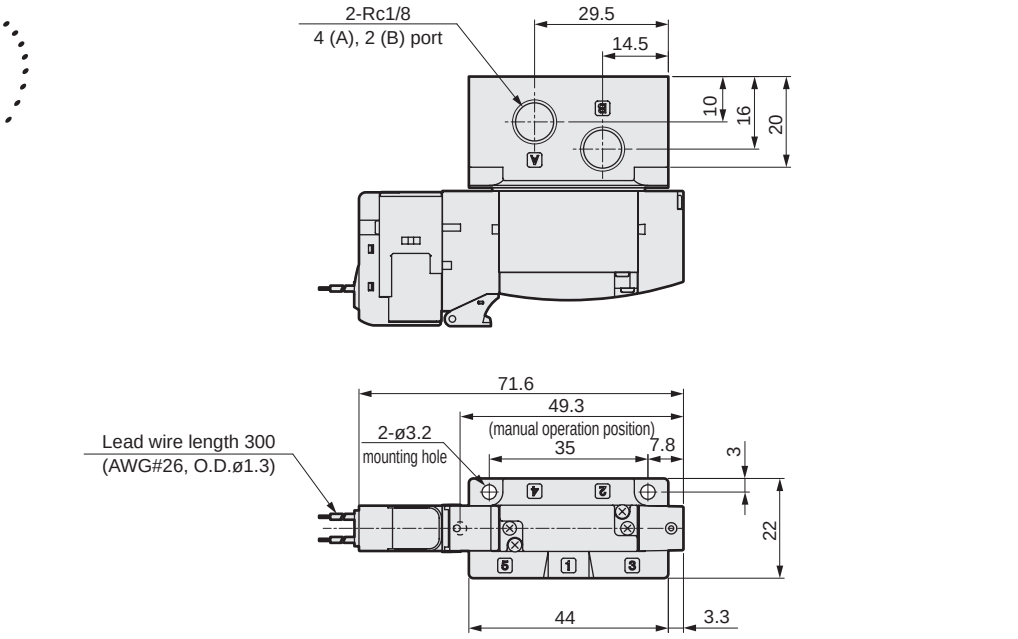


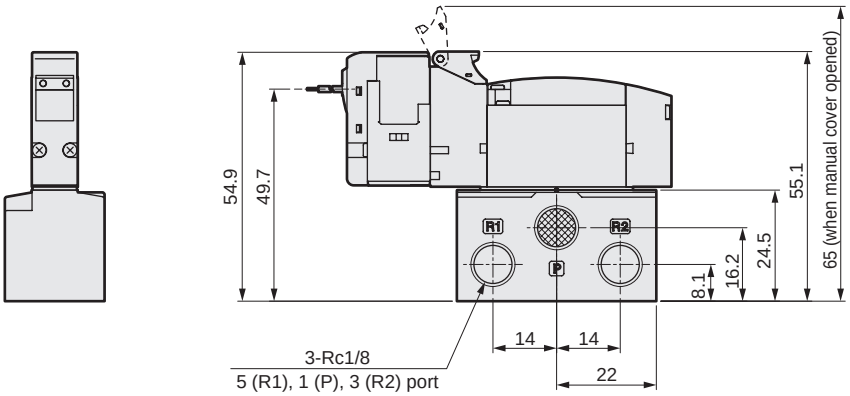
Dimensions

4GB110R-P7* * For the NPT thread and G thread specifications, refer to pages 494 to 503.

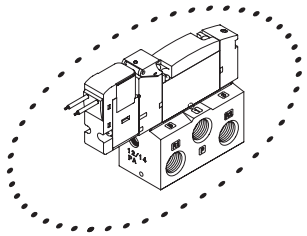
● 2-position single grommet lead wire (blank)

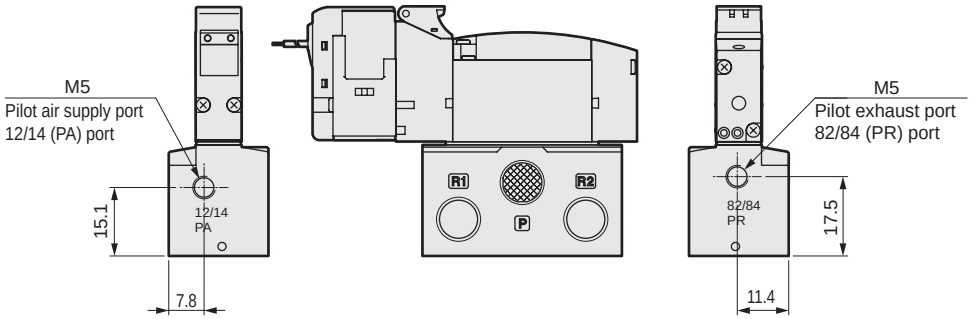






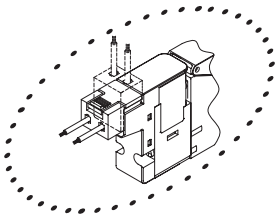
● External pilot (K)

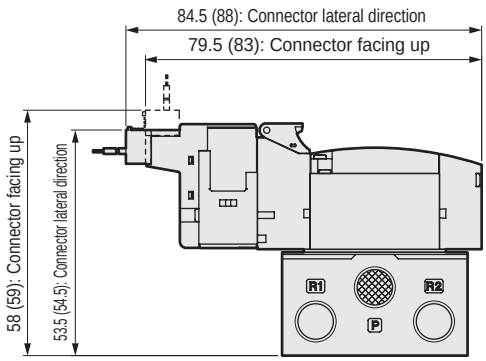




Dimensions

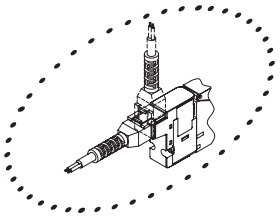
● E connector (E)

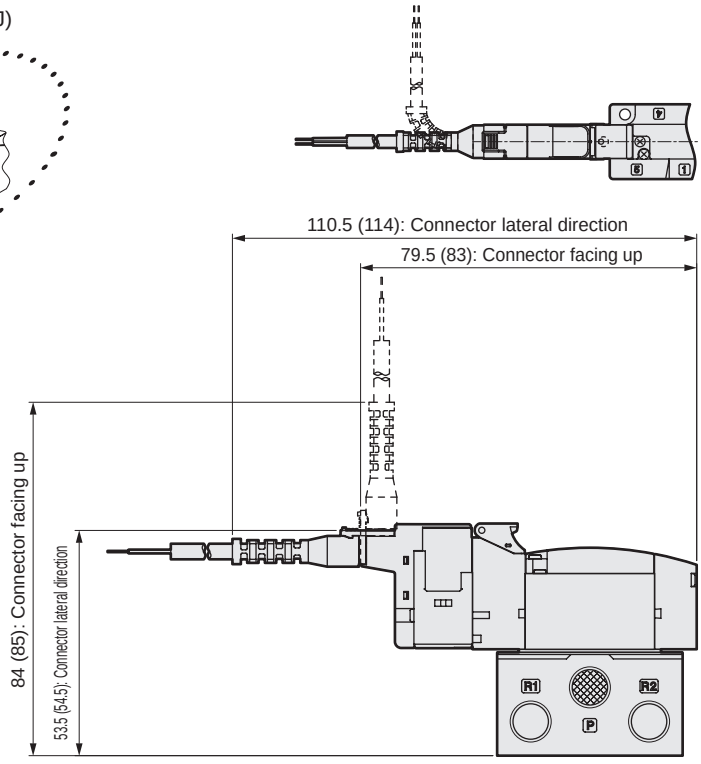




Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)





Note: Values in ( ) are applicable to AC voltages.

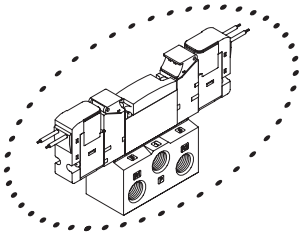
Dimensions

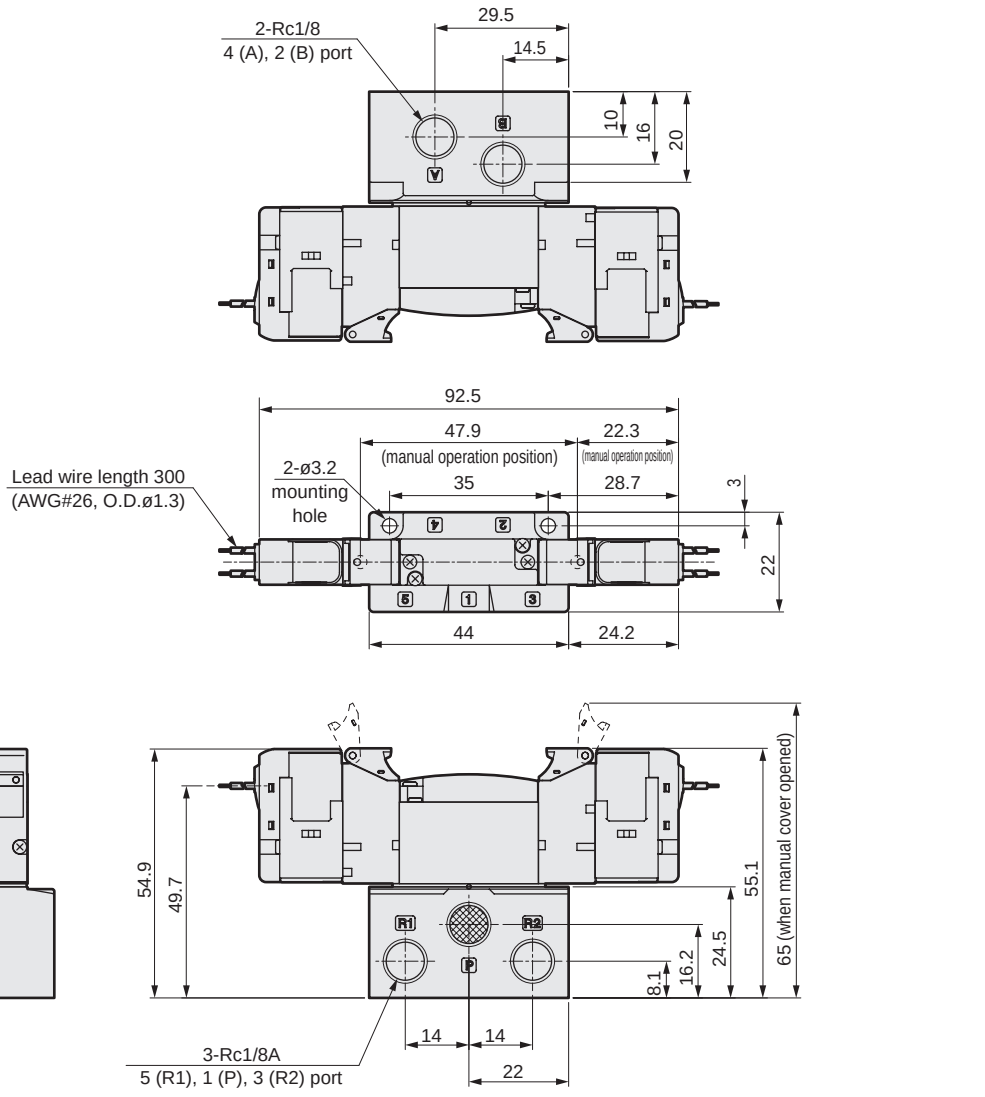
4GB120R-P7* * For the NPT thread and G thread specifications, refer to pages 494 to 503.

● 2-position double grommet lead wire (blank)

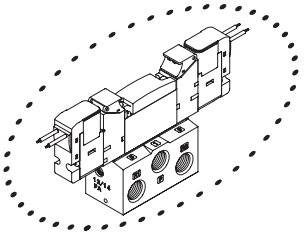
3GB1660R/3GB1670R/3GB1760R/3GB1770R-P7*

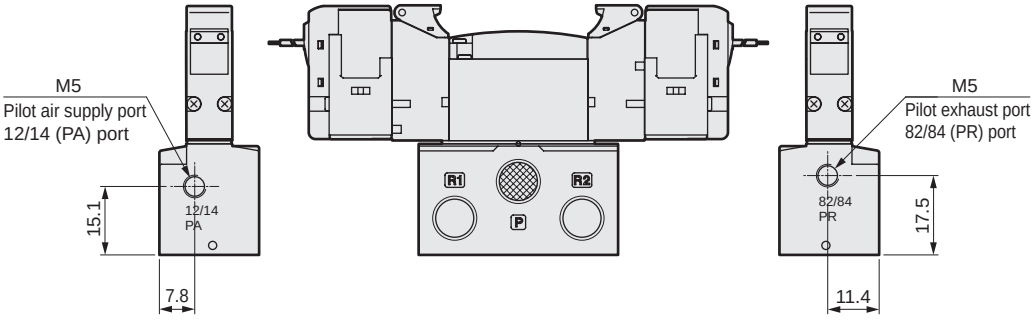
● Dual 3-port valve integrated grommet lead wire (blank)





● External pilot (K)

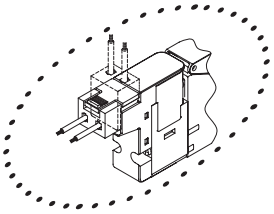


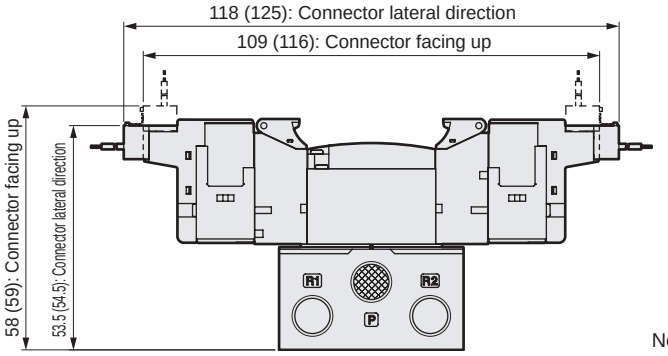


Note: Combination of dual 3-port valve integrated and external pilot is not available.

Dimensions

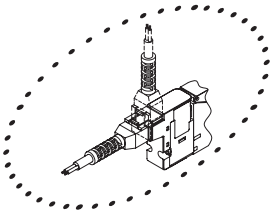
● E connector (E)

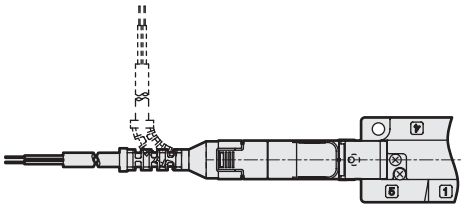


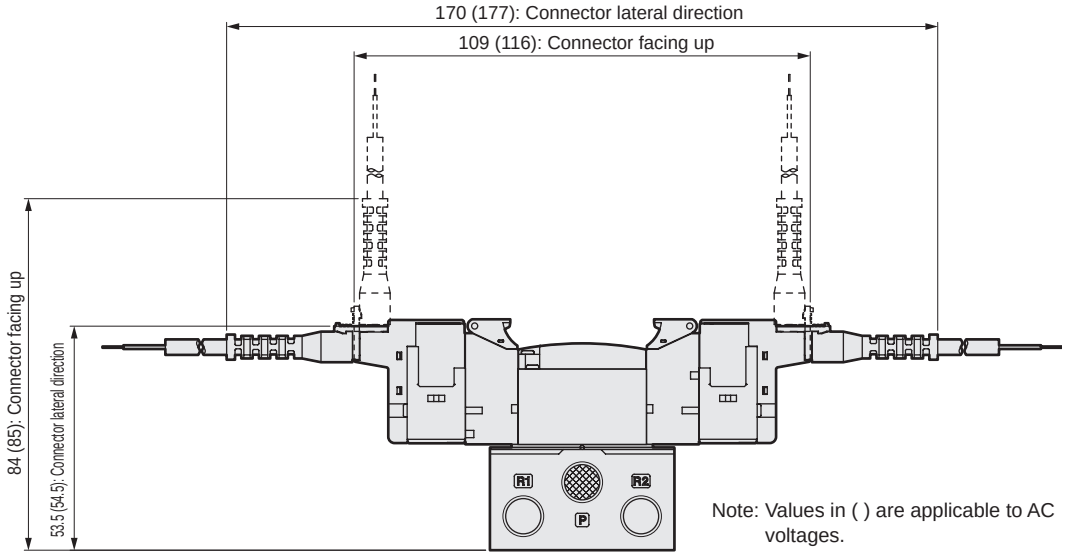


Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)





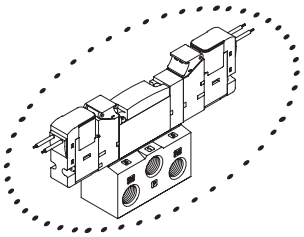


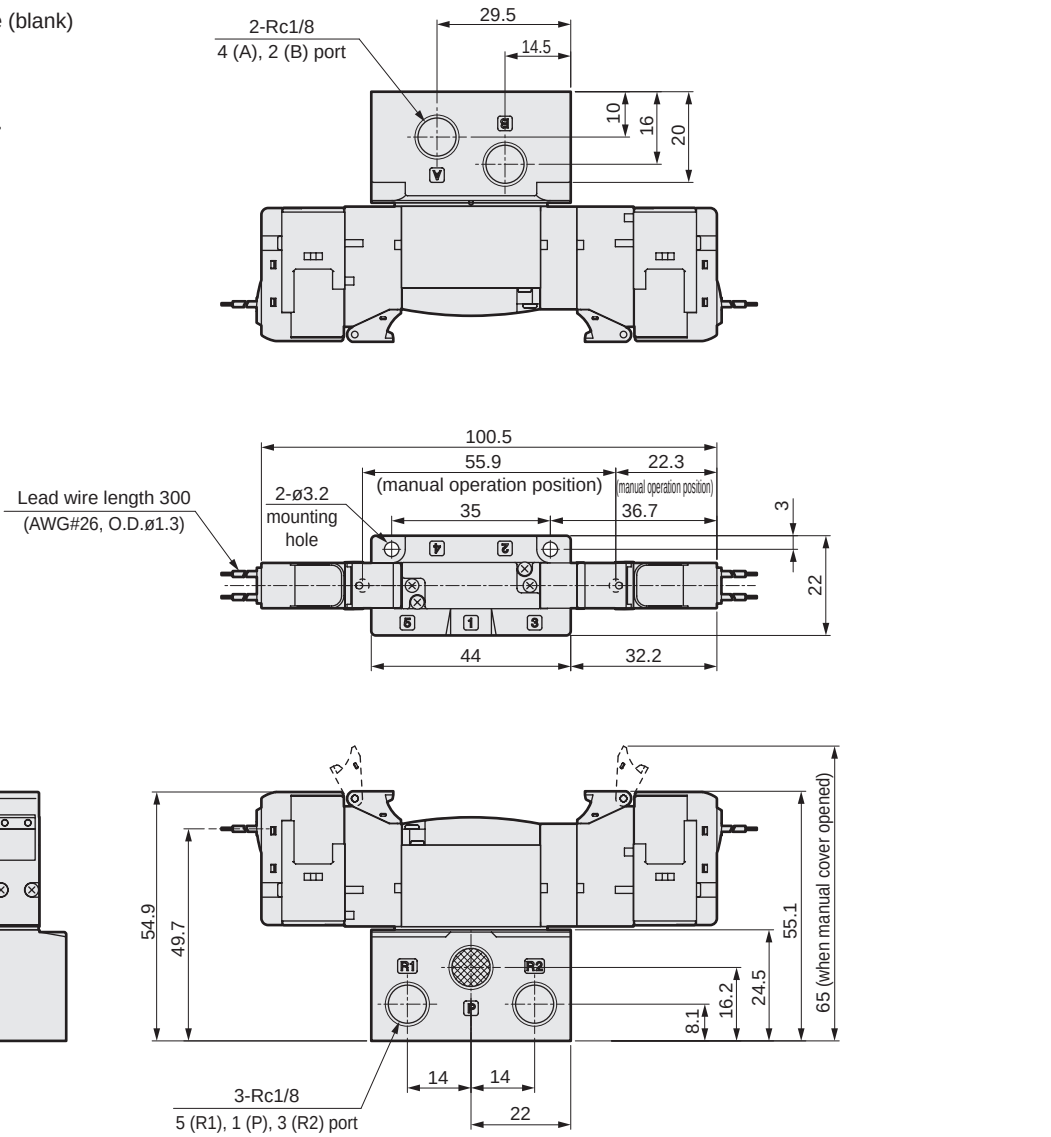
Note: Values in ( ) are applicable to AC voltages.

Dimensions CAD

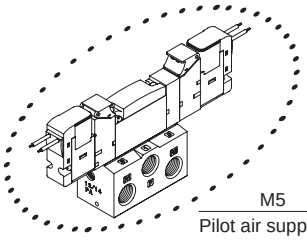
4GB1$^{3}_{4}_{5}$0R-P7* * For the NPT thread and G thread specifications, refer to pages 494 to 503.

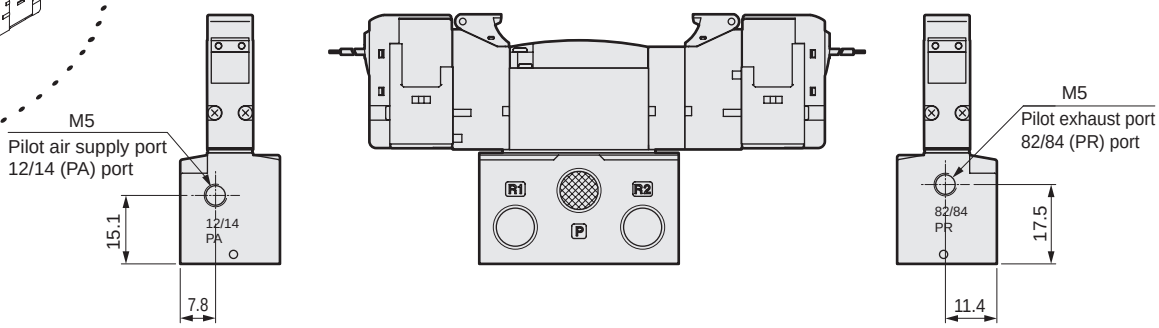
● 3 position grommet lead wire (blank)





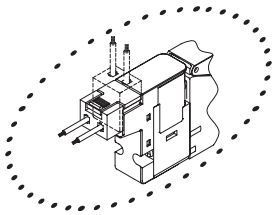
● External pilot (K)

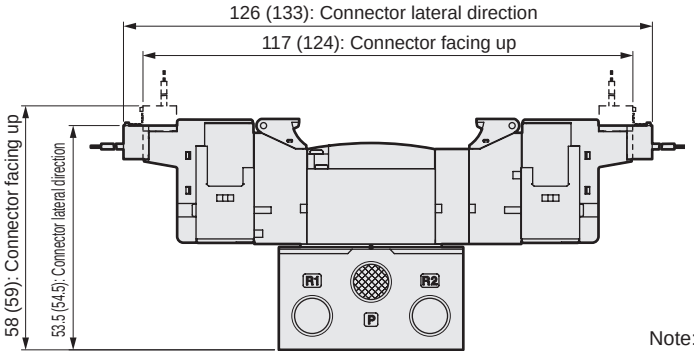




Dimensions

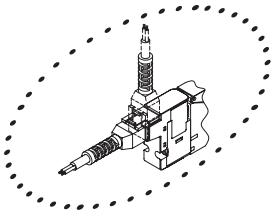
● E connector (E)

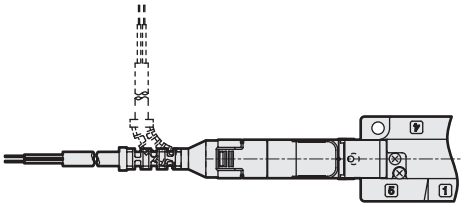


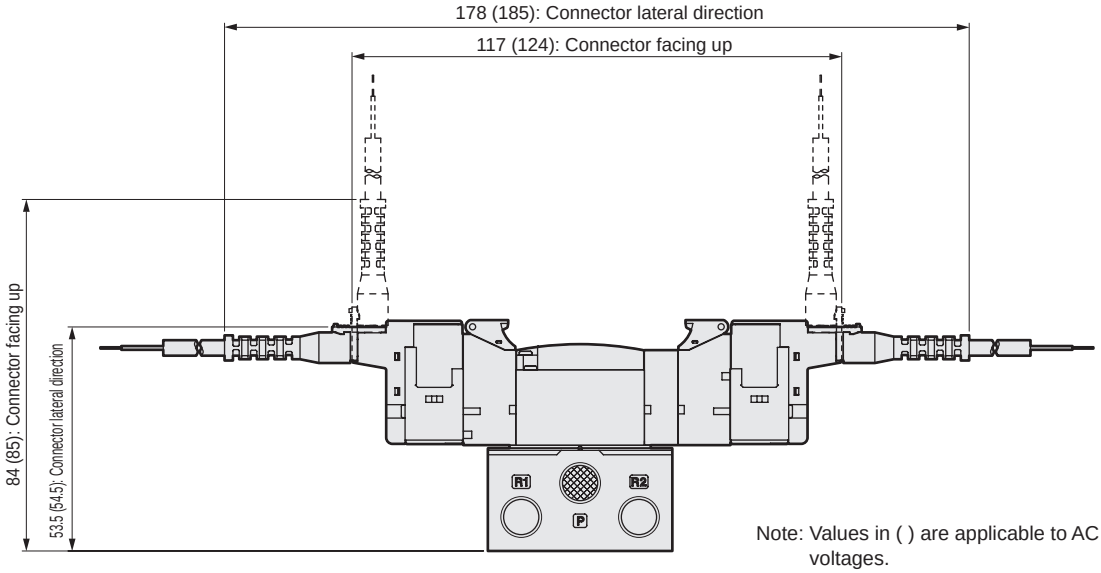


Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)





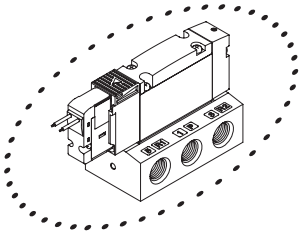


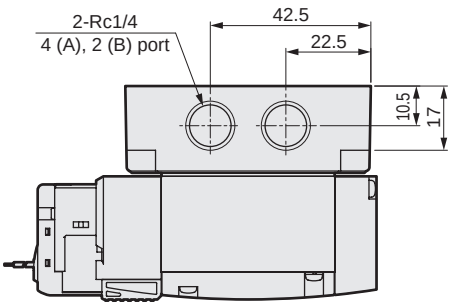
Note: Values in ( ) are applicable to AC voltages.

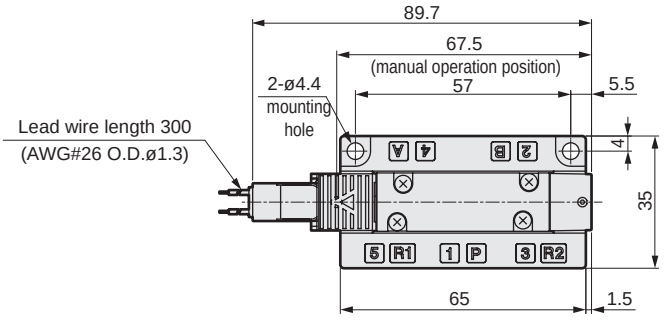
Dimensions CAD

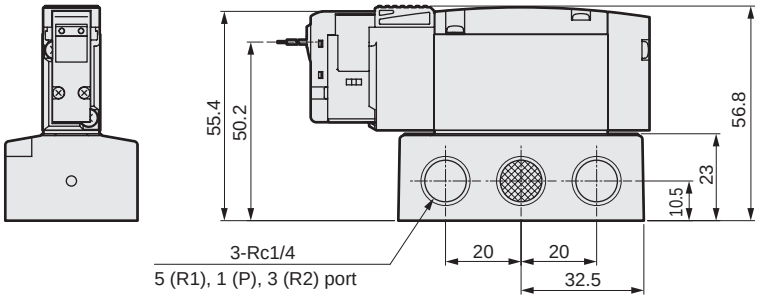
4GB210R-P7* * For the NPT thread and G thread specifications, refer to pages 494 to 503.

● 2-position single grommet lead wire (blank)

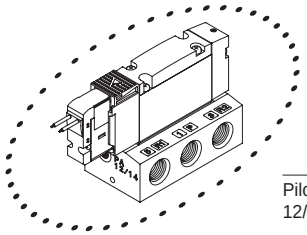


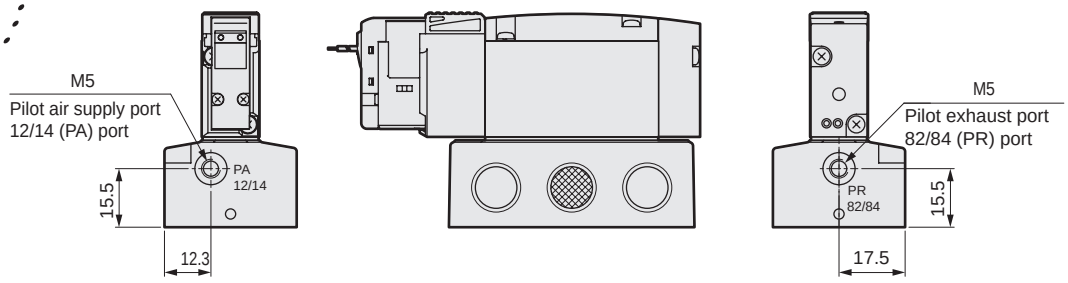






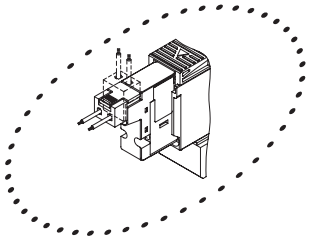
● External pilot (K)

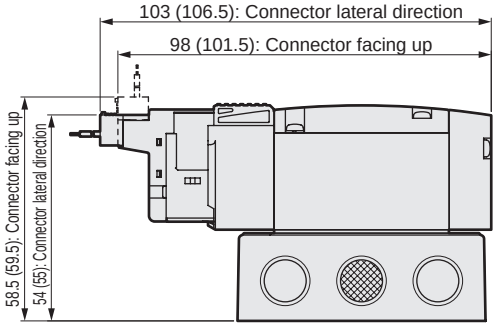




Dimensions

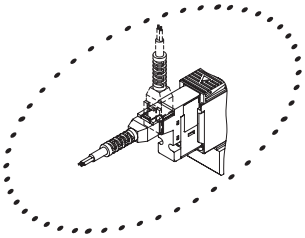
● E connector (E)

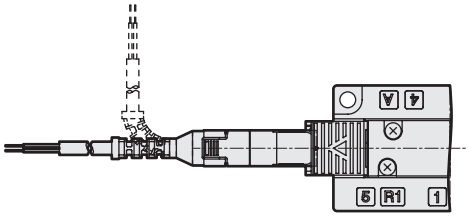




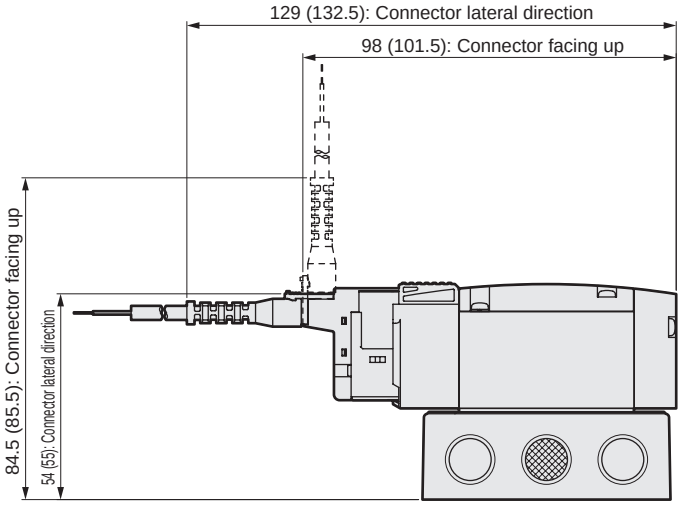
Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

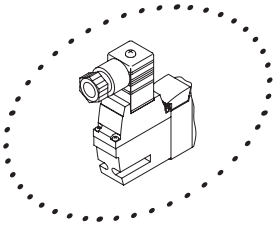


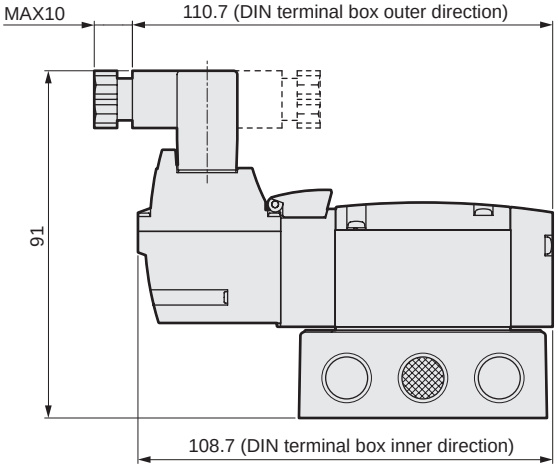


Note: Values in ( ) are applicable to AC voltages.



● DIN terminal box (B)





Note: The DIN terminal box assembly is shipped facing inward.

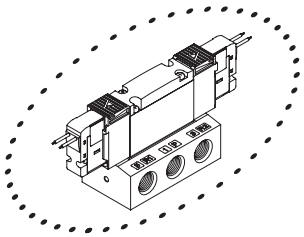
Dimensions CAD

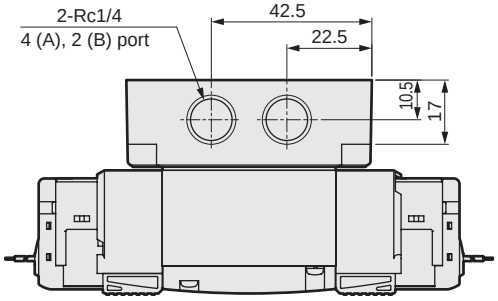
4GB220R-P7* * For the NPT thread and G thread specifications, refer to pages 494 to 503.

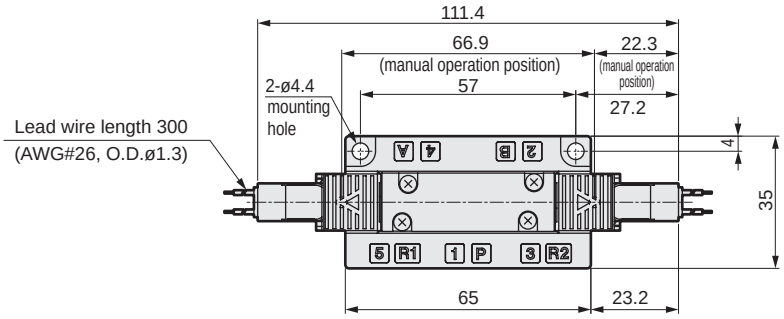
● 2-position double grommet lead wire (blank)

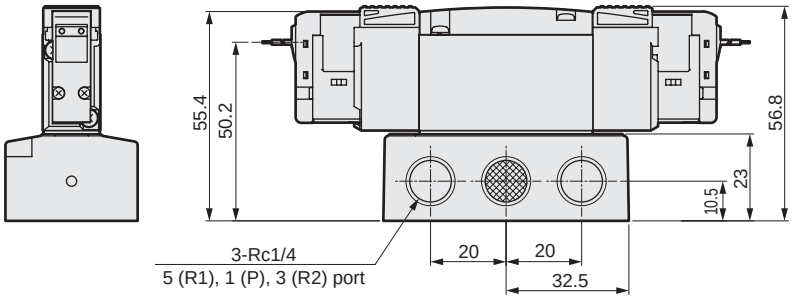
3GB2660R/3GB2670R/3GB2760R/3GB2770R-P7*

● Dual 3-port valve integrated grommet lead wire (blank)

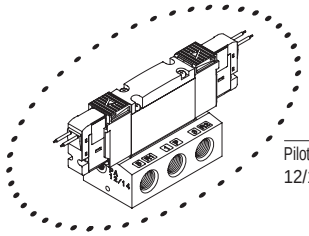


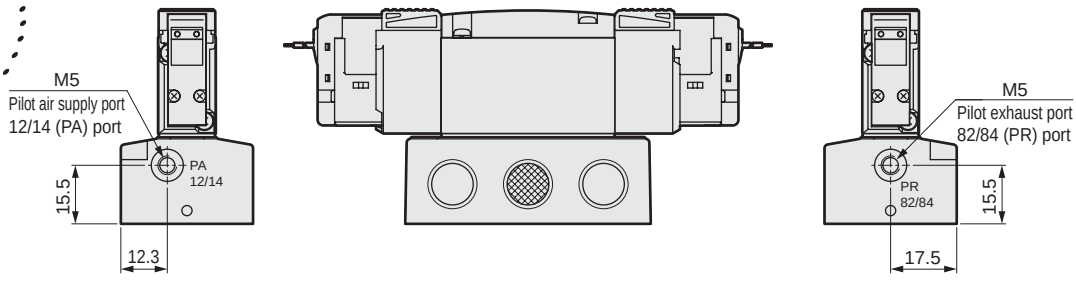






● External pilot (K)

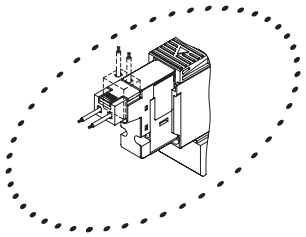


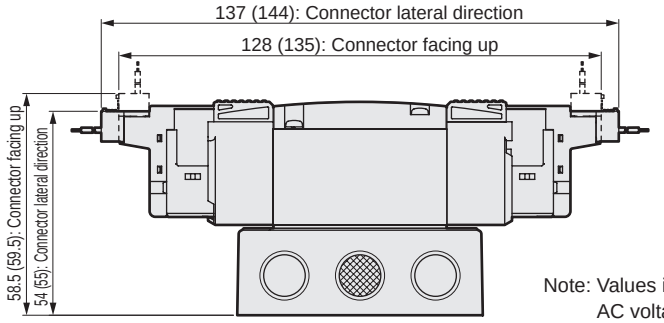


Note: Combination of dual 3-port valve integrated and external pilot is not available.

Dimensions

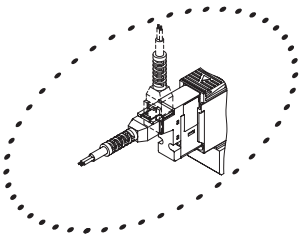
● E connector (E)

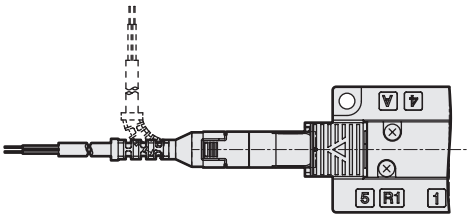




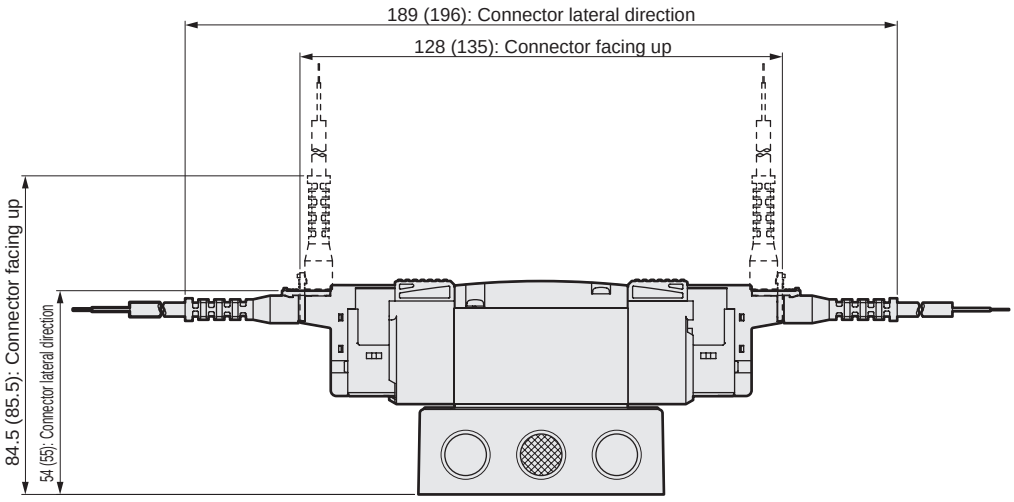
Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

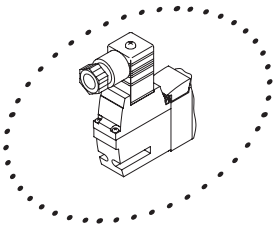


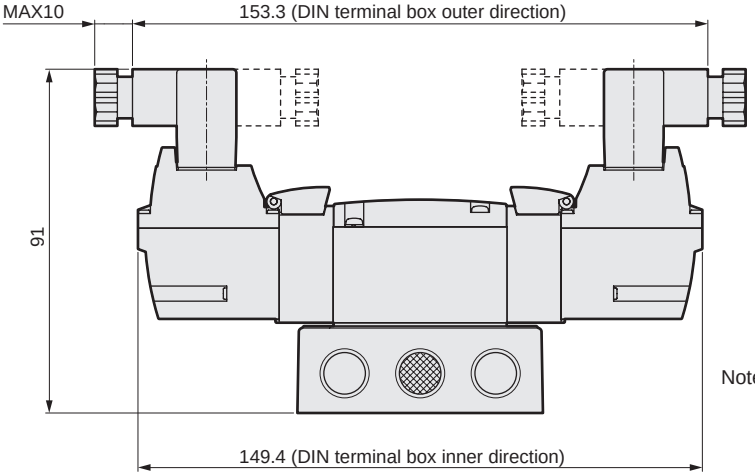


Note: Values in ( ) are applicable to AC voltages.



● DIN terminal box (B)



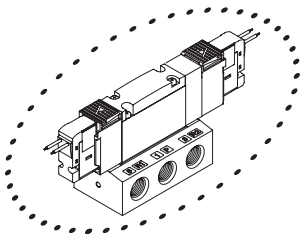


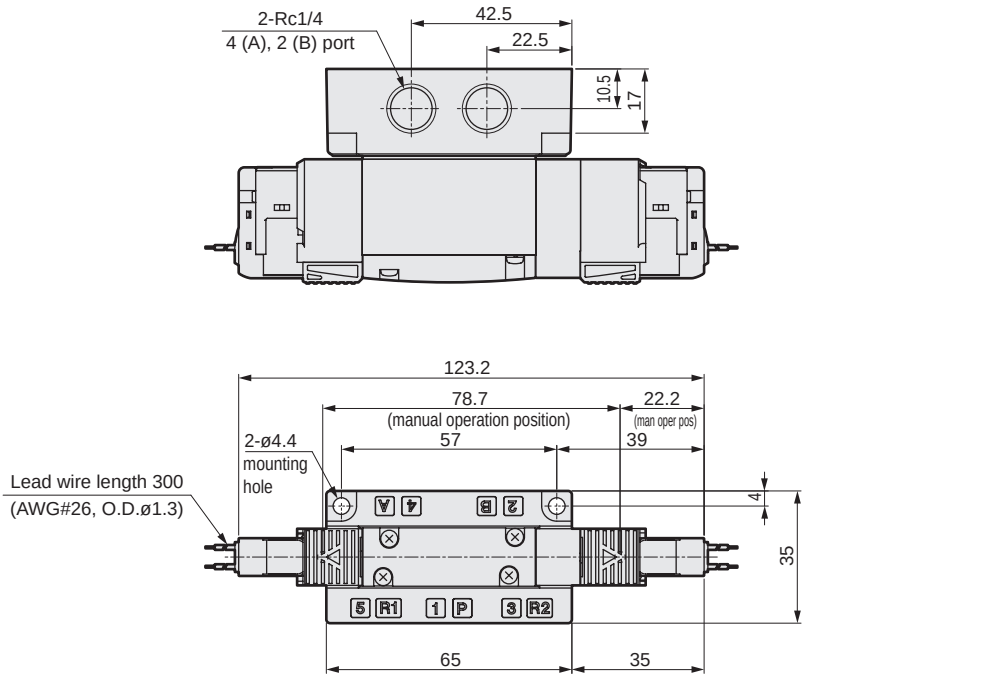
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

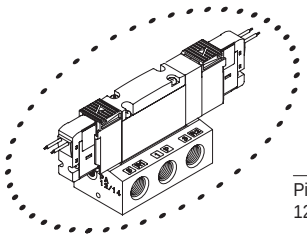
4GB2 $^{3}_{4}_{5}$0R-P7* * For the NPT thread and G thread specifications, refer to pages 494 to 503.

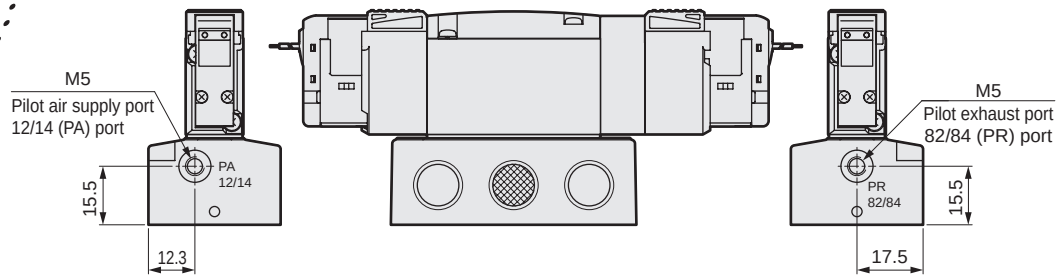
● 3 position grommet lead wire (blank)





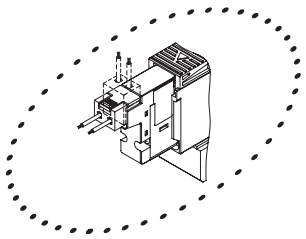
● External pilot (K)

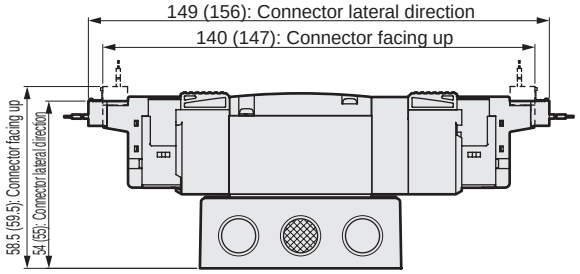




Dimensions

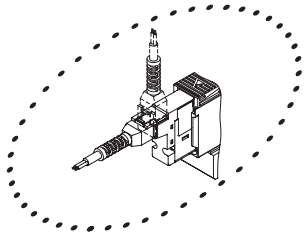
● E connector (E)

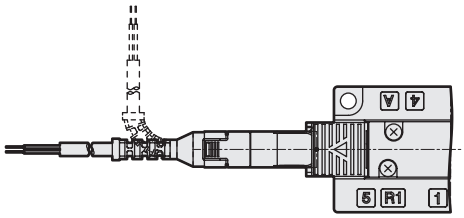




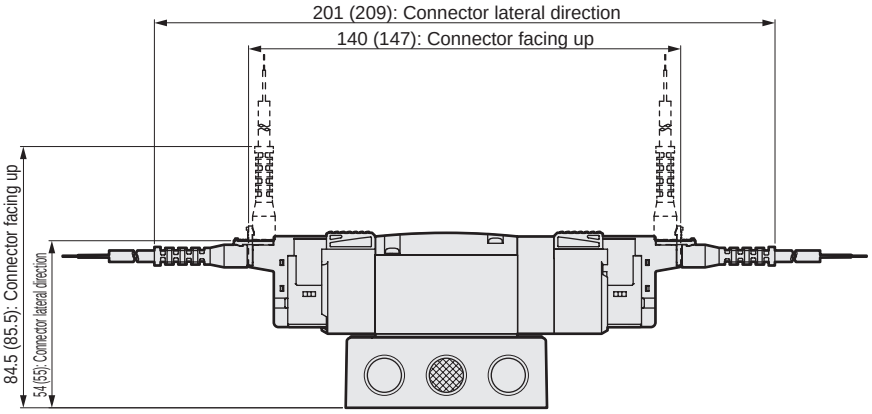
Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

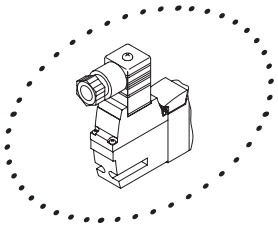


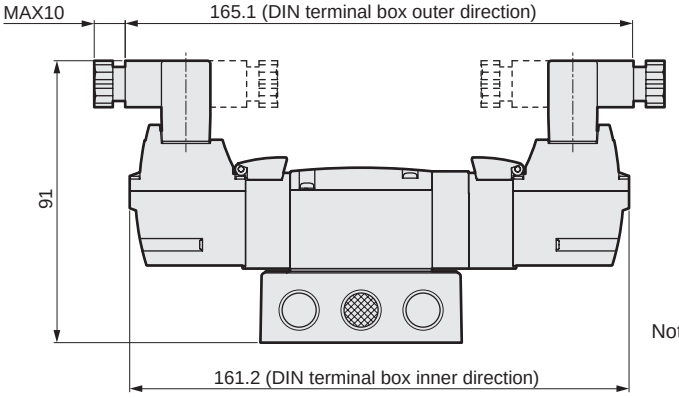


Note: Values in ( ) are applicable to AC voltages.



● DIN terminal box (B)



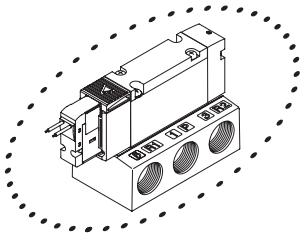


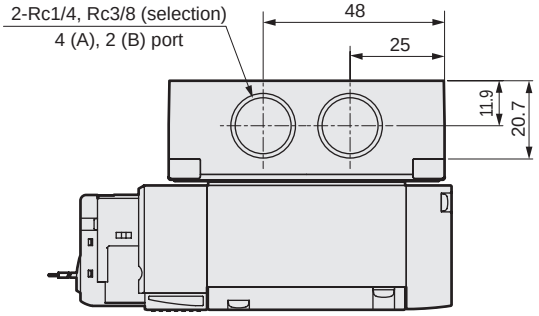
Note: The DIN terminal box assembly is shipped facing inward.

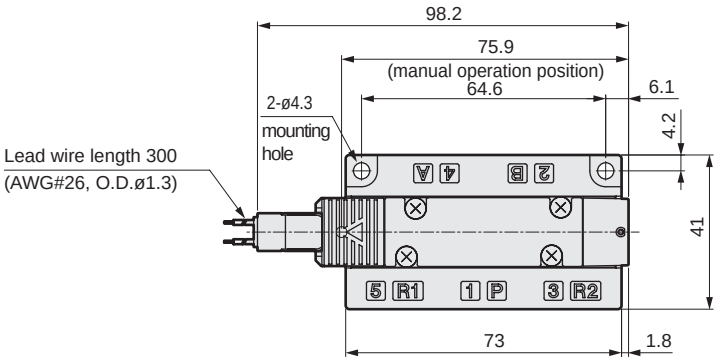
Dimensions CAD

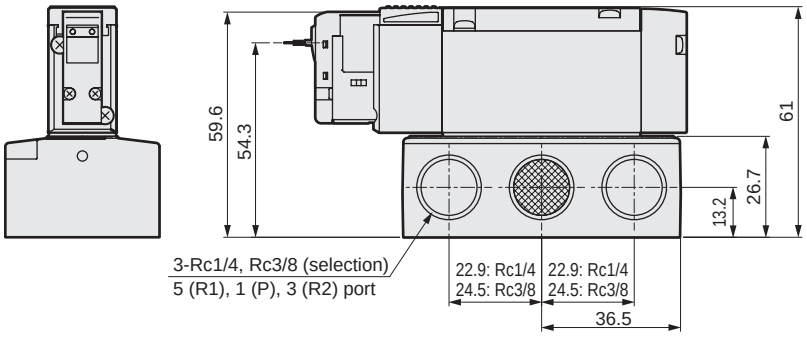
4GB310R-P7* * For the NPT thread and G thread specifications, refer to pages 494 to 503.

● 2-position single grommet lead wire (blank)

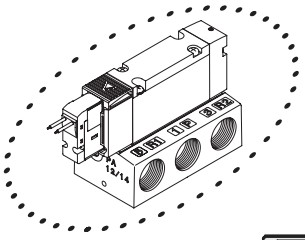


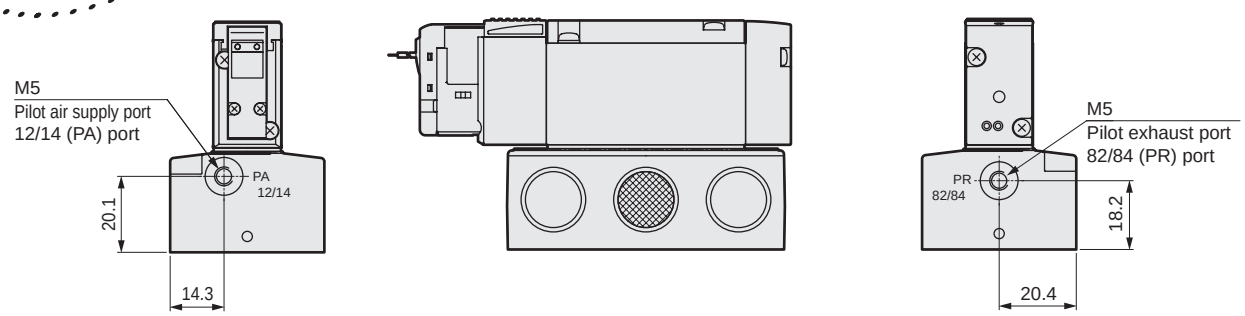






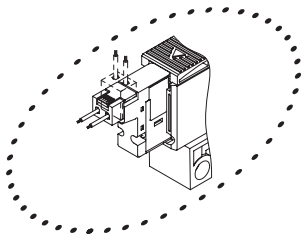
● External pilot (K)

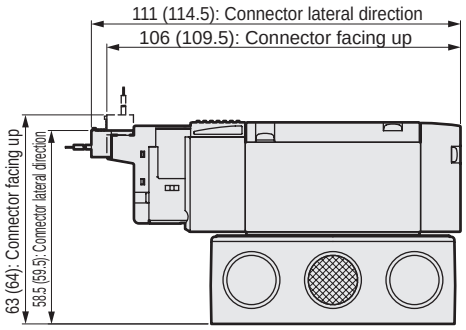




Dimensions

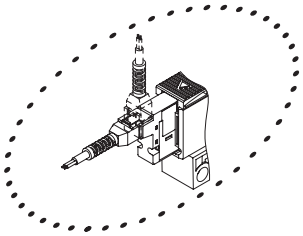
● E connector (E)

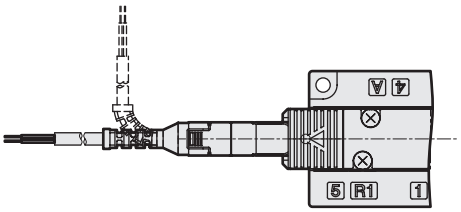




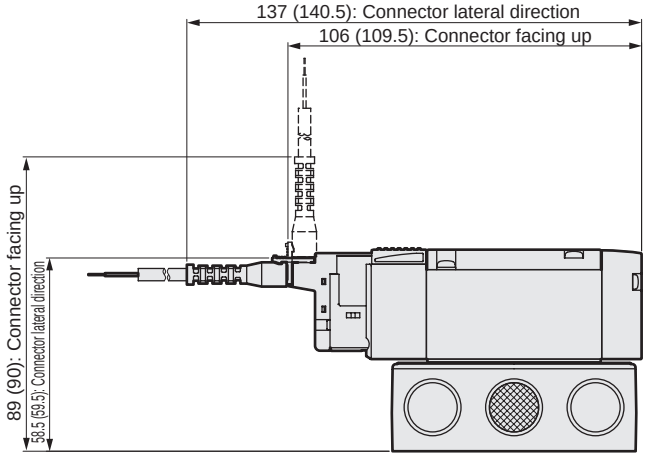
Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

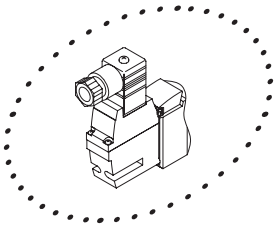


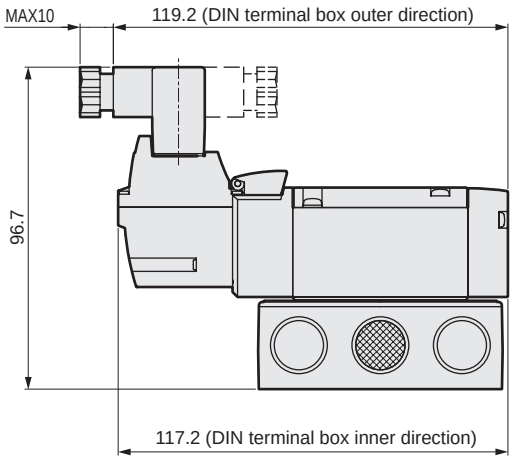


Note: Values in ( ) are applicable to AC voltages.



● DIN terminal box (B)



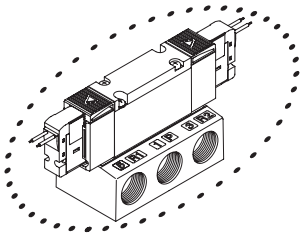


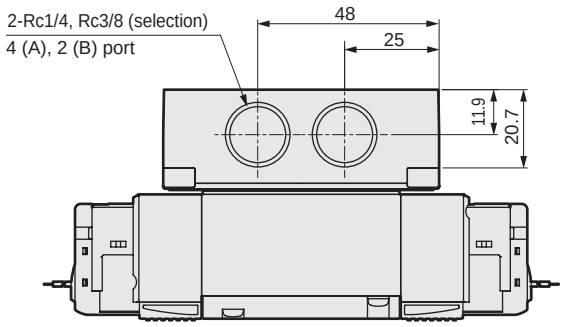
Note: The DIN terminal box assembly is shipped facing inward.

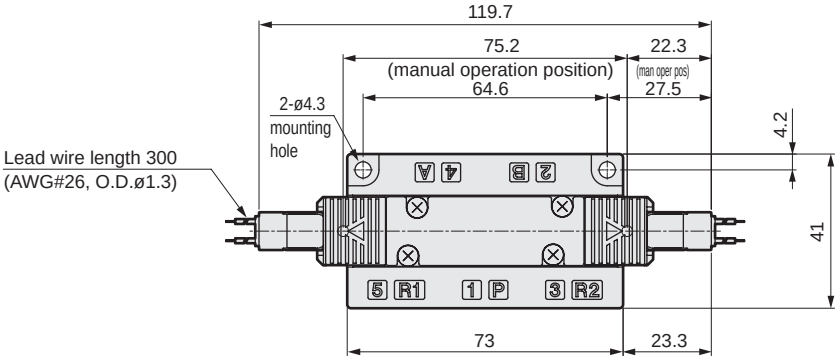
Dimensions CAD

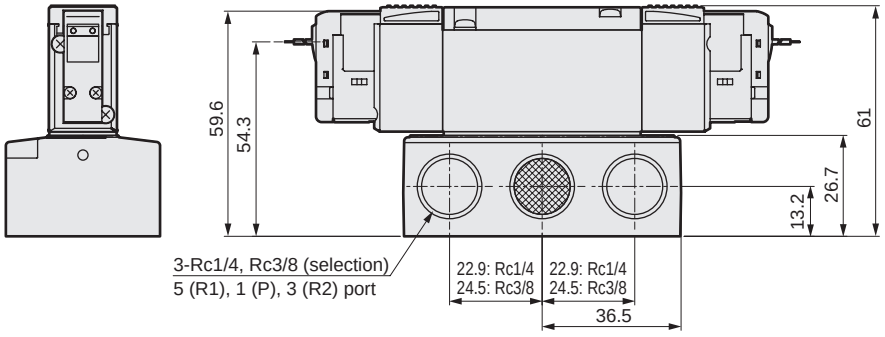
4GB320R-P7* * For the NPT thread and G thread specifications, refer to pages 494 to 503.

● 2-position double grommet lead wire (blank)

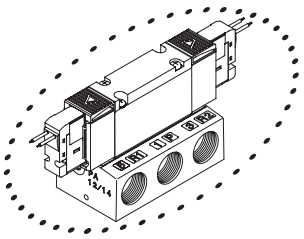


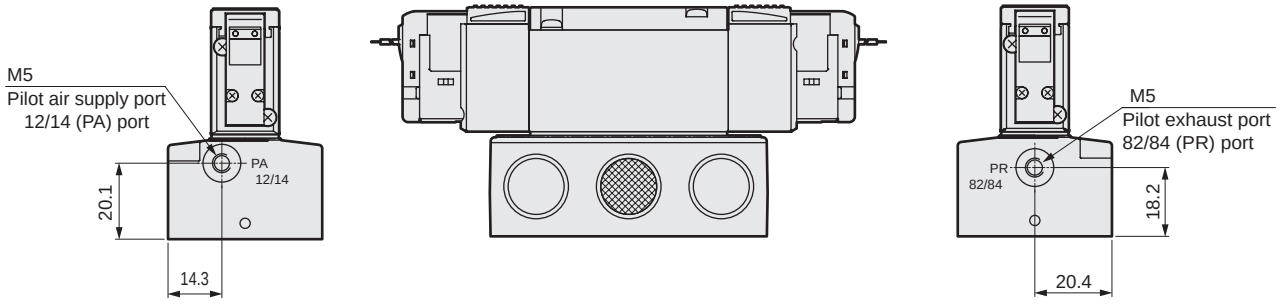






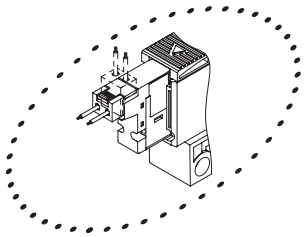
● External pilot (K)

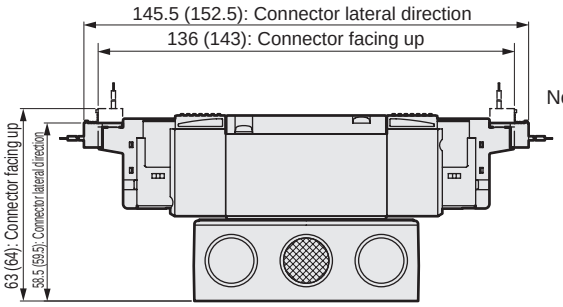




Dimensions

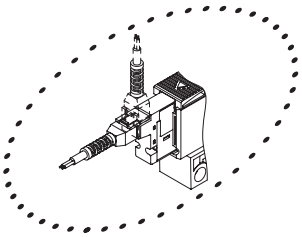
● E connector (E)

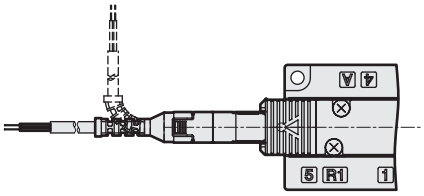




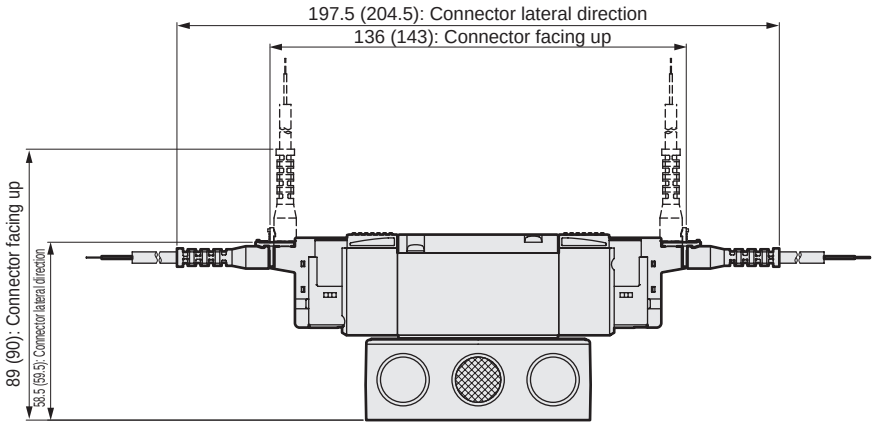
Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

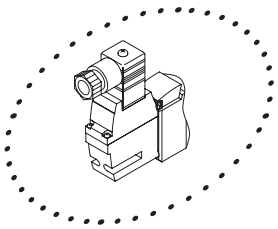


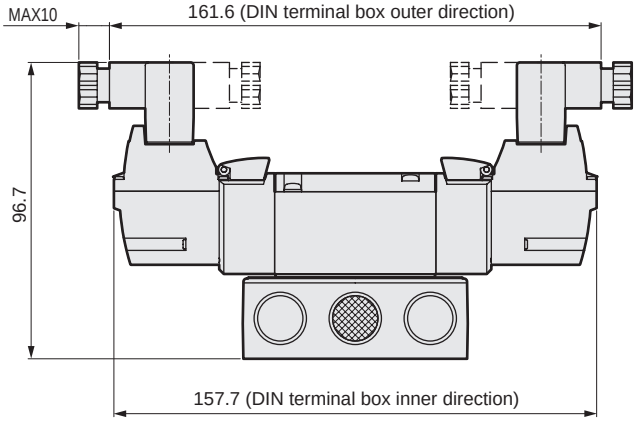


Note: Values in ( ) are applicable to AC voltages.



● DIN terminal box (B)



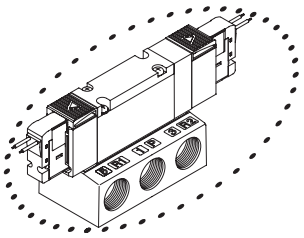


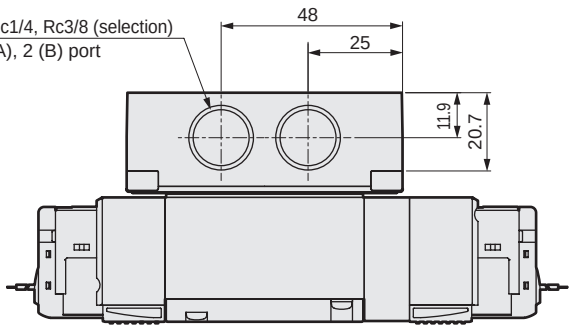
Note: The DIN terminal box assembly is shipped facing inward.

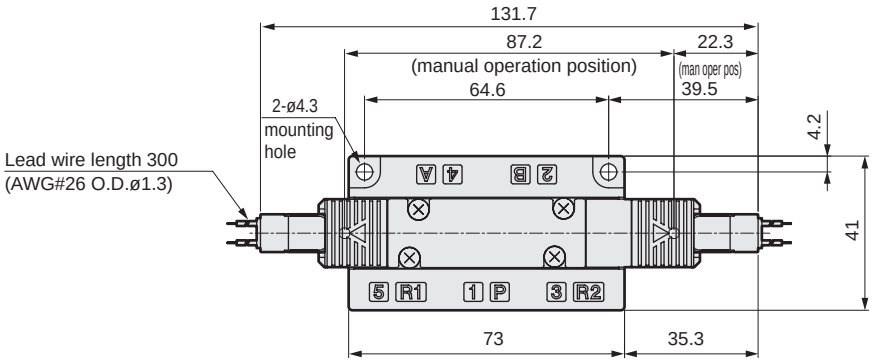
Dimensions CAD

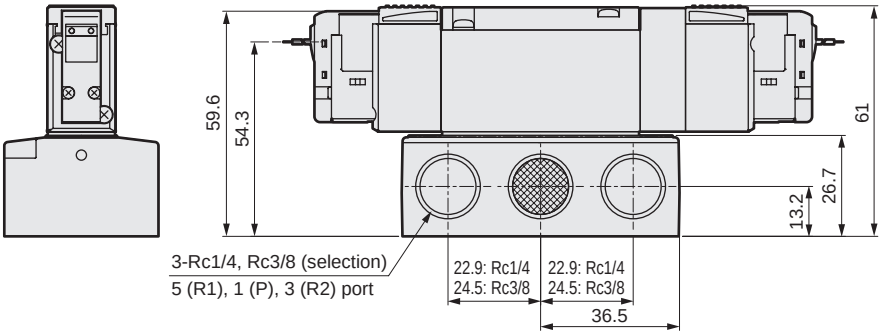
4GB3 $^{3}_{4}_{5}$ 0R-P7* * For the NPT thread and G thread specifications, refer to pages 494 to 503.

● 3 position grommet lead wire (blank)

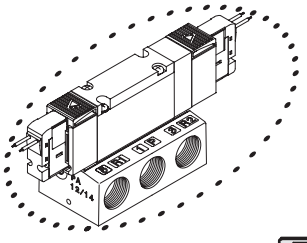


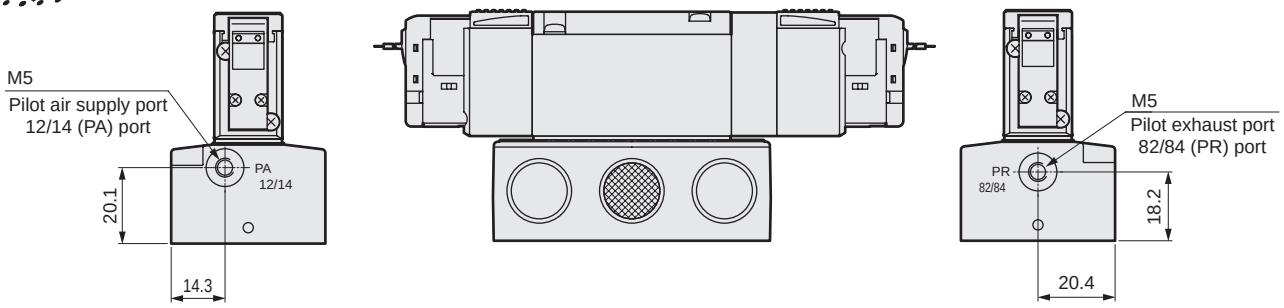






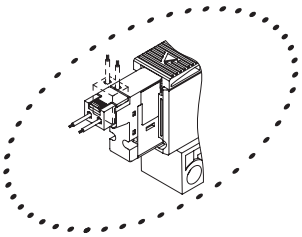
● External pilot (K)

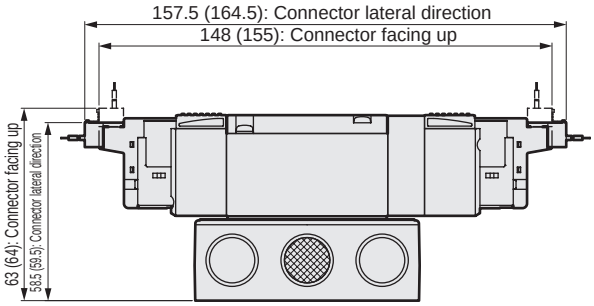




Dimensions

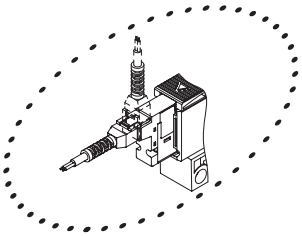
● E connector (E)

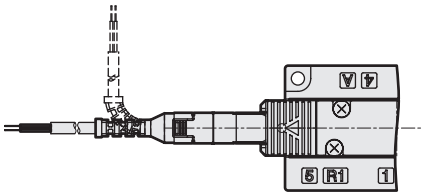




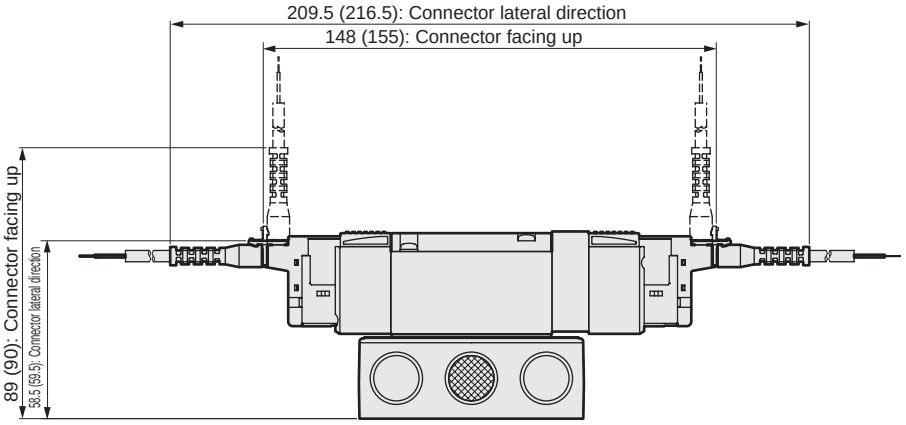
Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

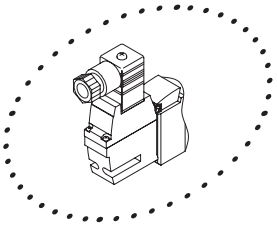


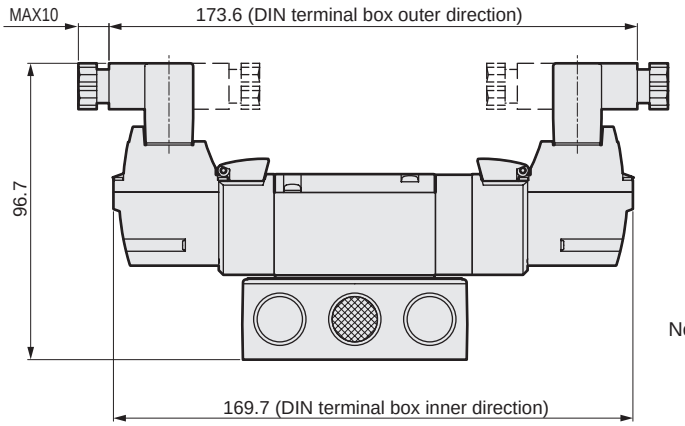


Note: Values in ( ) are applicable to AC voltages.



● DIN terminal box (B)



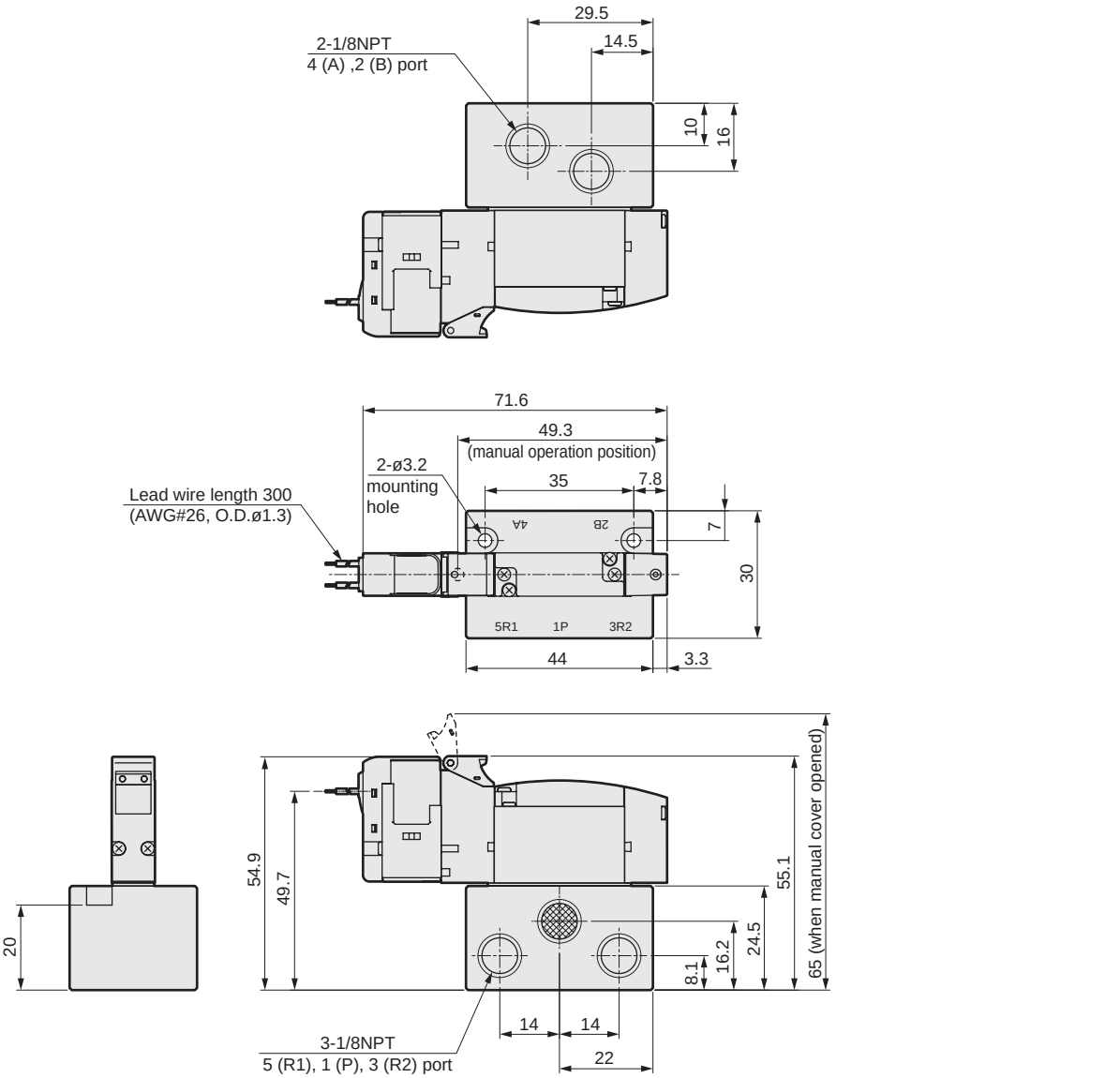


Note: The DIN terminal box assembly is shipped facing inward.

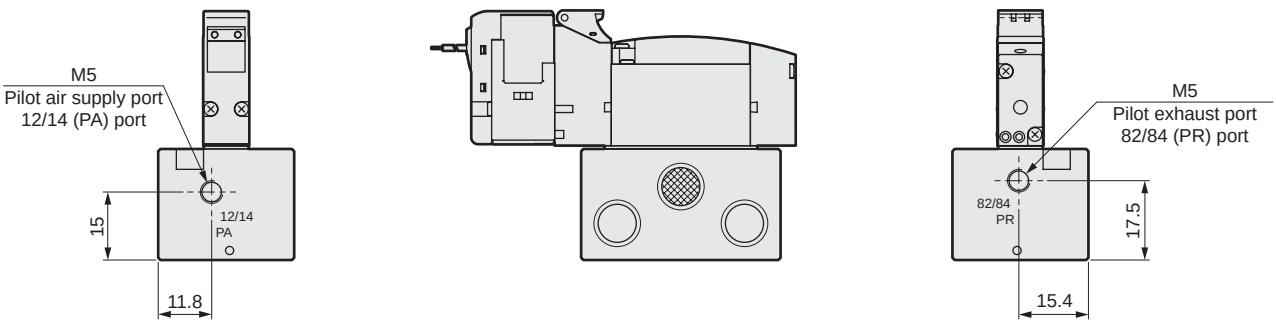
Dimensions Port size; NPT thread

3GB1$^{66}_{67}_{76}_{77}$0R-P7*, 4GB1$^{1}_{2}_{3}_{4}_{5}$0R-P7*

● 2-position single grommet lead wire (blank)

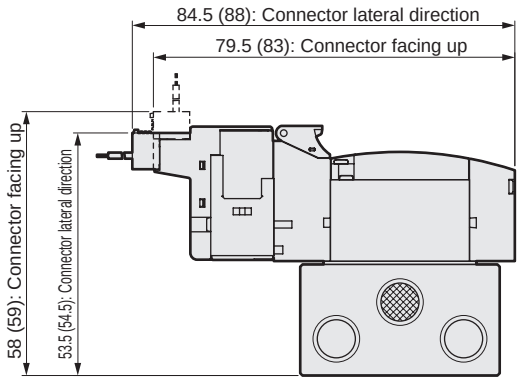


● External pilot (K)



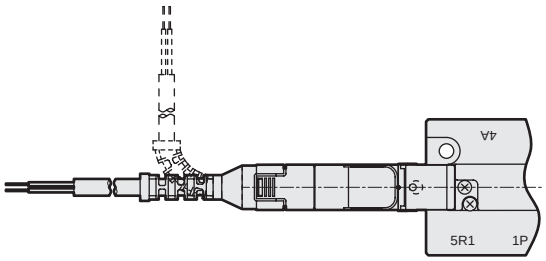
Dimensions Port size; NPT thread

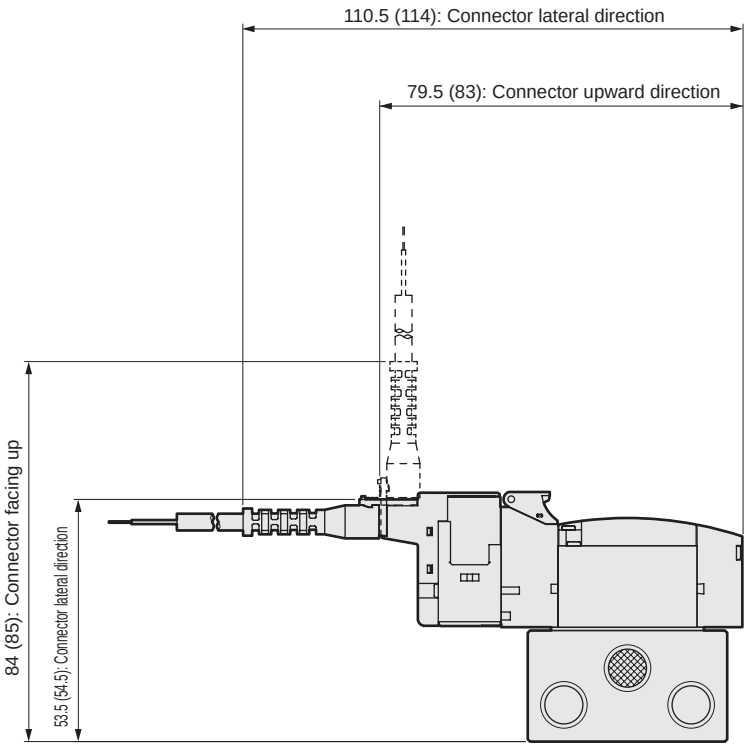
● E connector (E)



Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)

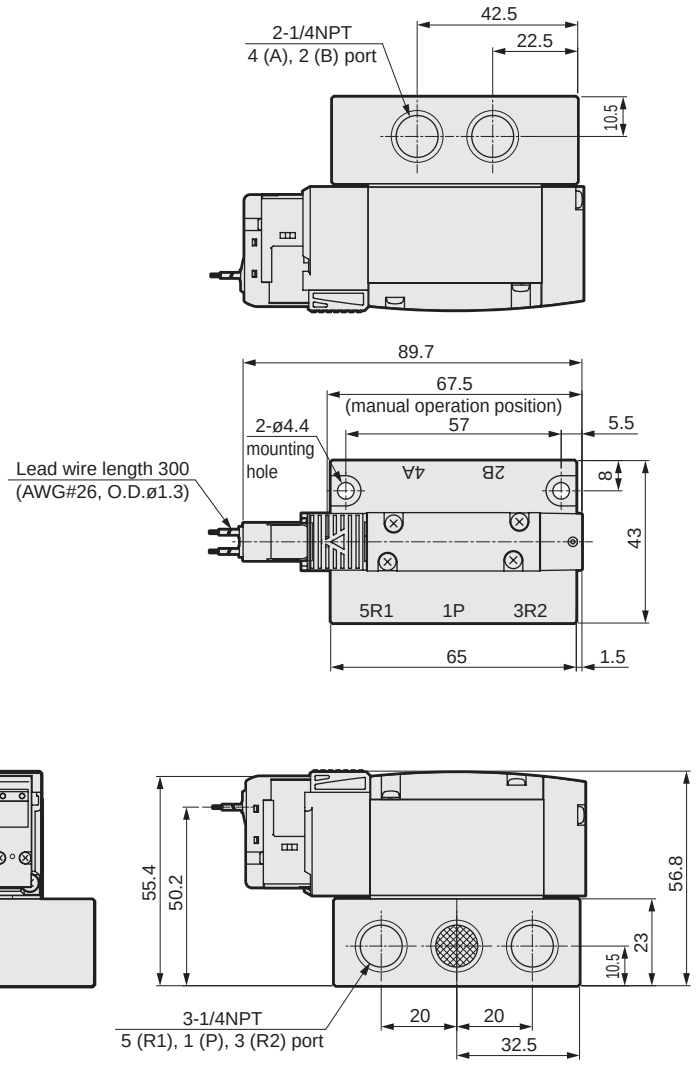




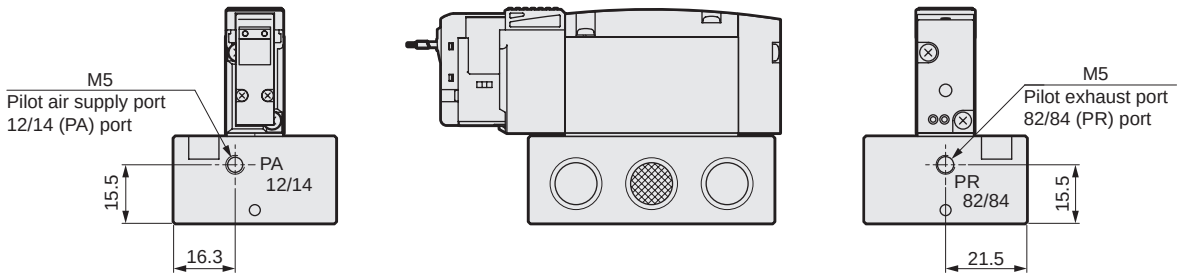
Dimensions Port size; NPT thread

3GB2$^{66}_{67}_{76}_{77}$0R-P7*, 4GB2$^{1}_{2}_{3}_{4}_{5}$0R-P7*

● 2-position single grommet lead wire (blank)

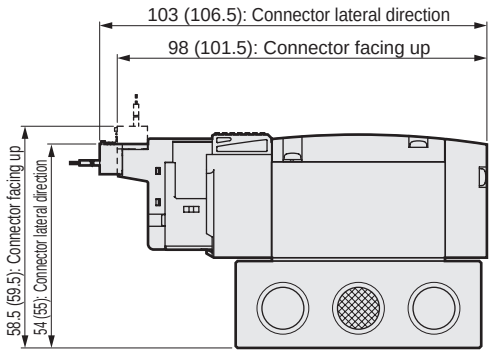


● External pilot (K)



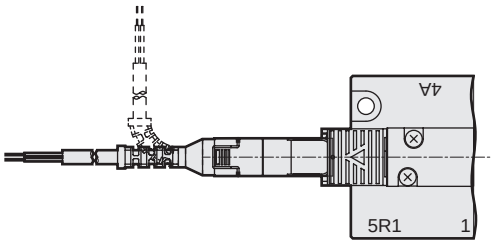
Dimensions Port size; NPT thread

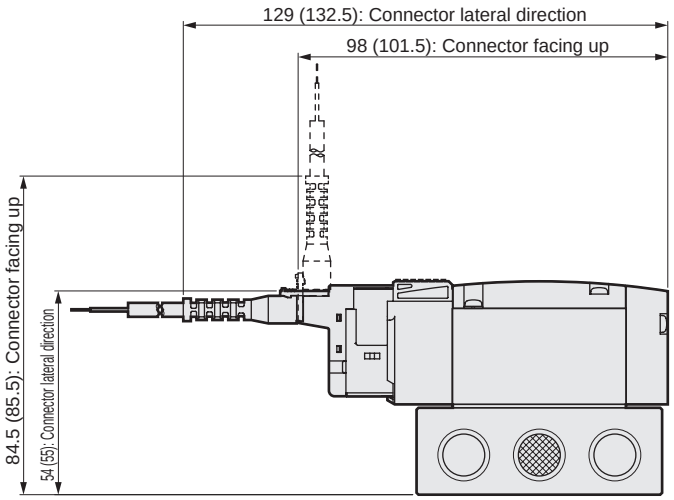
● E connector (E)



Note: Values in ( ) are applicable to AC voltages.

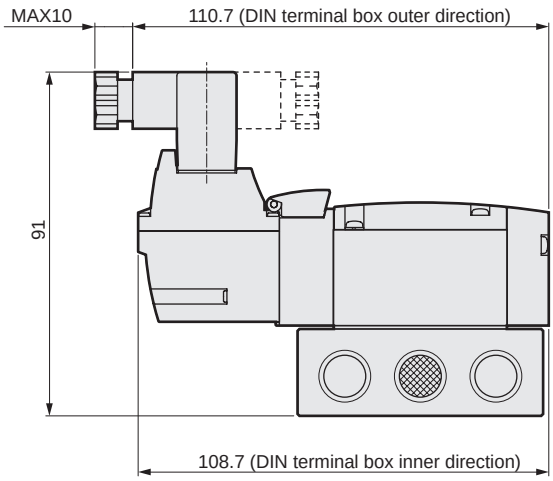
● EJ connector (E**J)





Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)

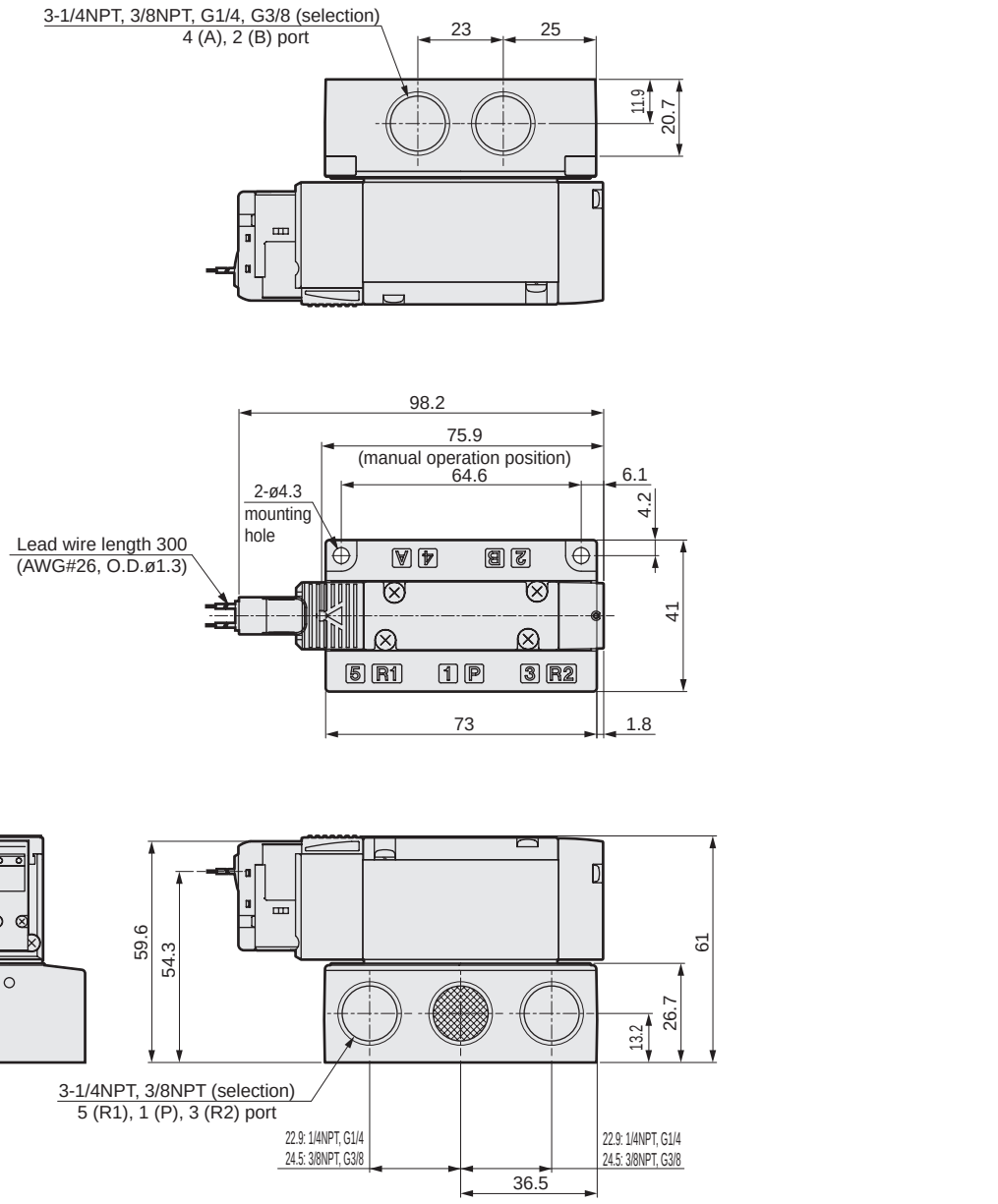


Note: The DIN terminal box assembly is shipped facing inward.

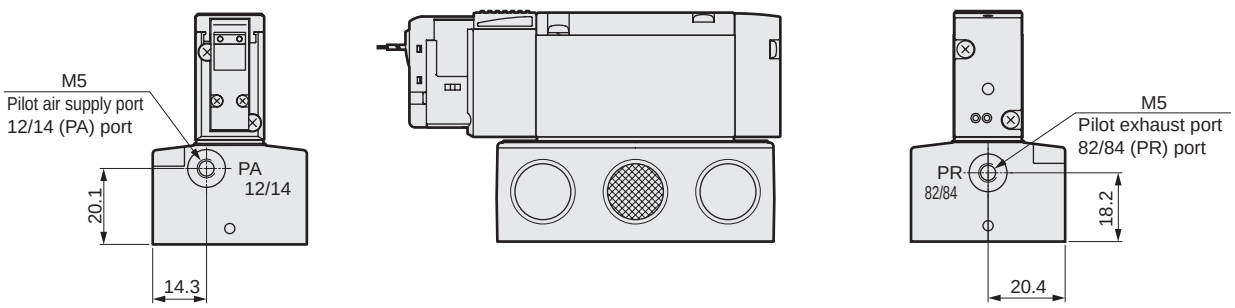
Dimensions Port size; NPT thread

4GB3 $^{1}_{2}_{3}_{4}_{5}$0R-P7*

● 2-position single grommet lead wire (blank)

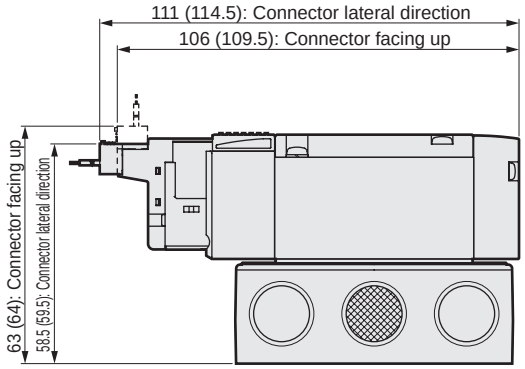


● External pilot (K)



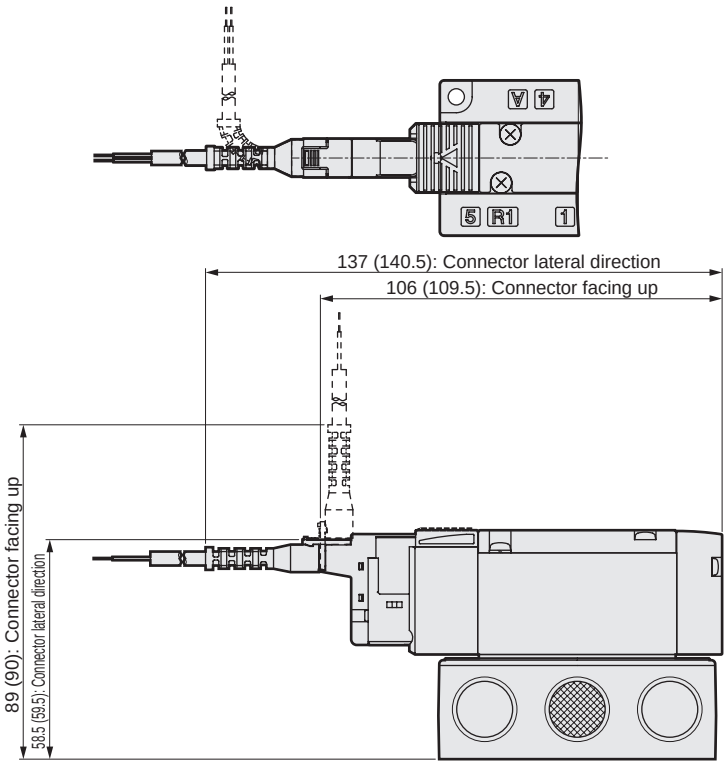
Dimensions Port size; NPT thread

● E connector (E)



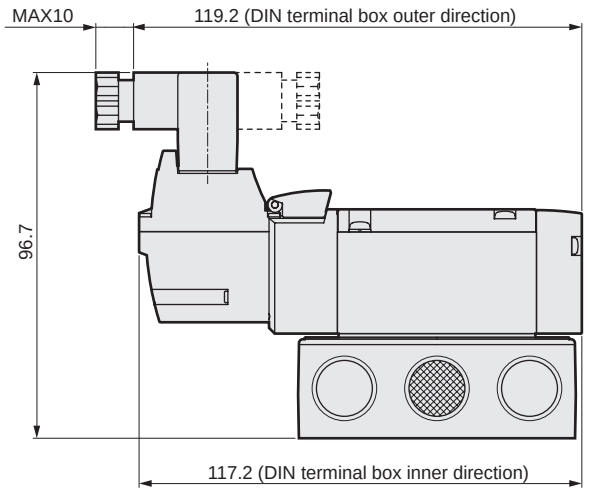
Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)



Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)

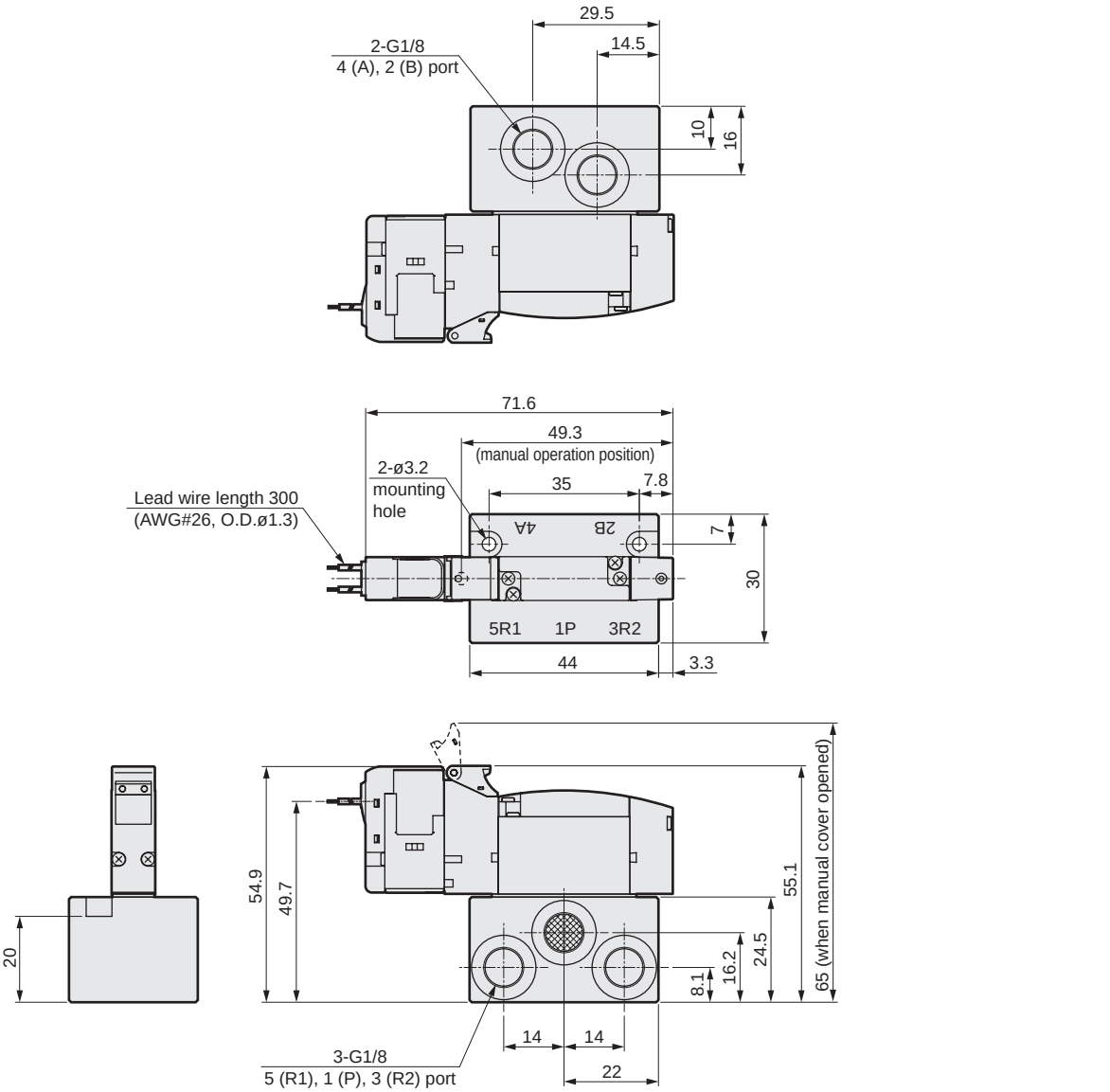


Note: The DIN terminal box assembly is shipped facing inward.

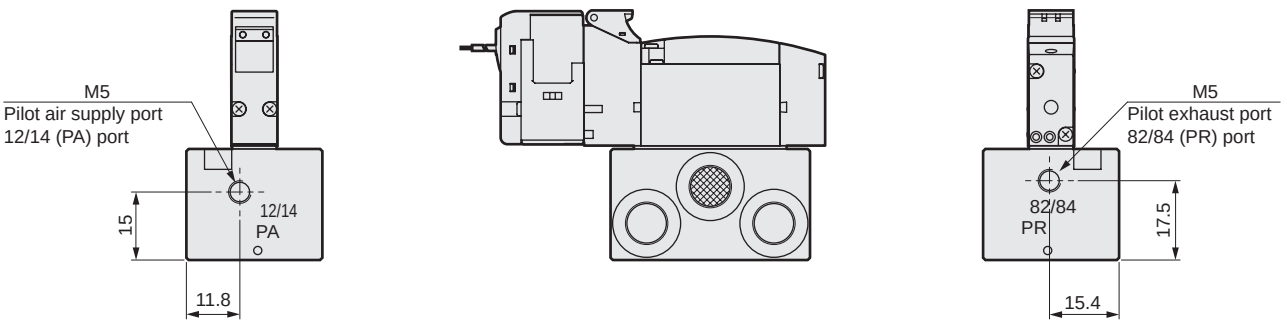
Dimensions Port size; G thread

3GB1$^{66}_{67}_{76}_{77}$0R-P7*, 4GB1$^{1}_{2}_{3}_{4}_{5}$0R-P7*

● 2-position single grommet lead wire (blank)

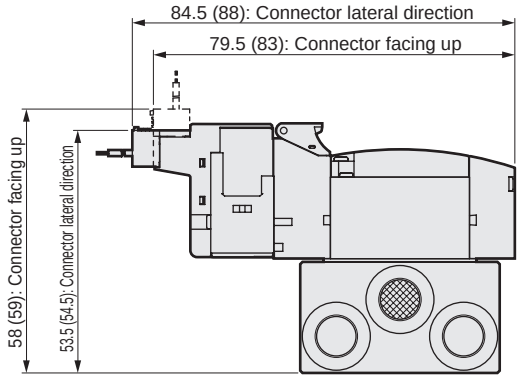


● External pilot (K)



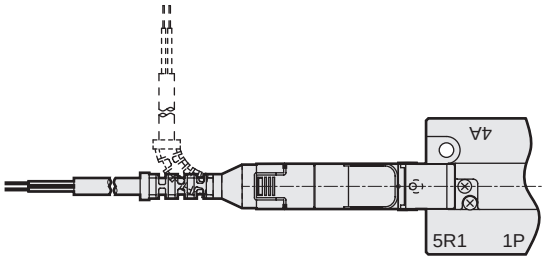
Dimensions Port size; G thread

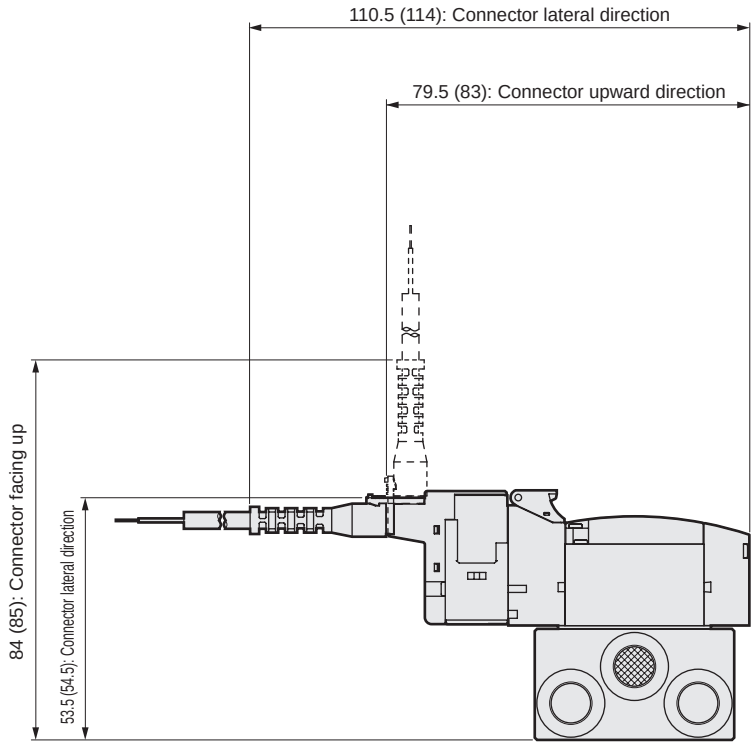
● E connector (E)



Note: Values in ( ) are applicable to AC voltages.

● EJ connector (E**J)



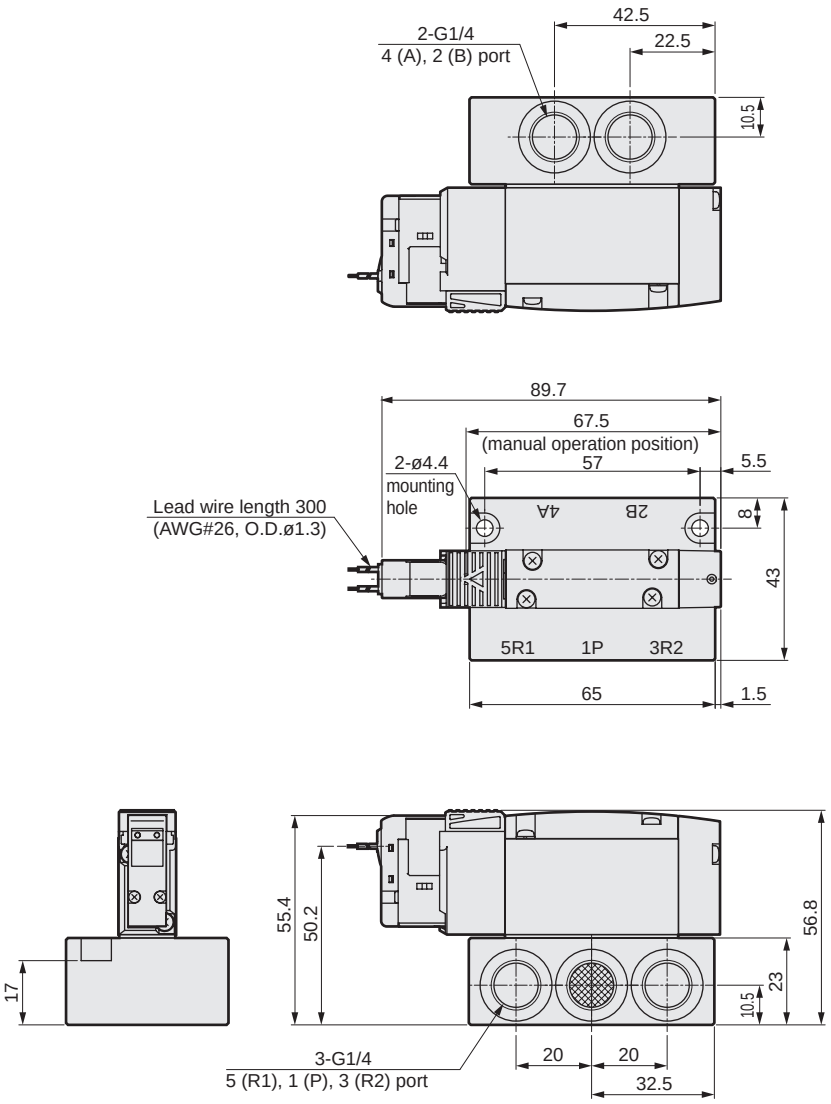


Note: Values in ( ) are for AC voltage.

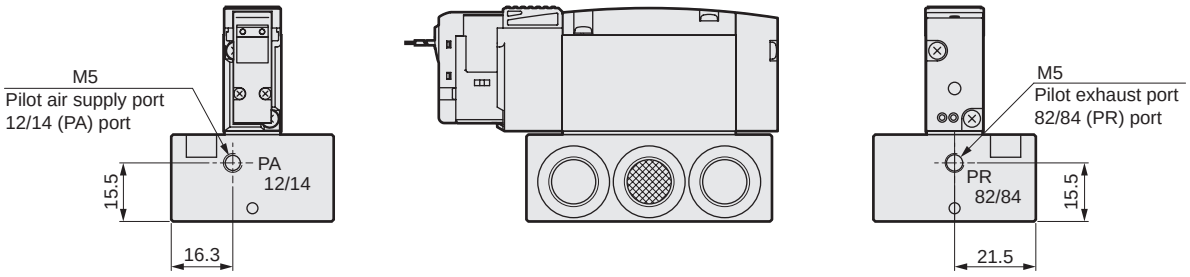
Dimensions Port size; G thread

3GB2$^{66}_{67}_{76}_{77}$0R-P7*, 4GB2$^{1}_{2}_{3}_{4}_{5}$0R-P7*

● 2-position single grommet lead wire (blank)

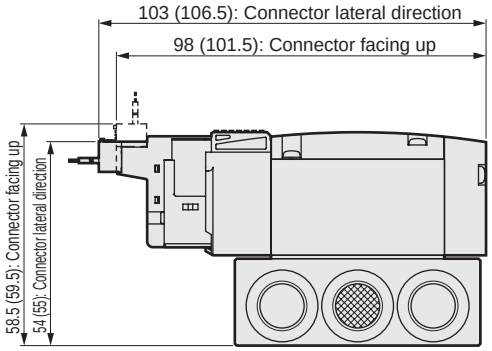


● External pilot (K)



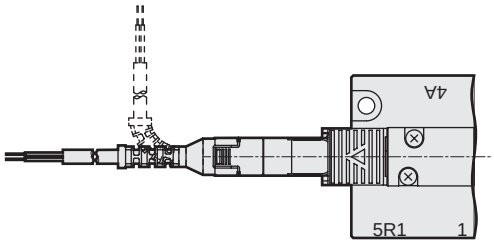
Dimensions Port size; G thread

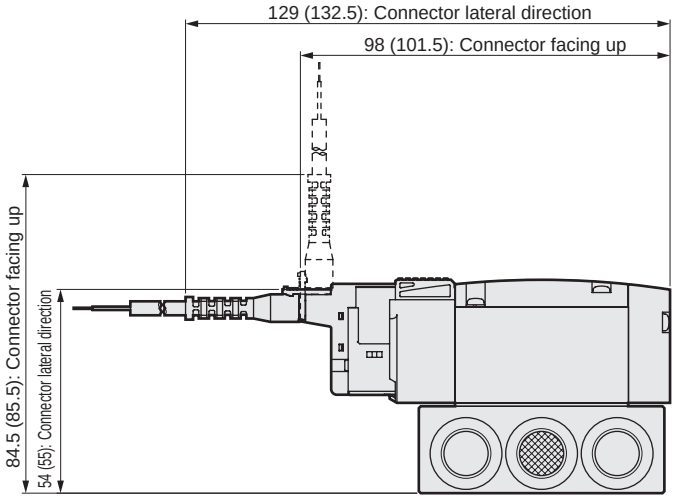
● E connector (E)



Note: Values in ( ) are applicable to AC voltages.

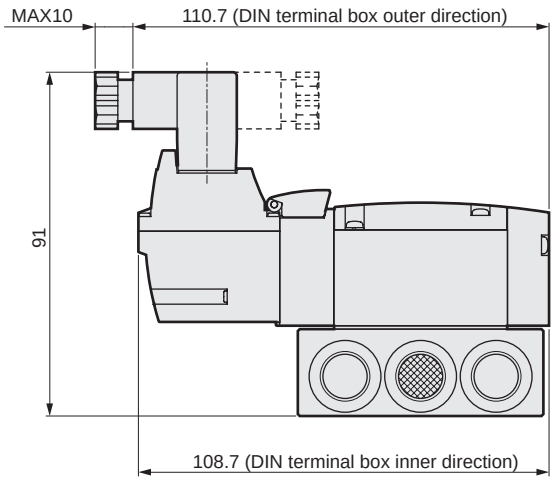
● EJ connector (E**J)



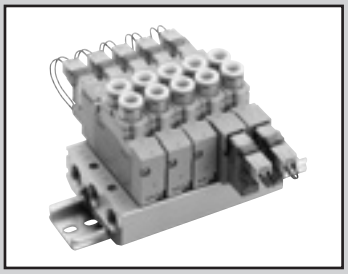


Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)



Note: The DIN terminal box assembly is shipped facing inward.



Individual wiring manifold
Body piping
Direct mount DIN rail mount

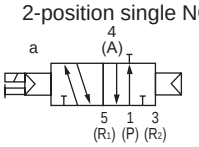
M3GA1, 2, 3-(D)/M4GA1, 2, 3-(D) Series

● Applicable cylinder bore size: ø20 to ø100

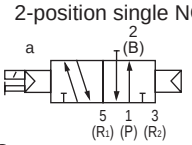
JIS symbol

● 3-port valve

2-position single NC

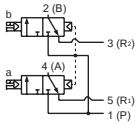


2-position single NO

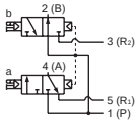


● Dual 3-port valve integrated

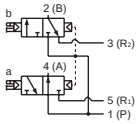
(A side valve: NC, B side valve: NC)



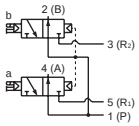
(A side valve: NC, B side valve: NO)



(A side valve: NO, B side valve: NC)

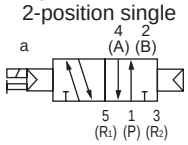


(A side valve: NO, B side valve: NO)

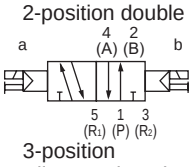


● 5-port valve

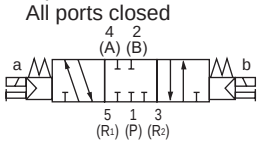
2-position single



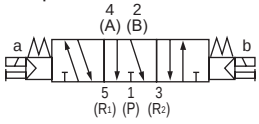
2-position double



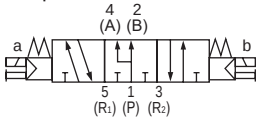
3-position
All ports closed



3-position A/B/R connection



3 positions P/A/B connection



Structure and material restriction

	Structure	Material restriction			Model No.
P7 Series	Dust generation preventing				−P70
	Dust generation preventing	Copper-based materials prohibited	Silicon-based materials prohibited	Halogen-based materials prohibited (fluorine, chlorine, bromine)	−P74 Custom order product

Manifold common specifications

Item		Description
Manifold		Integrated base
Mounting method		Direct mount/DIN rail mount
Air supply and exhaust method		Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Internal pilot	Main valve/pilot valve common exhaust (Pilot exhaust check valve built-in)
	External pilot	Main valve/pilot valve individual exhaust
Piping direction		Valve top direction
Valve and operation		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure MPa		0.7
Min. working pressure MPa		0.2 (*3)
Proof pressure MPa		1.05
Ambient temperature °C		-5 to 55 (no freezing)
Fluid temperature °C		5 to 55
Manual override		Non-locking/locking common (standard)
Lubrication (*1)		Not required
Degree of protection (*2)		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 environments

*1: Use turbine oil Class 1 ISO VG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
*2: Avoid water drops or oil, etc., during use. IP65 (water jet proof) applies for DIN terminal box specifications. However, the specified outer diameter of the cord and tightening torque must be used for fixing in place.
*3: The working pressure range is 0 to 0.7MPa when the external pilot (option code: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

Electrical specifications

Item			Description					
Rated voltage	V		24 VDC	12 VDC	5 VDC	3 VDC	100 VAC	200 VAC
Voltage fluctuation range			±10%					
Holding current	A (*4)	Standard	0.015 (0.017)	0.030 (0.034)	0.072 (0.082)	0.120 (0.136)	0.009 (0.009)	0.006 (0.006)
		Low exoergic/energy-saving circuit built-in	0.005	0.010	-		-	
Power consumption	W (*4)	Standard	0.35 (0.40)		0.35 (0.40)		-	
		Low exoergic/energy-saving circuit built-in	0.1		-		-	
Apparent power (*4) (*5)	VA	Standard	-		-		0.93 (0.98)	1.40
Thermal class			B					
Surge suppressor			Option					
Indicator			Lamp (option)					

*4: Values in ( ) apply when with lamp option. A of low exoergic/energy-saving circuit built-in is only available with a lamp attached.
*5: The value for 200 VAC applies DIN terminal box (with lamp).

Individual specifications

Descriptions				M3GA1/M4GA1		M3GA2/M4GA2		M3GA3/M4GA3	
				Direct mount	DIN rail mount	Direct mount	DIN rail mount	Direct mount	DIN rail mount
Max. station number		Standard (Internal pilot)		20 stations	16 stations	20 stations	16 stations	20 stations	16 stations
		External pilot		12 stations	12 stations				
Port size	Rc thread, M5	A/B port		Barbed fitting ø1.8 Push-in fitting ø1.8, ø4, ø6 M5		Push-in fitting ø4, ø6, ø8 Rc1/8		Push-in fitting ø6, ø8, ø10 Rc1/4	
		P/R1/R2 port		Rc1/8		Rc1/4		Rc3/8	
	NPT thread, M5	A/B port		Push-in fitting ø1.8 inch, ø5/32 inch M5		Push-in fitting ø1/4 inch, ø5/16 inch 1/8NPT		Push-in fitting ø5/16 inch, ø3/8 inch 1/4NPT (*6)	
		P/R1/R2 port		1/8NPT		1/4NPT		3/8NPT (*6)	
	G thread, M5	A/B port		Push-in fitting ø4, ø6 M5		Push-in fitting ø4, ø6, ø8 G1/8		-	
		P/R1/R2 port		G1/8		G1/4		-	
Manifold base Weight calculation formula (n: station No.) g			Standard	23n + 52	25n + 60	47n + 64	49n + 92	74n + 88	76n + 117
			External pilot	36n + 105	38n + 113	88n + 135	90n + 163	136n + 194	138n + 223

*6: This is a custom order product.

Refer to "Cautions for Mounting the DIN Rail" (page 754), and select the manifold.

For 10 or over manifold station No. (5 stations for 4G3), use ports on both side for air supply and exhaust.

The manifold base weight is the value for screw specifications.

Performance/characteristics by model

Item			M3GA1		M3GA2		M3GA3		M4GA1		M4GA2		M4GA3	
			ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
Response time ms	Two 3-port valves integrated		9	12	12	29	–	–	–	–	–	–	–	–
	2 position	Single	12	12	19	19	25	28	12	12	19	19	25	28
		Double	–	–	–	–	–	–	9	–	18	–	24	–
	3 position	ABR connection	–	–	–	–	–	–	8	15	17	30	23	45

Values with lamp/surge suppressor are shown. The response times are values with working pressure of 0.5 MPa at 20°C, without lubrication. They depend on the pressure and the lubricant quality.

Flow characteristics

Model No.	Solenoid position		P→A/B		A/B→R1/R2	
			C [dm³/(s·bar)]	b	C [dm³/(s·bar)]	b
M3GA1 M4GA1	Dual 3-port valve integrated		0.86	0.31	1.1 (0.66)	0.19 (0.22)
	2-position		0.99	0.20	1.2 (0.70)	0.20 (0.12)
	3-position	All ports closed	0.94	0.23	1.1 –	0.20 –
		ABR connection	0.93	0.18	1.3 (0.70)	0.23 (0.02)
		PAB connection	1.1	0.28	1.1 –	0.23 –
M3GA2 M4GA2	Dual 3-port valve integrated		1.7	0.40	2.3 (1.7)	0.29 (0.32)
	2-position		2.3	0.36	2.9 (1.7)	0.24 (0.33)
	3-position	All ports closed	2.1	0.35	2.5 –	0.32 –
		ABR connection	2.2	0.37	2.9 (1.8)	0.32 (0.29)
		PAB connection	2.4	0.34	2.5 –	0.33 –
M3GA3 M4GA3	2-position		3.2	0.37	3.8 (2.5)	0.13 (0.28)
	3-position	All ports closed	2.9	0.35	3.3 –	0.35 –
		ABR connection	3.0	0.34	3.8 (2.6)	0.12 (0.27)
		PAB connection	3.3	0.30	3.3 –	0.32 –

*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.

*2: Values in ( ) apply when the exhaust check valve attached.

Ozone proof specifications • Cutting oil prohibited specifications

This can be set by selecting option "A" of Ⓔ in how to order on page 507.

How to order

Manifold model No.

M 4GA1 1 0R - C6 - E2 H D - ○ - 3 - P70

3-port manifold model No.

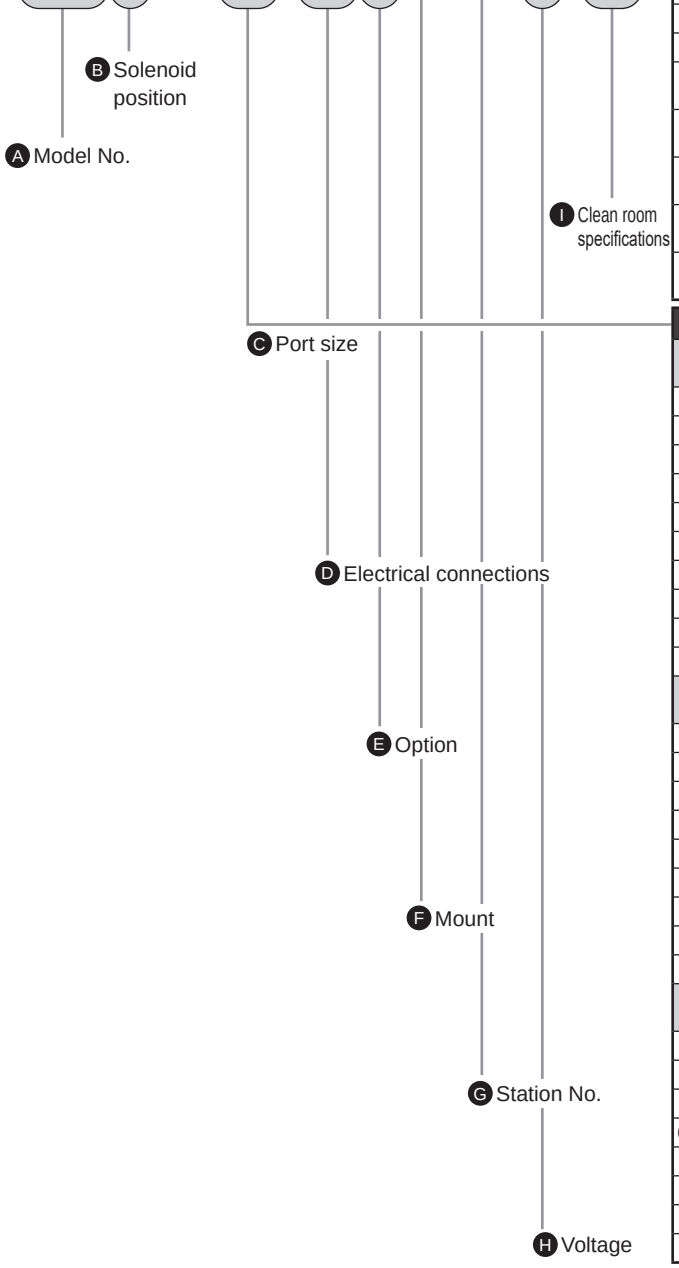
M 3GA1 1 0R - C6 - E2 H D - ○ - 3 - P70

● Discrete valve for mounting base

4GA1 1 9R - C6 - E2 H — 3 - P70

● Discrete 3-port valve for mounting base

3GA1 1 9R - C6 - E2 H — 3 - P70



* Be sure to fill in the "manifold specifications" (pages 609 through 623).

Code	Content		A Model No. 3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
B Solenoid position								
1	2-position single					●	●	●
2	2-position double					●	●	●
3	3-position all ports closed					●	●	●
4	3-position ABR connection					●	●	●
5	3-position P/A/B connection					●	●	●
1	2-position single normally closed	(*1)	●	●	●			
11	2-position single normally open	(*1)	●	●	●			
66	Dual 3-port valve integrated (*1, *2)	A side valve: Normally closed B side valve: Normally closed	●	●				
67		A side valve: Normally closed B side valve: Normally open	●	●				
76		A side valve: Normally open B side valve: Normally closed	●	●				
77		A side valve: Normally open B side valve: Normally open	●	●				
8	Mixed manifold (In case of multiple solenoid positions)		●	●	●	●	●	●

Port	4 (A)/2 (B) port	P/R1/R2 port (2)=Rc1/8 (3)=Rc1/4 (4)=Rc3/8					
CF	ø1.8 barbed fitting (applicable tube UP-9102-**)	(2)			(2)		
C18	ø1.8 push-in fitting (applicable tube UP-9402-**)	(2)			(2)		
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 (*3)	(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	P/R1/R2 port (5)=1/8NPT (3)=1/4NPT (4)=3/8NPT					
C3N	ø1/8 inch push-in fitting	(5)			(5)		
C4N	ø5/32 inch push-in fitting	(5)			(5)		
C6N	ø1/4 inch push-in fitting		(6)			(6)	
C8N	ø5/16 inch push-in fitting		(6)	(7)		(6)	(7)
C10N	ø3/8 inch push-in fitting			(7)			(7)
CXN	Push-in fitting mix (*3)	(5)	(6)	(7)	(5)	(6)	(7)
M5N	M5	(5)			(5)		
06N	1/8NPT		(6)			(6)	
08N	1/4NPT (*4)			(7)			(7)
Port	4 (A)/2 (B) port	P/R1/R2 port (8)=G1/8 (9)=G1/4					
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 (*3)	(8)	(9)	(10)	(8)	(9)	(10)
M5G	M5	(8)			(8)		
06G	G1/8		(9)			(9)	
08G	G1/4			(10)			(10)

⚠ Precautions for model No. selection

*1: Select M4GA*80R when mixing with the 3, 5-port valves. Select M3GA*80R when mixing with the masking plate.

*2: Combination with the external pilot (K) is not available. Dimensions are the same as the respective 2-position double solenoid.

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

*4: Custom order product.

		Ⓐ Model No.					
		3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Ⓓ Electrical connections							
Blank	Grommet lead wire (300 mm) (*12)	●	●	●	●	●	●
B	DIN terminal box (Pg7) with surge suppressor/lamp (*13)(*15)		●	●		●	●
BN	DIN terminal box (Pg7) (no terminal box) with surge suppressor (*13)(*15)		●	●		●	●
E connector (up/lateral common)							
E0	Lead wire (300 mm) (*14)	●	●	●	●	●	●
E00	Lead wire (500 mm) (*14)	●	●	●	●	●	●
E01	Lead wire (1000 mm) (*14)	●	●	●	●	●	●
E02	Lead wire (2000 mm) (*14)	●	●	●	●	●	●
E03	Lead wire (3000 mm) (*14)	●	●	●	●	●	●
E0N	Without lead wire (without socket) (*14)	●	●	●	●	●	●
E1	Without lead wire (with socket/terminal) (*14)	●	●	●	●	●	●
E2	Lead wire (300 mm) with surge suppressor/lamp	●	●	●	●	●	●
E20	Lead wire (500 mm) with surge suppressor/lamp	●	●	●	●	●	●
E21	Lead wire (1000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E22	Lead wire (2000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E23	Lead wire (3000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E2N	Without lead wire (without socket) with surge suppressor/lamp	●	●	●	●	●	●
E3	Without lead wire (with socket/terminal) with surge suppressor/lamp	●	●	●	●	●	●
EJ connector (socket with cover, up/lateral common)							
E01J	Lead wire (1000 mm) (*14)	●	●	●	●	●	●
E02J	Lead wire (2000 mm) (*14)	●	●	●	●	●	●
E03J	Lead wire (3000 mm) (*14)	●	●	●	●	●	●
E21J	Lead wire (1000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E22J	Lead wire (2000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E23J	Lead wire (3000 mm) with surge suppressor/lamp	●	●	●	●	●	●
Ⓔ Option							
Blank	Non-locking and locking model shared manual override	●	●	●	●	●	●
M	Non-locking manual override	●	●	●	●	●	●
H	With exhaust check valve (*5)	●	●	●	●	●	●
K	External pilot (*6)	●	●	●	●	●	●
A	Ozone/cutting oil compatible	●	●	●	●	●	●
S	Surgeless (*7)	●	●	●	●	●	●
E	Low exoergic/energy-saving circuit (*7) (*8)	●	●	●	●	●	●
F	Built-in A/B port filter (*9)	●	●	●	●	●	●
Z1	Air supply spacer (*10)	●	●	●	●	●	●
Z3	Exhaust spacer (*10)	●	●	●	●	●	●
Ⓕ Mount							
Blank	Direct mount	●	●	●	●	●	●
D	DIN rail mount	●	●	●	●	●	●
Ⓖ Station No.							
2	2 stations	●	●	●	●	●	●
to	to						
20	Refer to page 505 for the maximum station number for each model.						
Ⓗ Voltage							
1	100 VAC (with rectifier circuit)	●	●	●	●	●	●
2	200 VAC (with rectifier circuit) (*11)		●	●		●	●
3	24 VDC	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●
7	3 VDC	○	○	○	○	○	○
8	5 VDC	○	○	○	○	○	○

Ⓘ Clean room specifications (*15, 16, 17)

	Structure	Material restriction						
P70	Exhaust treatment	-	●	●	●	●	●	●
P74	Exhaust treatment	Copper-/silicon-/halogen-based materials (fluorine, chlorine, bromine) are prohibited.	○	○	○	○	○	○

is not available.

○ Custom order products. Contact CKD for details.

***5: 3-position all ports closed and P/A/B connection are not provided with the exhaust check valve (H).**
Refer to page 751 for details on the exhaust check.

*6: Contact CKD when using a vacuum with the external pilot (K).

7: Only E2 and E2*J connectors and 12/24 VDC are supported. In addition, selecting a combination of surgeless "S" and the low exoergic/energy-saving circuit "E" is not allowed.

*8: Applicable to surgeless specifications

*9: P port is equipped with a filter as standard.

***10: The mounting position and the quantity of spacers should be specified in the manifold specifications of each catalog. Stacking multiple spacers is not supported. Combination with the masking plate is not supported. Refer to pages 592 to 595 for details.**

*11: Supported only for the DIN terminal box.

*12: The grommet lead wire specifications are only applicable to DC voltages.

*13: AC voltage and 12/24 VDC are supported. The lamp is incorporated in the terminal box.

*14: AC voltage is provided with a rectifier circuit.

*15: The terminal box is a EN175301-803Type C (old DIN 43650-C) compliant product. Refer to page 756 for details.

*16: A (ozone compatible) and Ⓘ clean room specifications P74 cannot be combined.

*17: Copper-, silicon-, and halogen-free specifications are available as main valve part support.

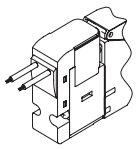
*18: P74 Series is a custom order product.

Electrical connections

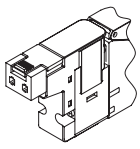
Discrete valve/individual wiring manifold

Blank Grommet lead wire

● Lead wire length
300 mm

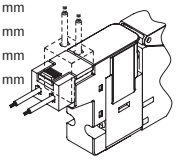


E1 E3 E connector with socket/terminal

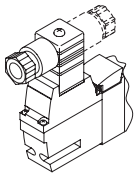


E0 E2 E connector

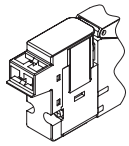
● Lead wire length
300 mm
500 mm
1000 mm
2000 mm
3000 mm



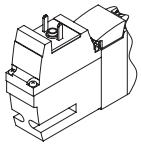
B DIN terminal box



E0N E2N E connector without socket

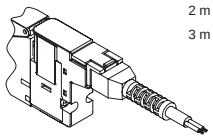


BN DIN terminal box (no terminal box)



E0*J E2*J EJ connector

● Lead wire length
1 m
2 m
3 m

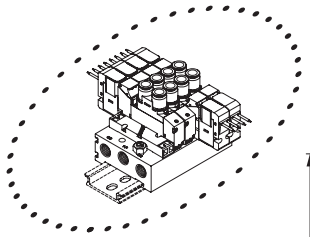


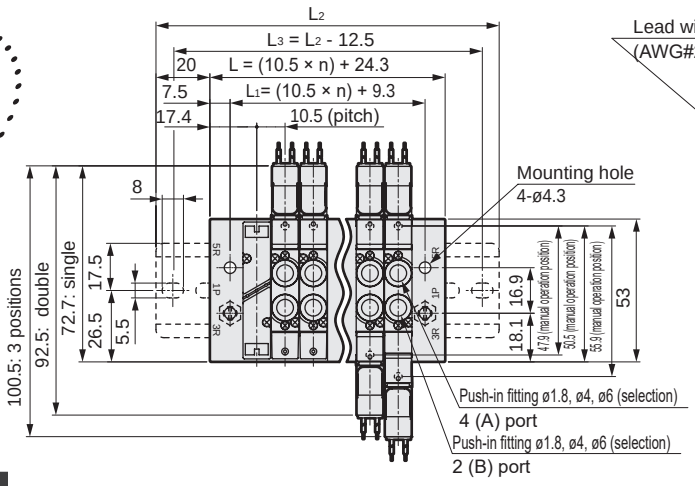
Dimensions CAD

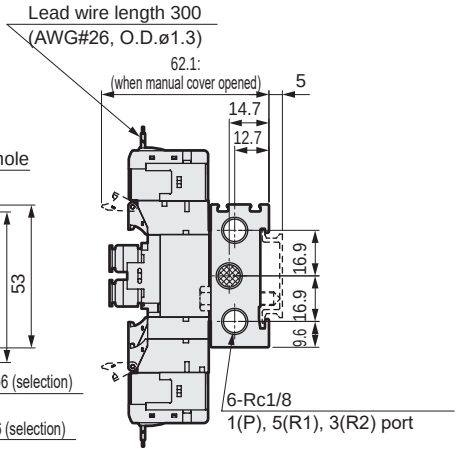
M4GA1-P7*

● Grommet lead wire (blank)

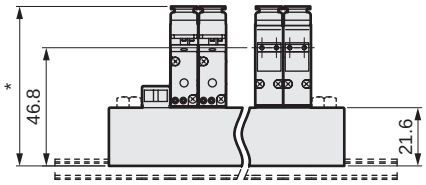
* For 2-position single 3-port valve, port A or port B is a plug. In addition, the dual 3-port valve integrated has the same dimensions as the double model.
* Refer to page 755 for details on mounting holes.



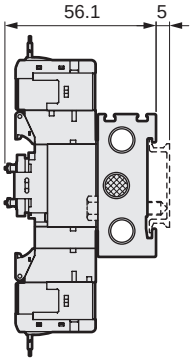




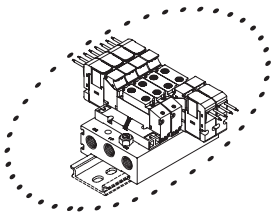
Push-in fitting bore size	*Dimensions
ø1.8	54
ø4	58
ø6	59.2
ø1/8 inch	58.5
ø5/32 inch	58

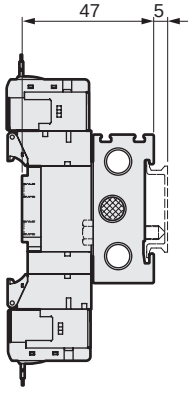


● ø1.8 barbed fitting (CF)

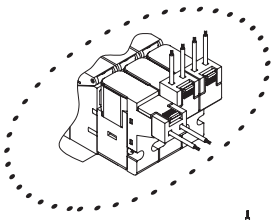


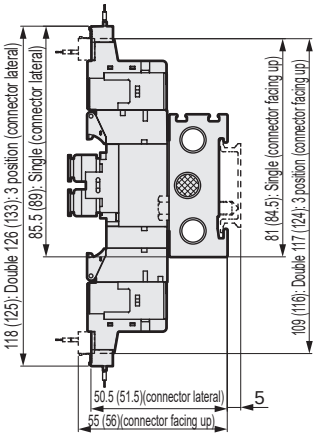
● M5 female thread (M5)



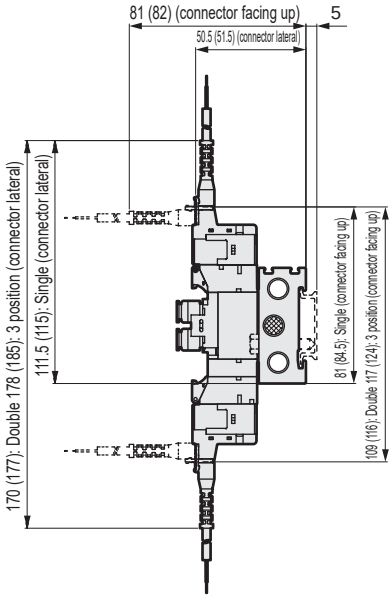


● E connector (E)





● EJ connector (E ** J)



Note: Values in ( ) are applicable to AC voltages.

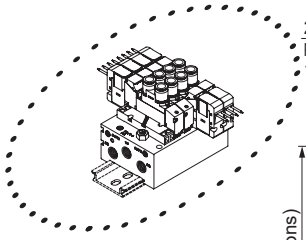
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	45.3	55.8	66.3	76.8	87.3	97.8	108.3	118.8	129.3	139.8	150.3	160.8	171.3	181.8	192.3	202.8	213.3	223.8	234.3
L1	30.3	40.8	51.3	61.8	72.3	82.8	93.3	103.8	114.3	124.8	135.3	145.8	156.3	166.8	177.3	187.8	198.3	208.8	219.3
L2	87.5	100.0	112.5	125.0	137.5	150.0	150.0	162.5	175.0	187.5	200.0	212.5	212.5	225.0	237.5				
L3	75.0	87.5	100.0	112.5	125.0	137.5	137.5	150.0	162.5	175.0	187.5	200.0	200.0	212.5	225.0				

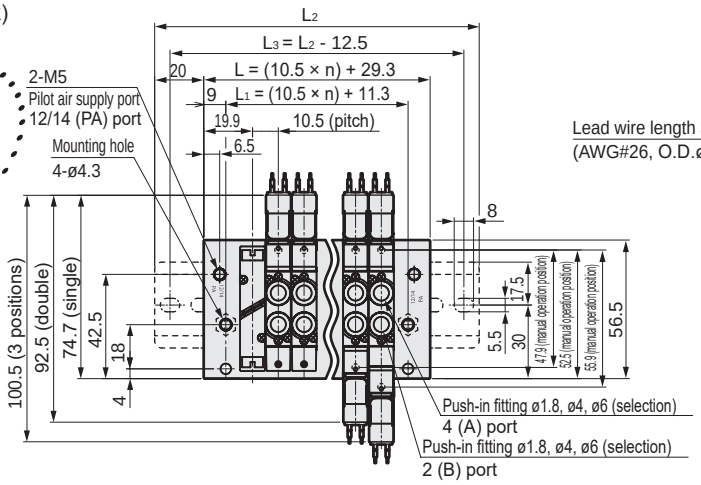
Dimensions

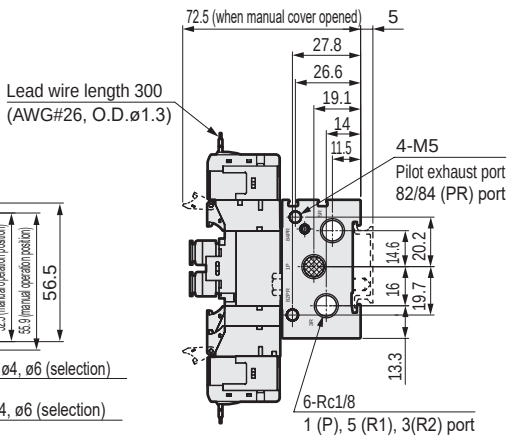
M4GA1-P7*

* For 2-position single 3-port valve, port A or port B is a plug.
* Refer to page 755 for details on mounting holes.

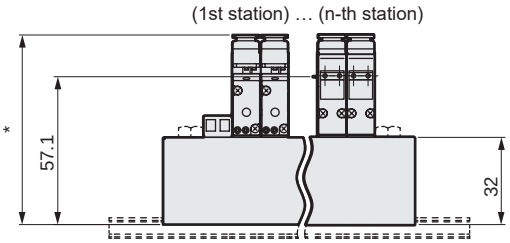
● External pilot (K)
Grommet lead wire (blank)



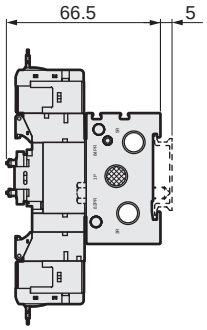




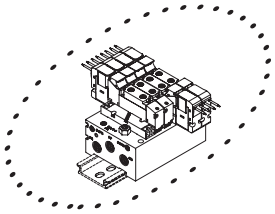
Push-in fitting bore size	*Dimensions
ø1.8	64.4
ø4	68.4
ø6	69.6
ø1/8 inch	68.9
ø5/32 inch	68.4

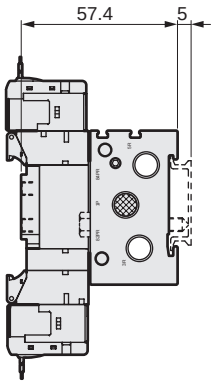


● ø1.8 barbed fitting (CF)

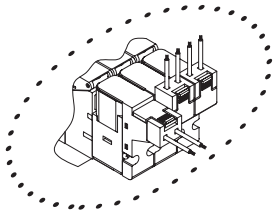


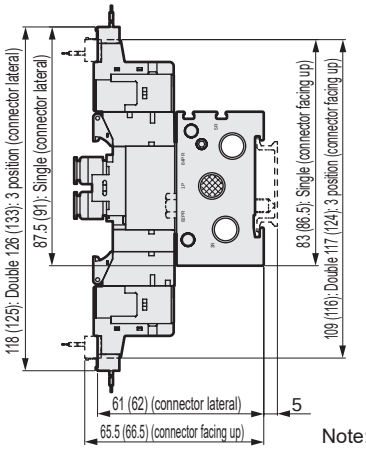
● External pilot (K)
M5 female thread (M5)



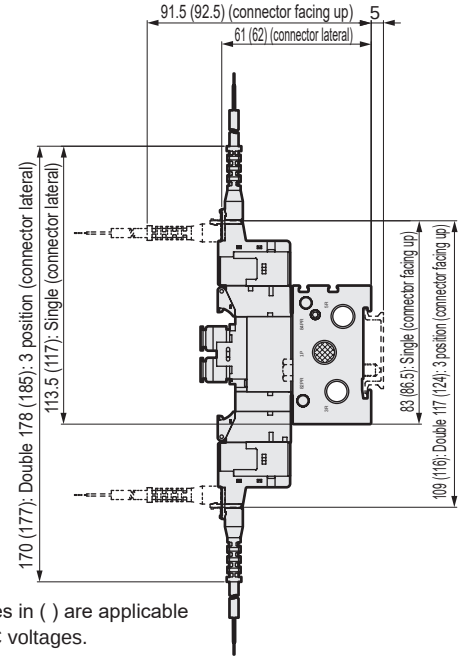


● External pilot (K)
E connector E





● External pilot (K)
EJ connector (E**J)



Note: Values in ( ) are applicable to AC voltages.

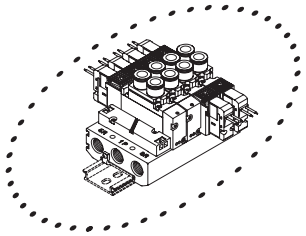
Station No.	2	3	4	5	6	7	8	9	10	11	12
L	50.3	60.8	71.3	81.8	92.3	102.8	113.3	123.8	134.3	144.8	155.3
L1	32.3	42.8	53.3	63.8	74.3	84.8	95.3	105.8	116.3	126.8	137.3
L2	100.0	112.5	112.5	125.0	137.5	150.0	162.5	175.0	175.0	187.5	200.0
L3	87.5	100.0	100.0	112.5	125.0	137.5	150.0	162.5	162.5	175.0	187.5

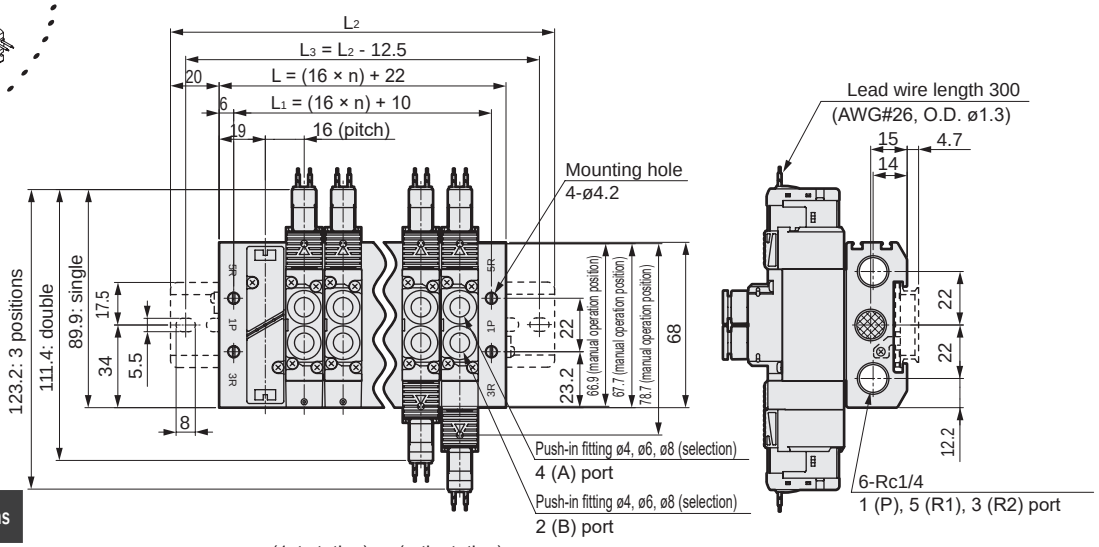
Dimensions CAD

M4GA2-P7*

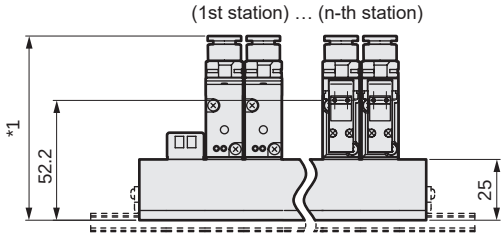
● Grommet lead wire (blank)

* For 2-position single 3-port valve, port A or port B is a plug. In addition, the dual 3-port valve integrated has the same dimensions as the double model.
* Refer to page 754 for details on mounting holes.

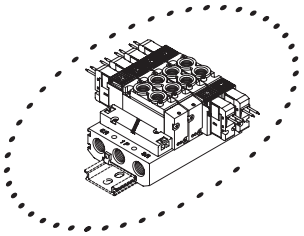


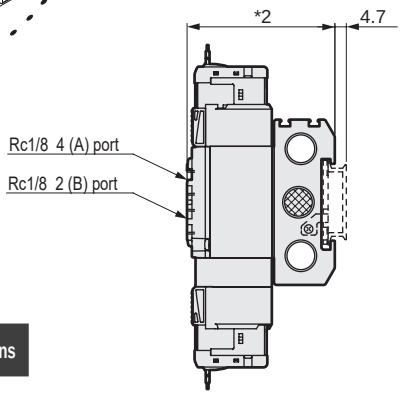


Push-in fitting bore size	*1 Dimensions
ø4	76
ø6	
ø8	
ø1/4 inch	76.9
ø5/16 inch	76.2



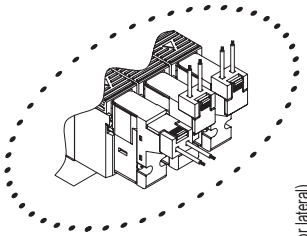
● Rc1/8 female thread (06)



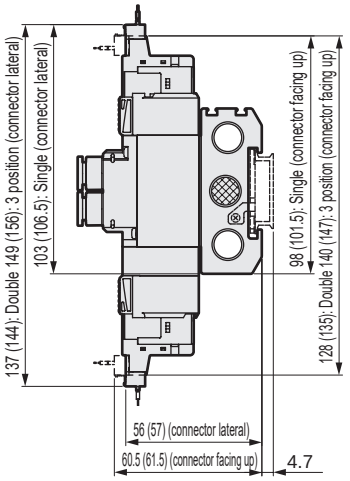


Female thread size	*2 Dimensions
Rc1/8	60.8
1/8NPT	62.1
G1/8	

● E connector (E)



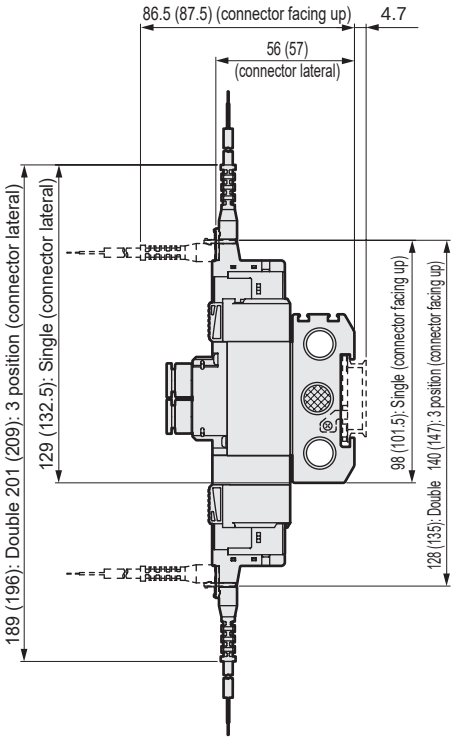
Note: Values in ( ) are applicable to AC voltages.



Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	54.0	70.0	86.0	102.0	118.0	134.0	150.0	166.0	182.0	198.0	214.0	230.0	246.0	262.0	278.0	294.0	310.0	326.0	342.0
L1	42.0	58.0	74.0	90.0	106.0	122.0	138.0	154.0	170.0	186.0	202.0	218.0	234.0	250.0	266.0	282.0	298.0	314.0	330.0
L2	100.0	112.5	137.5	150.0	162.5	175.0	200.0	212.5	225.0	250.0	262.5	275.0	287.5	312.5	325.0				
L3	87.5	100.0	125.0	137.5	150.0	162.5	187.5	200.0	212.5	237.5	250.0	262.5	275.0	300.0	312.5				

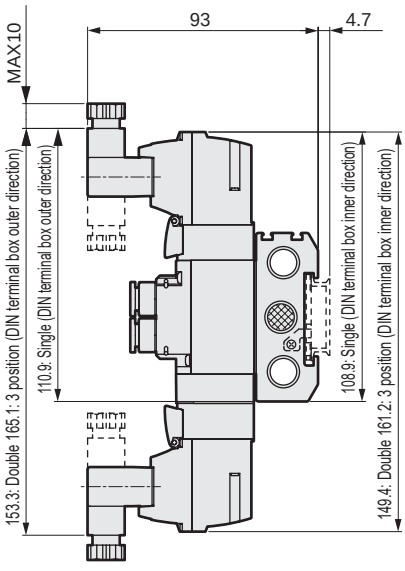
Dimensions

● EJ connector (E**J)



Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)



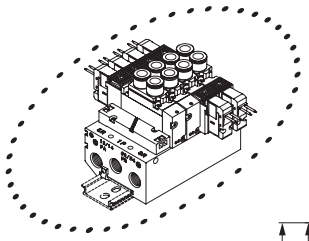
Note: The DIN terminal box assembly is shipped facing inward.

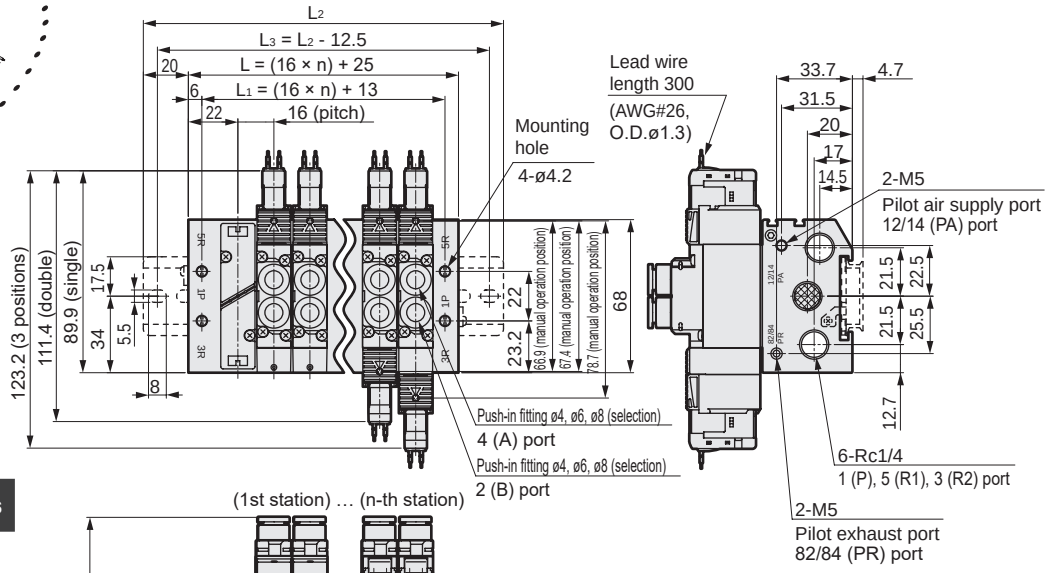
Dimensions CAD

M4GA2-P7*

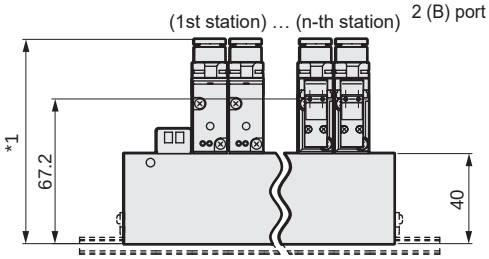
● External pilot (K)
Grommet lead wire (blank)

* For 2-position single 3-port valve, port A or port B is a plug.
* Refer to page 754 for details on mounting holes.

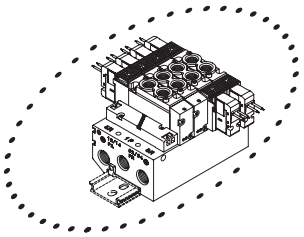


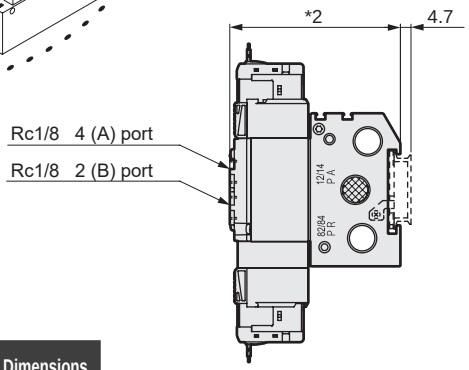


Push-in fitting bore size	*1 Dimensions
ø4	91
ø6	
ø8	
ø1/4 inch	91.9
ø5/16 inch	91.2



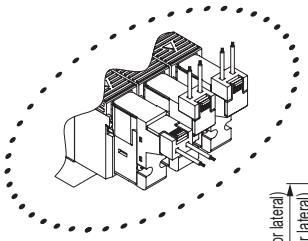
● External pilot (K)
Rc1/8 female thread (06)



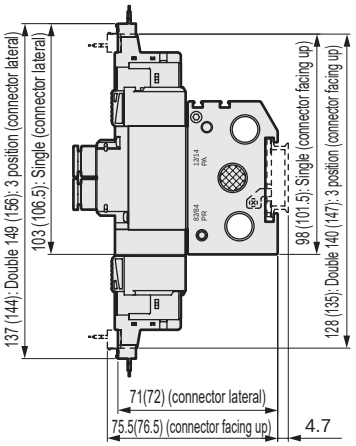


Female thread size	*2 Dimensions
Rc1/8	75.8
1/8NPT	77.1
G1/8	

● External pilot (K)
E connector E



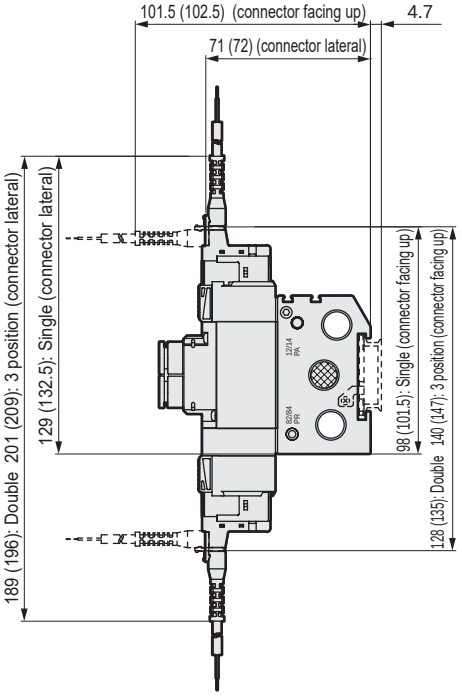
Note: Values in ( ) are applicable to AC voltages.



Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	57.0	73.0	89.0	105.0	121.0	137.0	153.0	169.0	185.0	201.0	217.0	233.0	249.0	265.0	281.0	297.0	313.0	329.0	345.0
L1	45.0	61.0	77.0	93.0	109.0	125.0	141.0	157.0	173.0	189.0	205.0	221.0	237.0	253.0	269.0	285.0	301.0	317.0	333.0
L2	100.0	125.0	137.5	150.0	162.5	187.5	200.0	212.5	225.0	250.0	262.5	275.0	300.0	312.5	325.0				
L3	87.5	112.5	125.0	137.5	150.0	175.0	187.5	200.0	212.5	237.5	250.0	262.5	287.5	300.0	312.5				

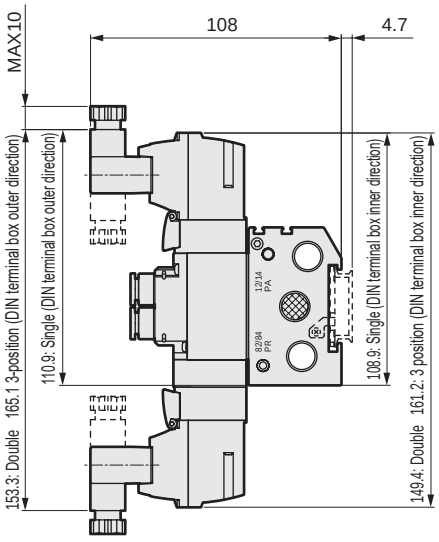
Dimensions

● External pilot (K)
EJ connector (E**J)



Note: Values in ( ) are applicable to AC voltages.

● External pilot (K)
DIN terminal box (B)



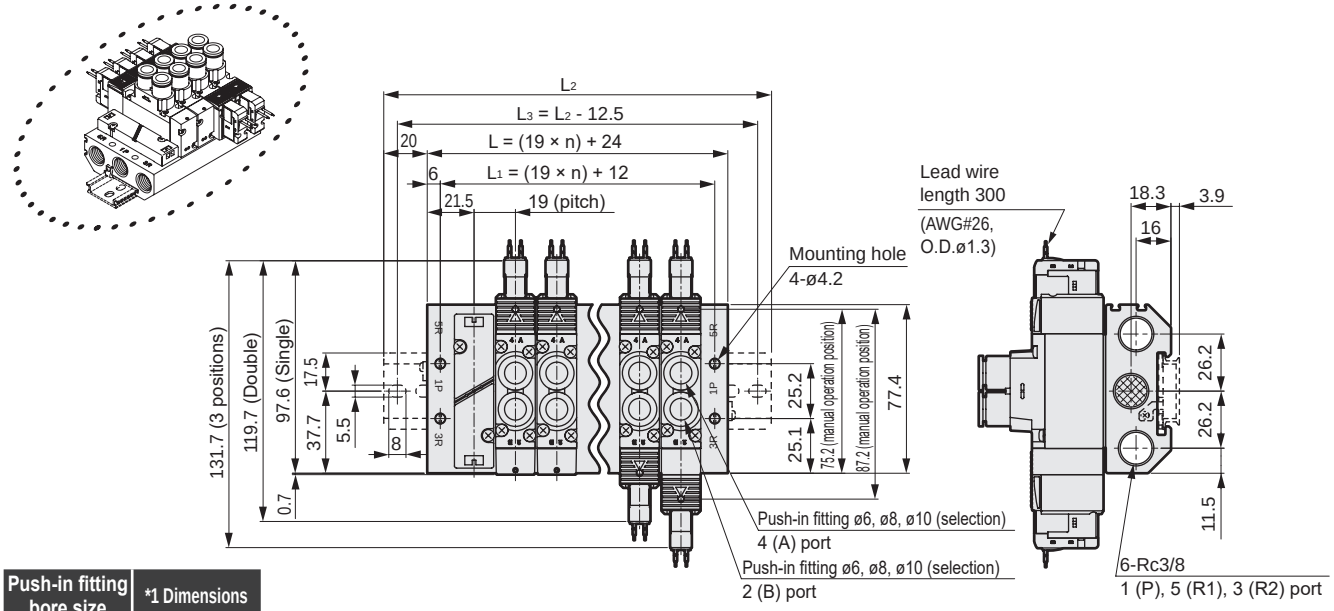
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

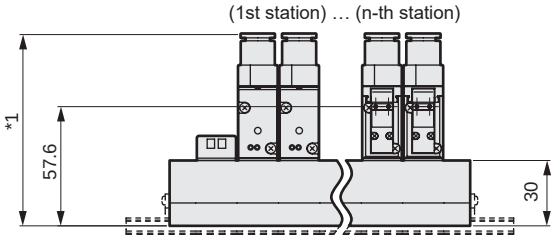
M4GA3-P7*

● Grommet lead wire (blank)

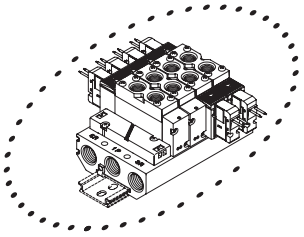
* For 2-position single 3-port valve, port A or port B is a plug.
* Refer to page 754 for details on mounting holes.

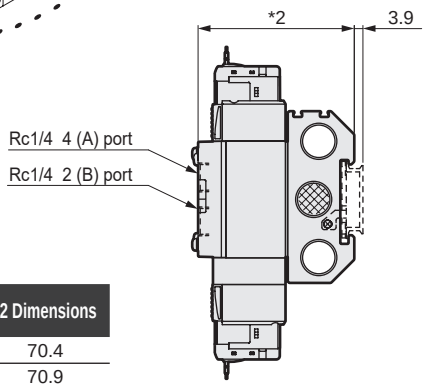


Push-in fitting bore size	*1 Dimensions
ø6	82.8
ø8	
ø10	88.3
ø5/16 inch	89
ø3/8 inch	92.2



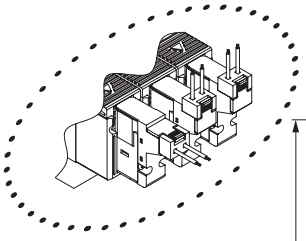
● Rc1/4 female thread (08)



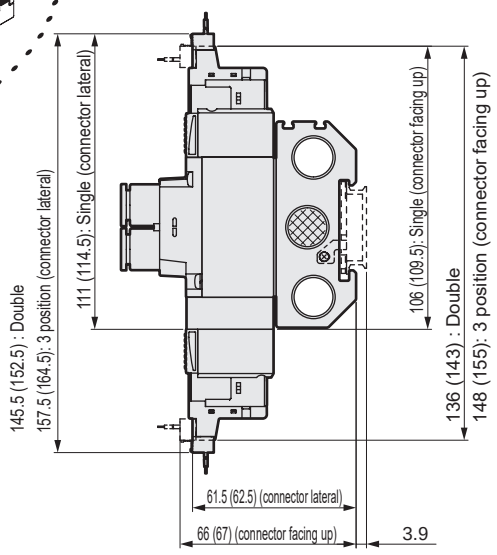


Female thread size	*2 Dimensions
Rc1/4	70.4
1/4NPT	70.9
G1/4	70.9

● E connector (E)



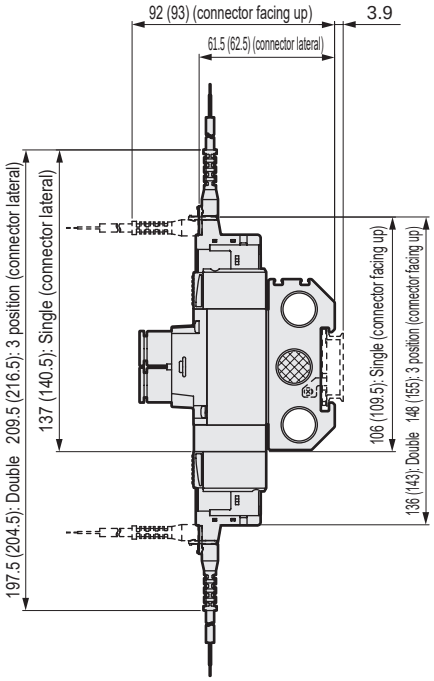
Note: Values in ( ) are applicable to AC voltages.



Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	62.0	81.0	100.0	119.0	138.0	157.0	176.0	195.0	214.0	233.0	252.0	271.0	290.0	309.0	328.0	347.0	366.0	385.0	404.0
L1	50.0	69.0	88.0	107.0	126.0	145.0	164.0	183.0	202.0	221.0	240.0	259.0	278.0	297.0	316.0	335.0	354.0	373.0	392.0
L2	112.5	125.0	150.0	162.5	187.5	200.0	225.0	237.5	262.5	275.0	300.0	312.5	337.5	350.0	375.0				
L3	100.0	112.5	137.5	150.0	175.0	187.5	212.5	225.0	250.0	262.5	287.5	300.0	325.0	337.5	362.5				

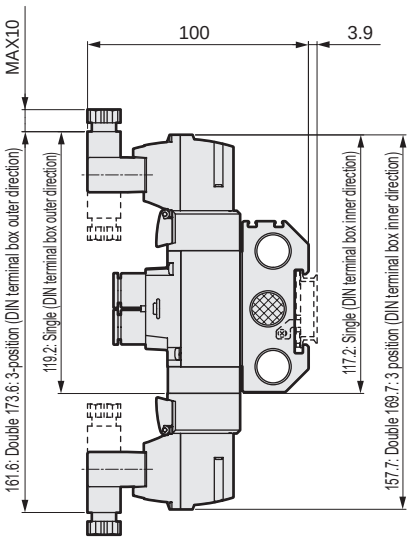
Dimensions

● EJ connector (E**J)



Note: Values in ( ) are applicable to AC voltages.

● DIN terminal box (B)



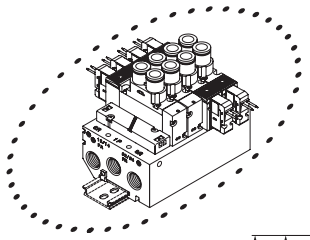
Note: The DIN terminal box assembly is shipped facing inward.

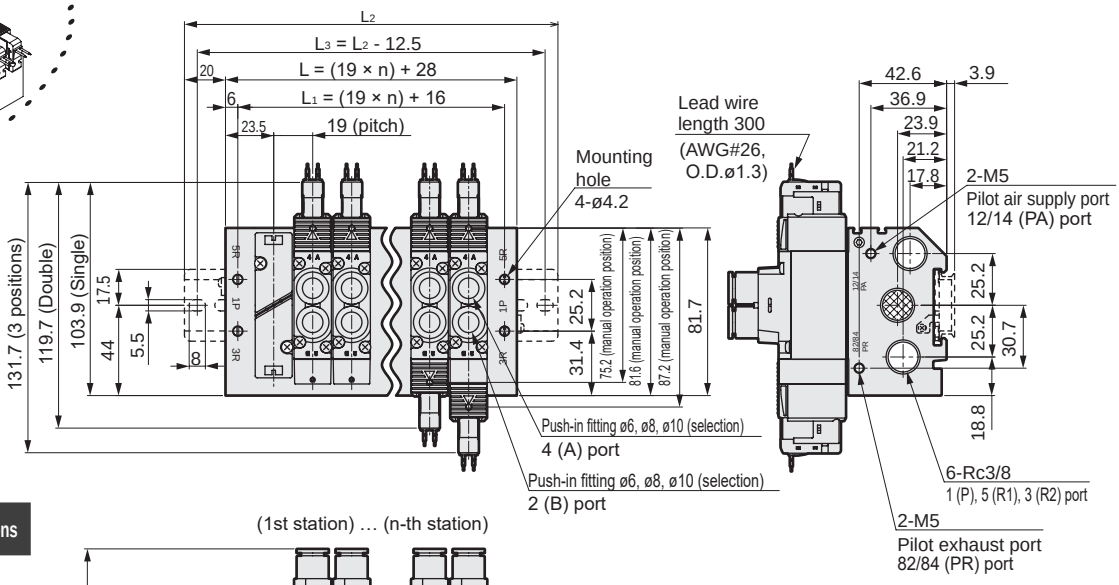
Dimensions CAD

M4GA3-P7*

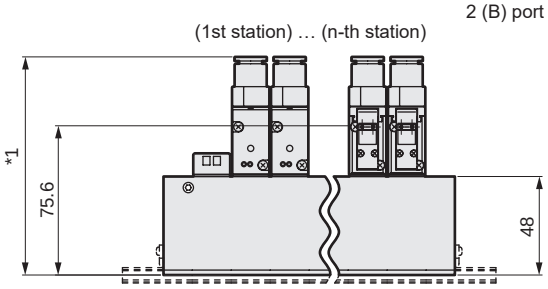
● External pilot (K)
Grommet lead wire (blank)

* For 2-position single 3-port valve, port A or port B is a plug.
* Refer to page 754 for details on mounting holes.

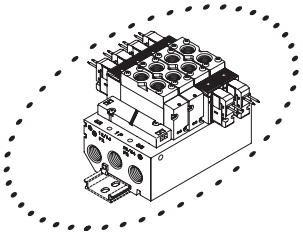


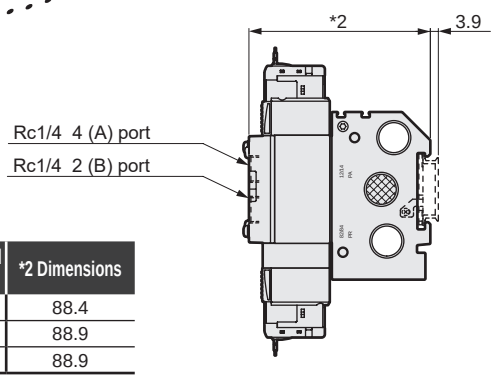


Push-in fitting bore size	*1 Dimensions
ø6	100.8
ø8	
ø10	106.3
ø5/16 inch	107
ø3/8 inch	110.2



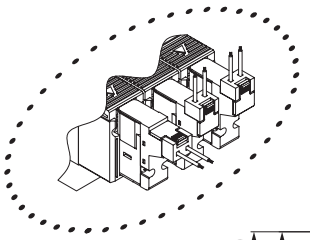
● External pilot (K)
Rc1/4 female thread (08)



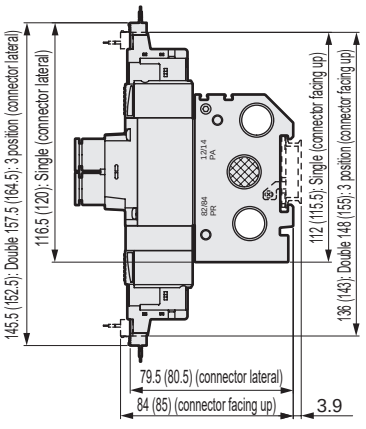


Female thread size	*2 Dimensions
Rc1/4	88.4
1/4NPT	88.9
G1/4	88.9

● External pilot (K)
E connector (E)



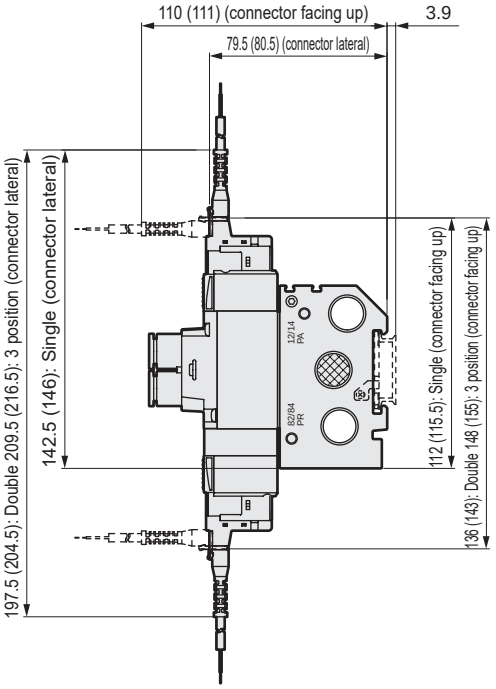
Note: Values in ( ) are applicable to AC voltages.



Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	66.0	85.0	104.0	123.0	142.0	161.0	180.0	199.0	218.0	237.0	256.0	275.0	294.0	313.0	332.0	351.0	370.0	389.0	408.0
L1	54.0	73.0	92.0	111.0	130.0	149.0	168.0	187.0	206.0	225.0	244.0	263.0	282.0	301.0	320.0	339.0	358.0	377.0	396.0
L2	112.5	125.0	150.0	175.0	187.5	212.5	225.0	250.0	262.5	287.5	300.0	325.0	337.5	362.5	375.0				
L3	100.0	112.5	137.5	162.5	175.0	200.0	212.5	237.5	250.0	275.0	287.5	312.5	325.0	350.0	362.5				

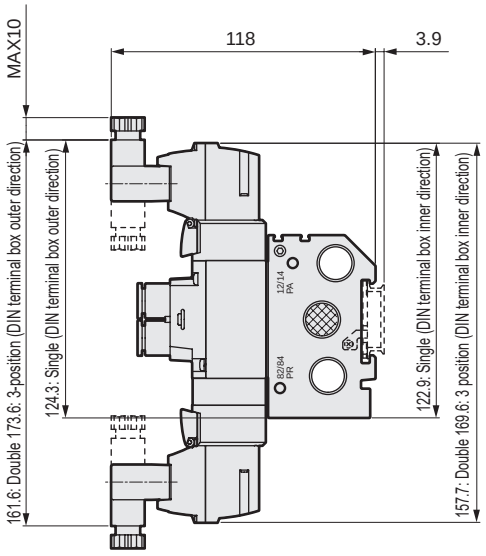
Dimensions

● External pilot (K)
EJ connector (E**J)

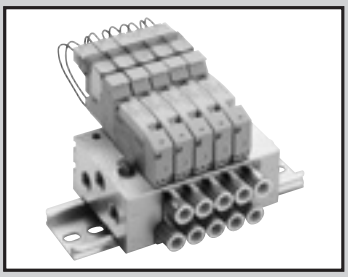


Note: Values in ( ) are applicable to AC voltages.

● External pilot (K)
DIN terminal box (B)



Note: The DIN terminal box assembly is shipped facing inward.



Individual wiring manifold
Base piping
Direct mount DIN rail mount

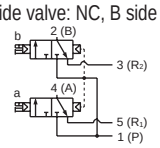
M3GB1, 2/M4GB1, 2, 3-(D) Series

● Applicable cylinder bore size: ø20 to ø100

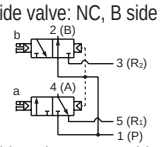
JIS symbol

● Dual 3-port valve integrated

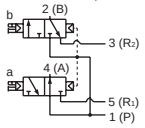
(A side valve: NC, B side valve: NC)



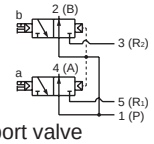
(A side valve: NC, B side valve: NO)



(A side valve: NO, B side valve: NC)

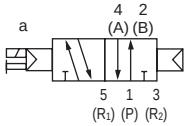


(A side valve: NO, B side valve: NO)

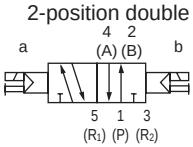


● 5-port valve

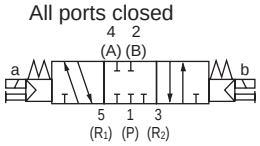
2-position single



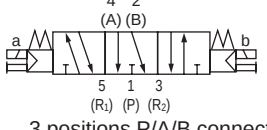
2-position double



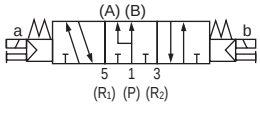
3-position
All ports closed



3-position A/B/R connection



3 positions P/A/B connection



Structure and material restriction

	Structure	Material restriction			Model No.
P7 Series	Dust generation preventing				– P70
	Dust generation preventing	Copper-based materials prohibited	Silicon-based materials prohibited	Halogen-based materials prohibited (fluorine, chlorine, bromine)	– P74 Custom order product

Manifold common specifications

Item		Description
Manifold		Integrated base
Mounting method		Direct mount/DIN rail mount
Air supply and exhaust method		Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Internal pilot	Main valve/pilot valve common exhaust (Pilot exhaust check valve built-in)
	External pilot	Main valve/pilot valve individual exhaust
Piping direction		Valve top direction
Valve and operation		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure MPa		0.7
Min. working pressure MPa		0.2 (*3)
Proof pressure MPa		1.05
Ambient temperature °C		-5 to 55 (no freezing)
Fluid temperature °C		5 to 55
Manual override		Non-locking/locking common (standard)
Lubrication (*1)		Not required
Degree of protection (*2)		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 environments

*1: Use turbine oil Class 1 ISO VG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
*2: Avoid water drops or oil, etc., during use. IP65 (water jet proof) applies for DIN terminal box specifications. However, the specified outer diameter of the cord and tightening torque must be used for fixing in place.
*3: The working pressure range is 0 to 0.7MPa when the external pilot (option code: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

Electrical specifications

Descriptions							
Rated voltage V		DC 24	DC 12	DC 5	DC 3	AC 100	AC 200
Voltage fluctuation range		±10%					
Holding current A (*4)	Standard	0.015 (0.017)	0.030 (0.034)	0.072 (0.082)	0.120 (0.136)	0.009 (0.009)	0.006 (0.006)
	Low exoergic/energy-saving circuit built-in	0.005	0.010	-		-	
Power consumption W (*4)	Standard	0.35 (0.40)		0.35 (0.40)		-	
	Low exoergic/energy-saving circuit built-in	0.1		-		-	
Apparent power VA (*4) (*5)	Standard	-		-		0.93 (0.98)	1.40
Thermal class		B					
Surge suppressor		Option					
Indicator		Lamp (option)					

*4: Values in ( ) apply when with lamp option. A type of low exoergic/energy-saving circuit built-in is only available with a lamp attached.
*5: The value for 200 VAC applies DIN terminal box (with lamp).

Individual specifications

Descriptions			M3GB1/M4GB1		M3GB2/M4GB2		M4GB3	
			Direct mount	DIN rail mount	Direct mount	DIN rail mount	Direct mount	DIN rail mount
Max. station number		Standard (Internal pilot)	20 stations	16 stations	20 stations	16 stations	20 stations	16 stations
		External pilot	12 stations	12 stations				
Port size	Rc thread, M5	A/B port	Barbed fitting ø1.8 Push-in fitting ø1.8, ø4, ø6, ø8 (*6) M5		Push-in fitting ø4, ø6, ø8, ø10 (*6) Rc1/8		Push-in fitting ø6, ø8, ø10 Rc1/4	
		P/R1/R2 port	Rc1/8		Rc1/4		Rc3/8	
	NPT thread, M5	A/B port	Push-in fitting ø1/8 inch, ø5/32 inch M5		Push-in fitting ø1/4 inch, ø5/16 inch 1/8NPT		Push-in fitting ø5/16 inch, ø3/8 inch 1/4NPT (*6)	
		P/R1/R2 port	1/8NPT		1/4NPT		3/8NPT (*6)	
	G thread, M5	A/B port	Push-in fitting ø4, ø6 M5		Push-in fitting ø4, ø6, ø8 G1/8		-	
		P/R1/R2 port	G1/8		G1/4		-	
Manifold base Weight calculation formula (n: station No.) g		Standard	35n + 61	36n + 115	71n + 106	73n + 134	113n + 170	115n + 119
		External pilot	35n + 106	36n + 114	76n + 135	78n + 166	118n + 194	120n + 223

Refer to "Cautions for Mounting the DIN Rail" (page 754), and select the manifold.

For 10 or over manifold station No. (5 stations for 4G3), use ports on both side for air supply and exhaust. The manifold base weight is the value for screw specifications.

*6: This is a custom order product.

Performance/characteristics by model

Item			M3GB1/M4GB1		M3GB2/M4GB2		M4GB3	
			ON	OFF	ON	OFF	ON	OFF
Response time ms	Two 3-port valves integrated		9	12	12	29	-	-
	2-position	Single	12	12	19	19	25	28
		Double	9	-	18	-	24	-
	3-position	ABR connection	8	15	17	30	23	45

Values with a lamp/surge suppressor are shown.The response times are values with working pressure of 0.5 MPa at 20°C, without lubrication. They depend on the pressure and the lubricant quality.

Flow characteristics

Model No.	Solenoid position		P→A/B		A/B→R1/R2	
			C [dm³/(s·bar)]	b	C [dm³/(s·bar)]	b
M3GB1 M4GB1	Dual 3-port valve integrated		0.86	0.35	1.1 (0.67)	0.22 (0.23)
	2-position		1.1	0.22	1.2 (0.70)	0.20 (0.10)
	3-position	All ports closed	0.98	0.22	1.1 −	0.24 −
		ABR connection	0.97	0.35	1.3 (0.68)	0.22 (0.24)
		PAB connection	1.1	0.38	1.1 −	0.21 −
M3GB2 M4GB2	Dual 3-port valve integrated		1.7	0.44	2.1 (1.6)	0.32 (0.30)
	2-position		2.4	0.34	2.7 (1.7)	0.24 (0.31)
	3-position	All ports closed	2.2	0.34	2.4 −	0.29 −
		ABR connection	2.2	0.34	2.8 (1.8)	0.24 (0.27)
		PAB connection	2.4	0.29	2.4 −	0.29 −
M4GB3	2-position		3.5	0.34	3.8 (2.6)	0.11 (0.27)
	3-position	All ports closed	3.1	0.33	3.3 −	0.22 −
		ABR connection	3.0	0.30	3.8 (2.7)	0.11 (0.22)
		PAB connection	3.6	0.36	3.3 −	0.28 −

*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.

*2: Values in ( ) apply when the exhaust check valve is attached.

Ozone proof specifications • Cutting oil prohibited specifications

This can be set by selecting option "A" of Ⓔ in how to order on page 521.

M4GB1/2/3 Series

Individual wiring manifold; base piping

How to order

Manifold model No.

M 4GB1 1 0R - C6 - E2 H D - ○ - 3 - P70

3-port manifold model No.

M 3GB1 66 0R - C6 - E2 H D - ○ - 3 - P70

● Discrete valve for mounting base

4GB1 1 9R - 00 - E2 H — 3 - P70

● 3-port discrete valve for mounting base

3GB1 66 9R - 00 - E2 H — 3 - P70

- 66: Solenoid position
- 3GB1 66: Model No.
- 00: Port size (*3, *4)
- E2: Electrical connections
- H: Option
- D: Mount
- 3: Station No.
- P70: Voltage
- P70: Clean room specifications

* Be sure to fill in the "manifold specifications" (pages 609 through 623).

Code	Content		Model No. 3GB1	3GB2	4GB1	4GB2	4GB3
B Solenoid position							
1	2-position single				●	●	●
2	2-position double				●	●	●
3	3-position all ports closed				●	●	●
4	3-position ABR connection				●	●	●
5	3-position P/A/B connection				●	●	●
66	Dual 3-port valve integrated (*1, *2)	A side valve: Normally closed B side valve: Normally closed	●	●			
67		A side valve: Normally closed B side valve: Normally open	●	●			
76		A side valve: Normally open B side valve: Normally closed	●	●			
77		A side valve: Normally open B side valve: Normally open	●	●			
8	Mixed manifold (In case of multiple solenoid positions)		●	●	●	●	●

C Port size							
Port	4(A)/2(B) port		P/R1/R2 port (2)=Rc1/8 (3)=Rc1/4 (4)=Rc3/8				
CF	ø1.8 barbed fitting (applicable tube UP-9102-**)		(2)		(2)		
C18	ø1.8 push-in fitting (applicable tube UP-9402-**)		(2)		(2)		
C4	ø4 push-in fitting		(2)	(3)	(2)	(3)	
C6	ø6 push-in fitting		(2)	(3)	(2)	(3)	(4)
C8	ø8 push-in fitting	(*5, *6)	(2)	(3)	(2)	(3)	(4)
C10	ø10 push-in fitting	(*5, *6)		(3)		(3)	(4)
CL18	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**)				(2)		
CL4	ø4 radial facing-up push-in fitting				(2)		
CL6	ø6 radial facing-up push-in fitting				(2)	(3)	
CL8	ø8 radial facing-up push-in fitting					(3)	(4)
CL10	ø10 radial facing-up push-in fitting						(4)
CD18	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**)		(2)		(2)		
CD4	ø4 radial facing-down push-in fitting		(2)		(2)		
CD6	ø6 radial facing-down push-in fitting		(2)	(3)	(2)	(3)	
CD8	ø8 radial facing-down push-in fitting			(3)		(3)	(4)
CD10	ø10 radial facing-down push-in fitting						(4)
CX	Push-in fitting mix		(2)	(3)	(2)	(3)	(4)
M5	M5		(2)		(2)		
06	Rc1/8			(3)		(3)	
08	Rc1/4						(4)
Port	4(A)/2(B) port		P/R1/R2 port (5)=1/8NPT (6)=1/4NPT (7)=3/8NPT				
C3N	ø1/8 inch push-in fitting		(5)		(5)		
C4N	ø5/32 inch push-in fitting		(5)		(5)		
C6N	ø1/4 inch push-in fitting			(6)		(6)	
C8N	ø5/16 inch push-in fitting			(6)		(6)	(7)
C10N	ø3/8 inch push-in fitting						(7)
CL3N	ø1/8 inch radial facing-up push-in fitting	(*6)			(5)		
CL4N	ø5/32 inch radial facing-up push-in fitting	(*6)			(5)		
CL6N	ø1/4 inch radial facing-up push-in fitting	(*6)				(6)	
CL8N	ø5/16 inch radial facing-up push-in fitting	(*6)				(6)	
CXN	Push-in fitting mix		(5)	(6)	(5)	(6)	(7)
M5N	M5		(5)		(5)		
06N	1/8NPT			(6)		(6)	
08N	1/4NPT	(*6)					(7)
Port	4(A)/2(B) port		P/R1/R2 port (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)		(9)	(10)
C10G	ø10 push-in fitting						(10)
CL4G	ø4 radial facing-up push-in fitting	(*6)			(8)		
CL6G	ø6 radial facing-up push-in fitting	(*6)			(8)	(9)	
CL8G	ø8 radial facing-up push-in fitting	(*6)				(9)	
CXG	Push-in fitting mix		(8)	(9)	(8)	(9)	(10)
M5G	M5		(8)		(8)		
06G	G1/8			(9)		(9)	
08G	G1/4						(10)
00	Discrete valve for mounting base		●	●	●	●	●

⚠ Precautions for model No. selection

*1: Select M4GB*80R when mixing with the 3, 5-port valves. Select M3GB*80R when mixing with the masking plate.
*2: Combinations with an external pilot (K) are not supported. In addition, the external dimensions are the same dimensions as each of the 2-position double solenoids.
3: CL radial push-in fitting will only support single solenoid manifolds. The configuration comprises an A port: long elbow, and B port: short elbow.
*4: A/B port sizes do not differ for the radial push-in fitting (facing up/down).
*5: Both C8 for 4G1 and C10 for 4G2 do not support push-in fitting mix.
*6: Custom order product.

			Ⓐ Model No.				
			3GB1	3GB2	4GB1	4GB2	4GB3
Ⓓ Electrical connections							
Blank	Grommet lead wire (300 mm)	(*15)	●	●	●	●	●
B	DIN terminal box (Pg7) with surge suppressor/lamp	(*16)(*18)		●		●	●
BN	DIN terminal box (Pg7) (no terminal box) with surge suppressor	(*16)(*18)		●		●	●
E connector (up/lateral common)							
E0	Lead wire (300 mm)	(*17)	●	●	●	●	●
E00	Lead wire (500 mm)	(*17)	●	●	●	●	●
E01	Lead wire (1000 mm)	(*17)	●	●	●	●	●
E02	Lead wire (2000 mm)	(*17)	●	●	●	●	●
E03	Lead wire (3000 mm)	(*17)	●	●	●	●	●
E0N	Without lead wire (without socket)	(*17)	●	●	●	●	●
E1	Without lead wire (with socket/terminal)	(*17)	●	●	●	●	●
E2	Lead wire (300 mm) with surge suppressor/lamp		●	●	●	●	●
E20	Lead wire (500 mm) with surge suppressor/lamp		●	●	●	●	●
E21	Lead wire (1000 mm) with surge suppressor/lamp		●	●	●	●	●
E22	Lead wire (2000 mm) with surge suppressor/lamp		●	●	●	●	●
E23	Lead wire (3000 mm) with surge suppressor/lamp		●	●	●	●	●
E2N	Without lead wire (without socket) with surge suppressor/lamp		●	●	●	●	●
E3	Without lead wire (with socket/terminal) with surge suppressor/lamp		●	●	●	●	●
EJ connector (socket with cover, up/lateral common)							
E01J	Lead wire (1000 mm)	(*17)	●	●	●	●	●
E02J	Lead wire (2000 mm)	(*17)	●	●	●	●	●
E03J	Lead wire (3000 mm)	(*17)	●	●	●	●	●
E21J	Lead wire (1000 mm) with surge suppressor/lamp		●	●	●	●	●
E22J	Lead wire (2000 mm) with surge suppressor/lamp		●	●	●	●	●
E23J	Lead wire (3000 mm) with surge suppressor/lamp		●	●	●	●	●
Ⓔ Option							
Blank	Non-locking and locking model shared manual override		●	●	●	●	●
M	Non-locking manual override		●	●	●	●	●
H	With exhaust check valve	(*7)	●	●	●	●	●
K	External pilot	(*8)	●	●	●	●	●
A	Ozone/cutting oil compatible		●	●	●	●	●
S	Surgeless	(*9)	●	●	●	●	●
E	Low exoergic/energy-saving circuit	(*9, 10)	●	●	●	●	●
F	Built-in A/B port filter	(*11)	●	●	●	●	●
Z1	Air supply spacer	(*12)	●	●	●	●	●
Z3	Exhaust spacer	(*12)	●	●	●	●	●
Ⓕ Mount							
Blank	Direct mount	(*13)	●	●	●	●	●
D	DIN rail mount		●	●	●	●	●
Ⓖ Station No.							
2	2 stations		●	●	●	●	●
to	to						
20	Refer to page 519 for the max. station number per port size.						
Ⓗ Voltage							
1	100 VAC (with rectifier circuit)		●	●	●	●	●
2	200 VAC (with rectifier circuit)	(*14)		●		●	●
3	24 VDC		●	●	●	●	●
4	12 VDC		●	●	●	●	●
7	3 VDC		○	○	○	○	○
8	5 VDC		○	○	○	○	○

Ⓘ Clean room specifications (*18, 19, 20)							
	Structure	Material restriction					
P70	Exhaust treatment	-	●	●	●	●	●
P74	Exhaust treatment	Copper-/silicon-/halogen-based materials (fluorine, chlorine, bromine) are prohibited.	○	○	○	○	○

is not available. ○ Custom order products. Contact CKD for details.

***7: 3-position all ports closed and PAB connection are not provided with the exhaust check valve (H). Refer to page 751 for details on the exhaust check valve.**
*8: Contact CKD when using a vacuum with the external pilot (K).
9: Only E2 and E2*J connectors and 12/24 VDC are supported. In addition, selecting a combination of surgeless "S" and the low-heat-generating/power-saving circuit "E" is not allowed.
*10: Applicable to surgeless specifications

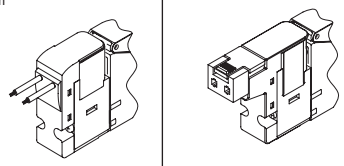
Electrical connections

Discrete valve/individual wiring manifold

Blank Grommet lead wire

E1 E3 E connector with socket/terminal

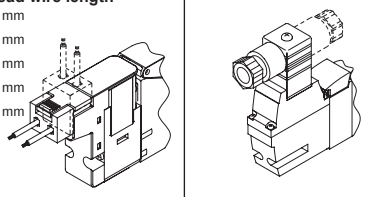
● **Lead wire length**
300 mm



E0 E2 E connector

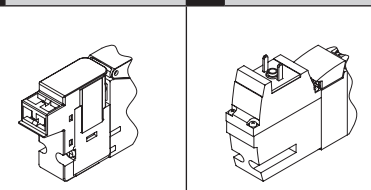
B DIN terminal box

● **Lead wire length**
300 mm
500 mm
1000 mm
2000 mm
3000 mm



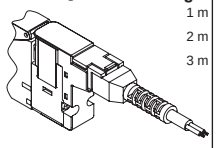
E0N E2N E connector without socket

BN DIN terminal box (no terminal box)



E0*J E2*J EJ connector

● **Lead wire length**
1 m
2 m
3 m



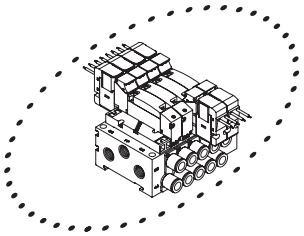
*11: P port is equipped with a filter as standard.
***12: Specify the spacer mounting position and quantity in manifold specifications. Stacking multiple spacers is not supported. Combination with the masking plate is not supported. Refer to pages 592 to 595 for details.**
*13: When purchasing the direct mount of M4GB1, it cannot be changed to the DIN rail mount afterward.
*14: Supported only for DIN terminal box.
*15: The grommet lead wire specifications are only applicable to DC voltages.
*16: AC voltage and 12/24 VDC are supported. The lamp is incorporated in the terminal box.
*17: For AC voltage, a rectifier circuit is equipped.
*18: Terminal box is EN175301-803Type C (old DIN 43650-C) compliant product. Refer to page 756 for details.
*19: A (ozone compatible) and Ⓘ clean room specifications P74 cannot be combined.
*20: Specifications which do not allow copper-based/silicon-based/halogen-based materials apply to the main valve section.
*21: P74 Series is a custom order product.

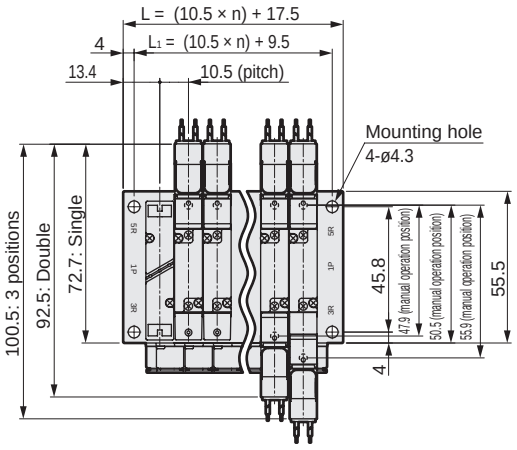
Dimensions CAD

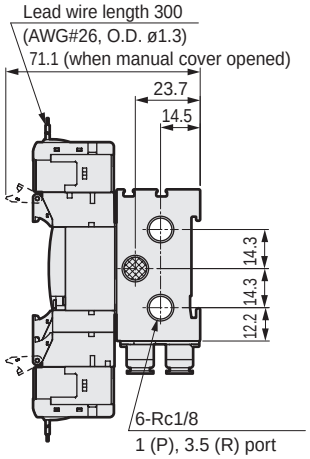
M4GB1-P7*

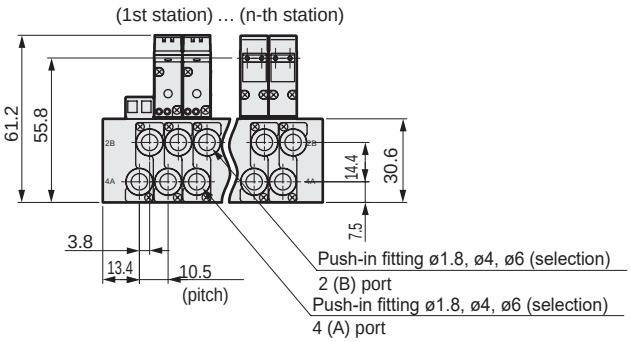
● Direct mount installation
Grommet lead wire (blank)

*1: This is dedicated to direct mount. It cannot be changed to DIN rail specifications.
*2: The dimension of the dual 3-port valve integrated type is the same as that of the double type.
*Refer to page 755 for details on mounting holes.

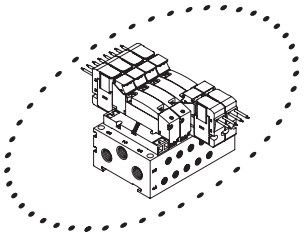


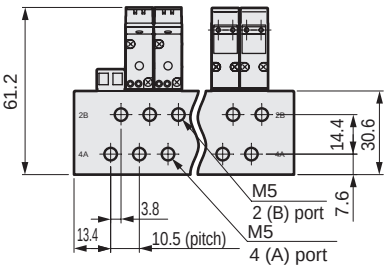




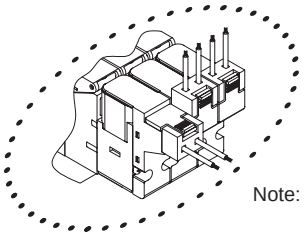


● M5 female thread (M5)

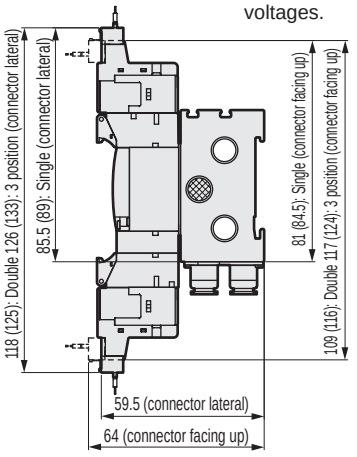




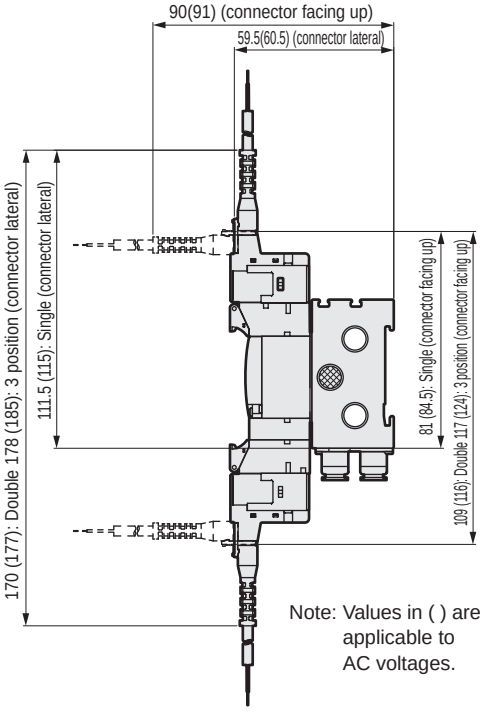
● E connector (E)



Note: Values in ( ) are applicable to AC voltages.



● EJ connector (E**J)



Note: Values in ( ) are applicable to AC voltages.

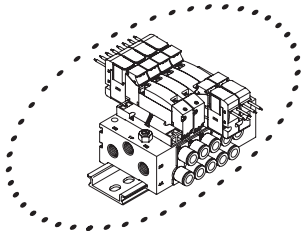
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	38.5	49.0	59.5	70.0	80.5	91.0	101.5	112.0	122.5	133.0	143.5	154.0	164.5	175.0	185.5	196.0	206.5	217.0	227.5
L1	30.5	41.0	51.5	62.0	72.5	83.0	93.5	104.0	114.5	125.0	135.5	146.0	156.5	167.0	177.5	188.0	198.5	209.0	219.5

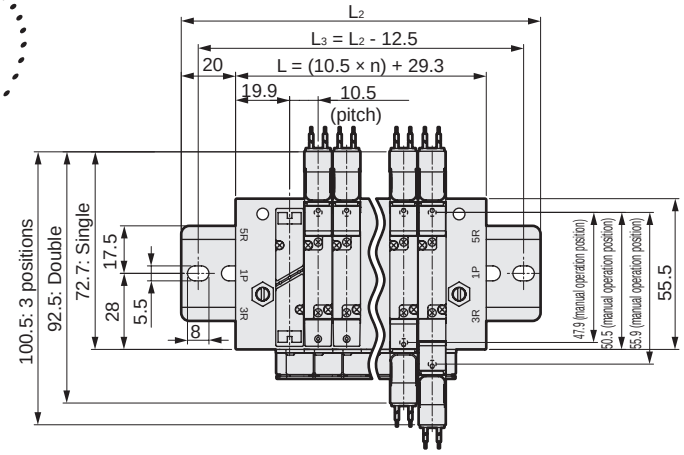
Dimensions

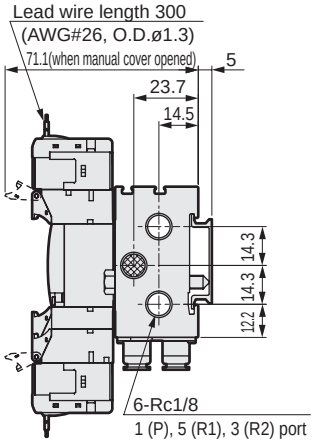
*1: This can be changed to direct mount specifications.
*2: The dimension of the dual 3-port valve integrated is the same as that of the double.
*Refer to page 755 for details on mounting holes.

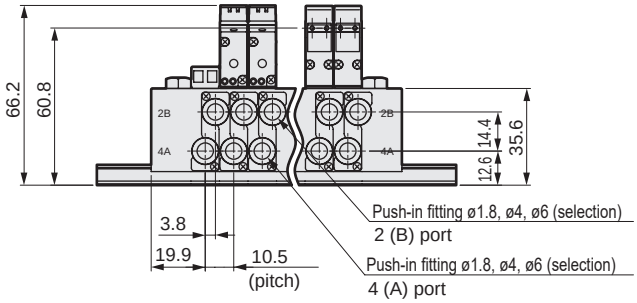
M4GB1-P7*

● DIN rail mounting (D)
Grommet lead wire (blank)

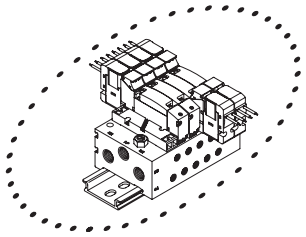


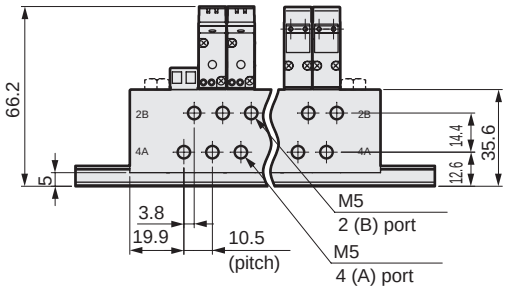




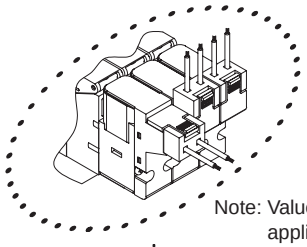


● DIN rail mounting (D)
M5 female thread (M5)

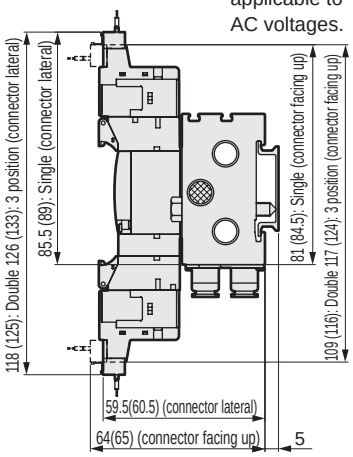




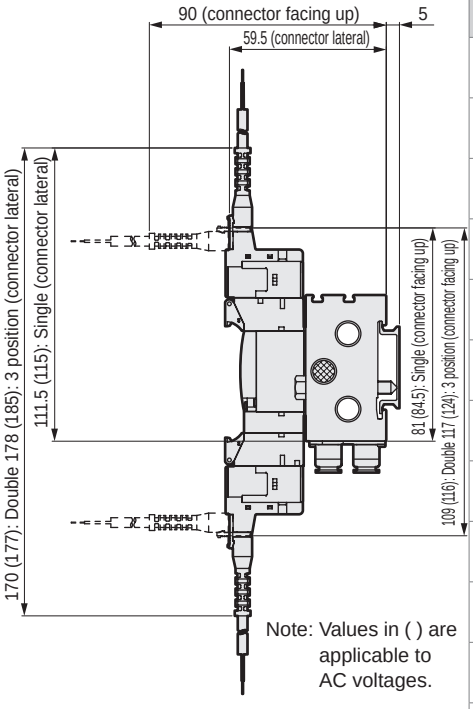
● DIN rail mounting (D)
E connector (E)



Note: Values in ( ) are applicable to AC voltages.



● EJ connector (E**J)



Note: Values in ( ) are applicable to AC voltages.

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	50.3	60.8	71.3	81.8	92.3	102.8	113.3	123.8	134.3	144.8	155.3	165.8	176.3	186.8	197.3
L_2	100.0	112.5	112.5	125.0	137.5	150.0	162.5	175.0	175.0	187.5	200.0	212.5	225.0	237.5	237.5
L_3	87.5	100.0	100.0	112.5	125.0	137.5	150.0	162.5	162.5	175.0	187.5	200.0	212.5	225.0	225.0

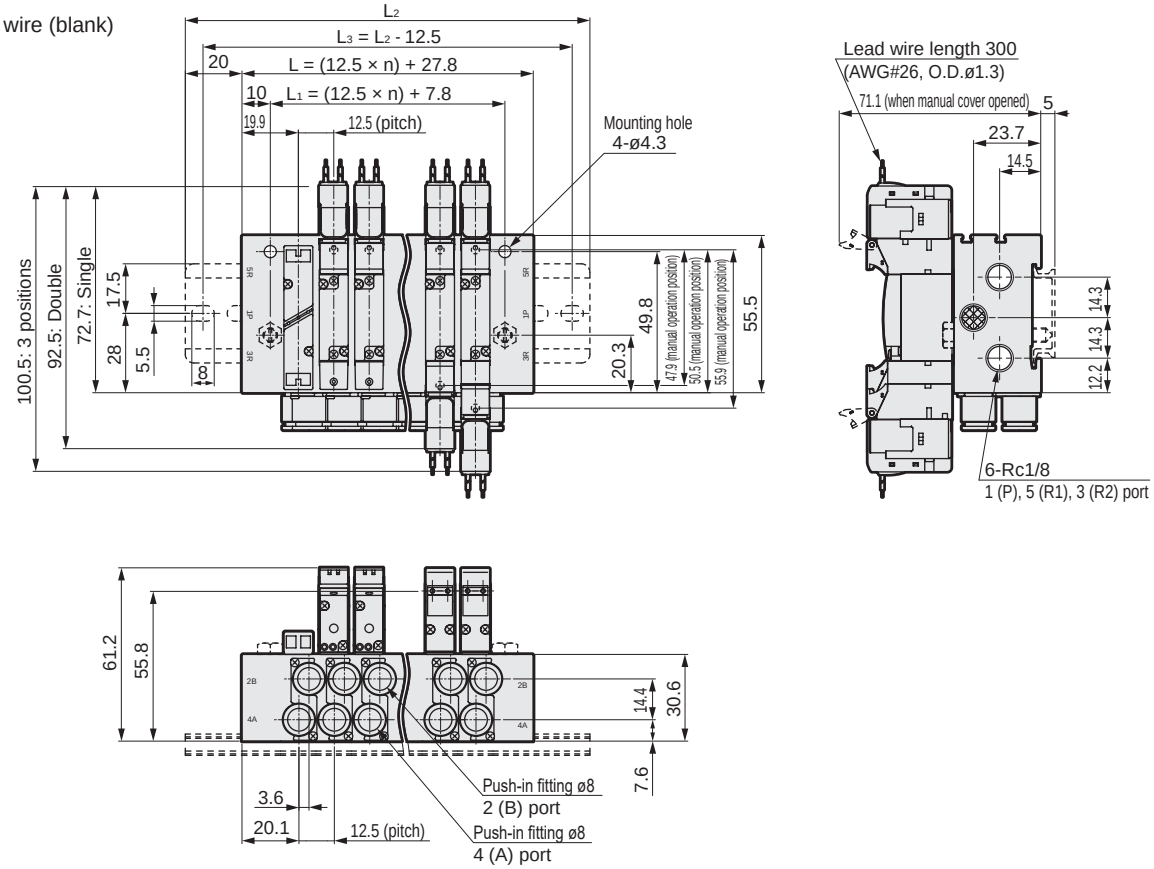
Dimensions CAD

M4GB1-C8-P7*

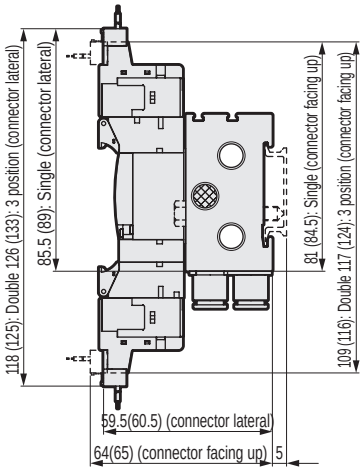
Note: This is a dedicated manifold base.

*Refer to page 755 for details on mounting holes.

● Grommet lead wire (blank)

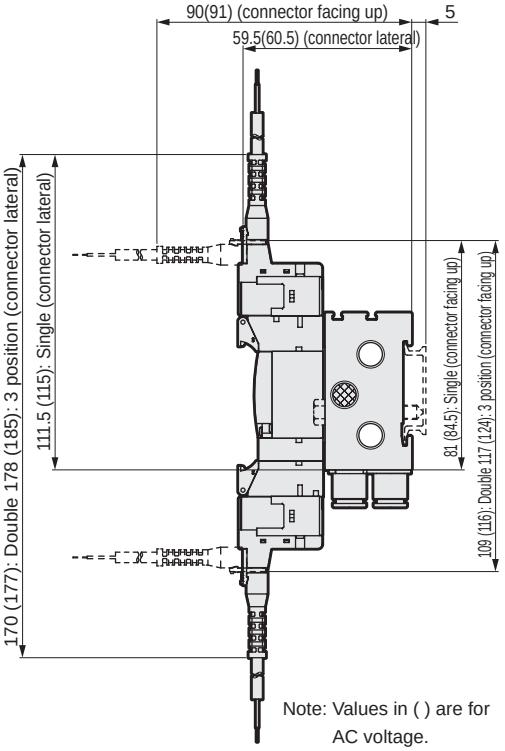


● E connector (E)



Note: Values in ( ) are for AC voltage.

● EJ connector (E**J)



Note: Values in ( ) are for AC voltage.

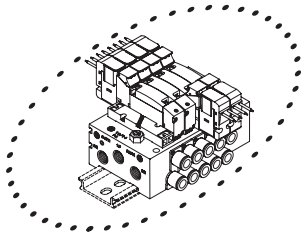
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	52.8	65.3	77.8	90.3	102.8	115.3	127.8	140.3	152.8	165.3	177.8	190.3	202.8	215.3	227.8	240.3	252.8	265.3	277.8
L1	32.8	45.3	57.8	70.3	82.8	95.3	107.8	120.3	132.8	145.3	157.8	170.3	182.8	195.3	207.8	220.3	232.8	245.3	257.8
L2	100.0	112.5	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0				
L3	87.5	100.0	112.5	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5				

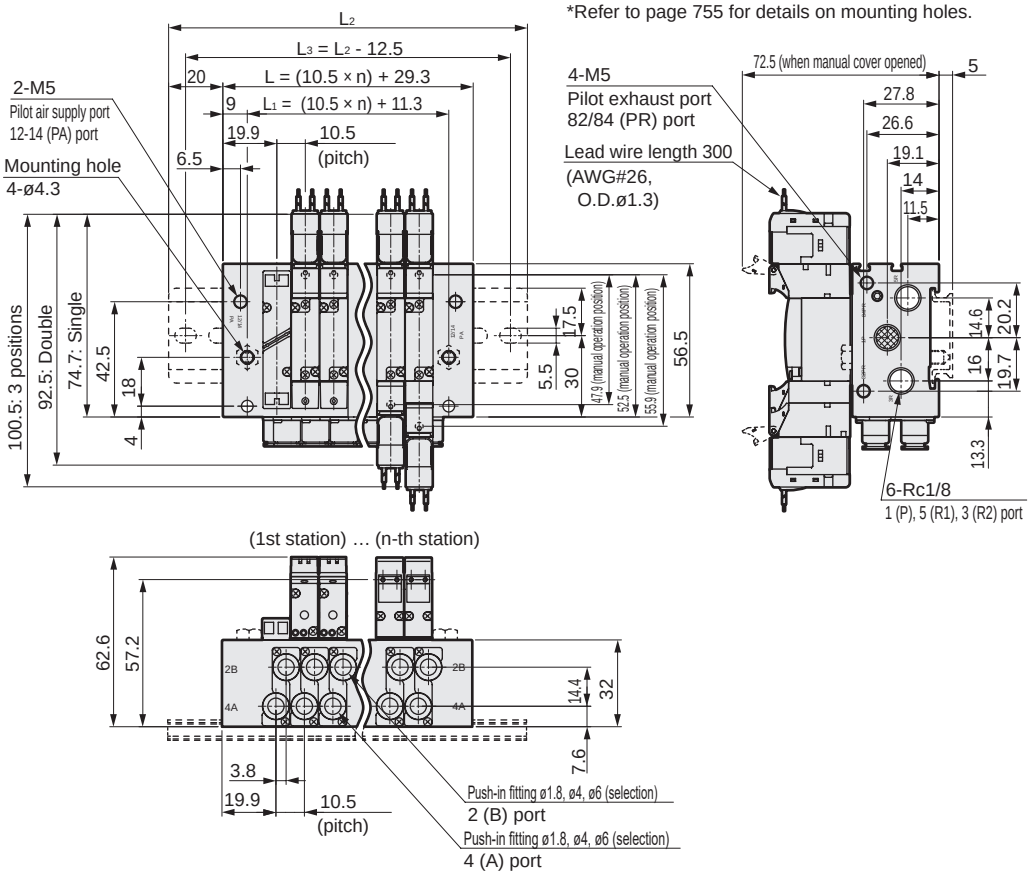
Dimensions

M4GB1-P7*

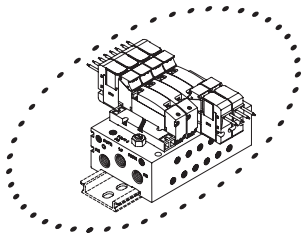
*Refer to page 755 for details on mounting holes.

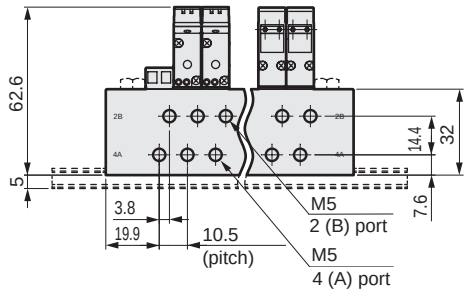
● External pilot (K)
Grommet lead wire (blank)



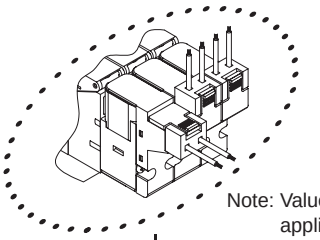


● External pilot (K)
M5 female thread (M5)

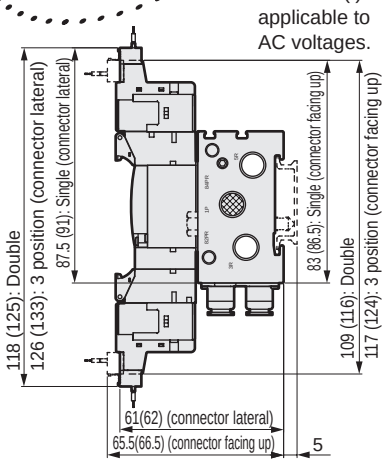




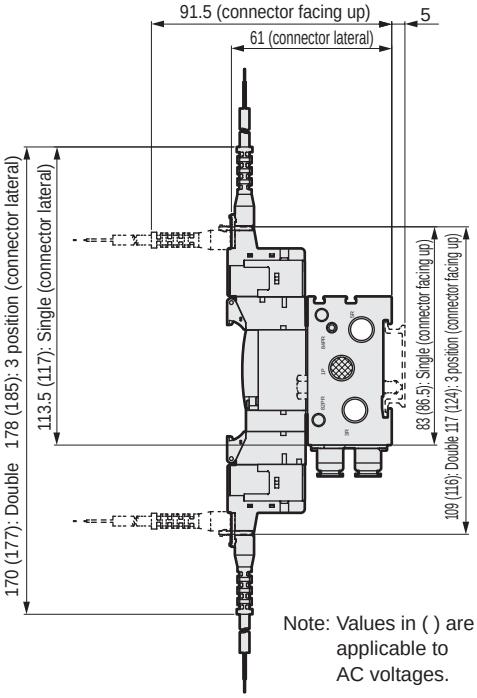
● External pilot (K)
E connector (E)



Note: Values in ( ) are applicable to AC voltages.



● External pilot (K)
EJ connector (E**J)



Note: Values in ( ) are applicable to AC voltages.

Station No.	2	3	4	5	6	7	8	9	10	11	12
L	50.3	60.8	71.3	81.8	92.3	102.8	113.3	123.8	134.3	144.8	155.3
L1	32.3	42.8	53.3	63.8	74.3	84.8	95.3	105.8	116.3	126.8	137.3
L2	100.0	112.5	112.5	125.0	137.5	150.0	162.5	175.0	175.0	187.5	200.0
L3	87.5	100.0	100.0	112.5	125.0	137.5	150.0	162.5	162.5	175.0	187.5

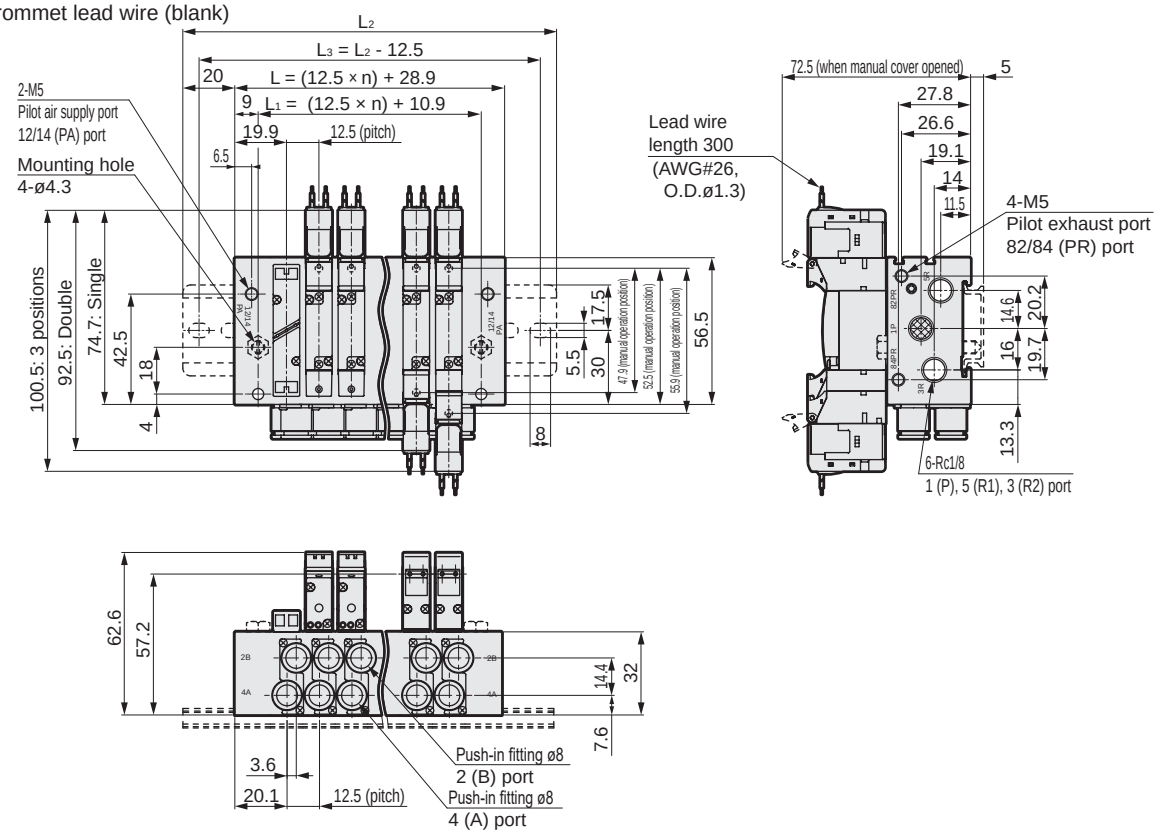
Dimensions

M4GB1-C8-K-P7*

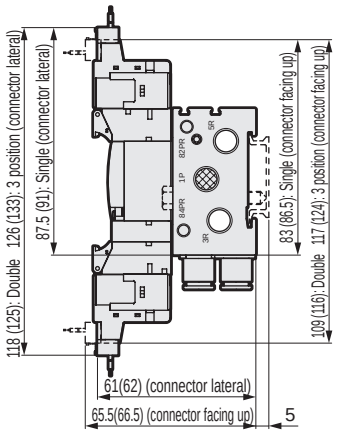
Note: This is a dedicated manifold base.

*Refer to page 755 for details on mounting holes.

● External pilot (K)
Grommet lead wire (blank)

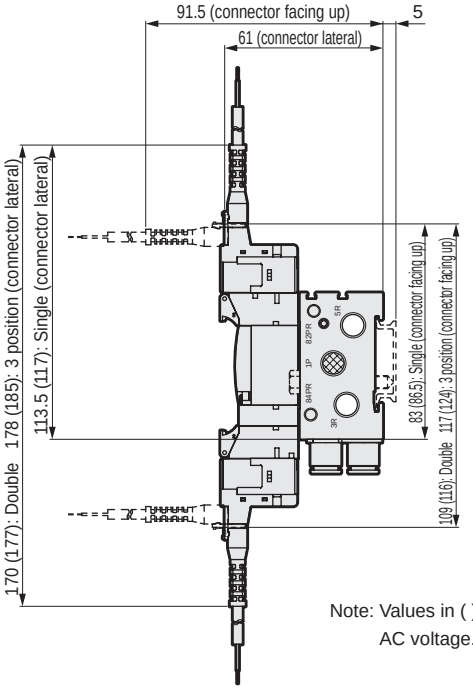


● External pilot (K)
E connector (E)



Note: Values in ( ) are for AC voltage.

● External pilot (K)
EJ connector (E**J)



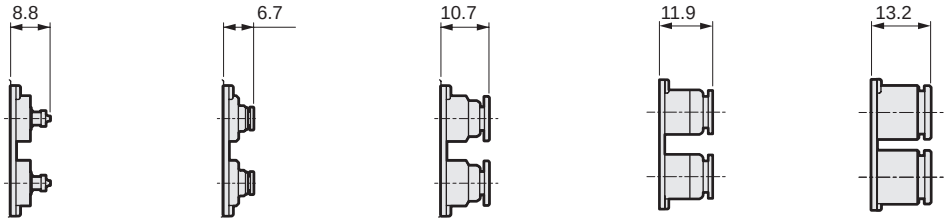
Note: Values in ( ) are for AC voltage.

Station No.	2	3	4	5	6	7	8	9	10	11	12
L	53.9	66.4	78.9	91.4	103.9	116.4	128.9	141.4	153.9	166.4	178.9
L1	35.9	48.4	60.9	73.4	85.9	98.4	110.9	123.4	135.9	148.4	160.9
L2	100.0	112.5	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0
L3	87.5	100.0	112.5	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5

Dimensions CAD

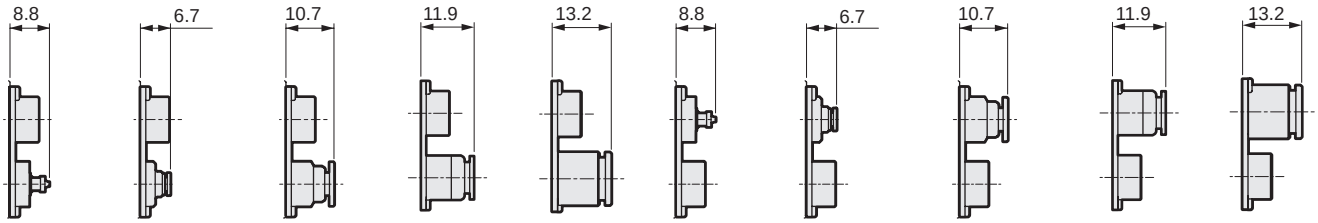
● Straight fitting

● ø1.8 (CF) ● ø1.8 (C18) ● ø4 (C4) ● ø6 (C6) ● ø8 (C8)



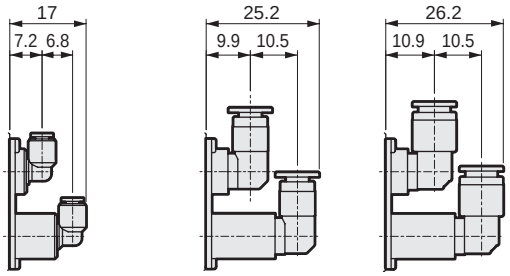
● Straight fitting, single plug

● ø1.8 (CFNC) ● ø1.8 (C18NC) ● ø4 (C4NC) ● ø6 (C6NC) ● ø8 (C8NC) ● ø1.8 (CFNO) ● ø1.8 (C18NO) ● ø4 (C4NO) ● ø6 (C6NO) ● ø8 (C8NO)



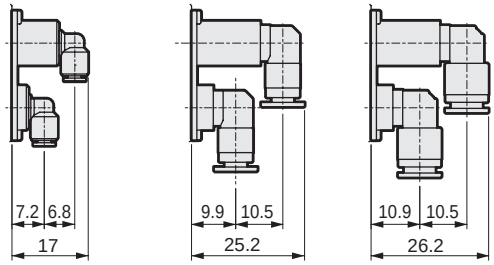
● Radial fitting (facing up)

● ø1.8 (CL18) ● ø4 (CL4) ● ø6 (CL6)



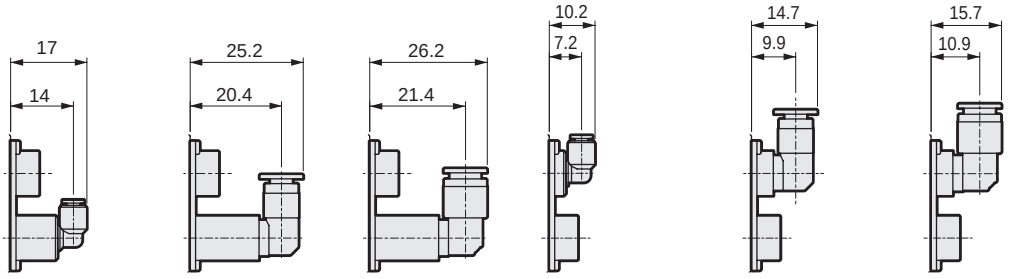
● Radial fitting (facing down)

● ø1.8 (CD18) ● ø4 (CD4) ● ø6 (CD6)



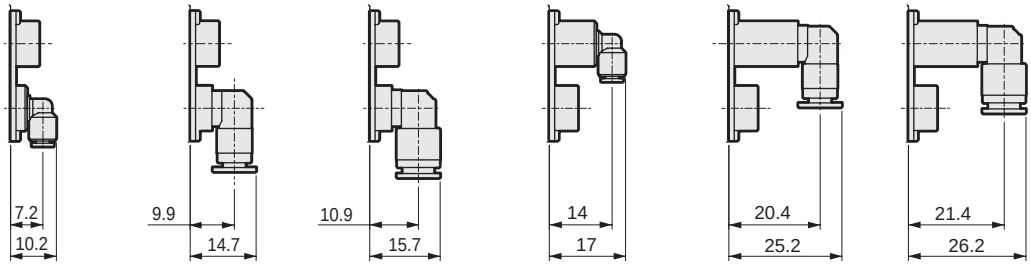
● Radial fitting (facing up), single plug

● ø1.8 (CL18NC) ● ø4 (CL4NC) ● ø6 (CL6NC) ● ø1.8 (CL18NO) ● ø4 (CL4NO) ● ø6 (CL6NO)



● Radial push-in fitting (facing down), single plug

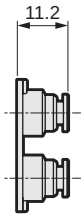
● ø1.8 (CD18NC) ● ø4 (CD4NC) ● ø6 (CD6NC) ● ø1.8 (CD18NO) ● ø4 (CD4NO) ● ø6 (CD6NO)



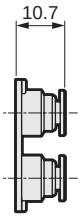
Dimensions

● Straight fitting

● ø1/8 inch (C3N)

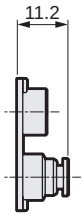


● ø5/32 inch (C4N)

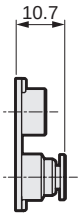


● Straight fitting, single plug

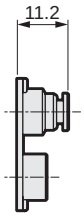
● ø1/8 inch (C3NCN)



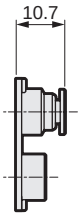
● ø5/32 inch (C4NCN)



● ø1/8 inch (C3NON)

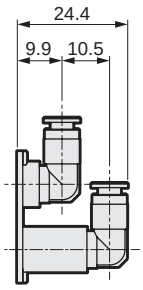


● ø5/32 inch (C4NON)

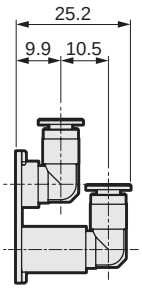


● Radial fitting (facing up)

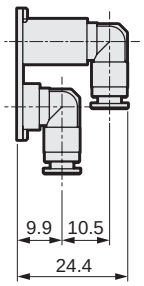
● ø1/8 inch (CL3N)



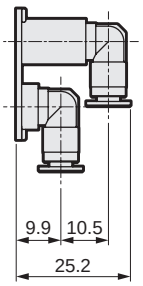
● ø5/32 inch (CL4N)



● ø1/8 inch (CD3N)

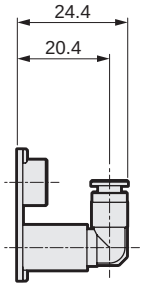


● ø5/32 inch (CD4N)

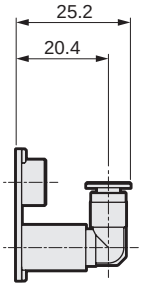


● Radial fitting (facing up), single plug

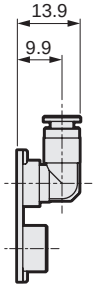
● ø1/8 inch (CL3NCN)



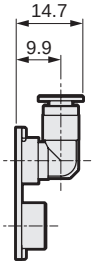
● ø5/32 inch (CL4NCN)



● ø1/8 inch (CL3NON)

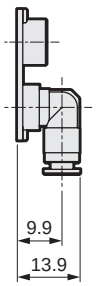


● ø5/32 inch (CL4NON)

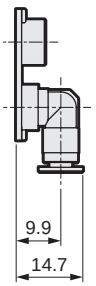


● Radial push-in fitting (facing down), single plug

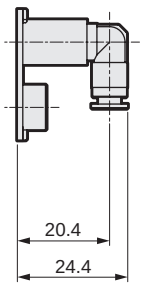
● ø1/8 inch (CD3NCN)



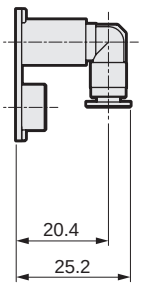
● ø5/32 inch (CD4NCN)



● ø1/8 inch (CD3NON)



● ø5/32 inch (CD4NON)



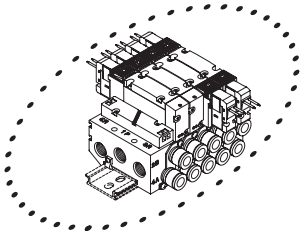
MEMO

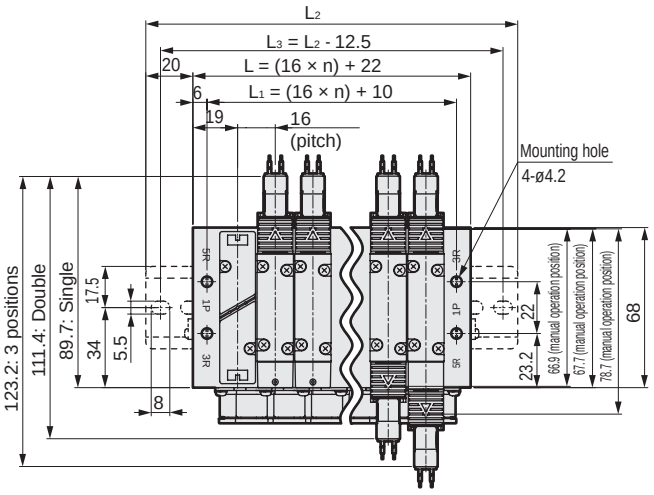
Dimensions CAD

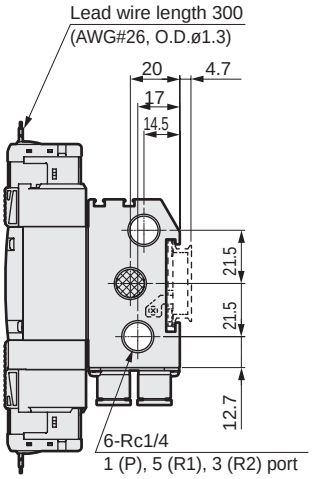
M4GB2-P7*

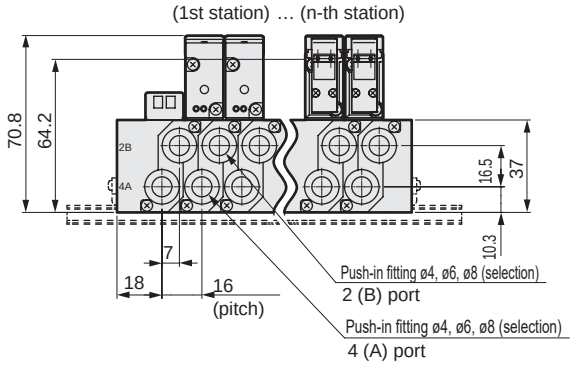
*The dimension of the dual 3-port valve integrated is the same as that of the double.
*Refer to page 754 for details on mounting holes.

● Grommet lead wire (blank)

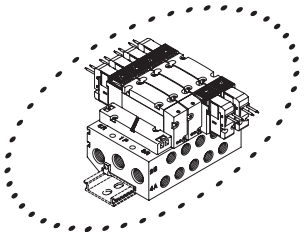


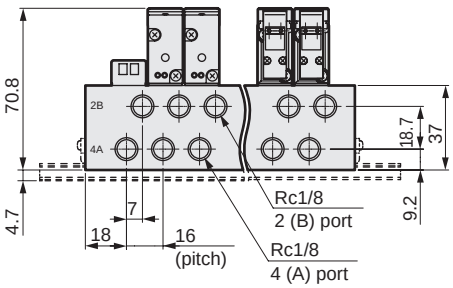




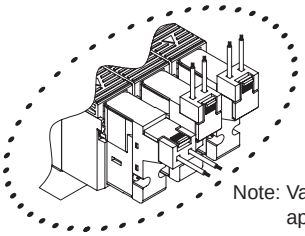


● Rc1/8 female thread (06)

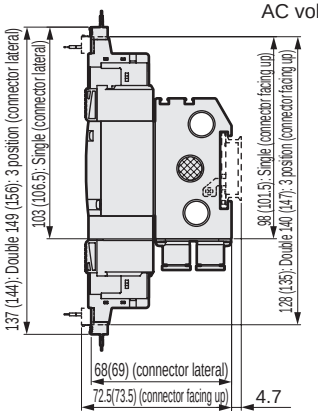




● E connector (E)

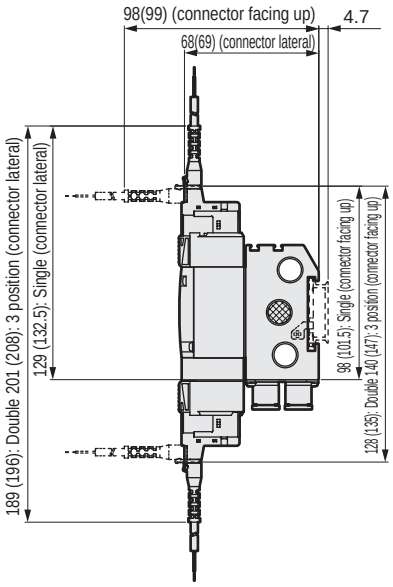


Note: Values in ( ) are applicable to AC voltages.



● EJ connector (E**J)

Note: Values in ( ) are applicable to AC voltages.



Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	54.0	70.0	86.0	102.0	118.0	134.0	150.0	166.0	182.0	198.0	214.0	230.0	246.0	262.0	278.0	294.0	310.0	326.0	342.0
L1	42.0	58.0	74.0	90.0	106.0	122.0	138.0	154.0	170.0	186.0	202.0	218.0	234.0	250.0	266.0	282.0	298.0	314.0	330.0
L2	100.0	112.5	137.5	150.0	162.5	175.0	200.0	212.5	225.0	250.0	262.5	275.0	287.5	312.5	325.0				
L3	87.5	100.0	125.0	137.5	150.0	162.5	187.5	200.0	212.5	237.5	250.0	262.5	275.0	300.0	312.5				

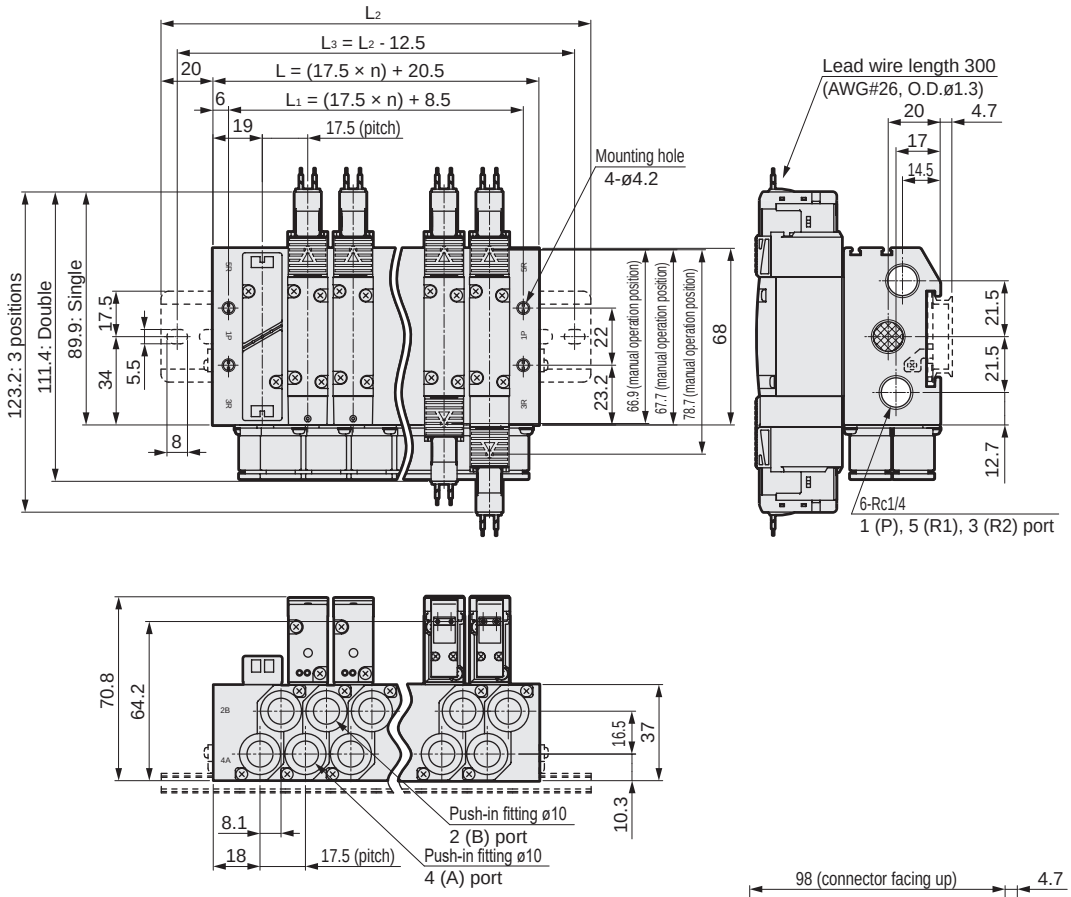
Dimensions

M4GB2-C10-P7*

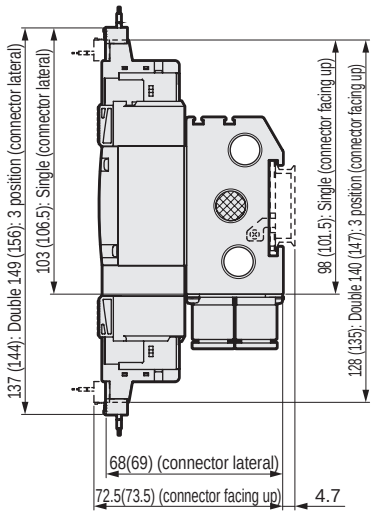
Note: This is a dedicated manifold base.

*Refer to page 754 for details on mounting holes.

● Grommet lead wire (blank)

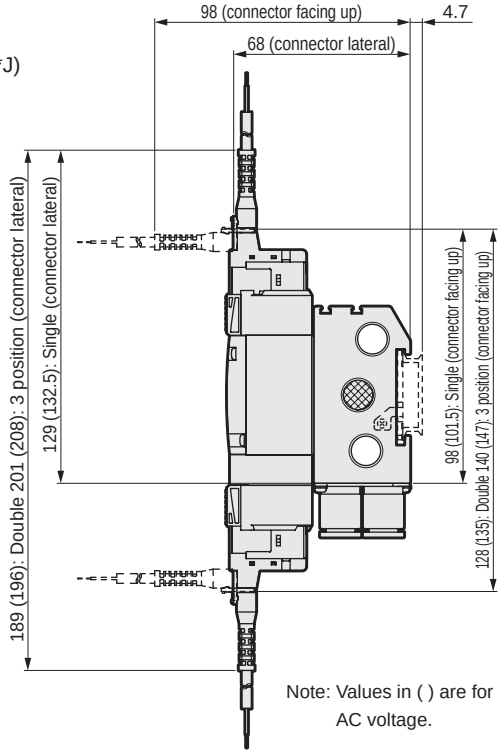


● E connector (E)



Note: Values in ( ) are for AC voltage.

● EJ connector (E**J)



Note: Values in ( ) are for AC voltage.

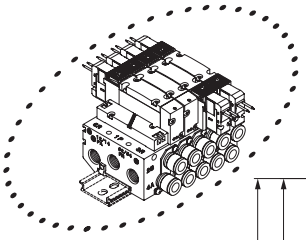
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	55.5	73.0	90.5	108.0	125.5	143.0	160.5	178.0	195.5	213.0	230.5	248.0	265.5	283.0	300.5	318.0	335.5	353.0	370.5
L_1	43.5	61.0	78.5	96.0	113.5	131.0	148.5	166.0	183.5	201.0	218.5	236.0	253.5	271.0	288.5	306.0	323.5	341.0	358.5
L_2	100.0	125.0	137.5	150.0	175.0	187.5	212.5	225.0	237.5	262.5	275.0	300.0	312.5	325.0					
L_3	87.5	112.5	125.0	137.5	162.5	175.0	200.0	212.5	225.0	250.0	262.5	287.5	300.0	312.5					

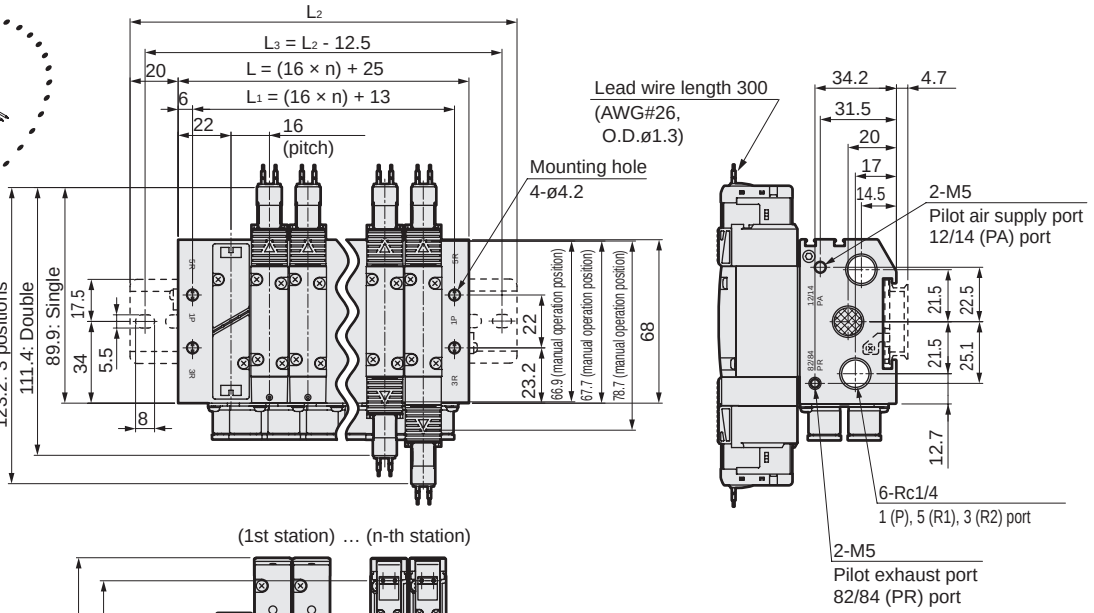
Dimensions CAD

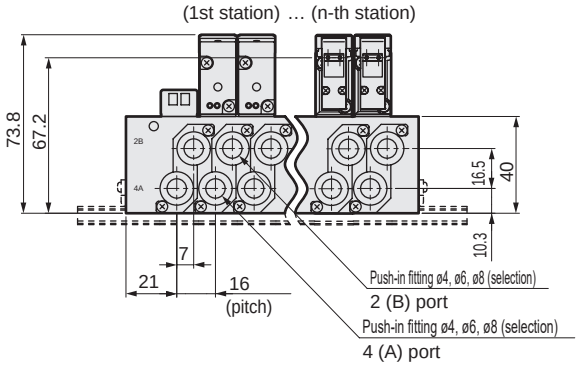
M4GB2-P7*

*Refer to page 754 for details on mounting holes.

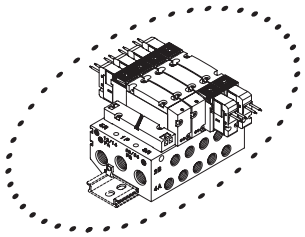
● External pilot (K)
Grommet lead wire (blank)

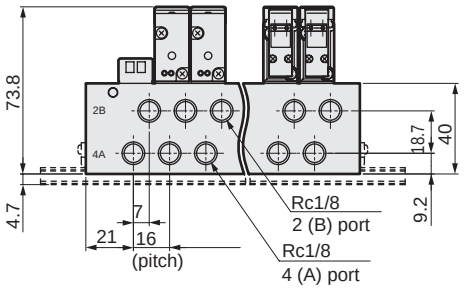




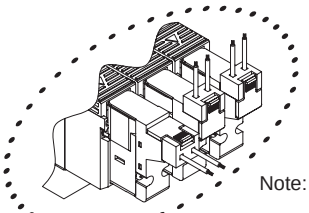


● External pilot (K)
Rc1/8 female thread (06)

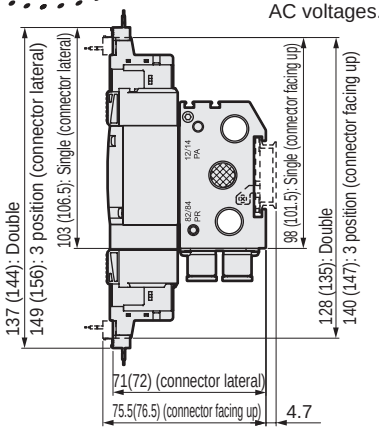




● External pilot (K)
E connector (E)

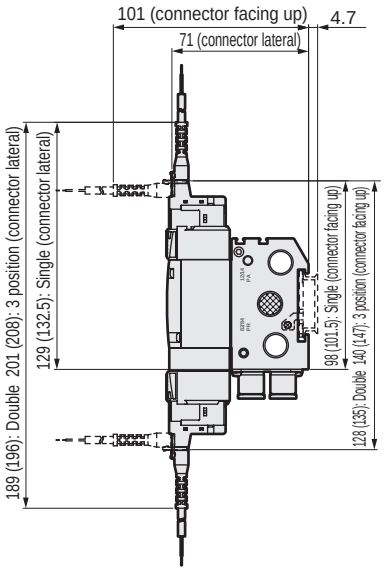


Note: Values in ( ) are applicable to AC voltages.



● External pilot (K)
EJ connector (E**J)

Note: Values in ( ) are applicable to AC voltages.



Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	57.0	73.0	89.0	105.0	121.0	137.0	153.0	169.0	185.0	201.0	217.0	233.0	249.0	265.0	281.0	297.0	313.0	329.0	345.0
L1	45.0	61.0	77.0	93.0	109.0	125.0	141.0	157.0	173.0	189.0	205.0	221.0	237.0	253.0	269.0	285.0	301.0	317.0	333.0
L2	100.0	125.0	137.5	150.0	162.5	187.5	200.0	212.5	225.0	250.0	262.5	275.0	300.0	312.5	325.0				
L3	87.5	112.5	125.0	137.5	150.0	175.0	187.5	200.0	212.5	237.5	250.0	262.5	287.5	300.0	312.5				

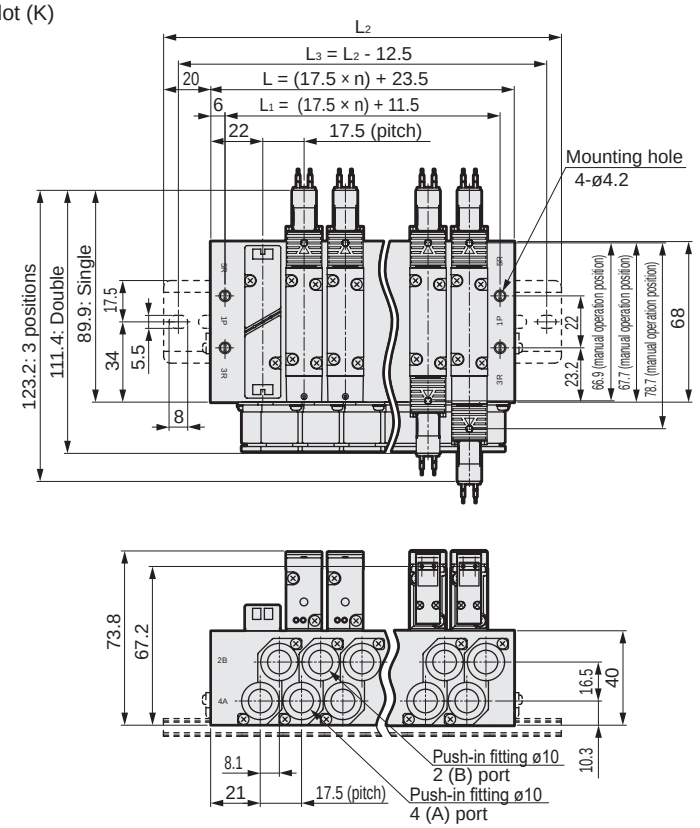
Dimensions

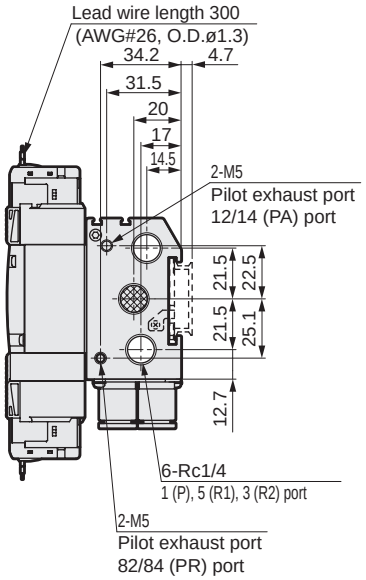
M4GB2-C10-K-P7*

Note: This is a dedicated manifold base.

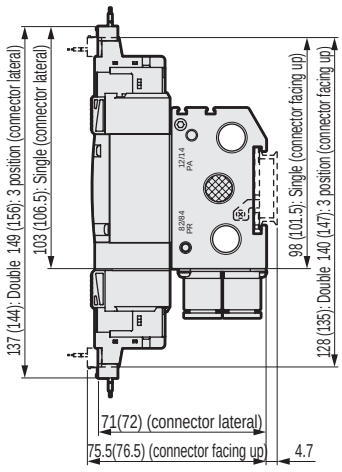
*Refer to page 754 for details on mounting holes.

● Grommet lead wire (blank)
External pilot (K)

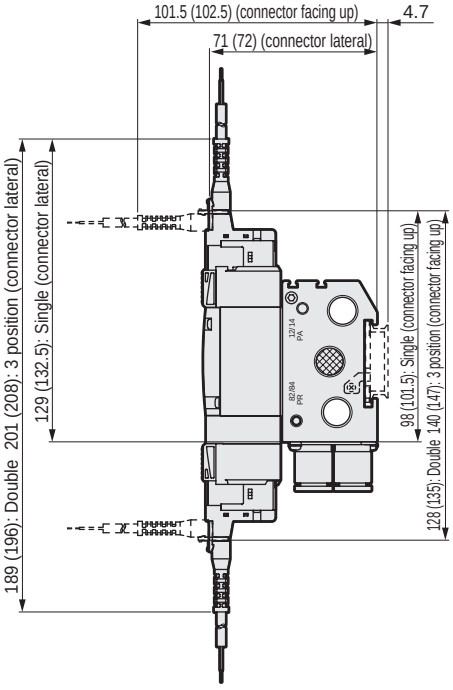




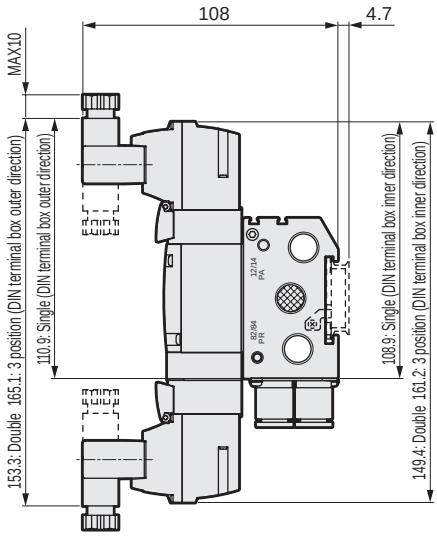
● External pilot (K)
E connector (E)



● External pilot (K)
EJ connector (E**J)



● External pilot (K)
DIN terminal box (B)



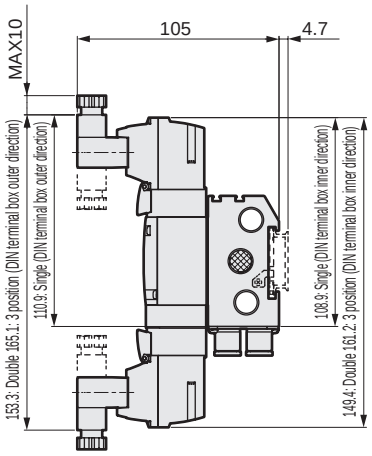
Note: Values in ( ) are for AC voltage.

Note: Values in ( ) are for AC voltage.

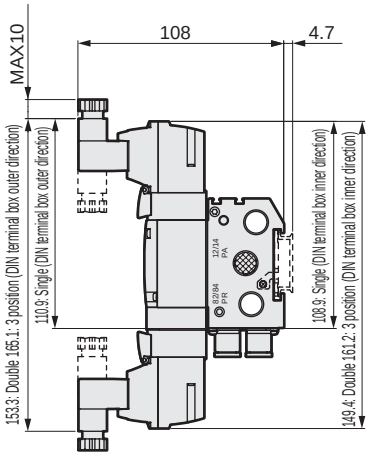
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	58.5	76.0	93.5	111.0	128.5	146.0	163.5	181.0	198.5	216.0	233.5	251.0	268.5	286.0	303.5	321.0	338.5	356.0	373.5
L_1	46.5	64.0	81.5	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5
L_2	100.0	125.0	137.5	162.5	175.0	187.5	212.5	225.0	250.0	262.5	275.0	300.0	312.5	337.5	350.0				
L_3	87.5	100.0	112.5	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5				

Dimensions

● DIN terminal box (B)



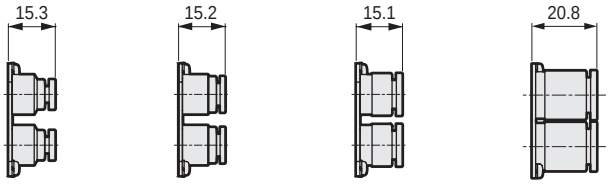
● External pilot (K)
DIN terminal box (B)



Note: The DIN terminal box assembly is shipped facing inward.

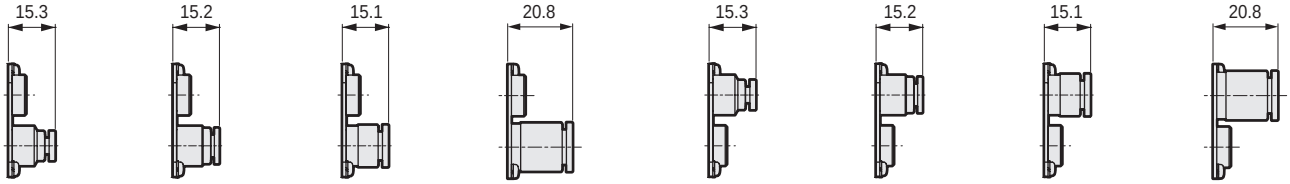
● Straight fitting

● ø4 (C4) ● ø6 (C6) ● ø8 (C8) ● ø10 (C10)



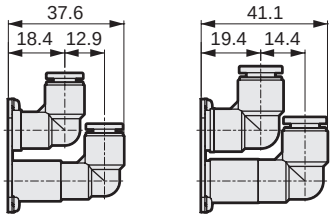
● Straight fitting, single plug

● ø4 (C4NC) ● ø6 (C6NC) ● ø8 (C8NC) ● ø10 (C10NC) ● ø4 (C4NO) ● ø6 (C6NO) ● ø8 (C8NO) ● ø10 (C10NO)



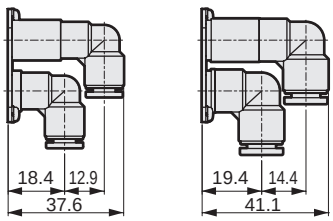
● Radial fitting (facing up)

● ø6 (CL6) ● ø8 (CL8)



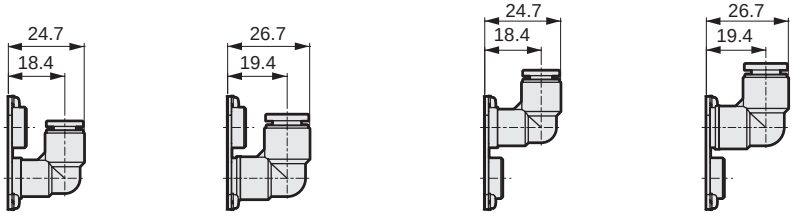
● Radial fitting (facing down)

● ø6 (CD6) ● ø8 (CD8)



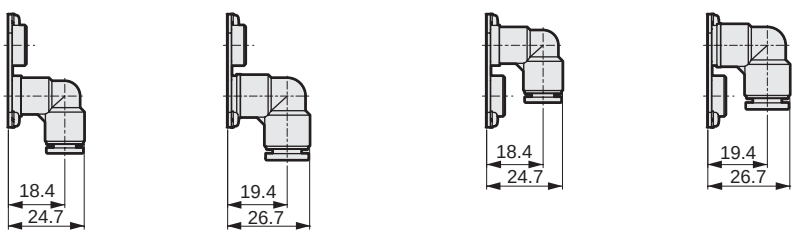
● Radial fitting (facing up), single plug

● ø6 (CL6NC) ● ø8 (CL8NC) ● ø6 (CL6NO) ● ø8 (CL8NO)



● Radial fitting (facing down), single plug

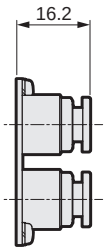
● ø6 (CD6NC) ● ø8 (CD8NC) ● ø6 (CD6NO) ● ø8 (CD8NO)



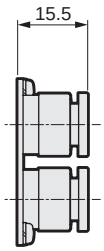
Dimensions

● Straight fitting

● ø1/4 inch (C6N)

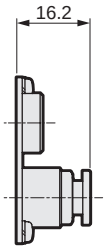


● ø5/16 inch (C8N)

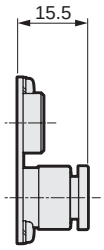


● Straight fitting, single plug

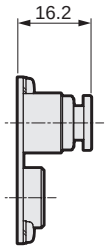
● ø1/4 inch (C6NCN)



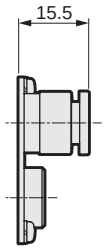
● ø5/16 inch (C8NCN)



● ø1/4 inch (C6NON)

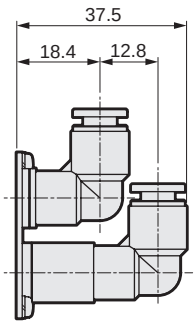


● ø5/16 inch (C8NON)

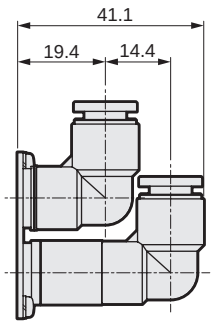


● Radial fitting (facing up)

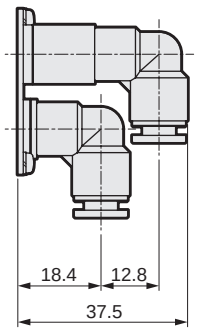
● ø1/4 inch (CL6N)



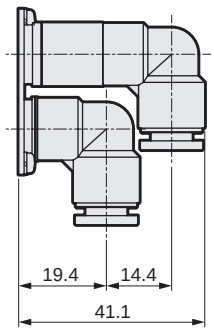
● ø5/16 inch (CL8N)



● ø1/8 inch (CD6N)

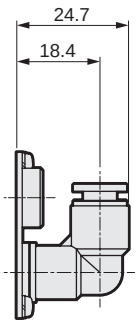


● ø5/32 inch (CD8N)

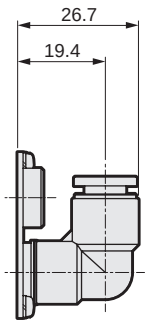


● Radial fitting (facing up), single plug

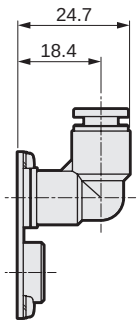
● ø1/4 inch (CL6NCN)



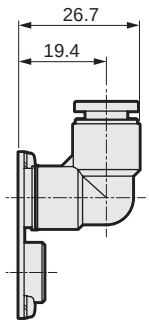
● ø5/16 inch (CL8NCN)



● ø1/4 inch (CL6NON)

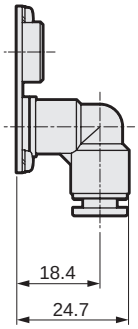


● ø5/16 inch (CL8NON)

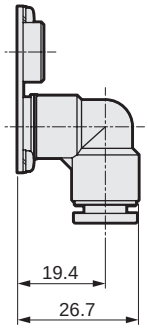


● Radial fitting (facing down), single plug

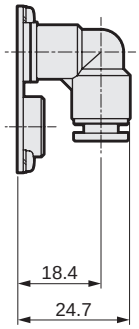
● ø1/4 inch (CD6NCN)



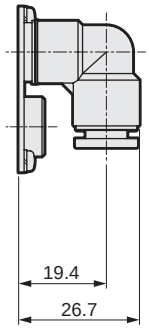
● ø5/16 inch (CD8NCN)



● ø1/4 inch (CD6NON)



● ø5/16 inch (CD8NON)

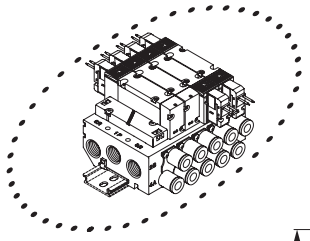


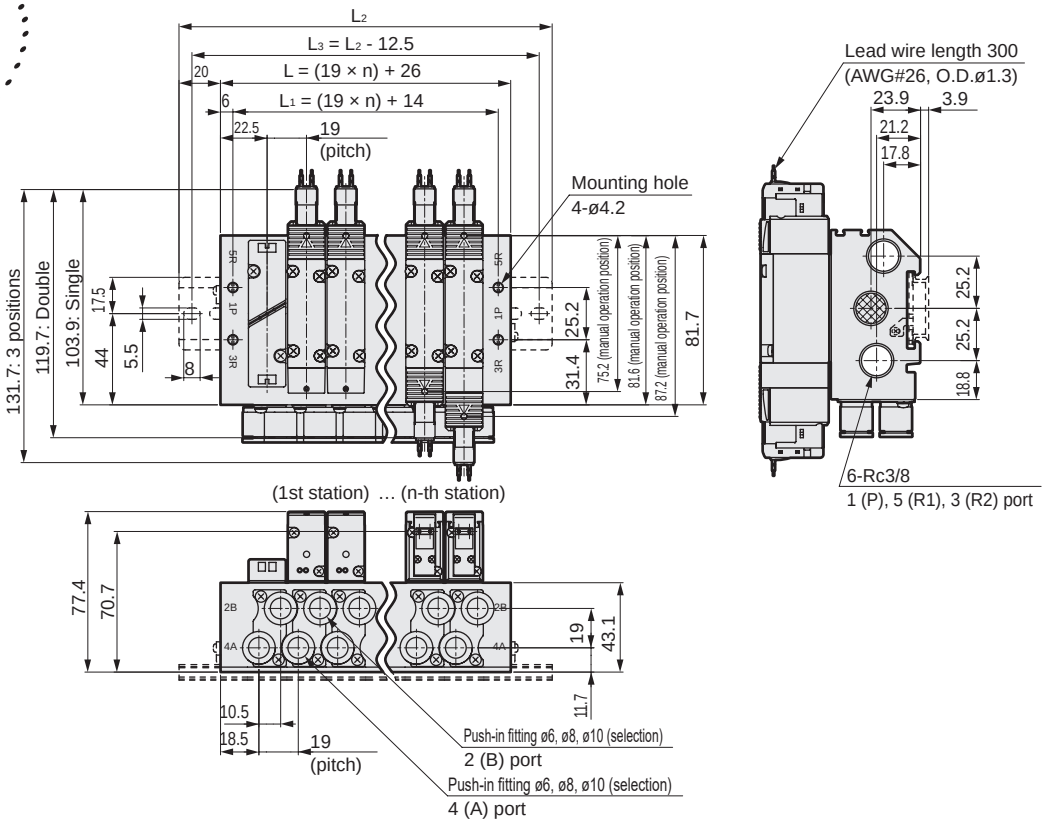
Dimensions CAD

M4GB3-P7*

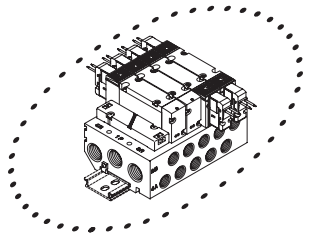
● Grommet lead wire (blank)

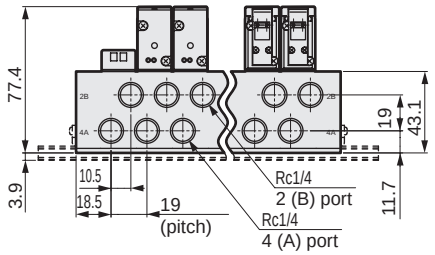
*Refer to page 754 for details on mounting holes.



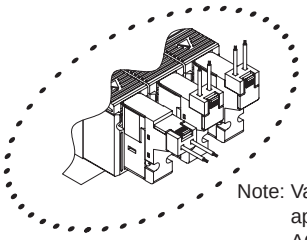


● RC1/4 female thread (08)

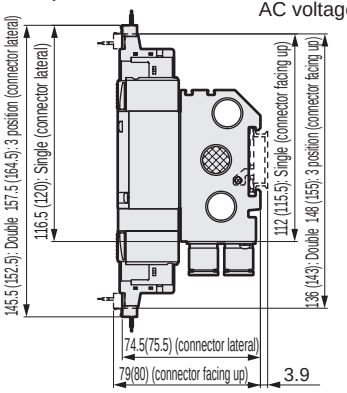




● E connector (E)

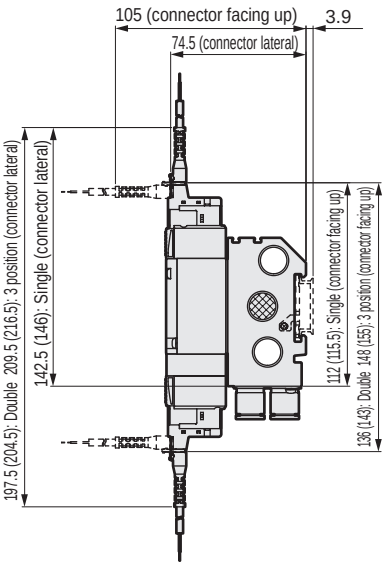


Note: Values in ( ) are applicable to AC voltages.



● EJ connector (E**J)

Note: Values in ( ) are applicable to AC voltages.



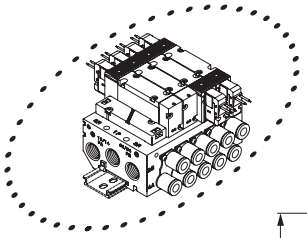
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	64.0	83.0	102.0	121.0	140.0	159.0	178.0	197.0	216.0	235.0	254.0	273.0	292.0	311.0	330.0	349.0	368.0	387.0	406.0
L1	52.0	71.0	90.0	109.0	128.0	147.0	166.0	185.0	204.0	223.0	242.0	261.0	280.0	299.0	318.0	337.0	356.0	375.0	394.0
L2	112.5	125.0	150.0	162.5	187.5	200.0	225.0	237.5	262.5	275.0	300.0	325.0	337.5	362.5	375.0				
L3	100.0	112.5	137.5	150.0	175.0	187.5	212.5	225.0	250.0	262.5	287.5	312.5	325.0	350.0	362.5				

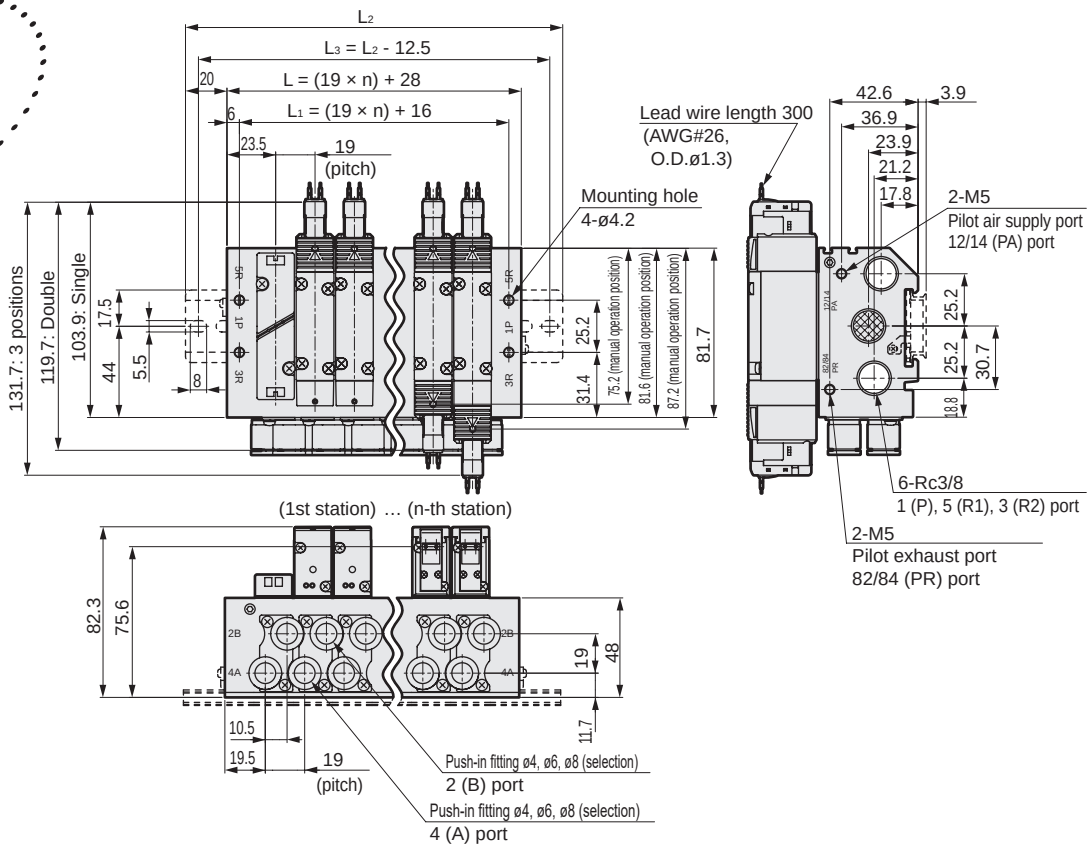
Dimensions

M4GB3-P7*

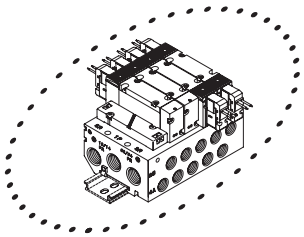
*Refer to page 754 for details on mounting holes.

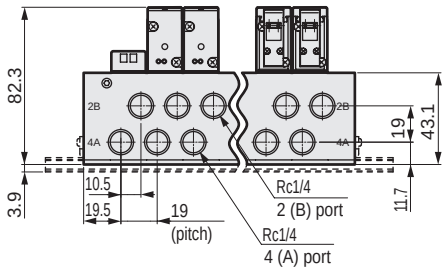
● External pilot (K)
Grommet lead wire (blank)



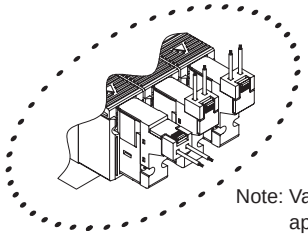


● External pilot (K)
Rc1/4 female thread (08)

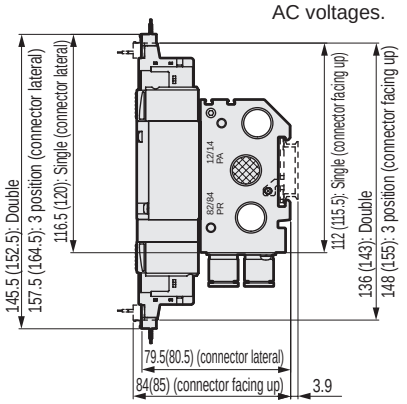




● External pilot (K)
E connector (E)

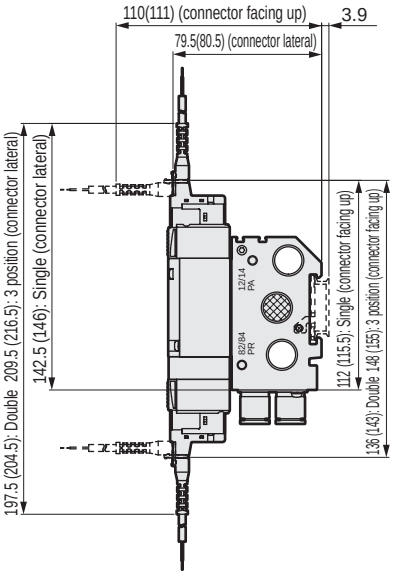


Note: Values in ( ) are applicable to AC voltages.



● External pilot (K)
EJ connector (E**J)

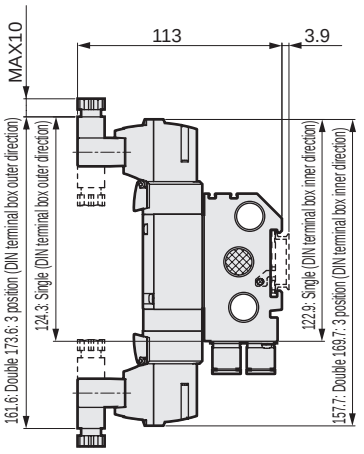
Note: Values in ( ) are applicable to AC voltages.



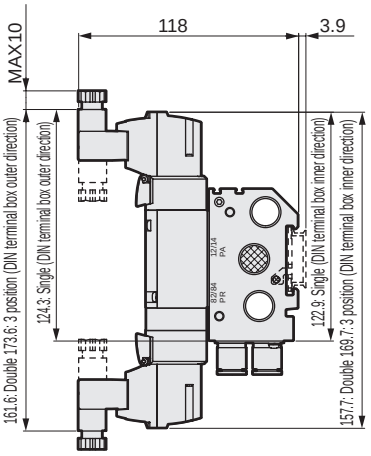
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	66.0	85.0	104.0	123.0	142.0	161.0	180.0	199.0	218.0	237.0	256.0	275.0	294.0	313.0	332.0	351.0	370.0	389.0	408.0
L_1	54.0	73.0	92.0	111.0	130.0	149.0	168.0	187.0	206.0	225.0	244.0	263.0	282.0	301.0	320.0	339.0	358.0	377.0	396.0
L_2	112.5	125.0	150.0	175.0	187.5	212.5	225.0	250.0	262.5	287.5	300.0	325.0	337.5	362.5	375.0				
L_3	100.0	112.5	137.5	162.5	175.0	200.0	212.5	237.5	250.0	275.0	287.5	312.5	325.0	350.0	362.5				

Dimensions

● DIN terminal box (B)

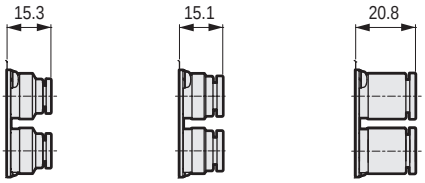


● External pilot (K)
DIN terminal box (B)



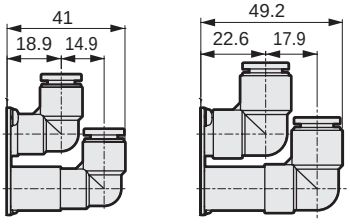
Note: The DIN terminal box assembly is shipped facing inward.

● Straight fitting
● ø6 (C6) ● ø8 (C8) ● ø10 (C10)

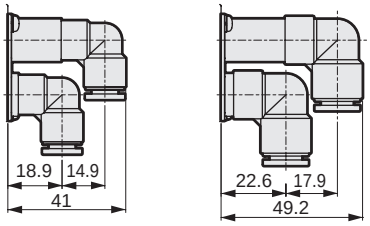


● Straight fitting, single plug
● ø6 (C6NC) ● ø8 (C8NC) ● ø10 (C10NC) ● ø6 (C6NO) ● ø8 (C8NO) ● ø10 (C10NO)

● Radial fitting (facing up)
● ø8 (CL8) ● ø10 (CL10)

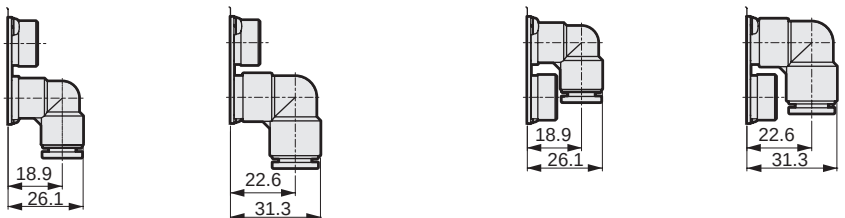


● Radial fitting (facing down)
● ø8 (CD8) ● ø10 (CD10)



● Radial fitting (facing up), single plug
● ø8 (CL8NC) ● ø10 (CL10NC) ● ø8 (CL8NO) ● ø10 (CL10NO)

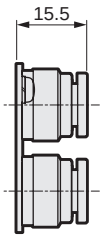
● Radial fitting (facing down), single plug
● ø8 (CD8NC) ● ø10 (CD10NC) ● ø8 (CD8NO) ● ø10 (CD10NO)



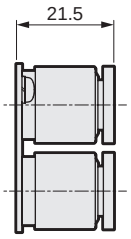
Dimensions

● Straight fitting

● ø5/16 inch (C8N)

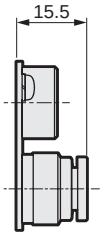


● ø3/8 inch (C10N)

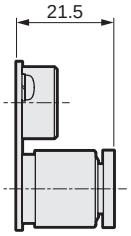


● Straight fitting, single plug

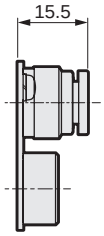
● ø5/16 inch (C8NCN)



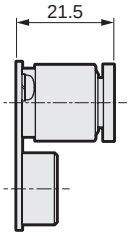
● ø3/8 inch (C10NCN)



● ø5/16 inch (C8NON)

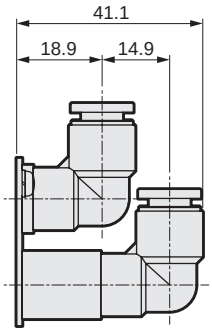


● ø3/8 inch (C10NON)

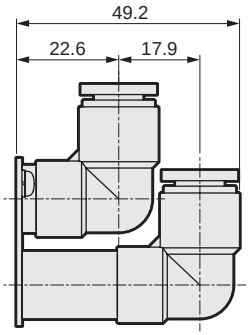


● Radial fitting (facing up)

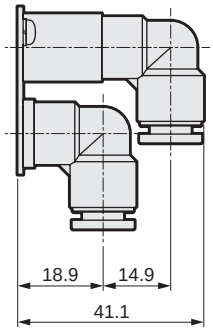
● ø5/16 inch (CL8N)



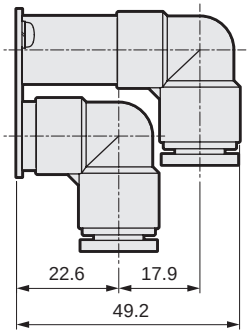
● ø3/8 inch (CL10N)



● ø5/16 inch (CD8N)

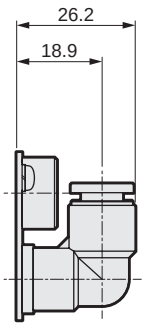


● ø3/8 inch (CD10N)

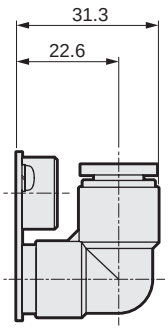


● Radial fitting (facing up), single plug

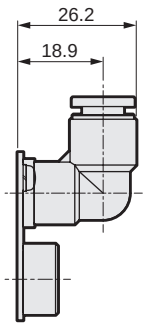
● ø5/16 inch (CL8NCN)



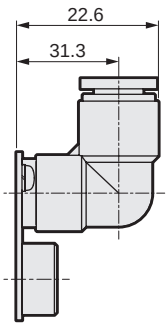
● ø3/8 inch (CL10NCN)



● ø5/16 inch (CL8NON)

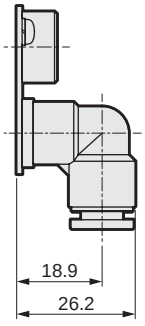


● ø3/8 inch (CL10NON)

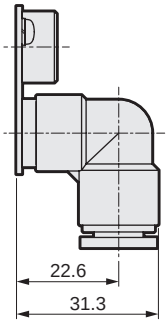


● Radial fitting (facing down), single plug

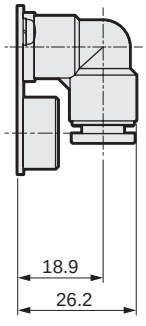
● ø5/16 inch (CD8NCN)



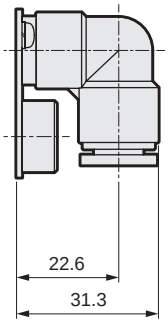
● ø3/8 inch (CD10NCN)

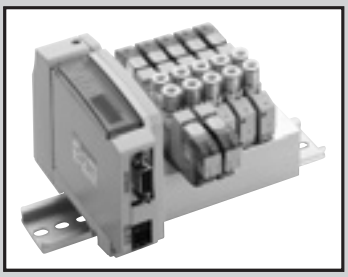


● ø5/16 inch (CD8NON)



● ø3/8 inch (CD10NON)





Reduced wiring manifold
Body piping
Direct mount DIN rail mount

M3GA1/2/3-T*(D) Series
M4GA1/2/3-T*(D) Series

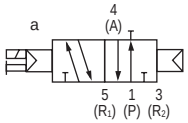
● Applicable cylinder bore size: ø20 to ø100

RoHS CAD

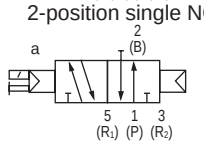
JIS symbol

● 3-port valve

2-position single NC

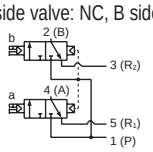


2-position single NO

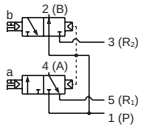


● Dual 3-port valve integrated

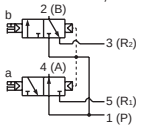
(A side valve: NC, B side valve: NC)



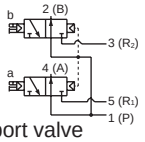
(A side valve: NC, B side valve: NO)



(A side valve: NO, B side valve: NC)

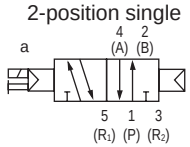


(A side valve: NO, B side valve: NO)

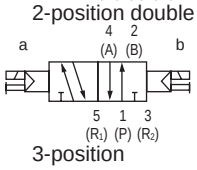


● 5 port valve

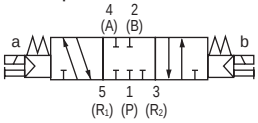
2-position single



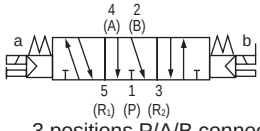
2-position double



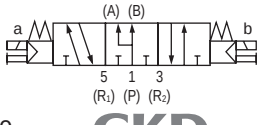
3-position
All ports closed



3-position A/B/R connection



3 positions P/A/B connection



Structure and material restriction

	Structure	Material restriction			Model No.
P7 Series	Dust generation preventing				−P70
	Dust generation preventing	Copper-based materials prohibited	Silicon-based materials prohibited	Halogen-based materials prohibited (fluorine, chlorine, bromine)	−P74 Custom order product

Manifold common specifications

Descriptions		
Manifold		Reduced wiring integrated base
Mounting method		Direct mount DIN rail mount
Supply and exhaust method		Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Internal pilot	Main valve/pilot valve common exhaust (Pilot exhaust check valve integrated)
	External pilot	Main valve/pilot valve individual exhaust
Piping direction		Top piping
Valve and operation		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure	MPa	0.7
Min. working pressure	MPa	0.2 (*3)
Proof pressure	MPa	1.05
Ambient temperature	°C	-5 to 55 (no freezing)
Fluid temperature	°C	5 to 55
Manual operating device		Common for non-locking/locking (standard)
Lubrication	(*1)	Not required
Degree of protection	(*2)	Dust proof
Vibration resistance	m/s^2	50 or less
Shock resistance	m/s^2	300 or less
Atmosphere		Containing corrosive gas is not permissible

*1: Use the turbine oil Class 1 ISO VG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
*2: Avoid water drops or oil, etc. during use.
*3: The working pressure range is 0 to 0.7 MPa when the external pilot (option Code: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

Electrical specifications

Descriptions					
			T1□, T30□, T5□		T6G1, T8□
Rated voltage		V	24 VDC	12 VDC	24 VDC
Voltage fluctuation range		(*4)	±10%		+10%, -5%
Holding current	Standard	A	0.017	0.034	0.017
	Low exoergic/energy-saving circuit built-in	A	0.005	0.010	0.005
Power consumption	Standard	W	0.4		
	Low exoergic/energy-saving circuit built-in	W	0.1		
Thermal class			B		
Surge suppressor		(*5)	Zener diode		
Indicator			LED		

*4: As for T6G1 and T8□ (serial transmission), because a voltage drop may occur due to the internal circuit design, be careful to check for the voltage fluctuation range.
*5: When selecting the type of low-heat -generating/ power-saving circuit built-in or surgeless, a diode is used.

Common specifications

Descriptions		M3GA1/M4GA1	M3GA2/M4GA2	M3GA3/M4GA3
Port size	A/B port	Barbed fitting ø1.8 Push-in fitting ø1.8, ø4, ø6 M5	Push-in fitting ø4, ø6, ø8 Rc1/8	Push-in fitting ø6, ø8, ø10 Rc1/4
	P/R1/R2 port	Rc1/8	Rc1/4	Rc3/8

T1□, T30□, T5□

Descriptions			M3GA1/M4GA1		M3GA2/M4GA2		M3GA3/M4GA3	
			Direct mount	DIN rail mount	Direct mount	DIN rail mount	Direct mount	DIN rail mount
Max. station number		Standard (internal pilot)	20 stations	16 stations	20 stations	16 stations	16 stations	
		External pilot	12 stations					
Manifold base weight calculation formula (n: station No.)	g	Standard	29n + 215	31n + 228	54n + 264	56n + 297	84n + 320	86n + 354
	g	External pilot	44n + 334	46n + 347	96n + 433	96n + 468	149n + 554	151n + 583

T6G1

Descriptions			M3GA1/M4GA1	M3GA2/M4GA2	M3GA3/M4GA3
			DIN rail mount	DIN rail mount	DIN rail mount
Max. station number		Standard (internal pilot)	16 stations	16 stations	16 stations
		External pilot	12 stations		
Manifold base weight calculation formula (n: station No.)	g	Standard	31n + 375	56n + 444	86n + 501
	g	External pilot	46n + 494	98n + 615	151n + 731

T8□

Descriptions			M3GA1/M4GA1		M3GA2/M4GA2		M3GA3/M4GA3	
			Direct mount	DIN rail mount	Direct mount	DIN rail mount	Direct mount	DIN rail mount
Max. station number		Standard (internal pilot)	20 stations	16 stations	20 stations	16 stations	16 stations	
		External pilot	12 stations					
Manifold base weight calculation formula (n: station No.)	g	Standard	50n + 305	52n + 332	57n + 259	60n + 290	150n + 384	153n + 416
	g	External pilot	51n + 313	54n + 340	102n + 336	105n + 368	169n + 417	173n + 449

Manifold base weight stands for a value for the screw connection specifications when a DIN rail, electrical component block, or slave unit is equipped. The max. station number of the manifold is limited by the max. number of solenoid for each of the following wiring specifications.

Flow characteristics

Model No.	Solenoid position		P → A/B		A/B → R1/R2	
			C [dm³/(s·bar)]	b	C [dm³/(s·bar)]	b
M3GA1 M4GA1	Dual 3-port valve integrated		0.86	0.31	1.1 (0.66)	0.19 (0.22)
	2-position		0.99	0.20	1.2 (0.70)	0.20 (0.12)
	3-position	All ports closed	0.94	0.23	1.1 -	0.20 -
		ABR connection	0.93	0.18	1.3 (0.70)	0.23 (0.02)
		PAB connection	1.1	0.28	1.1 -	0.23 -
M3GA2 M4GA2	Dual 3-port valve integrated		1.7	0.40	2.3 (1.7)	0.29 (0.32)
	2-position		2.3	0.36	2.9 (1.7)	0.24 (0.33)
	3-position	All ports closed	2.1	0.35	2.5 -	0.32 -
		ABR connection	2.2	0.37	2.9 (1.8)	0.32 (0.29)
		PAB connection	2.4	0.34	2.5 -	0.33 -
M3GA3 M4GA3	2-position		3.2	0.37	3.8 (2.5)	0.13 (0.28)
	3-position	All ports closed	2.9	0.35	3.3 -	0.35 -
		ABR connection	3.0	0.34	3.8 (2.6)	0.12 (0.27)
		PAB connection	3.3	0.30	3.3 -	0.32 -

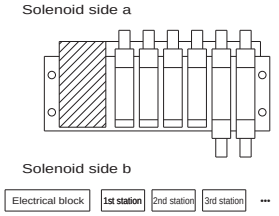
*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.
*2: Values in ( ) apply when the exhaust check valve is attached.

Wiring specifications

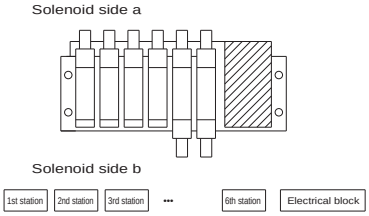
Descriptions	T10□ Common terminal block	T11□ Common terminal block	T30□ D sub-connector	T50□ Flat cable 20 pin	T51□ Flat cable 20 pin	T52□ Flat cable 10 pin	T53□ Flat cable 26 pin
Connector and terminal block specifications	M3 thread tightening 18 terminals	Clamping 26 terminals	D sub-connector 25 pin	MIL-C-83503 standards conformed pressure welding socket 20 pin	MIL-C-83503 standards conformed pressure welding socket 20 pin	MIL-C-83503 standards conformed pressure welding socket 10 pin	MIL-C-83503 standards conformed pressure welding socket 26 pin
Max. number of solenoid	16 point	24 point	24 point	16 point	18 point	8 point	24 point
Manifold internal wiring	Details on page 714 to 721						

Electric block position
Blank : Left side
R : Right side

Left side: T□



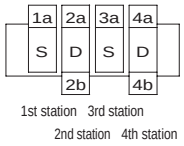
Right side: T□R



Arrangement
Blank : Standard sequential
W : Double wiring

(Example) T50□

Manifold specifications



Standard wiring (sequential): Blank

Connector pin No.	1	2	3	4	5	6
Valve solenoid No.	1a	2a	2b	3a	4a	4b

Double wiring: W

Connector pin No.	1	2	3	4	5	6	7	8
Valve solenoid No.	1a	Void	2a	2b	3a	Void	4a	4b

Serial transmission slave unit specifications

Download the communication configuration file from the CKD website (https://www.ckd.co.jp/en/).

Item		T6G1
Network name		CC-Link ver 1.10
Power supply voltage	Unit side	24 VDC ±10%
	Valve side	24 VDC +10% -5%
Current consumption	Unit side	100 mA or less (when all output points are ON)
	Valve side	15 mA or less (when all output points are OFF)
Output points		16 points
Occupied number		1 station
Operation display		LED (power and communication status)

Serial transmission slave unit specifications

Item		T8G1 T8G2	T8GP1 T8GP2	T8P1 T8P2	T8PP1 T8PP2	T8EC1 T8EC2	T8ECP1 T8ECP2	T8EN1 T8EN2	T8ENP1 T8ENP2	T8D1 T8D2	T8DP1 T8DP2	T8EB1 T8EB2	T8EBP1 T8EBP2	T8EF1 T8EF2	T8EFP1 T8EFP2	T8EP1 T8EP2	T8EPP1 T8EPP2	T8KC1 T8KC2	T8KCP1 T8KCP2
Communication system name		CC-Link ver1.10		PROFIBUS-DP (V0)		EtherCAT		EtherNet/IP		DeviceNet		CC-Link IEF Basic		CC-Link IE Field		PROFINET		IO-LINK	
Power supply voltage	Unit side	24 VDC ±10% (*Only T8D is 11 to 25 VDC)																	
	Valve side	24 VDC + 10%, -5%																	
Current consumption	Unit side	60 mA or less (when all output points are ON)		60 mA or less (when all output points are ON)		110 mA or less (when all output points are ON)		120 mA or less (when all output points are ON)		70 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)		140 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)		50 mA or less (when all output points are ON)	
	Valve side	T8□1: 15 mA or less T8□2: 20 mA or less (when all output points are ON) Load current is not included								15 mA or less (when all output points are ON) Load current is not included									
Output points		T8□1: 16 points, T8□2: 32 points																	
Occupied number		1 station																	
Operation display		LED (power and communication status)																	
Output style		NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output

M$^{3}_{4}$GA1/2/3-T*(D) Series

Reduced wiring manifold; body piping

How to order

Manifold model No.

M 4GA1 1 0R - C6 - T30 W H D - ○ - 3 - P70

3-port manifold model No.

M 3GA1 1 0R - C6 - T30 W H D - ○ - 3 - P70

● Discrete valve for mounting base

4GA1 1 9R - C6 - A2N ○ H — 3 - P70

● 3-port discrete valve for mounting base

3GA1 1 9R - C6 - A2N ○ H — 3 - P70

- B Solenoid position
- A Model No.
- C Port size
- "A2N" indicates the A type (facing down) connector with a lamp/ surge suppressor and no lead wire.
- J Clean specs.

● Refer to page 717 for the model No. of cables with a D sub-connector cable.
● Refer to page 713 for the model No. of the cable for a flat cable connector.

- D Reduced wiring — Zener diode is used for a surge suppressor.
- E Terminal and connector pin wiring
- F Option
- G Mount
- H Station No.
- I Voltage

Precautions for model No. selection

*1: Select M4GA*80R when mixing with the 3, 5-port valves. Select M3GA*80R when mixing with the masking plate.
*2: Combinations with an external pilot (K) are not supported. Dimensions are the same as the respective 2-position double solenoid.
*3: The push-in fitting cannot be mixed with the discrete valve's 4 (A) or 2 (B) port.
*4: Blank ... Wired based on the type of valve used.
W* ... Wired for the double solenoid regardless of the type of valve used.
***5: For the single type, a spare wiring (A-type socket assembly) is attached on the cap side. For the discrete valve (A2N), a holder for holding the socket assembly is attached. Refer to page 596 for details.**

*Always indicate "manifold specifications" (page 609 to 623).

Code	Content		A Model No. 3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
B Solenoid position								
1	2-position single					●	●	●
2	2-position double					●	●	●
3	3-position all ports closed					●	●	●
4	3-position ABR connection					●	●	●
5	3-position P/A/B connection					●	●	●
1	2-position single normally closed	(*1)	●	●	●			
11	2-position single normally open	(*1)	●	●	●			
66	Dual 3-port valve integrated (*1, *2)	A side valve: Normally closed B side valve: Normally closed	●	●				
67		A side valve: Normally closed B side valve: Normally open	●	●				
76		A side valve: Normally open B side valve: Normally closed	●	●				
77		A side valve: Normally open B side valve: Normally open	●	●				
8	Mixed manifold (In case of multiple solenoid positions)		●	●	●	●	●	●
C Port size								
Port	4 (A)/2 (B) port		P/R1/R2 port (2)=Rc1/8 (3)=Rc1/4 (4)=Rc3/8					
CF	ø1.8 barbed fitting applicable tube UP-9102-**)		(2)			(2)		
C18	ø1.8 push-in fitting (applicable tube UP-9402-**)		(2)			(2)		
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	(*3)	(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		P/R1/R2 port (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	(*3)	⑤	⑥	⑦	⑤	⑥	⑦
M5N	M5		⑤			⑤		
O6N	NPT1/8			⑥			⑥	
O8N	NPT1/4	(*4)			⑦			⑦
Port	4 (A)/2 (B) port		P/R1/R2 port (2)=Rc1/8 (3)=Rc1/4 (4)=Rc3/8					
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	(*3)	⑧	⑨	⑩	⑧	⑨	⑩
M5G	M5		⑧			⑧		
O6G	G1/8			⑨			⑨	
O8G	G1/4				⑩			⑩
D Reduced wiring (lamp and surge suppressor provided as standard)								
Refer to the next page for electrical connections.								
E Terminal and connector pin wiring								
Blank	Standard wiring	(*4)	●	●	●	●	●	●
W	Double wiring	(*4)	●	●	●	●	●	●
W1	Double wiring (with single spare wiring)	(*4, *5)	●	●	●	●	●	●
F Option								
Refer to the next page for options.								
G Mount								
Blank	Direct mount		●	●	●	●	●	●
D	DIN rail mount		●	●	●	●	●	●
H Station No.								
2	2 stations		●	●	●	●	●	●
to	to							
20	Refer to page 540 for the max. station number per port size.							
I Voltage								
3	24 VDC		●	●	●	●	●	●
4	12 VDC		●	●	●	●	●	●

J Clean room specifications (*12, 13, 14)								
	Structure	Material restriction						
P70	Exhaust treatment	-	●	●	●	●	●	●
P74	Exhaust treatment	Copper-/silicon-/halogen-based materials (fluorine, chlorine, bromine) are prohibited	○	○	○	○	○	○

is not available.

			Ⓐ Model No.					
			3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Ⓓ Reduced wiring (lamp and surge suppressor provided as standard) 12/24 VDC								
T10	Common terminal block (M3 thread)	Left side specifications	●	●	●	●	●	●
T10R		Right side specifications	●	●	●	●	●	●
T11	Common terminal block (clamping)	Left side specifications	●	●	●	●	●	●
T11R		Right side specifications	●	●	●	●	●	●
T30	D sub-connector	Left side specifications	●	●	●	●	●	●
T30R		Right side specifications	●	●	●	●	●	●
T50	20 pin flat cable connector (with power supply terminal)	Left side specifications	●	●	●	●	●	●
T50R		Right side specifications	●	●	●	●	●	●
T51	20 pin flat cable connector (without power supply terminal)	Left side specifications	●	●	●	●	●	●
T51R		Right side specifications	●	●	●	●	●	●
T52	10 pin flat cable connector (without power supply terminal)	Left side specifications	●	●	●	●	●	●
T52R		Right side specifications	●	●	●	●	●	●
T53	26 pin flat cable connector (without power supply terminal)	Left side specifications	●	●	●	●	●	●
T53R		Right side specifications	●	●	●	●	●	●
Ⓓ Serial transmission (lamp and surge suppressor provided as standard) 24 VDC								
T6G1	CC-Link	NPN 16 points	●	●	●	●	●	●
T8G1	CC-Link	NPN 16 points	●	●	●	●	●	●
T8G2		NPN 32 points	●	●	●	●	●	●
T8GP1		PNP 16 points	●	●	●	●	●	●
T8GP2		PNP 32 points	●	●	●	●	●	●
T8P1	PROFIBUS-DP	NPN 16 points	●	●	●	●	●	●
T8P2		NPN 32 points	●	●	●	●	●	●
T8PP1		PNP 16 points	●	●	●	●	●	●
T8PP2		PNP 32 points	●	●	●	●	●	●
T8EC1	EtherCAT	NPN 16 points	●	●	●	●	●	●
T8EC2		NPN 32 points	●	●	●	●	●	●
T8ECP1		PNP 16 points	●	●	●	●	●	●
T8ECP2		PNP 32 points	●	●	●	●	●	●
T8EN1	EtherNet/IP	NPN 16 points	●	●	●	●	●	●
T8EN2		NPN 32 points	●	●	●	●	●	●
T8ENP1		PNP 16 points	●	●	●	●	●	●
T8ENP2		PNP 32 points	●	●	●	●	●	●
T8D1	DeviceNet	NPN 16 points	●	●	●	●	●	●
T8D2		NPN 32 points	●	●	●	●	●	●
T8DP1		PNP 16 points	●	●	●	●	●	●
T8DP2		PNP 32 points	●	●	●	●	●	●
T8EB1	CC-Link IEF Basic	NPN 16 points	●	●	●	●	●	●
T8EB2		NPN 32 points	●	●	●	●	●	●
T8EBP1		PNP 16 points	●	●	●	●	●	●
T8EBP2		PNP 32 points	●	●	●	●	●	●
T8EF1	CC-Link IE Field	NPN 16 points	●	●	●	●	●	●
T8EF2		NPN 32 points	●	●	●	●	●	●
T8EFP1		PNP 16 points	●	●	●	●	●	●
T8EFP2		PNP 32 points	●	●	●	●	●	●
T8EP1	PROFINET	NPN 16 points	●	●	●	●	●	●
T8EP2		NPN 32 points	●	●	●	●	●	●
T8EPP1		PNP 16 points	●	●	●	●	●	●
T8EPP2		PNP 32 points	●	●	●	●	●	●
T8KC1	IO-Link	NPN 16 points	●	●	●	●	●	●
T8KC2		NPN 32 points	●	●	●	●	●	●
T8KCP1		PNP 16 points	●	●	●	●	●	●
T8KCP2		PNP 32 points	●	●	●	●	●	●
A2N	Without lead wire (no socket)	with surge suppressor and indicator lamp	●	●	●	●	●	●

Ⓕ Option								
Blank	Manual override of non-locking/locking common		●	●	●	●	●	●
M	Manual override of non-locking		●	●	●	●	●	●
H	With exhaust check valve	(*6)	●	●	●	●	●	●
K	External pilot	(*7)	●	●	●	●	●	●
A	Ozone/coolant proof		●	●	●	●	●	●
S	Surgeless	(*8)	●	●	●	●	●	●
E	Low exoergic/energy circuit	(*8) (*9)	●	●	●	●	●	●
F	Built-in A/B port filter	(*10)	●	●	●	●	●	●
Z1	Air supply spacer	(*11)	●	●	●	●	●	●
Z3	Exhaust spacer	(*11)	●	●	●	●	●	●

Ozone proof specifications

Cutting oil prohibited specifications

Can be selected with "How to order" Item option "A".

⚠ Precautions for model No. selection

***6: 3-position all ports closed and PAB connection are not provided with the exhaust check valve (H). Refer to page 751 for details on the exhaust check valve.**

*7: For details of vacuum using with the external pilot (K), consult CKD.

*8: Selecting a combination of surgeless “S” and the low exoergic/energy-saving circuit “E” is not allowed.

*9: Applicable to surgeless specifications

*10: P port is equipped with a filter as standard.

***11: The mounting position and the quantity of spacers should be specified in the manifold specifications of each catalog. Stacking multiple spacers is not supported. Combination with the masking plate is not supported. Refer to pages 592 to 595 for details.**

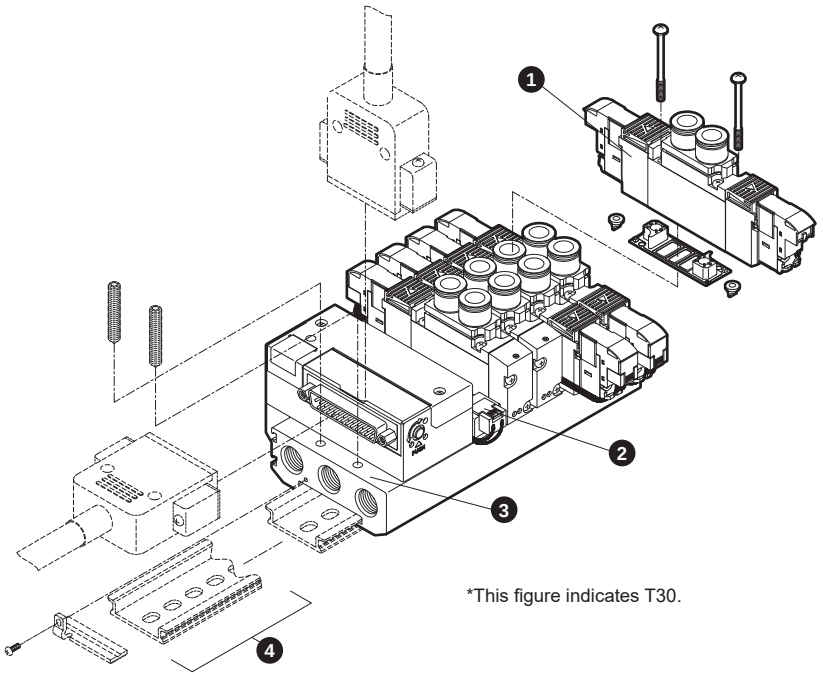
*12: A (ozone compatible) and Ⓗ clean room specifications P74 cannot be combined.

*13: Specifications which do not allow copper-based/silicon-based/halogen-based materials apply to the main valve section.

*14: P74 Series is a custom order product.

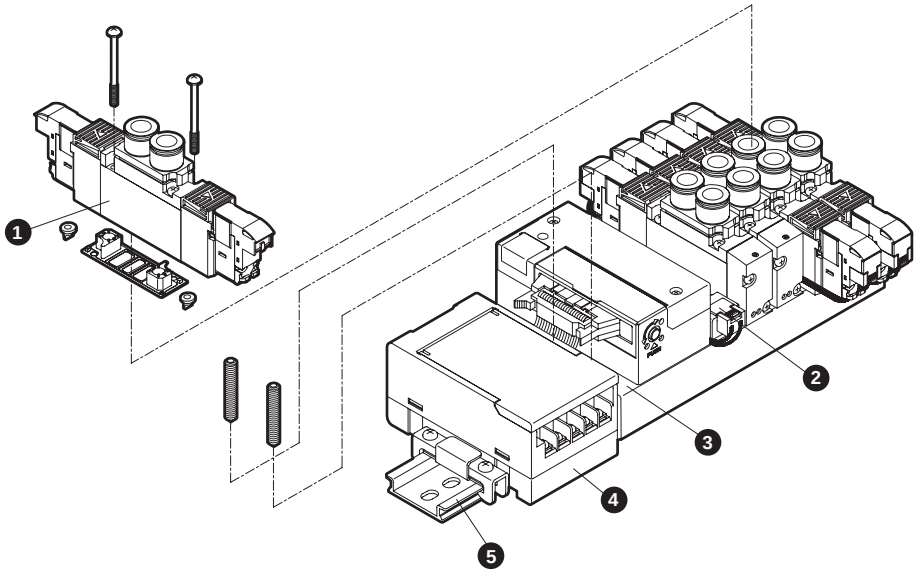
Manifold components explanation and parts list

- T10 / T10R
- T11 / T11R
- T30 / T30R
- T50 / T50R
- T51 / T51R
- T52 / T52R
- T53 / T53R

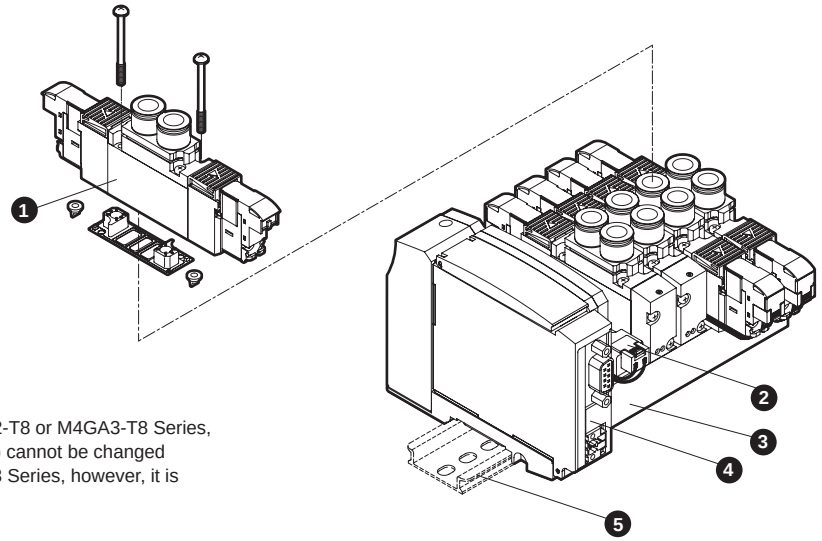


*This figure indicates T30.

- T6G1



- T8*



* When purchasing M4GA2-T8 or M4GA3-T8 Series, its mount (direct, DIN rail) cannot be changed afterward. For M4GA1-T8 Series, however, it is changeable.

Main components list

No.	Component name		Model No.	Descriptions	Remarks
1	Discrete valve for mounting base		4GA□□9R- [Port size] -A2N [Option] - [Voltage] - P70 P74 Solenoid position Series flow rate size	Discrete valve Gasket Set screw 2 PR check valve 2	Details on page 542
2	Masking plate	3G1/4G1	4G1R-MP-P70	Masking plate Gasket Set screw 2	* 3G3/4G3 have two PR check valves.
		3G2/4G2	4G2R-MP-P70		
		3G3/4G3	4G3R-MP-P70		
3	Manifold base assembly		M4GA□R-00- T56 - [Option] - [Station No.] - P70 Series flow rate size	Manifold base Electrical block	
4	Serial transmission slave unit		4GR-OPP3 - [Wiring method] 4GR-OPP7 - [Wiring method]	Serial transmission slave unit	Details on page 560
5	DIN rail kit		4GA□R-BAA [Rail length] - [option D] Series flow rate size		Details on page 599

Parts list

No.	Parts name	Model No.
-	Coil assembly	4GR-A2N - □ - COIL - [Voltage] - P70 Blank: Standard A: Ozone/cutting oil compatible S: Surgeless E: Low exoergic/energy-saving circuit K: External pilot
-	A type connector Socket assembly Details on page 737	Series flow rate size 4G □ R- SOCKET-ASSY-A □ □ - [Row No.] - P70 Blank: Left side, R: Right side A: aSOL side, B: bSOL side n: Specify the position of the valve to be connected

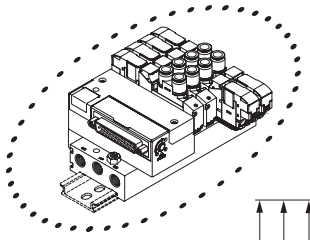
No.	Parts name			
-	Cartridge push-in fittings and related parts	4G1	ø1.8 barbed	4G1R-JOINT-CF-P70
			ø1.8 straight	4G1R-JOINT-C18-P70
			ø4 straight	4G1R-JOINT-C4-P70
			ø6 straight	4G1R-JOINT-C6-P70
			ø1/8" straight	4G1R-JOINT-C3N-P70
			ø5/32" straight	4G1R-JOINT-C4N-P70
			Plug cartridge	4G1R-JOINT-CPG-P70
		4G2	ø4 straight	4G2R-JOINT-C4-P70
			ø6 straight	4G2R-JOINT-C6-P70
			ø8 straight	4G2R-JOINT-C8-P70
			ø1/4" straight	4G2R-JOINT-C6N-P70
			ø5/16" straight	4G2R-JOINT-C8N-P70
			Plug cartridge	4G2R-JOINT-CPG-P70
		4G3	ø6 straight	4G3R-JOINT-C6-P70
			ø8 straight	4G3R-JOINT-C8-P70
			ø10 straight	4G3R-JOINT-C10-P70
			ø5/16" straight	4G3R-JOINT-C8N-P70
			ø3/8" straight	4G3R-JOINT-C10N-P70
			Plug cartridge	4G3R-JOINT-CPG-P70

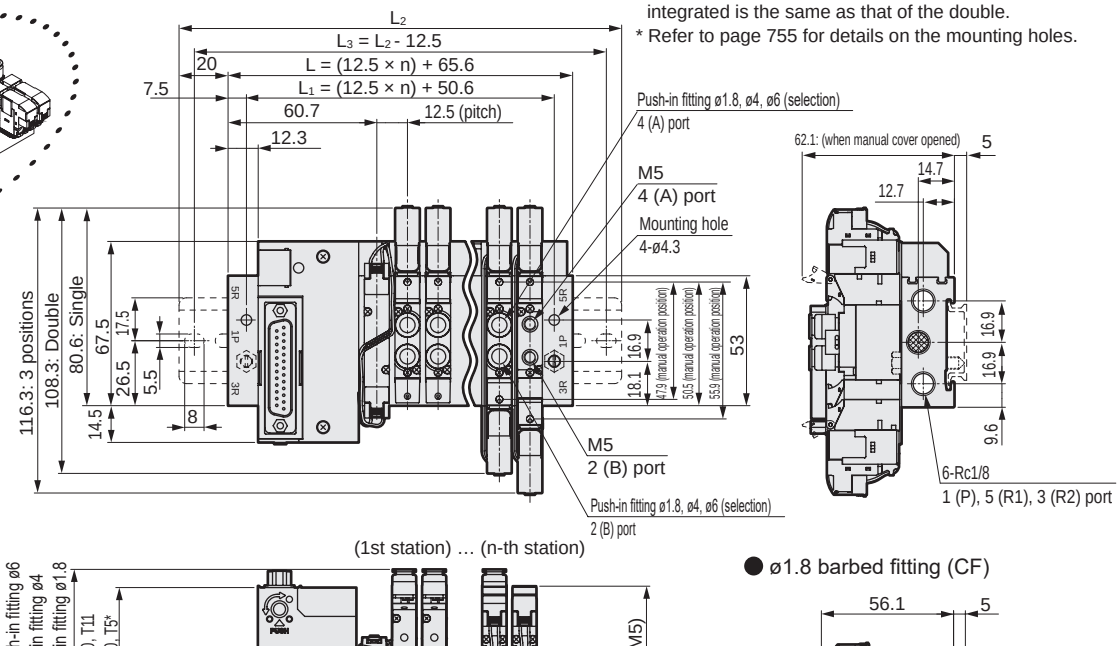
Dimensions CAD

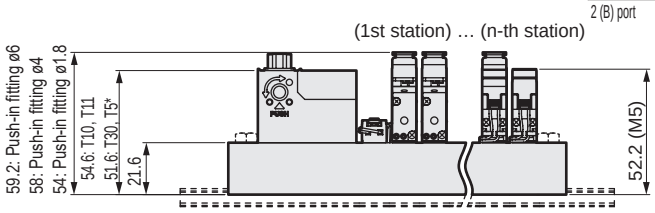
M4GA1-P7*

* This drawing shows the T30. Refer to pages 558 to 559 for detailed dimensions of the electric block.
* For the 2-position single 3-port valve, the port A or port B is a plug. The dimension of the dual 3-port valve integrated is the same as that of the double.
* Refer to page 755 for details on the mounting holes.

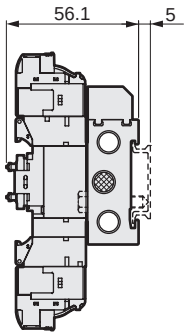
● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)



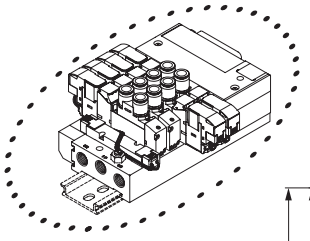


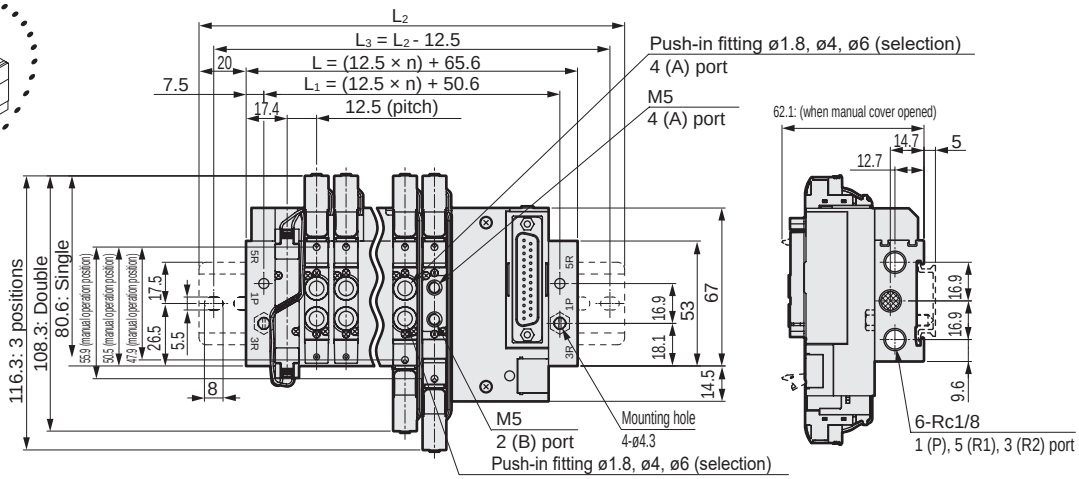


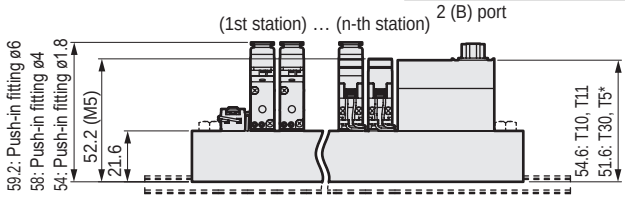
● ø1.8 barbed fitting (CF)



● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)







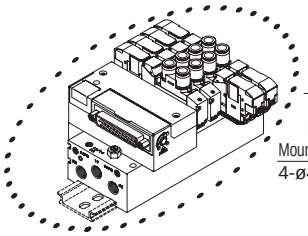
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	90.6	103.1	115.6	128.1	140.6	153.1	165.6	178.1	190.6	203.1	215.6	228.1	240.6	253.1	265.6	278.1	290.6	303.1	315.6
L_1	75.6	88.1	100.6	113.1	125.6	138.1	150.6	163.1	175.6	188.1	200.6	213.1	225.6	238.1	250.6	263.1	275.6	288.1	300.6
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5				
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0				

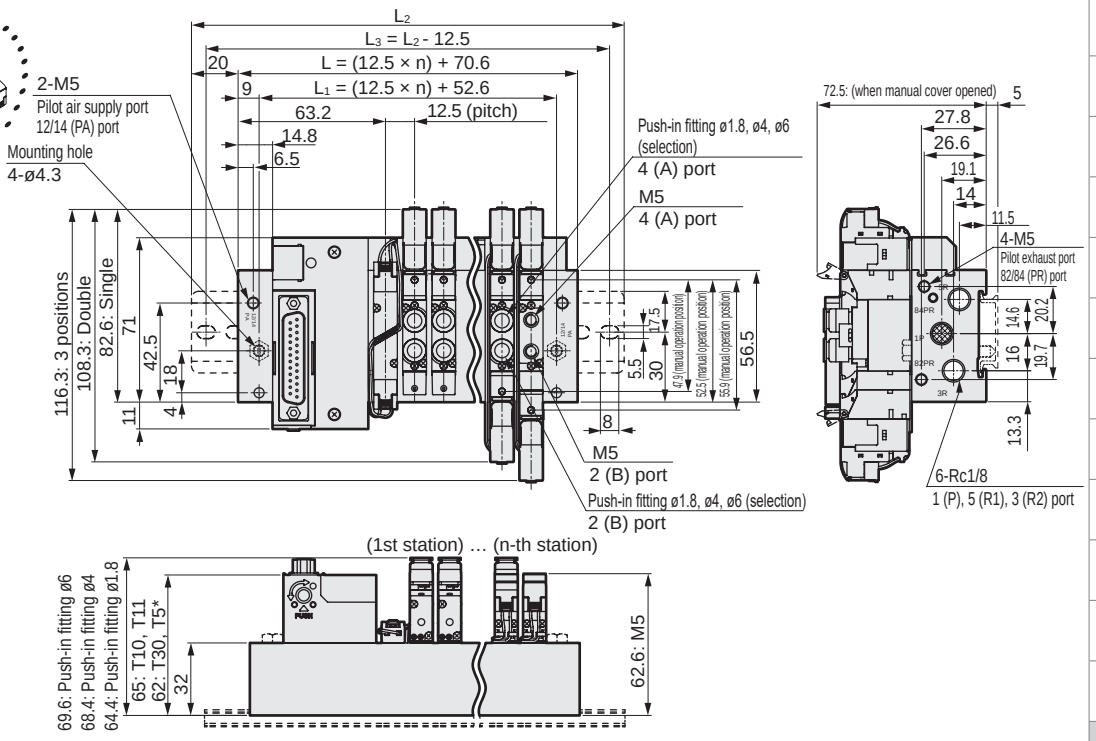
Dimensions

M4GA1-P7*

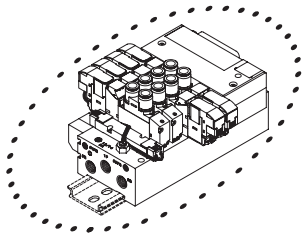
* This drawing shows the T30. Refer to pages 558 to 559 for detailed dimensions of the electric block.
* For 2-position single 3-port valve, port A or port B is a plug.
* Refer to page 755 for details on the mounting holes.

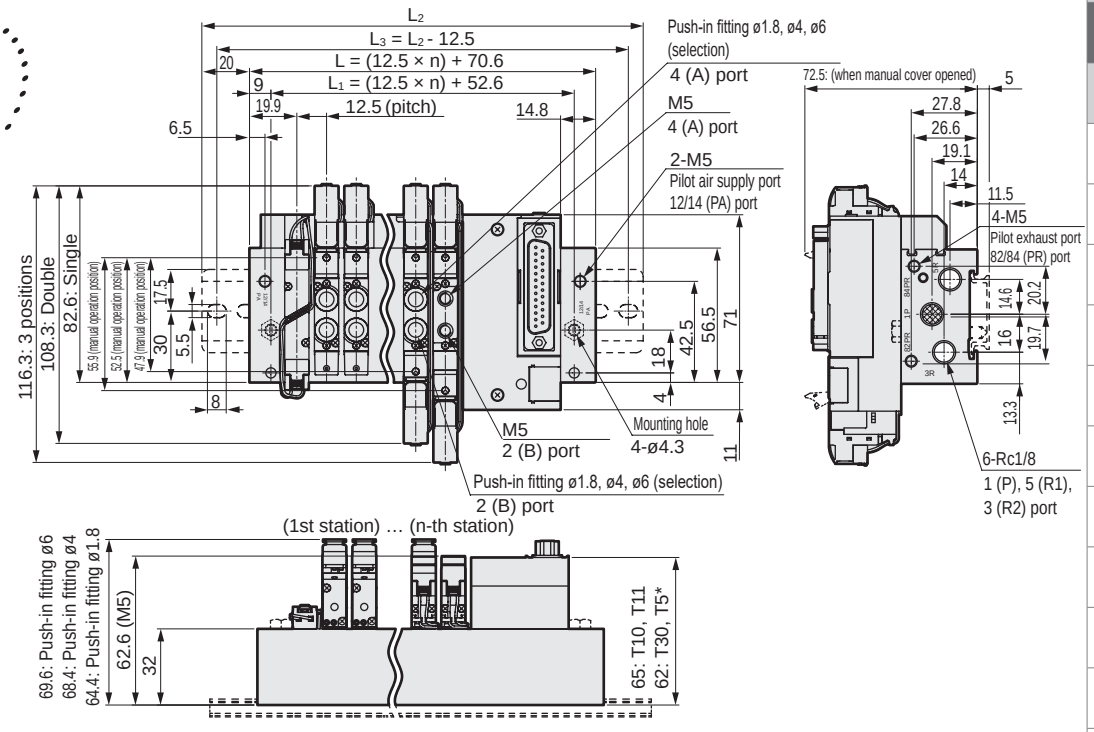
● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)
External pilot (K)





● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)
External pilot (K)





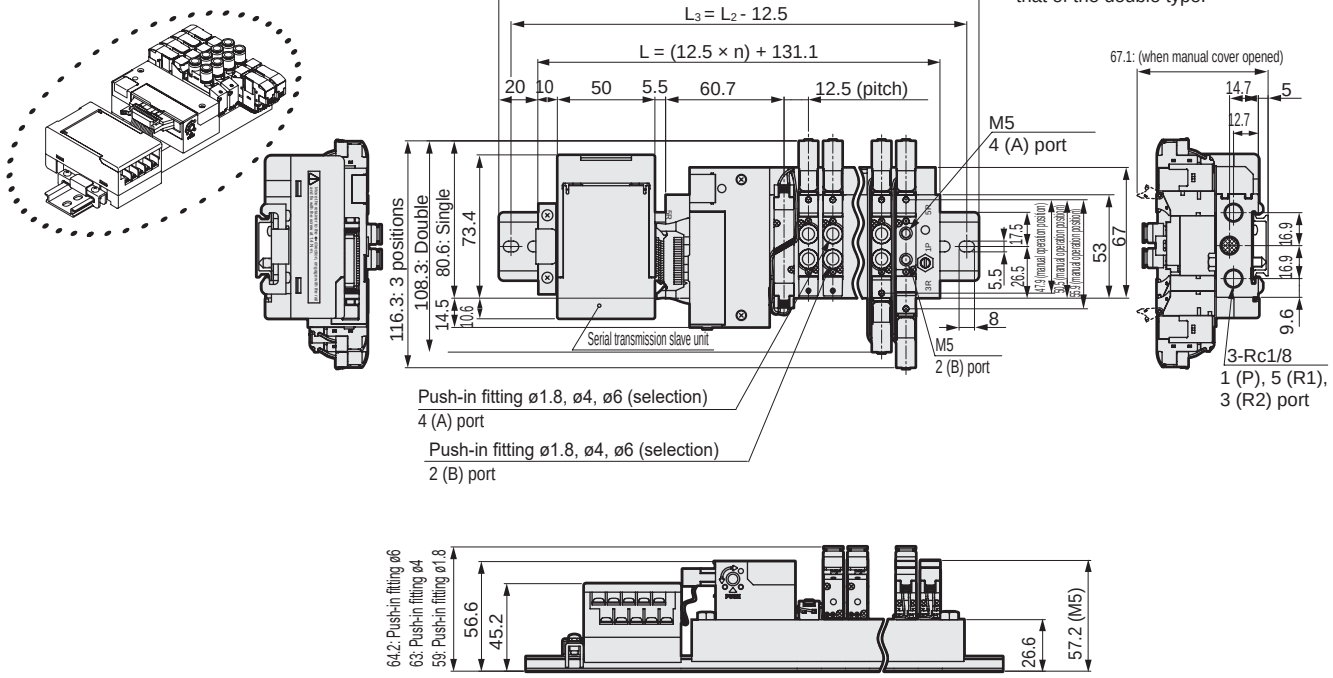
Station No.	2	3	4	5	6	7	8	9	10	11	12
L	95.6	108.1	120.6	133.1	145.6	158.1	170.6	183.1	195.6	208.1	220.6
L_1	77.6	90.1	102.6	115.1	127.6	140.1	152.6	165.1	177.6	190.1	202.6
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0

Dimensions CAD

M4GA1-P7*

● Serial transmission (T6G1)
DIN rail mounting (D)

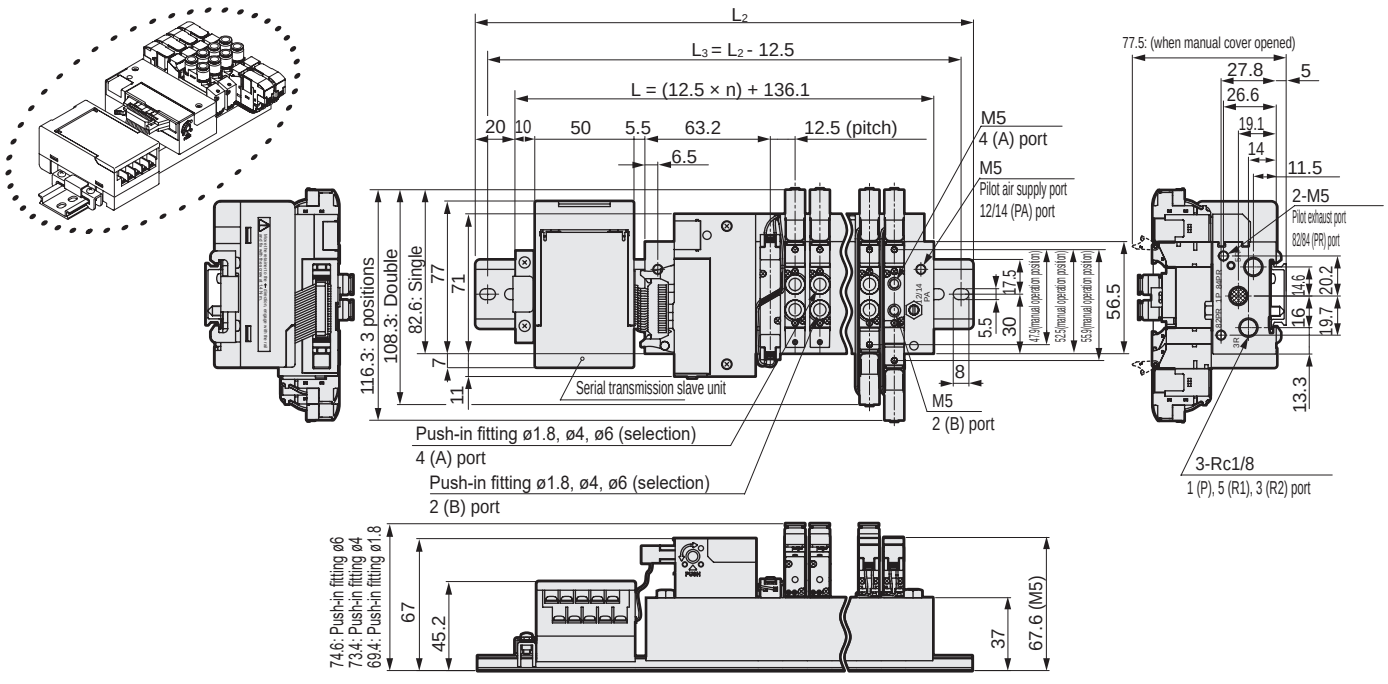
* With the 2-position single 3-port valve, either the A port or B port will be plugged. The dimension of the dual 3-port valve integrated is the same as that of the double type.



Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	156.1	168.6	181.1	193.6	206.1	218.6	231.1	243.6	256.1	268.6	281.1	293.6	306.1	318.6	331.1
L_2	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0	337.5	350.0	362.5	375.0
L_3	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0	337.5	350.0	362.5

M4GA1-P7*

● Serial transmission (T6G1)
DIN rail mounting (D); external pilot (K)



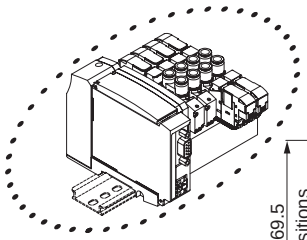
Station No.	2	3	4	5	6	7	8	9	10	11	12
L	161.1	173.6	186.1	198.6	211.1	223.6	236.1	248.6	261.1	273.6	286.1
L_2	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0	337.5
L_3	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0

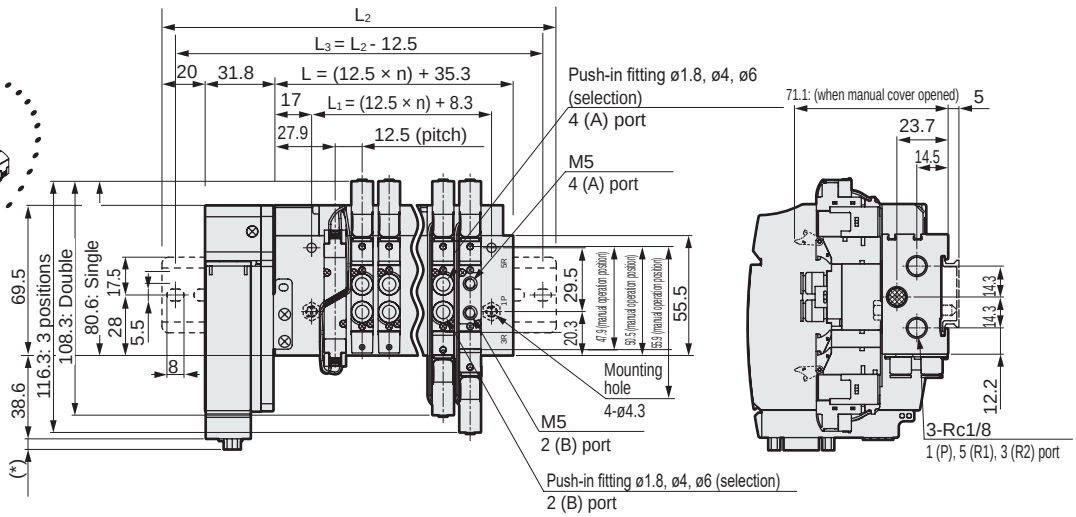
Dimensions

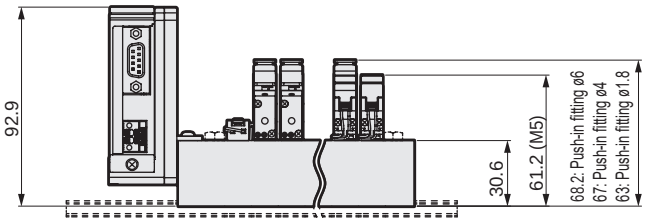
M4GA1-P7*

* Refer to page 755 for details on the mounting holes.

● Serial transmission (T8□)
DIN rail mounting (D)





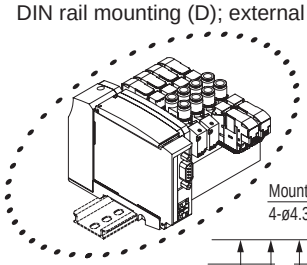


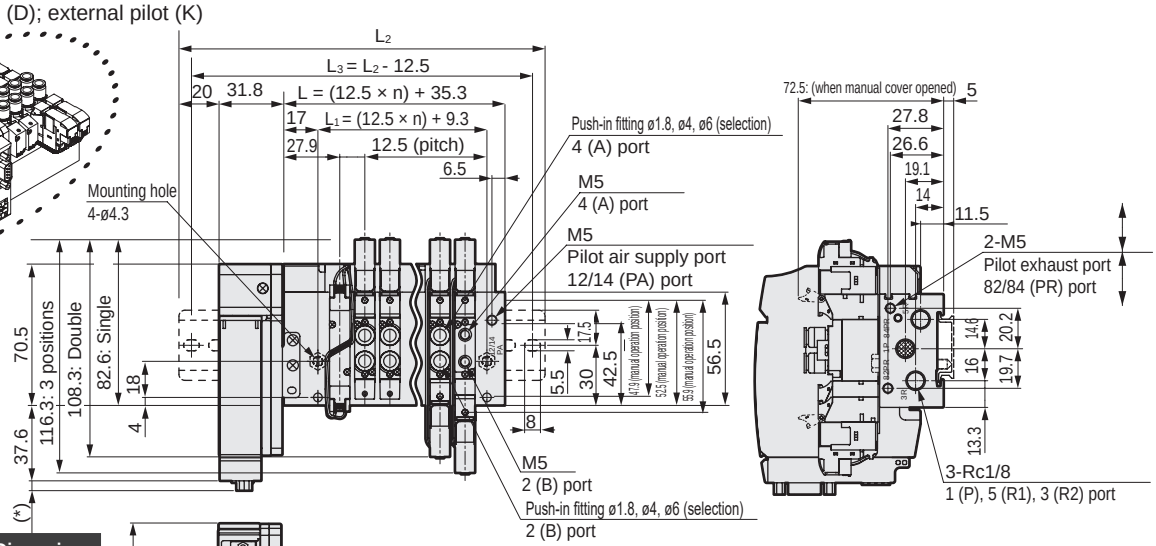
Serial transmission	(*) Dimensions
T8G□	1.0
T8P□	4.9
T8E□	1.5
T8D□	1.0
T8K□	1.0

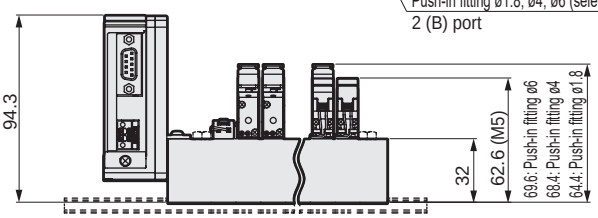
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	60.3	72.8	85.3	97.8	110.3	122.8	135.3	147.8	160.3	172.8	185.3	197.8	210.3	222.8	235.3	247.8	260.3	272.8	285.3
L_1	33.3	45.8	58.3	70.8	83.3	95.8	108.3	120.8	133.3	145.8	158.3	170.8	183.3	195.8	208.3	220.8	233.3	245.8	258.3
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5				
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0				

M4GA1-P7*

● Serial transmission (T8□)
DIN rail mounting (D); external pilot (K)







Serial transmission	(*) Dimensions
T8G□	1.0
T8P□	4.9
T8E□	1.5
T8D□	1.0
T8K□	1.0

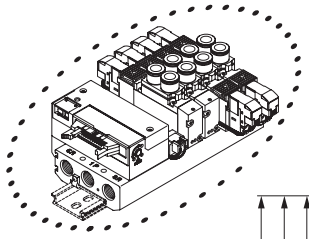
Station No.	2	3	4	5	6	7	8	9	10	11	12
L	60.3	72.8	85.3	97.8	110.3	122.8	135.3	147.8	160.3	172.8	185.3
L_1	34.3	46.8	59.3	71.8	84.3	96.8	109.3	121.8	134.3	146.8	159.3
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0

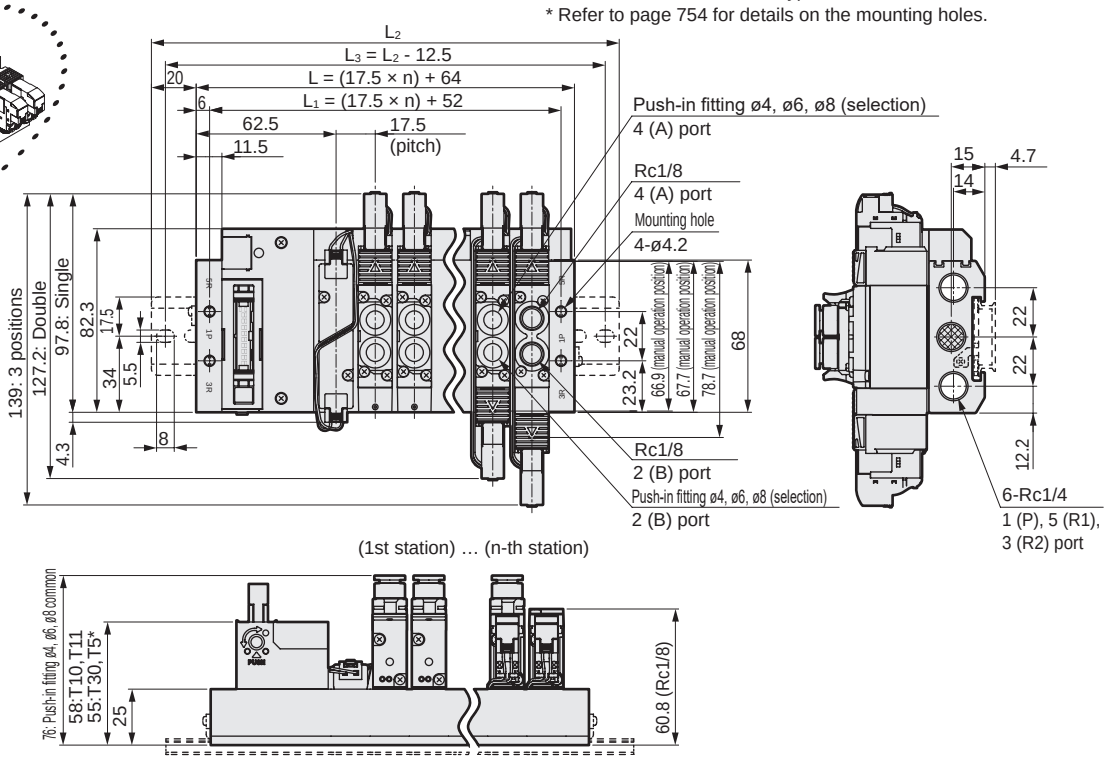
Dimensions CAD

M4GA2-P7*

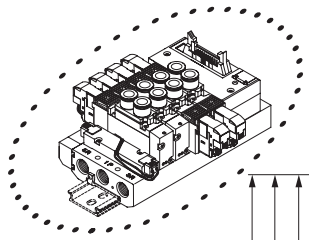
* This drawing shows the T50. Refer to pages 558 to 559 for detailed dimensions of the electric block.
* For the 2-position single 3-port valve, the port A or port B is a plug. The dimension of the dual 3-port valve integrated is the same as that of the double type.
* Refer to page 754 for details on the mounting holes.

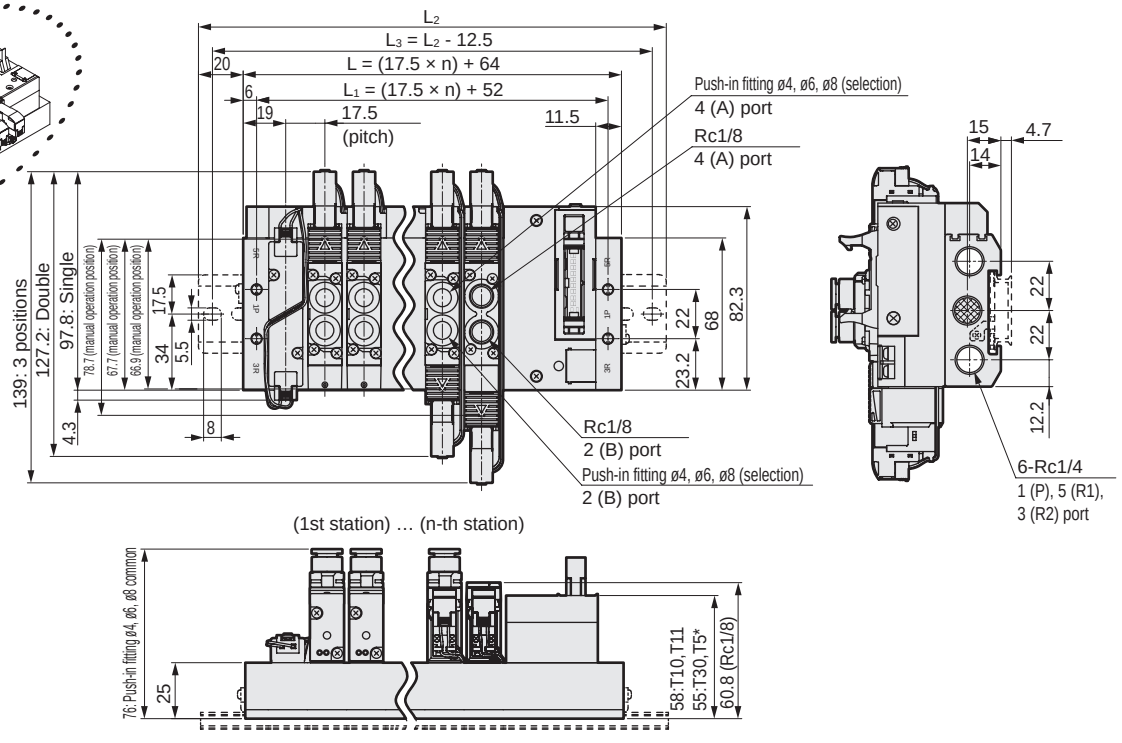
● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)





● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)





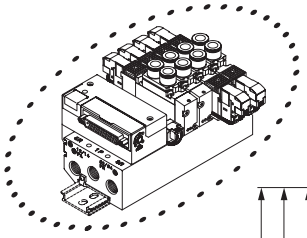
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5	379.0	396.5	414.0
L_1	87.0	104.5	122.0	139.5	157.0	174.5	192.0	209.5	227.0	244.5	262.0	279.5	297.0	314.5	332.0	349.5	367.0	384.5	402.0
L_2	150.0	162.5	175.0	200.0	212.5	237.5	250.0	262.5	287.5	300.0	325.0	337.5	350.0	375.0	387.5				
L_3	137.5	150.0	162.5	187.5	200.0	225.0	237.5	250.0	275.0	287.5	312.5	325.0	337.5	362.5	375.0				

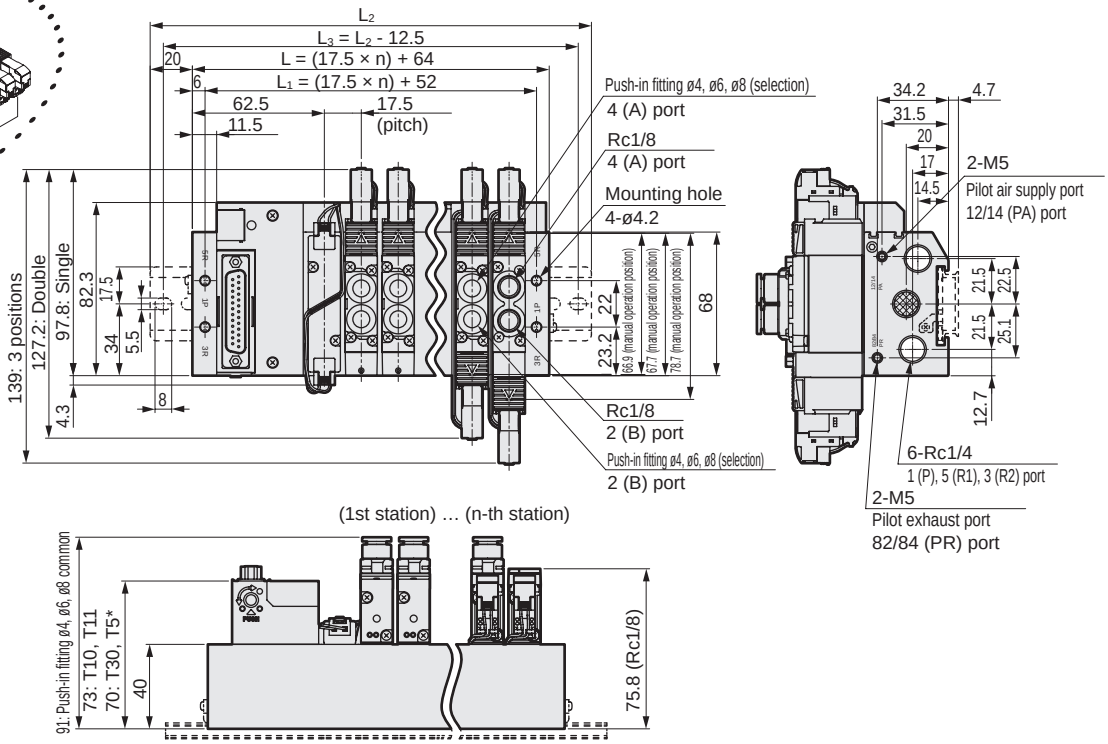
Dimensions

M4GA2-P7*

* This drawing shows the T30. Refer to pages 558 to 559 for detailed dimensions of the electric block.
* For 2-position single 3-port valve, port A or port B is a plug.
* Refer to page 754 for details on the mounting holes.

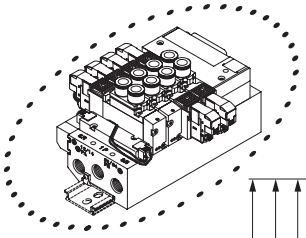
● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)
External pilot (K)

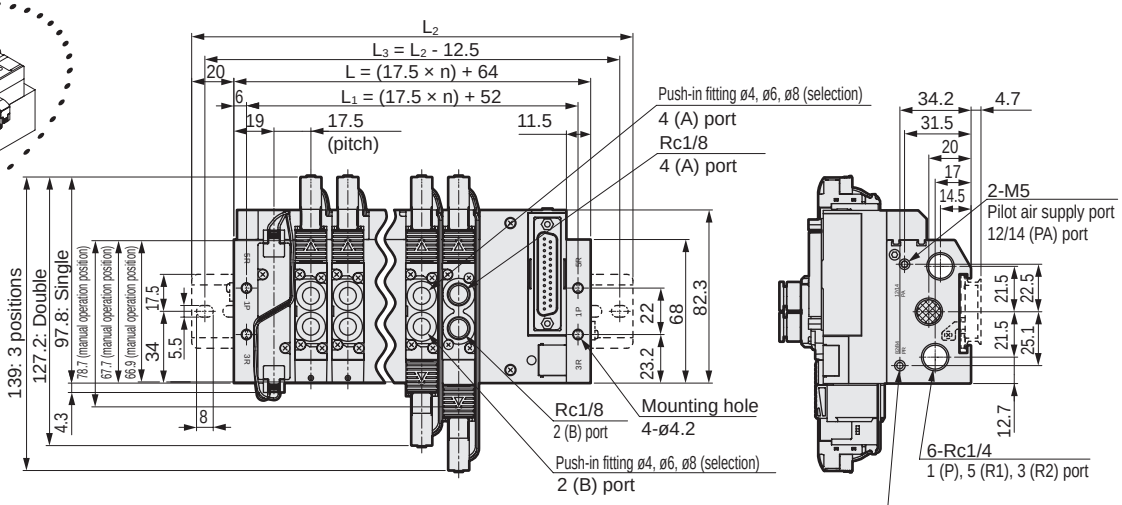




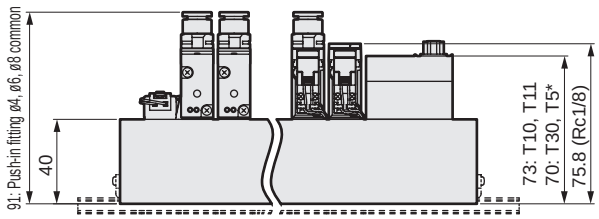
(1st station) … (n-th station)

● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)
External pilot (K)





(1st station) … (n-th station)



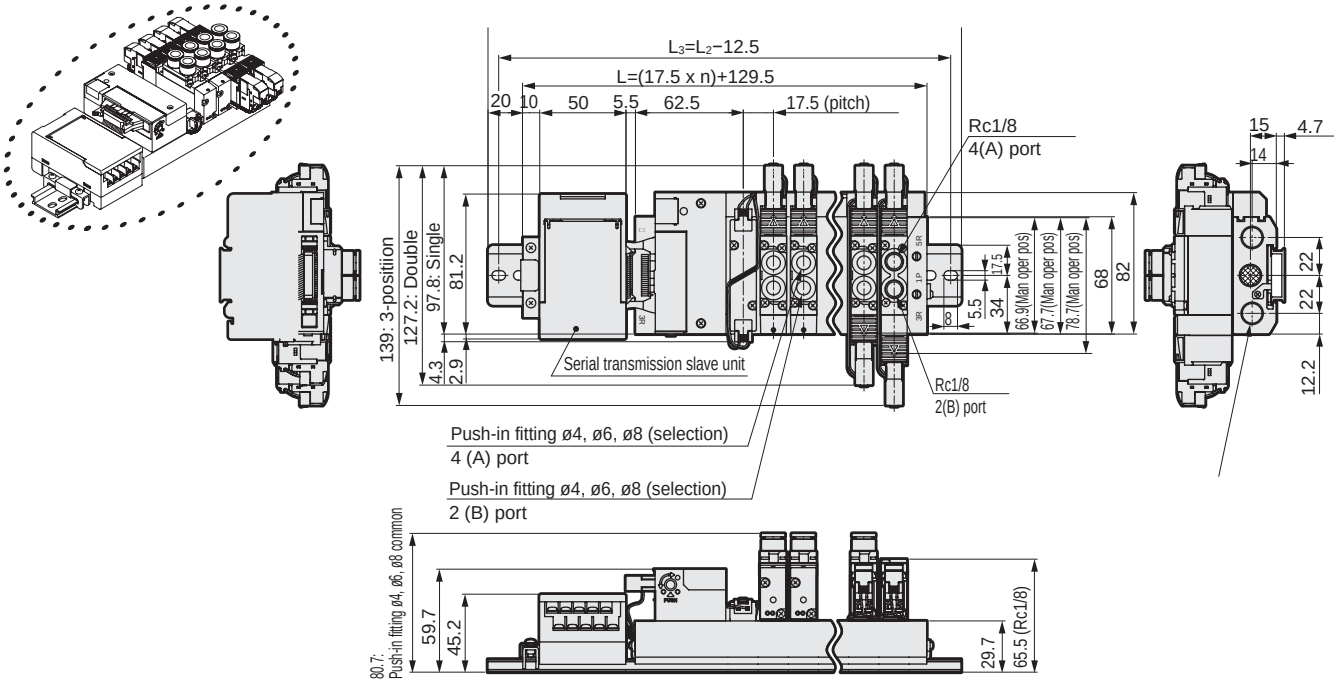
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5	379.0	396.5	414.0
L_1	87.0	104.5	122.0	139.5	157.0	174.5	192.0	209.5	227.0	244.5	262.0	279.5	297.0	314.5	332.0	349.5	367.0	384.5	402.0
L_2	150.0	162.5	175.0	200.0	212.5	237.5	250.0	262.5	287.5	300.0	325.0	337.5	350.0	375.0	387.5				
L_3	137.5	150.0	162.5	187.5	200.0	225.0	237.5	250.0	275.0	287.5	312.5	325.0	337.5	362.5	375.0				

Dimensions CAD

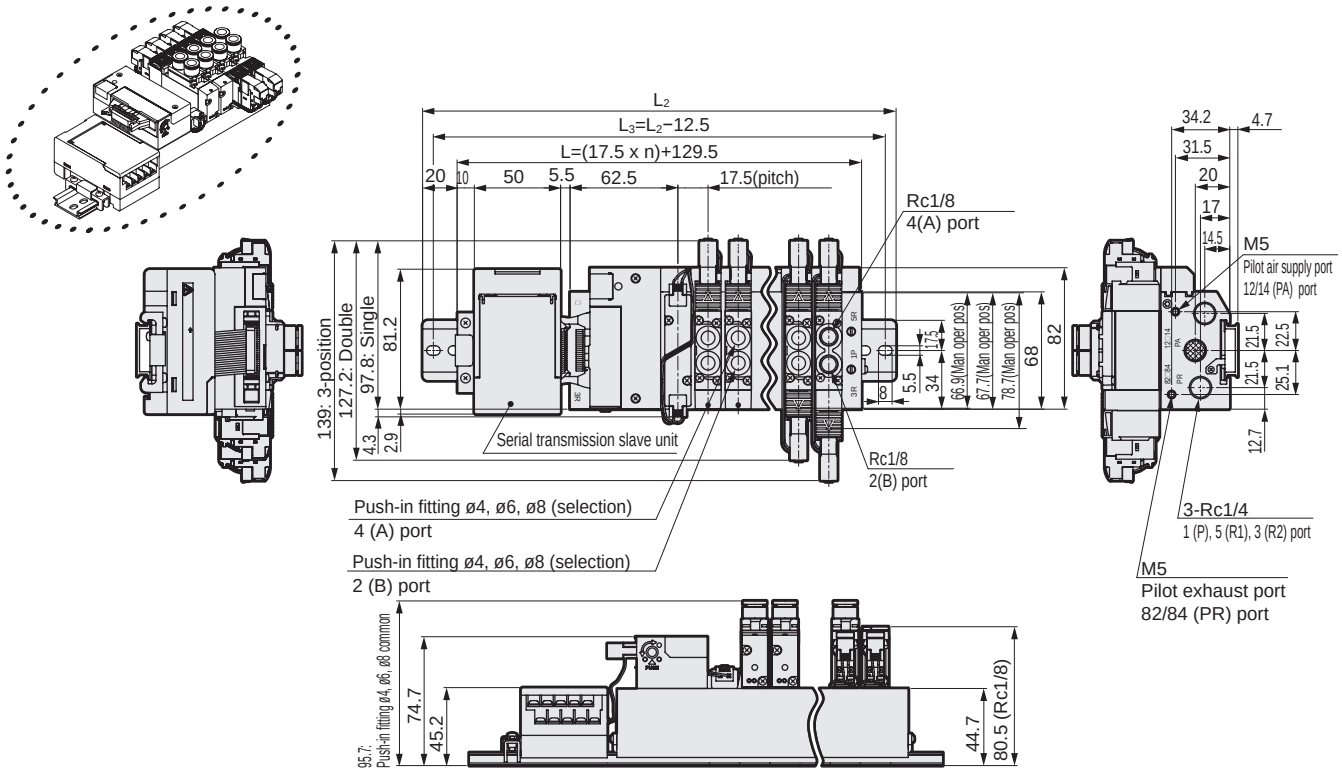
M4GA2-P7*

* For the 2-position single 3-port valve, the port A or port B is a plug. The dimension of the dual 3-port valve integrated is the same as that of the double type.

● Serial transmission (T6G1)
DIN rail mounting (D)



● Serial transmission (T6G1)
DIN rail mounting (D); external pilot (K)



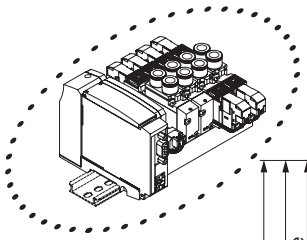
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	164.5	182.0	199.5	217.0	234.5	252.0	269.5	287.0	304.5	322.0	339.5	357.0	374.5	392.0	409.5
L_2	212.5	225.0	250.0	262.5	275.0	300.0	312.5	337.5	350.0	362.5	387.5	400.0	425.0	437.5	450.0
L_3	200.0	212.5	237.5	250.0	262.5	287.5	300.0	325.0	337.5	350.0	375.0	387.5	412.5	425.0	437.5

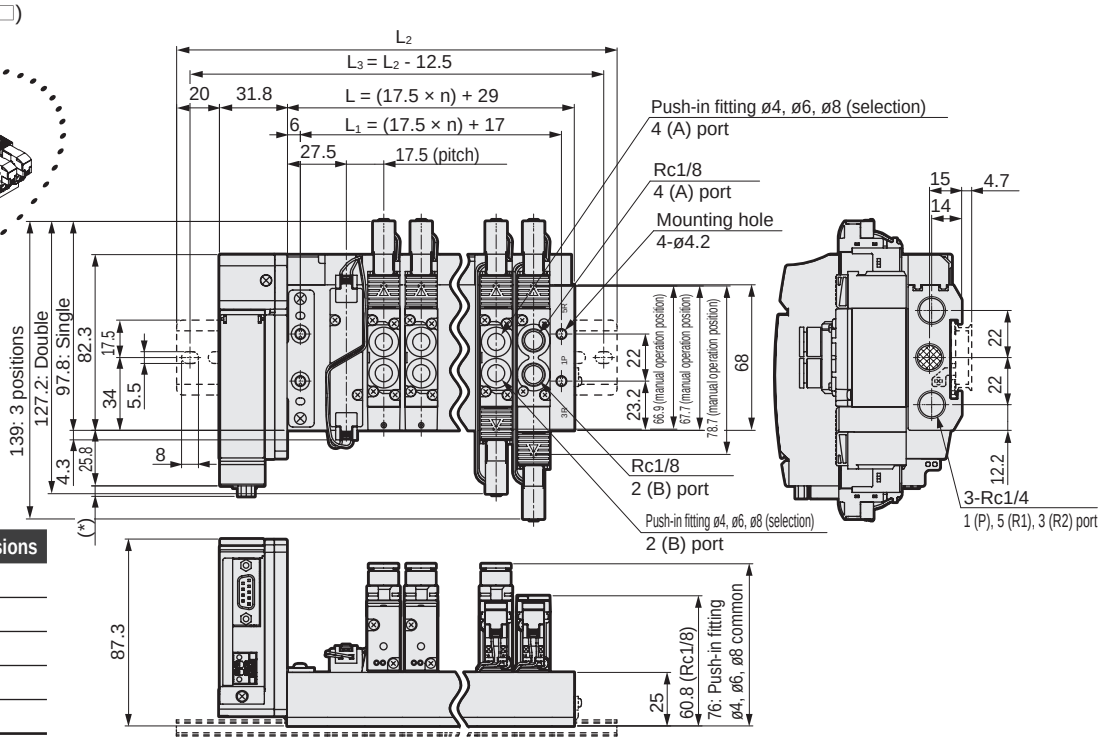
Dimensions

M4GA2-P7*

* Refer to page 754 for details on the mounting holes.

● Serial transmission (T8□)
DIN rail mounting (D)



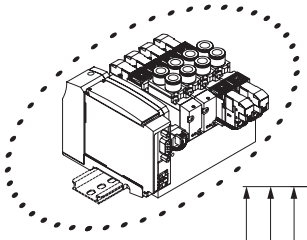


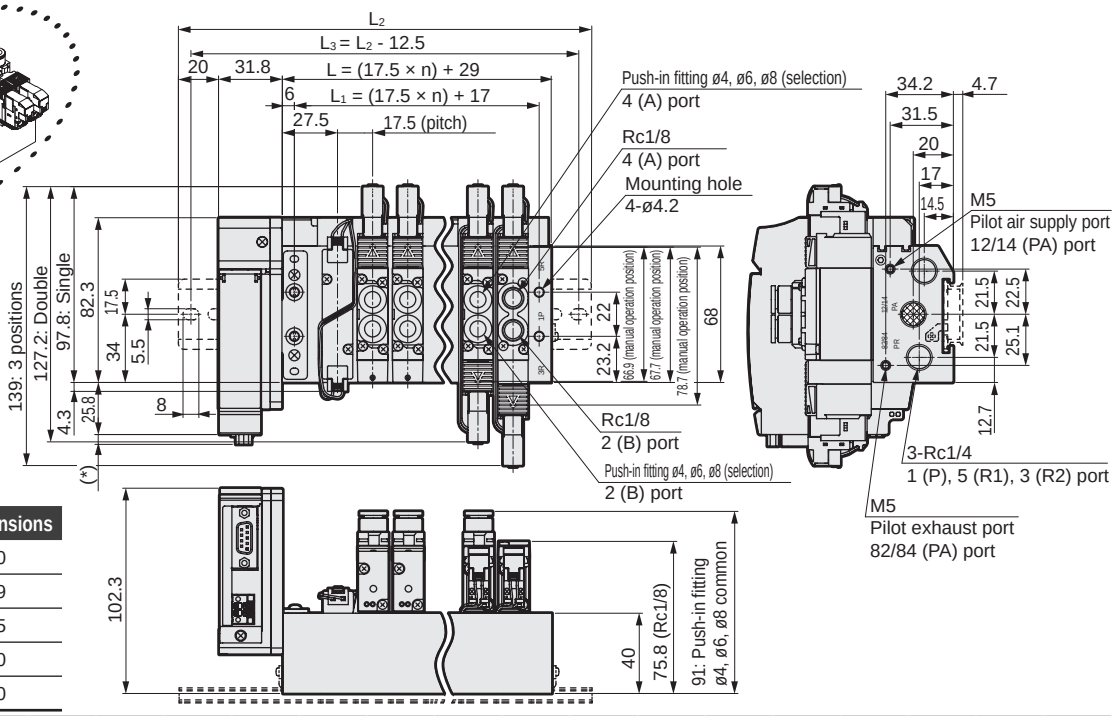
Serial transmission	(*) Dimensions
T8G□	1.0
T8P□	4.9
T8E□	1.5
T8D□	1.0
T8K□	1.0

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	64.0	81.5	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5	379.0
L_1	52.0	69.5	87.0	104.5	122.0	139.5	157.0	174.5	192.0	209.5	227.0	244.5	262.0	279.5	297.0	314.5	332.0	349.5	367.0
L_2	137.5	162.5	175.0	200.0	212.5	225.0	250.0	262.5	287.5	300.0	312.5	337.5	350.0	375.0	387.5				
L_3	125.0	150.0	162.5	187.5	200.0	212.5	237.5	250.0	275.0	287.5	300.0	325.0	337.5	362.5	375.0				

M4GA2-P7*

● Serial transmission (T8□)
DIN rail mounting (D); external pilot (K)





Serial transmission	(*) Dimensions
T8G□	1.0
T8P□	4.9
T8E□	1.5
T8D□	1.0
T8K□	1.0

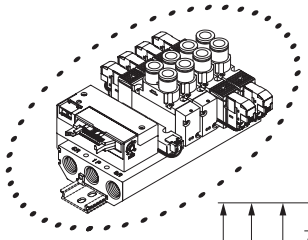
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	64.0	81.5	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5	379.0
L_1	52.0	69.5	87.0	104.5	122.0	139.5	157.0	174.5	192.0	209.5	227.0	244.5	262.0	279.5	297.0	314.5	332.0	349.5	367.0
L_2	137.5	162.5	175.0	200.0	212.5	225.0	250.0	262.5	287.5	300.0	312.5	337.5	350.0	375.0	387.5				
L_3	125.0	150.0	162.5	187.5	200.0	212.5	237.5	250.0	275.0	287.5	300.0	325.0	337.5	362.5	375.0				

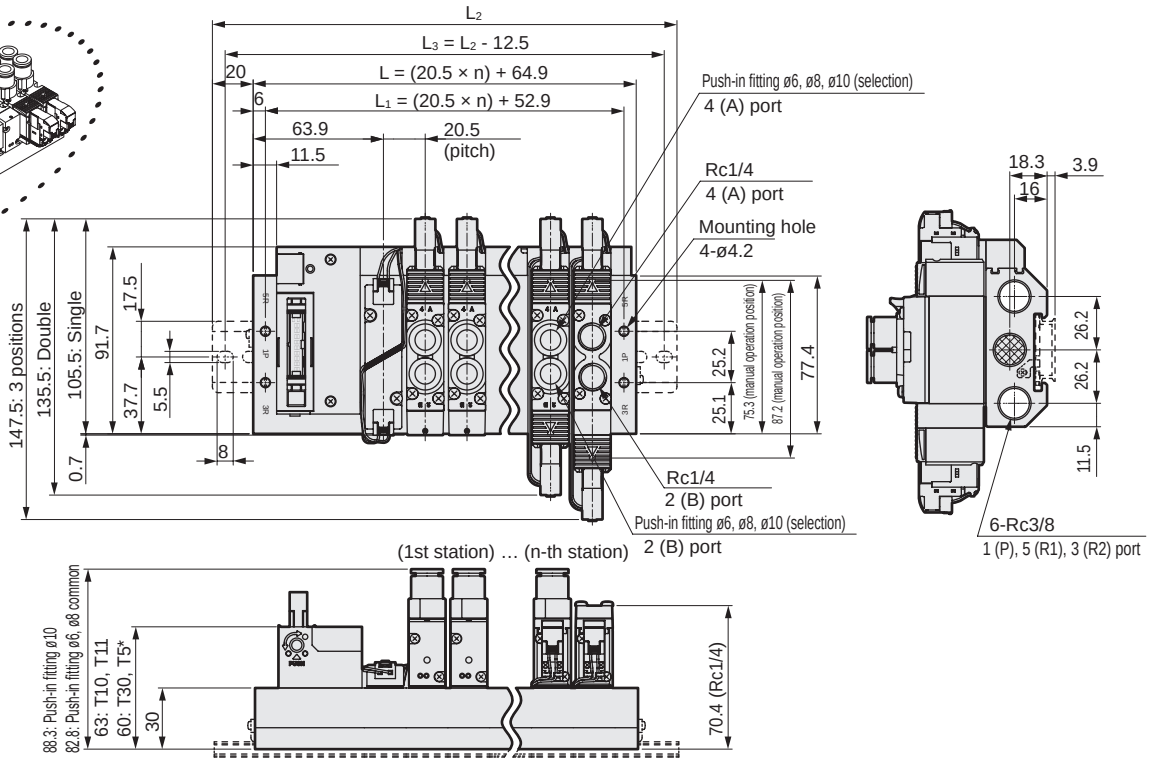
Dimensions CAD

M4GA3-P7*

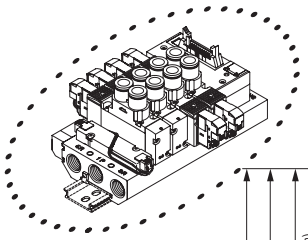
* This drawing shows the T50. Refer to pages 558 to 559 for detailed dimensions of the electric block.
* For 2-position single 3-port valve, port A or port B is a plug.
* Refer to page 754 for details on the mounting holes.

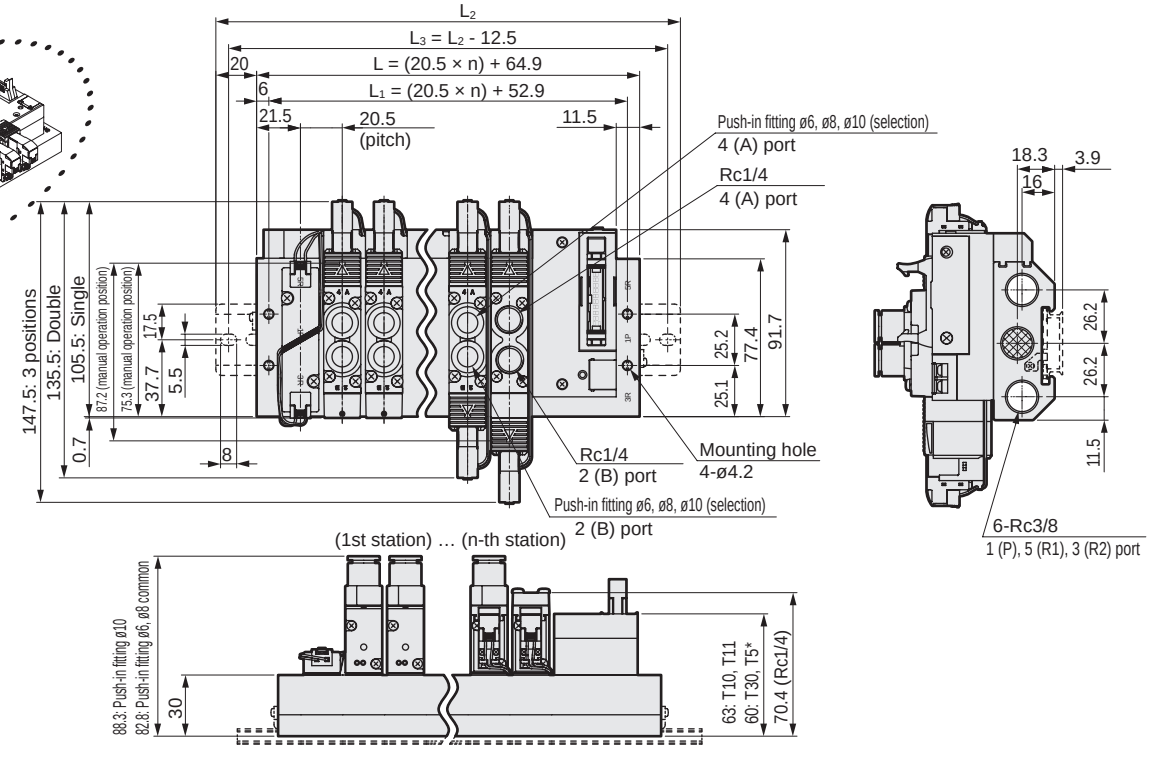
● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)





● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)





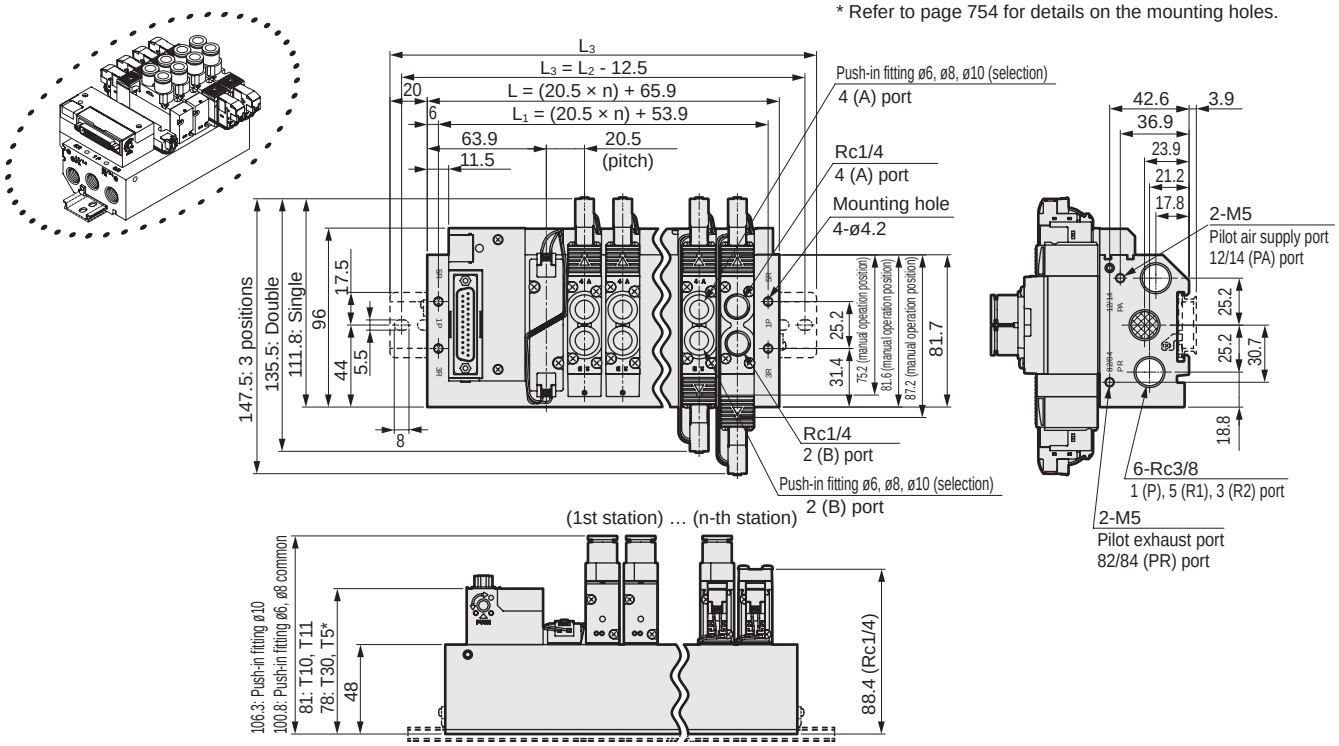
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	105.9	126.4	146.9	167.4	187.9	208.4	228.9	249.4	269.9	290.4	310.9	331.4	351.9	372.4	392.9
L_1	93.9	114.4	134.9	155.4	175.9	196.4	216.9	237.4	257.9	278.4	298.9	319.4	339.9	360.4	380.9
L_2	150.0	175.0	187.5	212.5	237.5	250.0	275.0	300.0	312.5	337.5	362.5	375.0	400.0	412.5	437.5
L_3	137.5	162.5	175.0	200.0	225.0	237.5	262.5	287.5	300.0	325.0	350.0	362.5	387.5	400.0	425.0

Dimensions

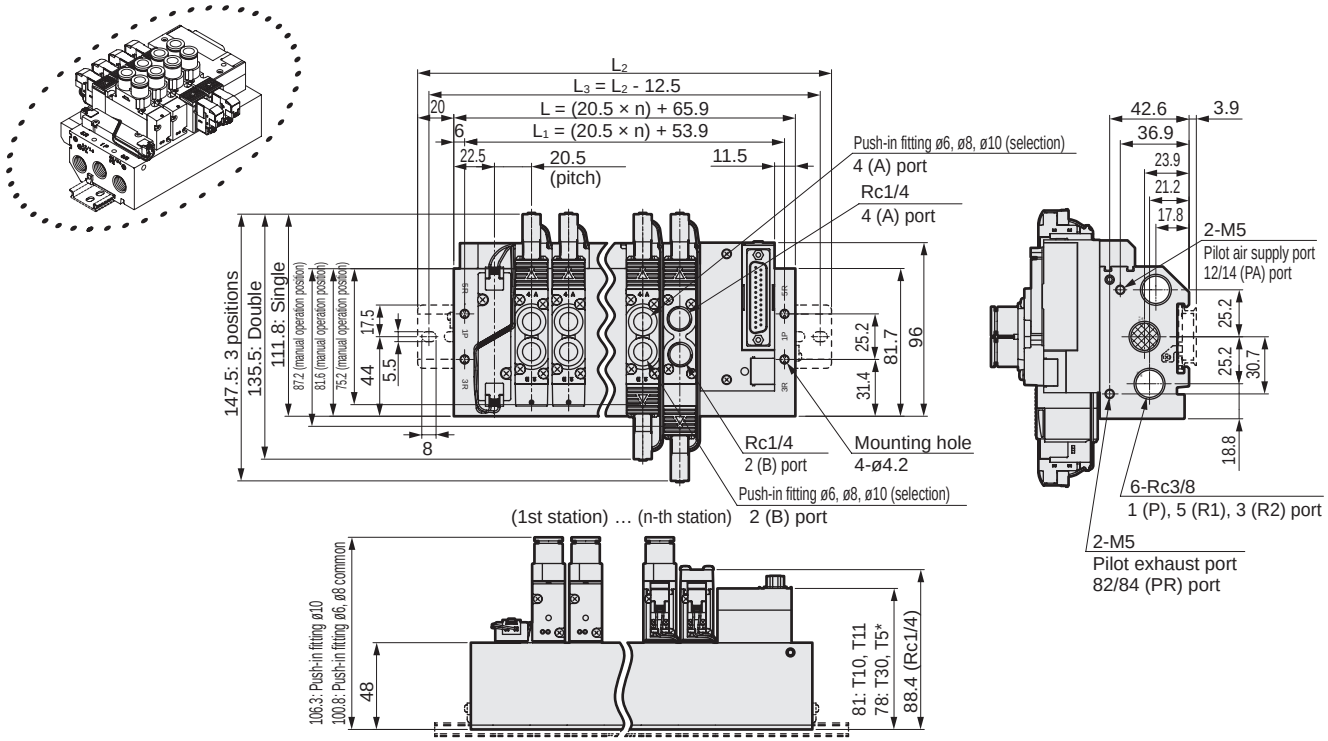
M4GA3-P7*

● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)
External pilot (K)

* This drawing shows the T30. Refer to pages 558 to 559 for detailed dimensions of the electric block.
* For 2-position single 3-port valve, port A or port B is a plug.
* Refer to page 754 for details on the mounting holes.



● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)
External pilot (K)



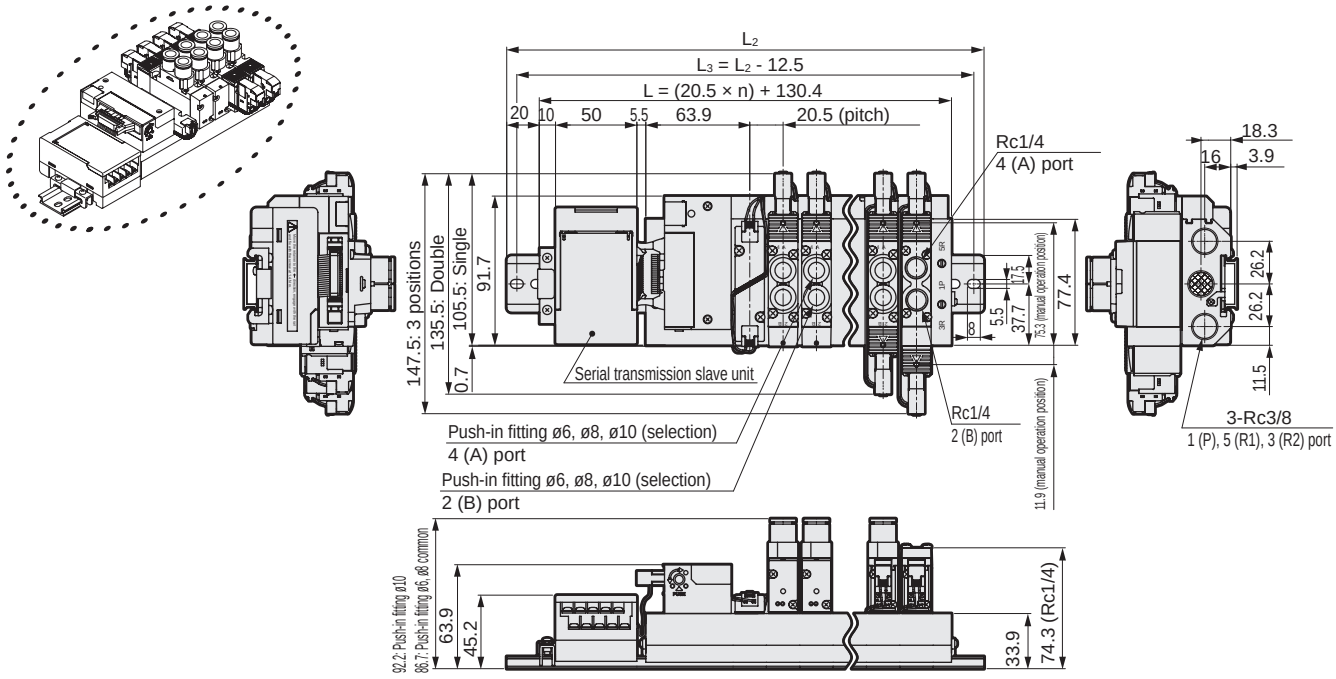
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	106.9	127.4	147.9	168.4	188.9	209.4	229.9	250.4	270.9	291.4	311.9	332.4	352.9	373.4	393.9
L_1	94.9	115.4	135.9	156.4	176.9	197.4	217.9	238.4	258.9	279.4	299.9	320.4	340.9	361.4	381.9
L_2	150.0	175.0	200.0	212.5	237.5	250.0	275.0	300.0	312.5	337.5	362.5	375.0	400.0	412.5	437.5
L_3	137.5	162.5	187.5	200.0	225.0	237.5	262.5	287.5	300.0	325.0	350.0	362.5	387.5	400.0	425.0

Dimensions CAD

M4GA3-P7*

● Serial transmission (T6G1)
DIN rail mounting (D)

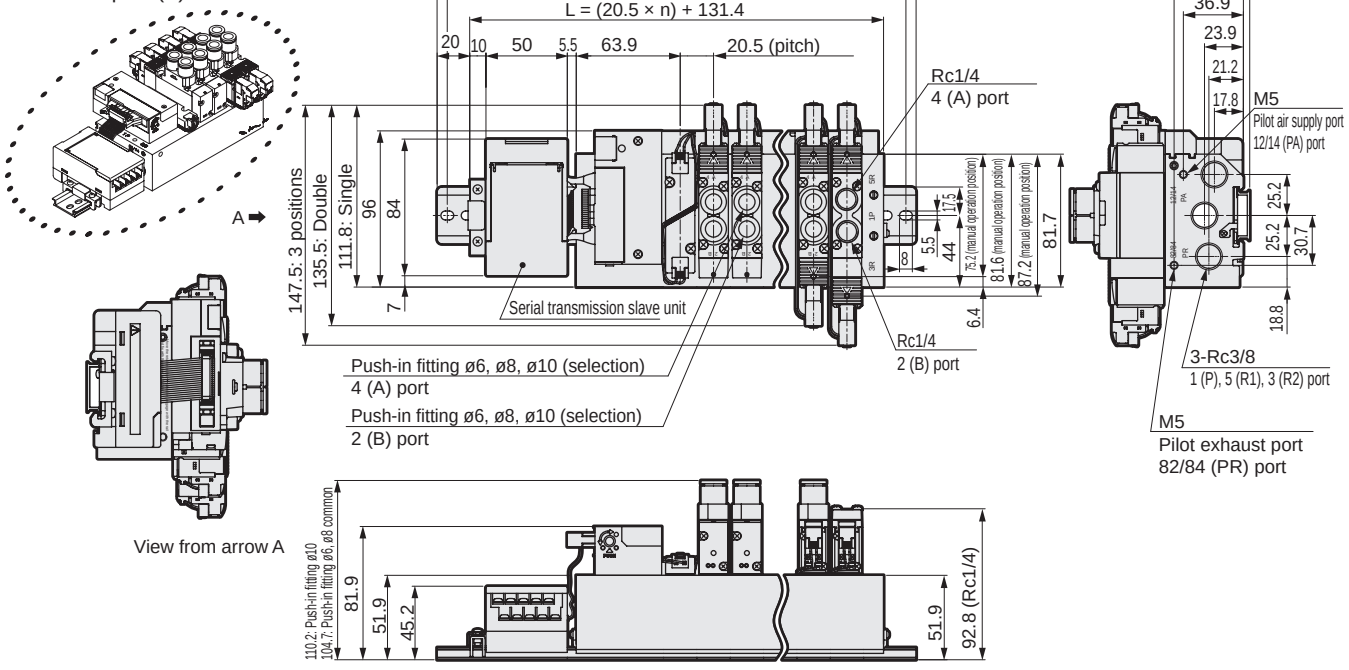
* With the 2-position single 3-port valve, either the A port or B port will be plugged.



Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	171.4	191.9	212.4	232.9	253.4	273.9	294.4	314.9	335.4	355.9	376.4	396.9	417.4	437.9	458.4
L_2	212.5	237.5	262.5	275.0	300.0	325.0	337.5	362.5	387.5	400.0	425.0	437.5	462.5	487.5	500.0
L_3	200.0	225.0	250.0	262.5	287.5	312.5	325.0	350.0	375.0	387.5	412.5	425.0	450.0	475.0	487.5

M4GA3-P7*

● Serial transmission (T6G1)
DIN rail mounting (D);
external pilot (K)



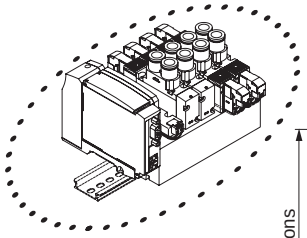
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	172.4	192.9	213.4	233.9	254.4	274.9	295.4	315.9	336.4	356.9	377.4	397.9	418.4	438.9	459.4
L_2	212.5	237.5	262.5	275.0	300.0	325.0	337.5	362.5	387.5	400.0	425.0	437.5	462.5	487.5	500.0
L_3	200.0	225.0	250.0	262.5	287.5	312.5	325.0	350.0	375.0	387.5	412.5	425.0	450.0	475.0	487.5

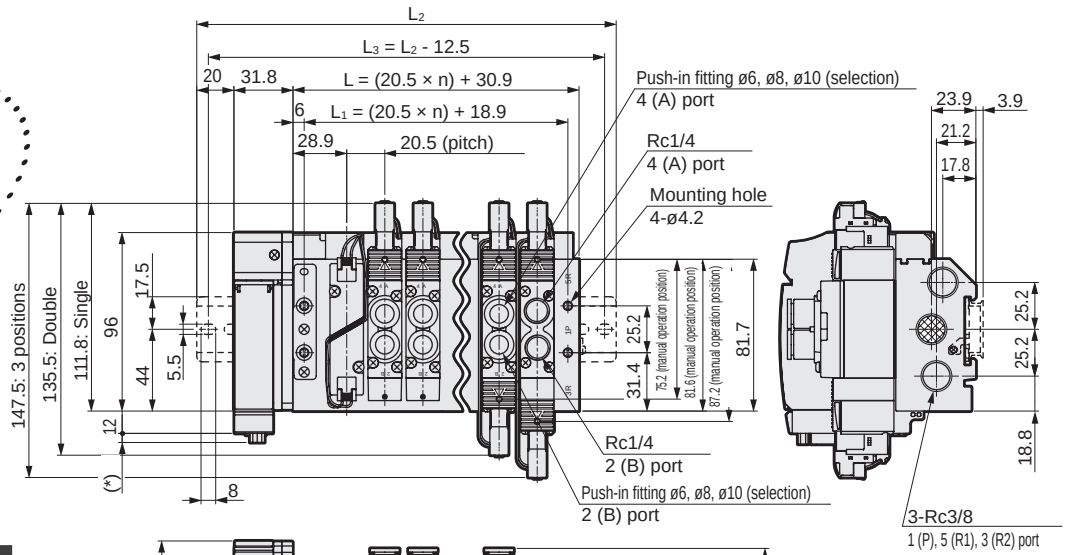
Dimensions

M4GA3-P7*

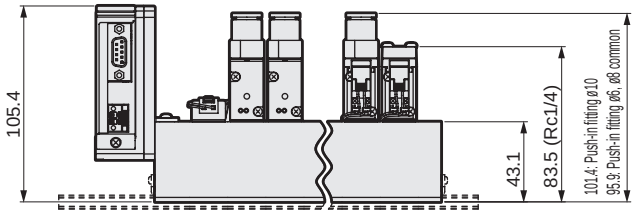
* Refer to page 754 for details on the mounting holes.

● Serial transmission (T8□)
DIN rail mounting (D)





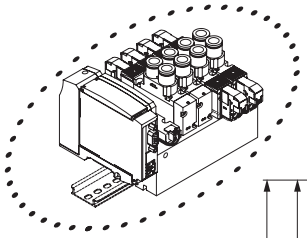
Serial transmission	(*) Dimensions
T8G□	1.0
T8P□	4.9
T8E□	1.5
T8D□	1.0
T8K□	1.0

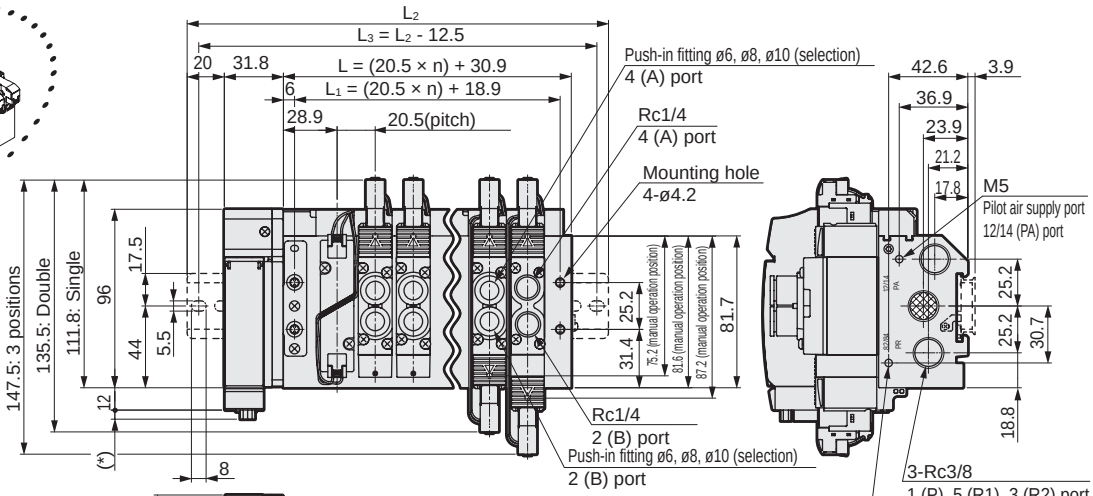


Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	71.9	92.4	112.9	133.4	153.9	174.4	194.9	215.4	235.9	256.4	276.9	297.4	317.9	338.4	358.9
L_1	59.9	80.4	100.9	121.4	141.9	162.4	182.9	203.4	223.9	244.4	264.9	285.4	305.9	326.4	346.9
L_2	150.0	175.0	187.5	212.5	237.5	250.0	275.0	287.5	312.5	337.5	350.0	375.0	400.0	412.5	437.5
L_3	137.5	162.5	175.0	200.0	225.0	237.5	262.5	275.0	300.0	325.0	337.5	362.5	387.5	400.0	425.0

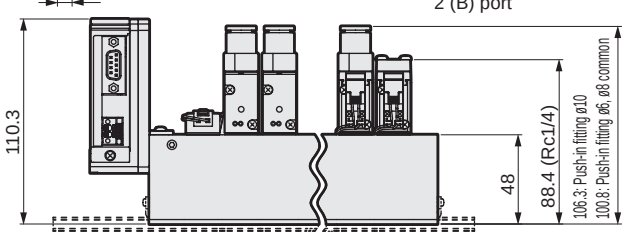
M4GA3-P7*

● Serial transmission (T8□)
DIN rail mounting (D); external pilot (K)





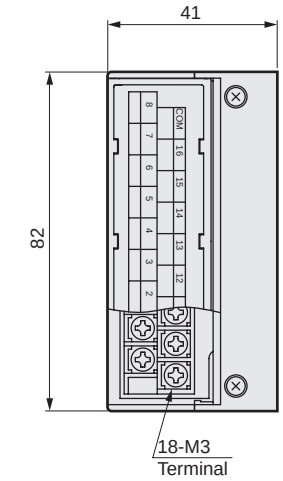
Serial transmission	(*) Dimensions
T8G□	1.0
T8P□	4.9
T8E□	1.5
T8D□	1.0
T8K□	1.0

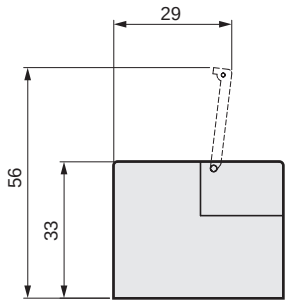


Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	71.9	92.4	112.9	133.4	153.9	174.4	194.9	215.4	235.9	256.4	276.9	297.4	317.9	338.4	358.9
L_1	59.9	80.4	100.9	121.4	141.9	162.4	182.9	203.4	223.9	244.4	264.9	285.4	305.9	326.4	346.9
L_2	150.0	175.0	187.5	212.5	237.5	250.0	275.0	287.5	312.5	337.5	350.0	375.0	400.0	412.5	437.5
L_3	137.5	162.5	175.0	200.0	225.0	237.5	262.5	275.0	300.0	325.0	337.5	362.5	387.5	400.0	425.0

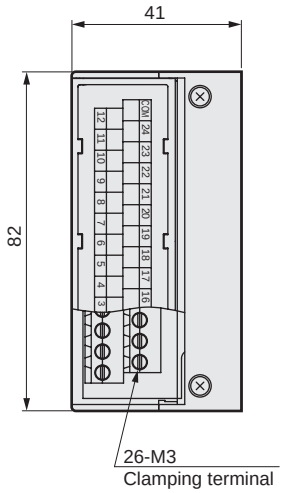
Electric block part: dimensions

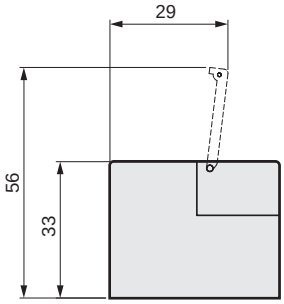
● Common terminal block (M3 thread) T10



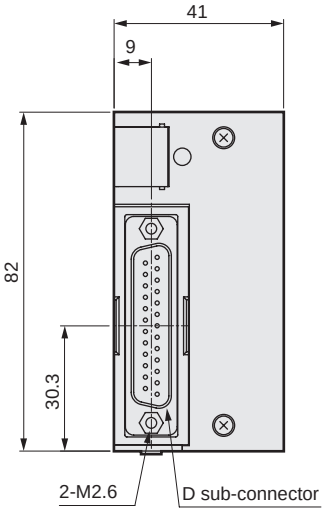


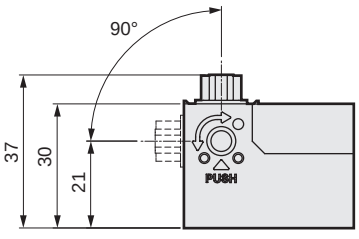
● Common terminal block (clamping) T11



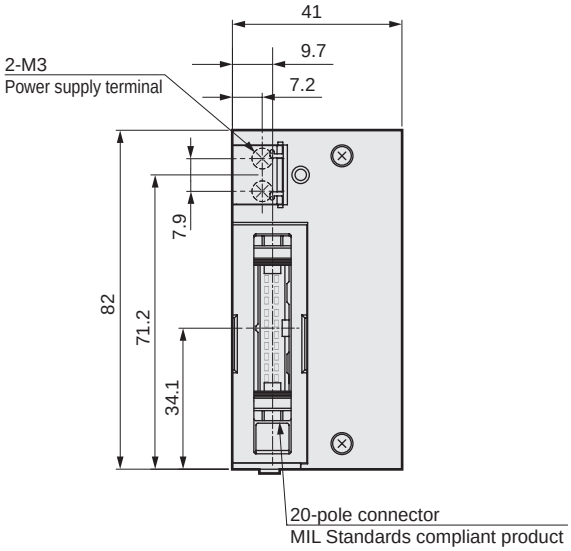


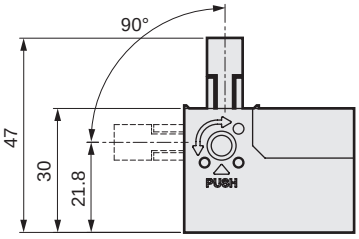
● D sub-connector T30





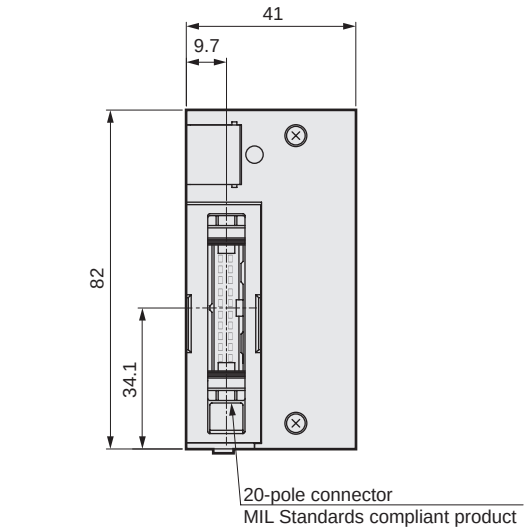
● 20 pin flat cable connector (with power supply terminal) T50

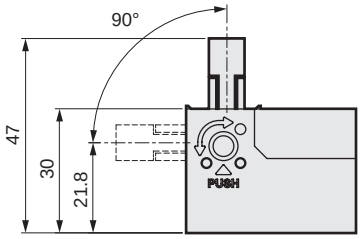




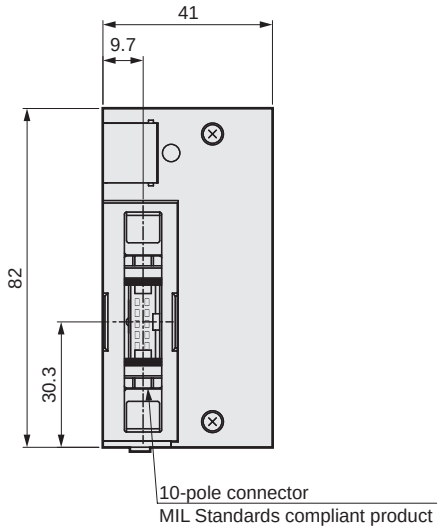
Electric block part: dimensions

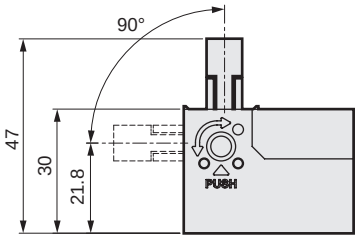
● 20 pin flat cable connector (without power supply terminal)
T51



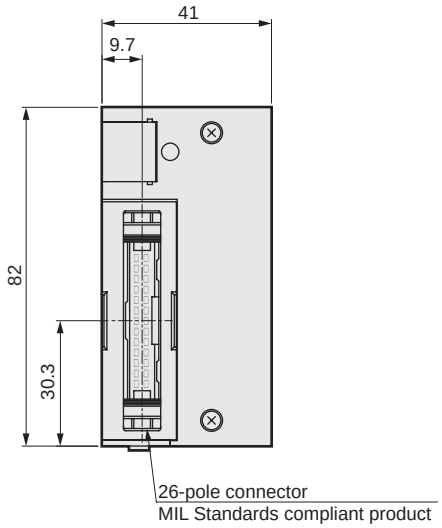


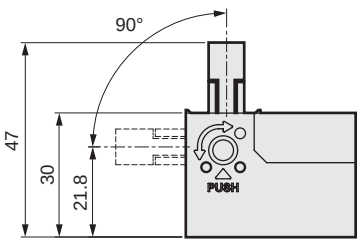
● 10 pin flat cable connector (without power supply terminal)
T52





● 26 pin flat cable connector (without power supply terminal)
T53

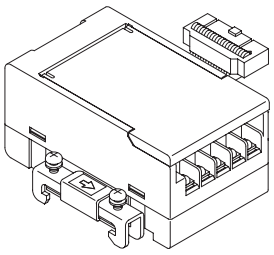




● Discrete serial transmission slave unit (connector type)

4GR – OPP3 – 1G

Ⓐ Wiring method

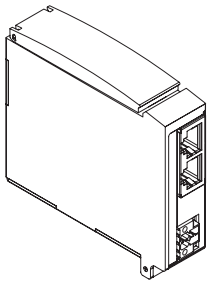


Code	Content			
Ⓐ Wiring method				
1G	T6G1	CC-Link	NPN	16 points

● Discrete serial transmission slave unit (thin slot type)

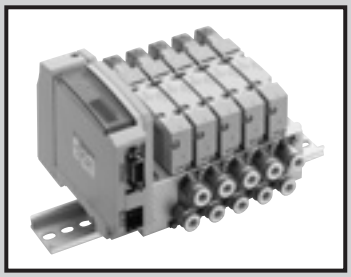
4GR – OPP7 – 2G

Ⓐ Wiring method



Code	Content			
Ⓐ Wiring method				
1G	T8G1	CC-Link	NPN	16 points
2G	T8G2			32 points
1G-P	T8GP1		PNP	16 points
2G-P	T8GP2			32 points
1P	T8P1	PROFIBUS-DP	NPN	16 points
2P	T8P2			32 points
1P-P	T8PP1		PNP	16 points
2P-P	T8PP2			32 points
1EC	T8EC1	EtherCAT	NPN	16 points
2EC	T8EC2			32 points
1EC-P	T8ECP1		PNP	16 points
2EC-P	T8ECP2			32 points
1EN	T8EN1	EtherNet/IP	NPN	16 points
2EN	T8EN2			32 points
1EN-P	T8ENP1		PNP	16 points
2EN-P	T8ENP2			32 points
1D	T8D1	DeviceNet	NPN	16 points
2D	T8D2			32 points
1D-P	T8DP1		PNP	16 points
2D-P	T8DP2			32 points
1EB	T8EB1	CC-Link IEF Basic	NPN	16 points
2EB	T8EB2			32 points
1EB-P	T8EBP1		PNP	16 points
2EB-P	T8EBP2			32 points
1EF	T8EF1	CC-Link IE Field	NPN	16 points
2EF	T8EF2			32 points
1EF-P	T8EFP1		PNP	16 points
2EF-P	T8EFP2			32 points
1EP	T8EP1	PROFINET	NPN	16 points
2EP	T8EP2			32 points
1EP-P	T8EPP1		PNP	16 points
2EP-P	T8EPP2			32 points
1KC	T8KC1	IO-Link	NPN	16 points
2KC	T8KC2			32 points
1KC-P	T8KCP1		PNP	16 points
2KC-P	T8KCP2			32 points

MEMO



Reduced wiring manifold
Base piping
Direct mount DIN rail mount

M3GB1/2-T* (D) Series
M4GB1/2/3-T* (D) Series

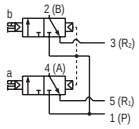
● Applicable cylinder bore size: ø20 to ø100

RoHS CAD

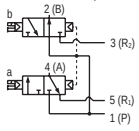
JIS symbol

● Dual 3-port valve integrated

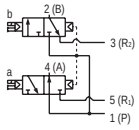
(A side valve: NC, B side valve: NC)



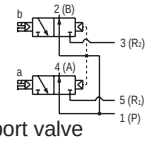
(A side valve: NC, B side valve: NO)



(A side valve: NO, B side valve: NC)

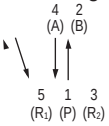


(A side valve: NO, B side valve: NO)

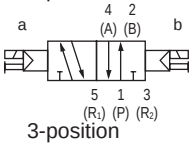


● 5-port valve

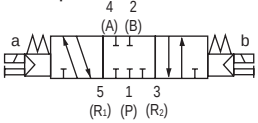
2-position single



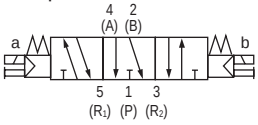
2-position double



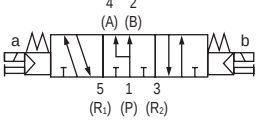
3-position
All ports closed



3-position A/B/R connection



3 positions P/A/B connection



Structure and material restriction

	Structure	Material restriction			Model No.
P7 Series	Dust generation preventing				– P70
	Dust generation preventing	Copper-based materials prohibited	Silicon-based materials prohibited	Halogen-based materials prohibited (fluorine, chlorine, bromine)	– P74 Custom order product

Manifold common specifications

Descriptions		
Manifold		Reduced wiring integrated base
Mounting method		Direct mount DIN rail mount
Supply and exhaust method		Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Internal pilot	Main valve/pilot valve common exhaust (Pilot exhaust check valve integrated)
	External pilot	Main valve/pilot valve individual exhaust
Piping direction		Lateral base
Valve and operation		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure MPa		0.7
Min. working pressure MPa		0.2 (*3)
Proof pressure MPa		1.05
Ambient temperature °C		-5 to 55 (no freezing)
Fluid temperature °C		5 to 55
Manual operating device		Common for non-locking/locking (standard)
Lubrication (*1)		Not required
Degree of protection (*2)		Dust proof
Vibration resistance m/s²		50 or less
Shock resistance m/s²		300 or less
Atmosphere		Containing corrosive gas is not permissible

Electrical specifications

Descriptions				
Rated voltage V		T1□, T30□, T5□ DC24	T1□, T30□, T5□ DC12	T6G1, T8□ DC24
Voltage fluctuation range (*4)		±10%		+10%, –5%
Holding current A	Standard	0.017	0.034	0.017
	Low exoergic/ energy-saving circuit built-in	0.005	0.010	0.005
Power consumption W	Standard	0.4		
	Low exoergic/ energy-saving circuit built-in	0.1		
Thermal class		B		
Surge suppressor (*5)		Zener diode		
Indicator		LED		

*1: Use the turbine oil Class 1 ISO VG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
*2: Avoid water drops or oil, etc. during use.
*3: The working pressure range is 0 to 0.7 MPa when the external pilot (option Code: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.
*4: As for T6G1 and T8□ (serial transmission), because a voltage drop may occur due to the internal circuit design, be careful to check for the voltage fluctuation range.
*5 When selecting the type of low exoergic/energy-saving circuit built-in or surgeless, a diode is used.

Common specifications

Descriptions		M3GB1/M4GB1	M3GB2/M4GB2	M3GB3/M4GB3
Port size	A/B port	Barbed fitting ø1.8 Push-in fitting ø1.8, ø4, ø6, ø8 (*6) M5	Push-in fitting ø4, ø6, ø8, ø10 (*6) Rc1/8	Push-in fitting ø6, ø8, ø10 Rc1/4
	P/R1/R2 port	Rc1/8	Rc1/4	Rc3/8

*6: This is a custom order product.

T1 □, T30 □, T5 □

Descriptions		M3GB1/M4GB1		M3GB2/M4GB2		M3GB3/M4GB3	
		Direct mount	DIN rail mount	Direct mount	DIN rail mount	Direct mount	DIN rail mount
Max. station number	Standard (Internal pilot)	20 stations	16 stations	20 stations	16 stations	16 stations	
	External pilot	12 stations					
Manifold base Weight calculation formula (n: station No.) g	Standard	43n + 335	45n + 348	80n + 398	82n + 431	124n + 548	126n + 582
	External pilot	44n + 330	46n + 344	88n + 433	90n + 467	129n + 577	131n + 606

T6G1

Descriptions		M3GB1/M4GB1	M3GB2/M4GB2	M3GB3/M4GB3
		DIN rail mount	DIN rail mount	DIN rail mount
Max. station number	Standard (Internal pilot)	16 stations	16 stations	16 stations
	External pilot	12 stations		
Manifold base Weight calculation formula (n: station No.) g	Standard	45n + 495	82n + 578	126n + 729
	External pilot	46n + 491	90n + 615	131n + 753

T8 □

Descriptions		M3GB1/M4GB1		M3GB2/M4GB2		M3GB3/M4GB3	
		Direct mount	DIN rail mount	Direct mount	DIN rail mount	Direct mount	DIN rail mount
Max. station number	Standard (Internal pilot)	20 stations	16 stations	20 stations	16 stations	16 stations	
	External pilot	12 stations					
Manifold base Weight calculation formula (n: station No.) g	Standard	46n + 305	49n + 332	83n + 318	86n + 350	128n + 384	132n + 416
	External pilot	48n + 312	51n + 339	91n + 336	94n + 368	146n + 417	150n + 449

Manifold base weight stands for a value for the screw connection specifications when a DIN rail, electrical component block, or slave unit is equipped.
The max. station number of the manifold is limited by the max. number of solenoid for each of the following wiring specifications.

Flow characteristics

Model No.	Solenoid position		P → A/B		A/B → R1/R2	
			C [dm^3/(s·bar)]	b	C [dm^3/(s·bar)]	b
M3GB1 M4GB1	Dual 3-port valve integrated		0.86	0.35	1.1 (0.67)	0.22 (0.23)
	2-position		1.1	0.22	1.2 (0.70)	0.20 (0.10)
	3-position	All ports closed	0.98	0.22	1.1 —	0.24 —
		ABR connection	0.97	0.35	1.3 (0.68)	0.22 (0.24)
		PAB connection	1.1	0.38	1.1 —	0.21 —
M3GB2 M4GB2	Dual 3-port valve integrated		1.7	0.44	2.1 (1.6)	0.32 (0.30)
	2-position		2.4	0.34	2.7 (1.7)	0.24 (0.31)
	3-position	All ports closed	2.2	0.34	2.4 —	0.29 —
		ABR connection	2.2	0.34	2.8 (1.8)	0.24 (0.27)
		PAB connection	2.4	0.29	2.4 —	0.29 —
M4GB3	2-position		3.5	0.34	3.8 (2.6)	0.11 (0.27)
	3-position	All ports closed	3.1	0.33	3.3 —	0.22 —
		ABR connection	3.0	0.30	3.8 (2.7)	0.11 (0.22)
		PAB connection	3.6	0.36	3.3 —	0.28 —

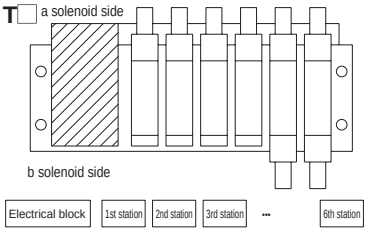
Note 1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C. Note 2: Values in ( ) apply when the exhaust check valve attached.

Wiring specifications

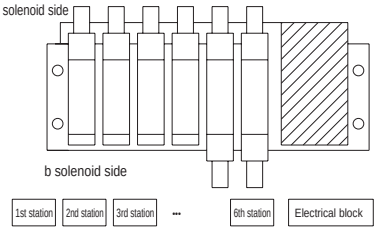
Descriptions	T10□ Common terminal block	T11□ Common terminal block	T30□ D sub-connector	T50□ Flat cable 20 pin	T51□ Flat cable 20 pin	T52□ Flat cable 10 pin	T53□ Flat cable 26 pin
Connector and terminal block specifications	M3 thread tightening 18 terminals	clamping 26 terminals	D sub-connector 25 pin	MIL-C-83503 standards conformed Pressure welding socket 20 pin	MIL-C-83503 standards conformed Pressure welding socket 20 pin	MIL-C-83503 standards conformed Pressure welding socket 10 pin	MIL-C-83503 standards conformed Pressure welding socket 26 pin
Max. number of solenoid	16 points	24 points	24 points	16 points	18 points	8 points	24 points
Manifold internal wiring	Details on pages 714 to 721						

Electric block position
Blank : Left side
R : Right side

Left side: T□



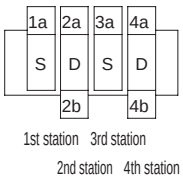
Right side: T□R



Arrangement
Blank : Standard sequential
W : Double wiring

(Example) T50□

Manifold specifications



Standard wiring (sequential): Blank

Connector pin No.	1	2	3	4	5	6
Valve solenoid No.	1a	2a	2b	3a	4a	4b

Double wiring: W

Connector pin No.	1	2	3	4	5	6	7	8
Valve solenoid No.	1a	Void	2a	2b	3a	Void	4a	4b

Serial transmission slave unit specifications

Download the communication configuration file from the CKD website (https://www.ckd.co.jp/en/).

Item		T6G1
Network name		CC-Link ver 1.10
Power supply voltage	Unit side	24 VDC ±10%
	Valve side	24 VDC +10% -5%
Current consumption	Unit side	100 mA or less (when all output points are ON)
	Valve side	15 mA or less (when all output points are OFF)
Output points		16 points
Occupied number		1 station
Operation display		LED (power and communication status)

Item		T8G1 T8G2	T8GP1 T8GP2	T8P1 T8P2	T8PP1 T8PP2	T8EC1 T8EC2	T8ECP1 T8ECP2	T8EN1 T8EN2	T8ENP1 T8ENP2	T8D1 T8D2	T8DP1 T8DP2	T8EB1 T8EB2	T8EBP1 T8EBP2	T8EF1 T8EF2	T8EFP1 T8EFP2	T8EP1 T8EP2	T8EPP1 T8EPP2	T8KC1 T8KC2	T8KCP1 T8KCP2
Communication system name		CC-Link ver1.10		PROFIBUS-DP (V0)		EtherCAT		EtherNet/IP		DeviceNet		CC-Link IEF Basic		CC-Link IE Field		PROFINET		IO-LINK	
Power supply voltage	Unit side	24 VDC ±10% (*Only T8D is 11 to 25 VDC)																	
	Valve side	24 VDC + 10%, -5%																	
Current consumption	Unit side	60 mA or less (when all output points are ON)		60 mA or less (when all output points are ON)		110 mA or less (when all output points are ON)		120 mA or less (when all output points are ON)		70 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)		140 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)		50 mA or less (when all output points are ON)	
	Valve side	T8□1: 15 mA or less T8□2: 20 mA or less (when all output points are ON) Load current is not included								15 mA or less (when all output points are ON) Load current is not included									
Output points		T8□1: 16 points, T8□2: 32 points																	
Occupied number		1 station																	
Operation display		LED (power and communication status)																	
Output style		NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output

M4GB1/2/3-T* (D) Series

Reduced wiring manifold; base piping

How to order

Manifold model No.

M 4GB1 1 0R - C6 - T30 W H D - ○ - 3 - P70

3-port manifold model No.

M 3GB1 66 0R - C6 - T30 W H D - ○ - 3 - P70

● Discrete valve for mounting base

4GB1 1 9R - 00 - A2N ○ H —— 3 - P70

● 3-port discrete valve for mounting base

3GB1 66 9R - 00 - A2N ○ H —— 3 - P70

- Ⓑ Solenoid position
- Ⓐ Model No.
- Ⓒ Port size *3 *4
- Ⓓ Reduced wiring
- Ⓔ Terminal and connector pin wiring
- Ⓕ Option
- Ⓖ Mount
- Ⓗ Station No.
- Ⓘ Voltage
- Ⓙ Clean room specifications

●Refer to page 717 for the model No. of cables with D-sub-connector.

●Refer to page 713 for the model No. of cables for flat cable connector.

Ⓐ Model No.	3GB1	3GB2	4GB1	4GB2	4GB3
Ⓑ 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			●	●	●
66 Dual 3-port valve integrated *1, *2 — A side valve: Normally closed / B side valve: Normally closed	●	●			
67 Dual 3-port valve integrated *1, *2 — A side valve: Normally closed / B side valve: Normally open	●	●			
76 Dual 3-port valve integrated *1, *2 — A side valve: Normally open / B side valve: Normally closed	●	●			
77 Dual 3-port valve integrated *1, *2 — A side valve: Normally open / B side valve: Normally open	●	●			
8 Mixed manifold (In case of multiple solenoid positions)	●	●	●	●	●

Ⓒ Port size		P/R1/R2 port (2)=Rc1/8 (3)=Rc1/4 (4)=Rc3/8				
Port	4 (A)/2 (B) port					
CF	ø1.8 barbed fitting (applicable tube UP-9102-**)	(2)		(2)		
C18	ø1.8 push-in fitting (applicable tube UP-9402-**)	(2)		(2)		
C4	ø4 push-in fitting	(2)	(3)	(2)	(3)	
C6	ø6 push-in fitting	(2)	(3)	(2)	(3)	(4)
C8	ø8 push-in fitting *5	(2)	(3)	(2)	(3)	(4)
C10	ø10 push-in fitting *5		(3)		(3)	(4)
CL18	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**)			(2)		
CL4	ø4 radial facing-up push-in fitting			(2)		
CL6	ø6 radial facing-up push-in fitting			(2)	(3)	
CL8	ø8 radial facing-up push-in fitting				(3)	(4)
CL10	ø10 radial facing-up push-in fitting					(4)
CD18	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**)	(2)		(2)		
CD4	ø4 radial facing-down push-in fitting	(2)		(2)		
CD6	ø6 radial facing-down push-in fitting	(2)	(3)	(2)	(3)	
CD8	ø8 radial facing-down push-in fitting		(3)		(3)	(4)
CD10	ø10 radial facing-down push-in fitting					(4)
CX	Push-in fitting mix	(2)	(3)	(2)	(3)	(4)
M5	M5	(2)		(2)		
06	Rc1/8		(3)		(3)	
08	Rc1/4					(4)
Port	4 (A)/2 (B) port	P/R1/R2 port (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)		(6)	(7)
C10N	ø3/8" push-in fitting					(7)
CL3N	Radial ø1/8" push-in fitting upward (*6)			(5)		
CL4N	Radial ø5/32" push-in fitting upward (*6)			(5)		
CL6N	Radial ø1/4" push-in fitting upward (*6)				(6)	
CL8N	Radial ø5/16" push-in fitting upward (*6)				(6)	
CXN	Push-in fitting mix	(5)	(6)	(5)	(6)	(7)
M5N	M5	(5)		(5)		
06N	NPT1/8		(6)		(6)	
08N	NPT1/4 (*6)					(7)
Port	4 (A)/2 (B) port	P/R1/R2 port (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)		(9)	(10)
C10G	ø10 push-in fitting					(10)
CL4G	ø4 radial push-in fitting upward (*6)			(8)		
CL6G	ø6 radial push-in fitting upward (*6)			(8)	(9)	
CL8G	ø8 radial push-in fitting upward (*6)				(9)	
CXG	Push-in fitting mix	(8)	(9)	(8)	(9)	
M5G	M5	(8)		(8)		
06G	G1/8		(9)		(9)	
08G	G1/4					(10)
00	Discrete valve for integrated base	●	●	●	●	●

Ⓓ Reduced wiring

Refer to the next page for electrical connections.

is not available.

⚠ Precautions for model No. selection

*1: Select M4GA*80R when mixing with the 3, 5-port valves.
Select M3GB*80R when mixing with the masking plate.

*2: Combination with the external pilot (K) is not supported. Dimensions are the same as the respective 2-position double solenoid.

3: CL radial push-in fitting (facing up) will only support single solenoid manifolds. The port A is a long elbow and the port B is short elbow.

*4: For radial push-in fitting, A/B port sizes do not differ.

*5: C8 for 4G1, C10 for 4G2 are custom order products. They do not support push-in fitting mix.

*6: Made-to-order product.

Ozone proof specifications

Cutting oil prohibited specifications

This can be set by selecting option “A” of Ⓕ in How to order.

			Ⓐ Model No. 3GB1	3GB2	4GB1	4GB2	4GB3
Ⓓ Reduced wiring (lamp and surge suppressor provided as standard) 12/24 VDC							
T10	Common terminal block (M3 thread)	Left side specifications	●	●	●	●	●
T10R		Right side specifications	●	●	●	●	●
T11	Common terminal block (clamping)	Left side specifications	●	●	●	●	●
T11R		Right side specifications	●	●	●	●	●
T30	D sub-connector	Left side specifications	●	●	●	●	●
T30R		Right side specifications	●	●	●	●	●
T50	20 pin flat cable connector (with power supply terminal)	Left side specifications	●	●	●	●	●
T50R		Right side specifications	●	●	●	●	●
T51	20 pin flat cable connector (without power supply terminal)	Left side specifications	●	●	●	●	●
T51R		Right side specifications	●	●	●	●	●
T52	10 pin flat cable connector (without power supply terminal)	Left side specifications	●	●	●	●	●
T52R		Right side specifications	●	●	●	●	●
T53	26 pin flat cable connector (without power supply terminal)	Left side specifications	●	●	●	●	●
T53R		Right side specifications	●	●	●	●	●
Ⓓ Serial transmission (lamp and surge suppressor provided as standard) 24 VDC							
T6G1	CC-Link	NPN 16 points	●	●	●	●	●
T8G1	CC-Link	NPN 16 points	●	●	●	●	●
T8G2		NPN 32 points	●	●	●	●	●
T8GP1		PNP 16 points	●	●	●	●	●
T8GP2		PNP 32 points	●	●	●	●	●
T8P1	PROFIBUS-DP	NPN 16 points	●	●	●	●	●
T8P2		NPN 32 points	●	●	●	●	●
T8PP1		PNP 16 points	●	●	●	●	●
T8PP2		PNP 32 points	●	●	●	●	●
T8EC1	EtherCAT	NPN 16 points	●	●	●	●	●
T8EC2		NPN 32 points	●	●	●	●	●
T8ECP1		PNP 16 points	●	●	●	●	●
T8ECP2		PNP 32 points	●	●	●	●	●
T8EN1	EtherNet/IP	NPN 16 points	●	●	●	●	●
T8EN2		NPN 32 points	●	●	●	●	●
T8ENP1		PNP 16 points	●	●	●	●	●
T8ENP2		PNP 32 points	●	●	●	●	●
T8D1	DeviceNet	NPN 16 points	●	●	●	●	●
T8D2		NPN 32 points	●	●	●	●	●
T8DP1		PNP 16 points	●	●	●	●	●
T8DP2		PNP 32 points	●	●	●	●	●
T8EB1	CC-Link IEF Basic	NPN 16 points	●	●	●	●	●
T8EB2		NPN 32 points	●	●	●	●	●
T8EBP1		PNP 16 points	●	●	●	●	●
T8EBP2		PNP 32 points	●	●	●	●	●
T8EF1	CC-Link IE Field	NPN 16 points	●	●	●	●	●
T8EF2		NPN 32 points	●	●	●	●	●
T8EFP1		PNP 16 points	●	●	●	●	●
T8EFP2		PNP 32 points	●	●	●	●	●
T8EP1	PROFINET	NPN 16 points	●	●	●	●	●
T8EP2		NPN 32 points	●	●	●	●	●
T8EPP1		PNP 16 points	●	●	●	●	●
T8EPP2		PNP 32 points	●	●	●	●	●
T8KC1	IO-Link	NPN 16 points	●	●	●	●	●
T8KC2		NPN 32 points	●	●	●	●	●
T8KCP1		PNP 16 points	●	●	●	●	●
T8KCP2		PNP 32 points	●	●	●	●	●
A2N	Without lead wire (no socket)	with surge suppressor and indicator lamp	●	●	●	●	●
Ⓔ Terminal and connector pin wiring							
Blank	Standard wiring (*7)		●	●	●	●	●
W	Double wiring (*7)		●	●	●	●	●
W1	Double wiring (with single spare wiring) (*7) (*8)		●	●	●	●	●
Ⓕ Option							
Blank	Manual override of non-locking/locking common		●	●	●	●	●
M	Manual override of non-locking		●	●	●	●	●
H	With exhaust check valve (*9)		●	●	●	●	●
K	External pilot (*10)		●	●	●	●	●
A	Ozone/coolant proof		●	●	●	●	●
S	Surgeless (*11)		●	●	●	●	●
E	Low exoergic/energy circuit (*11) (*12)		●	●	●	●	●
F	Port A/B filter integrated (*13)		●	●	●	●	●
Z1	Air supply spacer (*14)		●	●	●	●	●
Z3	Exhaust spacer (*14)		●	●	●	●	●
Ⓖ Mount							
Blank	Direct mount		●	●	●	●	●
D	DIN rail mount		●	●	●	●	●
Ⓗ Station No.							
2	2 stations		●	●	●	●	●
to	to						
20	Refer to page 562 for the max. station number per port size.						
Ⓘ Voltage							
3	24 VDC		●	●	●	●	●
4	12 VDC		●	●	●	●	●
Ⓙ Clean room specifications (*14, 15, 16)							
	Structure	Material restriction					
P70	Exhaust treatment	-	●	●	●	●	●
P74	Exhaust treatment	Copper-/silicon-/halogen-based materials (fluorine, chlorine, bromine) are prohibited.	○	○	○	○	○

*7: Blank ... Wired based on the type of valve used.
W* ... Wired for the double solenoid irrespective of valve used.

***8: For the single type, spare wiring (A-type socket assembly) is attached on the cap side. For the discrete valve (A2N), a holder for retaining the socket assembly is attached. Refer to page 596 for details.**

***9: 3-position all ports closed and PAB connection are not provided with the exhaust check valve (H). Refer to page 751 for details on the exhaust check.**

*10: Contact CKD when using a vacuum with the external pilot (K).

*11: Selecting a combination of surgeless “S” and the low exoergic/energy-saving circuit “E” is not allowed.

*12: Applicable to surgeless specifications

*13: P port is equipped with a filter as standard.

***14: Indicate the mounting positions and quantity of the spacers in the manifold specifications. Stacking multiple spacers is not supported. Combination with the masking plate is not supported. Refer to pages 592 to 595 for details.**

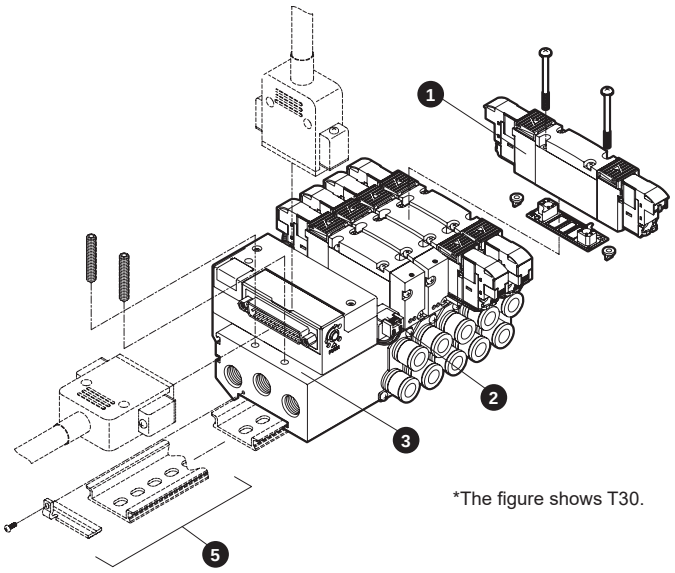
*15: A (ozone compatible) and Ⓙ clean room specifications P74 cannot be combined.

*16: Specifications which do not allow copper-based/silicon-based/halogen-based materials apply to the main valve section.

*17: P74 Series is a custom order product.

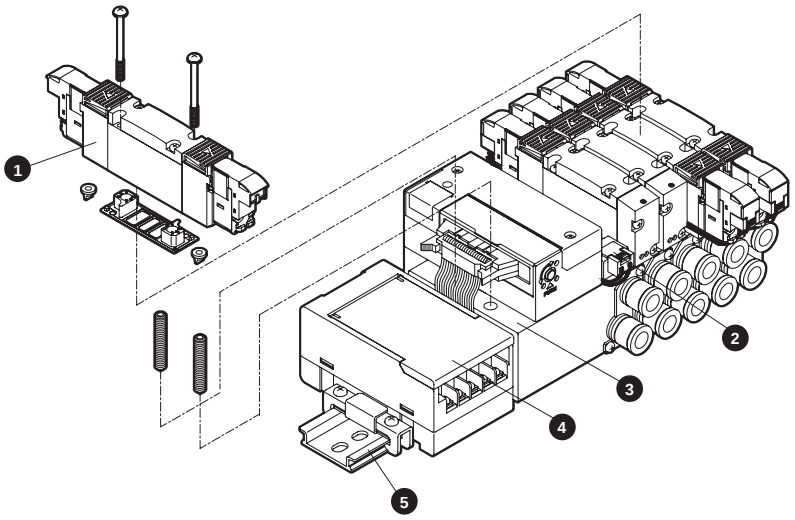
Manifold components explanation and parts list

- T10 / T10R
- T11 / T11R
- T30 / T30R
- T50 / T50R
- T51 / T51R
- T52 / T52R
- T53 / T53R

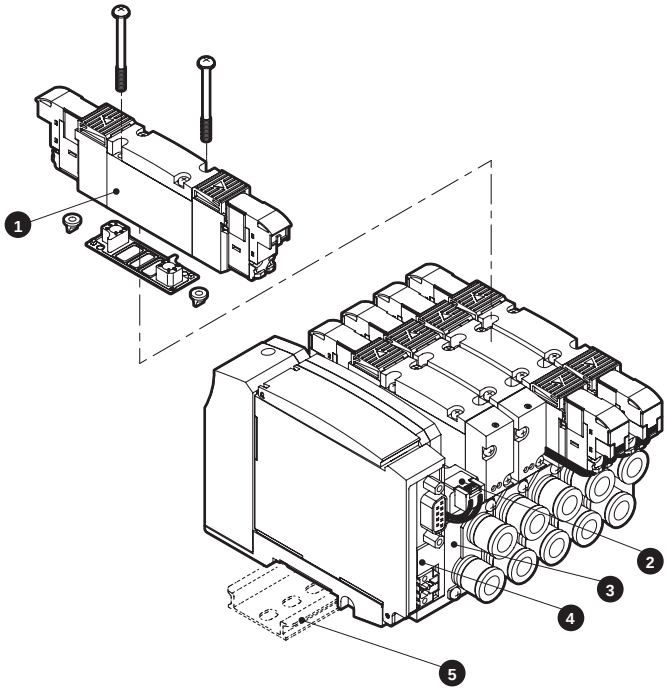


*The figure shows T30.

- T6G1



- T8□



When purchasing M4GB2-T8 or M4GB3-T8 Series, its mount (direct, DIN rail) cannot be changed afterwards. For M4GB1-T8 Series, however, it is changeable.

Main components list

No.	Component name		Model No.	Descriptions	Remarks
1	Discrete valve for mounting base		3/4GB□□9R-00-A2N Option - Voltage -P70 -P74 Solenoid position Series flow rate size	Discrete valve Gasket Set screw 2 PR check valve 2	Details on page 564
2	Masking plate	3G1/4G1	4G1R-MP-P70	Masking plate Gasket Set screw 2	* 3G3/4G3 has two PR check valves.
		3G2/4G2	4G2R-MP-P70		
		3G2/4G3	4G3R-MP-P70		
3	Manifold base assembly		M4GB□R - Port size - T56 - Option - Station No. - P70 Series flow rate size	Manifold base Electrical block	
4	Serial transmission slave unit		4GR-OPP3- Wiring method	Discrete serial transmission slave unit (connector type)	Details on page 591
			4GR-OPP7- Wiring method	Discrete serial transmission slave unit (thin slot type)	
5	DIN rail kit		4GB□R-BAA Rail length - Option D Series flow rate size		Details on page 599

Parts list

No.	Parts name	Model No.
-	Coil assembly	4GR-A2N- □ COIL- Voltage - P70 Blank: standard A: Ozone/cutting oil compatible S: Surgeless E: Low exoergic/energy-saving circuit K: External pilot
-	A connector Socket assembly Details on page 737	Series flow rate size 4GR□-SOCKET-ASSY-A□□-Row No. - P70 Blank: Left side, R: Right side A: aSOL side, B: bSOL side n: Specify the position of the valve to be connected

No.	Parts name			Model No.
-	Cartridge push-in fitting and related parts	4G1	ø1.8 barbed	4G1R-JOINT-CF-P70
			ø1.8 straight	4G1R-JOINT-C18-P70
			ø4 straight	4G1R-JOINT-C4-P70
			ø6 straight	4G1R-JOINT-C6-P70
			ø8 straight (*1)	4G1R-JOINT-C8-P70
			ø1.8 elbow	4G1R-JOINT-CL18,CLL18-P70
			ø4 elbow	4G1R-JOINT-CL4,CLL4-P70
			ø6 elbow	4G1R-JOINT-CL6,CLL6-P70
			ø1/8" straight	4G1R-JOINT-C3N-P70
			ø5/32" straight	4G1R-JOINT-C4N-P70
			ø1/8" elbow (*2)	4G1R-JOINT-CL3N,CLL3N-P70
			ø5/32" elbow (*2)	4G1R-JOINT-CL4N,CLL4N-P70
			Plug cartridge	4G1R-JOINT-CPG-P70
		4G2	ø4 straight	4G2R-JOINT-C4-P70
			ø6 straight	4G2R-JOINT-C6-P70
			ø8 straight	4G2R-JOINT-C8-P70
			ø10 straight (*3)	4G2R-JOINT-C10-P70
			ø6 elbow	4G2R-JOINT-CL6,CLL6-P70
			ø8 elbow	4G2R-JOINT-CL8,CLL8-P70
			ø1/4" straight	4G2R-JOINT-C6N-P70
			ø5/16" straight	4G2R-JOINT-C8N-P70
			ø1/4" elbow (*2)	4G2R-JOINT-CL6N,CLL6N-P70
			ø5/16" elbow (*2)	4G2R-JOINT-CL8N,CLL8N-P70
			Plug cartridge	4G2R-JOINT-CPG-P70
		4G3	ø6 straight	4G3R-JOINT-C6-P70
			ø8 straight	4G3R-JOINT-C8-P70
			ø10 straight	4G3R-JOINT-C10-P70
			ø8 elbow	4G3R-JOINT-CL8,CLL8-P70
			ø10 elbow	4G3R-JOINT-CL10,CLL10-P70
			ø5/16" straight	4G3R-JOINT-C8N-P70
			ø3/8" straight	4G3R-JOINT-C10N-P70

*1:M4GB1-C8 dedicated parts.
*2: Made to order.
*3:4G3 ø10 straight and common products.

Dimensions CAD

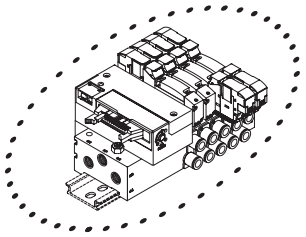
M4GB1-P7*

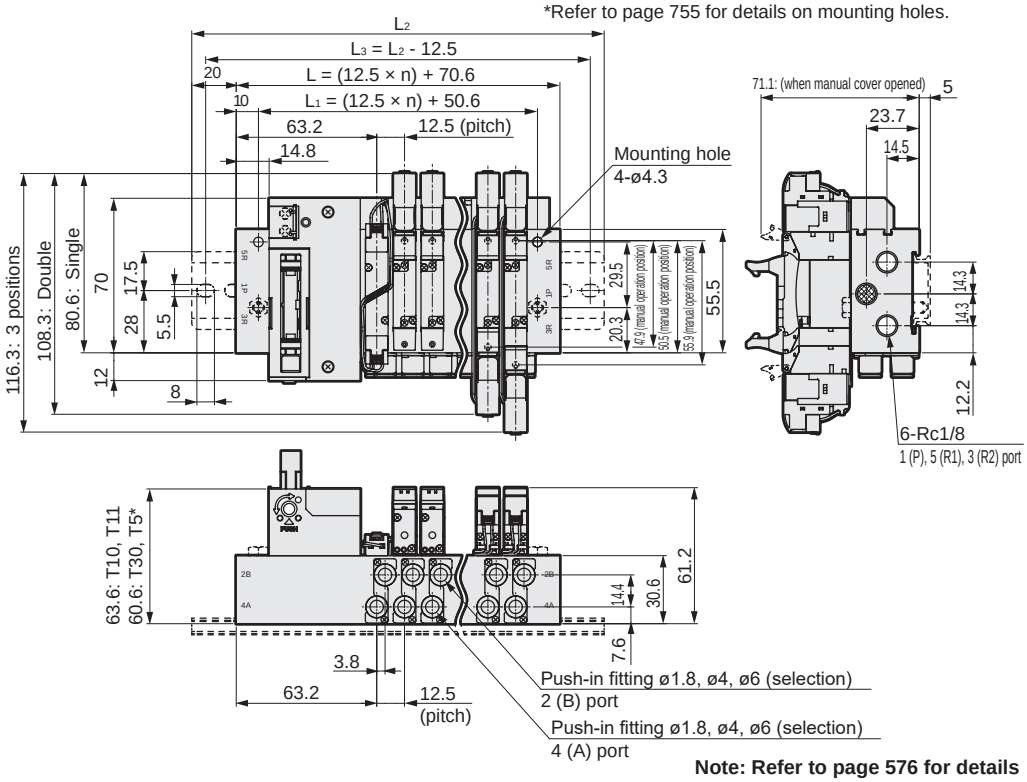
***1 This drawing shows the T50. Refer to page 590 for detailed dimensions of the electric block.**

*2 The dimension of the dual 3-port valve integrated is the same as that of the double type.

*Refer to page 755 for details on mounting holes.

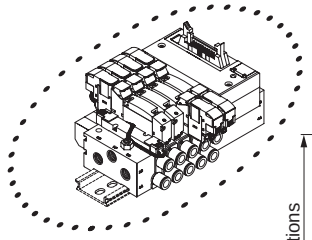
● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)

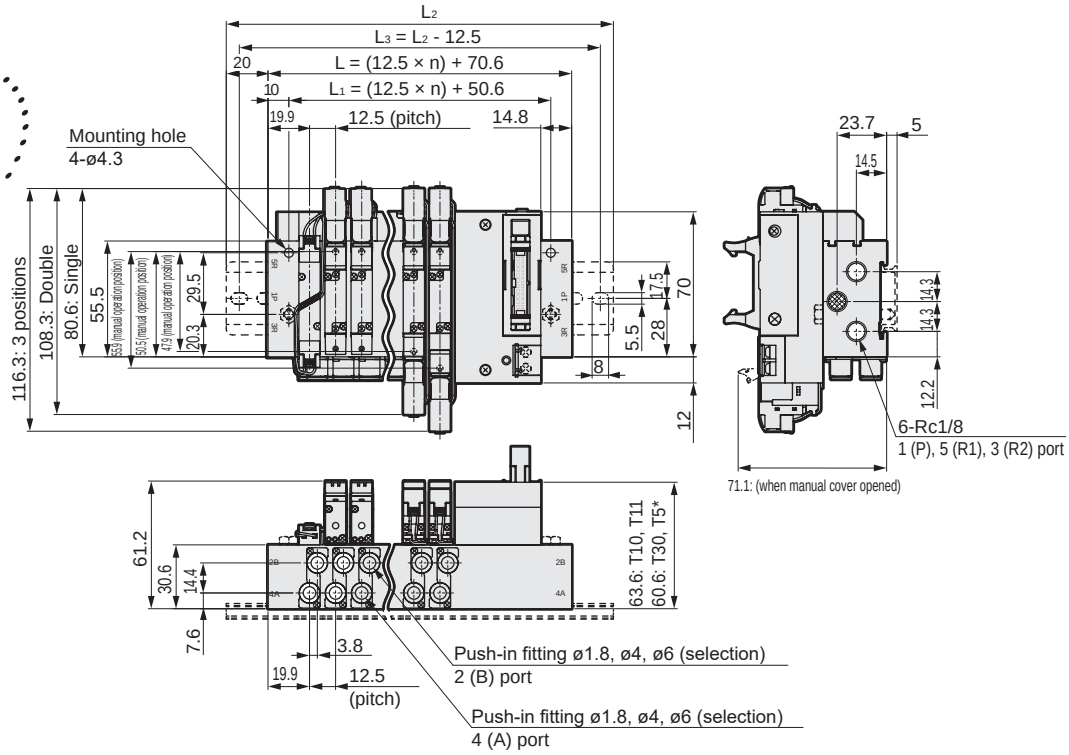




Note: Refer to page 576 for details on the push-in fitting elbow (facing up/down).

● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)





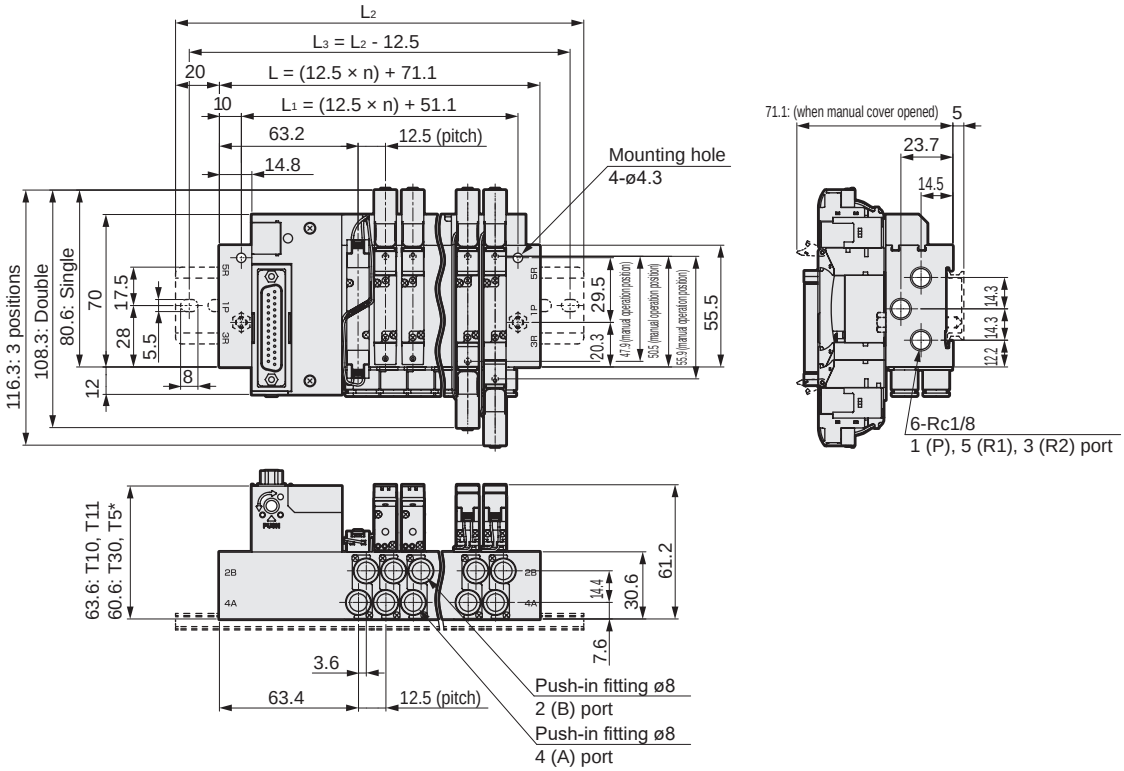
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	95.6	108.1	120.6	133.1	145.6	158.1	170.6	183.1	195.6	208.1	220.6	233.1	245.6	258.1	270.6	283.1	295.6	308.1	320.6
L1	75.6	88.1	100.6	113.1	125.6	138.1	150.6	163.1	175.6	188.1	200.6	213.1	225.6	238.1	250.6	263.1	275.6	288.1	300.6
L2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5				
L3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0				

Dimensions

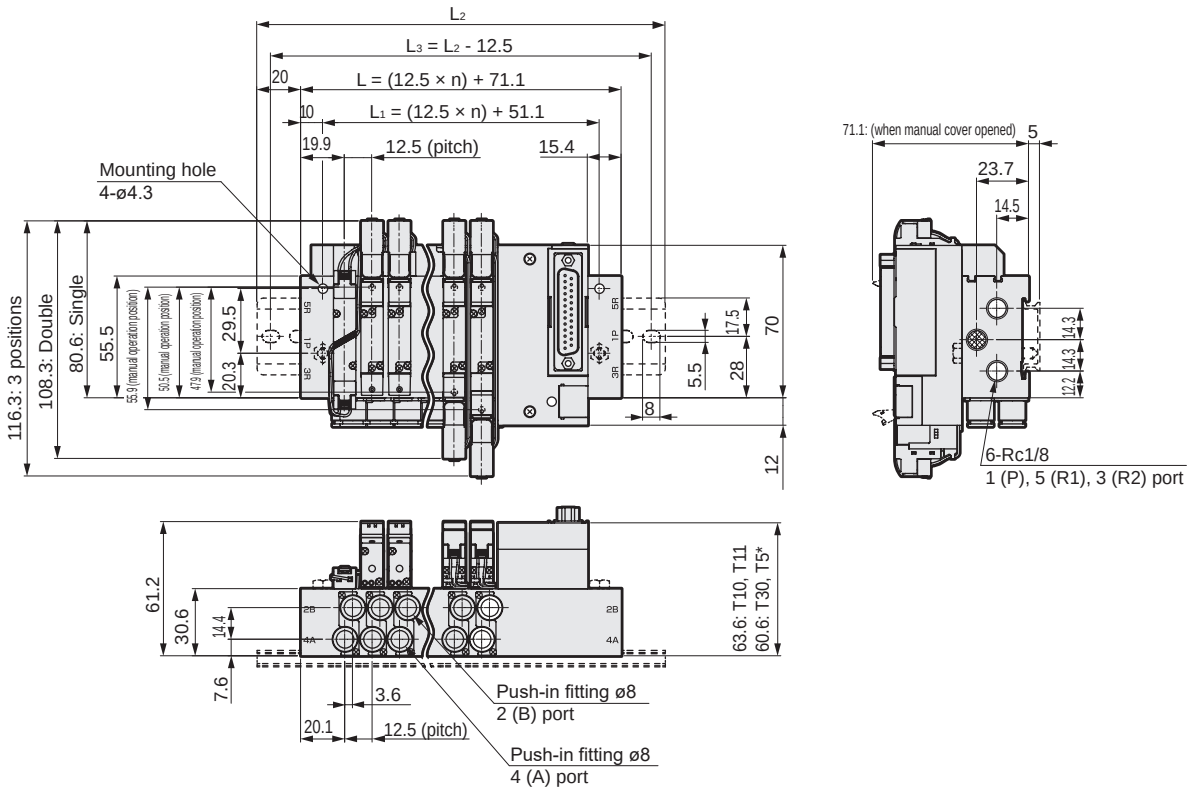
M4GB1-C8-P7*

*Refer to page 755 for details on mounting holes.

● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)



● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)



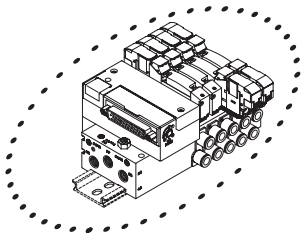
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	96.1	108.6	121.1	133.6	146.1	158.6	171.1	183.6	196.1	208.6	221.1	233.6	246.1	258.6	271.1	283.6	296.1	308.6	321.1
L1	76.1	88.6	101.1	113.6	126.1	138.6	151.1	163.6	176.1	188.6	201.1	213.6	226.1	238.6	251.1	263.6	276.1	288.6	301.1
L2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5				
L3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0				

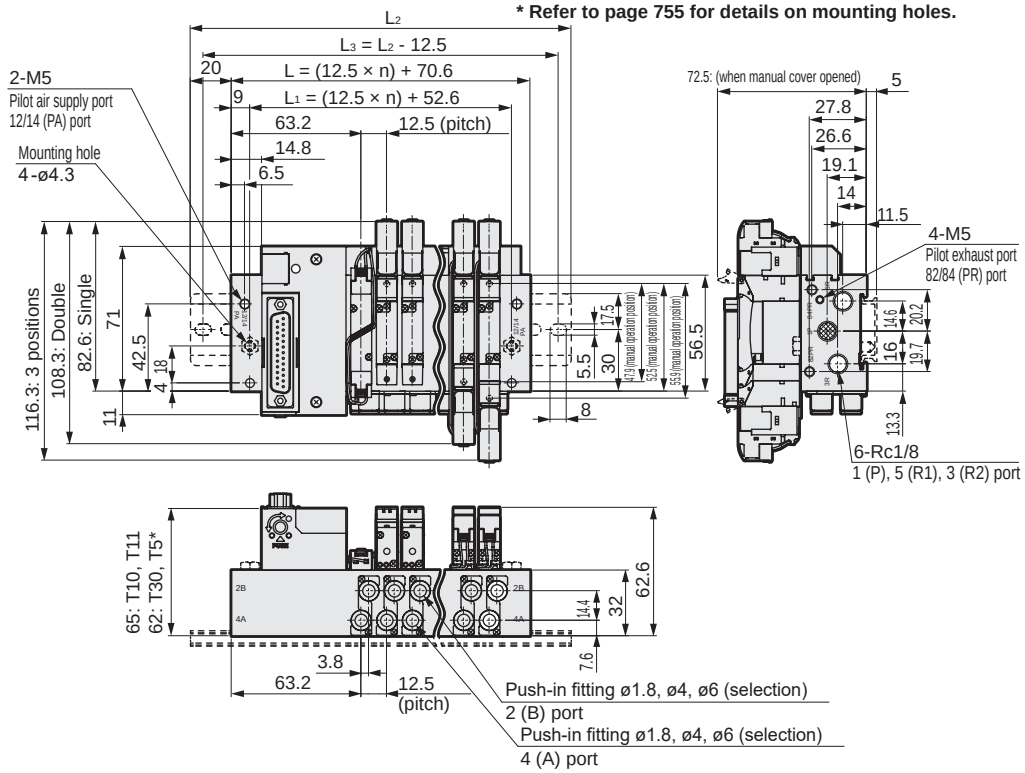
Dimensions CAD

M4GB1-P7*

*** This drawing shows the T30. Refer to page 590 for detailed dimensions of the electric block.**
*** Refer to page 755 for details on mounting holes.**

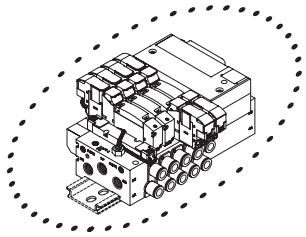
● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)
External pilot (K)

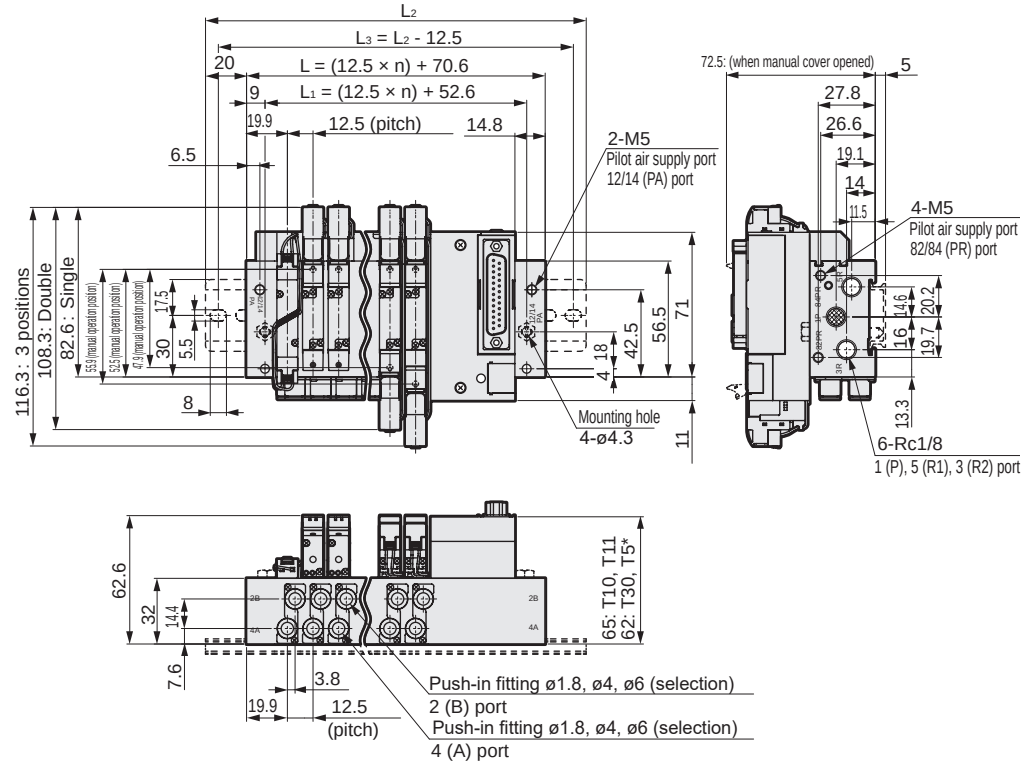




*** Refer to page 576 for details on the push-in fitting elbow (facing up/down).**

● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)
External pilot (K)





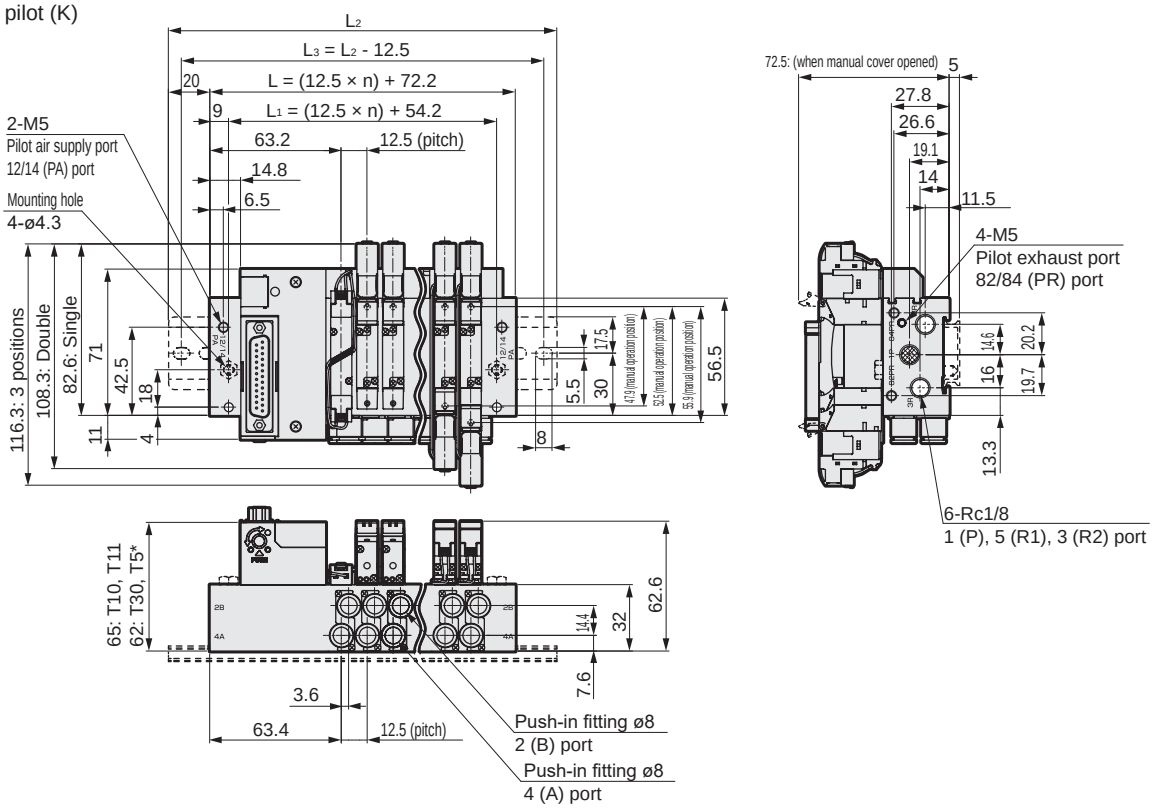
Station No.	2	3	4	5	6	7	8	9	10	11	12
L	95.6	108.1	120.6	133.1	145.6	158.1	170.6	183.1	195.6	208.1	220.6
L_1	77.6	90.1	102.6	115.1	127.6	140.1	152.6	165.1	177.6	190.1	202.6
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0

Dimensions

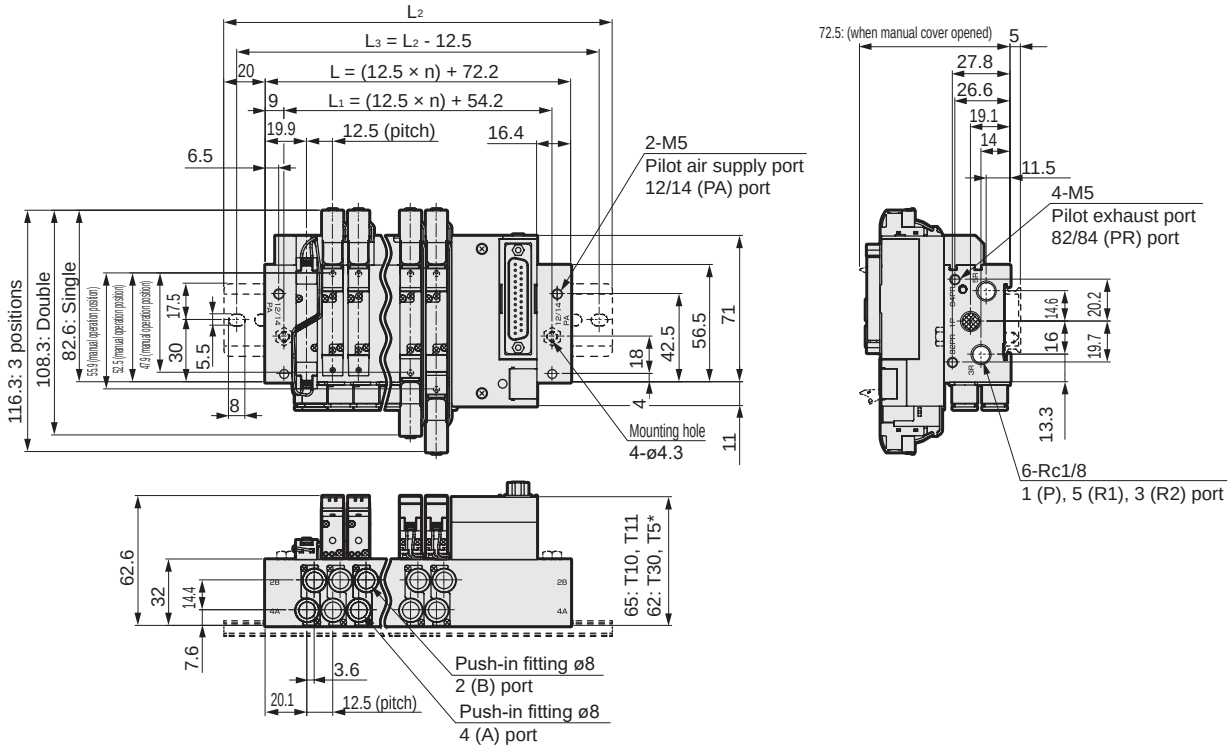
M4GB1-C8-P7*

*Refer to page 755 for details on mounting holes.

● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)
External pilot (K)



● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)
External pilot (K)



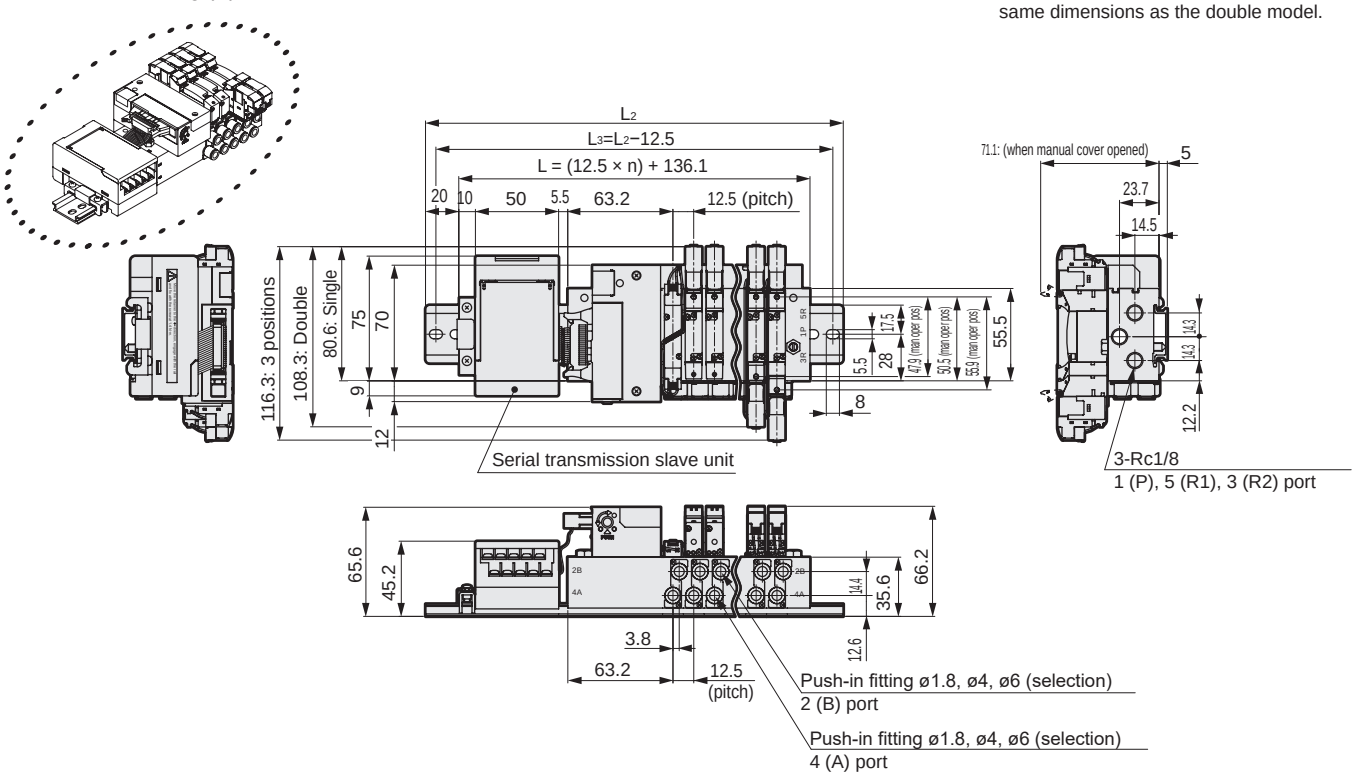
Station No.	2	3	4	5	6	7	8	9	10	11	12
L	97.2	109.7	122.2	134.7	147.2	159.7	172.2	184.7	197.2	209.7	222.2
L_1	79.2	91.7	104.2	116.7	129.2	141.7	154.2	166.7	179.2	191.7	204.2
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0

Dimensions CAD

M4GB1-P7*

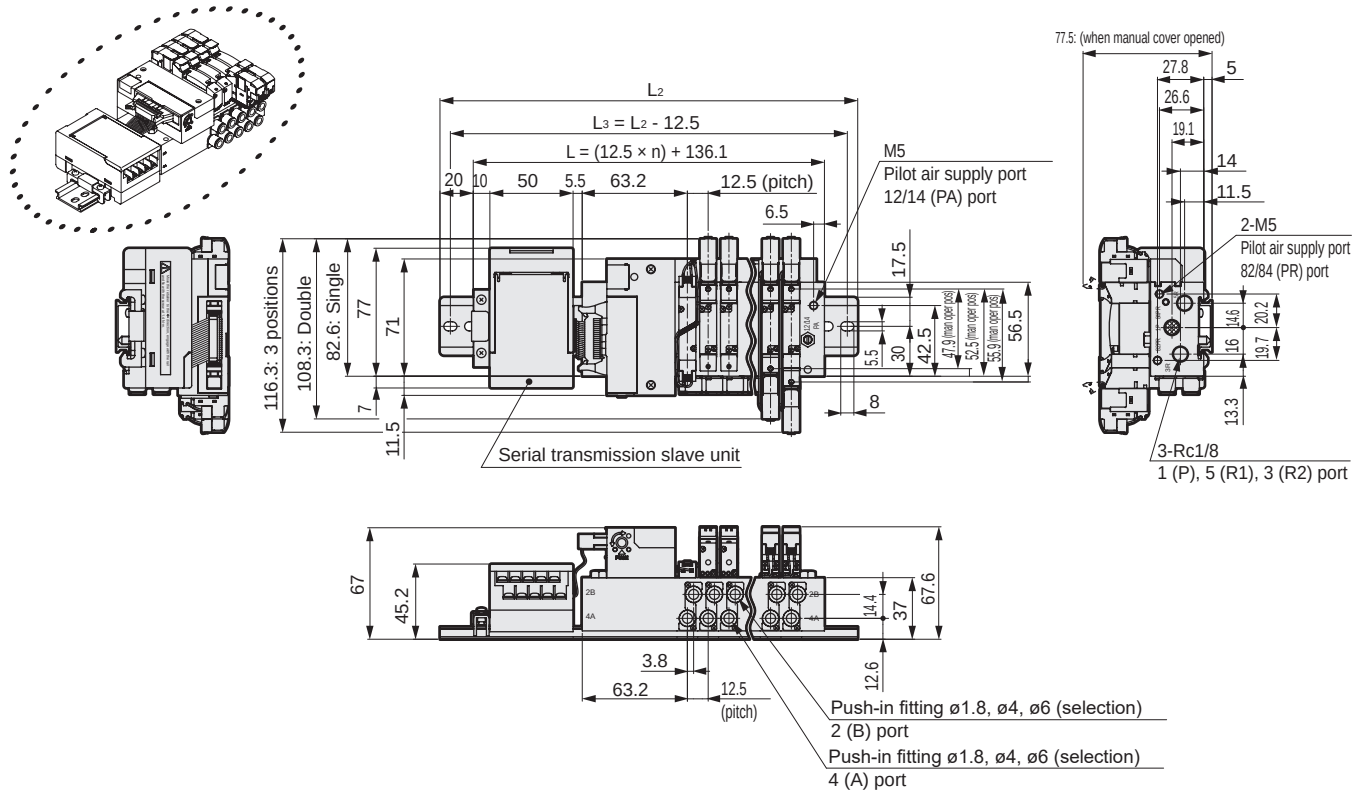
● Serial transmission (T6G1)
DIN rail mounting (D)

* The dual 3-port valve integrated has the same dimensions as the double model.



● Serial transmission (T6G1)
DIN rail mounting (D); external pilot (K)

Note: Refer to page 576 for details on the push-in fitting elbow (facing up/down).



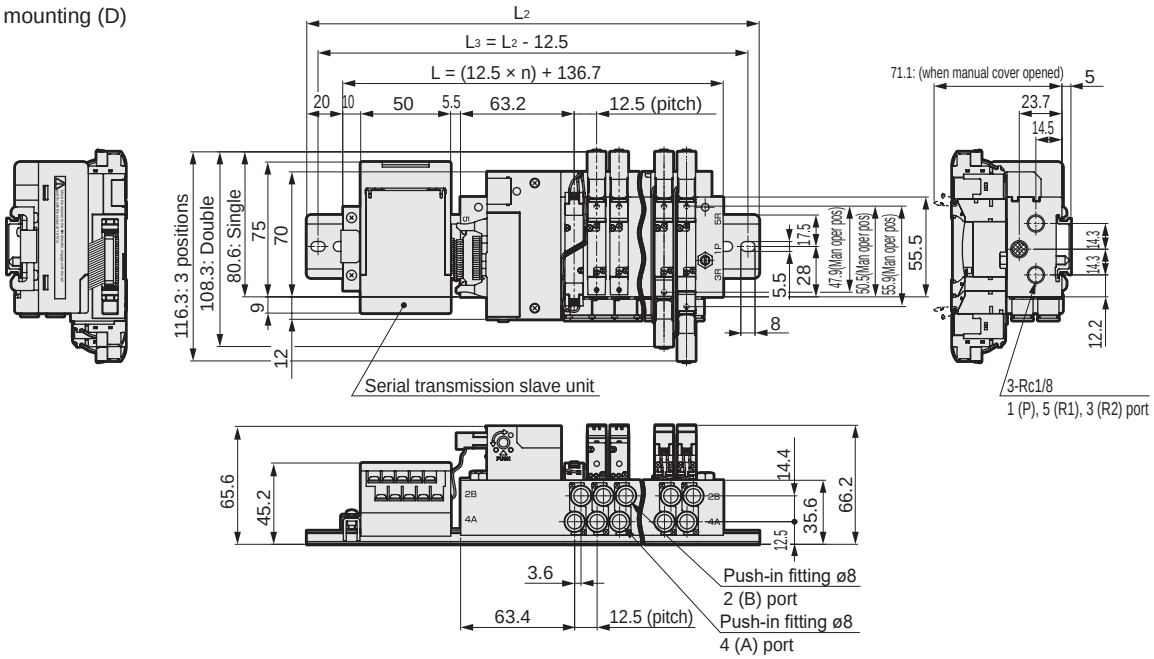
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	161.1	173.6	186.1	198.6	211.1	223.6	236.1	248.6	261.1	273.6	286.1	298.6	311.1	323.6	336.1
L2	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0	337.5	350.0	362.5	375.0	387.5
L3	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0	337.5	350.0	362.5	375.0

Dimensions

M4GB1-C8-P7*

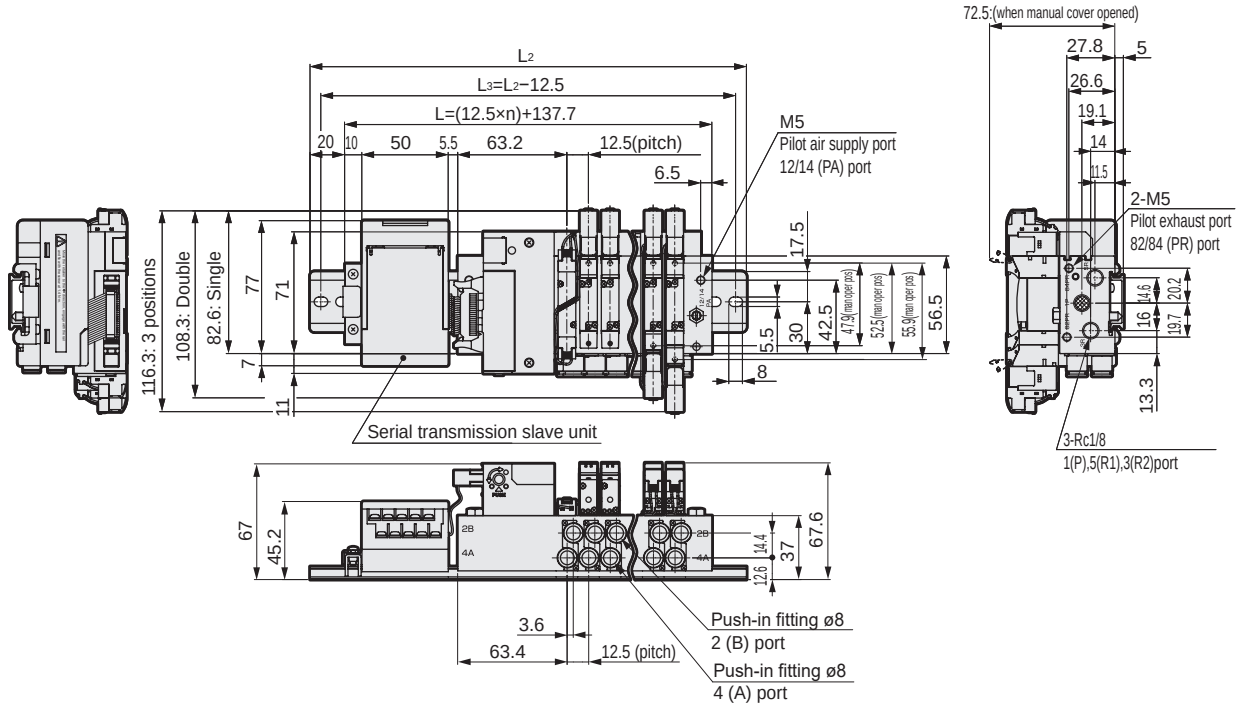
Note: Dedicated manifold base.

● Serial transmission (T6G1)
DIN rail mounting (D)



Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	161.7	174.2	186.7	199.2	211.7	224.2	236.7	249.2	261.7	274.2	286.7	299.2	311.7	324.2	336.7
L_2	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0	337.5	350.0	362.5	375.0	387.5
L_3	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0	337.5	350.0	362.5	375.0

● Serial transmission (T6G1)
DIN rail mounting (D); external pilot (K)



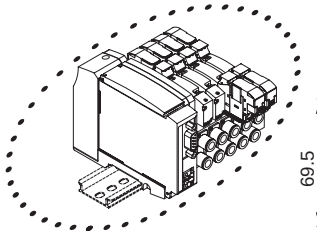
Station No.	2	3	4	5	6	7	8	9	10	11	12
L	162.8	175.3	187.8	200.3	212.8	225.3	237.8	250.3	262.8	275.3	287.8
L_2	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0	337.5
L_3	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0

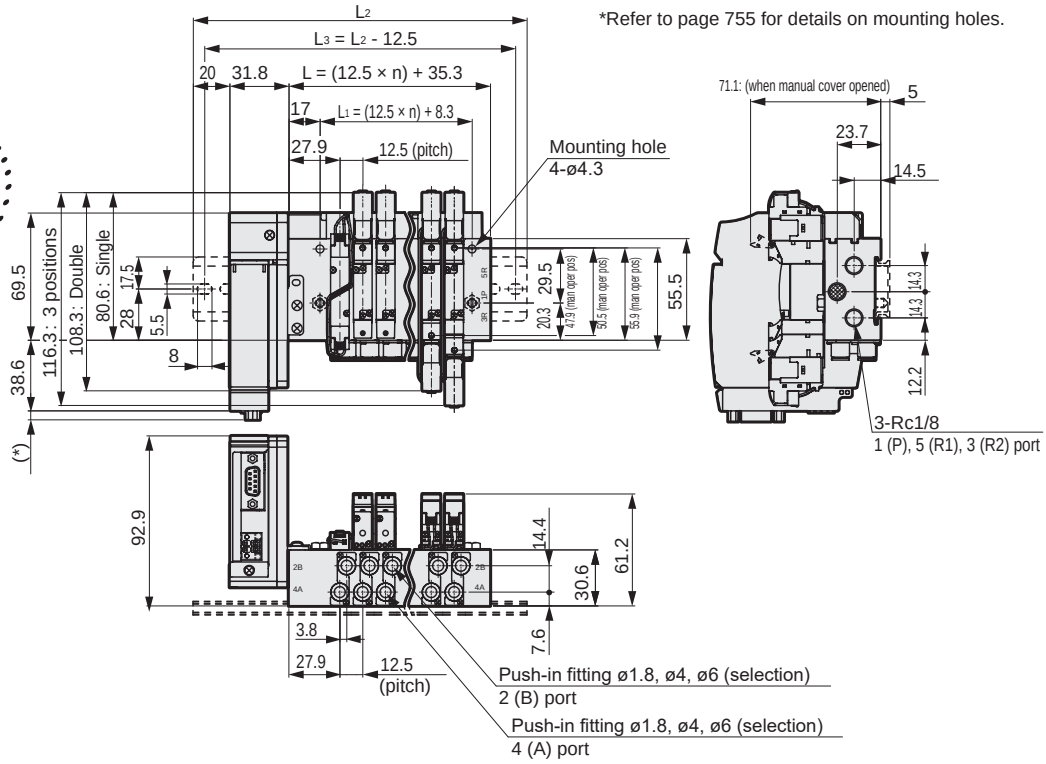
Dimensions CAD

M4GB1-P7*

*Refer to page 755 for details on mounting holes.

● Serial transmission (T8☐)
DIN rail mounting (D)

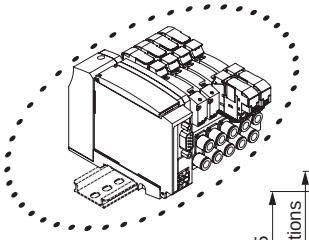


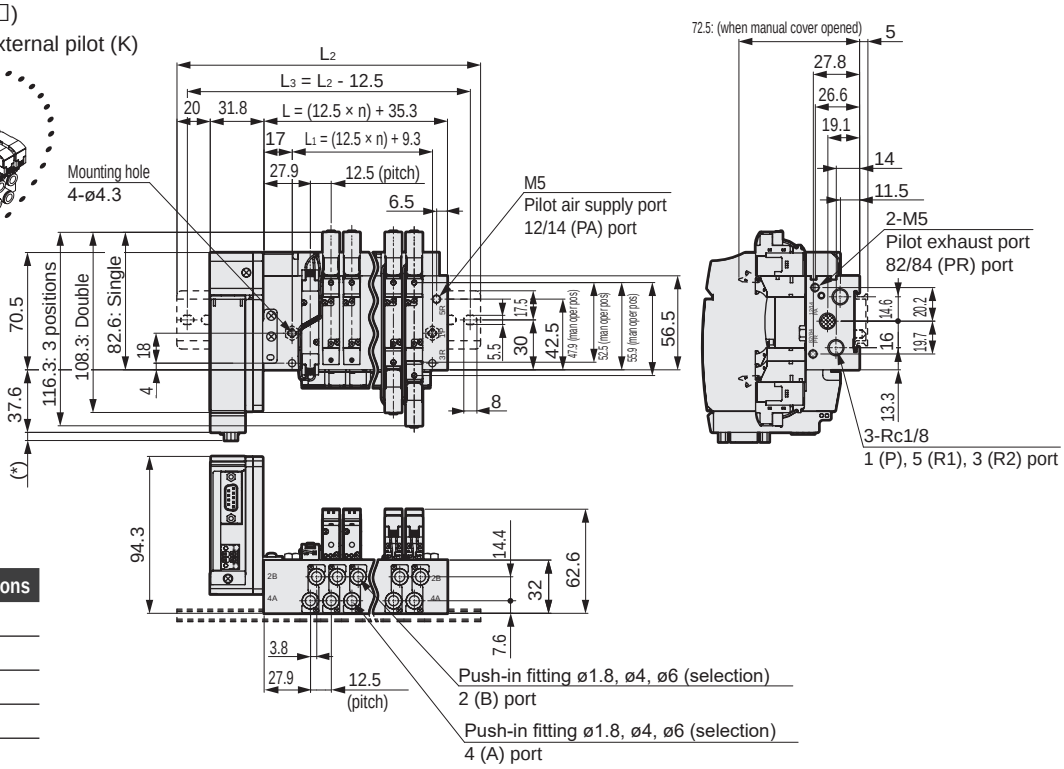


Serial transmission	(*) Dimensions
T8G☐	1.0
T8P☐	4.9
T8E☐	1.5
T8D☐	1.0
T8K☐	1.0

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	60.3	72.8	85.3	97.8	110.3	122.8	135.3	147.8	160.3	172.8	185.3	197.8	210.3	222.8	235.3	247.8	260.3	272.8	285.3
L_1	33.3	45.8	58.3	70.8	83.3	95.8	108.3	120.8	133.3	145.8	158.3	170.8	183.3	195.8	208.3	220.8	233.3	245.8	258.3
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5				
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0				

● Serial transmission (T8☐)
DIN rail mounting (D); external pilot (K)





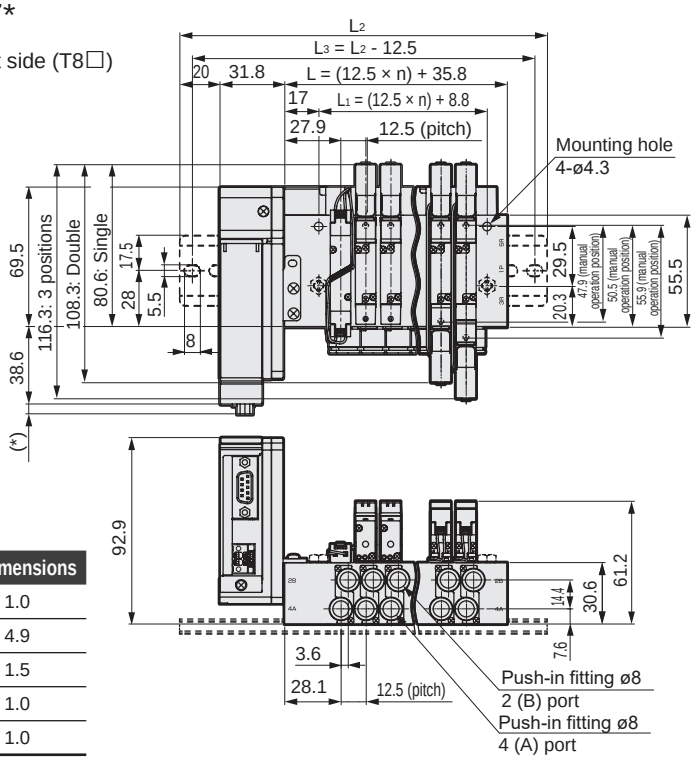
Serial transmission	(*) Dimensions
T8G☐	1.0
T8P☐	4.9
T8E☐	1.5
T8D☐	1.0
T8K☐	1.0

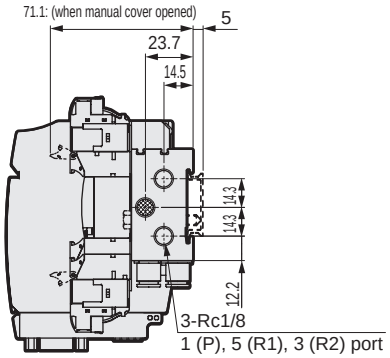
Station No.	2	3	4	5	6	7	8	9	10	11	12
L	60.3	72.8	85.3	97.8	110.3	122.8	135.3	147.8	160.3	172.8	185.3
L_1	34.3	46.8	59.3	71.8	84.3	96.8	109.3	121.8	134.3	146.8	159.3
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0

Dimensions

M4GB1-C8-P7*

● Reduced wiring left side (T8☐)



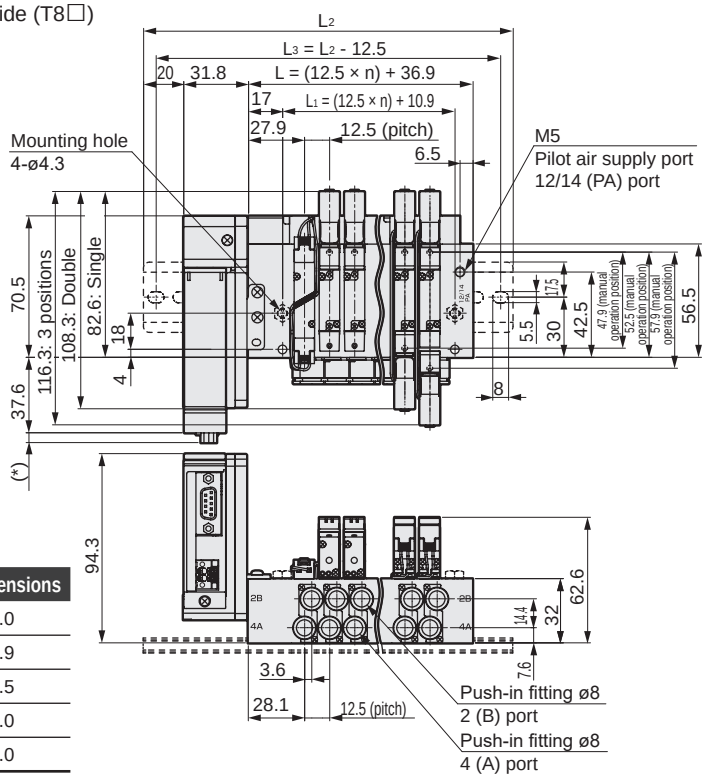


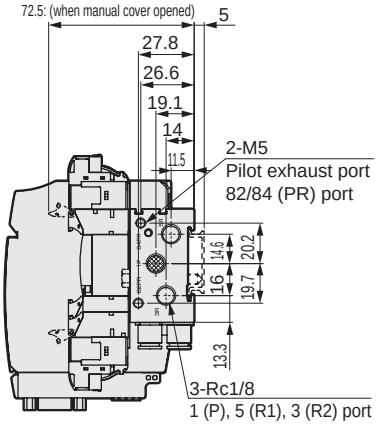
*Refer to page 755 for details on mounting holes.

Serial transmission	(*) Dimensions
T8G☐	1.0
T8P☐	4.9
T8E☐	1.5
T8D☐	1.0
T8K☐	1.0

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	60.8	73.3	85.8	98.3	110.8	123.3	135.8	148.3	160.8	173.3	185.8	198.3	210.8	223.3	235.8	248.3	260.8	273.3	285.8
L_1	33.8	46.3	58.8	71.3	83.8	96.3	108.8	121.3	133.8	146.3	158.8	171.3	183.8	196.3	208.3	221.3	233.8	246.3	258.8
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5				
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0				

● Reduced wiring left side (T8☐)
External pilot (K)





Serial transmission	(*) Dimensions
T8G☐	1.0
T8P☐	4.9
T8E☐	1.5
T8D☐	1.0
T8K☐	1.0

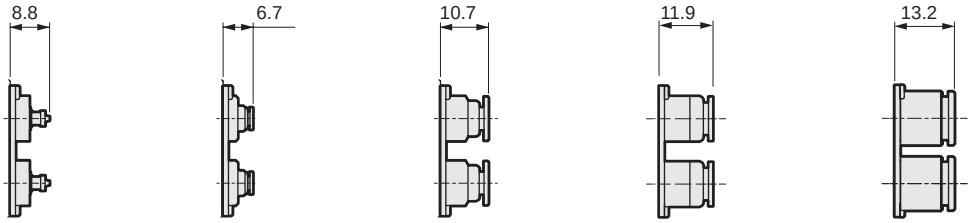
Station No.	2	3	4	5	6	7	8	9	10	11	12
L	61.9	74.4	86.9	99.4	111.9	124.4	136.9	149.4	161.9	174.4	186.9
L_1	35.9	48.4	60.9	73.4	85.9	98.4	110.9	123.4	135.9	148.4	160.9
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0

Dimensions

M4GB1

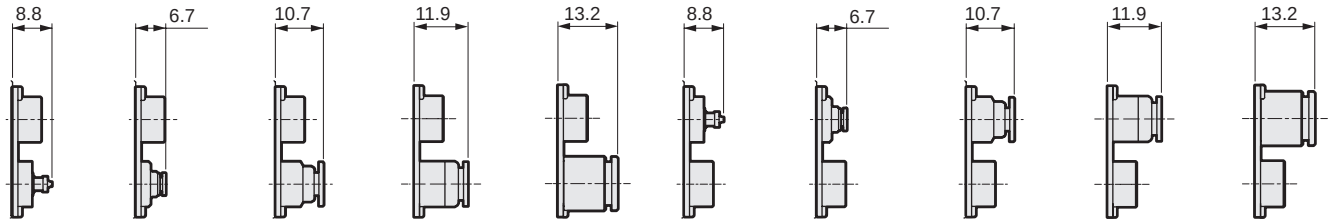
● Straight fitting

● ø1.8 (CF) ● ø1.8 (C18) ● ø4 (C4) ● ø6 (C6) ● ø8 (C8)



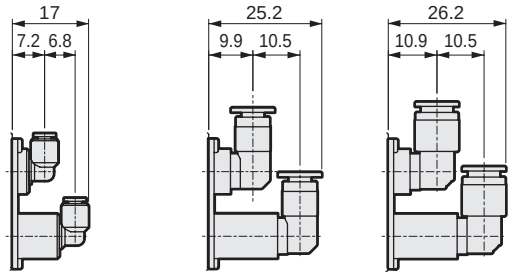
● Straight fitting, single plug

● ø1.8 (CFNC) ● ø1.8 (C18NC) ● ø4 (C4NC) ● ø6 (C6NC) ● ø8 (C8NC) ● ø1.8 (CFNO) ● ø1.8 (C18NO) ● ø4 (C4NO) ● ø6 (C6NO) ● ø8 (C8NO)



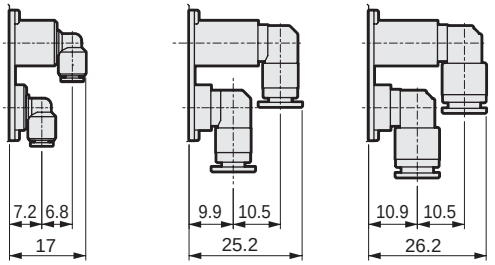
● Radial fitting (facing up)

● ø1.8 (CL18) ● ø4 (CL4) ● ø6 (CL6)



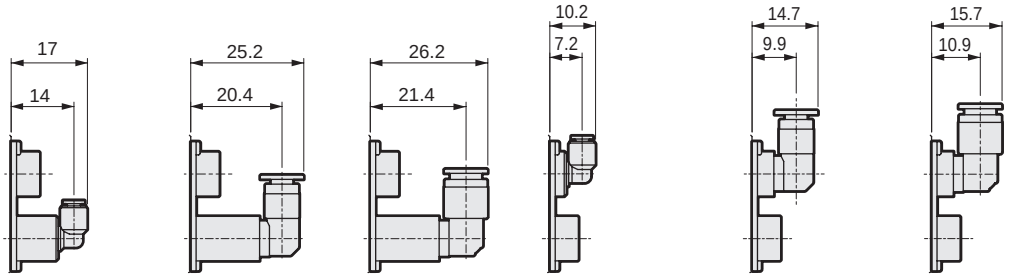
● Radial fitting (facing down)

● ø1.8 (CD18) ● ø4 (CD4) ● ø6 (CD6)



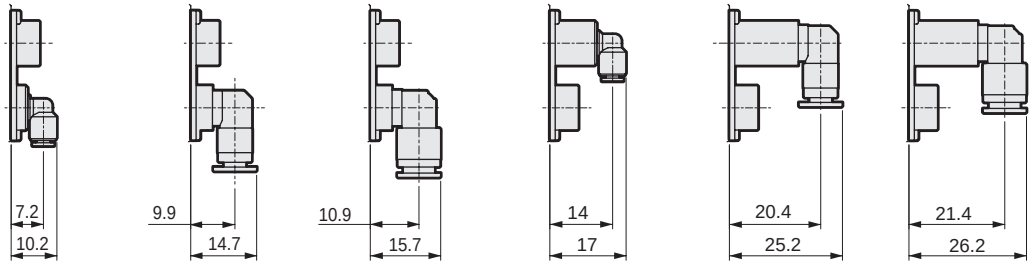
● Radial fitting (facing up), single plug

● ø1.8 (CL18NC) ● ø4 (CL4NC) ● ø6 (CL6NC) ● ø1.8 (CL18NO) ● ø4 (CL4NO) ● ø6 (CL6NO)



● Radial push-in fitting (facing down), single plug

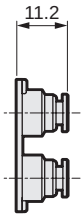
● ø1.8 (CD18NC) ● ø4 (CD4NC) ● ø6 (CD6NC) ● ø1.8 (CD18NO) ● ø4 (CD4NO) ● ø6 (CD6NO)



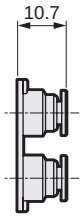
Dimensions

● Fitting straight

● ø1/8 inch(C3N)

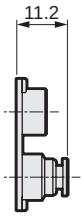


● ø5/32 inch(C4N)

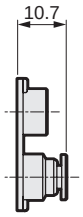


● Straight fitting, single plug

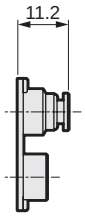
● ø1/8 inch(C3NCN)



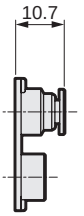
● ø5/32 inch(C4NCN)



● ø1/8 inch(C3NON)

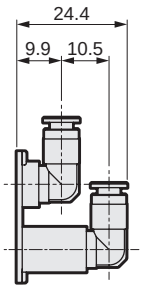


● ø5/32 inch(C4NON)

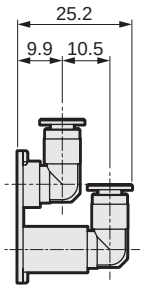


● L fitting (upward)

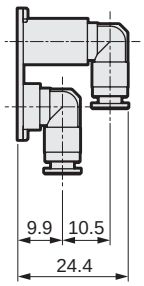
● ø1/8 inch(CL3N)



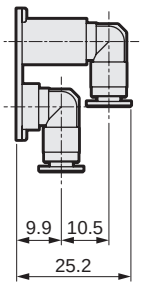
● ø5/32 inch(CL4N)



● ø1/8 inch(CD3N)

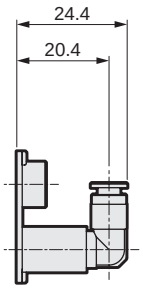


● ø5/32 inch(CD4N)

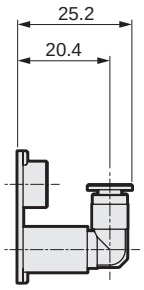


● L fitting (upward), single plug

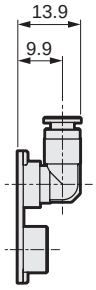
● ø1/8 inch(CL3NCN)



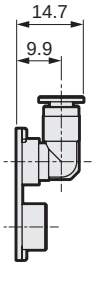
● ø5/32 inch(CL4NCN)



● ø1/8 inch(CL3NON)

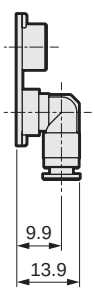


● ø5/32 inch(CL4NON)

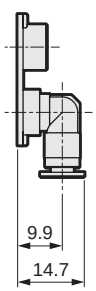


● Radial push-in fitting (downward), single plug

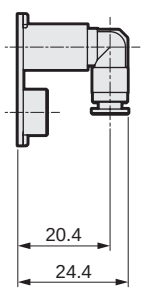
● ø1/8 inch(CD3NCN)



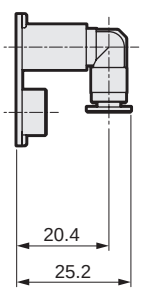
● ø5/32 inch(CD4NCN)



● ø1/8 inch(CD3NON)



● ø5/32 inch(CD4NON)



Dimensions CAD

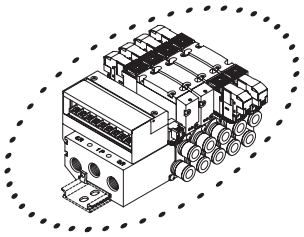
M4GB2-P7*

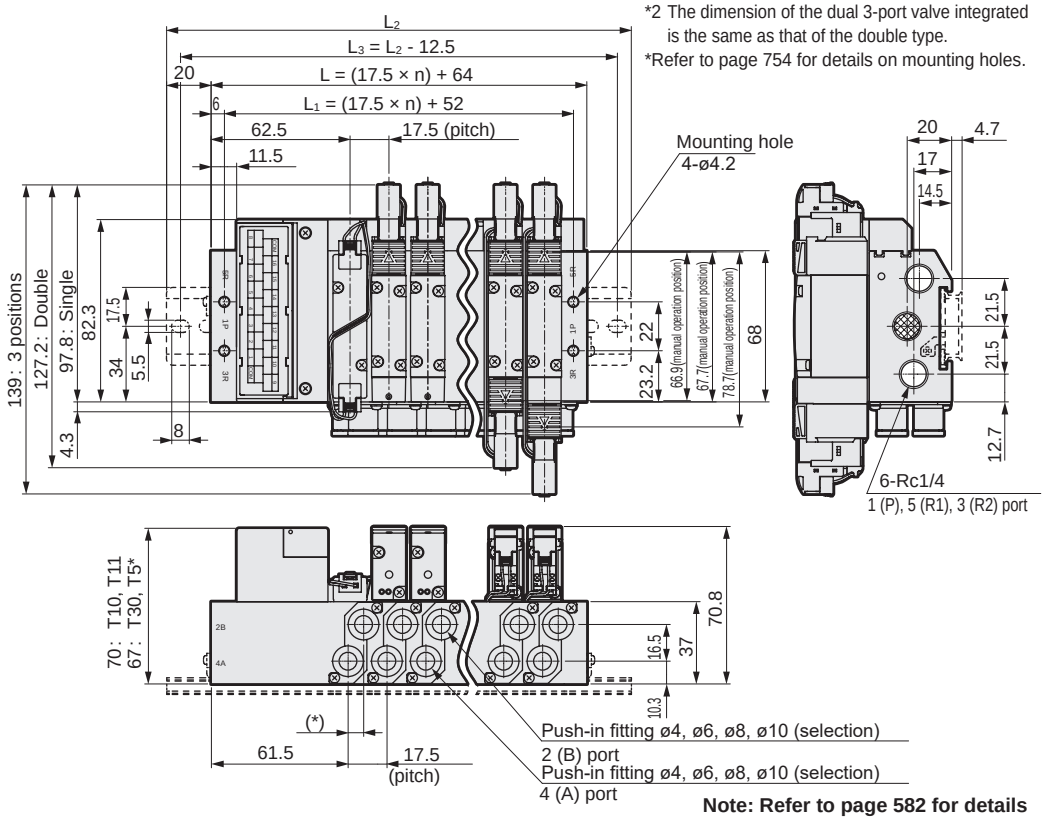
***1 This drawing shows the T10. Refer to page 590 for detailed dimensions of the electric block.**

*2 The dimension of the dual 3-port valve integrated is the same as that of the double type.

*Refer to page 754 for details on mounting holes.

● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)

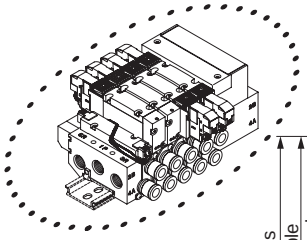


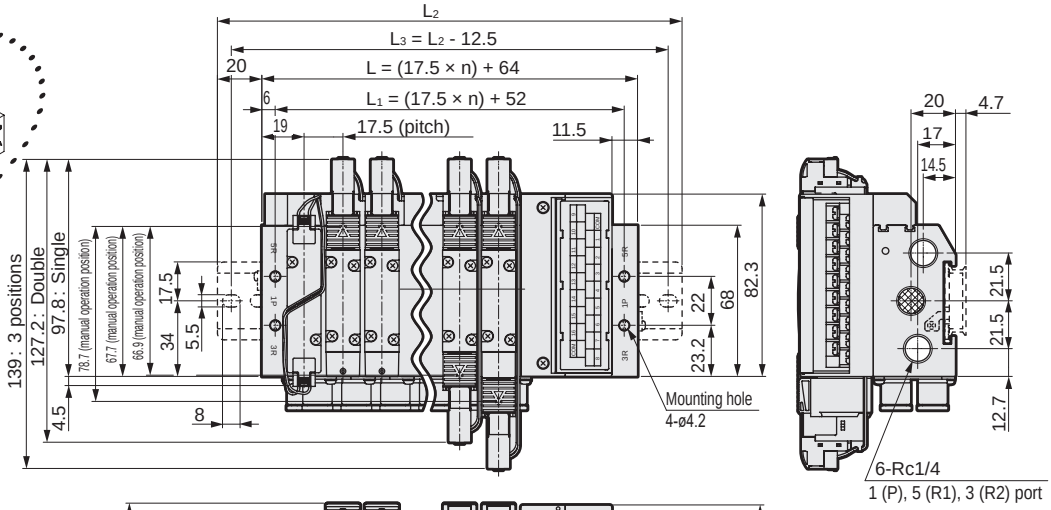


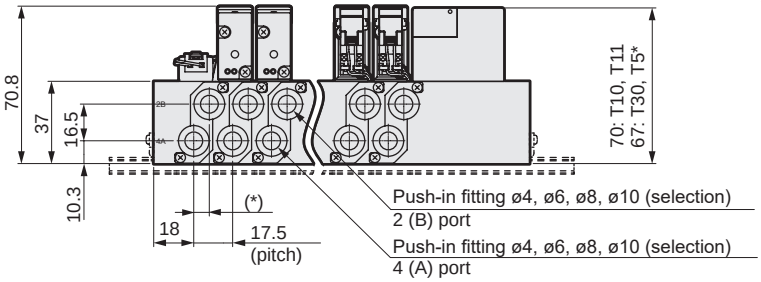
A/B port size	* Dimensions
ø4, ø6, ø8	7
ø10	8.1

Note: Refer to page 582 for details on the push-in fitting elbow (facing up/down).

● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)







A/B port size	* Dimensions
ø4, ø6, ø8	7
ø10	8.1

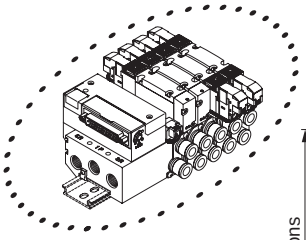
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5	379.0	396.5	414.0
L_1	87.0	104.5	122.0	139.5	157.0	174.5	192.0	209.5	227.0	244.5	262.0	279.5	297.0	314.5	332.0	349.5	367.0	384.5	402.0
L_2	150.0	162.5	175.0	200.0	212.5	237.5	250.0	262.5	287.5	300.0	325.0	337.5	350.0	375.0	387.5				
L_3	137.5	150.0	162.5	187.5	200.0	225.0	237.0	250.0	275.0	287.5	312.5	325.0	337.5	362.5	375.0				

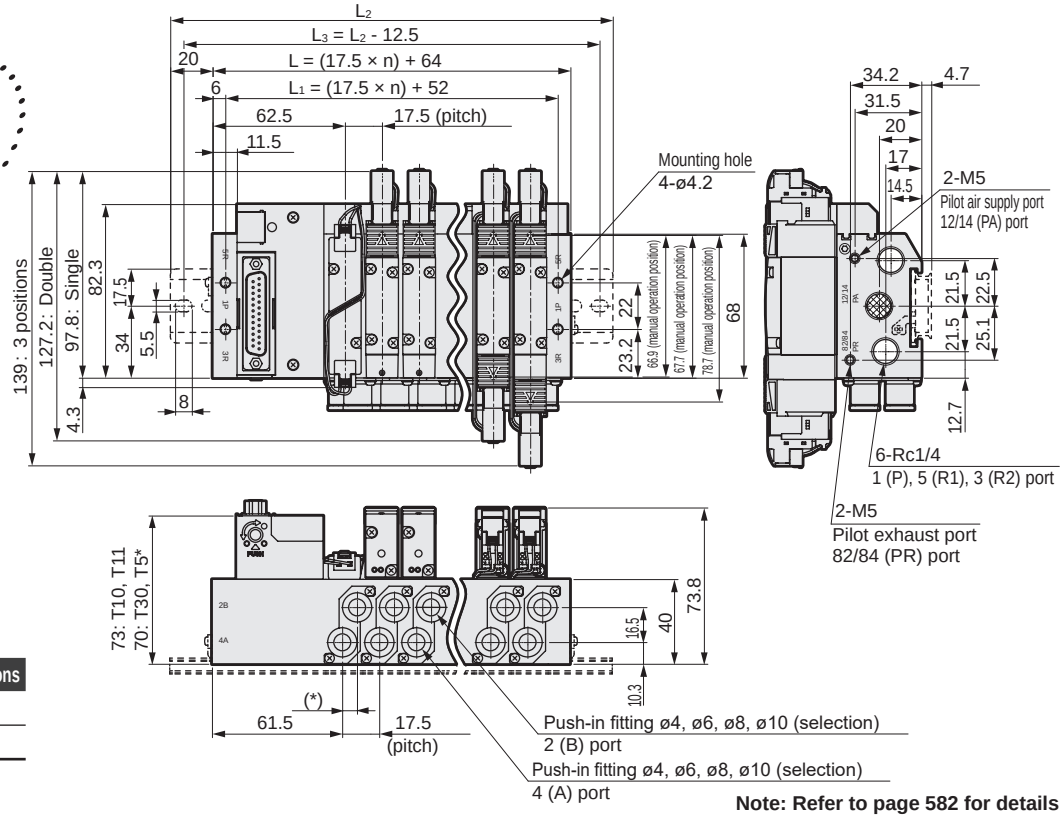
Dimensions

M4GB2-P7*

*** This drawing shows the T30. Refer to page 590 for detailed dimensions of the electric block.**
*** Refer to page 754 for details on mounting holes.**

● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)
External pilot (K)

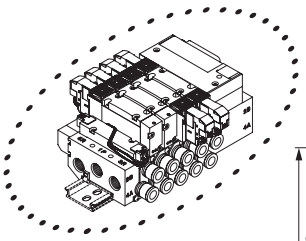


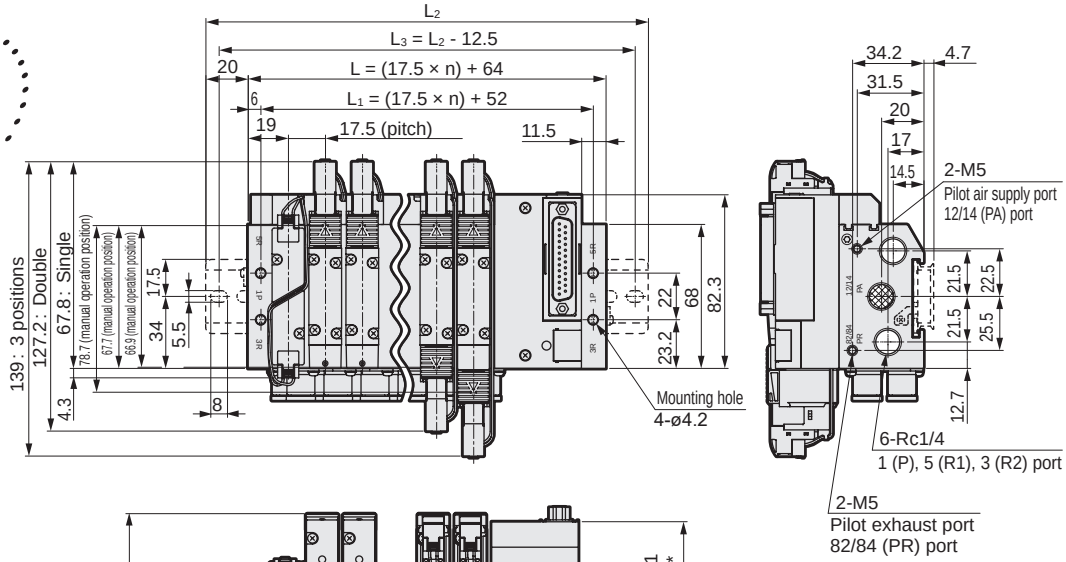


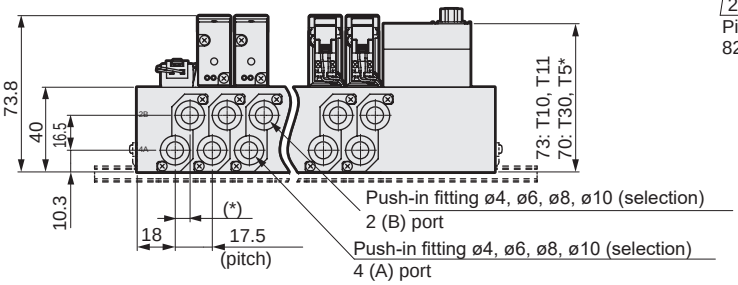
A/B port size	* Dimensions
ø4, ø6, ø8	7
ø10	8.1

Note: Refer to page 582 for details on the push-in fitting elbow (facing up/down).

● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)
External pilot (K)







A/B port size	* Dimensions
ø4, ø6, ø8	7
ø10	8.1

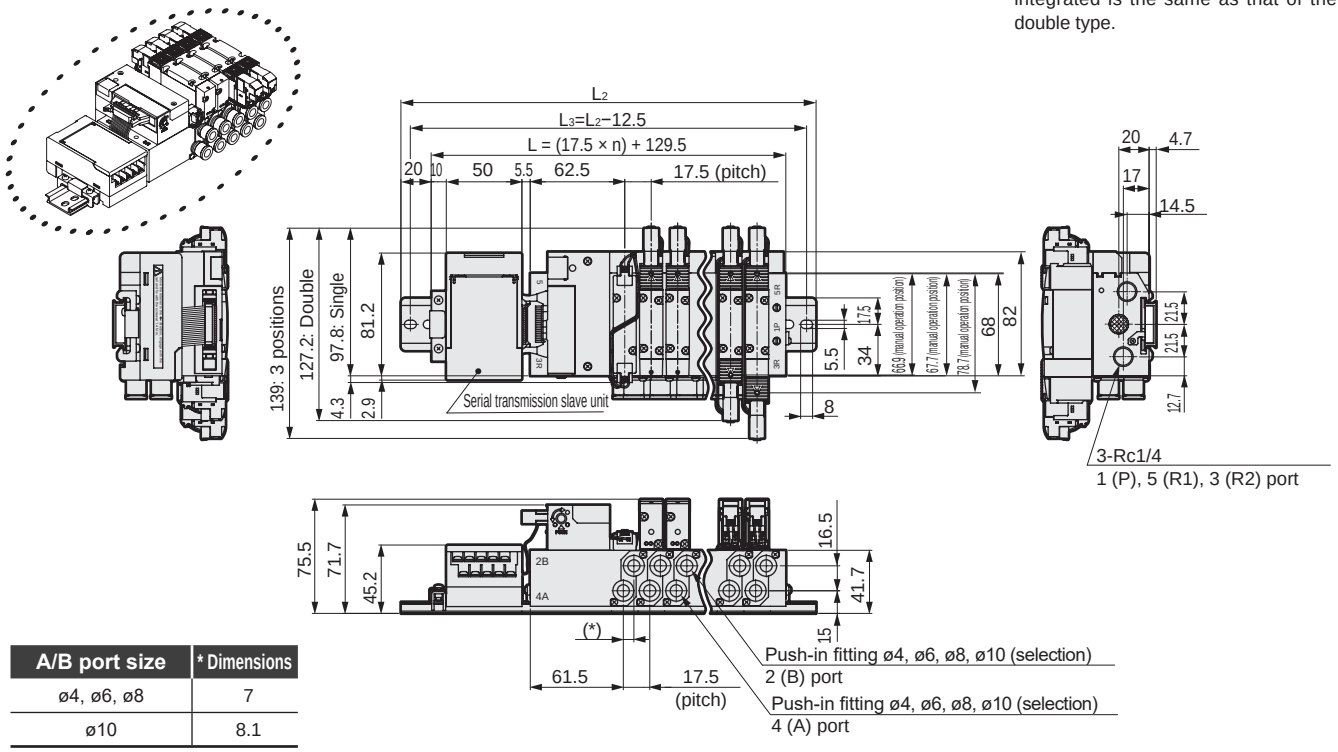
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5	379.0	396.5	414.0
L_1	87.0	104.5	122.0	139.5	157.0	174.5	192.0	209.5	227.0	244.5	262.0	279.5	297.0	314.5	332.0	349.5	367.0	384.5	402.0
L_2	150.0	162.5	175.0	200.0	212.5	237.5	250.0	262.5	287.5	300.0	325.0	337.5	350.0	375.0	387.5				
L_3	137.5	150.0	162.5	187.5	200.0	225.0	237.5	250.0	275.0	287.5	312.5	325.0	337.5	362.5	375.0				

Dimensions CAD

M4GB2-P7*

● Serial transmission (T6G1)
DIN rail mounting (D)

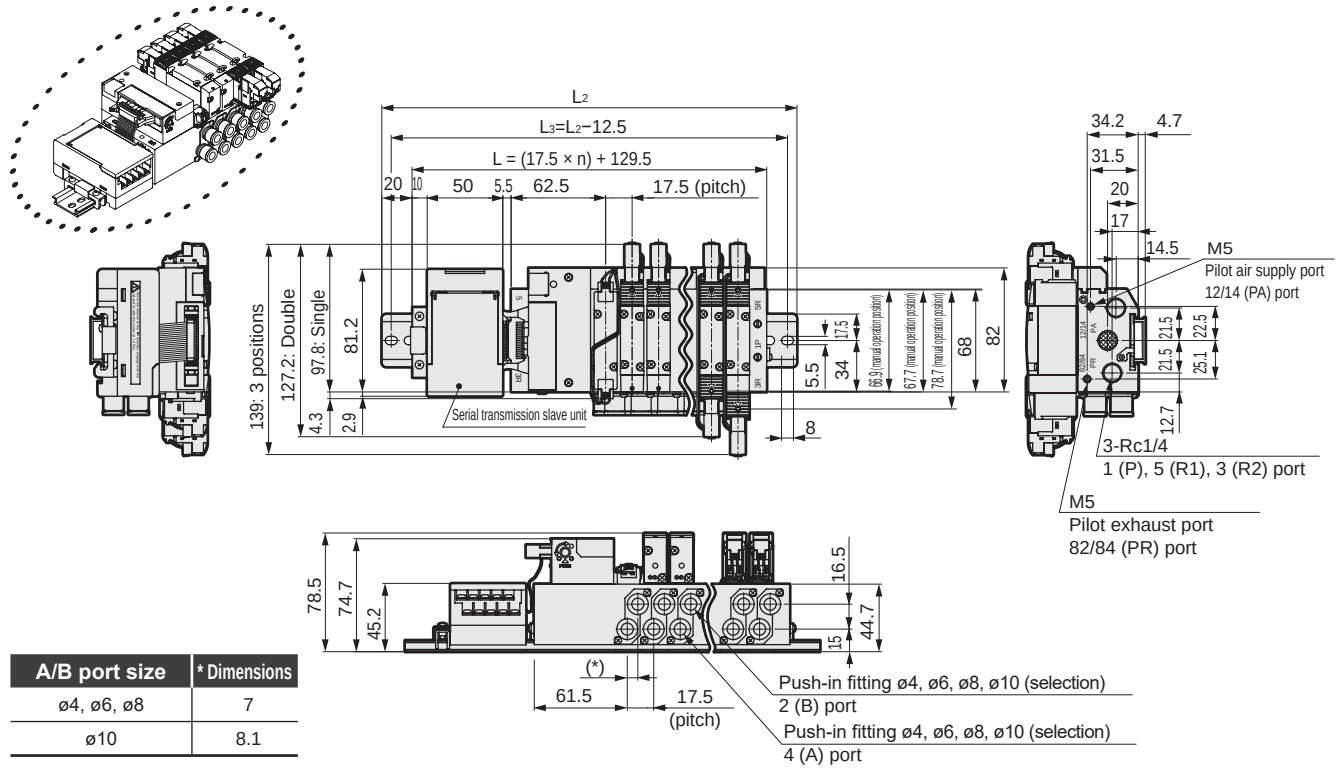
*The dimension of the dual 3-port valve integrated is the same as that of the double type.



A/B port size	* Dimensions
ø4, ø6, ø8	7
ø10	8.1

Note: Refer to page 582 for details on the push-in fitting elbow (facing up/down).

● Serial transmission (T6G1)
DIN rail mounting (D); external pilot (K)



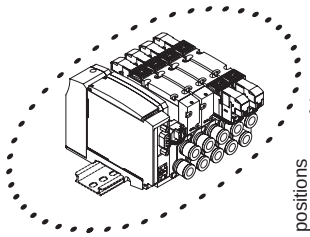
A/B port size	* Dimensions
ø4, ø6, ø8	7
ø10	8.1

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	164.5	182.0	199.5	217.0	234.5	252.0	269.5	287.0	304.5	322.0	339.5	357.0	374.5	392.0	409.5
L2	212.5	225.0	250.0	262.5	275.0	300.0	312.5	337.5	350.0	362.5	387.5	400.0	425.0	437.5	450.0
L3	200.0	212.5	237.5	250.0	262.5	287.5	300.0	325.0	337.5	350.0	375.0	387.5	412.5	425.0	437.5

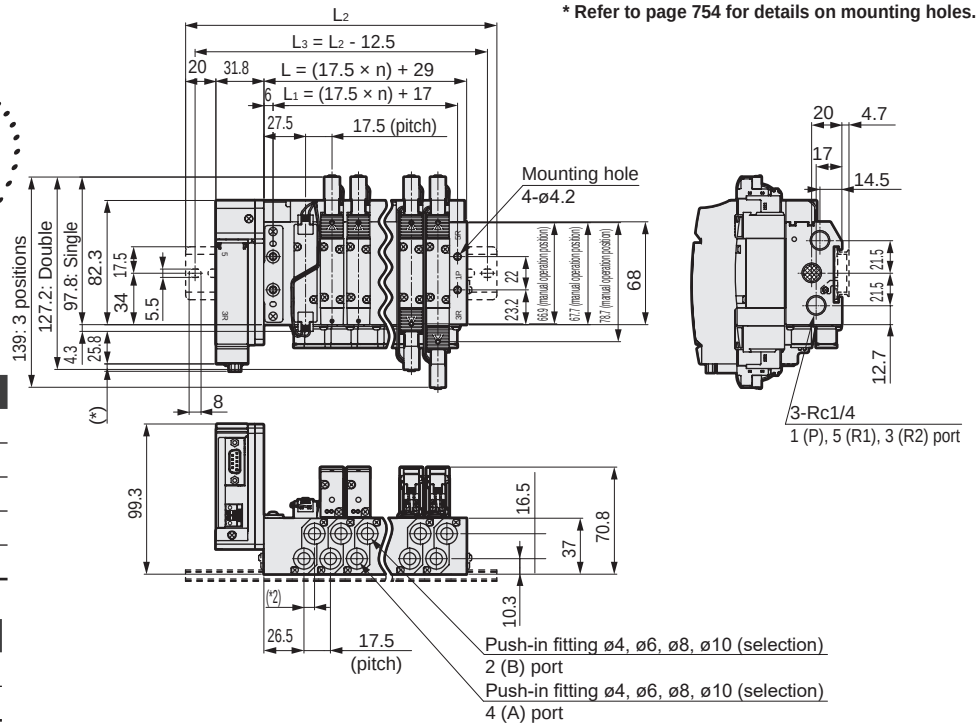
Dimensions

M4GB2-P7*

● Serial transmission (T8☐)
DIN rail mounting (D)



* Refer to page 754 for details on mounting holes.



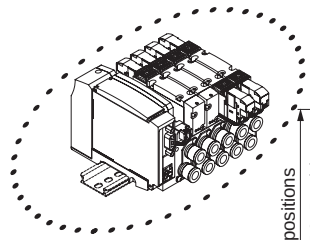
Serial transmission	(*) Dimensions
T8G☐	1.0
T8P☐	4.9
T8E☐	1.5
T8D☐	1.0
T8K☐	1.0

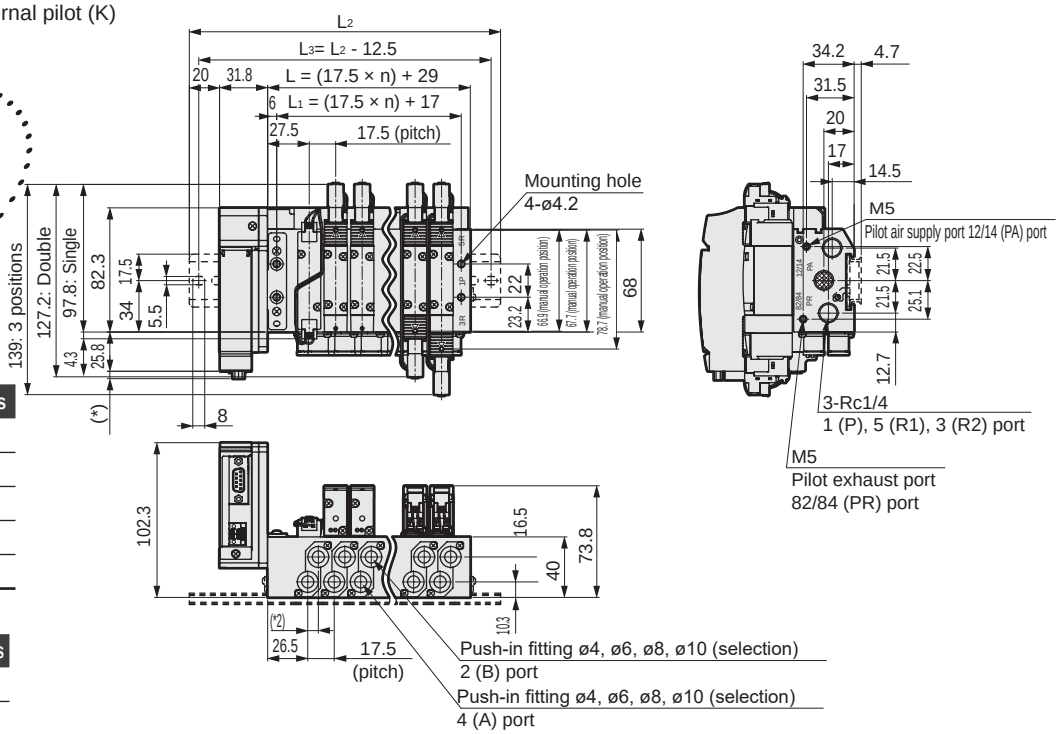
*2

A/B port size	*2 Dimensions
ø4, ø6, ø8	7
ø10	8.1

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	64.0	81.5	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5	379.0
L_1	52.0	69.5	87.0	104.5	122.0	139.5	157.0	174.5	192.0	209.5	227.0	244.5	262.0	279.5	297.0	314.5	332.0	349.5	367.0
L_2	137.5	162.5	175.0	200.0	212.5	225.0	250.0	262.5	287.5	300.0	312.5	337.5	350.0	375.0	387.5				
L_3	125.0	150.0	162.5	187.5	200.0	212.5	237.5	250.0	275.0	287.5	300.0	325.0	337.5	362.5	375.0				

● Serial transmission (T8☐)
DIN rail mounting (D); external pilot (K)





Serial transmission	(*) Dimensions
T8G☐	1.0
T8P☐	4.9
T8E☐	1.5
T8D☐	1.0
T8K☐	1.0

*2

A/B port size	*2 Dimensions
ø4, ø6, ø8	7
ø10	8.1

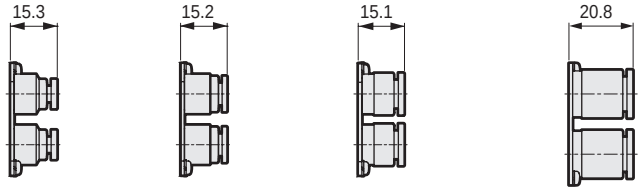
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	64.0	81.5	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5	379.0
L_1	52.0	69.5	87.0	104.5	122.0	139.5	157.0	174.5	192.0	209.5	227.0	244.5	262.0	279.5	297.0	314.5	332.0	349.5	367.0
L_2	137.5	162.5	175.0	200.0	212.5	225.0	250.0	262.5	287.5	300.0	312.5	337.5	350.0	375.0	387.5				
L_3	125.0	150.0	162.5	187.5	200.0	212.5	237.5	250.0	275.0	287.5	300.0	325.0	337.5	362.5	375.0				

Dimensions

M4GB2

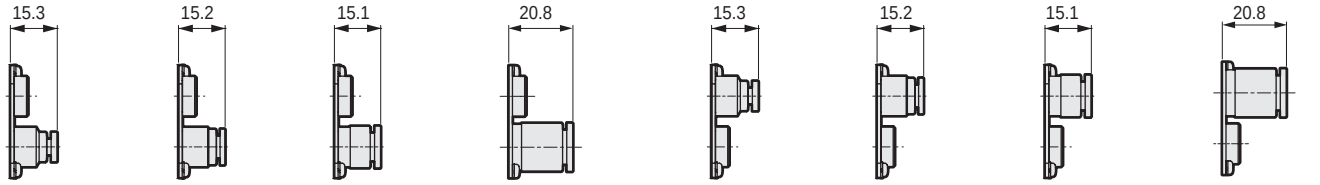
● Straight fitting

● ø4 (C4) ● ø6 (C6) ● ø8 (C8) ● ø10 (C10)



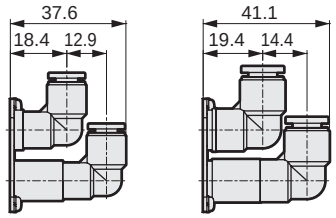
● Straight fitting, single plug

● ø4 (C4NC) ● ø6 (C6NC) ● ø8 (C8NC) ● ø10 (C10NC) ● ø4 (C4NO) ● ø6 (C6NO) ● ø8 (C8NO) ● ø10 (C10NO)



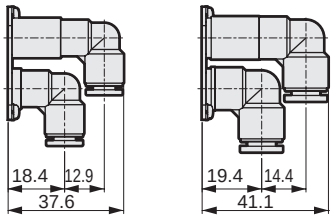
● Radial fitting (facing up)

● ø6 (L6) ● ø8 (CL8)



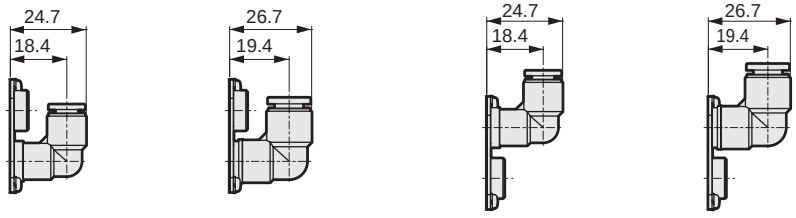
● Radial fitting (facing down)

● ø6 (CD6) ● ø8 (CD8)



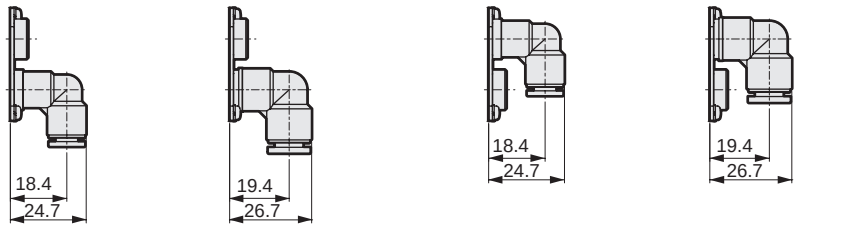
● Radial fitting (facing up), single plug

● ø6 (CL6NC) ● ø8 (CL8NC) ● ø6 (CL6NO) ● ø8 (CL8NO)



● Radial fitting (facing down), single plug

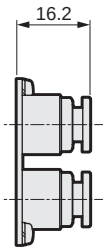
● ø6 (CD6NC) ● ø8 (CD8NC) ● ø6 (CD6NO) ● ø8 (CD8NO)



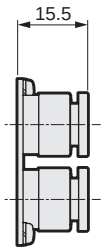
Dimensions

● Fitting straight

● ø1/4" (C6N)

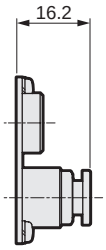


● ø5/16" (C8N)

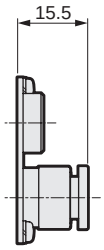


● Straight fitting, single plug

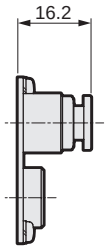
● ø1/4 inch (C6NCN)



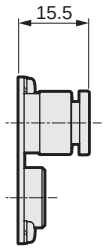
● ø5/16 inch (C8NCN)



● ø1/4" (C6NON)

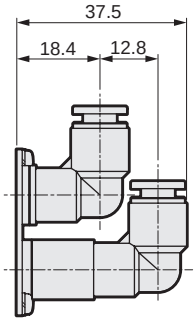


● ø5/16" (C8NON)

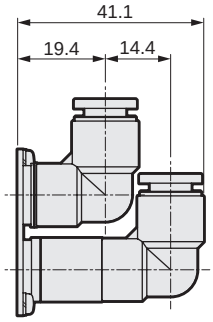


● L fitting (upward)

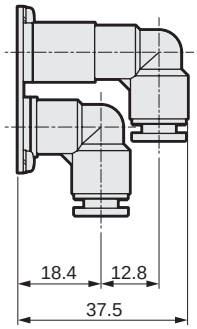
● ø1/4 inch (CL6N)



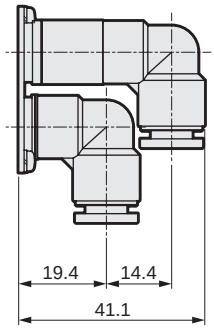
● ø5/16 inch (CL8N)



● ø1/8 inch (CD6N)

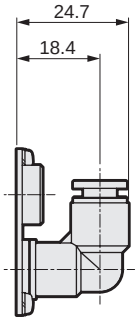


● ø5/32 inch (CD8N)

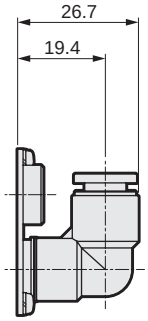


● L fitting (upward), single plug

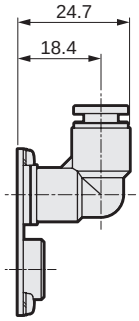
● ø1/4 inch (CL6NCN)



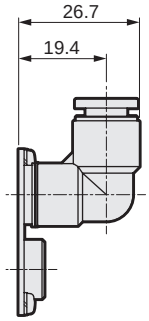
● ø5/16 inch (CL8NCN)



● ø1/4" (CL6NON)

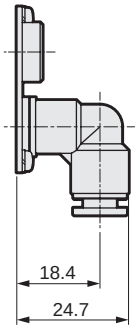


● ø5/16" (CL8NON)

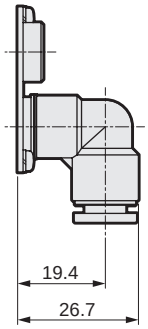


● L fitting (downward), single plug

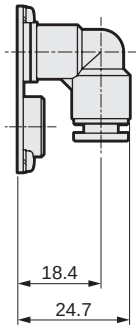
● ø1/4 inch (CD6NCN)



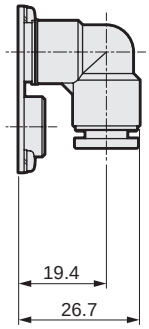
● ø5/16 inch (CD8NCN)



● ø1/4" (CD6NON)



● ø5/16" (CD8NON)

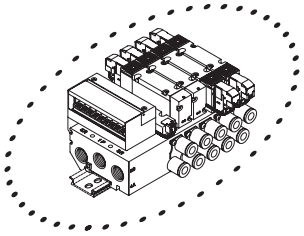


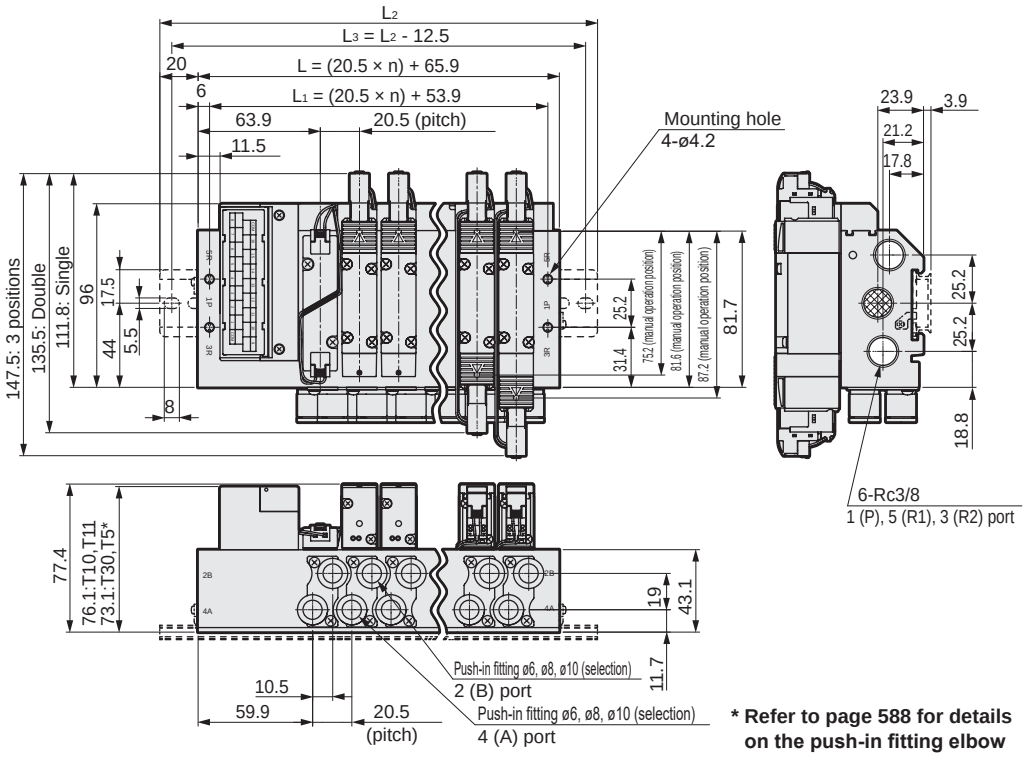
Dimensions CAD

M4GB3-P7*

*** This drawing shows the T10. Refer to page 590 for detailed dimensions of the electric block.**
*** Refer to page 754 for details on mounting holes.**

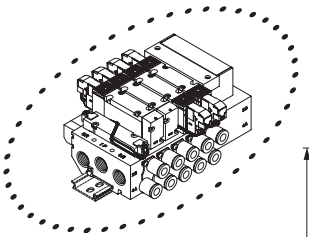
● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)

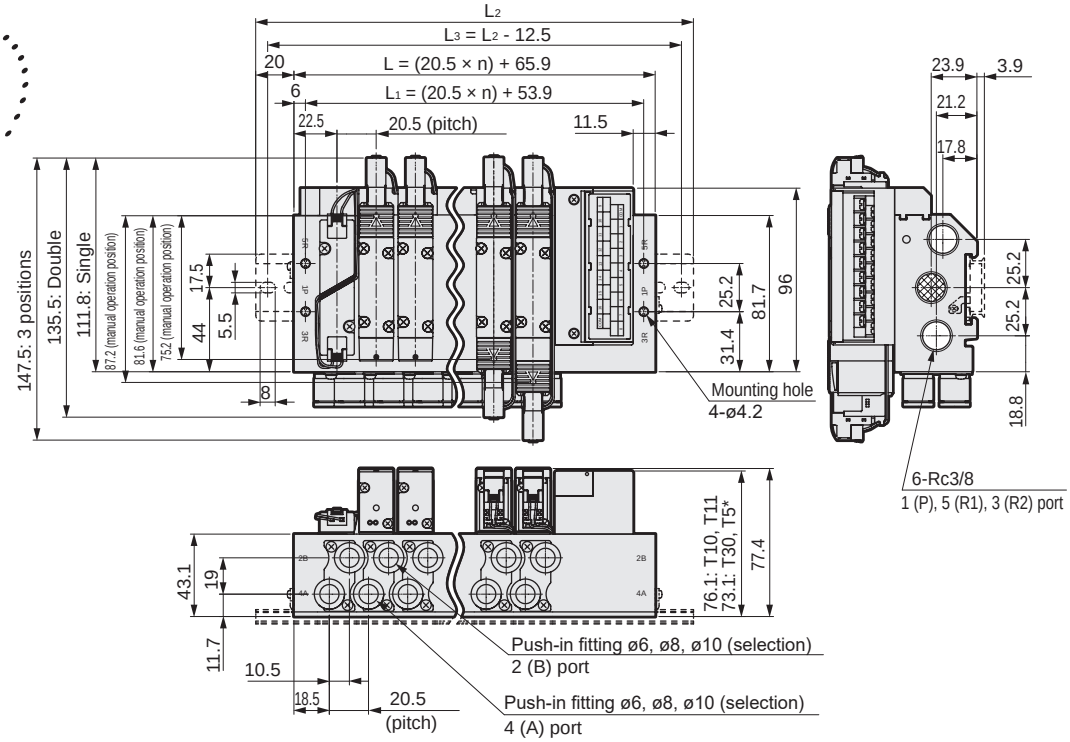




*** Refer to page 588 for details on the push-in fitting elbow (facing up/down).**

● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)





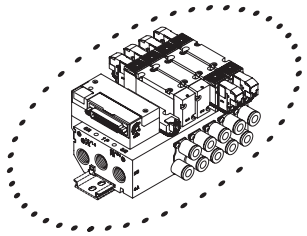
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	106.9	127.4	147.9	168.4	188.9	209.4	229.9	250.4	270.9	291.4	311.9	332.4	352.9	373.4	393.9
L_1	94.9	115.4	135.9	156.4	176.9	197.4	217.9	238.4	258.9	279.4	299.9	320.4	340.9	361.4	381.9
L_2	150.0	175.0	200.0	212.5	237.5	250.0	275.0	300.0	312.5	337.5	362.5	375.0	400.0	412.5	437.5
L_3	137.5	162.5	187.5	200.0	225.0	237.5	262.5	287.5	300.0	325.0	350.0	362.5	387.5	400.0	425.0

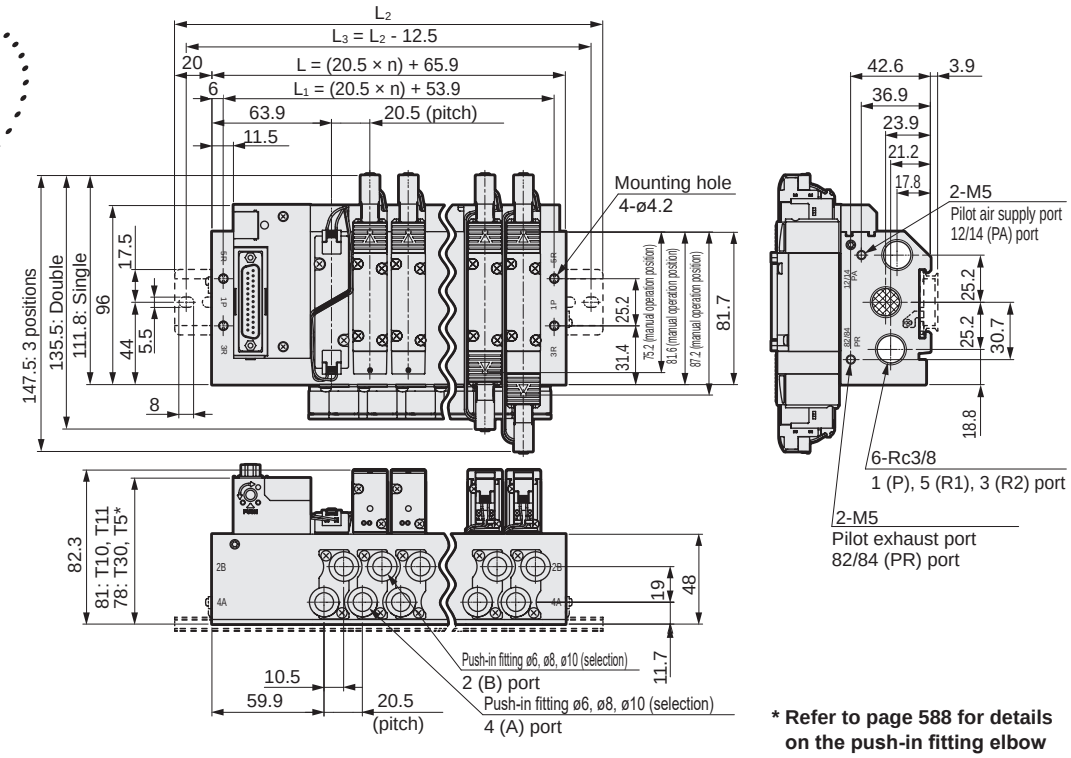
Dimensions

M4GB3-P7*

*** This drawing shows the T30. Refer to page 590 for detailed dimensions of the electric block.**
*** Refer to page 754 for details on mounting holes.**

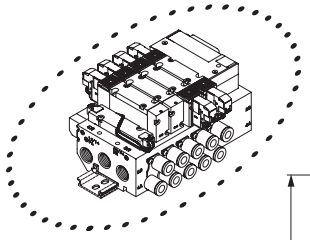
● Reduced wiring left side (T10/T11/T30/T50/T51/T52/T53)
External pilot (K)

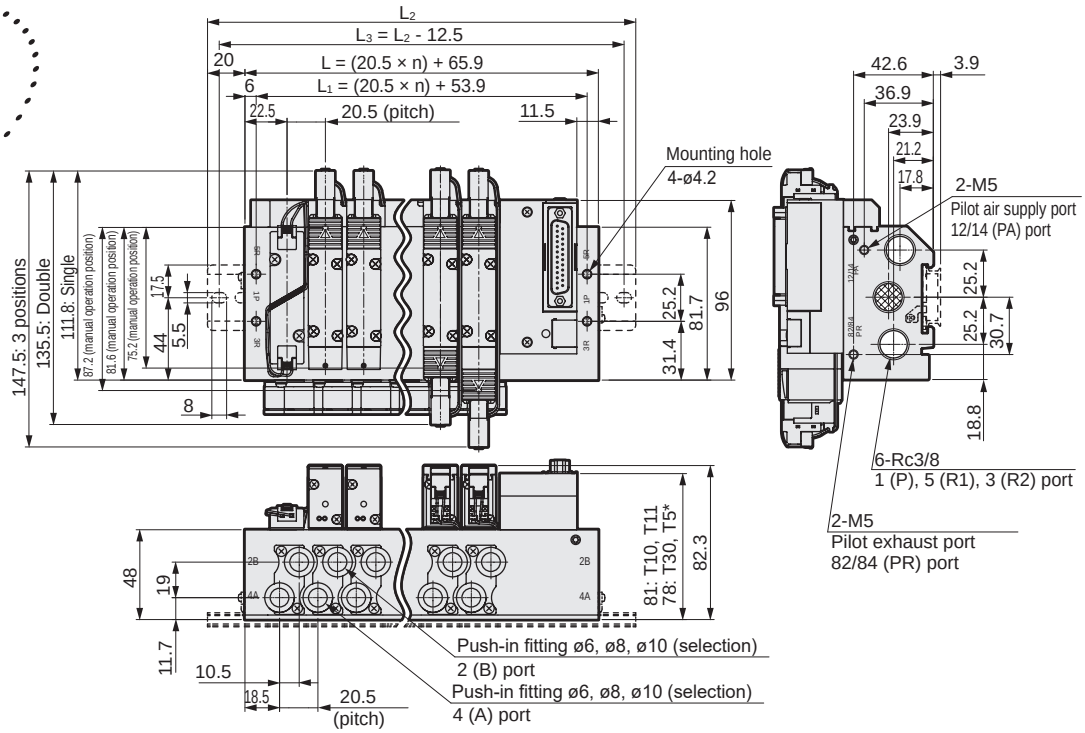




*** Refer to page 588 for details on the push-in fitting elbow (facing up/down).**

● Reduced wiring right side (T10R/T11R/T30R/T50R/T51R/T52R/T53R)
External pilot (K)



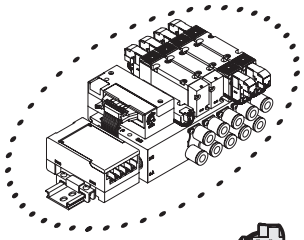


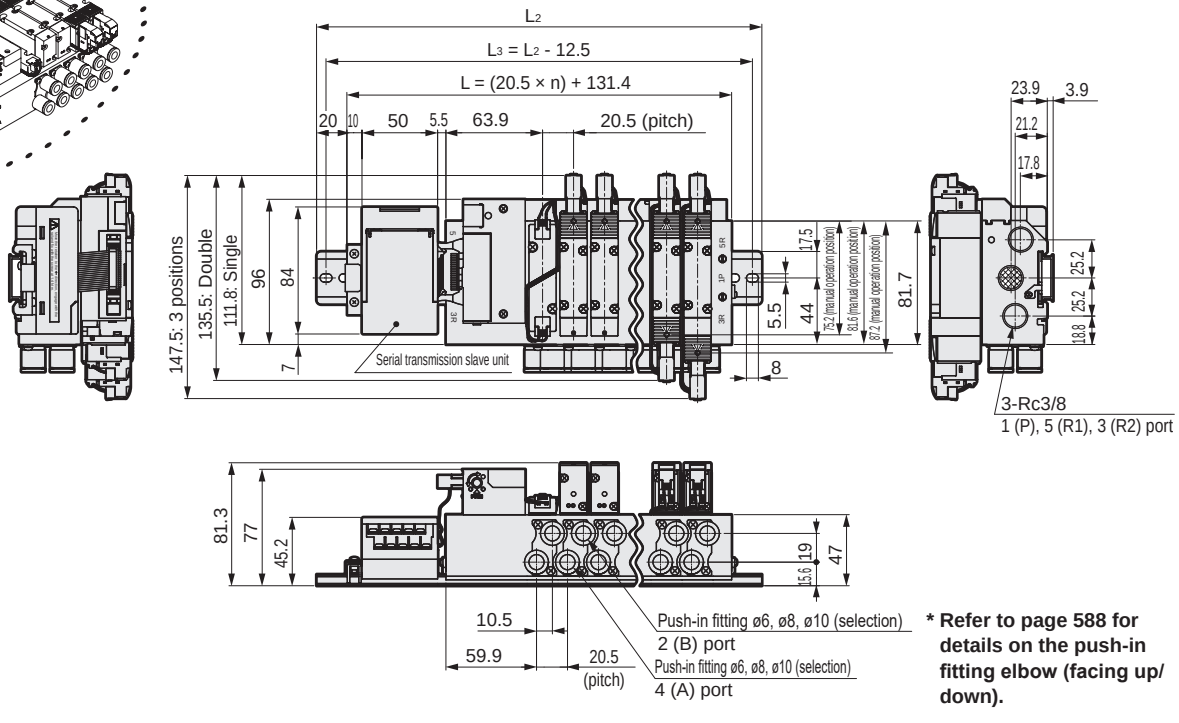
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	106.9	127.4	147.9	168.4	188.9	209.4	229.9	250.4	270.9	291.4	311.9	332.4	352.9	373.4	393.9
L_1	94.9	115.4	135.9	156.4	176.9	197.4	217.9	238.4	258.9	279.4	299.9	320.4	340.9	361.4	381.9
L_2	150.0	175.0	200.0	212.5	237.5	250.0	275.0	300.0	312.5	337.5	362.5	375.0	400.0	412.5	437.5
L_3	137.5	162.5	187.5	200.0	225.0	237.5	262.5	287.5	300.0	325.0	350.0	362.5	387.5	400.0	425.0

Dimensions CAD

M4GB3-P7*

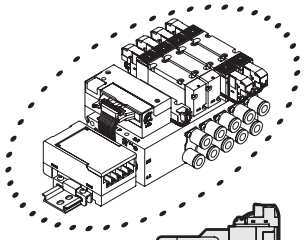
● Serial transmission (T6G1)
DIN rail mounting (D)

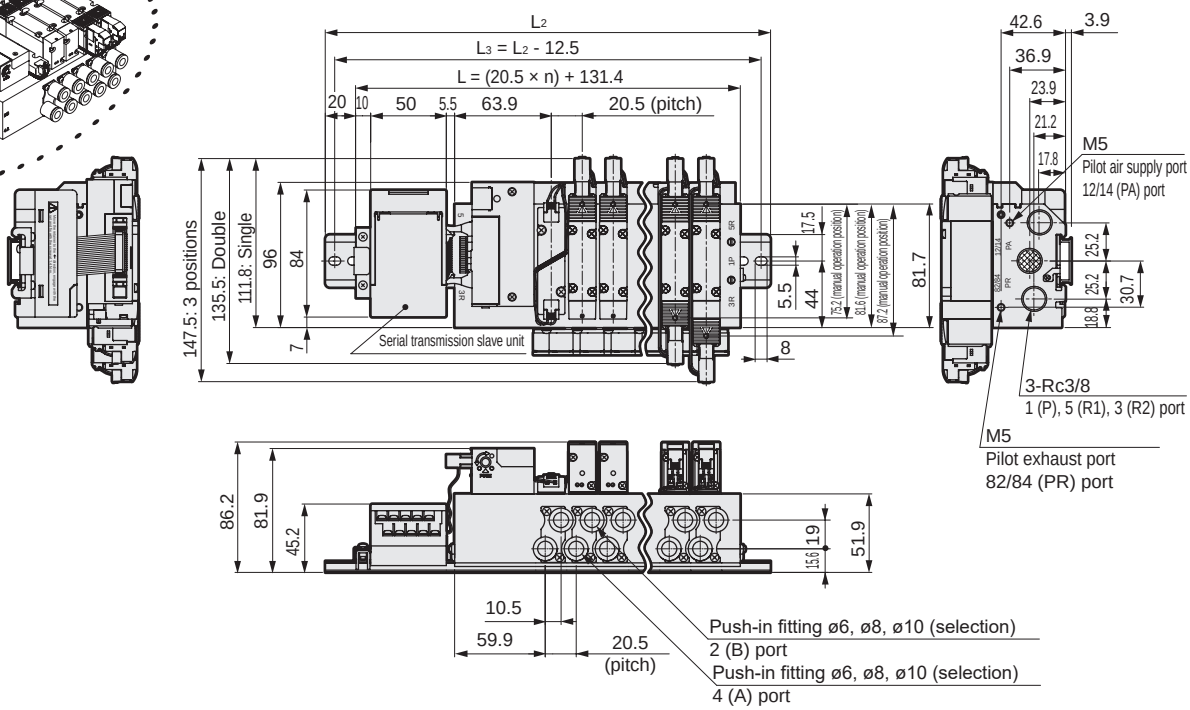




*** Refer to page 588 for details on the push-in fitting elbow (facing up/ down).**

● Serial transmission (T6G1)
DIN rail mounting (D); external pilot (K)





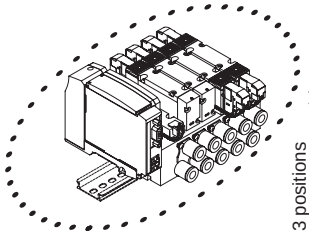
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	172.4	192.9	213.4	233.9	254.4	274.9	295.4	315.9	336.4	356.9	377.4	397.9	418.4	438.9	459.4
L2	212.5	237.5	262.5	275.0	300.0	325.0	337.5	362.5	387.5	400.0	425.0	450.0	462.5	487.5	500.0
L3	200.0	225.0	250.0	262.5	287.5	312.5	325.0	350.0	375.0	387.5	412.5	437.5	450.0	475.0	487.5

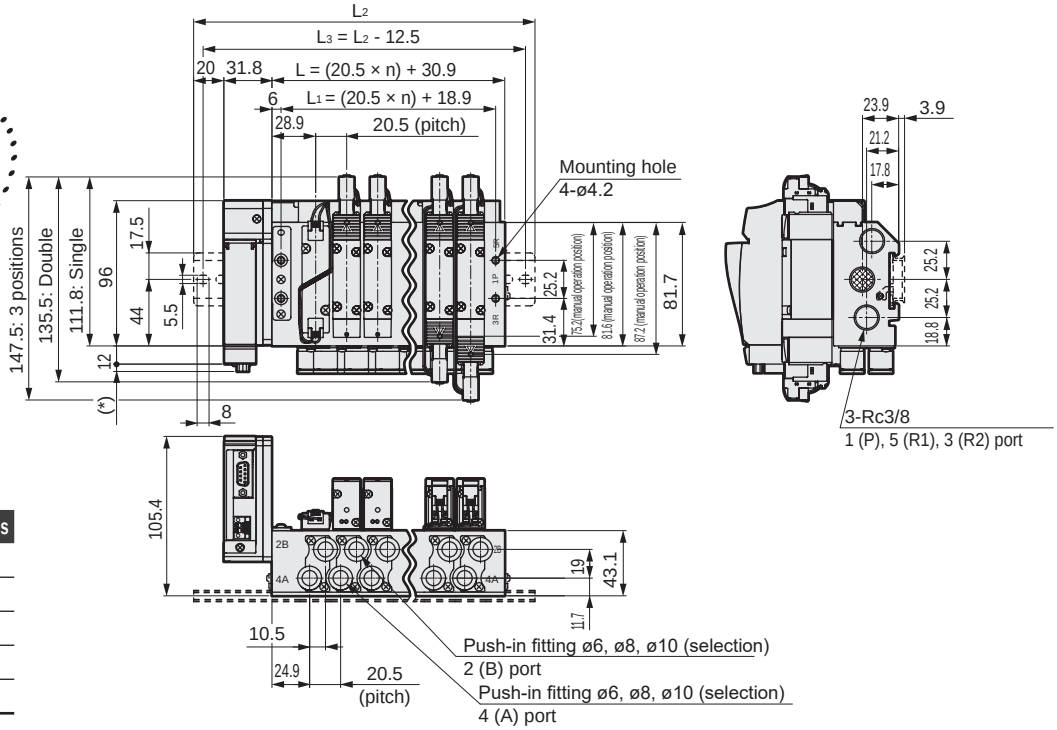
Dimensions

M4GB3-P7*

* Refer to page 754 for details on mounting holes.

● Serial transmission (T8☐)
DIN rail mounting (D)

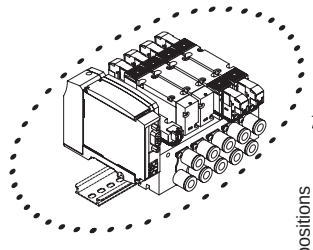


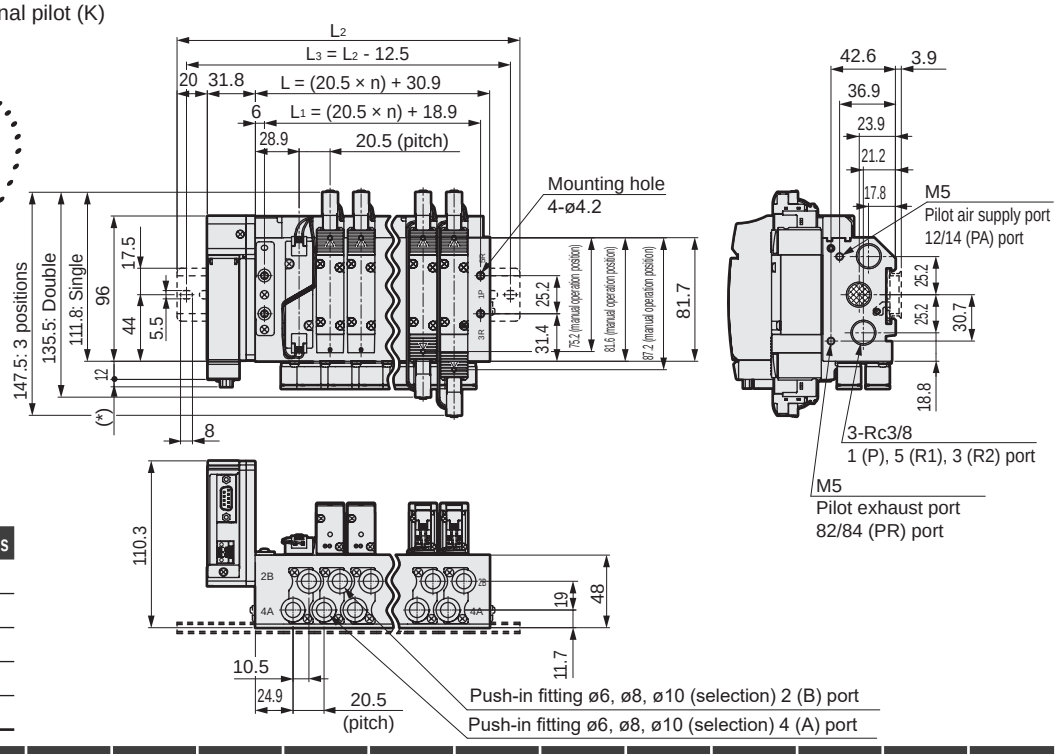


Serial transmission	* Dimensions
T8G☐	1.0
T8P☐	4.9
T8E☐	1.5
T8D☐	1.0
T8K☐	1.0

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	71.9	92.4	112.9	133.4	153.9	174.4	194.9	215.4	235.9	256.4	276.9	297.4	317.9	338.4	358.9
L_1	59.9	80.4	100.9	121.4	141.9	162.4	182.9	203.4	223.9	244.4	264.9	285.4	305.9	326.4	346.9
L_2	150.0	175.0	187.5	212.5	237.5	250.0	275.0	287.5	312.5	337.5	350.0	375.0	400.0	412.5	437.5
L_3	137.5	162.5	175.0	200.0	225.0	237.5	262.5	275.0	300.0	325.0	337.5	362.5	387.5	400.0	425.0

● Serial transmission (T8☐)
DIN rail mounting (D); external pilot (K)





Serial transmission	* Dimensions
T8G☐	1.0
T8P☐	4.9
T8E☐	1.5
T8D☐	1.0
T8K☐	1.0

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	71.9	92.4	112.9	133.4	153.9	174.4	194.9	215.4	235.9	256.4	276.9	297.4	317.9	338.4	358.9
L_1	59.9	80.4	100.9	121.4	141.9	162.4	182.9	203.4	223.9	244.4	264.9	285.4	305.9	326.4	346.9
L_2	150.0	175.0	187.5	212.5	237.5	250.0	275.0	287.5	312.5	337.5	350.0	375.0	400.0	412.5	437.5
L_3	137.5	162.5	175.0	200.0	225.0	237.5	262.5	275.0	300.0	325.0	337.5	362.5	387.5	400.0	425.0

Dimensions

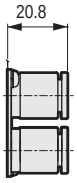
M4GB3

● Straight fitting

● ø6 (C6)

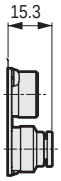
● ø8 (C8)

● ø10 (C10)

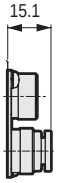


● Straight fitting, single plug

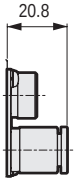
● ø6 (C6NC)



● ø8 (C8NC)



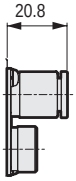
● ø10 (C10NC)



● ø6 (C6NO)

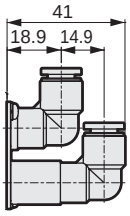
● ø8 (C8NO)

● ø10 (C10NO)

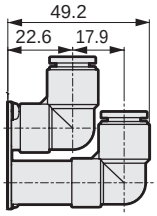


● Radial fitting (facing up)

● ø8 (CL8)

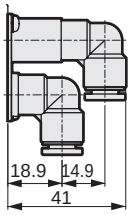


● ø10 (CL10)

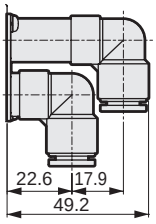


● Radial fitting (facing down)

● ø8 (CD8)



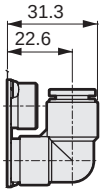
● ø10 (CD10)



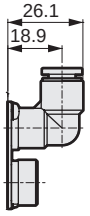
● Radial fitting (facing up), single plug

● ø8 (CL8NC)

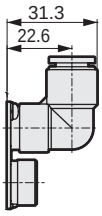
● ø10 (CL10NC)



● ø8 (CL8NO)

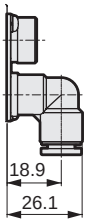


● ø10 (CL10NO)

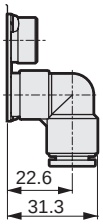


● Radial fitting (facing down), single plug

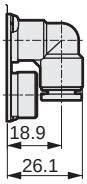
● ø8 (CD8NC)



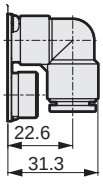
● ø10 (CD10NC)



● ø8 (CD8NO)



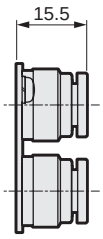
● ø10 (CD10NO)



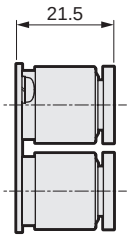
Dimensions

● Fitting straight

● ø5/16" (C8N)

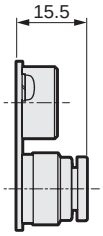


● ø3/8" (C10N)

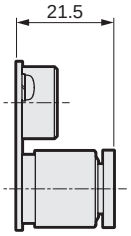


● Straight fitting, single plug

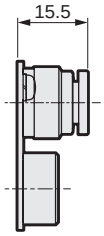
● ø5/16 inch (C8NCN)



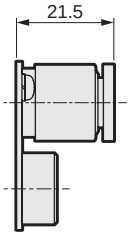
● ø3/8 inch (C10NCN)



● ø5/16" (C8NON)

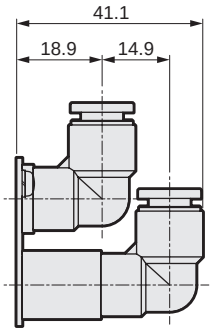


● ø3/8" (C10NON)

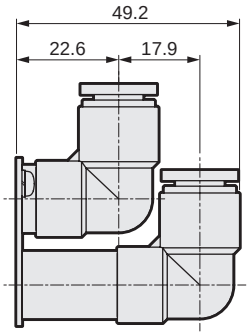


● L fitting (upward)

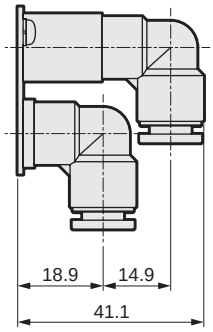
● ø5/16 inch (CL8N)



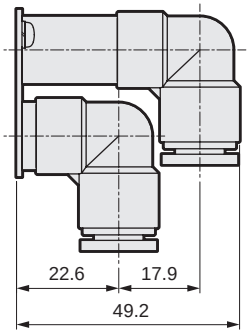
● ø3/8 inch (CL10N)



● ø5/16 inch (CD8N)

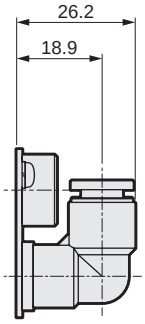


● ø3/8 inch (CD10N)

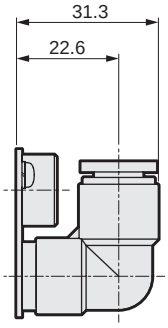


● L fitting (upward), single plug

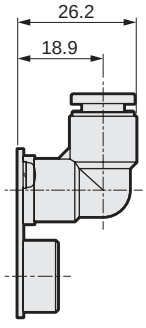
● ø5/16 inch (CL8NCN)



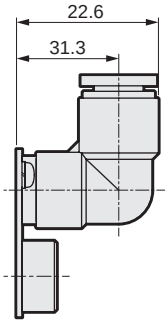
● ø3/8 inch (CL10NCN)



● ø5/16" (CL8NON)

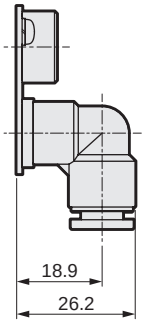


● ø3/8" (CL10NON)

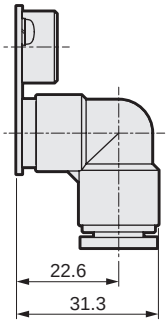


● L fitting (downward), single plug

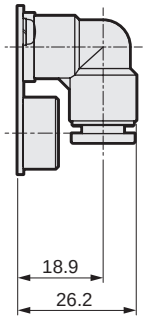
● ø5/16 inch (CD8NCN)



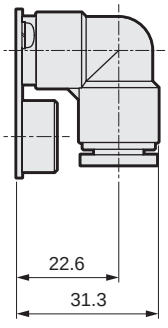
● ø3/8 inch (CD10NCN)



● ø5/16" (CD8NON)

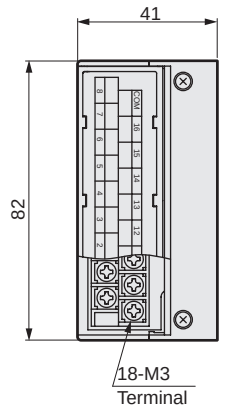


● ø3/8" (CD10NON)

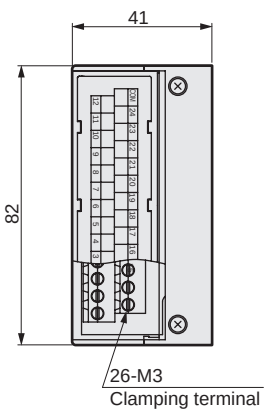


Reduced wiring section: dimensions

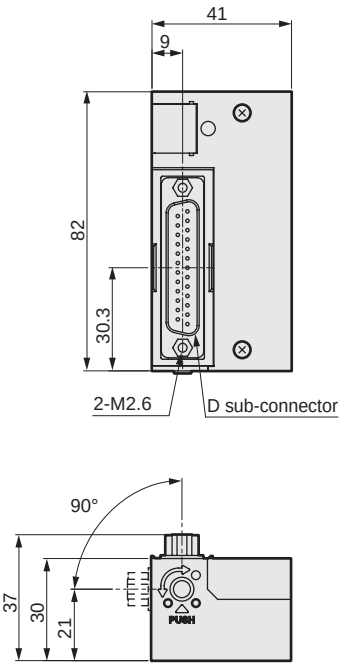
● Common terminal block (M3 thread) T10



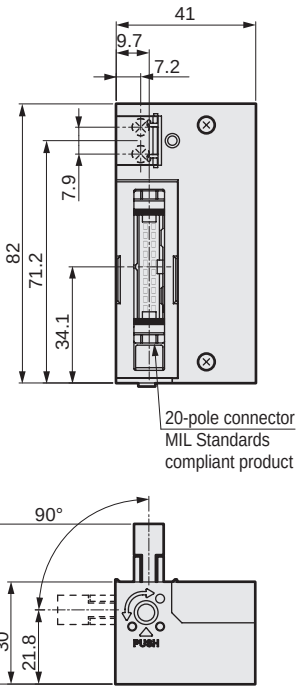
● Common terminal block (clamping) T11



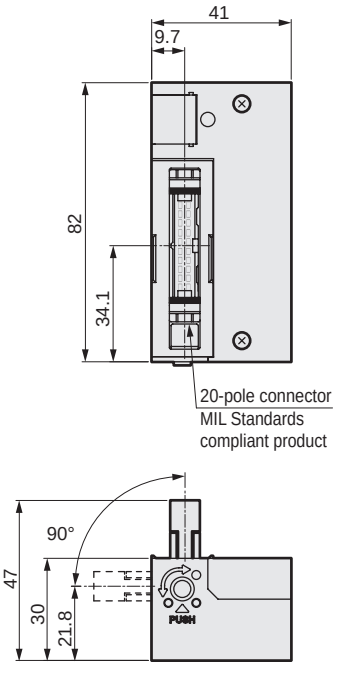
● D sub-connector T30



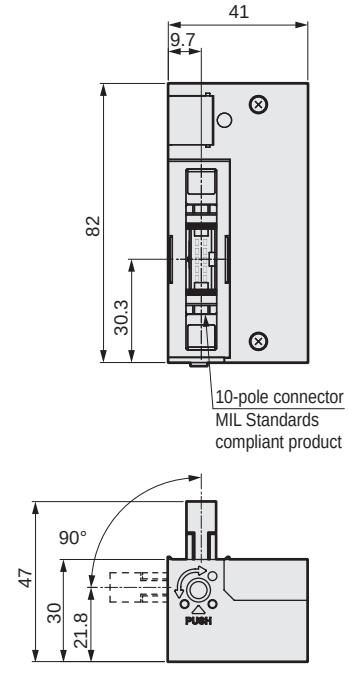
● 20 pin flat cable connector (with power supply terminal) T50



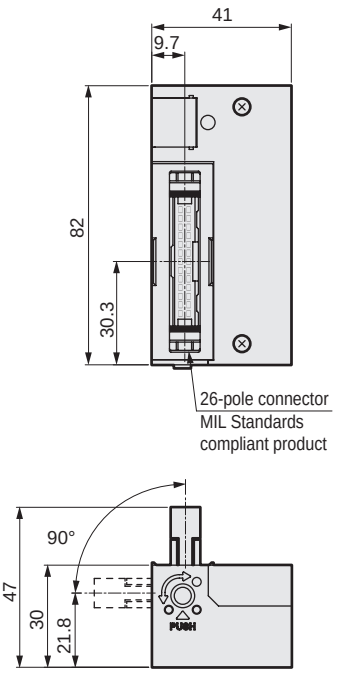
● 20 pin flat cable connector (without power supply terminal) T51



● 10 pin flat cable connector (without power supply terminal) T52



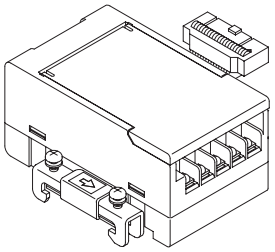
● 26 pin flat cable connector (without power supply terminal) T53



● Discrete serial transmission slave unit (connector type)

4GR – OPP3 – 1G

Ⓐ Wiring method

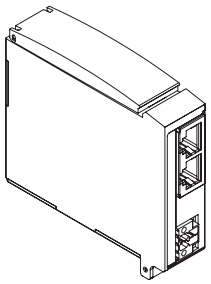


Code	Content			
Ⓐ **Wiring method**				
1G	T6G1	CC-Link	NPN	16 points

● Discrete serial transmission slave unit (thin slot type)

4GR – OPP7 – 2G

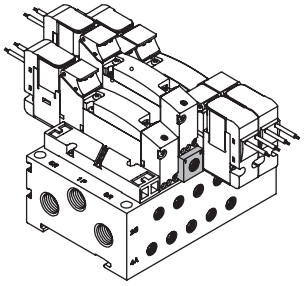
Ⓐ Wiring method



Code	Content			
Ⓐ **Wiring method**				
1G	T8G1	CC-Link	NPN	16 points
2G	T8G2			32 points
1G-P	T8GP1		PNP	16 points
2G-P	T8GP2			32 points
1P	T8P1	PROFIBUS-DP	NPN	16 points
2P	T8P2			32 points
1P-P	T8PP1		PNP	16 points
2P-P	T8PP2			32 points
1EC	T8EC1	EtherCAT	NPN	16 points
2EC	T8EC2			32 points
1EC-P	T8ECP1		PNP	16 points
2EC-P	T8ECP2			32 points
1EN	T8EN1	EtherNet/IP	NPN	16 points
2EN	T8EN2			32 points
1EN-P	T8ENP1		PNP	16 points
2EN-P	T8ENP2			32 points
1D	T8D1	DeviceNet	NPN	16 points
2D	T8D2			32 points
1D-P	T8DP1		PNP	16 points
2D-P	T8DP2			32 points
1EB	T8EB1	CC-Link IEF Basic	NPN	16 points
2EB	T8EB2			32 points
1EB-P	T8EBP1		PNP	16 points
2EB-P	T8EBP2			32 points
1EF	T8EF1	CC-Link IE Field	NPN	16 points
2EF	T8EF2			32 points
1EF-P	T8EFP1		PNP	16 points
2EF-P	T8EFP2			32 points
1EP	T8EP1	PROFINET	NPN	16 points
2EP	T8EP2			32 points
1EP-P	T8EPP1		PNP	16 points
2EP-P	T8EPP2			32 points
1KC	T8KC1	IO-Link	NPN	16 points
2KC	T8KC2			32 points
1KC-P	T8KCP1		PNP	16 points
2KC-P	T8KCP2			32 points

Related products

● Air supply spacer



Specifications

Model No.	P→A/B		A/B→R		Weight g
	C [dm³/(s·bar)]	b	C [dm³/(s·bar)]	b	
4G1	0.70	0.23	0.93	0.16	8
4G2	1.6	0.17	1.8	0.16	35
4G3	2.6	0.22	3.1	0.14	56

Note 1: The values are with the valve mounted.
Note 2: Effective cross-sectional area S and sonic conductance C are converted as S ≒ 5.0 × C.

How to order discrete units

● Air supply spacer

Air supply spacer model No.

4G 3 R-P- GWS10 A - P70

- 3 → Ⓐ Air supply spacer model No.
- GWS10 → Ⓑ Port size
- A → Ⓒ Set screw
- P70 → Ⓓ Clean room specifications

Code	Content	Valve model No. 4GA1	4GB1	4GA2	4GB2	4GA3	4GB3
Ⓐ Air supply spacer model No.							
1	For 4G1	●					
2	For 4G2			●			
3	For 4G3					●	
Ⓑ Port size							
Blank	M5(4G1), Rc1/8(4G2), Rc1/4(4G3)	●		●		●	
GWS4	ø4 fitting	●					
GWS6	ø6 fitting	●		●			
GWS8	ø8 fitting			●		●	
GWS10	ø10 fitting					●	
06N	1/8NPT			●			
08N	1/4NPT					●	
06G	G1/8			●			
08G	G1/4					●	
Ⓒ Set screw							
Blank		●		●		●	
A	4GA3 A/B port: Rc1/4 thread					● (*1)	
Ⓓ Clean room specifications							
	Structure / Material restriction						
P70	Exhaust treatment / -	●		●		●	

is not available.

Attached product: Set screw 2 (*2), PR check valve 2, body gasket 1

⚠ Precautions for model No. selection

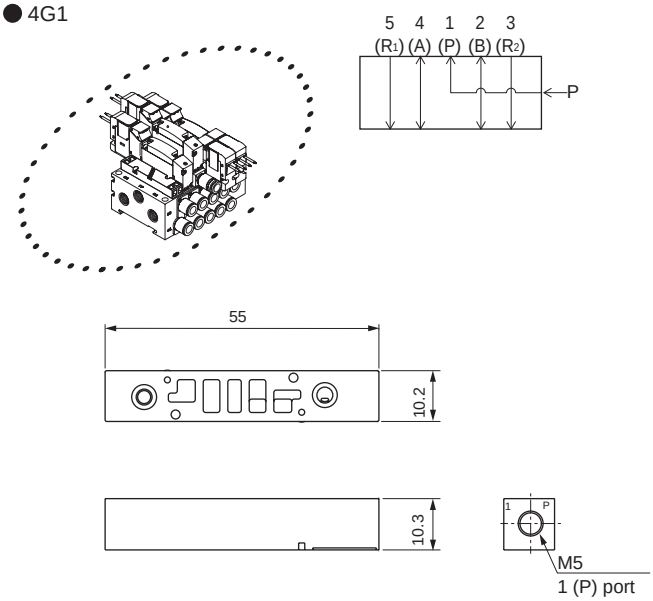
*1: Specify "A" only when using with 4GA3*9R-08 for mounting base. (The valve set screw length differs.)
*2: Specify the air supply spacer mounting position and quantity in manifold specifications of each catalog.
*3: If the A/B port fitting is the elbow (facing up), turn the air supply port of the air supply spacer toward the reverse side (a solenoid side).
*4: If the elbow (facing up) A/B port fitting is used for the reduced wiring manifold, the air supply spacer cannot be selected.
*5: Combination with the masking plate is not supported.

Related products

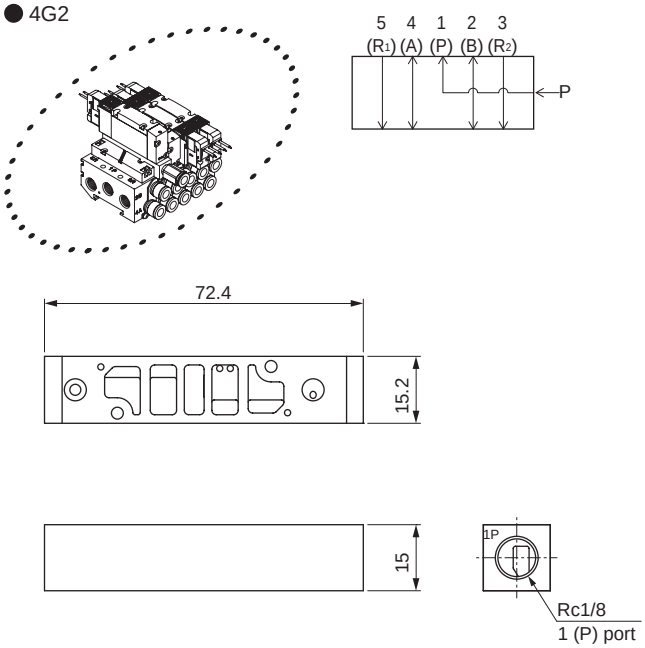
● Air supply spacer

Dimensions

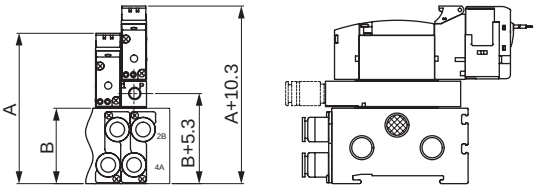
● 4G1



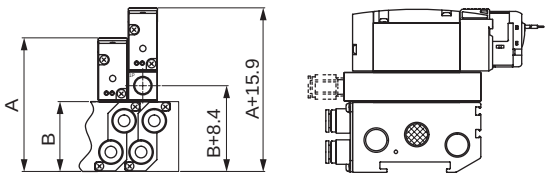
● 4G2



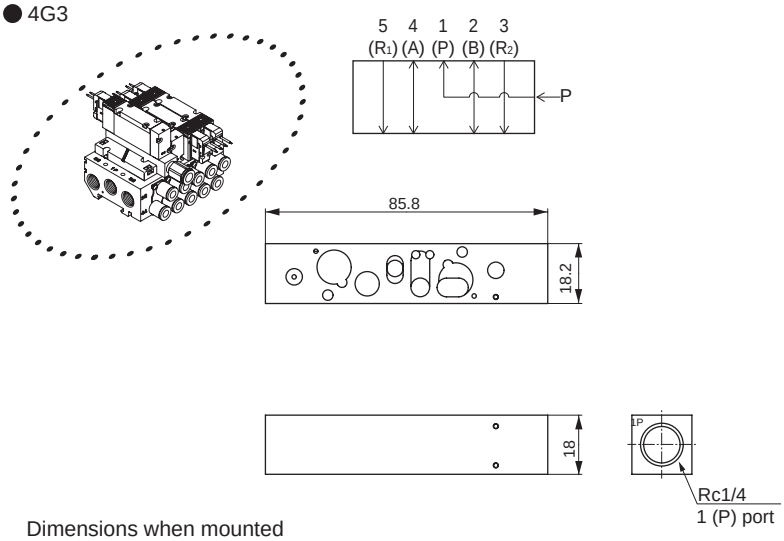
Dimensions when mounted



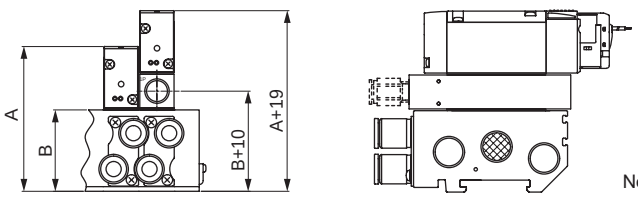
Dimensions when mounted



● 4G3



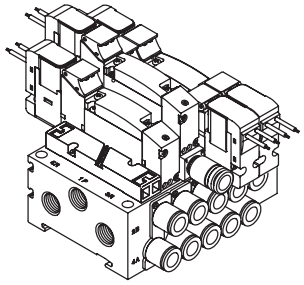
Dimensions when mounted



Note: For A and B dimensions, check the dimensions of respective specifications.

Related products

● Exhaust spacer



Specifications

Model No.	P→A/B		A/B→R		Weight g
	C [dm³/(s·bar)]	b	C [dm³/(s·bar)]	b	
4G1	0.94	0.28	0.68	0.33	7
4G2	1.5	0.24	1.9	0.24	34
4G3	3.4	0.21	2.9	0.27	58

Note 1: The values are with the valve mounted.
Note 2: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.

How to order discrete units

● Exhaust spacer

Exhaust spacer model No.

4G 3 R - R - GWS10 A - P70

Ⓐ Exhaust spacer model No.
Ⓑ Port size
Ⓒ Set screw
Ⓓ Clean room specifications

Code	Content	Valve model No. 4GA1	4GB1	4GA2	4GB2	4GA3	4GB3
Ⓐ Air supply spacer model No.							
1	For 4G1	●					
2	For 4G2			●			
3	For 4G3					●	
Ⓑ Port size							
Blank	M5(4G1), Rc1/8(4G2), Rc1/4(4G3)	●		●		●	
GWS4	ø4 fitting	●					
GWS6	ø6 fitting	●		●			
GWS8	ø8 fitting			●		●	
GWS10	ø10 fitting					●	
06N	1/8NPT			●			
06G	G1/8			●			
08G	G1/4					●	
Ⓒ Set screw							
Blank		●		●		●	
A	4GA3 A/B port: Rc1/4 thread					● (*1)	
Ⓓ Clean room specifications							
	Structure / Material restriction						
P70	Exhaust treatment / -	●		●		●	

is not available.

Attached product: Set screw 2 (*2), PR check valve 2, body gasket 1

⚠ Precautions for model No. selection

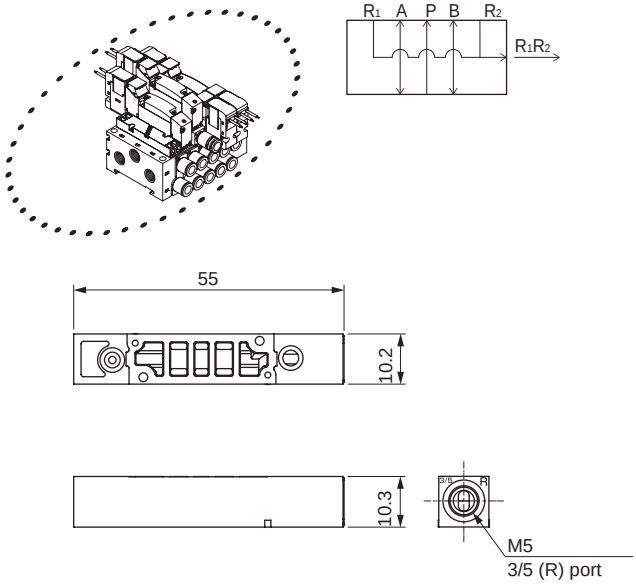
*1: Specify "A" only when using with 4GA3*9R-08 for mounting base. (The valve set screw length differs.)
*2: Indicate the mounting positions and quantity of the exhaust spacers in the manifold specifications of each catalog.
*3: When the A/B port fitting is an elbow (upward), the exhaust port of the exhaust spacer will be faced towards the opposite side (a solenoid side).
*4: With the reduced wiring manifold, when the A/B port fitting is an elbow (upward), the exhaust spacer cannot be selected.
*5: Combination with the masking plate is not supported.

Related products

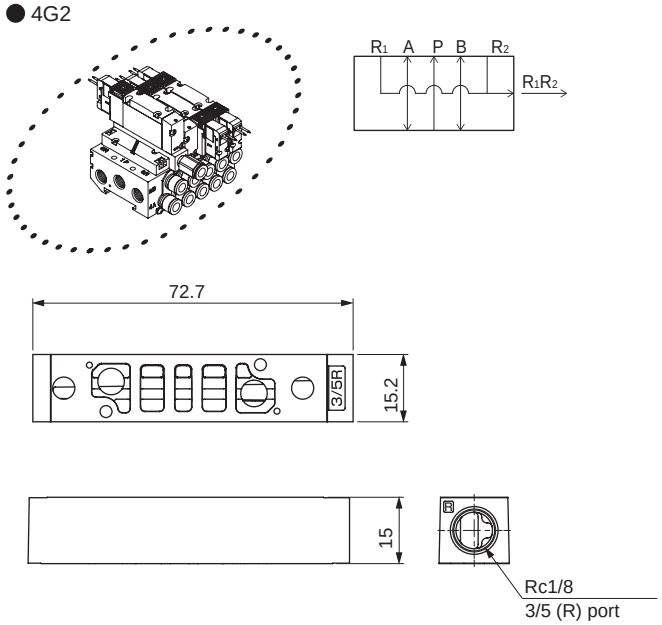
● Exhaust spacer

Dimensions

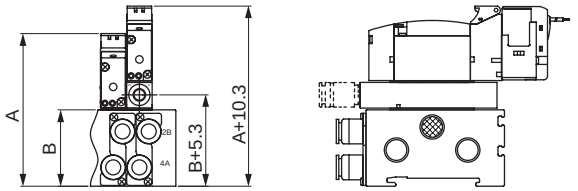
● 4G1



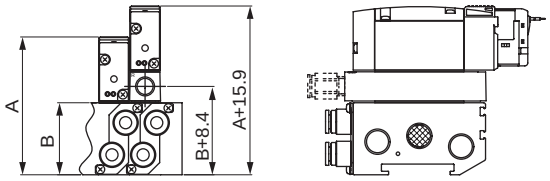
● 4G2



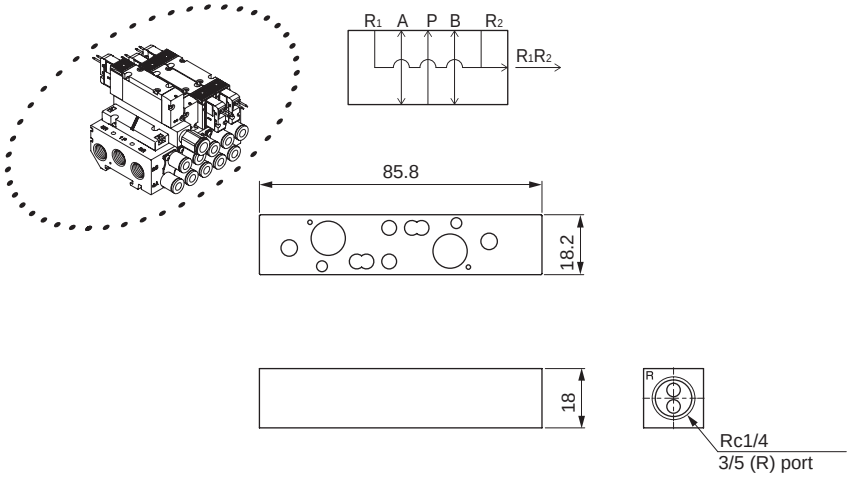
Dimensions when mounted



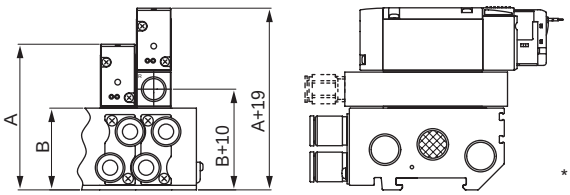
Dimensions when mounted



● 4G3



Dimensions when mounted

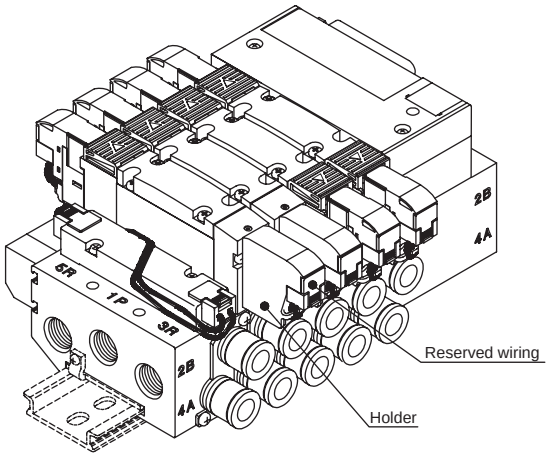


* For A and B dimensions, check the dimensions of respective specifications.

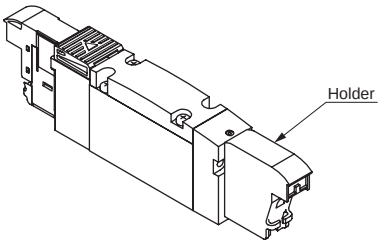
Related products

● Double wiring (single spare wiring)

For manifold



For discrete valve (A2N)



A holder for retaining the socket assembly is attached.
(A-type socket assembly is not attached.)
This is used to impose and retain the socket assembly that is no longer required when the valve is changed from the double solenoid to the single solenoid.

For the single solenoid, spare wiring (holder and A-type socket assembly) is attached on the cap side.
This is used when the valve is changed from the double solenoid to the single solenoid.
Without the need to fix up the A-type socket assembly separately, valve change work becomes easier.

How to order

● Model No. with manifold installed (example)

M **4GA1** **1** **0 R** - **C6** - **T30** **W1** **H** - **10** - **3** - **P70**

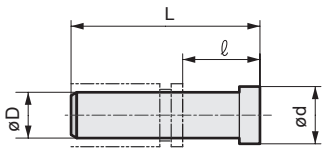
- A Model No.
- B Solenoid position
- C Port size
- D Reduced wiring
- E Terminal and connector pin wiring
- F Option
- G Station No.
- H Voltage
- I Clean room specifications

Code	Content
E Terminal and connector pin wiring	
W1	Double wiring (with single spare wiring)

* For details of model No., refer to How to order of individual series.

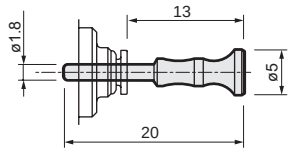
Related products

● Blanking plug



Model No.	D	L	ℓ	d
GWP4-B-P70	ø4	27	16	6
GWP6-B-P70	ø6	29	11.5	8
GWP8-B-P70	ø8	33	14	10
GWP10-B-P70	ø10	40	18.5	12

PG-P2-B (for ø1.8)



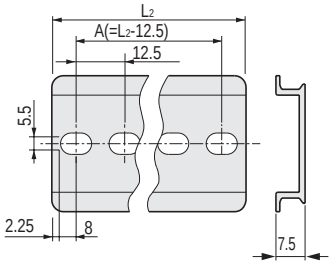
● Plug type

Part name	Model No.	Compatible bore size	Appearance
Threaded plug	4G1R-M5P	M5	(FPL-M5)
	4G2R-06P-P70	Rc1/8	Hexagon socket plug
	4G3R-08P-P70	Rc1/4	
	4G3R-10P-P70	Rc3/8	
	4G2R-06NP-P70	NPT1/8	
	4G3R-08NP-P70	NPT1/4	
	4G3R-10NP-P70	NPT3/8	
	4G2R-06GP-P70	G1/8	
	4G3R-08GP-P70	G1/4	
	4G3R-10GP-P70	G3/8	

● DIN rail

N4GR-BAA L2 -P70

Rail length



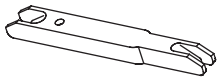
*1: Rail lengths not included in the list are made to order products.

L1: Manifold length	L2: Rail length	A: Mounting pitch
35	47.5 or less	87.5	75
Over 47.5	60 or less	100	87.5
60	72.5	112.5	100
72.5	85	125	112.5
85	97.5	137.5	125
97.5	110	150	137.5
110	122.5	162.5	150
122.5	135	175	162.5
135	147.5	187.5	175
147.5	160	200	187.5
160	172.5	212.5	200
172.5	185	225	212.5
185	197.5	237.5	225
197.5	210	250	237.5
210	222.5	262.5	250
222.5	235	275	262.5
235	247.5	287.5	275
247.5	260	300	287.5
260	272.5	312.5	300
272.5	285	325	312.5
285	297.5	337.5	325
297.5	310	350	337.5
310	322.5	362.5	350
322.5	335	375	362.5
335	347.5	387.5	375
347.5	360	400	387.5
360	372.5	412.5	400
372.5	385	425	412.5
385	397.5	437.5	425
397.5	410	450	437.5
410	422.5	462.5	450
422.5	435	475	462.5
435	447.5	487.5	475
447.5	460	500	487.5
460	472.5	512.5	500
472.5	485	525	512.5
485	497.5	537.5	525
497.5	510	550	537.5

If the length exceeds 510, calculate using a multiple of 12.5.

● Push-in fitting tube remover

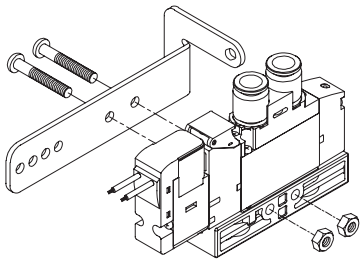
ø1.8/ø4 for push-in fitting
4GR-EOT18-4



Push-in fitting for ø4/ø6
4GR-EOT4-6

Related parts

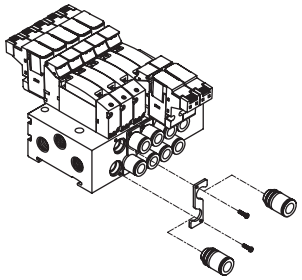
(1) Mounting plate (P) kit



Mounting (P) kit

Model No.	Kit model No.	Accessory part
3GA1/4GA1	4G1R-MOUNT-PLATE-KIT-P70	Mounting plate, set screw 2, nut 2
3GA2/4GA2	4G2R-MOUNT-PLATE-KIT-P70	Mounting plate, set screw 2
3GA3/4GA3	4G3R-MOUNT-PLATE-KIT-P70	Mounting plate, set screw 2

(2) Discrete cartridge push-in fitting related part



Fitting stopper plate kit

Model No.	Kit model No.
M4G1	4G1R-JNT-STP-PLATE-KIT-*1-P70
M4G2	4G2R-JNT-STP-PLATE-KIT-*2-P70
M4G3	4G3R-JNT-STP-PLATE-KIT−P70

*1: For C8, specify “C8.”
*2: For C10, specify “C10.”

(3) Adapter related kit

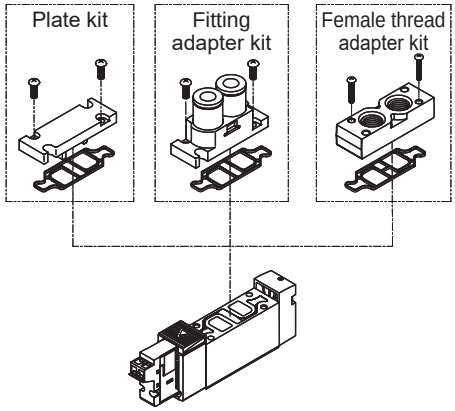


Plate kit

Model No.	Kit model No.	Accessory part
3GB1/4GB1	4G1R-PLATE-KIT-P70	Plate, gasket, set screw 2
3GB2/4GB2	4G2R-PLATE-KIT-P70	Plate, gasket, set screw 2
4GB3	4G3R-PLATE-KIT-P70	Plate, gasket, set screw 2

Fitting adapter kit

4G1 R - JNT - ADAPTOR - KIT - C4 NC - F - P70

- 4G1 — Ⓐ Model No.
- C4 — Ⓑ Port size
- NC — Ⓒ NC/NO
- F — Ⓓ Option
- P70 — Clean room specifications

		Ⓐ Model No. 3G1	3G2	3G3	4G1	4G2	4G3
Ⓑ Port size							
CF	ø1.8 barbed	●			●		
C18	ø1.8 straight	●			●		
C4	ø4 straight	●	●			●	
C6	ø6 straight	●	●	●		●	●
C8	ø8 straight		●	●		●	●
C10	ø10 straight			●			●
C3N	ø1/8 inch straight	●			●		
C4N	ø5/32 inch straight	●			●		
C6N	ø1/4 inch straight		●			●	
C8N	ø5/16 inch straight		●	●		●	●
C10N	ø3/8 inch straight			●			●
Ⓒ NC/NO							
NC	For 3GA*10	●	●	●			
N0	For 3GA*110	●	●	●			
Blank	3GA*10, 3GA*110 excluded	●	●		●	●	●
Ⓓ Option							
Blank		●	●	●	●	●	●
F	A/B port filter integrated	●	●	●	●	●	●

Note: Fitting adapter (with fitting), gasket and set screws (2) are included.

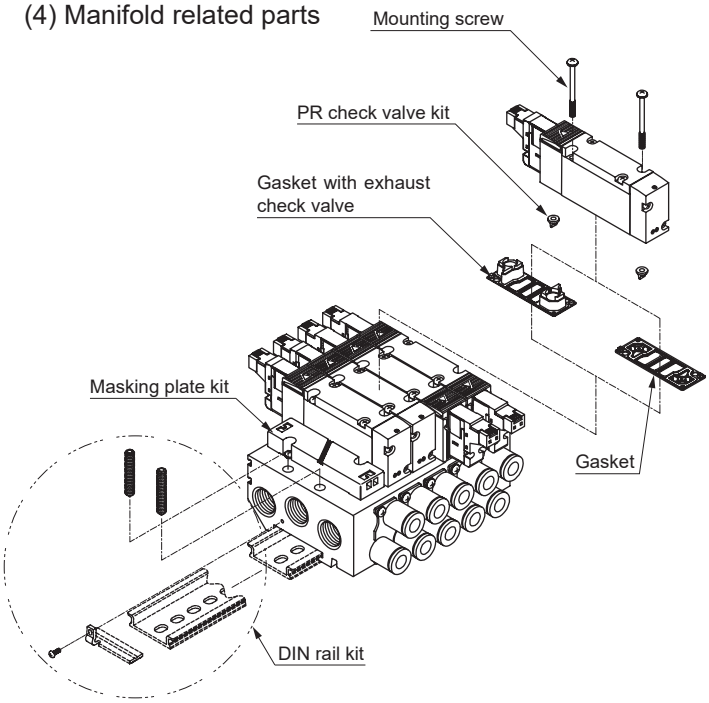
Female thread adapter kit

Model No.	Kit model No.	Accessory part
3GA1/4GA1	4G1R-FML-ADAPTOR-KIT- Port size - Option - P70	Female thread adapter, gasket, set screw 2
3GA2/4GA2	4G2R-FML-ADAPTOR-KIT- Port size - Option - P70	Female thread adapter, gasket, set screw 2
3GA3/4GA3	4G3R-FML-ADAPTOR-KIT- Port size - Option - P70	Female thread adapter, gasket, set screw 2, body set screw 2

Specify the Option “F” when using the built-in A/B port filter.

Related parts

(4) Manifold related parts



Masking plate kit

Model No.	Model No.	Descriptions	Remarks
M3G1/M4G1	4G1R-MP-P70	Masking plate Gasket Set screw 2	* 3G3/4G3 has two PR check valves.
M3G2/M4G2	4G2R-MP-P70		
M3G3/M4G3	4G3R-MP-P70		

Gasket

Model No.	Part model No.
3G1/4G1	4G1R-GASKET-P70
3G1/4G1 (For masking plate)	4G1R-MP-GASKET-P70
3G2/4G2	4G2R-GASKET-P70
3G2/4G2 (For masking plate)	4G2R-MP-GASKET-P70
3G3/4G3	4G3R-GASKET-P70

Gasket with exhaust check valve

Model No.	Part model No.
3G1/4G1	4G1R-CHECK-VALVE-P70
3G2/4G2	4G2R-CHECK-VALVE-P70
3G3/4G3	4G3R-CHECK-VALVE-P70

PR check valve kit (2 per set)

Model No.	Kit model No.
3G1/4G1	4G1R-PR-P70
3G2/4G2	4G2R-PR-P70
3G3/4G3	4G3R-PR-P70

Set screw (10 per set)

Model No.	Part model No.
3G1/4G1	4G1R-SET-SCREW-P70
3G2/4G2	4G2R-SET-SCREW-P70
3G3/4G3	4G3R-SET-SCREW-P70
3GA3/4GA3 (for 08 port size)	4G3R-SET-SCREW-L-P70

DIN rail kit

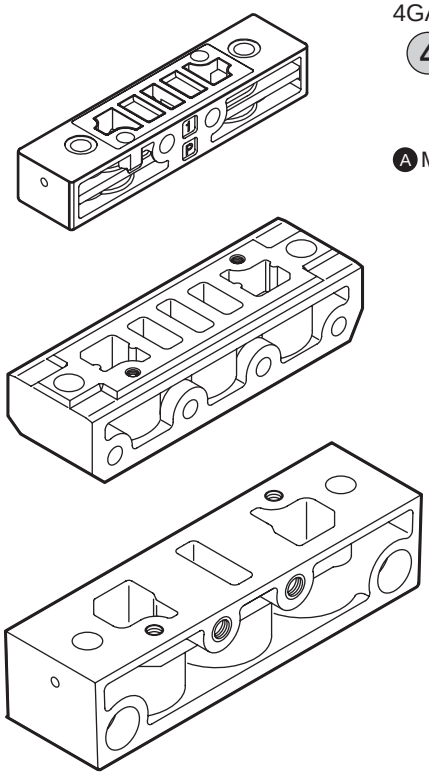
Model No.	Model No.	Descriptions
M4G1	4GA1R-BAA Length - Option D - P70	DIN rail, set screw 2, lock nut 2
	4GB1R-BAA Length - Option D - P70	
M4G2	4GA2R-BAA Length - Option D - P70	DIN rail/holder 2 tapping screw 2, set screw 4
	4GB2R-BAA Length - Option D - P70	
M4G3	4GA3R-BAA Length - Option D - P70	
	4GB3R-BAA Length - Option D - P70	

Specify the length "0" when the DIN rail is not required.
Specify the Option "K" when using with the manifold base for external pilot.

Set the DIN rail length, referring to the current manifold dimensions and DIN rail length quick reference list (page 701).

Related parts

(5) Sub-plate



4GA piping adaptor

4G1 R - ADAPTOR - M5 - ( ) - P70

Ⓐ Model No.

Ⓑ Port size

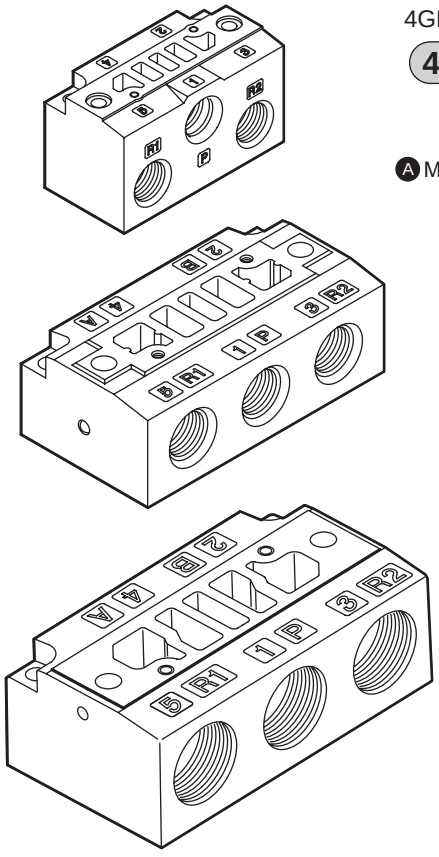
Ⓒ Option

Ⓑ Port size (P/R1/R2 port)		Ⓐ Model No. 4G1	4G2	4G3
M5	M5	●		
06	Rc1/8		●	
08	Rc1/4			●
06N	1/8NPT		●	
08N	1/4NPT			○
06G	G1/8		●	
08G	G1/4			○

Ⓒ Option				
P	With mounting plate (attached)	●	●	●

is not available.

○ Custom order products. Contact CKD for details.



4GB discrete sub-plate

4G1 R - SUB - BASE - 06 - ( ) - P70

Ⓐ Model No.

Ⓑ Port size

Ⓒ Option

Ⓑ Port size (A/B/P/R1/R2 port)		Ⓐ Model No. 4G1	4G2	4G3
06	Rc1/8	●		
08	Rc1/4		●	●
10	Rc3/8			●
06N	1/8NPT	○		
08N	1/4NPT		○	○
10N	3/8NPT			○
06G	G1/8	○		
08G	G1/4		○	○
010G	G3/8			○

Ⓒ Option				
K	External pilot	●	●	●
F	A/B port filter integrated *1	●	●	●

*1: P port is equipped with a filter as standard.

is not available.

○ Custom order products. Contact CKD for details.

Related parts

(6) Manifold sub-plate kit individual wiring

● M4GA sub-plate

M4GA1 R - 00 - [ ] - 2 - P70

Code	Content
Ⓐ Model No.	
M4GA1	Metal base, 4G1 size, direct piping
M4GA2	Metal base, 4G2 size, direct piping
M4GA3	Metal base, 4G3 size, direct piping
Ⓑ Port size	
00	Rc thread
00N	NPT thread
00G	G thread
Ⓒ Option	
Blank	
K	External pilot
Ⓓ Station No.	
2	2 stations
to	to
20	Refer to the specifications page for the max. station number.

Ⓐ Model No.
Ⓑ Port size *1
Ⓒ Option
Ⓓ Station No.

● M4GB1 sub-plate

M4GB1R - CL4 - [ ] D - 2 - P70

Note 1: Port sizes of P/R1/R2 ports

Code	Content	
Ⓐ Port size		
Port	**4 (A)/2 (B) port**	**P/R1/R2 port**
CF	ø1.8 barbed fitting (applicable tube UP-9102-**)	Rc1/8
C18	ø1.8 push-in fitting (applicable tube UP-9402-**)	
C4	ø4 push-in fitting	
C6	ø6 push-in fitting	
C8	ø8 push-in fitting (*1)	
CL18	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**)	
CL4	ø4 radial facing-up push-in fitting	
CL6	ø6 radial facing-up push-in fitting	
CD18	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**)	
CD4	ø4 radial facing-down push-in fitting	
CD6	ø6 radial facing-down push-in fitting	
M5	M5	
Port	**4 (A)/2 (B) port**	**P/R1/R2 port**
C3N	ø1/8 inch push-in fitting	1/8NPT
C4N	ø5/32 inch push-in fitting	
CL3N	ø1/8 inch radial facing-up push-in fitting (*1)	
CL4N	ø5/32 inch radial facing-up push-in fitting (*1)	
M5N	M5	
Port	**4 (A)/2 (B) port**	**P/R1/R2 port**
C4G	ø4 push-in fitting	G1/8
C6G	ø6 push-in fitting	
CL4G	ø4 radial facing-up push-in fitting (*1)	
CL6G	ø6 radial facing-up push-in fitting (*1)	
M5G	M5	
Ⓑ Option		
Blank		
K	External pilot	
F	Built-in port A/B filter (*2)	
Ⓒ Mount		
Blank	Direct mount	
D	DIN rail mount (*3)	
Ⓓ Station No.		
2	2 stations	
to	to	
20	Refer to the specifications page for the max. station number.	

Ⓐ Port size
Ⓑ Option
Ⓒ Mount
Ⓓ Station No.

*1: This is a custom order product.
*2: P port is equipped with a filter as standard.
*3: The DIN rail kit should be arranged separately.

Related parts

(6) Manifold sub-plate kit individual wiring

● M4GB2/M4GB3 sub-plate

M4GB2 R - CL4 - ( ) - 2 - P70

Ⓑ Port size

Ⓒ Option

Ⓓ Station No.

Code	Content	Ⓐ Model No. M4GB2	Ⓐ Model No. M4GB3
Ⓑ Port size			
Port	**4 (A)/2 (B) port**	**P/R1/R2 port (1)=Rc1/4 (2)=Rc3/8**	
C4	ø4 push-in fitting	(1)	
C6	ø6 push-in fitting	(1)	(2)
C8	ø8 push-in fitting	(1)	(2)
C10	ø10 push-in fitting (*1)	(1)	(2)
CL6	ø6 radial facing-up push-in fitting	(1)	
CL8	ø8 radial facing-up push-in fitting	(1)	(2)
CL10	ø10 radial facing-up push-in fitting		(2)
CD6	ø6 radial facing-down push-in fitting	(1)	
CD8	ø8 radial facing-down push-in fitting	(1)	(2)
CD10	ø10 radial facing-down push-in fitting		(2)
06	Rc1/8	(1)	
08	Rc1/4		(2)
Port	**4 (A)/2 (B) port**	**P/R1/R2 port (3)=1/4NPT (4)=3/8NPT**	
C6N	ø1/4 inch push-in fitting	(3)	
C8N	ø5/16 inch push-in fitting	(3)	(4)
C10N	ø3/8 inch push-in fitting		(4)
CL6N	ø1/4 inch radial facing-up push-in fitting (*1)	(3)	
CL8N	ø5/16 inch radial facing-up push-in fitting (*1)	(3)	
06N	1/8NPT	(3)	
08N	1/4NPT (*1)		(4)
Port	**4 (A)/2 (B) port**	**P/R1/R2 port (5)=G1/4 (6)=G3/8**	
C4G	ø4 push-in fitting	(5)	
C6G	ø6 push-in fitting	(5)	
C8G	ø8 push-in fitting	(5)	(6)
C10G	ø10 push-in fitting		(6)
CL6G	ø6 radial facing-up push-in fitting (*1)	(5)	
CL8G	ø8 radial facing-up push-in fitting (*1)	(5)	
06G	G1/8	(5)	
08G	G1/4		(6)

Ⓒ Option	
Blank	
K	External pilot
F	Built-in port A/B filter (*2)

Ⓓ Station No.	
2	2 stations
to	to
20	Refer to the specifications page for the max. station number.

*1: This is a custom order product.
*2: P port is equipped with a filter as standard.
*3: The direct mount type and DIN rail mount type are the same.
*4: The DIN rail kit needs to be prepared separately.

Related parts

(7) Manifold sub-plate kit reduced wiring

● M4GA sub-plate

M4GA1 R - 00 - ( ) - ( ) ( ) - 2 - P70

Ⓐ Model No.
Ⓑ Port size
Ⓒ Reduced wiring
Ⓓ Option
Ⓔ Mount
Ⓕ Station No.

Code	Content		
Ⓐ Model No.			
M4GA1	Metal base, 4G1 size, direct piping		
M4GA2	Metal base, 4G2 size, direct piping		
M4GA3	Metal base, 4G3 size, direct piping		
Ⓑ Port size			
00	M5/Rc		
00N	NPT		
00G	G thread		
Ⓒ Reduced wiring			
T10	Common terminal block (M3 thread)		left
T10R			right
T11	Common terminal block (clamping)		left
T11R			right
T30	D sub-connector		left
T30R			right
T50	20 pin flat cable connector (with power supply terminal)		left
T50R			right
T51	20 pin flat cable connector (without power supply terminal)		left
T51R			right
T52	10 pin flat cable connector (without power supply terminal)		left
T52R			right
T53	26 pin flat cable connector (without power supply terminal)		left
T53R			right
T56	20 pin flat cable connector (without power supply terminal) For serial transmission slave unit OPP3 connection		left
T81	For serial transmission slave unit OPP7 connection	16 points	left
T82	For serial transmission slave unit OPP7 connection	32 points	left
Ⓓ Option			
Blank			
K	External pilot		
Ⓔ Mount			**(*1)**
Blank	Direct mount		
D	DIN rail mount		(*2)
Ⓕ Station No.			
2	2 stations		
to	to		
20	Refer to the specifications page for the max. station number.		

*1: When T8 is used for M4GA2R and M4GA3R, mount should be specified.
*2: The DIN rail kit should be arranged separately.

Related parts

(7) Manifold sub-plate kit reduced wiring

● M4GB sub-plate

M4GB1 R - CL4 - T10 - ○ ○ - 2 - P70

Ⓐ Model No. Ⓑ Port size

Code	Content	Ⓐ Model No. M4GB1	M4GB2	M4GB3
Ⓐ Model No.				
M4GB1	Metal base 4G1 size base piping			
M4GB2	Metal base 4G2 size base piping			
M4GB3	Metal base 4G3 size base piping			
Ⓑ Port size		**P/R1/R2Port ①=Rc1/8 ②=Rc1/4 ③=Rc3/8**		
Port	**4(A)/2(B)Port**			
CF	ø1.8 barbed fitting (applicable tube UP-9102-**)	(1)		
C18	ø1.8 push-in fitting (applicable tube UP-9402-**)	(1)		
C4	ø4 push-in fitting	(1)	(2)	
C6	ø6 push-in fitting	(1)	(2)	(3)
C8	ø8 push-in fitting (*5)(*6)	(1)	(2)	(3)
C10	ø10 push-in fitting (*5)(*6)		(2)	(3)
CL18	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**)	(1)		
CL4	ø4 radial facing-up push-in fitting	(1)		
CL6	ø6 radial facing-up push-in fitting	(1)	(2)	
CL8	ø8 radial facing-up push-in fitting		(2)	(3)
CL10	ø10 radial facing-up push-in fitting			(3)
CD18	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**)	(1)		
CD4	ø4 radial facing-down push-in fitting	(1)		
CD6	ø6 radial facing-down push-in fitting	(1)	(2)	
CD8	ø8 radial facing-down push-in fitting		(2)	(3)
CD10	ø10 radial facing-down push-in fitting			(3)
M5	M5	(1)		
06	Rc1/8		(2)	
08	Rc1/4			(3)
Port	**4(A)/2(B)Port**	**P/R1/R2Port ④NPT=1/8 ⑤NPT=1/4 ⑥NPT=3/8**		
C3N	ø1/8" push-in fitting	(4)		
C4N	ø5/32" push-in fitting	(4)		
C6N	ø1/4" push-in fitting		(5)	
C8N	ø5/16" push-in fitting		(5)	(6)
C10N	ø3/8" push-in fitting			(6)
CL3N	Radial ø1/8" push-in fitting upward (*6)	(4)		
CL4N	Radial ø5/32" push-in fitting upward (*6)	(4)		
CL6N	Radial ø1/4" push-in fitting upward (*6)		(5)	
CL8N	Radial ø5/16" push-in fitting upward (*6)		(5)	
CXN	Push-in fitting mix	(4)	(5)	(6)
M5N	M5	(4)		
06N	NPT1/8		(5)	
08N	NPT1/4 *6			(6)
Port	**4(A)/2(B)Port**	**P/R1/R2Port ⑦=G1/8 ⑧=G1/4 ⑨=G3/8**		
C4G	ø4 push-in fitting	(7)	(8)	
C6G	ø6 push-in fitting	(7)	(8)	
C8G	ø8 push-in fitting		(8)	(9)
C10G	ø10 push-in fitting			(9)
CL4G	ø4 radial push-in fitting upward (*6)	(7)		
CL6G	ø6 radial push-in fitting upward (*6)	(7)	(8)	
CL8G	ø8 radial push-in fitting upward (*6)		(8)	
CXG	Push-in fitting mix	(7)	(8)	
M5G	M5	(7)		
06G	G1/8		(8)	
08G	G1/4			(9)

Ⓒ Reduced wiring

Ⓒ Reduced wiring		
T10	Common terminal block (M3 thread)	left
T10R		right
T11	Common terminal block (clamping)	left
T11R		right
T30	D sub-connector	left
T30R		right
T50	20 pin flat cable connector (with power supply terminal)	left
T50R		right
T51	20 pin flat cable connector (without power supply terminal)	left
T51R		right
T52	10 pin flat cable connector (without power supply terminal)	left
T52R		right
T53	26 pin flat cable connector (without power supply terminal)	left
T53R		right
T56	20 pin flat cable connector (without power supply terminal)For serial transmission slave unit OPP3 connection	left
T81	For serial transmission slave unit OPP7 connection (16-point output)	left
T82	For serial transmission slave unit OPP7 connection (32-point output)	left

Ⓓ Option

Ⓓ Option		
Blank	No option	
K	External pilot	
F	Built-in port A/B filter	(*1)

Ⓔ Mount

Ⓔ Mount		*2
Blank	Direct mount	
D	DIN rail mount	(*3)

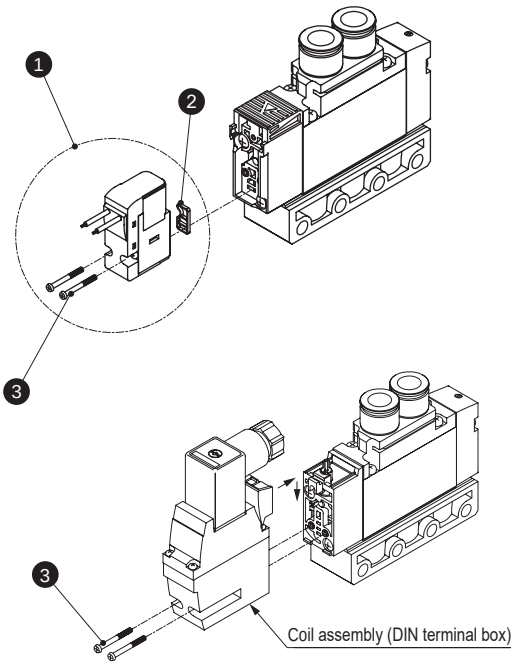
Ⓕ Station No.

Ⓕ Station No.	
2	2 stations
to	to
20	Refer to the specifications page for the max. station number.

*1: P port is equipped with a filter as standard.
*2: When T8 is used for M4GB2R and M4GB3R, mount should be specified.
*3: The DIN rail kit should be arranged separately.

Related parts

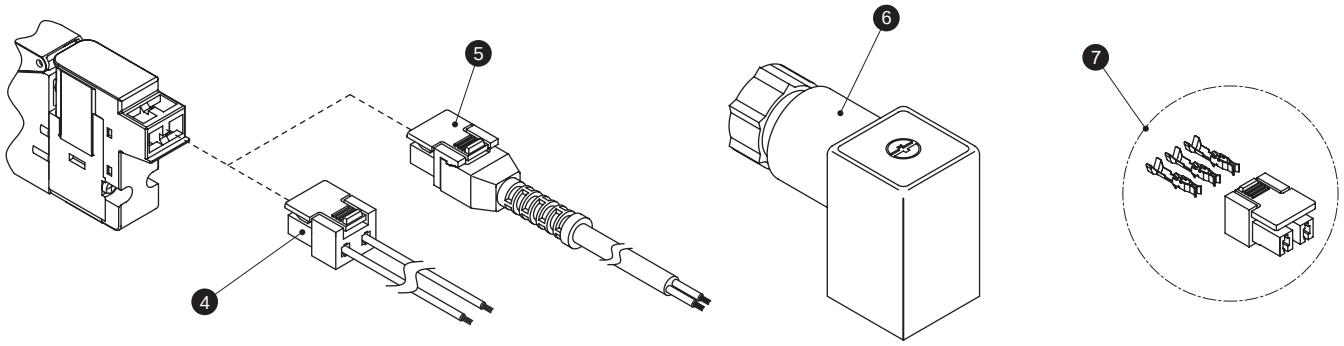
(8) Coil assembly

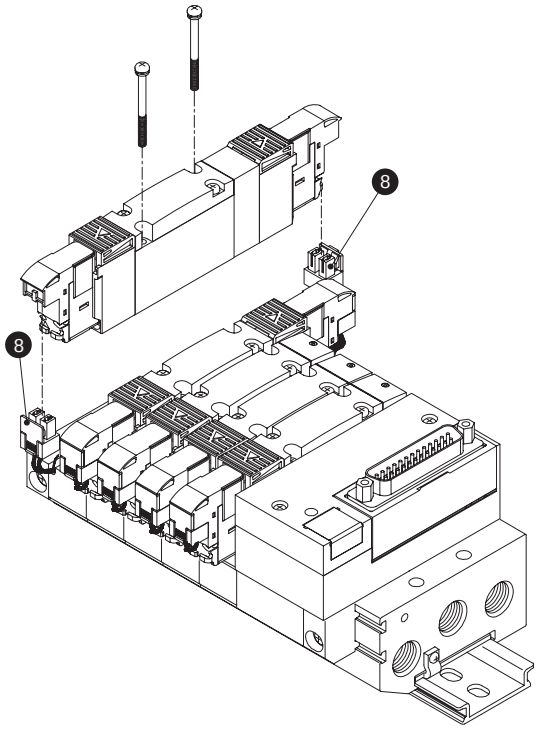


No.	Part name	Model No.
1	Coil assembly	4GR - electrical connections - □ - COIL - voltage -P70 Blank: Standard A: Ozone proof S: Surgeless *1 E: Low exoergic/energy circuit *1, *2 K: External pilot specifications E* : E type connector E*J : Socket with cover B* : DIN terminal box Blank: Grommet lead wire B includes the DIN terminal box

1: E2 type and E2*J type connectors support 12/24 VDC only.
In addition, surgeless “S” and low exoergic/energy circuit “E” cannot be selected together.
*2: Surgeless specifications.

(9) Lead wire related parts





Socket assembly, DIN terminal box assembly

No.	Part name	Model No.
4	E type connector socket assembly	4GR-SOCKET-ASSY-E**- Voltage -P70
5	Socket assembly with cover	4GR-SOCKET-ASSY-E**J-P70
6	DIN terminal box assembly	4GR-TERMINAL-BOX- Voltage -P70

Socket set

No.	Part model No.
7	4GR-SOCKET-SET-P70

A type connector socket assembly

No.	Part model No.
8	4G[*1]R-SOCKET-ASSY-A[*2][*3]-[*4]-P70

*1 Series flow rate size
*2 Blank: Left side, R: Right side
*3 A: aSOL side, B: bSOL side
*4 Row No.
Note: Refer to “Selection of model No. of socket assembly for expansion” (page 737) for selection.

MEMO

How to fill out metal base M4G series manifold specifications sheet

● Manifold model No. (example)

M 4 G A/B 1 8 0R- CX - T30 [ ] - 9 - 3 - P70

Solenoid valves	Solenoid position	Port size	Electrical connections	Terminal connector pin array	Station No.	Voltage	Clean-room specifications

Precautions for fitting mix CX

The A/B port fitting can be selected freely by indicating "CX" in the port size area.

Selectable cartridge fittings

4G1	CF, C18, C4, C6, C8, X (plug)
4G2	C4, C6, C8, C10, X (plug)
4G3	C6, C8, C10, X (plug)

* A/B port fitting mix with the body piping is not supported. 4G1 C8 and 4G2 C10 base piping are custom orders. Fitting mix CX supports only the combinations of C8 and X (plug) for 4G1 and C10 and X (plug) for 4G2.

Solenoid valve model No.	Fitting CX A	Fitting CX B	Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Quantity
4G A/B 1 1 9R- CX	C6	X	○	○																							2
4G A/B 1 1 9R- C6					○	○																					2
4G A/B 1 2 9R- C6							○	○																			2
4G A/B 1 5 9R- CX	C6	C4							○	○																	2
4G 1 9R-																											
3G A 1 9R-																											
3G A 1 9R-																											
Masking plate 4G1R-MP(S)																											
Masking plate 4G1R-MP(D)											○																1

Indicate X for a plug

Fill in "CX" when changing the fitting combination

Mounting rail	Accessory	Blanking plug				Thread plug	
L_2= [ ] * Write an integer multiple of 12.5.		PG-P2-B		GWP4-B		4G1R-M5P	
		GWP6-B		GWP8-B			
		Cable with D sub-	4GR-CABLE-D0□-□			Push-in fitting tube remover (attached as standard) □/Not required (check the box)	

Place a check here if the tube remover (standard attached product) is not required.

M4GB1*OR-C8 does not come with a removal tool.

* A reference circuit diagram for the above manifold (example) is shown on the next page.

From the manifold specifications sheets for each model, select and fill out the appropriate form.

● Individual wiring...M4G1 A/B (page 609), M4G2 A/B (page 610), M4G3 A/B (page 611)

● Reduced wiring

- Common terminal block (T1*), D sub-connector (T30): M4G A/B 1(page 612), M4G A/B 2(page 613), M4G A/B 3(page 614)
- Flat cable connector (T5*): M4G A/B 1(page 615), M4G A/B 2(page 616), M4G A/B 3(page 617)
- Serial transmission (T6G1): M4G A/B 1(page 618), M4G A/B 2(page 619), M4G A/B 3(page 620)
- Serial transmission (T8*): M4G A/B 1(page 621), M4G A/B 2(page 622), M4G A/B 3(page 623)

*1: Select the silencer mounting after confirming the dimensions.
*2: Use SLW-8S for the M4GA2 DIN rail mount. Interference occurs if SLW-8A is used.

How to use base piping M4GB*10 as a 3-port valve

This can be used as the NO/NC by attaching a plug cartridge on one side of the A/B port.
Indicate "X" in the fitting CX column.

Switching method	Plug mounting port
NC (Normally closed)	B
NO (Normally open)	A

For female thread specifications, indicate the required number of plugs in the "Thread plug" area at the end.
Female threads and cartridge fitting cannot be used together in one manifold set.

Elbow specifications

●The push-in L fitting (upward) is used only for the single solenoid manifold. Port A is a long elbow and port B a short elbow.
●A/B port sizes do not differ for elbow specifications.

How to fill out wiring specifications sheet

This is not required for standard wiring and double wiring.

● Wiring specifications (example)

Complete these specifications when specifying the wiring order and additional cables.

Connector pin No.		Mounting position															
T30/T30R	T50/T50R/T6*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	1	a																
14	2		a															
2	3			a														
15	4																	
3	5				a													
16	6																	
4	7					a												
17	8					b												
5	9 - power supply						a											
18	10 + (COM) power supply						b											
6	11							a										
19	12							b										
7	13								a									
20	14								b									
8	15									(a)								
21	16									(b)								
9	17																	
22	18																	
10	19 - power supply																	
23	20 + (COM) power supply																	
11																		
24																		
12																		
25																		
13 (COM)																		

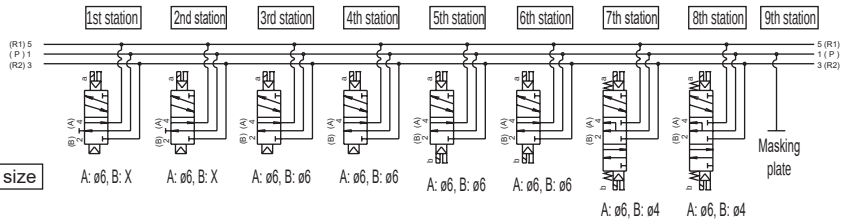
Auxiliary cable wiring
Caution (1)

* When T50 wiring is used, the COM polarity is + (plus).
* When T50 wiring is used, connector pin No. 9, 10, 19, and 20 cannot be specified because they are used for the external input power supply.
* Wiring is sequential from connector pin No. 1 in standard wiring. Contact CKD for the special wiring order.

Cautions for auxiliary wiring

(1) Reserved wire(s) is/are provided on the masking plate for the reduced wiring manifold. (Refer to page 596)
The number of auxiliary wires can be specified by selecting the masking plate in specifications.
4G*R - MP (S)...1
4G*R - MP (D)...2
Indicate (a) or (b) in manifold specifications for masking plate reserved wires.

References circuit diagram The simplified circuit diagram of the manifold model No. (example) on the previous page is shown below.



* Manifold stations are set in order from the left with the piping port facing toward you.

M4G$^{A}_{B}$1 manifold specifications

Issue date / /

Company

Contact

Purchase order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

M□G$^{A}_{B}$1□0R-□-□□□-□-□-□

Type of solenoid valve | Solenoid position | Port size | Electrical connections | Other options | Mount | Station No. | Voltage | Clean room specs

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G□1□9R-□-□																											
4G□1□9R-□-□																											
4G□1□9R-□-□																											
4G□1□9R-□-□																											
4G□1□9R-□-□																											
3G□1□9R-□-□																											
3G□1□9R-□-□																											
Masking plate 4G1R-MP-□																											
Air supply spacer 4G1R-P-□																											
Exhaust spacer 4G1R-R-□																											

Mounting rail: L_2 = □ (* Write an integer multiple of 12.5.)

Accessories:

Blanking plug								Threaded plug	
PG-P2-B	□	GWP4-B	□	GWP6-B	□	GWP8-B	□	4G1R-M5P	□

Push-in fitting tube remover (standard) Not required (check)

* C8 of M4GB1 is not provided with an extractor.

M4G2 individual wiring

M4G$^{A}_{B}$2 manifold specifications

Issue date / /

Company

Contact

Purchase order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

M G$^{A}_{B}$2 0R- - - - - - - - -

Type of solenoid valve / Solenoid position / Port size / Electrical connections / Other options / Mount / Station No. / Voltage / Clean room specs

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G 2 9R- - -																											
4G 2 9R- - -																											
4G 2 9R- - -																											
4G 2 9R- - -																											
4G 2 9R- - -																											
3G 2 9R- -																											
3G 2 9R- -																											
Masking plate 4G2R-MP-																											
Air supply spacer 4G2R-P-																											
Exhaust spacer 4G2R-R																											

Mounting rail	Accessories	Blanking plug								Threaded plug	
L_2 = * Write an integer multiple of 12.5.		GWP4-B		GWP6-B		GWP8-B		GWP10-B		4G2R-06P	

* Applicable only when B-type is selected.

M4G3 individual wiring

M4G$^{A}_{B}$3 manifold specifications

Issue date / /

Company

Contact

Purchase order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

M [ ] **G$^{A}_{B}$3** [ ] **0R-** [ ] - [ ] [ ] [ ] - [ ] - [ ] - [ ]

Type of solenoid valve / Solenoid position / Port size / Electrical connections / Other options / Mount / Station No. / Voltage / Clean room specifications

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G [ ] 3 [ ] 9R- [ ]																											
4G [ ] 3 [ ] 9R- [ ]																											
4G [ ] 3 [ ] 9R- [ ]																											
4G [ ] 3 [ ] 9R- [ ]																											
4G [ ] 3 [ ] 9R- [ ]																											
3GA3 [ ] 9R- [ ]																											
3GA3 [ ] 9R- [ ]																											
Masking plate 4G3R-MP- [ ]																											
Air supply spacer 4G3R-P- [ ]																											
Exhaust spacer 4G3R-R- [ ]																											

Mounting rail	Accessories	Blanking plug						Threaded plug	
L_2= [ ] * Write an integer multiple of 12.5.		GWP6-B	[ ]	GWP8-B	[ ]	GWP10-B	[ ]	4G3R-08P	[ ]

M4G1 reduced wiring

M4G$^{A}_{B}$1-T1/3 manifold specifications

Issue date / /

Company

Contact

Purchase order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

M ☐ G$^{A}_{B}$1 ☐ 0R- ☐ - ☐ ☐ ☐ ☐ - ☐ - ☐ - ☐

Type of solenoid valve / Solenoid position / Port size / Reduced wiring / Terminal connector pin layout / Option / Mount / Station No. / Voltage / Clean room specifications

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G ☐ 1 ☐ 9R- ☐ - ☐																											
4G ☐ 1 ☐ 9R- ☐ - ☐																											
4G ☐ 1 ☐ 9R- ☐ - ☐																											
4G ☐ 1 ☐ 9R- ☐ - ☐																											
4G ☐ 1 ☐ 9R- ☐ - ☐																											
3G ☐ 1 ☐ 9R- ☐ - ☐																											
3G ☐ 1 ☐ 9R- ☐ - ☐																											
Masking plate 4G1R-MP (S) - ☐																											
Masking plate 4G1R-MP (D) - ☐																											
Air supply spacer 4G1R-P- ☐																											
Exhaust spacer 4G1R-R- ☐																											

Mounting rail: L_2= ☐ * Write an integer multiple of 12.5.

Accessories:

Blanking plug								Threaded plug	
PG-P2-B	☐	GWP4-B	☐	GWP6-B	☐	GWP8-B	☐	4G1R-M5P	☐

Cable with D sub-connector	4GR-CABLE-D0☐-☐	☐	Push-in fitting tube remover (standard)	Not required (check)

* C8 of M4GB1 is not provided with an extractor.

● Wiring specification (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables)

Connector pin No. T10/T10R	T11/T11R	T30/T30R	Mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1																								
2	2	14																								
3	3	2																								
4	4	15																								
5	5	3																								
6	6	16																								
7	7	4																								
8	8	17																								
9	9	5																								
10	10	18																								
11	11	6																								
12	12	19																								
13	13	7																								
14	14	20																								
15	15	8																								
16	16	21																								
COM	17	9																								
COM	18	22																								
	19	10																								
	20	23																								
	21	11																								
	22	24																								
	23	12																								
	24	25																								
	COM	13 (COM)																								
	COM																									

M4G2 reduced wiring

M4G$^{A}_{B}$2-T1/3 manifold specifications

Issue date / /

Company

Contact

Purchase order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

M □ G$^{A}_{B}$2 □ 0R- □ - □ □ □ □ - □ - □ - □

Type of solenoid valve / Solenoid position / Port size / Reduced wiring / Terminal connector pin layout / Option / Mount / Station No. / Voltage / Clean room specifications

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G □ 2 □ 9R- □ - □																											
4G □ 2 □ 9R- □ - □																											
4G □ 2 □ 9R- □ - □																											
4G □ 2 □ 9R- □ - □																											
4G □ 2 □ 9R- □ - □																											
3G □ 2 □ 9R- □ - □																											
3G □ 2 □ 9R- □ - □																											
Masking plate 4G2R-MP (S) - □																											
Masking plate 4G2R-MP (D) - □																											
Air supply spacer 4G2R-P- □																											
Exhaust spacer 4G2R-R- □																											

Mounting rail: L_2 = □ (* Write an integer multiple of 12.5.)

Accessories:

Blanking plug										Threaded plug	
GWP4-B		GWP6-B		GWP8-B		GWP10-B				4G2R-06P	
Cable with D sub-connector	4GR-CABLE-D0□-□										

* Applicable only when B-type is selected.

● Wiring specification (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables)

Connector pin No. T10/T10R	T11/T11R	T30/T30R	Mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1																								
2	2	14																								
3	3	2																								
4	4	15																								
5	5	3																								
6	6	16																								
7	7	4																								
8	8	17																								
9	9	5																								
10	10	18																								
11	11	6																								
12	12	19																								
13	13	7																								
14	14	20																								
15	15	8																								
16	16	21																								
COM	17	9																								
COM	18	22																								
	19	10																								
	20	23																								
	21	11																								
	22	24																								
	23	12																								
	24	25																								
	COM	13 (COM)																								
	COM																									

M4G3 reduced wiring

M4G$^{A}_{B}$3-T1/3 manifold specifications

Issue date / /

Company

Contact

Purchase order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

M ☐ G$^{A}_{B}$3 ☐ 0R- ☐ - ☐ ☐ ☐ ☐ - ☐ - ☐ - ☐

Type of solenoid valve / Solenoid position / Port size / Reduced wiring / Terminal connector pin layout / Option / Mount / Station No. / Voltage / Clean room specifications

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G ☐ 3 ☐ 9R- ☐																											
4G ☐ 3 ☐ 9R- ☐																											
4G ☐ 3 ☐ 9R- ☐																											
4G ☐ 3 ☐ 9R- ☐																											
4G ☐ 3 ☐ 9R- ☐																											
3GA3 ☐ 9R- ☐																											
3GA3 ☐ 9R- ☐																											
Masking plate 4G3R-MP (S) - ☐																											
Masking plate 4G3R-MP (D) - ☐																											
Air supply spacer 4G3R-P- ☐																											
Exhaust spacer 4G3R-R- ☐																											

Mounting rail: L_2= ☐ * Write an integer multiple of 12.5.

Accessories:

Blanking plug						Threaded plug	
GWP6-B		GWP8-B		GWP10-B		4G3R-08P	
Cable with D sub-connector	4GR-CABLE-D0☐-☐						

● Wiring specification (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables)

Connector pin No. T10/T10R	T11/T11R	T30/T30R	Mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1																								
2	2	14																								
3	3	2																								
4	4	15																								
5	5	3																								
6	6	16																								
7	7	4																								
8	8	17																								
9	9	5																								
10	10	18																								
11	11	6																								
12	12	19																								
13	13	7																								
14	14	20																								
15	15	8																								
16	16	21																								
COM	17	9																								
COM	18	22																								
	19	10																								
	20	23																								
	21	11																								
	22	24																								
	23	12																								
	24	25																								
	COM	13 (COM)																								
	COM																									

M4G1 reduced wiring

M4G$^{A}_{B}$1-T5 manifold specifications

Issue date / /

Company

Contact

Purchase order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

M [ ] **G$^{A}_{B}$1** [ ] **0R-** [ ] [ ] - [ ] [ ] [ ] [ ] - [ ] - [ ] - [ ]

Type of solenoid valve / Solenoid position / Port size / Reduced wiring / Terminal connector pin layout / Option / Mount / Station No. / Voltage / Clean room specifications

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G [ ] 1 [ ] 9R- [ ] - [ ]																											
4G [ ] 1 [ ] 9R- [ ] - [ ]																											
4G [ ] 1 [ ] 9R- [ ] - [ ]																											
4G [ ] 1 [ ] 9R- [ ] - [ ]																											
4G [ ] 1 [ ] 9R- [ ] - [ ]																											
3G [ ] 1 [ ] 9R- [ ] - [ ]																											
3G [ ] 1 [ ] 9R- [ ] - [ ]																											
Masking plate 4G1R-MP (S) - [ ]																											
Masking plate 4G1R-MP (D) - [ ]																											
Air supply spacer 4G1R-P- [ ]																											
Exhaust spacer 4G1R-R- [ ]																											

Mounting rail: L_2= [ ] * Write an integer multiple of 12.5.

Accessories

Blanking plug								Threaded plug	
PG-P2-B		GWP4-B		GWP6-B		GWP8-B		4G1R-M5P	

Push-in fitting tube remover (standard) ☐Not required (check)

* C8 of M4GB1 is not provided with an extractor.

● Wiring specification (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables)

Connector pin No. T50/T50R	T51/T51R	T52/T52R	T53/T53R	Mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1	1																								
2	2	2	2																								
3	3	3	3																								
4	4	4	4																								
5	5	5	5																								
6	6	6	6																								
7	7	7	7																								
8	8	8	8																								
9 - power supply	9	9 COM	9																								
10 + (COM) power supply	10	10 COM	10																								
11	11		11																								
12	12		12																								
13	13		13																								
14	14		14																								
15	15		15																								
16	16		16																								
17	17		17																								
18	18		18																								
19 - power supply	19 COM		19																								
20 + (COM) power supply	20 COM		20																								
			21																								
			22																								
			23																								
			24																								
			25 COM																								
			26 COM																								

* When T50 wiring is used, the COM polarity is + (positive).
* When T50 wiring is used, connector pin No. 9, 10, 19, and 20 cannot be specified because they are used for the external input power supply.

M4G2 reduced wiring

M4G$^{A}_{B}$2-T5 manifold specifications

Issue date / /

Company

Contact

Purchase order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

M [ ] G$^{A}_{B}$2 [ ] 0R- [ ] - [ ] [ ] [ ] [ ] - [ ] - [ ] - [ ]

Type of solenoid valve / Solenoid position / Port size / Reduced wiring / Terminal connector pin layout / Option / Mount / Station No. / Voltage / Clean room specifications

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G [ ] 2 [ ] 9R- [ ] - [ ]																											
4G [ ] 2 [ ] 9R- [ ] - [ ]																											
4G [ ] 2 [ ] 9R- [ ] - [ ]																											
4G [ ] 2 [ ] 9R- [ ] - [ ]																											
4G [ ] 2 [ ] 9R- [ ] - [ ]																											
3G [ ] 2 [ ] 9R- [ ] - [ ]																											
3G [ ] 2 [ ] 9R- [ ] - [ ]																											
Masking plate 4G2R-MP (S) - [ ]																											
Masking plate 4G2R-MP (D) - [ ]																											
Air supply spacer 4G2R-P- [ ]																											
Exhaust spacer 4G2R-R- [ ]																											

Mounting rail: L_2 = [ ] * Write an integer multiple of 12.5.

Accessories:

Blanking plug								Threaded plug	
GWP4-B		GWP6-B		GWP8-B		GWP10-B		4G2R-06P	

* C8 of M4GB1 is not provided with an extractor.

● Wiring specification (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables)

Connector pin No. T50/T50R	T51/T51R	T52/T52R	T53/T53R	Mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1	1																								
2	2	2	2																								
3	3	3	3																								
4	4	4	4																								
5	5	5	5																								
6	6	6	6																								
7	7	7	7																								
8	8	8	8																								
9 - power supply	9	9 COM	9																								
10 + (COM) power supply	10	10 COM	10																								
11	11		11																								
12	12		12																								
13	13		13																								
14	14		14																								
15	15		15																								
16	16		16																								
17	17		17																								
18	18		18																								
19 - power supply	19 COM		19																								
20 + (COM) power supply	20 COM		20																								
			21																								
			22																								
			23																								
			24																								
			25 COM																								
			26 COM																								

* When T50 wiring is used, the COM polarity is + (positive).
* When T50 wiring is used, connector pin No. 9, 10, 19, and 20 cannot be specified because they are used for the external input power supply.

M4G3 reduced wiring

M4G$^{A}_{B}$3-T5 manifold specifications

Issue date / /

Company

Contact

Purchase order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

M [ ] **G$^{A}_{B}$3** [ ] **0R-** [ ] [ ] - [ ] [ ] [ ] [ ] - [ ] - [ ] - [ ]

Type of solenoid valve / Solenoid position / Port size / Reduced wiring / Terminal connector pin layout / Option / Mount / Station No. / Voltage / Clean room specifications

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G [ ] 3 [ ] 9R- [ ]																											
4G [ ] 3 [ ] 9R- [ ]																											
4G [ ] 3 [ ] 9R- [ ]																											
4G [ ] 3 [ ] 9R- [ ]																											
4G [ ] 3 [ ] 9R- [ ]																											
3GA3 [ ] 9R- [ ]																											
3GA3 [ ] 9R- [ ]																											
Masking plate 4G3R-MP (S) - [ ]																											
Masking plate 4G3R-MP (D) - [ ]																											
Air supply spacer 4G3R-P- [ ]																											
Exhaust spacer 4G3R-R- [ ]																											

Mounting rail: L_2 = [ ] * Write an integer multiple of 12.5.

Accessories:

Blanking plug					Threaded plug	
GWP6-B	[ ]	GWP8-B	[ ]	GWP10-B	[ ]	4G3R-08P [ ]

● Wiring specification (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables)

Connector pin No. T50/T50R	T51/T51R	T52/T52R	T53/T53R	Mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1	1																								
2	2	2	2																								
3	3	3	3																								
4	4	4	4																								
5	5	5	5																								
6	6	6	6																								
7	7	7	7																								
8	8	8	8																								
9 - power supply	9	9 COM	9																								
10 + (COM) power supply	10	10 COM	10																								
11	11		11																								
12	12		12																								
13	13		13																								
14	14		14																								
15	15		15																								
16	16		16																								
17	17		17																								
18	18		18																								
19 - power supply	19 COM		19																								
20 + (COM) power supply	20 COM		20																								
			21																								
			22																								
			23																								
			24																								
			25 COM																								
			26 COM																								

* When T50 wiring is used, the COM polarity is + (positive).
* When T50 wiring is used, connector pin No. 9, 10, 19, and 20 cannot be specified because they are used for the external input power supply.

M4G1 serial transmission

M4G$^{A}_{B}$1-T6G1 Manifold specifications sheet

Issued / /

Company

Contact

Order No.

● Contact ● Quantity set(s) ● Delivery date /

Slip No.	Order No.

● Manifold model No.

M [ ] **G$^{A}_{B}$1** [ ] **0R-** [ ] **- T6G1** [ ] [ ] **D -** [ ] **- 3 -** [ ]

Type of solenoid valve / Solenoid position / Port size / Serial transmission / Terminal connector pin layout / Option / Station No. / Voltage / Clean room specifications

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Qty.
4G [ ] 1 9R- [ ] - [ ]																			
4G [ ] 1 9R- [ ] - [ ]																			
4G [ ] 1 9R- [ ] - [ ]																			
4G [ ] 1 9R- [ ] - [ ]																			
4G [ ] 1 9R- [ ] - [ ]																			
3G [ ] 1 9R- [ ] - [ ]																			
3G [ ] 1 9R- [ ] - [ ]																			
Masking plate **4G1R-MP (S) -** [ ]																			
Masking plate **4G1R-MP (D) -** [ ]																			
Air supply spacer **4G1R-P-** [ ]																			
Exhaust spacer **4G1R-R-** [ ]																			

Mounting rail: L_2= [ ] * Write an integer multiple of 12.5.

Accessories:

Blanking plug								Threaded plug	
PG-P2-B		**GWP4-B**		**GWP6-B**		**GWP8-B**		**4G1R-M5P**	

Push-in fitting tube remover (standard) ☐Not required (check)

* C8 of M4GB1 is not provided with an extractor.

● Wiring specifications sheet (Not required for standard wiring/double wiring. Complete these specifications when specifying the wiring order and additional cables)

Connector pin No. T6G1		Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
T6G1: CC-Link 16 points	1																
	2																
	3																
	4																
	5																
	6																
	7																
	8																
	9																
	10 COM																
	11																
	12																
	13																
	14																
	15																
	16																
	17																
	18																
	19																
	20 COM																

M4G2 serial transmission

M4G$^{A}_{B}$2-T6G1 Manifold specifications sheet

Issued / /

Company

Contact

Order No.

● Contact ● Quantity set(s) ● Delivery date /

Slip No.	Order No.

● Manifold model No.

M ☐ G $^{A}_{B}$ 2 ☐ 0R- ☐ - T6G1 ☐ ☐ D- ☐ - 3 - ☐

Solenoid valve / Solenoid position / Port size / Serial transmission / Terminal/connector pin array / Option / Station No. / Voltage / Clean room specifications

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Qty.
4G ☐ 2 ☐ 9R- ☐ - ☐																			
4G ☐ 2 ☐ 9R- ☐ - ☐																			
4G ☐ 2 ☐ 9R- ☐ - ☐																			
4G ☐ 2 ☐ 9R- ☐ - ☐																			
4G ☐ 2 ☐ 9R- ☐ - ☐																			
3G ☐ 2 ☐ 9R- ☐ - ☐																			
3G ☐ 2 ☐ 9R- ☐ - ☐																			
Masking plate 4G2R-MP (S) - ☐																			
Masking plate 4G2R-MP (D) - ☐																			
Air supply spacer 4G2R-P- ☐																			
Exhaust spacer 4G2R-R- ☐																			

Mounting rail	Accessories	Blanking plug								Threaded plug	
L2= ☐ * Write an integer multiple of 12.5.		GWP4-B	☐	GWP6-B	☐	GWP8-B	☐	GWP10-B	☐	4G2R-06P	☐

● Wiring specifications sheet (Not required for standard wiring/double wiring. Complete these specifications when specifying the wiring order and additional cables)

Connector pin No.		Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
T6G1																	
T6G1: CC-Link 16 points	1																
	2																
	3																
	4																
	5																
	6																
	7																
	8																
	9																
	10 COM																
	11																
	12																
	13																
	14																
	15																
	16																
	17																
	18																
	19																
	20 COM																

M4G3 serial transmission

M4G$^{A}_{B}$3-T6G1 Manifold specifications sheet

Issued / /

Company

Contact

Order No.

● Contact ● Quantity set(s) ● Delivery date /

Slip No.	Order No.

● Manifold model No.

M [ ] **G$^{A}_{B}$3** [ ] **0R-** [ ] **- T6G1** [ ] [ ] **D -** [ ] **-** **3** **-** [ ]

Type of solenoid valve / Solenoid position / Port size / Serial transmission / Terminal connector pin layout / Option / Station No. / Voltage / Clean room specifications

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Qty.
4G [ ] 3 [ ] 9R- [ ]																			
4G [ ] 3 [ ] 9R- [ ]																			
4G [ ] 3 [ ] 9R- [ ]																			
4G [ ] 3 [ ] 9R- [ ]																			
4G [ ] 3 [ ] 9R- [ ]																			
3GA3 [ ] 9R- [ ]																			
3GA3 [ ] 9R- [ ]																			
Masking plate 4G3R-MP (S) - [ ]																			
Masking plate 4G3R-MP (D) - [ ]																			
Air supply spacer 4G3R-P- [ ]																			
Exhaust spacer 4G3R-R- [ ]																			

Mounting rail	Accessories	Blanking plug						Threaded plug	
L_2= [ ] * Write an integer multiple of 12.5.		GWP6-B		GWP8-B		GWP10-B		4G3R-08P	

● Wiring specification (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables)

Connector pin No. T6*		Mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
T6G1: CC-Link 16 points	1																
	2																
	3																
	4																
	5																
	6																
	7																
	8																
	9																
	10 COM																
	11																
	12																
	13																
	14																
	15																
	16																
	17																
	18																
	19																
	20 COM																

M4G1 serial transmission thin

M4G$^{A}_{B}$1-T8 manifold specifications

Issue date / /

Company

Contact

Purchase order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

M [ ] **G$^{A}_{B}$1** [ ] **0R-** [ ] **-** [ ] [ ] [ ] [ ] **-** [ ] **-** **3** **-** [ ]

Type of solenoid valve / Solenoid position / Port size / Serial transmission / Terminal connector pin layout / Option / Mount / Station No. / Voltage / Clean room specifications

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Qty.
4G 1 9R- -																							
4G 1 9R- -																							
4G 1 9R- -																							
4G 1 9R- -																							
4G 1 9R- -																							
3G 1 9R- -																							
3G 1 9R- -																							
Masking plate **4G1R-MP(S)-**																							
Masking plate **4G1R-MP(D)-**																							
Air supply spacer **4G1R-P-**																							
Exhaust spacer **4G1R-R-**																							

Mounting rail	L_2 =	Accessories	Blanking plug								Threaded plug	
	* Write an integer multiple of 12.5.		**PG-P2-B**		**GWP4-B**		**GWP6-B**		**GWP8-B**		**4G1R-M5P**	
			Push-in fitting tube remover (standard) ☐Not required (check)									

* C8 of M4GB1 is not provided with an extractor.

● Wiring specification (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables)

Connector pin No. T8*				Mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
T8G1	CC-Link	NPN	16points	1																			
T8G2			32points	2																			
T8GP1		PNP	16points	3																			
T8GP2			32points	4																			
T8P1	PROFIBUS-DP	NPN	16points	5																			
T8P2			32points	6																			
T8PP1		PNP	16points	7																			
T8PP2			32points	8																			
T8EC1	EtherCAT	NPN	16points	9																			
T8EC2			32points	10																			
T8ECP1		PNP	16points	11																			
T8ECP2			32points	12																			
T8EN1	EtherNet/IP	NPN	16points	13																			
T8EN2			32points	14																			
T8ENP1		PNP	16points	15																			
T8ENP2			32points	16																			
T8D1	DeviceNet	NPN	16points	17																			
T8D2			32points	18																			
T8DP1		PNP	16points	19																			
T8DP2			32points	20																			
T8EB1	CC-Link IEF Basic	NPN	16points	21																			
T8EB2			32points	22																			
T8EBP1		PNP	16points	23																			
T8EBP2			32points	24																			
T8EF1	CC-Link IE Field	NPN	16points	25																			
T8EF2			32points	26																			
T8EFP1		PNP	16points	27																			
T8EFP2			32points	28																			
T8EP1	PROFINET	NPN	16points	29																			
T8EP2			32points	30																			
T8EPP1		PNP	16points	31																			
T8EPP2			32points	32																			
T8KC1	IO-Link	NPN	16points																				
T8KC2			32points																				
T8KCP1		PNP	16points																				
T8KCP2			32points																				

M4G2 serial transmission thin

M4G$^{A}_{B}$2-T8 manifold specifications

Issue date / /

Company

Contact

Purchase order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

M [ ] **G$^{A}_{B}$2** [ ] **0R-** [ ] **-** [ ] [ ] [ ] [ ] **-** [ ] **-** **3** **-** [ ]

Type of solenoid valve / Solenoid position / Port size / Serial transmission / Terminal connector pin layout / Option / Mount / Station No. / Voltage / Clean room specifications

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Qty.
4G [ ] 2 [ ] 9R- [ ]																							
4G [ ] 2 [ ] 9R- [ ]																							
4G [ ] 2 [ ] 9R- [ ]																							
4G [ ] 2 [ ] 9R- [ ]																							
4G [ ] 2 [ ] 9R- [ ]																							
3G [ ] 2 [ ] 9R- [ ]																							
3G [ ] 2 [ ] 9R- [ ]																							
Masking plate **4G2R-MP(S)-** [ ]																							
Masking plate **4G2R-MP(D)-** [ ]																							
Air supply spacer **4G2R-P-** [ ]																							
Exhaust spacer **4G2R-R-** [ ]																							

Mounting rail		Accessories	Blanking plug								Threaded plug	
	L_2= [ ] * Write an integer multiple of 12.5.		GWP4-B		GWP6-B		GWP8-B		GWP10-B		4G2R-06P	

● Wiring specification (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables)

Connector pin No. T8*				Mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
T8G1	CC-Link	NPN	16points	1																			
T8G2			32points	2																			
T8GP1		PNP	16points	3																			
T8GP2			32points	4																			
T8P1	PROFIBUS-DP	NPN	16points	5																			
T8P2			32points	6																			
T8PP1		PNP	16points	7																			
T8PP2			32points	8																			
T8EC1	EtherCAT	NPN	16points	9																			
T8EC2			32points	10																			
T8ECP1		PNP	16points	11																			
T8ECP2			32points	12																			
T8EN1	EtherNet/IP	NPN	16points	13																			
T8EN2			32points	14																			
T8ENP1		PNP	16points	15																			
T8ENP2			32points	16																			
T8D1	DeviceNet	NPN	16points	17																			
T8D2			32points	18																			
T8DP1		PNP	16points	19																			
T8DP2			32points	20																			
T8EB1	CC-Link IEF Basic	NPN	16points	21																			
T8EB2			32points	22																			
T8EBP1		PNP	16points	23																			
T8EBP2			32points	24																			
T8EF1	CC-Link IE Field	NPN	16points	25																			
T8EF2			32points	26																			
T8EFP1		PNP	16points	27																			
T8EFP2			32points	28																			
T8EP1	PROFINET	NPN	16points	29																			
T8EP2			32points	30																			
T8EPP1		PNP	16points	31																			
T8EPP2			32points	32																			
T8KC1	IO-Link	NPN	16points																				
T8KC2			32points																				
T8KCP1		PNP	16points																				
T8KCP2			32points																				

M4G3 serial transmission thin

M4G$^{A}_{B}$3-T8 manifold specifications

Issue date / /

Company

Contact

Purchase order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

M □ G$^{A}_{B}$3 □ 0R- □ - □ □ □ □ - □ - 3 - □

Type of solenoid valve / Solenoid position / Port size / Serial transmission / Terminal connector pin layout / Option / Mount / Station No. / Voltage / Clean room specifications

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Qty.
4G□3□9R-□																			
4G□3□9R-□																			
4G□3□9R-□																			
4G□3□9R-□																			
4G□3□9R-□																			
3GA3□9R-□																			
3GA3□9R-□																			
Masking plate **4G3R-MP(S)-□**																			
Masking plate **4G3R-MP(D)-□**																			
Air supply spacer **4G3R-P-□**																			
Exhaust spacer **4G3R-R-□**																			

Mounting rail	Accessories	Blanking plug						Threaded plug	
L_2= □ * Write an integer multiple of 12.5.		GWP6-B		GWP8-B		GWP10-B		4G3R-08P	

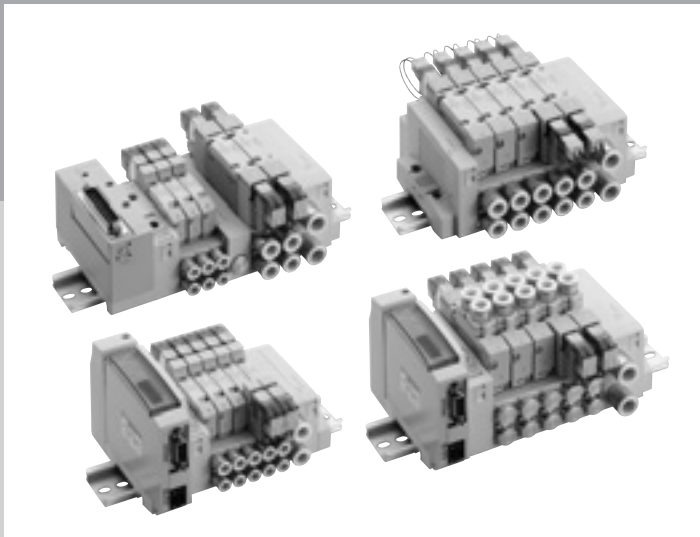
● Wiring specification (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables)

Connector pin No. T8*				Mounting position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
T8G1	CC-Link	NPN	16points	1															
T8G2			32points	2															
T8GP1		PNP	16points	3															
T8GP2			32points	4															
T8P1	PROFIBUS-DP	NPN	16points	5															
T8P2			32points	6															
T8PP1		PNP	16points	7															
T8PP2			32points	8															
T8EC1	EtherCAT	NPN	16points	9															
T8EC2			32points	10															
T8ECP1		PNP	16points	11															
T8ECP2			32points	12															
T8EN1	EtherNet/IP	NPN	16points	13															
T8EN2			32points	14															
T8ENP1		PNP	16points	15															
T8ENP2			32points	16															
T8D1	DeviceNet	NPN	16points	17															
T8D2			32points	18															
T8DP1		PNP	16points	19															
T8DP2			32points	20															
T8EB1	CC-Link IEF Basic	NPN	16points	21															
T8EB2			32points	22															
T8EBP1		PNP	16points	23															
T8EBP2			32points	24															
T8EF1	CC-Link IE Field	NPN	16points	25															
T8EF2			32points	26															
T8EFP1		PNP	16points	27															
T8EFP2			32points	28															
T8EP1	PROFINET	NPN	16points	29															
T8EP2			32points	30															
T8EPP1		PNP	16points	31															
T8EPP2			32points	32															
T8KC1	IO-Link	NPN	16points																
T8KC2			32points																
T8KCP1		PNP	16points																
T8KCP2			32points																

MN4GA/4GB

Block manifold

Pilot operated 3, 5-port valve



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● **Base piping (MN4GB1/2)**	**638**
Reduced wiring block manifold	
● **Body piping (MN4GA1/2-T*)**	**646**
● **Base piping (MN4GB1/2-T*)**	**662**
Mix manifold	
● **4G1/2 (MN3GAX12/MN4GAX12/MN4GBX12)**	**680**
Block components	682
Related components (air supply spacer/pilot check valve/ silencer/blanking plug, etc.)	693
Related parts	699
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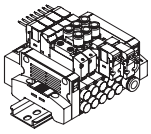
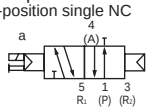
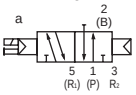
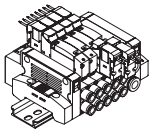
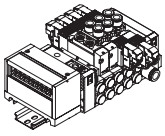
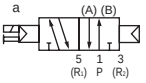
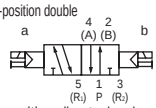
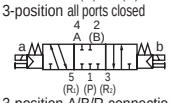
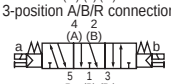
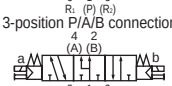
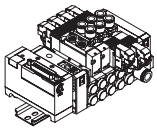
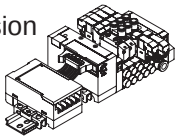
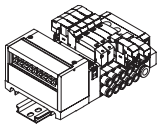
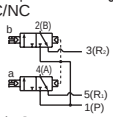
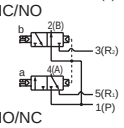
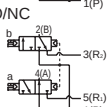
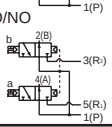
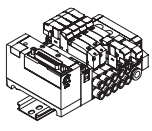
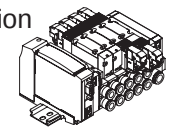
Series variation

MN4GA/4GB Series

* For metal base (integrated), refer to p 425.

Appearance series			Model No.	Electrical connections	Position Number of solenoid valves JIS symbol	Valve performance: Flow rate Properties C [dm³/(s·bar)] *1	Valve performance: Applicable Cylinder diameter	Voltage(V)	
Individual wiring manifold	Body piping	MN4GA180R 	MN4GA1	Blank —E□	● 3-port valve 2-position single NC  2-position single NO 	1.0 to 1.2	ø20 to ø40	AC100 AC200 DC24 DC12 DC3 DC5 (*2)	
			MN4GA2	Blank —E□ —B		2.2 to 2.5	ø40 to ø80		
	Base piping	MN4GB180R 	MN4GB1	Blank —E□		1.0 to 1.2	ø20 to ø40		
			MN4GB2	Blank —E□ —B		2.2 to 2.5	ø40 to ø80		
Reduced wiring manifolds	Body piping	Terminal block MN4GA280R 	MN4GA1 (N3GA1) (N4GA1)	—T10 —T11 (—A2N)	● 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 	1.0 to 1.2	ø20 to ø40	DC24 DC12	
			MN4GA2 (N3GA2) (N4GA2)			2.2 to 2.5	ø40 to ø80		
		Connector MN4GA280R 	MN4GA1 (N3GA1) (N4GA1)	T30 T5□ (A2N)		1.0 to 1.2	ø20 to ø40	DC24 DC12	
			MN4GA2 (N3GA2) (N4GA2)			2.2 to 2.5	ø40 to ø80		
		Serial transmission MN4GA180R 	MN4GA1 (N3GA1) (N4GA1)	—T6G1 —T7□ —T8□ (—A2N)		1.0 to 1.2	ø20 to ø40	DC24	
			MN4GA2 (N3GA2) (N4GA2)			2.2 to 2.5	ø40 to ø80		
	Base piping	Terminal block MN4GB180R 	MN4GB1 (N4GB1)	T10 T11 (A2N)	● Two 3-port valves integrated NC/NC  NC/NO  NO/NC  NO/NO 	1.0 to 1.2	ø20 to ø40	DC24 DC12	
			MN4GB2 (N4GB2)			2.2 to 2.5	ø40 to ø80		
		Connector MN4GB180R 	MN4GB1 (N4GB1)	—T30 —T5□ (—A2N)		1.0 to 1.2	ø20 to ø40	DC24 DC12	
			MN4GB2 (N4GB2)			2.2 to 2.5	ø40 to ø80		
		Serial transmission MN4GB280R 	MN4GB1 (N4GB1)	—T6G1 —T7□ —T8□ (—A2N)		1.0 to 1.2	ø20 to ø40	DC24	
			MN4GB2 (N4GB2)			2.2 to 2.5	ø40 to ø80		

*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 x C.
*2: The grommet lead wire specifications are compatible with DC voltage only.
*3: Only compatible with base piping models.
*4: Specification for reduced wiring manifold equipped.Only 12/24 VDC is supported.

Switching position									A/B Piping port																		A/B Piping port						Power supply connection											Selection page
2-position				3-position					Barbed fitting	Push-in fitting				Radial push-in fitting (upward) (*3)				Radial push-in fitting (downward)				Female thread		Push-in fitting				Female thread		Single unit, ind. wiring				Reduced wiring									
Normally closed	Normally open	Single	Double	All ports closed	ABR connection	PAB connection	Two 3-port valves integrated	Mix	ø1.8	ø1.8	ø4	ø6	ø8	ø1.8	ø4	ø6	ø8	ø1.8	ø4	ø6	ø8	M5	Rc1/8	ø1/8 inch	ø5/32 inch	ø1/4 inch	ø5/16 inch	NPT1/8	G1/8	Grommet lead (*2)	E Connector	EJ Connector	DIN terminal box	A Connector (*4)	Common terminal box	D sub-connector	Flat cable with power supply terminal	Flat cable without power supply terminal	Serial transmission			
CF	C18	C4	C6	C8	CL18	CL4	CL6	CL8	CD18	CD4	CD6	CD8	M5	06	C3N	C4N	C6N	C8N	06N	06G	Blank	E□	EJ	B□	A2N	T1□	T30	T50	T5□	T6G1	T7□	T8□									
●	●	●	●	●	●	●	●	●	●	●	●	●			●	●					●	●	●																			630
●	●	●	●	●	●	●	●	●			●	●	●											●	●	●	●	●	●	●	●											
		●	●	●	●	●	●	●	●	●	●	●		●	●	●		●	●	●					●	●																	638
		●	●	●	●	●	●	●			●	●	●				●	●							●	●					●	●	●										
●	●	●	●	●	●	●	●	●	●	●	●	●			●	●																	●	●								646
●	●	●	●	●	●	●	●	●			●	●	●				●	●	●	●					●	●																	
●	●	●	●	●	●	●	●	●	●	●	●	●			●	●																			●	●	●						
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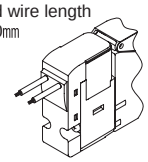
		●	●	●	●	●	●	●			●	●	●				●	●							●	●																	662
		●	●	●	●	●	●	●	●	●	●	●		●	●	●		●	●	●					●	●																	
		●	●	●	●	●	●	●			●	●	●				●	●							●	●					●	●	●										
●	●	●	●	●	●	●	●	●	●	●	●	●			●	●																	●	●								
		●	●	●	●	●	●	●			●	●	●				●	●							●	●																	

Electrical connections

Discrete valve/individual wiring manifold

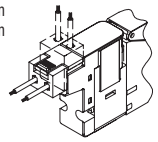
Blank Grommet lead wire Ⓐ

• Lead wire length 300mm

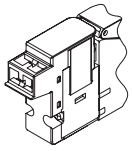


EO E-connector Ⓐ

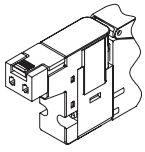
● **Lead wire length**
300mm
500mm
1m
2m
3m



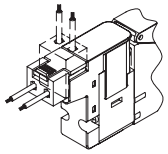
E0N E-connector Without socket



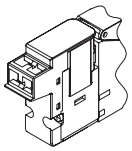
E1 E-connector with socket/terminal



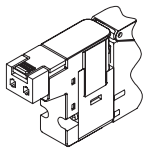
E2 E-connector ⒶⒷⒸ



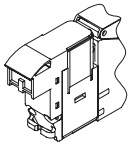
E2N E-connector without socket ⒷⒸ



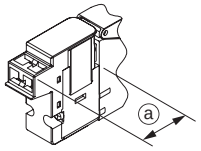
E3 E-connector with socket/terminal ⒷⒸ



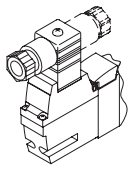
A2N A-connector downward without socket



● For AC voltages, the ⓐ dimension is 3.5mm longer than for DC voltages.

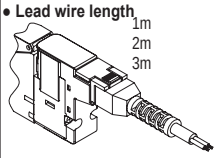


B BN DIN terminal box (BN: Without terminal box)

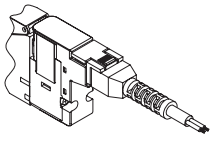


E0*J EJ-connector Ⓐ

● **Lead wire length**
1m
2m
3m

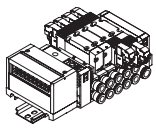


E2*J EJ-connector ⒶⒷⒸ

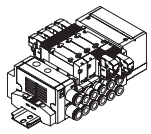


Reduced wiring manifolds

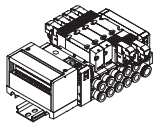
T10 Common terminal block M3 thread specifications (left side)



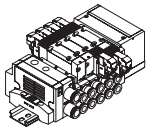
T10R Common terminal block M3 thread specifications (right side)



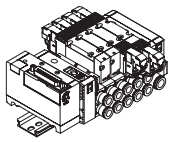
T11 Common terminal block clamping specifications (left side)



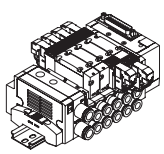
T11R Common terminal block clamping specifications (right side)



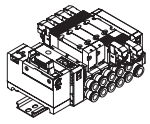
T30 D-sub-connector (left side)



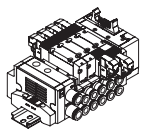
T30R D-sub-connector (right side)



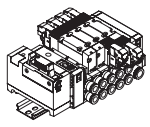
T50 Flat cable with power supply terminal (left side)



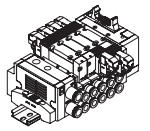
T50R Flat cable with power supply terminal (right side)



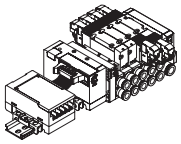
T5$^{1}_{2}_{3}$ Flat cable without power supply terminal (left side)



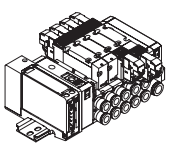
T5$^{1}_{2}_{3}$R Flat cable without power supply terminal (right side)



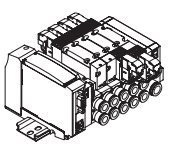
T6G1 Serial transmission



T7*0 T7*1 Serial transmission thin slot type



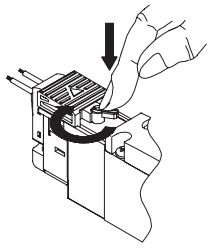
T8*1 T8*2 Serial transmission thin slot type



Manual override

Blank Non-locking/locking common H

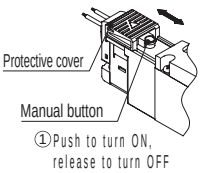
(Standard equipment)



①For non-locking, push to turn ON and release to turn OFF

②For locking, turn PUSH + turn 90° clockwise to hold the ON state. Turn counterclockwise to unlock OFF

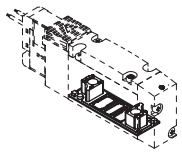
M Non-locking



Ⓐ : With lead wire
Ⓑ : With lamp
Ⓒ : With surge suppressor

Other options

H With exhaust check valve



Standard for pilot exhaust

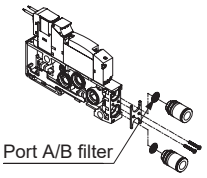
K External pilot

Main pressure and pilot pressure individual circuit specifications.

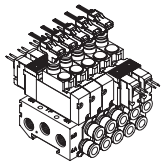
A Ozone/cutting fluid proof product

Select for coolant inflow and ozone measures.

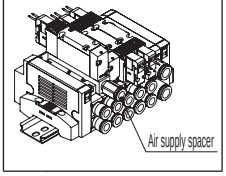
F AB port filter integrated



G1 G2 Pressure sensor

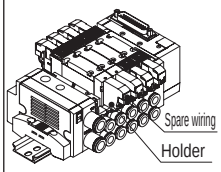


Z1 Air supply spacer
Z3 Exhaust spacer

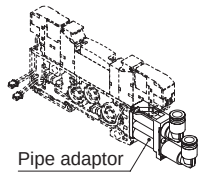


Other options

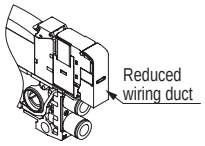
W1 Single spare wiring



L With pipe adaptor

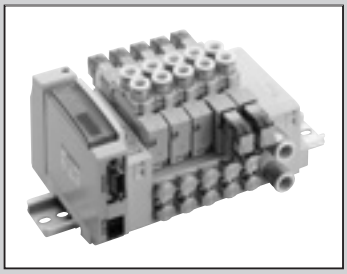


Q Reduced wiring duct



Electrical connection circuit diagram

	Electrical connections		Without lead wire	With lead wire	With lamp	With surge suppressor	Without socket	Circuit diagram
	Blank	Grommet lead wire		●				(±) DC (∓)
	E0	E-connector		●				(±) DC (∓) (~) AC 100V (~)
	E0*J	EJ-connector		●				
	E0N	E-connector					●	
	E1	E-connector	●					
	E2	E-connector		●	●	●		(±) DC (∓) (~) AC 100V (~)
	E2*J	EJ-connector		●	●	●		
	E2N	E-connector			●	●	●	
	E3	E-connector	●		●	●		
	A2N	A-connector			●	●	●	(±) DC (∓)
	B	DIN terminal box	●		●	●		(±) DC (∓) (~) AC 100V (~)
	BN	DIN terminal box (without terminal box)						(~) AC 200V (~)
Option S	**E2**	E-connector		●	●	●		(±) DC (∓)
	E2*J	EJ-connector		●	●	●		
	E2N	E-connector			●	●	●	
	A2N	A-connector			●	●	●	
Option E	**E2**	E-connector		●	●	●		(±) DC (∓) Control circuit
	E2*J	EJ-connector		●	●	●		
	E2N	E-connector			●	●	●	
	A2N	A-connector			●	●	●	



Reduced wiring block manifold
Body piping

MN4GA1/2 Series

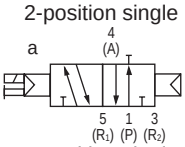
● Applicable cylinder bore size: ø20 to ø80

RoHS CAD

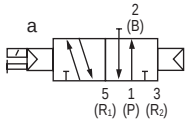
JIS symbol

● 3-port valve

2-position single NC

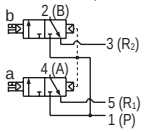


2-position single NO

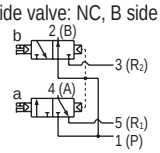


● Dual 3-port valve integrated

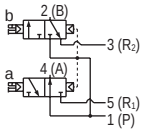
(A side valve: NC, B side valve: NC)



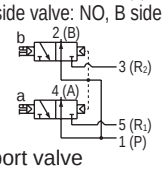
(A side valve: NC, B side valve: NO)



(A side valve: NO, B side valve: NC)

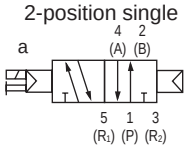


(A side valve: NO, B side valve: NO)

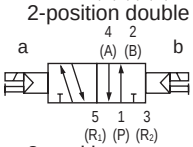


● 5-port valve

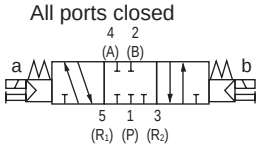
2-position single



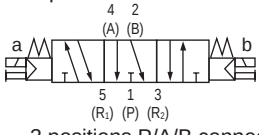
2-position double



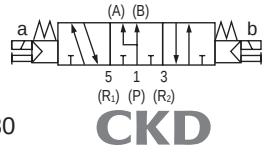
3-position
All ports closed



3-position A/B/R connection



3 positions P/A/B connection



Structure and material restriction

	Structure	Material restriction			Model No.
P7 Series	Dust generation preventing				– P70
	Dust generation preventing	Copper-based materials prohibited	Silicon-based materials prohibited	Halogen-based materials prohibited (fluorine, chlorine, bromine)	– P74 Custom order product

Manifold common specifications

Descriptions	
Manifold	Block manifold
Mounting method	DIN rail mount
Supply and exhaust method	Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Main valve/pilot valve common exhaust (Pilot exhaust check valve integrated)
Piping direction	Valve top direction
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2 (*3)
Proof pressure MPa	1.05
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual operating device	Common for non-locking/locking (standard)
Lubrication *1	Not required
Degree of protection *2	Dust proof
Vibration resistance m/s^2	50 or less
Shock resistance m/s^2	300 or less
Atmosphere	Containing corrosive gas is not permissible

*1: Use turbine oil Class 1 ISO VG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
*2: Avoid water drops or oil, etc., during use.IP65 (water jet proof) applies for DIN terminal box specifications.However, the specified outer diameter of the cord and tightening torque must be used for fixing in place.
*3: The working pressure range is 0 to 0.7MPa when the external pilot (option code: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

Electrical specifications

Item		Description					
Rated voltage V		DC24	DC12	DC5	DC3	AC100	AC200
Voltage fluctuation range		±10%					
Holding current A (*4)	Standard	0.015 (0.017)	0.030 (0.034)	0.072 (0.082)	0.120 (0.136)	0.009 (0.009)	0.006 (0.006)
	With low exoergic/ energy circuit	0.005	0.010	–		–	
Power consumption W (*4)	Standard	0.35(0.40)		0.35(0.40)		–	
	With low exoergic/ energy circuit	0.1		–		–	
Apparent power VA (*4)	Standard	–		–		0.93 (0.98)	1.40
Thermal class		B					
Surge suppressor		Option					
Indicator		Lamp (option)					

*4: Values in ( ) apply when lamp is included.In addition, the type with low exoergic/energy circuit is only available with lamp.

Individual specifications

Item			MN3GA1/MN4GA1	MN3GA2/MN4GA2
Max. station No.			24 stations	20 stations
Port size	Metric fitting/ M5, Rc thread	Port A/B	Barbed fitting ø1.8 Push-in fitting ø1.8, ø4, ø6 M5	Push-in fitting ø4, ø6, ø8 Rc1/8
		P/R Port	Push-in fitting ø6, ø8	Push-in fitting ø8, ø10
	Inch fitting/ M5, NPT thread	Port A/B	Push-in fitting ø1/8", ø5/32" M5	push-in fitting ø1/4", ø5/16" NPT1/8
		P/R Port	Push-in fitting ø1/4", ø5/16"	Push-in fitting ø5/16", ø3/8"
	Metric fitting, G thread	Port A/B	–	G1/8
		P/R Port	–	Push-in fitting ø8, ø10

• For DIN rail mounting, refer to "Mounting orientation" on page 755 .
• For weight, refer to page 634 .

Performance/characteristics by model

Item			MN3GA1/MN4GA1		MN3GA2/MN4GA2	
			ON	OFF	ON	OFF
Response time	Two 3-port valves integrated		9	12	12	29
	2-position	Single	12	12	19	19
		Double	9	—	18	—
	3-position	ABR connection	8	15	17	30

Values with lamp/surge suppressor are shown. The response times are values with supply pressure of 0.5 MPa at 20°C and without lubrication. They depend on the pressure and the lubricant quality.

Flow characteristics

Model No.	Solenoid position		P→A/B		A/B→R1/R2	
			C [dm^3/(s·bar)]	b	C [dm^3/(s·bar)]	b
MN3GA1 MN4GA1	Dual 3-port valve integrated		0.87	0.37	1.0 (0.68)	0.14 (0.22)
	2-position		0.98	0.33	1.2 (0.71)	0.11 (0.27)
	3-position	All ports closed	0.92	0.34	1.0 —	0.16 —
		ABR connection	0.92	0.29	1.1 (0.69)	0.13 (0.22)
		PAB connection	1.1	0.35	1.1 —	0.17 —
MN3GA2 MN4GA2	Dual 3-port valve integrated		1.7	0.37	2.2 (1.6)	0.13 (0.21)
	2-position		2.2	0.21	2.5 (1.7)	0.19 (0.10)
	3-position	All ports closed	2.0	0.25	2.3 —	0.10 —
		ABR connection	2.0	0.27	2.5 (1.7)	0.18 (0.12)
		PAB connection	2.3	0.31	2.3 —	0.16 —

*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 x C.

*2: Values in ( ) are with built-in exhaust check valve.

Ozone proof specifications • Coolant proof specifications

This can be set by selecting option “A” of Ⓔ in how to order on page 632.

MN4GA1/2 Series

Reduced wiring block manifold; body piping

How to order

Manifold model No.

MN4GA1 1 0 R - C6 - E2 H - 10 - 3 - P70

3-port manifold model No.

MN3GA1 1 0 R - C6 - E2 H - 10 - 3 - P70

Discrete valve block with solenoid valve

N4GA1 1 0 R - C6 - E2 H — 3 - P70

Discrete 3-port valve block with solenoid valve

N3GA1 1 0 R - C6 - E2 H — 3 - P70

Discrete solenoid valve

4GA1 1 9 R - C6 - E2 H — 3 - P70

Discrete 3-port solenoid valve

3GA1 1 9 R - C6 - E2 H — 3 - P70

Ⓐ Model No. — Ⓑ Solenoid position — Ⓒ Port size *1 — Ⓓ Electrical connections — Ⓔ Option — Ⓕ Station No. — Ⓖ Voltage — Ⓘ Clean room specifications

Precautions for model selection

*1: Specify the port size of the P/R port with the supply and exhaust block model No. in the manifold specifications.

*2: Select MN4GA*80R when mixing with 4, 5-port valves. Further, select MN3GA*80R when mixing with masking plate.

*3: Not compatible with combination with external pilot (K). Dimensions are the same as those of the respective 2-position double solenoid.

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

***5: 3-position all ports closed and PAB connection are not provided with the exhaust check valve specifications (H). Refer to page 751 for details on the exhaust check valve.**

*6: Consult with CKD when using a vacuum with the external pilot (K).

*7: *7: Only E2* and E2*J connectors and DC12/24V are supported. In addition, surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.

*8: Surgeless specifications.

*9: A filter is built into port P as standard

*10: **Specify the spacer mounting position and quantity in manifold specifications. Stacking multiple spacers is not supported. Combination with the masking plate is not supported. In addition, refer to pages 693 to 696 for details.**

*11: Only the DIN terminal box is supported.

*12: Combination of Item A (Ozone-proof) and Ⓗ clean-room specifications P74 is not available.

*13: Copper-, silicon-, and halogen-free specifications are available as compatible with the main valve part.

*14: P74 Series is made to order.

Code	Content	Ⓐ Model No.							
		Manifold				Discrete valve block with solenoid valve/Discrete solenoid valve			
		3-port valve		5-port valve					
		MN3GA1	MN3GA2	MN4GA1	MN4GA2	(N) 3GA1	(N) 3GA2	(N) 4GA1	(N) 4GA2
Ⓑ 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 (*2)	●	●			●	●		
11	2-position single normally open (*2)	●	●			●	●		
66	Dual 3-port valve integrated (*2, 3) A side valve: Normally closed / B side valve: Normally closed	●	●			●	●		
67	Dual 3-port valve integrated (*2, 3) A side valve: Normally closed / B side valve: Normally open	●	●			●	●		
76	Dual 3-port valve integrated (*2, 3) A side valve: Normally open / B side valve: Normally closed	●	●			●	●		
77	Dual 3-port valve integrated (*2, 3) A side valve: Normally open / B side valve: Normally open	●	●			●	●		
8	Mixed manifold (In case of multiple solenoid positions)	●	●	●	●	●	●	●	●
Ⓒ Port size (ports A/B)									
Type	Millimeter fitting/Rc thread								
CF	ø1.8 barbed fitting (applicable tube UP-9102-**)	●		●		●		●	
C18	ø1.8 push-in fitting for fiber tube (applicable tube UP-9402-**)	●		●		●		●	
C4	ø4 push-in fitting	●	●	●	●	●	●	●	●
C6	ø6 push-in fitting	●	●	●	●	●	●	●	●
C8	ø8 push-in fitting		●		●		●		●
CX	Push-in fitting mix (*4)	●	●	●	●				
M5	M5	●		●		●		●	
06	Rc1/8		●		●		●		●
Type	Inch fitting/inch thread								
C3N	ø1/8 inch push-in fitting	●		●		●		●	
C4N	ø5/32 inch push-in fitting	●		●		●		●	
C6N	ø1/4 inch push-in fitting		●		●		●		●
C8N	ø5/16 inch push-in fitting		●		●		●		●
CXN	Push-in fitting mix (*4)	●	●	●	●				
06N	1/8NPT		●		●		●		●
Type	G thread								
06G	G1/8		●		●		●		●
Ⓓ Electrical connections	Refer to the following page for electrical connections								
Ⓔ Option									
Blank	Manual override of non-locking/locking common	●	●	●	●	●	●	●	●
M	Manual override of non-locking	●	●	●	●	●	●	●	●
H	With exhaust check valve (*5)	●	●	●	●	●	●	●	●
K	External pilot (*6)	●	●	●	●	●	●	●	●
A	Ozone/coolant proof product	●	●	●	●	●	●	●	●
S	Surgeless (*7)	●	●	●	●	●	●	●	●
E	Low exoergic/energy circuit (*7) (*8)	●	●	●	●	●	●	●	●
F	Port A/B filter built in (*9)	●	●	●	●	●	●	●	●
Z1	Air supply spacer (*10)	●	●	●	●				
Z3	Exhaust spacer (*10)	●	●	●	●				
Ⓕ Station No.									
1	1 station	●	●	●	●				
to	to								
24	24 stations (Max. station No. for MN3GA2/MN4GA2 is 20)								
Ⓖ Voltage									
1	100 VAC (rectifier integrated)	●	●	●	●	●	●	●	●
2	200 VAC (rectifier integrated) (*11)		●		●		●		●
3	24 VDC	●	●	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●	●	●
7	3 VDC	○	○	○	○	○	○	○	○
8	5 VDC	○	○	○	○	○	○	○	○

	Structure	Material restrictions							
Ⓗ Clean-room specifications (*12/13/14)									
P70	Exhaust port	—	●	●	●	●	●	●	●	●
P74	Exhaust port	Copper-/silicon-/halogen-based materials (fluorine, chlorine, bromine) are prohibited	○	○	○	○	○	○	○	○

is not available.
○ indicates made to order.

[Electrical connection list]

Ⓓ Electrical connections		Ⓐ Model No.							
		Manifold				Discrete valve black with solenoid valve/ Discrete solenoid valve			
		3-port valve		5-port valve					
		MN3GA1	MN3GA2	MN4GA1	MN4GA2	(N)3GA1	(N)3GA2	(N)4GA1	(N)4GA2
Blank	Grommet lead wire (300 mm) (*15)	●	●	●	●	●	●	●	●
B	DIN terminal box (Pg7) With surge suppressor/lamp (*16) (*18)		●		●		●		●
BN	DIN terminal box (Pg7) (Without terminal box) With surge suppressor (*16) (*18)		●		●		●		●
E type connector (upward/lateral common)									
E0	Lead wire (300 mm) (*17)	●	●	●	●	●	●	●	●
E00	Lead wire (500 mm) (*17)	●	●	●	●	●	●	●	●
E01	Lead wire (1000 mm) (*17)	●	●	●	●	●	●	●	●
E02	Lead wire (2000 mm) (*17)	●	●	●	●	●	●	●	●
E03	Lead wire (3000 mm) (*17)	●	●	●	●	●	●	●	●
E0N	Without lead wire (without socket) (*17)	●	●	●	●	●	●	●	●
E1	Without lead wire (socket/terminal attached) (*17)	●	●	●	●	●	●	●	●
E2	Lead wire (300 mm), surge suppressor/indicator lamp	●	●	●	●	●	●	●	●
E20	Lead wire (500 mm), surge suppressor/indicator lamp	●	●	●	●	●	●	●	●
E21	Lead wire (1000 mm), surge suppressor/indicator lamp	●	●	●	●	●	●	●	●
E22	Lead wire (2000 mm), surge suppressor/indicator lamp	●	●	●	●	●	●	●	●
E23	Lead wire (3000 mm), surge suppressor/indicator lamp	●	●	●	●	●	●	●	●
E2N	No lead wire (without socket), surge suppressor/indicator lamp	●	●	●	●	●	●	●	●
E3	No lead wire (with socket/terminal), surge suppressor/indicator lamp	●	●	●	●	●	●	●	●
EJ type connector (socket with cover, upward/lateral common)									
E01J	Lead wire (1000 mm) (*17)	●	●	●	●	●	●	●	●
E02J	Lead wire (2000 mm) (*17)	●	●	●	●	●	●	●	●
E03J	Lead wire (3000 mm) (*17)	●	●	●	●	●	●	●	●
E21J	Lead wire (1000 mm), surge suppressor/indicator lamp	●	●	●	●	●	●	●	●
E22J	Lead wire (2000 mm), surge suppressor/indicator lamp	●	●	●	●	●	●	●	●
E23J	Lead wire (3000 mm), surge suppressor/indicator lamp	●	●	●	●	●	●	●	●

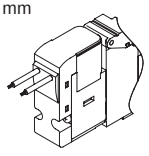
*15: The grommet lead wire specifications are compatible with DC voltage only.
*16: AC voltages and 12/24 VDC are supported. In addition, a lamp comes with the terminal box.
*17: AC voltage includes a rectifier circuit.
*18: The terminal box conforms to EN175301-803 Type C (former DIN 43650-C). Refer to pages 756 and 757 for details.

Electrical connections

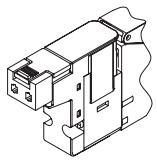
Discrete valve/individual wiring manifold

Blank Grommet lead wire

● **Lead wire length**
300 mm

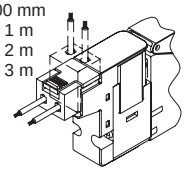


E1 E3 E type connector with socket/terminal

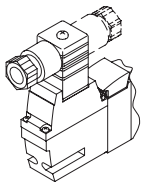


E0 E2 E type connector

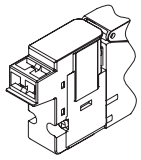
● **Lead wire length**
300 mm
500 mm
1 m
2 m
3 m



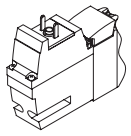
B DIN terminal box



E0N E2N E type connector without socket

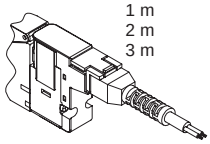


BN DIN terminal box without terminal box



E0*J E2*J EJ type connector

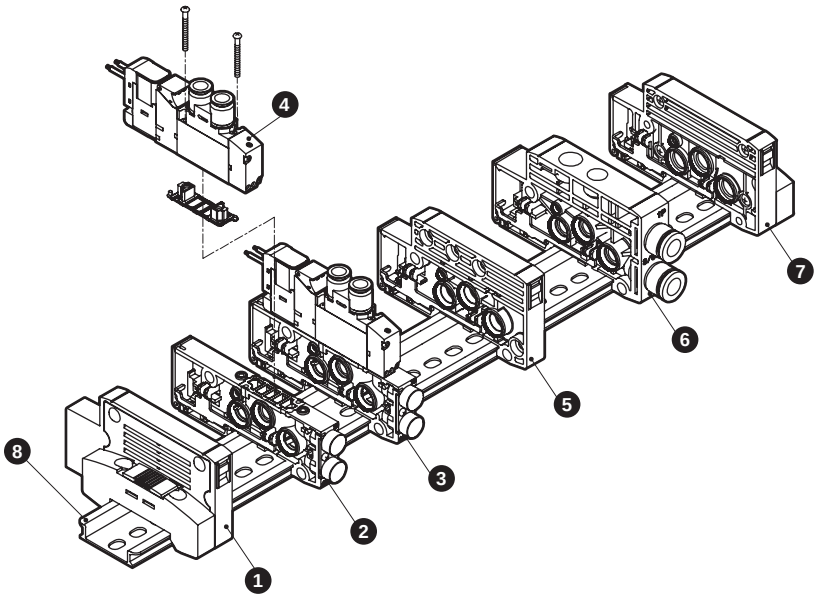
● **Lead wire length**
1 m
2 m
3 m



MN4GA1/2 Series

Reduced wiring block manifold; body piping

Manifold components explanation and parts list



List of main components (refer to pages 682 to 698 for details)

No.	Component name	Model No. (example)	No.	Component name	Model No. (example)
1	Electrical block	N4G1R-EL-P70	5	Partition block	N4G1R-S-P70/P74
2	Discrete valve block	N4GA1R-V1-P70/P74	6	Supply and exhaust block	N4G1R-Q-8-P70/P74
3	Discrete valve block with solenoid valve	N4GA110R-C6-H-3-P70/P74	7	End block R	N4G1R-ER-P70/P74
4	Solenoid valve body	4GA119R-C6-H-3-P70/P74	8	DIN rail	N4GR-BAA (length)-P70

A type reduced wiring weight

4GA1 (g)

Parts name	Model No.	Weight	Parts name	Model No.	Weight
Valve block with solenoid valve	N3GA110R-C6-3	70	Supply and exhaust block	N4G1R-Q-8	58
	N3GA1110R-C6-3	70		N4G1R-QK-8	60
	N4GA110R-C6-3	70	End block	N4G1R-E*	60
	N4GA120R-C6-3	87		N4G1R-EX*	60
	N4GA1[2/3]0R-C6-3	91	Partition block	N4G1R-S	45
	N3GA1660R-C6-3	87	Valve block	N4GA1R-V1	28
Valve block with masking plate	N4GA1R-MP	34	DIN rail	N4GR-BAA-P70(length)	0.19/mm

4GA2 (g)

Parts name	Model No.	Weight	Parts name	Model No.	Weight
Valve block with solenoid valve	N3GA210R-C8-3	129	Supply and exhaust block	N4G2R-Q-10	83
	N3GA2110R-C8-3	129		N4G2R-QK-10	85
	N4GA210R-C8-3	129	End block	N4G2R-E*	84
	N4GA220R-C8-3	147		N4G2R-EX*	85
	N4GA2[2/3]0R-C8-3	159	Partition block	N4G2R-S	60
	N3GA2660R-C8-3	147	Valve block	N4GA2R-V1	53
Valve block with masking plate	N4GA2R-MP	66	DIN rail	N4GR-BAA(length)	0.19/mm

Parts list

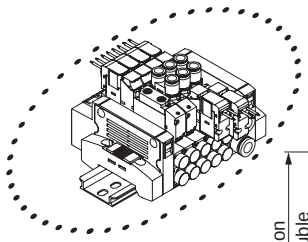
Application	Parts name	Model No.	Application	Parts name	Model No.
Valve 4G1	Cartridge fitting ø1.8 barbed	4G1R-JOINT-CF-P70	Common	Coil assembly	4GR-[*1]-[*2]-COIL-[*3]-P70 *1: Electrical connections (Blank, B, E0,...) *2: Ozone/cutting oil proof (blank, A) Surgeless (S) Low exoergic/energy-saving circuit (E) External pilot (K) *3: Voltage (1, 2, 3, 4)
	Cartridge fitting ø1.8 straight	4G1R-JOINT-C18-P70			
	Cartridge fitting ø4 straight	4G1R-JOINT-C4-P70			
	Cartridge fitting ø6 straight	4G1R-JOINT-C6-P70			
	Cartridge fitting ø1/8 inch straight	4G1R-JOINT-C3N-P70		E-connector socket assembly	4GR-SOCKET-ASSY-[*1]-[*3]-P70 *1: Electrical connections (E0, E00 ...), *3: Voltage (1, 3, 4)
	Cartridge fitting ø5/32 inch straight	4G1R-JOINT-C4N-P70			
	Plug cartridge	4G1R-JOINT-CPG-P70			
Valve 4G2	Cartridge fitting ø4 straight	4G2R-JOINT-C4-P70		EJ-connector socket assembly	4GR-SOCKET-ASSY-[*1]-P70 *1: electrical connections (E01J, E02J,..)
	Cartridge fitting ø6 straight	4G2R-JOINT-C6-P70			
	Cartridge fitting ø8 straight	4G2R-JOINT-C8-P70	Valve 4G2	DIN terminal box assembly	4GR-TERMINAL-BOX-[*3]-P70 *3: Voltage (1, 2, 3, 4)
	Cartridge fitting ø1/4 inch straight	4G2R-JOINT-C6N-P70			
	Cartridge fitting ø5/16 inch straight	4G2R-JOINT-C8N-P70			
	Plug cartridge	4G2R-JOINT-CPG-P70			

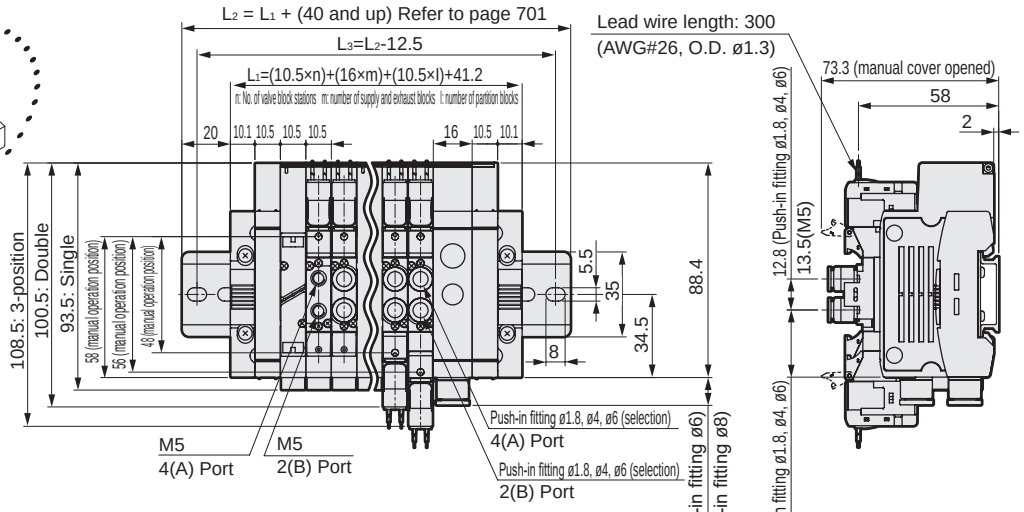
Dimensions CAD

MN4GA1-P7*

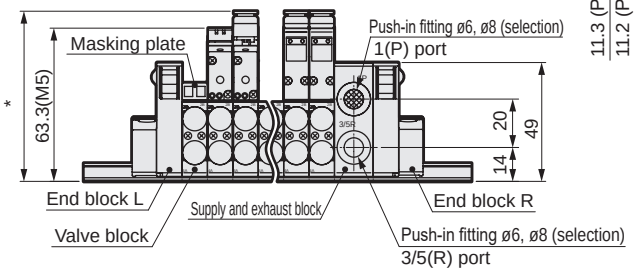
● Grommet lead wire (blank)

* For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated has the same dimensions as the double model.

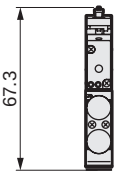




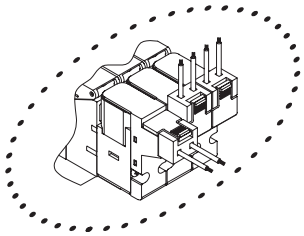
Push-in fitting bore size	* Dimensions
ø1.8	65.1
ø4	69.1
ø6	70.3
ø1/8”	69.6
ø5/32”	69.1

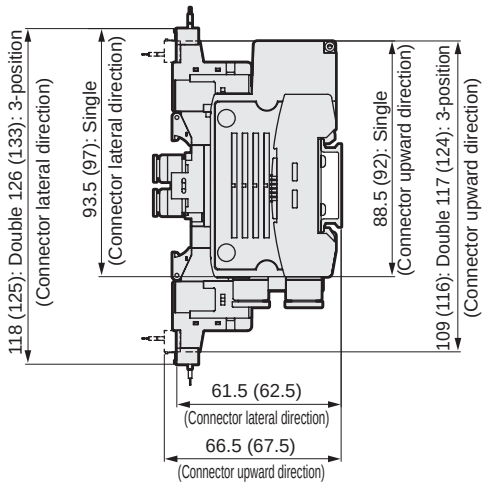


● ø1.8 barbed fitting (CF)



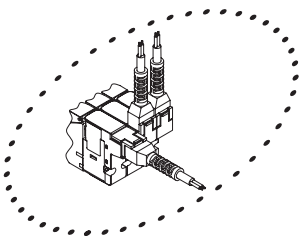
● E type connector (E)

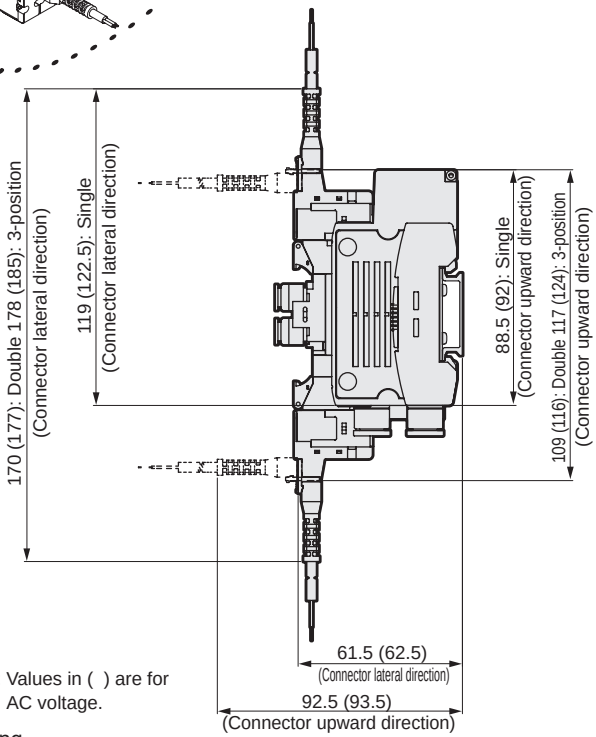




Note: Values in ( ) are for AC voltage.

● EJ type connector (E**J)





Note: Values in ( ) are for AC voltage.

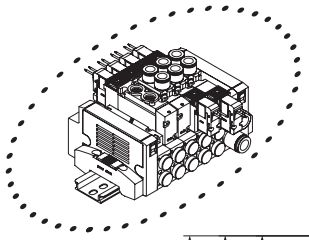
* Refer to page 661 for dimensions of the supply and exhaust block push-in fitting.

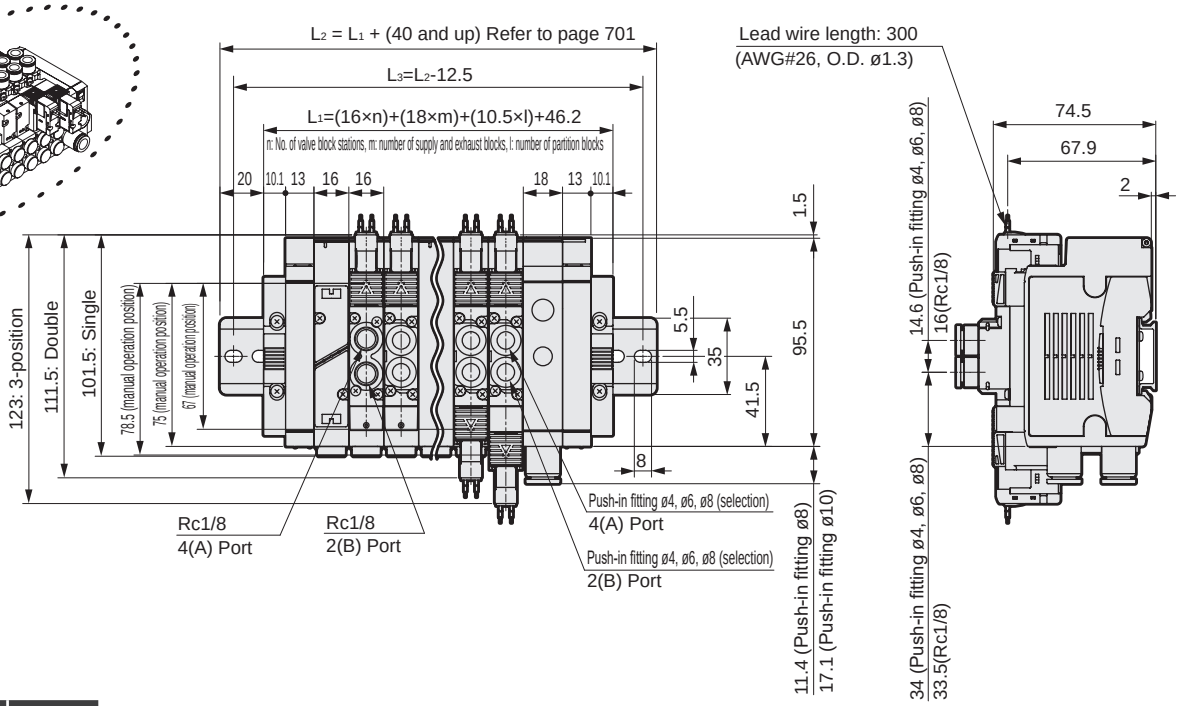
Dimensions CAD

MN4GA2-P7*

● Grommet lead wire (blank)

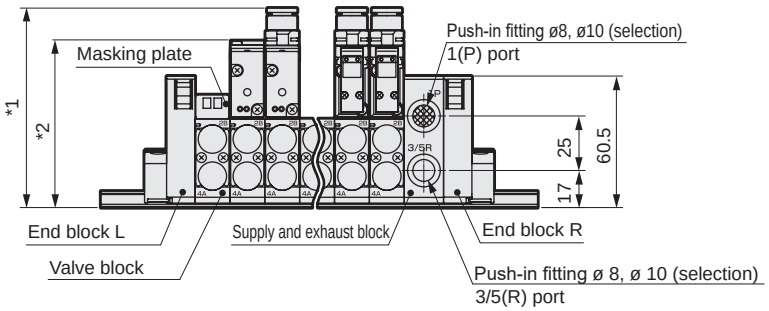
* For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.





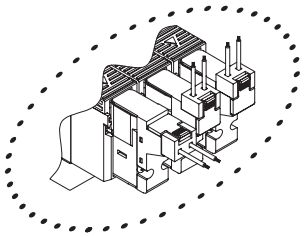
Push-in fitting bore size	*1 dimension
ø4	91.7
ø6	
ø8	
ø1/4”	92.6
ø5/16”	91.9

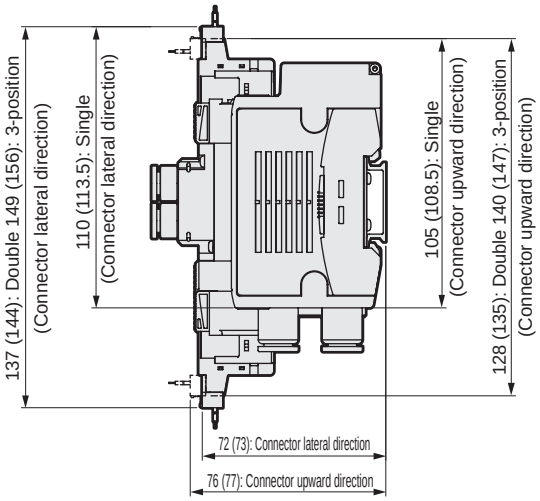
Female thread bore size	*2 dimension
Rc1/8	76.5
NPT1/8	77.8
G1/8	



Dimensions

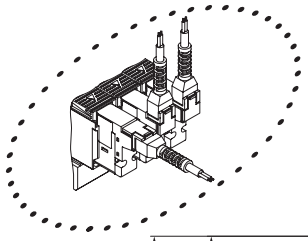
● E type connector (E)

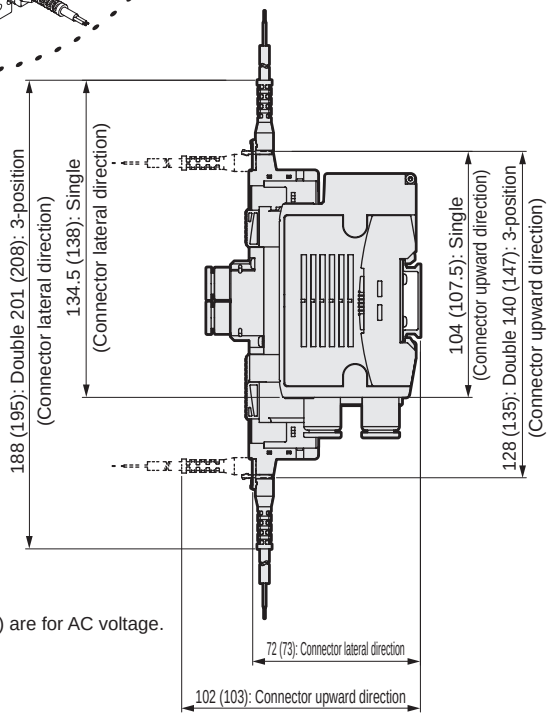




Note: Values in ( ) are for AC voltage.

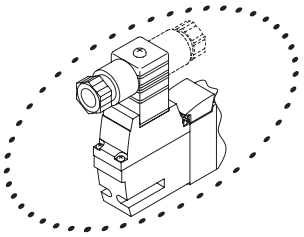
● EJ type connector (E**J)

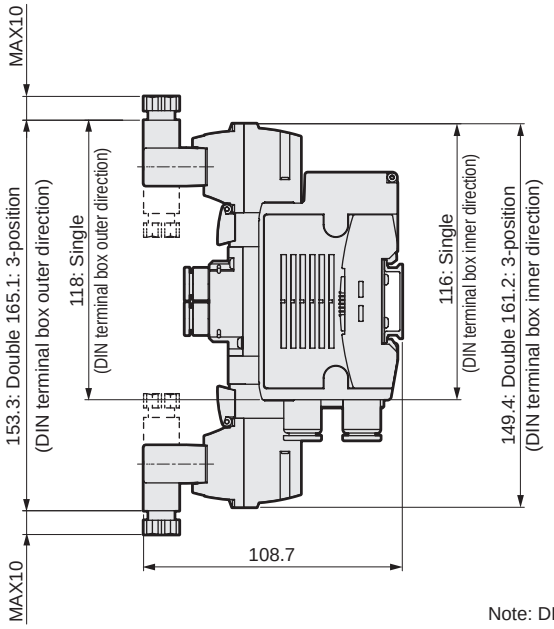




Note: Values in ( ) are for AC voltage.

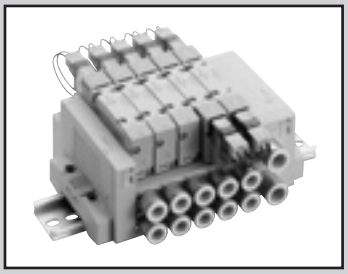
● DIN terminal box (B)





Note: DIN terminal box assembly is shipped facing inward.

* Refer to page 661 for dimensions of the supply and exhaust block push-in fitting.



Individual wiring block manifold
Base piping

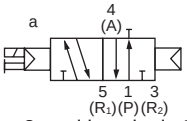
MN4GB1/2 Series

● Cylinder bore size: ø20 to ø80

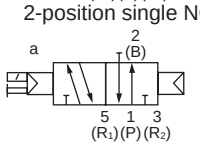
JIS symbol

● 3-port valve

2-position single NC

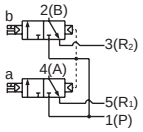


2-position single NO

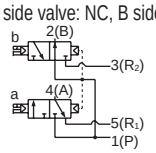


● Two 3-port valves integrated

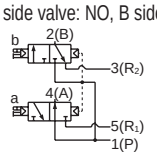
(A side valve: NC, B side valve: NC)



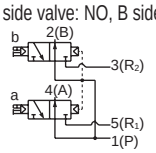
(A side valve: NC, B side valve: NO)



(A side valve: NO, B side valve: NC)

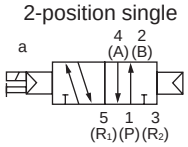


(A side valve: NO, B side valve: NO)

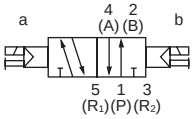


● 5-port valve

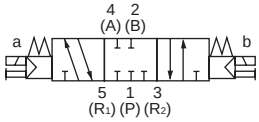
2-position single



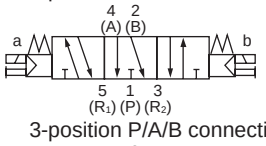
2-position double



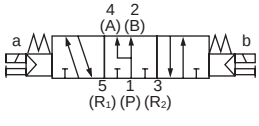
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



Structure and material restriction

	Structure	Material restriction			Model No.
P7 Series	Dust generation preventing				– P70
	Dust generation preventing	Copper-based materials prohibited	Silicon-based materials prohibited	Halogen-based materials prohibited (fluorine, chlorine, bromine)	– P74 Custom order product

Manifold common specifications

Item	Description
Manifold	Block manifold
Mounting method	DIN rail mount
Supply and exhaust method	Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Main valve/pilot valve common exhaust (Pilot exhaust check valve built-in)
Piping direction	Lateral direction from base
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2 (*3)
Proof pressure MPa	1.05
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking/locking common type (standard)
Lubrication (*1)	Not required
Degree of protection (*2)	Dust-proof
Vibration resistance m/s²	50 or less
Shock resistance m/s²	300 or less
Atmosphere	Cannot be used in corrosive gas environments

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

*2 Avoid dripping water or oil, etc., during use. IP65 (jet-proof) applies for DIN terminal box specifications. However, the specified outer diameter of the applicable cord and tightening torque must be used for fixing in place.

*3 The working pressure range is 0 to 0.7 MPa when the external pilot (option code: K) is selected. Set the external pilot pressure between 0.2 to 0.7 MPa.

Electrical specifications

Item		Description					
Rated voltage V		24 DC	12 DC	5 DC	3 DC	100 AC	200 AC
Voltage fluctuation range		±10%					
Holding current A (*4)	Standard	0.015 (0.017)	0.030 (0.034)	0.072 (0.082)	0.120 (0.136)	0.009 (0.009)	0.006 (0.006)
	With low exoergic/energy circuit	0.005	0.010	-		-	
Power consumption W (*4)	Standard	0.35(0.40)		0.35(0.40)		-	
	With low exoergic/energy circuit	0.1		-		-	
Apparent power VA (*4)	Standard	-		-		0.93 (0.98)	1.40
Thermal class		B					
Surge suppressor		Option					
Indicator		Lamp (option)					

*4: Values in ( ) apply when lamp is included. In addition, the type with low exoergic/energy circuit is only available with lamp.

Individual specifications

Descriptions			MN3GB1/MN4GB1	MN3GB2/MN4GB2
Max. station No.			24 stations	20 stations
Port size	Metric fitting	A/B port	Barbed fitting ø1.8 Push-in fitting ø1.8, ø4, ø6	Push-in fitting ø4, ø6, ø8
		P/R port	Push-in fitting ø6, ø8	Push-in fitting ø8, ø10
	Inch fitting	A/B port	Push-in fitting ø1/8", ø5/32"	Push-in fitting ø1/4", ø5/16"
		P/R port	Push-in fitting ø1/4", ø5/16"	Push-in fitting ø5/16", ø3/8"

· For DIN rail mounting, refer to "Mounting orientation" on page 755.
· For weight, refer to page 642.

Performance/characteristics by model

Descriptions			MN3GB1/MN4GB1		MN3GB2/MN4GB2	
			ON	OFF	ON	OFF
Response time ms	Two 3-port valves integrated		9	12	12	29
	2-position	Single	12	12	19	19
		Double	9	-	18	-
	3-position	ABR connection	8	15	17	30

Values with lamp/surge suppressor are shown. The response time is the value with supply pressure of 0.5 MPa at 20°C and without lubrication. It depends on the pressure and the lubricant quality.

Flow characteristics

Model No.	Solenoid position		P→A/B		A/B→R1/R2	
			C[dm³/(s·bar)]	b	C[dm³/(s·bar)]	b
MN3GB1 MN4GB1	Two 3-port valves integrated		0.86	0.35	1.0 (0.66)	0.15 (0.25)
	2-position		1.0	0.30	1.1 (0.72)	0.11 (0.26)
	3-position	All ports closed	0.96	0.32	1.0 -	0.14 -
		ABR connection	0.96	0.29	1.2 (0.71)	0.11 (0.30)
		PAB connection	1.1	0.31	1.0 -	0.15 -
MN3GB2 MN4GB2	Two 3-port valves integrated		1.7	0.42	2.2 (1.6)	0.15 (0.19)
	2-position		2.4	0.35	2.5 (1.7)	0.19 (0.19)
	3-position	All ports closed	2.2	0.38	2.3 -	0.17 -
		ABR connection	2.2	0.38	2.5 (1.7)	0.18 (0.20)
		PAB connection	2.3	0.29	2.3 -	0.15 -

*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.
*2: Values in ( ) are with the exhaust check valve.

Ozone proof specifications • Coolant proof specifications

Can be selected with ”How to order” Item Ⓔ option “A” on page 641.

MN4GA2 Series

Individual wiring block manifold; base piping

How to order

Manifold model No.

MN4GA1 1 0R- C6- E2 H- 10- 3- P70

3-port manifold model No.

MN3GA1 66 0R- C6- E2 H- 10- 3- P70

Discrete valve block with solenoid valve

N4GA1 1 0R- C6- E2 H — 3- P70

Discrete 3-port valve block with solenoid valve

N3GA1 66 0R- C6- E2 H — 3- P70

Discrete solenoid valve

4GA1 1 9R- 00- E2 H — 3- P70

Discrete 3-port solenoid valve

3GA1 66 9R- 00- E2 H — 3- P70

- A Model No.
- B Solenoid position
- D Electrical connections
- F Station No.
- C Port size (*1)(*2)(*3)
- E Option
- G Voltage
- H Clean room specs

Note on selection guide

*1: Ports A and B plug specifications are available for 2-position single only. Specify the port P/R bore size with the supply and exhaust block model No. in the manifold specifications sheet.

*2: Ports A and B are the same size for L-type push-in fitting mix (CX).

*3: For a discrete solenoid valve, select "00" for Port size.

*4: This will be MN4GA*80R for a mix with 4, 5-port valves.Further, select MN3GB*80R when mixing with masking plate.

*5: Not compatible with combination with external pilot (K).Dimensions are the same as those of the respective 2-position double solenoid.

*6: Simultaneously select option "L" for types other than single solenoid.

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

*8: Available only for single solenoids.

Code	Content		A Model No. Manifold: Two 3-port valves integrated MN3GB1	MN3GB2	5-port valve MN4GB1	MN4GB2	Discrete valve block with solenoid valve/ discrete solenoid valve (N)3GB1	(N)3GB2	(N)4GB1	(N)4GB2
B 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				●	●			●	●
66	Two 3-port valves integrated (*4) (*5)	A side valve: Normally closed B side valve: Normally closed	●	●			●	●		
67		A side valve: Normally closed B side valve: Normally open	●	●			●	●		
76		A side valve: Normally open B side valve: Normally closed	●	●			●	●		
77		A side valve: Normally open B side valve: Normally open	●	●			●	●		
8	Mix manifold (for multiple solenoid positions)		●	●	●	●	●	●	●	●
C Port size (A/B-port)										
Type	**Metric fitting/Rc thread**									
CF	ø1.8 barbed fitting (compatible tube UP-9102-**)		●		●		●		●	
C18	ø1.8 push-in fitting (compatible tube UP-9402-**)		●		●		●		●	
C4	ø4 push-in fitting		●	●	●	●	●	●	●	●
C6	ø6 push-in fitting		●	●	●	●	●	●	●	●
C8	ø8 push-in fitting			●		●		●		●
CL18	Radial ø1.8 push-in fitting upward (compatible tube UP-9402-**) (*6)		●		●		●		●	
CL4	Radial ø4 push-in fitting (upward) (*6)		●		●		●		●	
CL6	Radial ø6 push-in fitting (upward) (*6)		●	●	●	●	●	●	●	●
CL8	Radial ø8 push-in fitting (upward) (*6)			●		●		●		●
CD18	Radial ø1.8 push-in fitting downward (compatible tube UP-9402-**)		●		●		●		●	
CD4	Radial ø4 push-in fitting (downward)		●		●		●		●	
CD6	Radial ø6 push-in fitting (downward)		●	●	●	●	●	●	●	●
CD8	Radial ø8 push-in fitting (downward)			●		●		●		●
CX	Push-in fitting mix (*7)		●	●	●	●				
Single, plug specs	A port	B port								
CFNC	ø1.8 barbed fitting (compatible tube UP-9102-**)	Plug			●				●	
C18NC	ø1.8 push-in fitting (compatible tube UP-9402-**)				●				●	
C4NC	ø4 push-in fitting				●	●			●	●
C6NC	ø6 push-in fitting				●	●			●	●
C8NC	ø8 push-in fitting					●				●
CFNO	Plug	ø1.8 barbed fitting (compatible tube UP-9102-**)			●				●	
C18NO		ø1.8 push-in fitting (compatible tube UP-9402-**)			●				●	
C4NO		ø4 push-in fitting			●	●			●	●
C6NO		ø6 push-in fitting			●	●			●	●
C8NO		ø8 push-in fitting				●				●
CL18NC	Radial ø1.8 push-in fitting upward (compatible tube UP-9402-**)	Plug			●				●	
CL4NC	Radial ø4 push-in fitting (upward)				●				●	
CL6NC	Radial ø6 push-in fitting (upward)				●	●			●	●
CL8NC	Radial ø8 push-in fitting (upward)					●				●
CL18NO	Plug	Radial ø1.8 push-in fitting upward (compatible tube UP-9402-**)			●				●	
CL4NO		Radial ø4 push-in fitting (upward)			●				●	
CL6NO		Radial ø6 push-in fitting (upward)			●	●			●	●
CL8NO		Radial ø8 push-in fitting (upward)				●				●
CD18NC	Radial ø1.8 push-in fitting downward (compatible tube UP-9402-**)	Plug			●				●	
CD4NC	Radial ø4 push-in fitting (downward)				●				●	
CD6NC	Radial ø6 push-in fitting (downward)				●	●			●	●
CD8NC	Radial ø8 push-in fitting (downward)					●				●
CD18NO	Plug	Radial ø1.8 push-in fitting downward (compatible tube UP-9402-**)			●				●	
CD4NO		Radial ø4 push-in fitting (downward)			●				●	
CD6NO		Radial ø6 push-in fitting (downward)			●	●			●	●
CD8NO		Radial ø8 push-in fitting (downward)				●				●
Type	**Inch fitting/inch thread**									
C3N	ø1/8" push-in fitting		●		●		●		●	
C4N	ø5/32" push-in fitting		●		●		●		●	
C6N	ø1/4" push-in fitting			●		●		●		●
C8N	ø5/16" push-in fitting			●		●		●		●
CL3N	Radial ø1/8" push-in fitting (upward) (*8)		○		○		○		○	
CL4N	Radial ø5/32" push-in fitting (upward) (*8)		○		○		○		○	
CL6N	Radial ø1/4" push-in fitting (upward) (*8)			○		○		○		○
CL8N	Radial ø5/16" push-in fitting (upward) (*8)			○		○		○		○
CXN	Push-in fitting mix (*7)		●	●	●	●				
Single, plug specs	A port	B port								
C3NCN	ø1/8" push-in fitting	Plug			●				●	
C4NCN	ø5/32" push-in fitting				●				●	
C6NCN	ø1/4" push-in fitting					●				●
C8NCN	ø5/16" push-in fitting					●				●
C3NON	Plug	ø1/8" push-in fitting			●				●	
C4NON		ø5/32" push-in fitting			●				●	
C6NON		ø1/4" push-in fitting				●				●
C8NON		ø5/16" push-in fitting				●				●
CL3NCN	Radial ø1/8" push-in fitting (upward)	Plug			○				○	
CL4NCN	Radial ø5/32" push-in fitting (upward)				○				○	
CL6NCN	Radial ø1/4" push-in fitting (upward)					○				○
CL8NCN	Radial ø5/16" push-in fitting (upward)					○				○
CL3NON	Plug	Radial ø1/8" push-in fitting (upward)			○				○	
CL4NON		Radial ø5/32" push-in fitting (upward)			○				○	
CL6NON		Radial ø1/4" push-in fitting (upward)				○				○
CL8NON		Radial ø5/16" push-in fitting (upward)				○				○
00	Discrete valve for mounting base						●	●	●	●

is not available. ○ indicates a custom order.

[Options, stations, voltage, electrical connection list]

Code	Description		Model No. A: MN3GB1 (Manifold, Two 3-port valves integrated)	MN3GB2 (Manifold, Two 3-port valves integrated)	MN4GB1 (Manifold, 5-port valve)	MN4GB2 (Manifold, 5-port valve)	(N)3GB1 (Discrete valve block with solenoid valve/ discrete solenoid valve)	(N)3GB2 (Discrete valve block with solenoid valve/ discrete solenoid valve)	(N)4GB1 (Discrete valve block with solenoid valve/ discrete solenoid valve)	(N)4GB2 (Discrete valve block with solenoid valve/ discrete solenoid valve)
D Electrical connections										
Blank	Grommet lead wire (300 mm)	(*19)	●	●	●	●	●	●	●	●
B	DIN terminal box (Pg7)	With surge suppressor/lamp (*17) (*22)		●		●		●		●
BN	DIN terminal box (Pg7) (no terminal box)	With surge suppressor/lamp (*17) (*22)		●		●		●		●
E-connector (upward/lateral direction common)										
E0	Lead wire (300 mm)	(*21)	●	●	●	●	●	●	●	●
E00	Lead wire (500 mm)	(*21)	●	●	●	●	●	●	●	●
E01	Lead wire (1000 mm)	(*21)	●	●	●	●	●	●	●	●
E02	Lead wire (2000 mm)	(*21)	●	●	●	●	●	●	●	●
E03	Lead wire (3000 mm)	(*21)	●	●	●	●	●	●	●	●
E0N	Without lead wire (no socket)	(*21)	●	●	●	●	●	●	●	●
E1	Without lead wire (socket/terminal included)	(*21)	●	●	●	●	●	●	●	●
E2	Lead wire (300 mm)	With surge suppressor/lamp	●	●	●	●	●	●	●	●
E20	Lead wire (500 mm)	With surge suppressor/lamp	●	●	●	●	●	●	●	●
E21	Lead wire (1000 mm)	With surge suppressor/lamp	●	●	●	●	●	●	●	●
E22	Lead wire (2000 mm)	With surge suppressor/lamp	●	●	●	●	●	●	●	●
E23	Lead wire (3000 mm)	With surge suppressor/lamp	●	●	●	●	●	●	●	●
E2N	Without lead wire (without socket)	With surge suppressor/lamp	●	●	●	●	●	●	●	●
E3	Without lead wire (with socket/terminal)	With surge suppressor/lamp	●	●	●	●	●	●	●	●
EJ-connector (socket with cover, upward/lateral direction common)										
E01J	Lead wire (1000 mm)	(*21)	●	●	●	●	●	●	●	●
E02J	Lead wire (2000 mm)	(*21)	●	●	●	●	●	●	●	●
E03J	Lead wire (3000 mm)	(*21)	●	●	●	●	●	●	●	●
E21J	Lead wire (1000 mm)	With surge suppressor/lamp	●	●	●	●	●	●	●	●
E22J	Lead wire (2000 mm)	With surge suppressor/lamp	●	●	●	●	●	●	●	●
E23J	Lead wire (3000 mm)	With surge suppressor/lamp	●	●	●	●	●	●	●	●
E Option										
Blank	Non-locking/locking common manual override		●	●	●	●	●	●	●	●
M	Non-locking manual override		●	●	●	●	●	●	●	●
H	With exhaust check valve	(*12)	●	●	●	●	●	●	●	●
K	External pilot	(*10)			●	●			●	●
A	Ozone/coolant proof		●	●	●	●	●	●	●	●
S	Surgeless	(*14)	●	●	●	●	●	●	●	●
E	Low exoergic/energy saving circuit	(*11) (*15)	●	●	●	●	●	●	●	●
L	With pipe adapter		●	●	●	●	●	●	●	●
F	A/B port filter integrated	(*16)	●	●	●	●	●	●	●	●
Z1	Air supply spacer	(*17)	●	●	●	●				
Z3	Exhaust spacer	(*17)	●	●	●	●				
F Station No.										
1	1 station		●	●	●	●				
to	to									
24	24 stations (max. station No. for MN4GB2 is 20)									
G Voltage										
1	100 VAC (rectifier integrated)		●	●	●	●	●	●	●	●
2	200 VAC (rectifier integrated)	(*18)		●		●		●		●
3	24 VDC		●	●	●	●	●	●	●	●
4	12 VDC		●	●	●	●	●	●	●	●
7	3 VDC		○	○	○	○	○	○	○	○
8	5 VDC		○	○	○	○	○	○	○	○

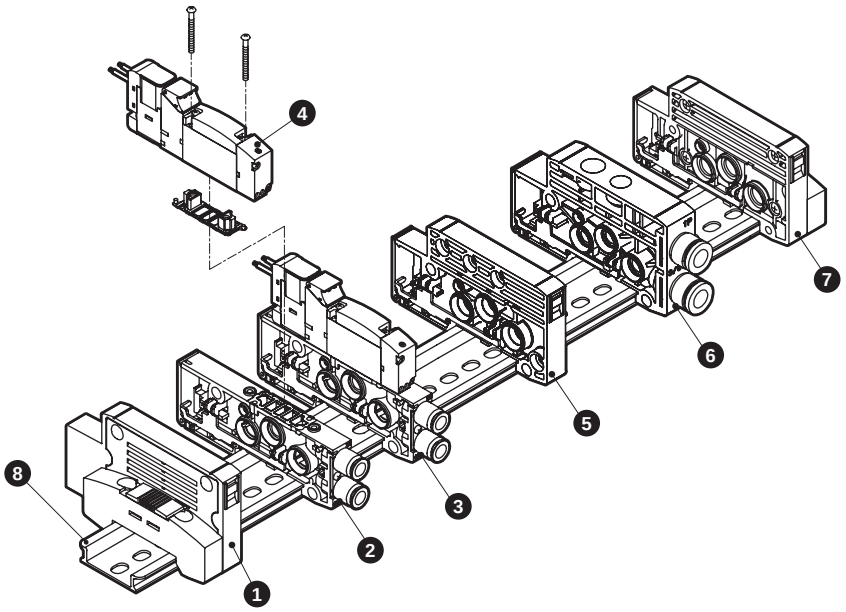
H Clean room specifications (*9, 10, 11)

	Structure	Material restriction								
P70	Exhaust treatment	—	●	●	●	●	●	●	●	●
P74	Exhaust treatment	Copper-based/silicon-based/halogen-based materials (fluorine, chlorine, bromine) are prohibited.	○	○	○	○	○	○	○	○

is not available.
○ indicates made to order.

*9: Combination of Item A (ozone-proof) and Item H clean-room specifications P74 is not supported.
*10: Copper-, silicon-, and halogen-free specifications are available with support for the main valve section.
*11: The P74 Series is made to order.
***12: 3-position all ports closed and P A B connection are not provided with the exhaust check valve (H). Refer to page 751 for details on the exhaust check valve.**
*13: Consult with CKD when using a vacuum with the external pilot (K).
14: E2 type and E2*J type connectors and DC12/24V only are supported. In addition, surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.
*15: Surgeless specifications.
*16: A filter is built into the port as standard.
***17: Specify the spacer mounting position/quantity in the manifold specifications sheet. Stacking of spacers is not possible.Combination with the masking plate is not supported. Only single solenoid can be selected together with radial push-in fitting (upward). Refer to pages 693 to 696 for details.**
*18: DIN terminal box only is supported.
*19: The grommet lead wire specifications are compatible with DC voltage only.
*20: AC voltage and DC12/24V are supported. In addition, a lamp comes with the terminal box.
*21: AC voltage is with a rectifier circuit.
*22: Terminal box is EN175301-803Type C (old DIN 43650-C) compliant product. Refer to page 756 for details.

Manifold components explanation and parts list



List of main components (refer to pages 682 to 698 for details)

No.	Component name	Model No. (example)	No.	Component name	Model No. (example)
1	End block L	N4G1R-EL-P70	5	Partition block	N4G1R-S-P70/P74
2	Discrete valve block	N4GB1R-V1-C6-P70/P74	6	Supply and exhaust block	N4G1R-Q-8-P70/P74
3	Discrete valve block with solenoid valve	N4GB110R-C6-H-3-P70/P74	7	End block R	N4G1R-ER-P70/P74
4	Solenoid valve body	4GB119R-00-H-3-P70/P74	8	DIN rail	N4GR-BAA (Length)-P70

B type individual wiring weight

4GB1

(g)

Part name	Model No.	Weight	Part name	Model No.	Weight
Valve block with solenoid valve	N4GB110R-C6	67	Supply and exhaust block	N4G1R-Q-8	58
	N4GB120R-C6	84		N4G1R-QK-8	60
	N4GB1 3/5 0R-C6	85	End block	N4G1R-E*	60
	N3GB1660R-C6-3	84		N4G1R-EX*	60
Valve block with masking plate	N4GB1R-MP-C6	37	Partition block	N4G1R-S	45
			Valve block	N4GB1R-V1-C*	33
			DIN rail	N4GR-BAA (Length)	0.19/mm

4GB2

(g)

Part name	Model No.	Weight	Part name	Model No.	Weight
Valve block with solenoid valve	N4GB210R-C8	128	Supply and exhaust block	N4G2R-Q-10	83
	N4GB220R-C8	145		N4G2R-QK-10	85
	N4GB2 3/5 0R-C8	156	End block	N4G2R-E*	84
	N3GB2660R-C8-3	145		N4G2R-EX*	85
Valve block with masking plate	N4GB2R-MP-C8	69	Partition block	N4G2R-S	60
			Valve block	N4GB2R-V1-C*	55
			DIN rail	N4GR-BAA (Length)	0.19/mm

Parts list

Applicable	Part name	Model No.
Valve 4G1	ø1.8 barbed	4G1R-JOINT-CF-P70
	ø1.8 straight	4G1R-JOINT-C18-P70
	ø4 straight	4G1R-JOINT-C4-P70
	ø6 straight	4G1R-JOINT-C6-P70
	ø1.8 elbow	4G1R-JOINT-CL18,CLL18-P70
	ø4 elbow	4G1R-JOINT-CL4,CLL4-P70
	ø6 elbow	4G1R-JOINT-CL6,CLL6-P70
	ø1/8” straight	4G1R-JOINT-C3N-P70
	ø5/32” straight	4G1R-JOINT-C4N-P70
	ø1/8” elbow *1	4G1R-JOINT-CL3N-P70
	ø5/32” elbow *1	4G1R-JOINT-CL4N-P70
	Plug cartridge	4G1R-JOINT-CPG-P70
Valve 4G2	ø4 straight	4G2R-JOINT-C4-P70
	ø6 straight	4G2R-JOINT-C6-P70
	ø8 straight	4G2R-JOINT-C8-P70
	ø6 elbow	4G2R-JOINT-CL6,CLL6-P70
	ø8 elbow	4G2R-JOINT-CL8,CLL8-P70
	ø1/4” straight	4G2R-JOINT-C6N-P70
	ø5/16” straight	4G2R-JOINT-C8N-P70

Applicable	Part name	Model No.
Valve 4G2	ø1/4” elbow *1	4G2R-JOINT-CL6N-P70
	ø5/16” elbow *1	4G2R-JOINT-CL8N-P70
	Plug cartridge	4G2R-JOINT-CPG-P70
Common	Coil assembly	4GR-[*1]-[*2]-COIL-[*3]-P70 *1: Electrical connections (blank, B, E0, ...), *2: Ozone/coolant proof (blank, A) Surgeless (S) Low exoergic/energy circuit (E) External pilot (K) *3: Voltage (1, 2, 3, 4)
	E type connector socket assembly	4GR-SOCKET-ASSY-[*1]-[*3]-P70 *1: Electrical connections (E0, E00, ...), *3: Voltage (1, 3, 4)
	EJ type connector socket assembly	4GR-SOCKET-ASSY-[*1]-P70 *1: Electrical connections (E01J, E02J, ...)
Valve 4G2	DIN terminal box assembly	4GR-TERMINAL-BOX-[*3]-P70 *3: Voltage (1, 2, 3, 4)

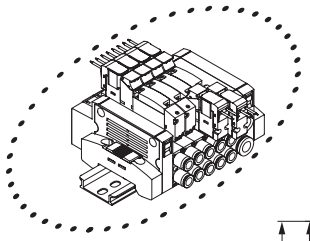
*1: Available as custom order.

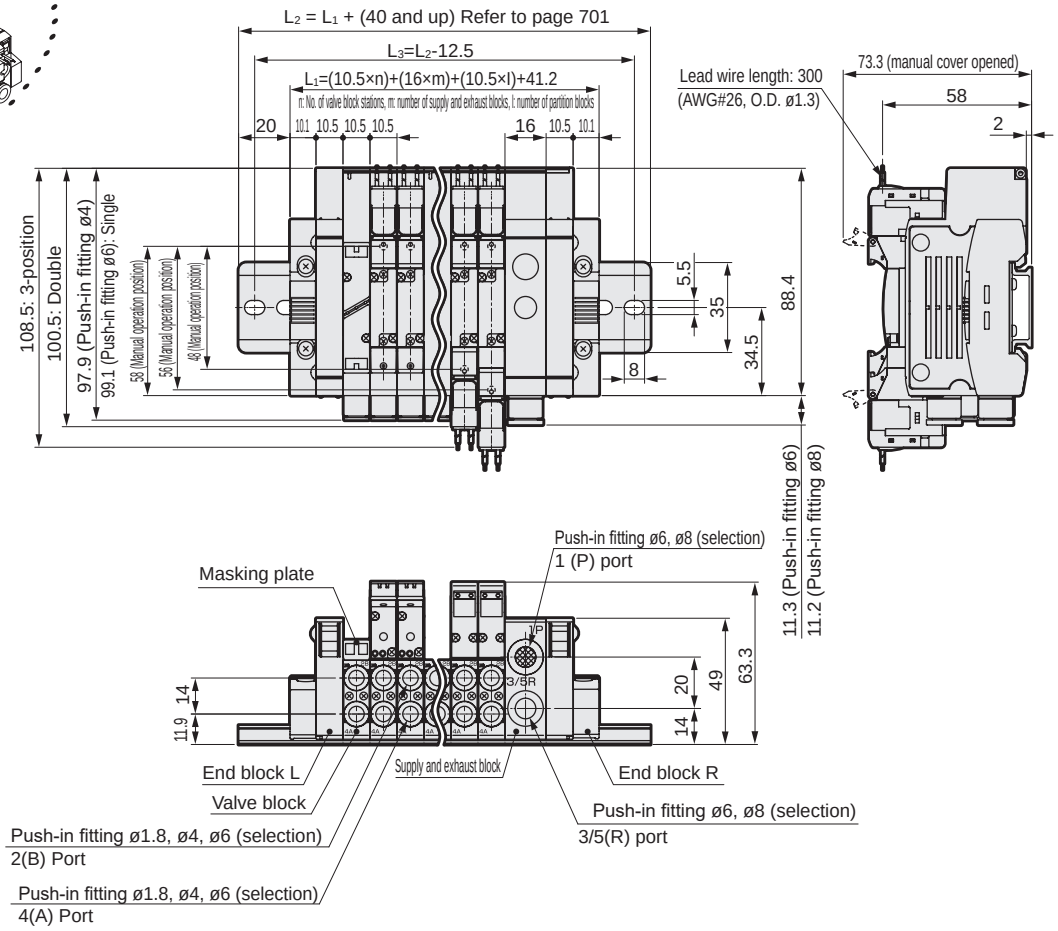
Dimensions CAD

MN4GB1-P7*

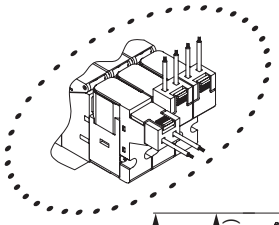
● Grommet lead wire (blank)

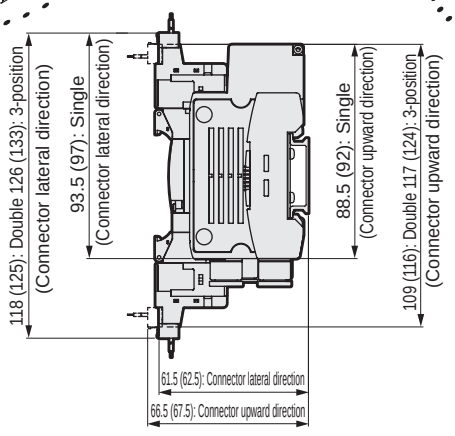
* For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.





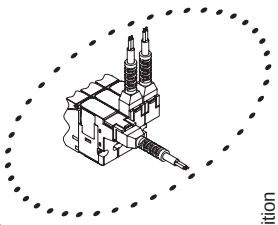
● E type connector (E)

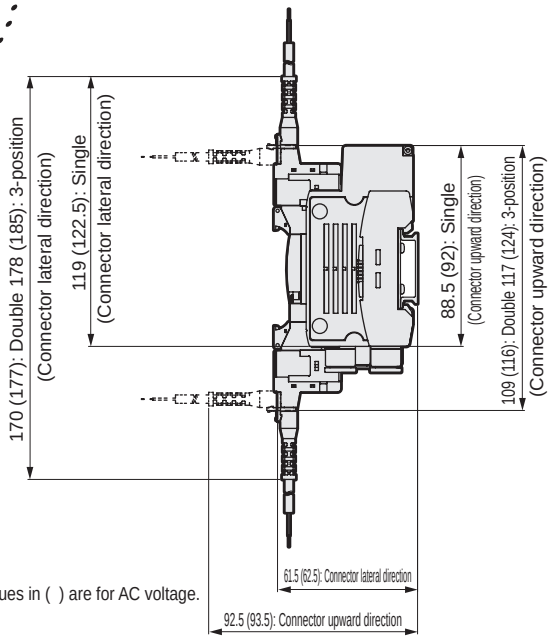




Note: Values in ( ) are for AC voltage.

● EJ type connector (E**J)





Note: Values in ( ) are for AC voltage.

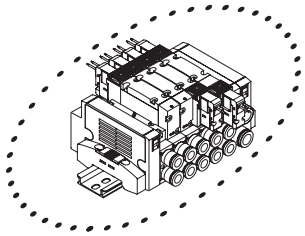
* Refer to page 676 for dimensions of the valve block push-in fitting and supply and exhaust block push-in fitting.

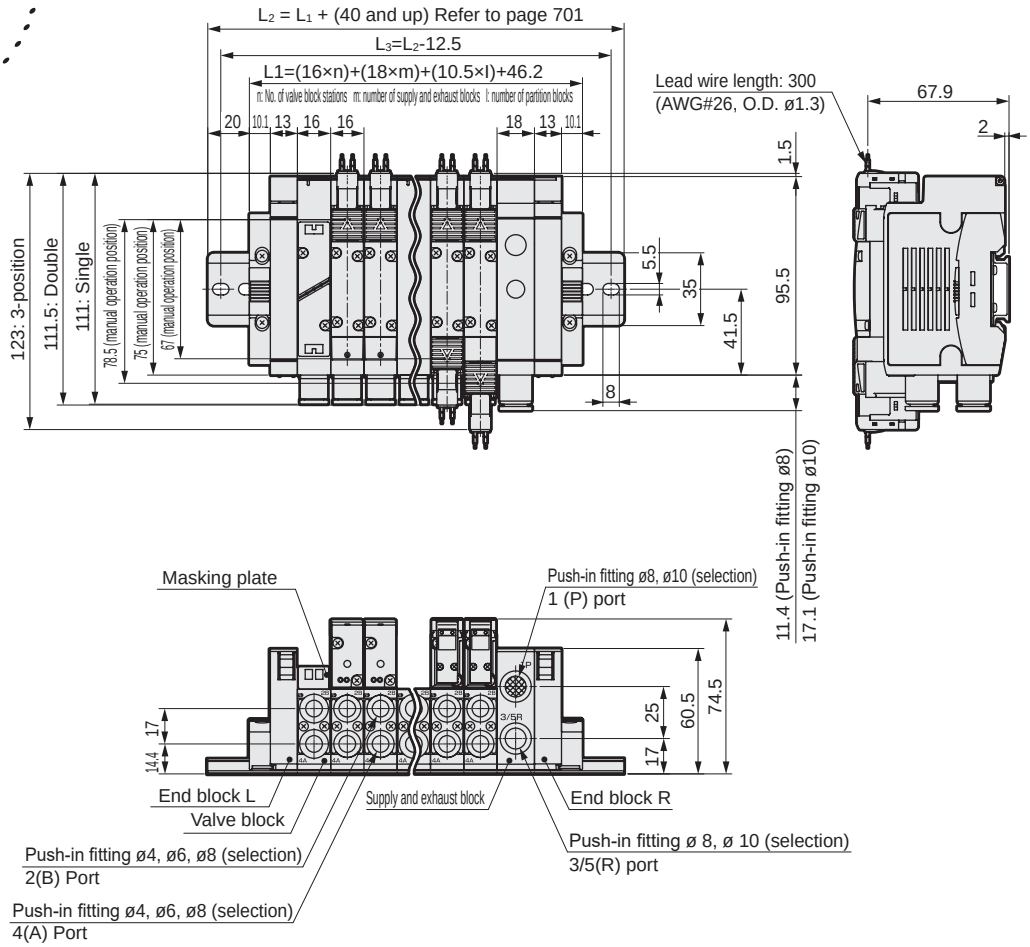
Dimensions CAD

MN4GB2-P7*

● Grommet lead wire (blank)

* For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.

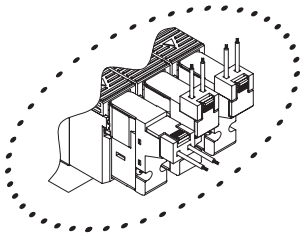


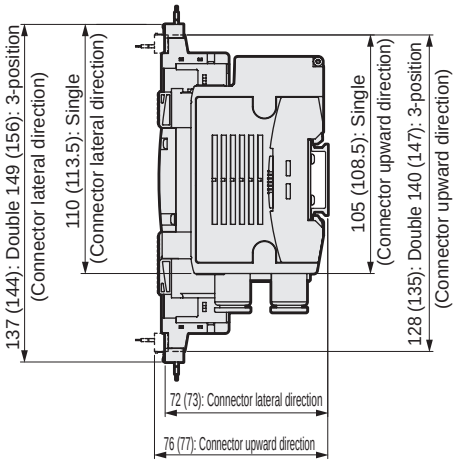


* Refer to page 678 for dimensions of the valve block push-in fitting and supply and exhaust block push-in fitting.

Dimensions

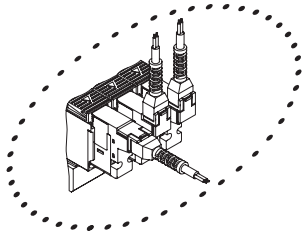
● E type connector (E)

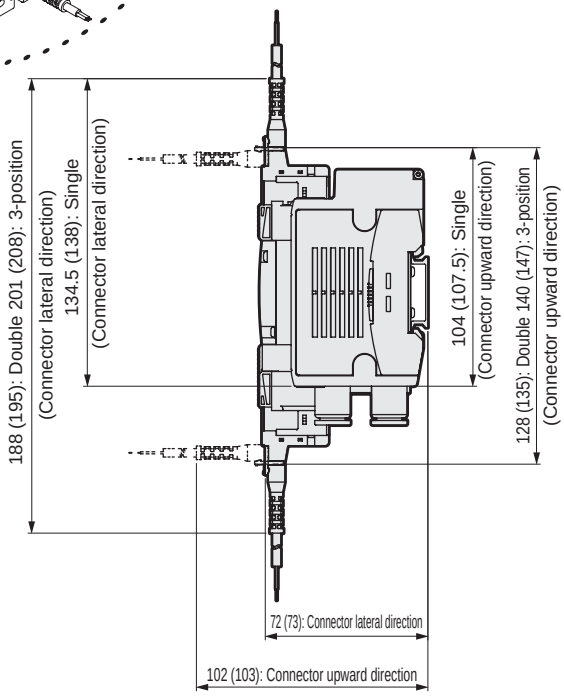




Note: Values in ( ) are for AC voltage.

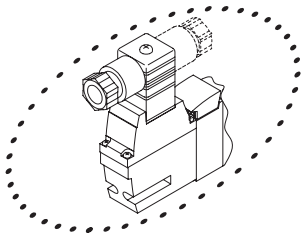
● EJ type connector (E**J)

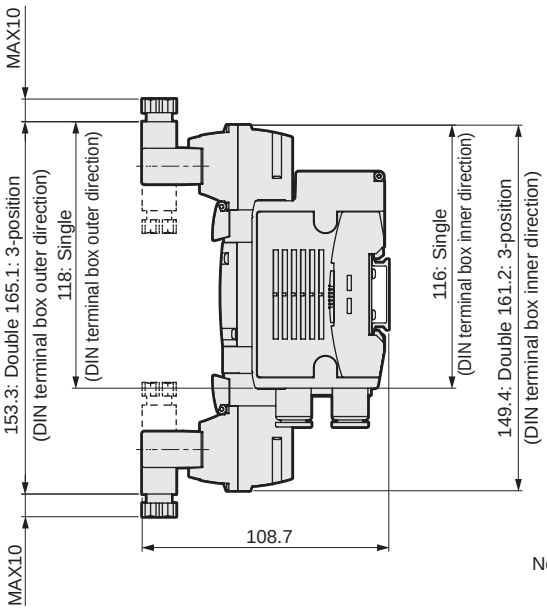




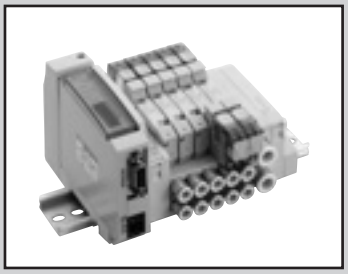
Note: Values in ( ) are for AC voltage.

● DIN terminal box (B)





Note: DIN terminal box assembly is shipped facing inward.



Reduced wiring block manifold
Base piping

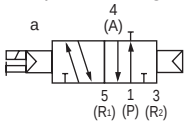
MN4GA1/2-T* Series

● Applicable cylinder bore size: ø20 to ø80

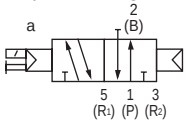
RoHS CAD

JIS symbol

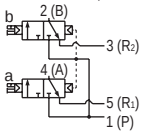
● 3-port valve
2-position single NC



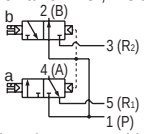
2-position single NO



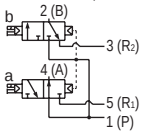
● Dual 3-port valve integrated
(A side valve: NC, B side valve: NC)



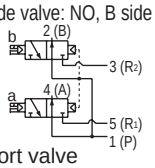
(A side valve: N.C., B side valve: NO)



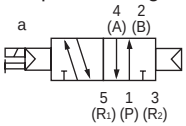
(A side valve: NO, B side valve: NC)



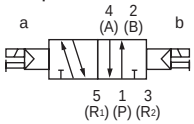
(A side valve: NO, B side valve: NO)



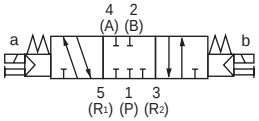
● 5-port valve
2-position single



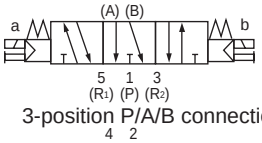
2-position double



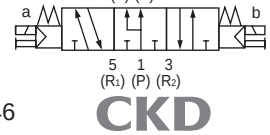
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Structure and material restriction

	Structure	Material restriction			Model No.
P7 Series	Dust generation preventing				– P70
	Dust generation preventing	Copper-based materials prohibited	Silicon-based materials prohibited	Halogen-based materials prohibited (fluorine, chlorine, bromine)	– P74 Custom order product

Manifold common specifications

Item	Description
Manifold	Block manifold
Mounting method	DIN rail mount
Supply and exhaust method	Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Main valve/pilot valve common exhaust (Pilot exhaust check valve built-in)
Piping direction	Valve top direction
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2 (*3)
Proof pressure MPa	1.05
Ambient temp °C	-5 to 55 (no freezing)
Fluid temp °C	5 to 55
Manual override	Non-locking/locking common (standard)
Lubrication (*1)	Not required
Degree of protection (*2)	Dust-proof
Vibration resistance m/s²	50 or less
Shock resistance m/s²	300 or less
Atmosphere	Cannot be used in corrosive gas environments

Electrical specifications

Item		Description		
Rated voltage V		T1□, T30□, T5□ 24 DC	T1□, T30□, T5□ 12 DC	T6G1, T7□, T8□ 24 DC
Voltage fluctuation range (*4)		±10%		+10%, -5%
Holding current A	Standard	0.017	0.034	0.017
	With low exoergic/energy saving circuit	0.005	0.010	0.005
Power consumption W	Standard	0.4		
	With low exoergic/energy saving circuit	0.1		
Thermal class		B		
Surge suppressor (*5)		Zener diode		
Indicator		LED		

*1 Use turbine oil Class 1 ISO VG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
*2 Dust-proof degree of protection. Not drip-proof. Avoid dripping water or oil, etc., during use.
*3 The working pressure range is 0 to 0.7 MPa when the external pilot (option code: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.
*4 T6G1, T7□ and T8□ (serial transmission) may experience voltage drops due to internal circuitry, so care should be taken when regulating voltages.
*5 If low exoergic/energy circuit or surgeless types are selected then there will be a diode.

Individual specifications

Item			MN3GA1/MN4GA1									
			T10	T11	T30	T50	T51	T52	T53	T6G1	T7*1	T8*1/2
Max. station No.	Standard wiring		16 stations	24 stations	24 stations	16 stations	18 stations	8 stations	24 stations	16 stations	8/16 stations	16/24 stations
	Double wiring		8 stations	12 stations	12 stations	8 stations	9 stations	4 stations	12 stations	8 stations	4/8 stations	8/16 stations
Max. number of solenoids			16 points	24 points	24 points	16 points	18 points	8 points	24 points	16 points	8/16 points	16/32 points
Port size	Metric fitting/ M5, Rc thread	A/B port	Barbed fitting ø1.8 push-in fitting ø1.8, ø4, ø6 M5									
		P/R port	Push-in fitting ø6, ø8									
	Inch fitting/M5, NPT thread	A/B port	Push-in fitting ø1/8", ø5/32" M5									
		P/R port	Push-in fitting ø1/4", ø5/16"									
	Metric fitting, G thread	A/B port	-									
		P/R port	-									

Item			MN3GA2/MN4GA2									
			T10	T11	T30	T50	T51	T52	T53	T6G1	T7*1	T8*1/2
Max. station No.	Standard wiring		16 stations	20 stations	20 stations	16 stations	18 stations	8 stations	20 stations	16 stations	8/16 stations	16/20 stations
	Double wiring		8 stations	12 stations	12 stations	8 stations	9 stations	4 stations	12 stations	8 stations	4/8 stations	8/16 stations
Max. number of solenoids			16 points	24 points	24 points	16 points	18 points	8 points	24 points	16 points	8/16 points	16/32 points
Port size	Metric fitting/ M5, Rc thread	A/B port	Push-in fitting ø4, ø6, ø8, Rc1/8									
		P/R port	Push-in fitting ø8, ø10									
	Inch fitting/M5, NPT thread	A/B port	Push-in fitting ø1/4", ø5/16", NPT1/8									
		P/R port	Push-in fitting ø5/16", ø3/8"									
	Metric fitting, G thread	A/B port	G1/8									
		P/R port	Push-in fitting ø8, ø10									

· For weight, refer to page 650.

Flow characteristics

Model No.	Solenoid position		P→A/B C[dm³/(s·bar)]	P→A/B b	A/B→R1/R2 C[dm³/(s·bar)]	A/B→R1/R2 b
MN3GA1 MN4GA1	Two 3-port valves integrated		0.87	0.37	1.0 (0.68)	0.14 (0.22)
	2-position		0.98	0.33	1.2 (0.71)	0.11 (0.27)
	3-position	All ports closed	0.92	0.34	1.0 -	0.16 -
		ABR connection	0.92	0.29	1.1 (0.69)	0.13 (0.22)
		PAB connection	1.1	0.35	1.1 -	0.17 -
MN3GA2 MN4GA2	Two 3-port valves integrated		1.7	0.37	2.2 (1.6)	0.13 (0.21)
	2-position		2.2	0.21	2.5 (1.7)	0.19 (0.10)
	3-position	All ports closed	2.0	0.25	2.3 -	0.10 -
		ABR connection	2.0	0.27	2.5 (1.7)	0.18 (0.12)
		PAB connection	2.3	0.31	2.3 -	0.16 -

*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.
*2: Values in ( ) are with the exhaust check valve.

Reduced wiring specifications

Item	T10	T11	T30	T50	T51	T52	T53
Type	Common terminal block M3 thread	Common terminal block clamping	D-sub-connector	20-pin flat cable connector (with power supply terminal)	20-pin flat cable connector, no power supply terminal	10-pin flat cable connector, no power supply terminal	26-pin flat cable connector, no power supply terminal
Connector	—	—	D-sub-connector 25-pin	MIL-C-83503 standard compliant pressure welding socket 20-pin	MIL-C-83503 standard compliant pressure welding socket 20-pin	MIL-C-83503 standard compliant pressure welding socket 10-pin	MIL-C-83503 standard compliant pressure welding socket 26-pin

Serial transmission slave unit specifications

* The communication setting file can be downloaded from the CKD website (https://www.ckd.co.jp/en/).

Item		T6G1
Network name		CC-Link ver. 1.10
Power supply voltage	Unit side	24 VDC ±10%
	Valve side	24 VDC +10%, -5%
Current consumption	Unit side	100 mA or less (when all output points are ON)
	Valve side	15 mA or less (when all output points are OFF)
No. of I/O points		16 points
Occupied number		1 station
Operation display		LED (power supply and communication status)
Output		NPN

Item		T7G1	T7L1 *1	T7D1	T7S1	T7SP1
Network name		CC-Link ver. 1.10	SAVE NET	DeviceNet *2	CompoNet	
Power supply voltage	Unit side	24 VDC +10%, -5% Common power supply terminal				
	Valve side					
	Unit side	—	—	11 to 25 VDC *3	14.0 to 26.4 VDC	
Current consumption	Unit side	110 mA or less (when all output points are ON) Load current is not included			40 mA or less (when all output points are ON) Load current is not included	
	Valve side					
	Unit side	—	—	50 mA or less	65 mA or less (all points ON: 24 VDC) 95 mA or less (all points ON: 14 VDC)	
No. of I/O points		16 points	16 points	16 points	16 points	
Occupied number		1 station	1 station	2 bytes	Word slave 1 node (16 points)	
Operation display		LED (power supply and communication status)				
Output		NPN			NPN	PNP

Item		T8G1 / T8G2	T8GP1 / T8GP2	T8P1 / T8P2	T8PP1 / T8PP2	T8EC1 / T8EC2	T8ECP1 / T8ECP2	T8EN1 / T8EN2	T8ENP1 / T8ENP2	T8D1 / T8D2	T8DP1 / T8DP2	T8EB1 / T8EB2	T8EBP1 / T8EBP2	T8EF1 / T8EF2	T8EFP1 / T8EFP2	T8EP1 / T8EP2	T8EPP1 / T8EPP2	T8KC1 / T8KC2	T8KCP1 / T8KCP2
Communication protocol		CC-Link ver. 1.10		PROFIBUS-DP (V0)		EtherCAT		EtherNet/IP		DeviceNet		CC-Link IEF Basic		CC-Link IE Field		PROFINET		IO-Link	
Power supply voltage	Unit side	24 VDC ±10% (only the T8D* is 11 to 25 VDC)																	
	Valve side	24 VDC +10%, -5%																	
Current consumption	Unit side	60 mA or less (when all output points are ON)		60 mA or less (when all output points are ON)		110 mA or less (when all output points are ON)		120 mA or less (when all output points are ON)		70 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)		140 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)		50 mA or less (when all output points are ON)	
	Valve side	T8□1: 15 mA or less T8□2: 20 mA or less (When all output points are ON) Load current is not included								15 mA or less (When all output points are ON) Load current is not included									
No. of I/O points		T8□1: 16 points T8□2: 32 points																	
Occupied number		1 station																	
Operation display		LED (power supply and communication status)																	
Output		NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output

*1 Transmission bit rate of 128 bits and half-duplex transmission method are supported. Contact CKD for other specifications.
*2 DeviceNet compliant networks (DLNK, etc.) are supported as well.
*3 Communication power supply (V+ and V- of DeviceNet cable) is isolated from power supply terminals (unit power supply/valve power supply).

MN4GA1/2-T* Series

Reduced wiring block manifold; base piping

How to order

Manifold model No.

MN4GA1 1 0 R - C6 - T30 W H - 10 - 3 - P70

● 3-port manifold model No.

MN3GA1 1 0 R - C6 - T30 W H - 10 - 3 - P70

● Discrete valve block with solenoid valve

N4GA1 1 0 R - C6 - A2N *1 H — 3 - P70

● Discrete 3-port valve block with solenoid valve

N3GA1 1 0 R - C6 - A2N *1 H — 3 - P70

* When a cable is required, refer to page 686 and specify the cable length for "*1". When a cable is not required, leave the space blank.

● Discrete solenoid valve

4GA1 1 9 R - C6 - A2N H — 3 - P70

● Discrete 3-port solenoid valve

3GA1 1 9 R - C6 - A2N H — 3 - P70

Ⓐ Model No. | Ⓑ Solenoid position | Ⓒ Port size (*1) | Ⓓ Reduced wiring connection, serial transmission | Ⓔ Terminal/connector pin array | Ⓕ Option | Ⓖ Station No. | Ⓗ Voltage | Ⓘ Clean room specs

Precautions for model selection

*1 : Specify the P/R port bore size with the supply and exhaust block model No. in the manifold specifications sheet.

*2 : Select MN4GA*80R when mixing with 4, 5-port valves. Further, select MN3GA*80R when mixing with masking plate.

*3 : Not compatible with combination with external pilot (K). Dimensions are the same as those of the respective 2-position double solenoid.

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

5 : Blank: The wiring will be based on the type of valve used. W: All wired for double solenoid valves regardless of the type of valve used.

***6 : Spare wiring (A type socket assembly) is included on the cap side for single types. A holder for retaining the socket assembly is included for single unit valves (A2N). Refer to page 697 for details.**

***7 : 3-position all ports closed and PAB connection are not provided with the exhaust check valve (H). Refer to page 751 for details on the exhaust check valve.**

*8 : Contact CKD when using a vacuum with the external pilot (K).

*9 : Surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.

*10 : Surgeless specifications.

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

***12 : Specify the spacer mounting position and quantity in manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Refer to pages 693 to 696 for details.**

*13 : A (ozone-proof) and Item Ⓘ (clean-room specifications). Not compatible with combination with P74.

*14 : Copper-, silicon-, and halogen-free specifications are available as main valve part support.

*15 : P74 Series is made to order.

Ⓐ Model No.

Code	Content	MN3GA1	MN3GA2	MN4GA1	MN4GA2	(N)3GA1	(N)3GA2	(N)4GA1	(N)4GA2
		Manifold: 3-port valve		Manifold: 5-port valve		Discrete valve block with solenoid valve/ Discrete solenoid valve			

Ⓑ Solenoid position

Code	Content								
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 (*2)	●	●			●	●		
11	2-position single normally open (*2)	●	●			●	●		
66	Two 3-port valves integrated (*2) (*3) — A side valve: Normally closed / B side valve: Normally closed	●	●			●	●		
67	Two 3-port valves integrated (*2) (*3) — A side valve: Normally closed / B side valve: Normally open	●	●			●	●		
76	Two 3-port valves integrated (*2) (*3) — A side valve: Normally open / B side valve: Normally closed	●	●			●	●		
77	Two 3-port valves integrated (*2) (*3) — A side valve: Normally open / B side valve: Normally open	●	●			●	●		
8	Mix manifold (for multiple solenoid positions)	●	●	●	●	●	●	●	●

Ⓒ Port size (A/B-port)

Code	Metric fitting/Rc thread								
CF	ø1.8 barbed fitting (compatible tube UP-9102-**)	●		●		●		●	
C18	ø1.8 push-in fitting (compatible tube UP-9402-**)	●		●		●		●	
C4	ø4 push-in fitting	●	●	●	●	●	●	●	●
C6	ø6 push-in fitting	●	●	●	●	●	●	●	●
C8	ø8 push-in fitting		●		●		●		●
CX	Push-in fitting mix (*4)	●	●	●	●				
M5	M5	●		●		●		●	
06	Rc1/8		●		●		●		●
Code	Inch fitting/inch thread								
C3N	ø1/8" push-in fitting	●		●		●		●	
C4N	ø5/32" push-in fitting	●		●		●		●	
C6N	ø1/4" push-in fitting		●		●		●		●
C8N	ø5/16" push-in fitting		●		●		●		●
CXN	Push-in fitting mix (*4)	●	●	●	●				
06N	NPT1/8		●		●		●		●
Code	G thread								
06G	G1/8		●		●		●		●

Ⓓ Reduced wiring connection, serial transmission

Refer to the next page for reduced wiring and serial transmission.

Ⓔ Terminal/connector pin array

Blank	Standard wiring (*5)	●	●	●	●	●	●	●	●
W	Double wiring (*5)	●	●	●	●	●	●	●	●
W1	Double wiring (with single spare wiring) (*5) (*6)	●	●	●	●	●	●	●	●

Ⓕ Option

Blank	Non-locking/locking common manual override	●	●	●	●	●	●	●	●
M	Non-locking manual override	●	●	●	●	●	●	●	●
H	With exhaust check valve (*7)	●	●	●	●	●	●	●	●
K	External pilot (*8)	●	●	●	●	●	●	●	●
A	Ozone/coolant proof	●	●	●	●	●	●	●	●
S	Surgeless (*9)	●	●	●	●	●	●	●	●
E	Low exoergic/energy circuit (*9) (*10)	●	●	●	●	●	●	●	●
Q	Reduced wiring duct	●	●	●	●	●	●	●	●
F	A/B port filter built in (*11)	●	●	●	●	●	●	●	●
Z1	Air supply spacer (*12)	●	●	●	●				
Z3	Exhaust spacer (*12)	●	●	●	●				

Ⓖ Station No.

1	1 station	●	●	●	●				
to	to								
24	24 stations (Refer to page 646 for the max. station number per model)								

Ⓗ Voltage

3	24 VDC	●	●	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●	●	●

Ⓘ Clean room specifications (*13, 14, 15)

	Structure	Material restriction								
P70	Exhaust treatment	—	●	●	●	●	●	●	●	●
P74	Exhaust treatment	Copper-/silicon-/halogen-based materials (fluorine, chlorine, bromine) are prohibited	○	○	○	○	○	○	○	○

is not available.

Ⓐ Model No.

Ⓓ			Manifold: Dual 3-port valve integrated MN3GA1	Manifold: Dual 3-port valve integrated MN3GA2	Manifold: 5-port valve MN4GA1	Manifold: 5-port valve MN4GA2	Discrete valve block with solenoid valve/Discrete solenoid valve (N) 3GA1	(N) 3GA2	(N) 4GA1	(N) 4GA2
Reduced wiring (lamp and surge suppressor provided as standard) 12 VDC/24 VDC										
T10	Common terminal block (M3 thread)	Left side specifications	●	●	●	●				
T10R		Right side specifications	●	●	●	●				
T11	Common terminal block (clamping)	Left side specifications	●	●	●	●				
T11R		Right side specifications	●	●	●	●				
T30	D sub-connector	Left side specifications	●	●	●	●				
T30R		Right side specifications	●	●	●	●				
T50	20 pin flat cable connector (with power supply terminal)	Left side specifications	●	●	●	●				
T50R		Right side specifications	●	●	●	●				
T51	20 pin flat cable connector (without power supply terminal)	Left side specifications	●	●	●	●				
T51R		Right side specifications	●	●	●	●				
T52	10 pin flat cable connector (without power supply terminal)	Left side specifications	●	●	●	●				
T52R		Right side specifications	●	●	●	●				
T53	26 pin flat cable connector (without power supply terminal)	Left side specifications	●	●	●	●				
T53R		Right side specifications	●	●	●	●				
Serial transmission (lamp and surge suppressor provided as standard) 24 VDC										
T6G1	CC-Link	NPN 16 points	●	●	●	●				
T7D1	DeviceNet	NPN 16 points	●	●	●	●				
T7G1	CC-Link	NPN 16 points	●	●	●	●				
T7L1	SAVE NET	NPN 16 points	●	●	●	●				
T7S1	CompoNet	NPN 16 points	●	●	●	●				
T7SP1		PNP 16 points	●	●	●	●				
T8G1	CC-Link	NPN 16 points	●	●	●	●				
T8G2		NPN 32 points	●	●	●	●				
T8GP1		PNP 16 points	●	●	●	●				
T8GP2		PNP 32 points	●	●	●	●				
T8P1	PROFIBUS-DP	NPN 16 points	●	●	●	●				
T8P2		NPN 32 points	●	●	●	●				
T8PP1		PNP 16 points	●	●	●	●				
T8PP2		PNP 32 points	●	●	●	●				
T8EC1	EtherCAT	NPN 16 points	●	●	●	●				
T8EC2		NPN 32 points	●	●	●	●				
T8ECP1		PNP 16 points	●	●	●	●				
T8ECP2		PNP 32 points	●	●	●	●				
T8EN1	EtherNet/IP	NPN 16 points	●	●	●	●				
T8EN2		NPN 32 points	●	●	●	●				
T8ENP1		PNP 16 points	●	●	●	●				
T8ENP2		PNP 32 points	●	●	●	●				
T8D1	DeviceNet	NPN 16 points	●	●	●	●				
T8D2		NPN 32 points	●	●	●	●				
T8DP1		PNP 16 points	●	●	●	●				
T8DP2		PNP 32 points	●	●	●	●				
T8EB1	CC-Link IEF Basic	NPN 16 points	●	●	●	●				
T8EB2		NPN 32 points	●	●	●	●				
T8EBP1		PNP 16 points	●	●	●	●				
T8EBP2		PNP 32 points	●	●	●	●				
T8EF1	CC-Link IE Field	NPN 16 points	●	●	●	●				
T8EF2		NPN 32 points	●	●	●	●				
T8EFP1		PNP 16 points	●	●	●	●				
T8EFP2		PNP 32 points	●	●	●	●				
T8EP1	PROFINET	NPN 16 points	●	●	●	●				
T8EP2		NPN 32 points	●	●	●	●				
T8EPP1		PNP 16 points	●	●	●	●				
T8EPP2		PNP 32 points	●	●	●	●				
T8KC1	IO-Link	NPN 16 points	●	●	●	●				
T8KC2		NPN 32 points	●	●	●	●				
T8KCP1		PNP 16 points	●	●	●	●				
T8KCP2		PNP 32 points	●	●	●	●				
A2N	Without lead wire (without socket)	With surge suppressor/lamp					●	●	●	●

Ozone proof specifications

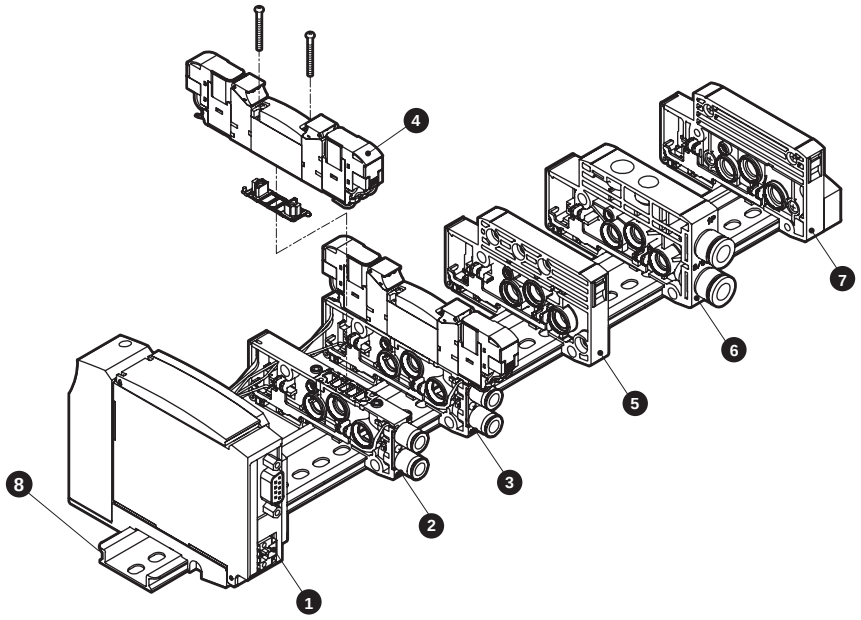
Cutting oil prohibited specifications

Can be selected with "How to order" item Ⓕ option "A" on page 648.

MN4GA1/2-T* Series

Reduced wiring block manifold; base piping

Manifold components explanation and parts list



List of main components (refer to pages 682 to 698 for details)

No.	Component name	Model No. (example)	No.	Component name	Model No. (example)
1	Wiring block (Note)	N4G1R-T30-P70	5	Partition block	N4G1R-S-P70/P74
2	Discrete valve block	N4GA1R-V2-P70/P74	6	Supply and exhaust block	N4G1R-Q-8-P70/P74
3	Discrete valve block with solenoid valve	N4GA120R-C6-A2NH-3-P70/P74	7	End block R	N4G1R-ER-P70/P74
4	Solenoid valve body	4GA129R-C6-A2NH-3-P70/P74	8	DIN rail	N4GR-BAA (Length)-P70

Note: Wiring block cannot be ordered as a single item.

A type reduced wiring weight

4GA1

(g)

Part name	Model No.	Weight	Part name	Model No.	Weight	Part name	Model No.	Weight
Valve block with solenoid valve	N3GA110R-C6-A2N-3	72	Supply and exhaust block	N4G1R-Q-8	58	Wiring block (*)	N4G1R-T10(R)	207
	N3GA1110R-C6-A2N-3	72		N4G1R-QK-8	60		N4G1R-T30(R)	165
	N4GA110R-C6-A2N-3	72	End block	N4G1R-E*	60		N4G1R-T50(R)	167
	N4GA120R-C6-A2N-3	91		N4G1R-EX*	60		N4G1R-T6G1	295
	N4GA1$\frac{3}{5}$0R-C6-A2N-3	95	Partition block	N4G1R-S	45		N4G1R-T7*	203
	N3GA1660R-C6-A2N-3	91	Valve block	N4GA1R-V1	28		N4G1R-T8*	229
Valve block with masking plate	N4GA1R-MP*-C6	34		N4GA1R-V2	30	DIN rail	N4GR-BAA (Length)	0.19/mm

Note: Wiring block cannot be ordered as a single item.

4GA2

(g)

Part name	Model No.	Weight	Part name	Model No.	Weight	Part name	Model No.	Weight
Valve block with solenoid valve	N3GA210R-C8-A2N-3	131	Supply and exhaust block	N4G2R-Q-10	83	Wiring block (*)	N4G2R-T10(R)	223
	N3GA2110R-C8-A2N-3	131		N4G2R-QK-10	85		N4G2R-T30(R)	182
	N4GA210R-C8-A2N-3	131	End block	N4G2R-E*	84		N4G2R-T50(R)	184
	N4GA220R-C8-A2N-3	151		N4G2R-EX*	85		N4G2R-T6G1	312
	N4GA2$\frac{3}{5}$0R-C8-A2N-3	163	Partition block	N4G2R-S	60		N4G2R-T7*	204
	N3GA2660R-C8-A2N-3	151	Valve block	N4GA2R-V1	53		N4G2R-T8*	242
Valve block with masking plate	N4GA2R-MP*-C8	66		N4GA2R-V2	55	DIN rail	N4GR-BAA (Length)	0.19/mm

Note: Wiring block cannot be ordered as a single item.

Parts list

Applicable	Part name	Model No.	Applicable	Part name	Model No.
Valve 4G1	Cartridge fitting ø1.8 barbed	4G1R-JOINT-CF-P70	Common	Coil assembly	4GR-A2N-[*2]-COIL-[*3]-P70 *2: Ozone/coolant proof (blank, A) Surgeless (S) Low exoergic/energy circuit (E) *3: Voltage (3, 4)
	Cartridge fitting ø1.8 straight	4G1R-JOINT-C18-P70			
	Cartridge fitting ø4 straight	4G1R-JOINT-C4-P70			
	Cartridge fitting ø6 straight	4G1R-JOINT-C6-P70			
	Cartridge fitting ø1/8 inch straight	4G1R-JOINT-C3N-P70	Manifold	Expansion socket assembly (Details on page 737)	For a side solenoid N4GR-SOCKET-ASSY-[selection No.]-P70
	Cartridge fitting ø5/32 inch straight	4G1R-JOINT-C4N-P70			
	Plug cartridge	4G1R-JOINT-CPG-P70			
Valve 4G2	Cartridge fitting ø4 straight	4G2R-JOINT-C4-P70			For b side solenoid N4GR-RELAY-SOCKET-[selection No.]-P70
	Cartridge fitting ø6 straight	4G2R-JOINT-C6-P70			
	Cartridge fitting ø8 straight	4G2R-JOINT-C8-P70			
	Cartridge fitting ø1/4 inch straight	4G2R-JOINT-C6N-P70			
	Cartridge fitting ø5/16 inch straight	4G2R-JOINT-C8N-P70			
	Plug cartridge	4G2R-JOINT-CPG-P70			

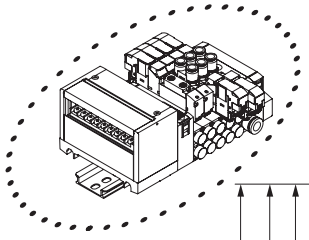
MEMO

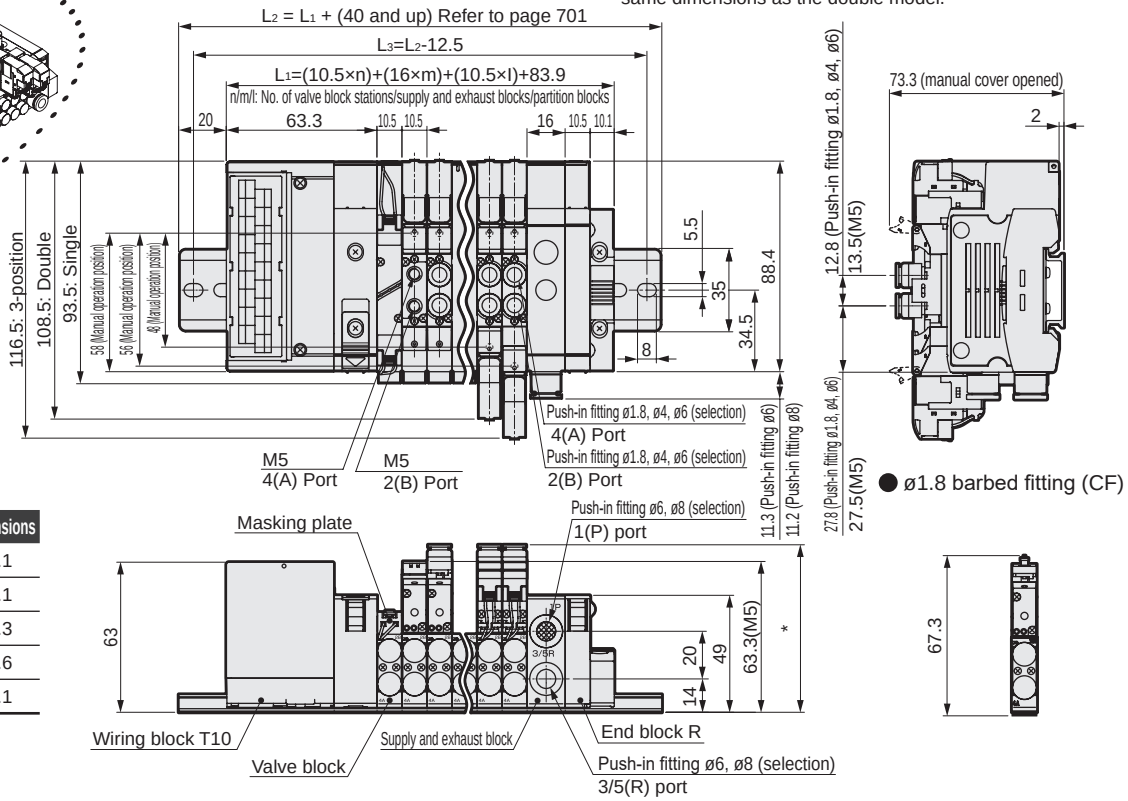
Dimensions CAD

MN4GA1-P7*

● Common terminal block (M3 thread) left side (T10)

*1: Clamping specification (T11) is also available. Dimensions are the same as T10.
*2: For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.



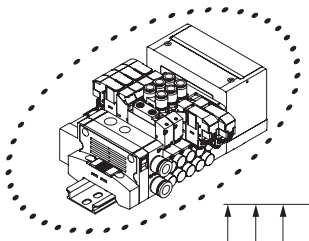


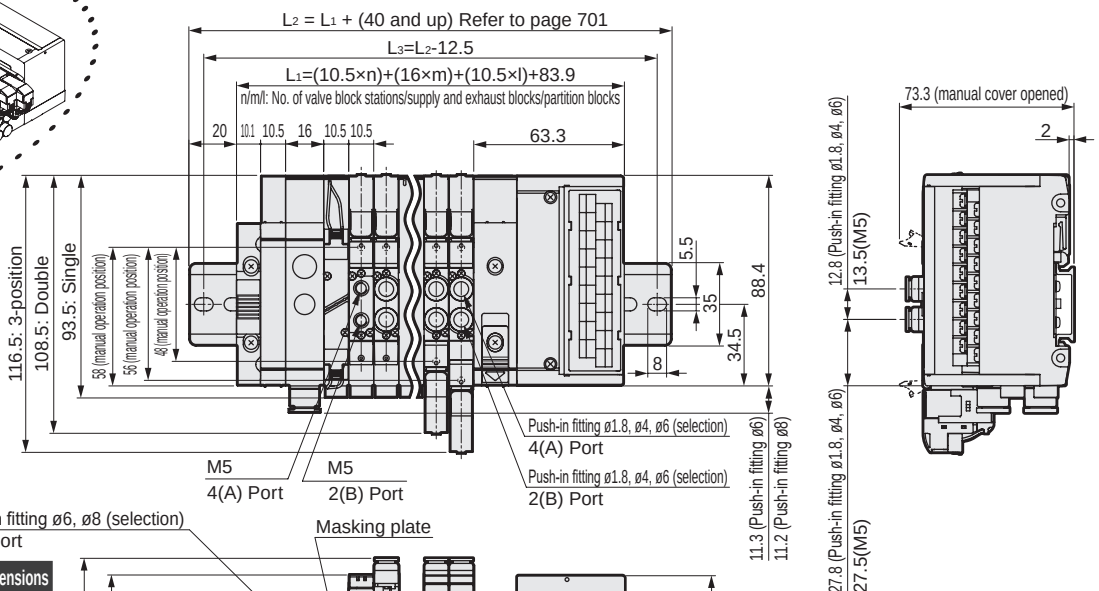
● ø1.8 barbed fitting (CF)

Push-in fitting bore size	* Dimensions
ø1.8	65.1
ø4	69.1
ø6	70.3
ø1/8"	69.6
ø5/32"	69.1

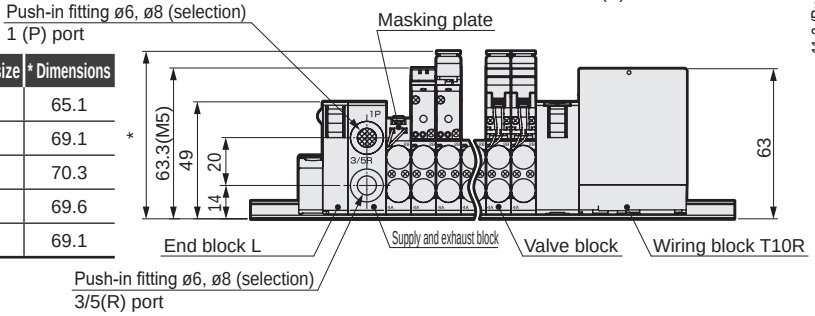
● Common terminal block (M3 thread) right side (T10R)

*1: Clamping specification (T11R) is also available. Dimensions are the same as T10R.
*2: For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.





Push-in fitting bore size	* Dimensions
ø1.8	65.1
ø4	69.1
ø6	70.3
ø1/8"	69.6
ø5/32"	69.1

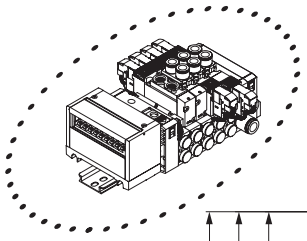


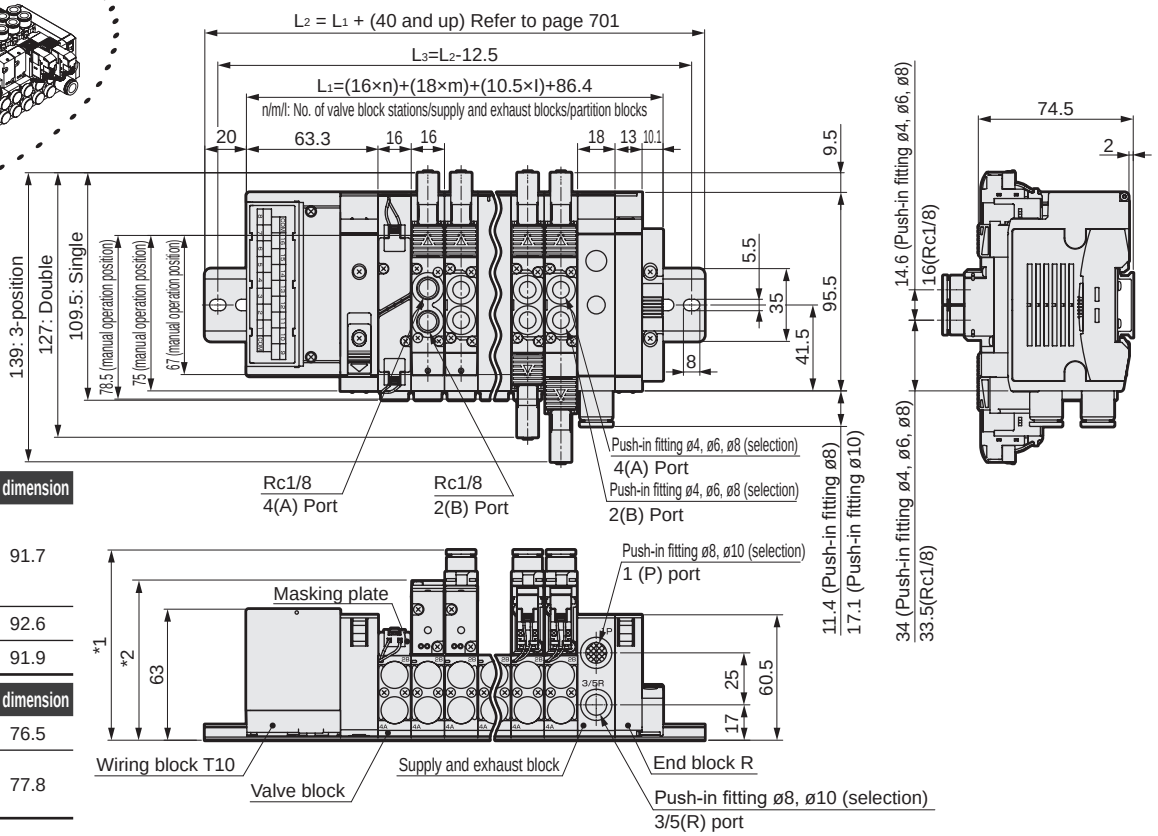
Dimensions CAD

MN4GA2-P7*

*1: Clamping specification (T11) is also available. Dimensions are the same as T10.
*2: For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.

● Common terminal block (M3 thread) left side (T10)



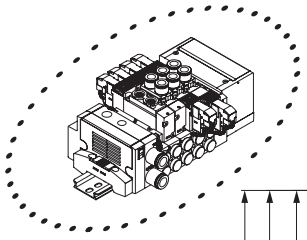


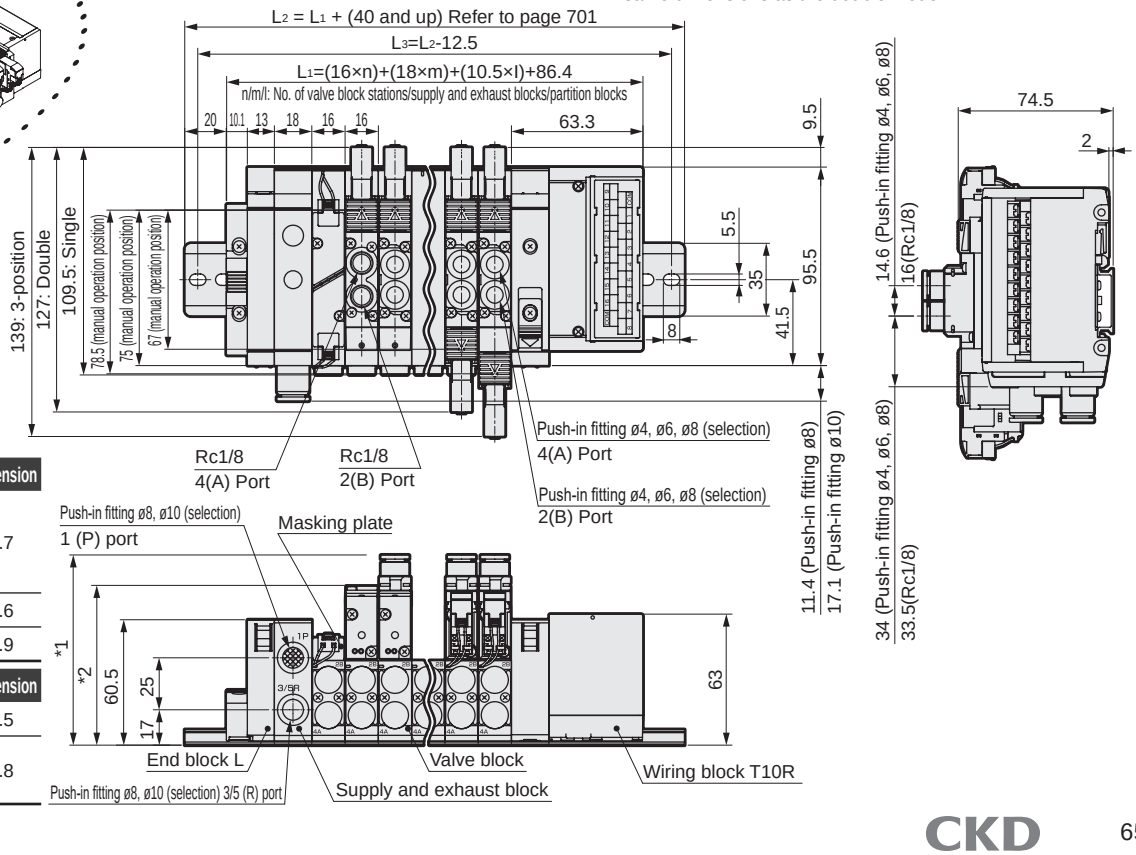
Push-in fitting bore size	*1 dimension
ø4	91.7
ø6	
ø8	
ø1/4"	92.6
ø5/16"	91.9

Female thread bore size	*2 dimension
Rc1/8	76.5
NPT1/8	77.8
G1/8	

● Common terminal block (M3 thread) right side (T10R)

*1: Clamping specification (T11R) is also available. Dimensions are the same as T10R.
*2: For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.





Push-in fitting bore size	*1 dimension
ø4	91.7
ø6	
ø8	
ø1/4"	92.6
ø5/16"	91.9

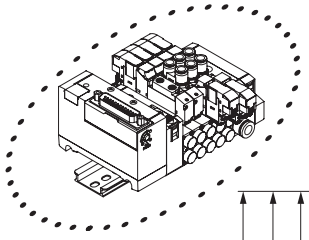
Female thread bore size	*2 dimension
Rc1/8	76.5
NPT1/8	77.8
G1/8	

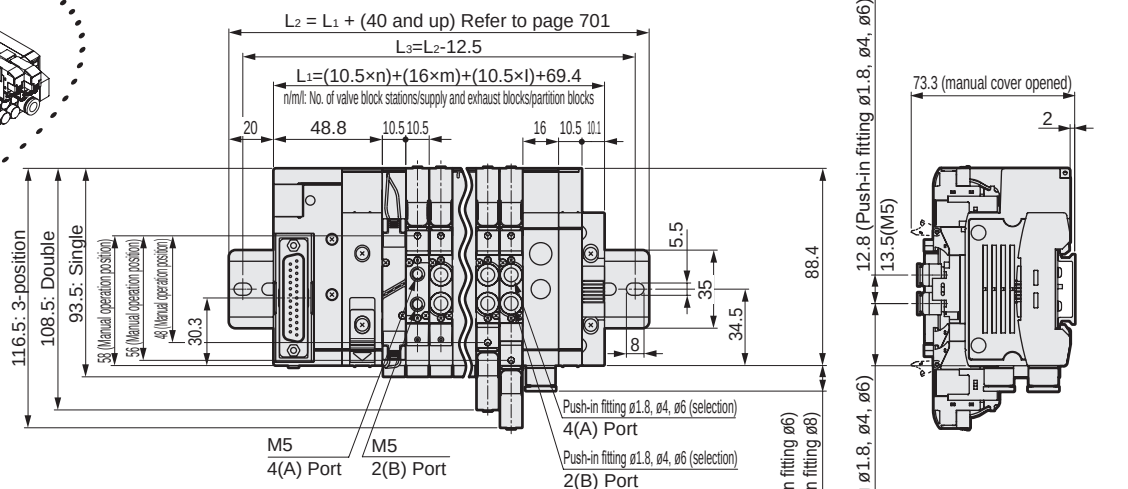
Dimensions CAD

MN4GA1-P7*

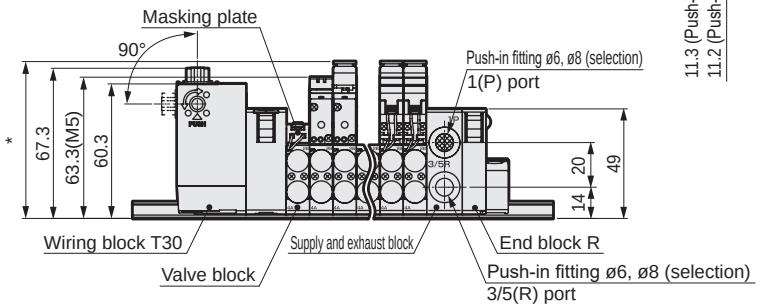
● D sub-connector left side (T30)

Note: For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.

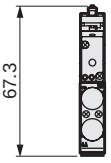




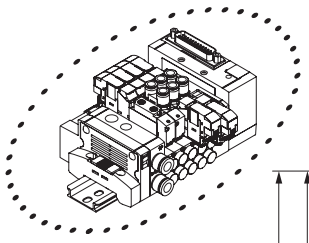
Push-in fitting bore size	* Dimensions
ø1.8	65.1
ø4	69.1
ø6	70.3
ø1/8"	69.6
ø5/32"	69.1

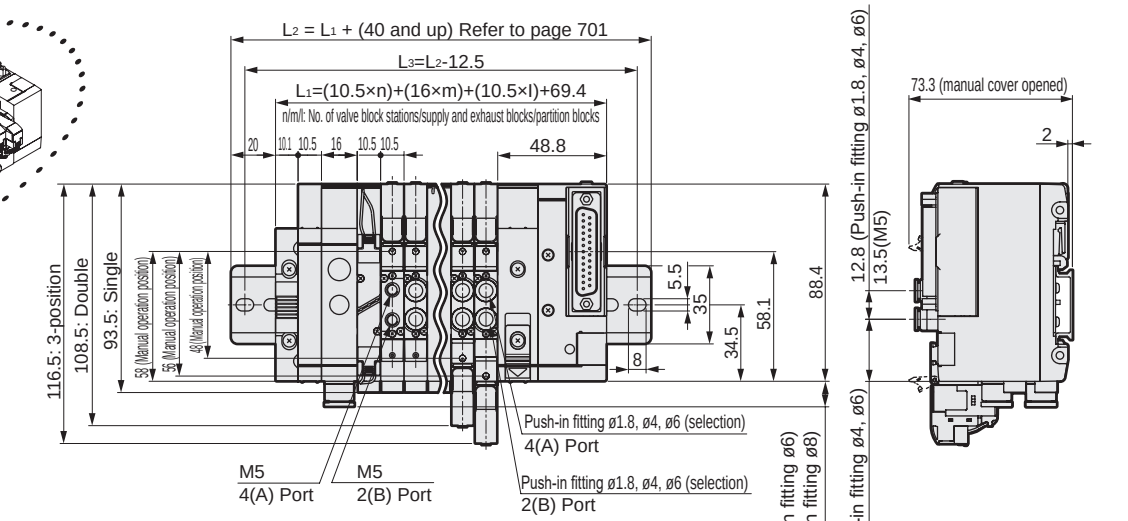


● ø1.8 barbed fitting (CF)

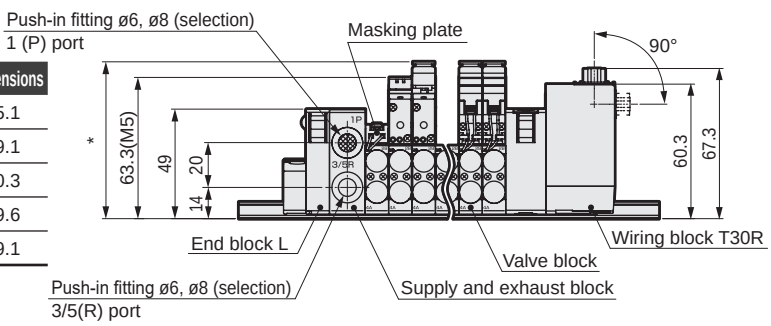


● D sub-connector right side (T30R)





Push-in fitting bore size	* Dimensions
ø1.8	65.1
ø4	69.1
ø6	70.3
ø1/8"	69.6
ø5/32"	69.1

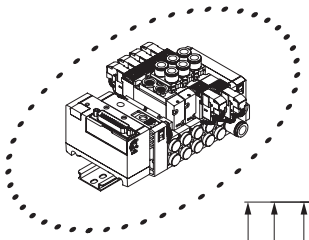


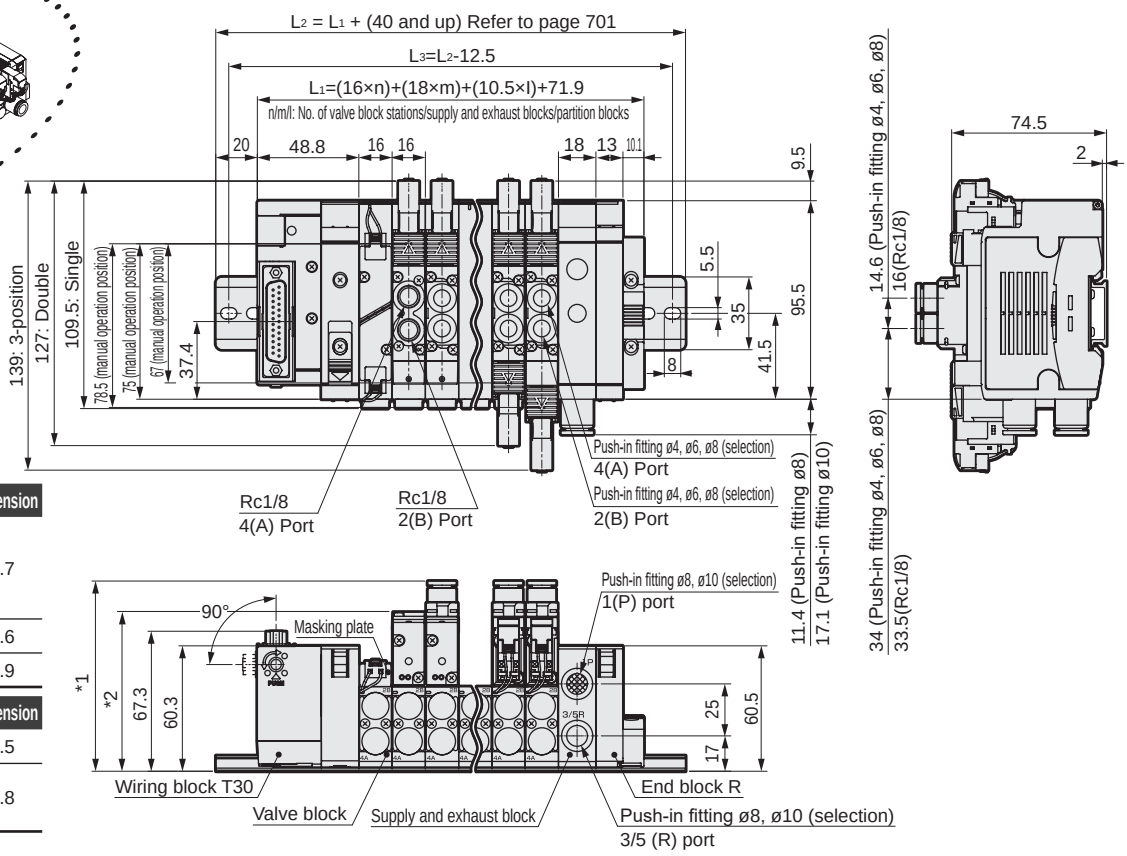
Dimensions CAD

MN4GA2-P7*

● D sub-connector left side (T30)

Note: For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.

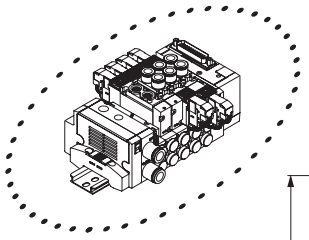


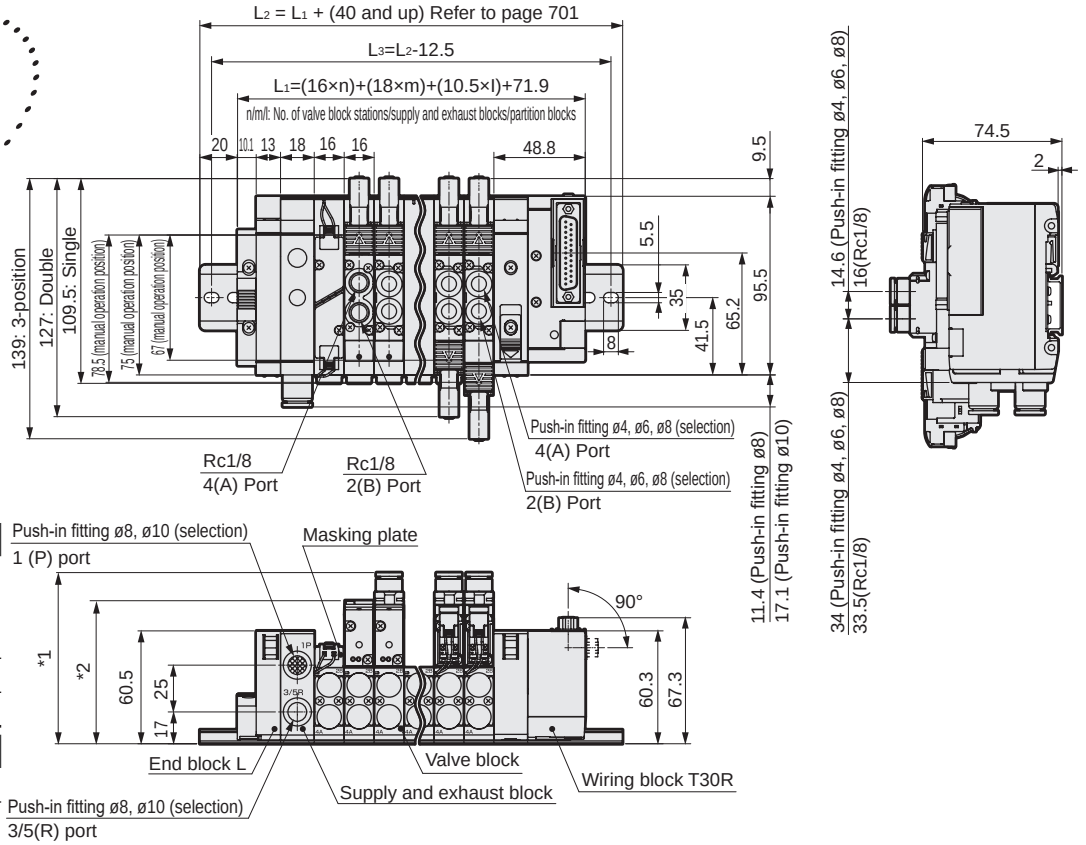


Push-in fitting bore size	*1 dimension
ø4	91.7
ø6	
ø8	
ø1/4"	92.6
ø5/16"	91.9

Female thread bore size	*2 dimension
Rc1/8	76.5
NPT1/8	77.8
G1/8	

● D sub-connector right side (T30R)





Push-in fitting bore size	*1 dimension
ø4	91.7
ø6	
ø8	
ø1/4"	92.6
ø5/16"	91.9

Female thread bore size	*2 dimension
Rc1/8	76.5
NPT1/8	77.8
G1/8	

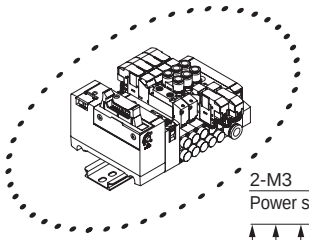
Dimensions CAD

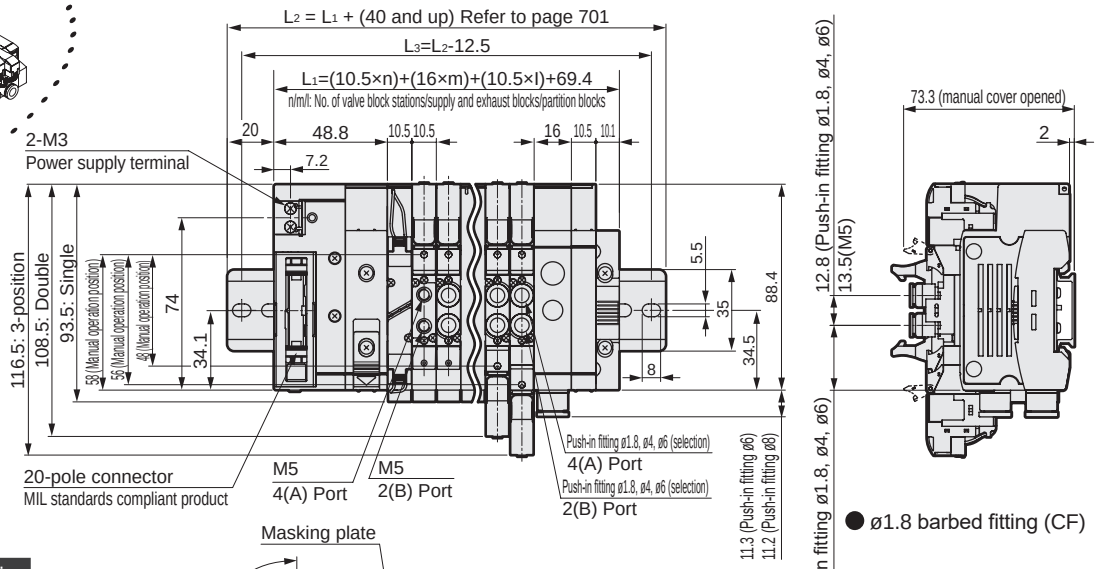
MN4GA1-P7*

*1: T51, T52, and T53 are also available as flat cable connector. Dimensions are the same as T50.

*2: For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.

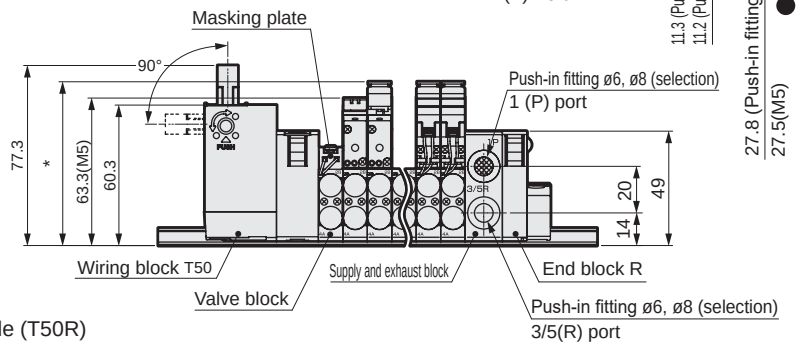
● Flat cable connector left side (T50) with power supply terminal



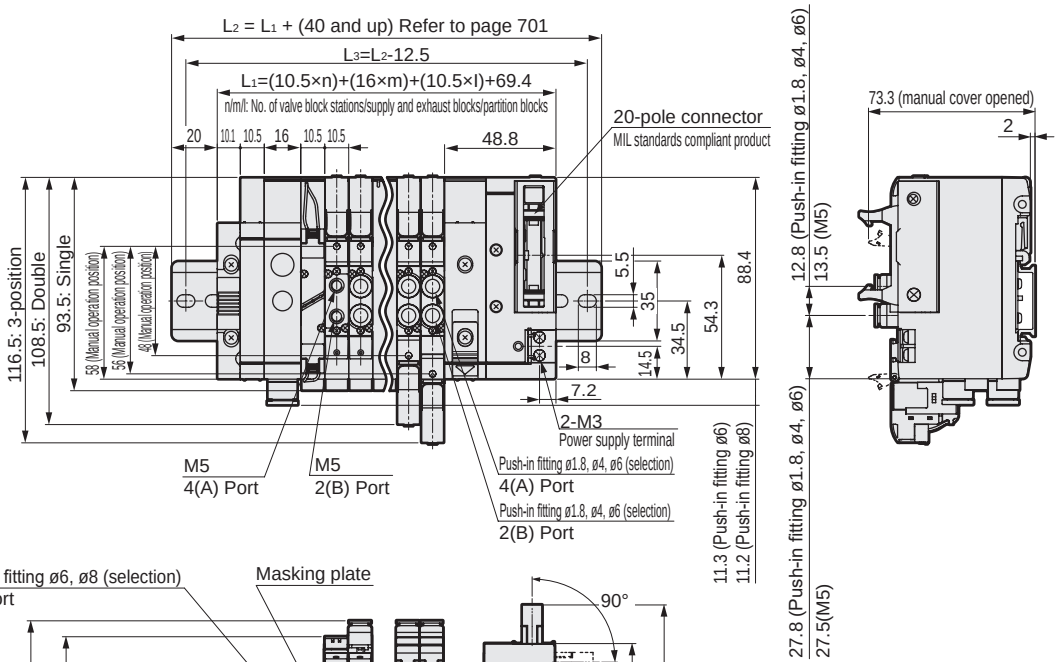


● ø1.8 barbed fitting (CF)

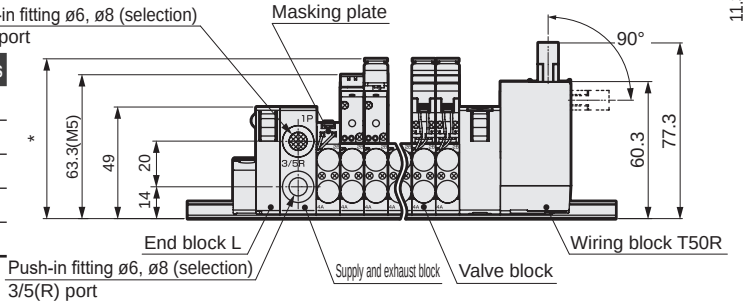
Push-in fitting bore size	* Dimensions
ø1.8	65.1
ø4	69.1
ø6	70.3
ø1/8"	69.6
ø5/32"	69.1



● Flat cable connector right side (T50R) with power supply terminal



Push-in fitting bore size	* Dimensions
ø1.8	65.1
ø4	69.1
ø6	70.3
ø1/8"	69.6
ø5/32"	69.1

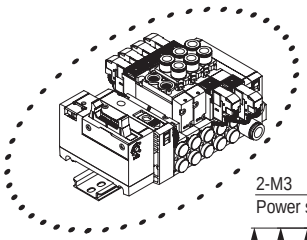


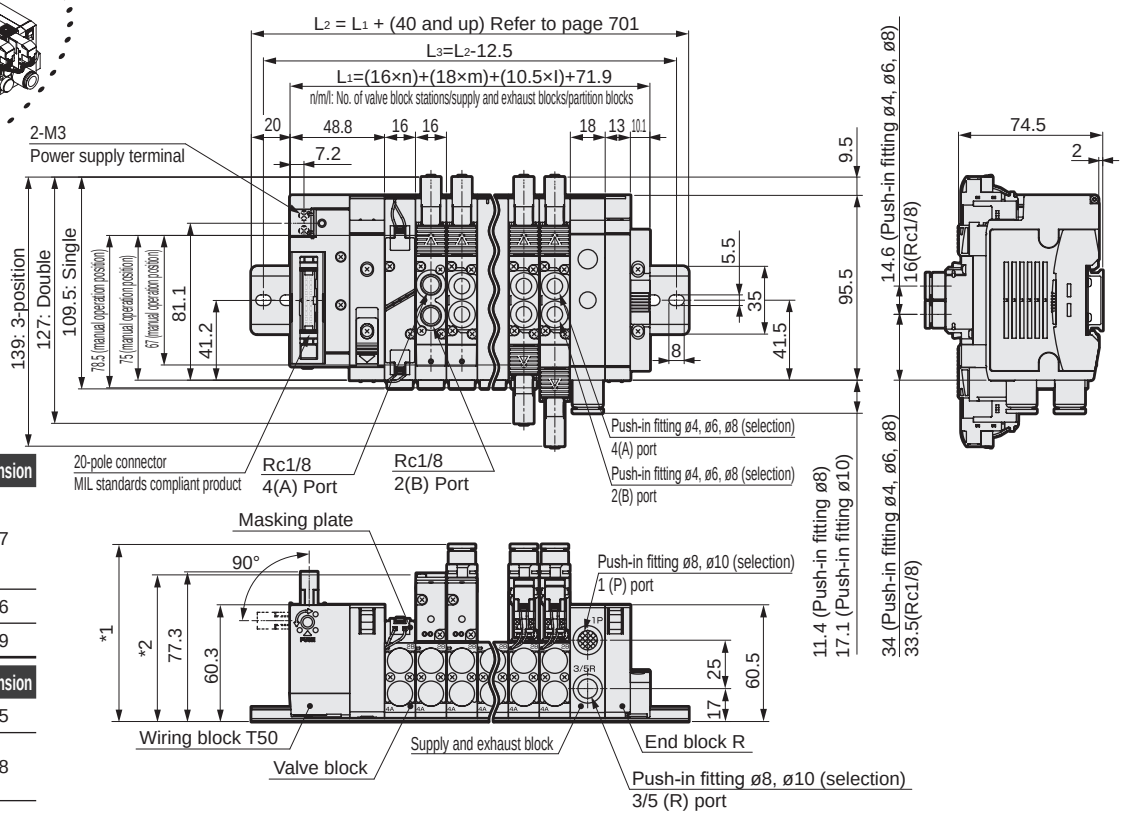
Dimensions

MN4GA2-P7*

*1: T51, T52, and T53 are also available as flat cable connector. Dimensions are the same as T50.
*2: For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.

● Flat cable connector left side (T50) with power supply terminal

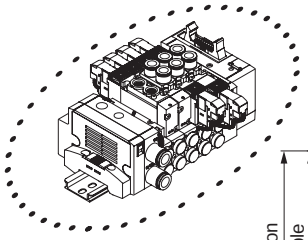


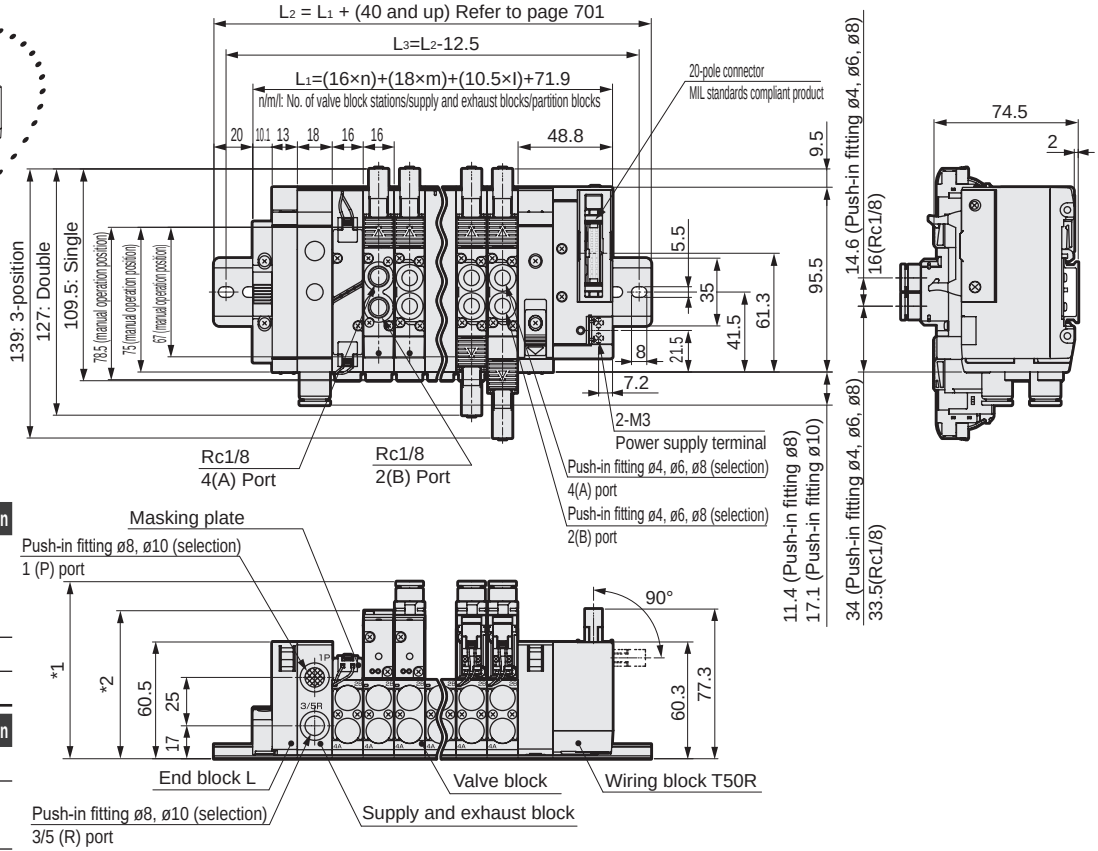


Push-in fitting bore size	*1 dimension
ø4	91.7
ø6	
ø8	
ø1/4"	92.6
ø5/16"	91.9

Female thread bore size	*2 dimension
Rc1/8	76.5
NPT1/8	77.8
G1/8	

● Flat cable connector right side (T50R) with power supply terminal





Push-in fitting bore size	*1 dimension
ø4	91.7
ø6	
ø8	
ø1/4"	92.6
ø5/16"	91.9

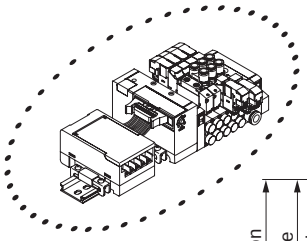
Female thread bore size	*2 dimension
Rc1/8	76.5
NPT1/8	77.8
G1/8	

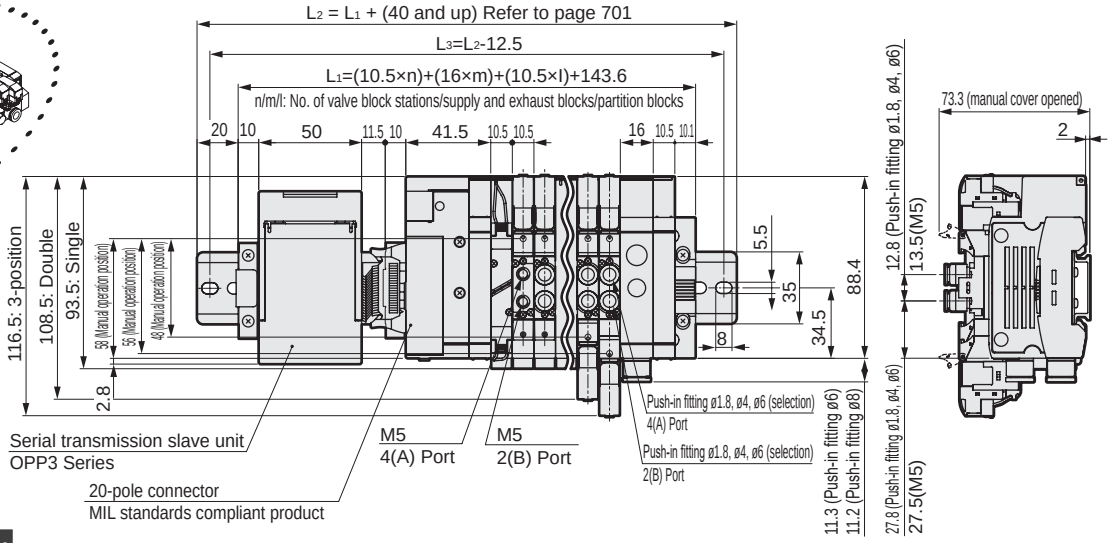
Dimensions CAD

MN4GA1-P7*

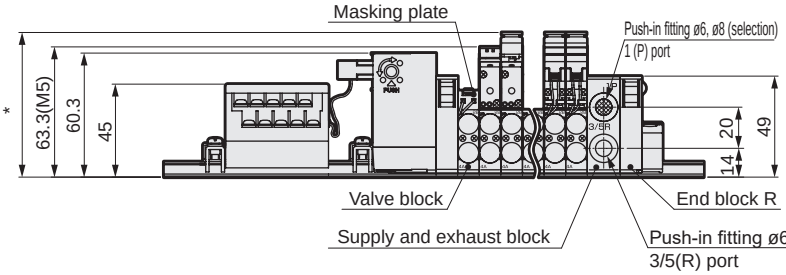
● Serial transmission (T6G1)

Note: For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.

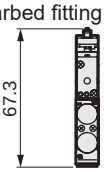




Push-in fitting bore size	* Dimensions
ø1.8	65.1
ø4	69.1
ø6	70.3
ø1/8”	69.6
ø5/32”	69.1

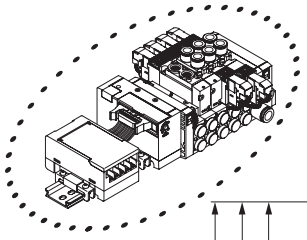


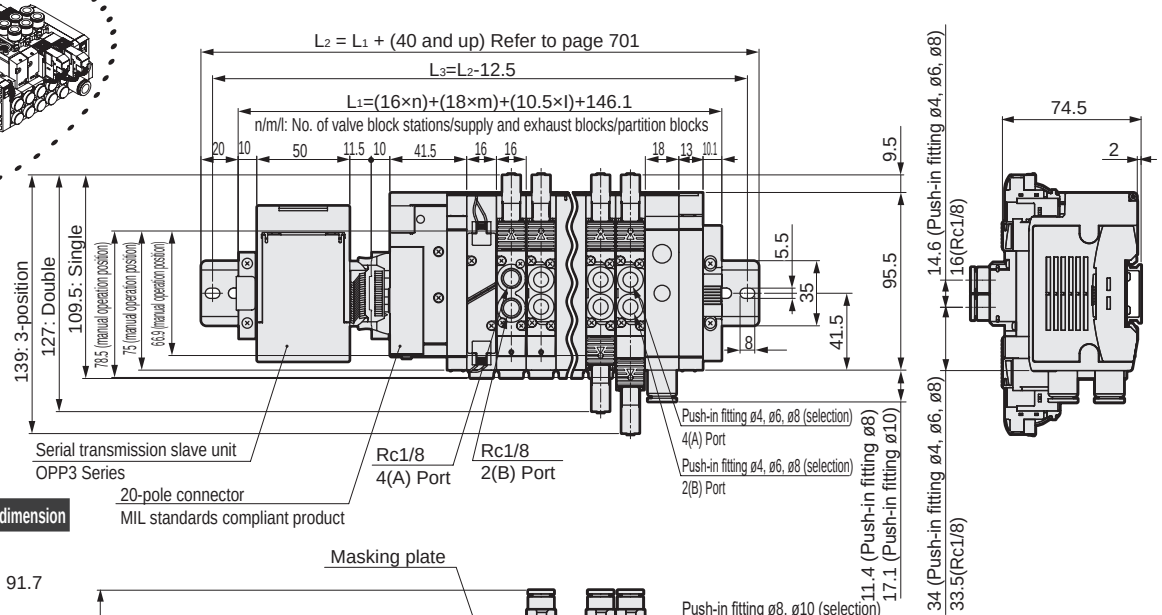
● ø1.8 barbed fitting (CF)



MN4GA2-P7*

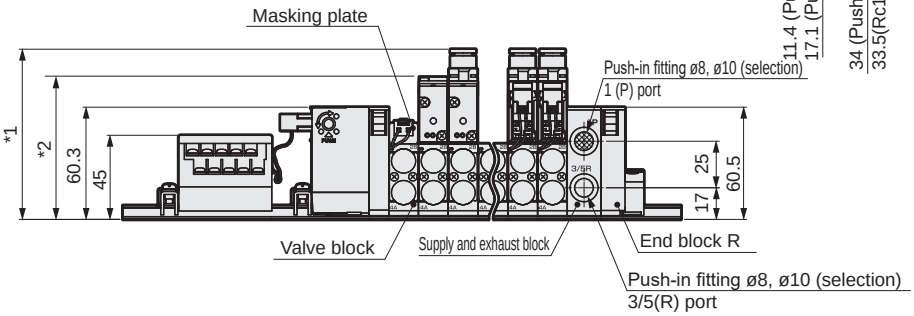
● Serial transmission (T6G1)





Push-in fitting bore size	*1 dimension
ø4	91.7
ø6	
ø8	
ø1/4”	92.6
ø5/16”	91.9

Female thread bore size	*2 dimension
Rc1/8	76.5
NPT1/8	77.8
G1/8	

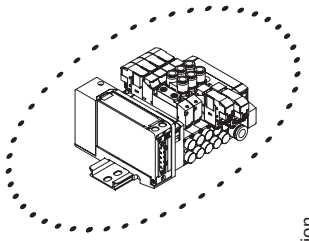


Dimensions

MN4GA1-P7*

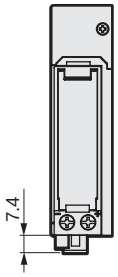
● Thin serial transmission (T7□)

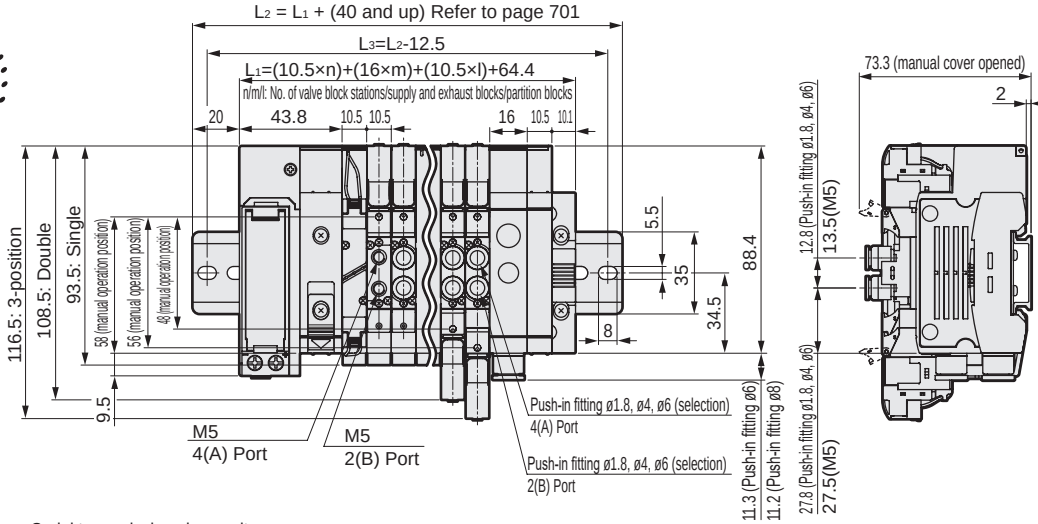
Note: For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.

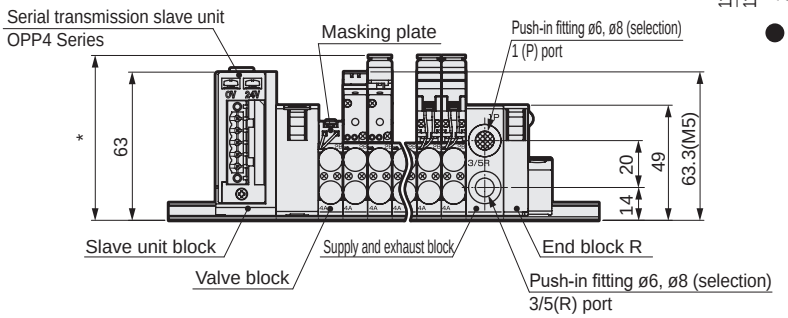


Push-in fitting bore size	* Dimensions
ø1.8	65.1
ø4	69.1
ø6	70.3
ø1/8"	69.6
ø5/32"	69.1

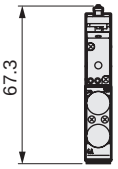
For T7S□1





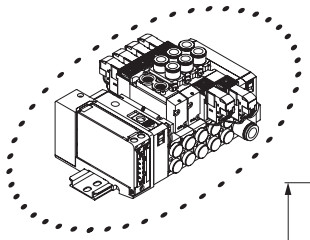


● ø1.8 barbed fitting (CF)



MN4GA2-P7*

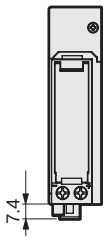
● Thin serial transmission (T7□)

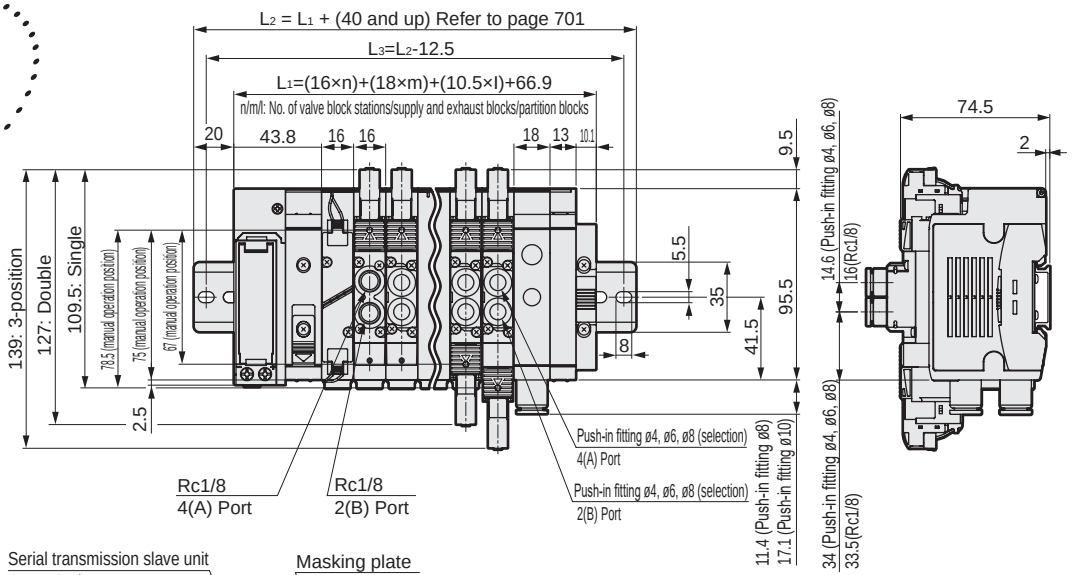


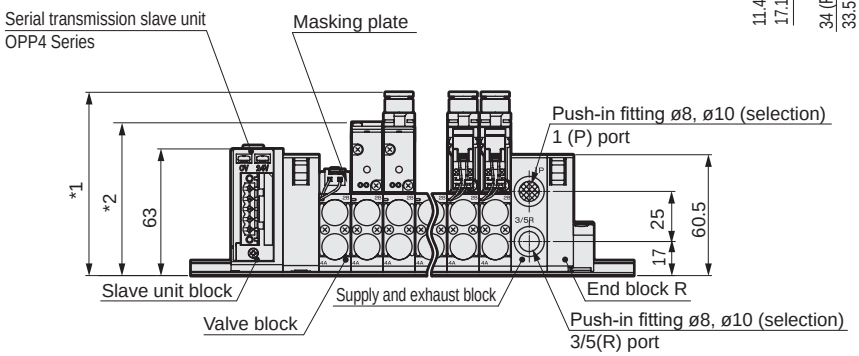
Push-in fitting bore size	*1 dimension
ø4	91.7
ø6	
ø8	
ø1/4"	92.6
ø5/16"	91.9

Female thread bore size	*2 dimension
Rc1/8	76.5
NPT1/8	77.8
G1/8	

For T7S□1





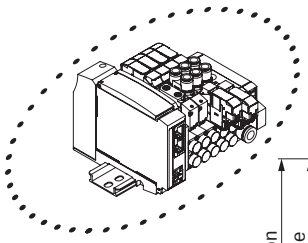


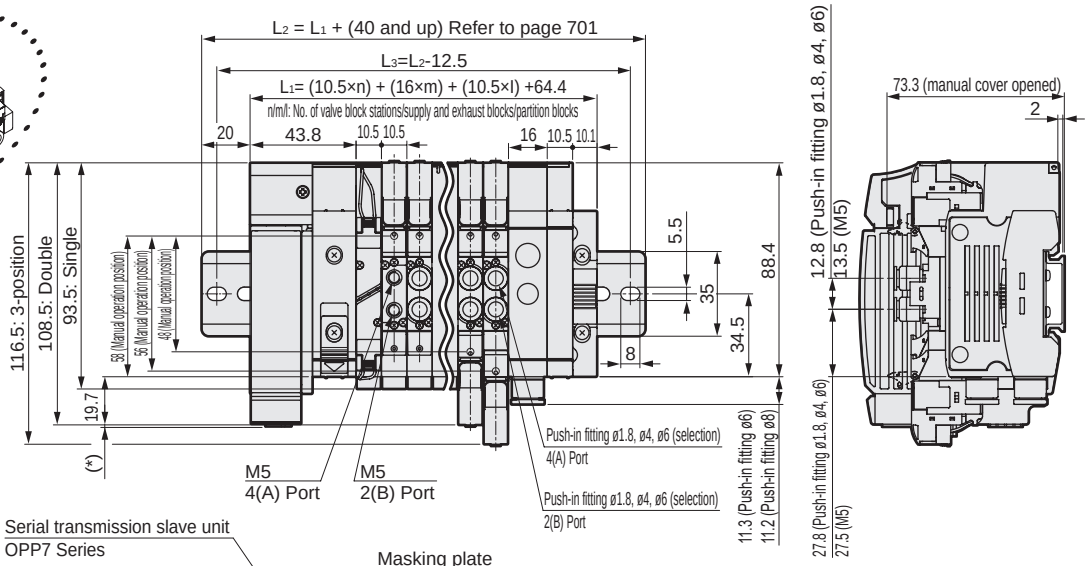
Dimensions

MN4GA1-P7*

● Thin serial transmission (T8□)

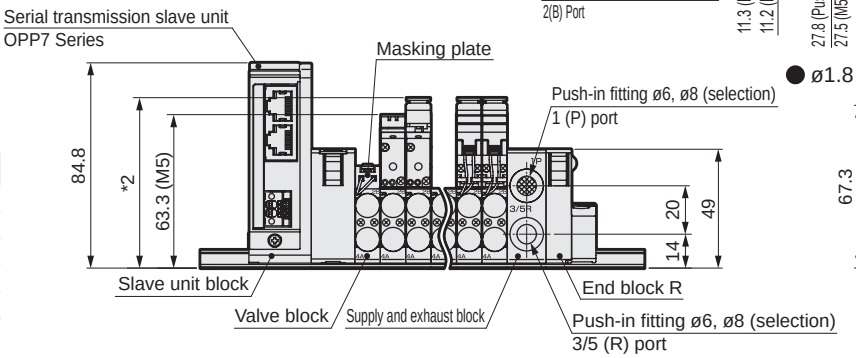
Note: For the 2-position single 3-port valve, either A port or B port is a plug. In addition, the two 3-port valve integrated have the same dimensions as the double model.



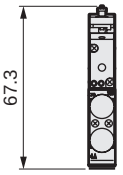


Serial transmission	*1 dimension
T8G□	1.0
T8P□	4.9
T8E□	1.5
T8D□	1.0
T8K□	1.0

Push-in fitting bore size	* Dimensions
ø1.8	65.1
ø4	69.1
ø6	70.3
ø1/8”	69.6
ø5/32”	69.1

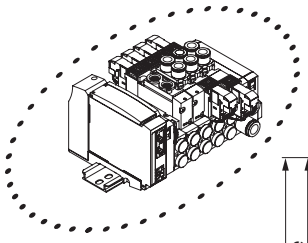


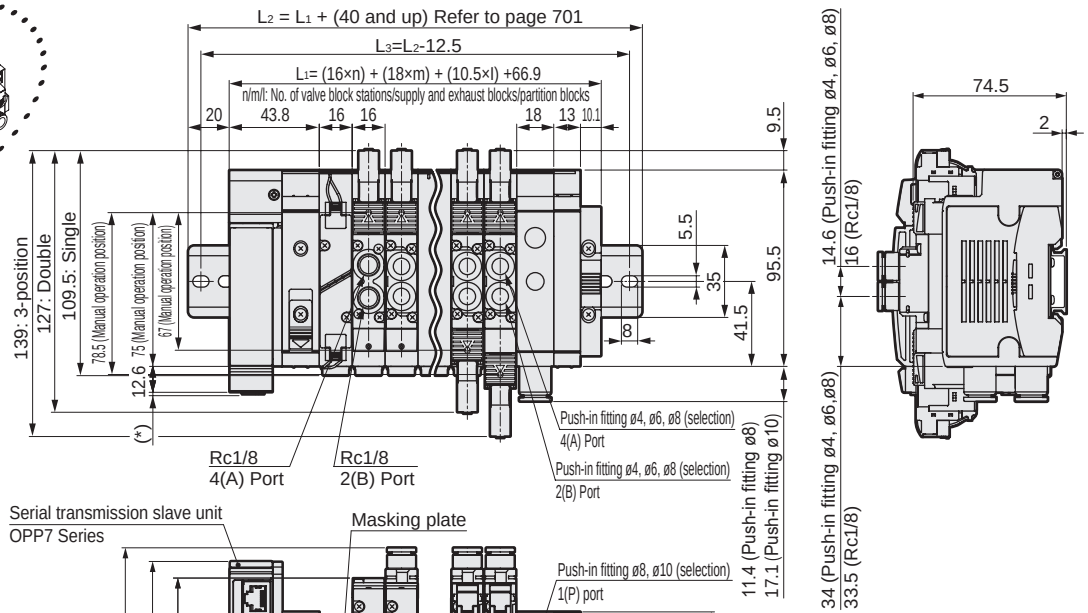
● ø1.8 barbed fitting (CF)



MN4GA2-P7*

● Thin serial transmission (T8□)

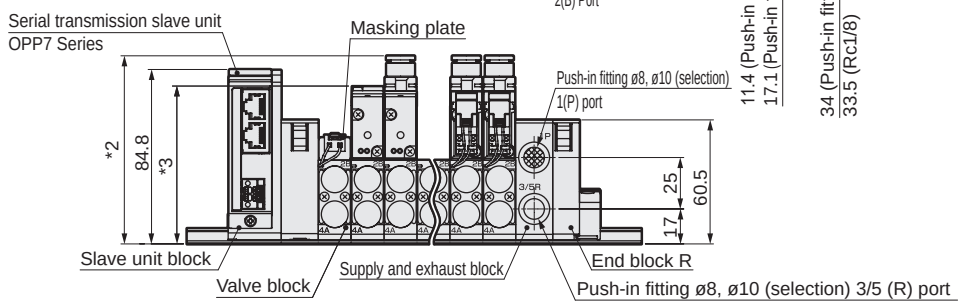




Serial transmission	*1 dimension
T8G□	1.0
T8P□	4.9
T8E□	1.5
T8D□	1.0
T8K□	1.0

Push-in fitting bore size	*2 dimension
ø4	91.7
ø6	
ø8	
ø1/4”	92.6
ø5/16”	91.9

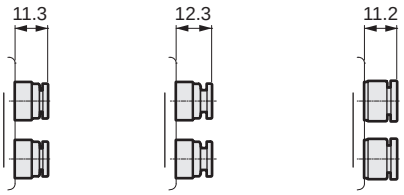
Female thread bore size	*3 dimension
Rc1/8	76.5
NPT1/8	77.8
G1/8	



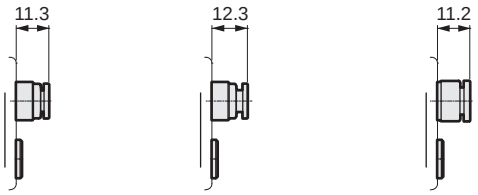
Dimensions

MN4G1 Supply and exhaust block

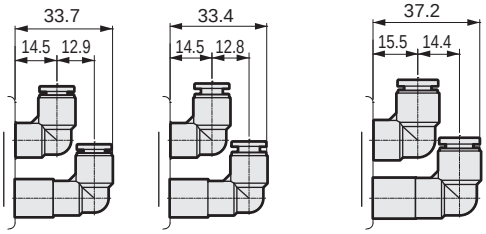
● Fitting straight
● ø6(6) ● ø6.4(6N) ● ø8(8)



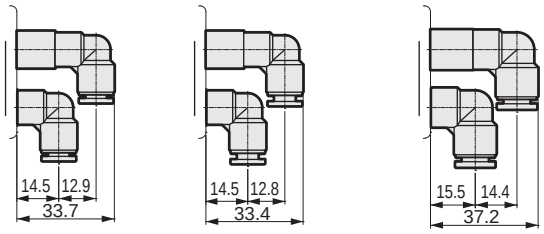
● Fitting straight, single plug
● ø6(6X) ● ø6.4(6NX) ● ø8(8X)



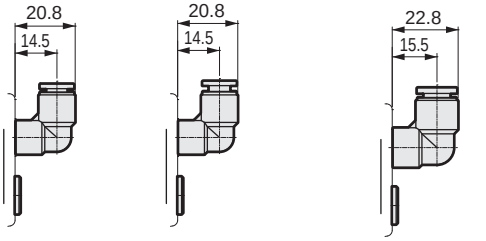
● L Fitting (upward)
● ø6(6L) ● ø6.4(6LN) ● ø8(8L)



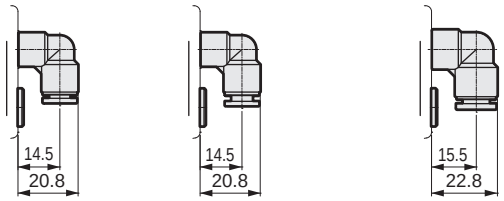
● L Fitting (downward)
● ø6(6D) ● ø6.4(6DN) ● ø8(8D)



● L Fitting (upward), single plug
● ø6(6LX) ● ø6.4(6LXN) ● ø8(8LX)

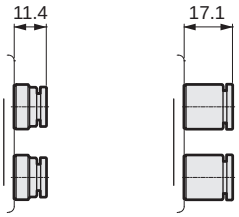


● L Fitting (downward), single plug
● ø6(6DX) ● ø6.4(6DXN) ● ø8(8DX)

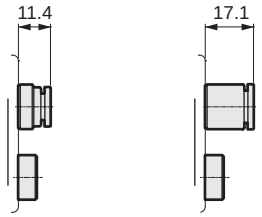


MN4G2 Supply and exhaust block

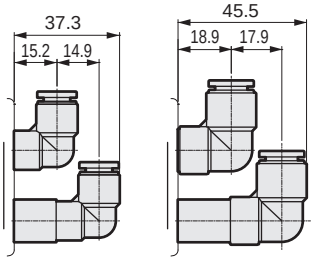
● Fitting straight
● ø8(8) ● ø10(10)



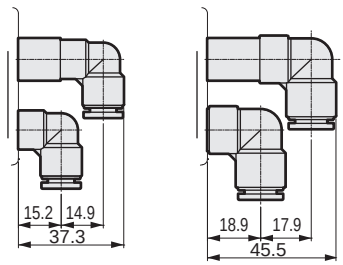
● Fitting straight, single plug
● ø8(8X) ● ø10(10X)



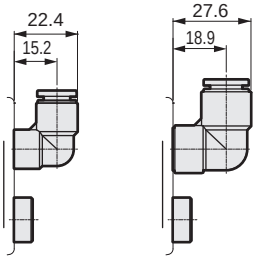
● L Fitting (upward)
● ø8(8L) ● ø10(10L)



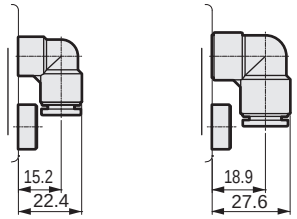
● L Fitting (downward)
● ø8(8D) ● ø10(10D)

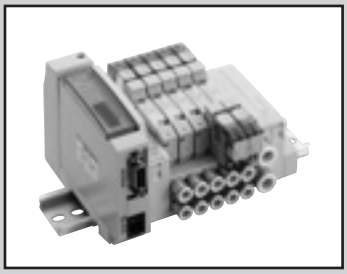


● L Fitting (upward), single plug
● ø8(8LX) ● ø10(10LX)



● L Fitting (downward), single plug
● ø8(8DX) ● ø10(10DX)





Reduced wiring block manifold
Base piping

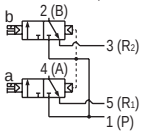
MN4GB1/2-T* Series

● Applicable cylinder bore size: ø20 to ø80

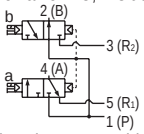
RoHS CAD

JIS symbol

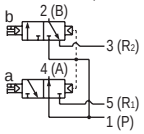
● Dual 3-port valve integrated
(A side valve: NC, B side valve: NC)



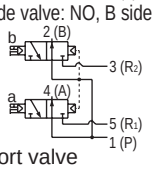
(A side valve: NC, B side valve: NO)



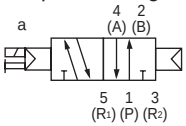
(A side valve: NO, B side valve: NC)



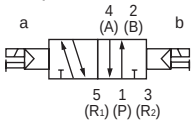
(A side valve: NO, B side valve: NO)



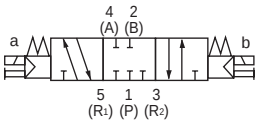
● 5-port valve
2-position single



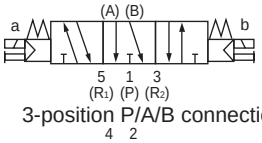
2-position double



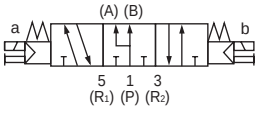
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Structure and material restriction

	Structure	Material restriction			Model No.
P7 Series	Dust generation preventing				− P70
	Dust generation preventing	Copper-based materials prohibited	Silicon-based materials prohibited	Halogen-based materials prohibited (fluorine, chlorine, bromine)	− P74 Custom order product

Manifold common specifications

Item	Description
Manifold	Block manifold
Mounting method	DIN rail mount
Supply and exhaust method	Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Main valve/pilot valve common exhaust (Pilot exhaust check valve built-in)
Piping direction	Valve top direction
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2 (*3)
Proof pressure MPa	1.05
Ambient temp °C	-5 to 55 (no freezing)
Fluid temp °C	5 to 55
Manual override	Non-locking/locking common (standard)
Lubrication (*1)	Not required
Degree of protection (*2)	Dust-proof
Vibration resistance m/s²	50 or less
Shock resistance m/s²	300 or less
Atmosphere	Cannot be used in corrosive gas environments

Electrical specifications

Item		Description		
Rated voltage V		T1□, T30□, T5□ 24 DC	T1□, T30□, T5□ 12 DC	T6G1, T7□, T8□ 24 DC
Voltage fluctuation range (*4)		±10%		+10%, -5%
Holding current A	Standard	0.017	0.034	0.017
	With low exoergic/energy saving circuit	0.005	0.010	0.005
Power consumption W	Standard	0.4		
	With low exoergic/energy saving circuit	0.1		
Thermal class		B		
Surge suppressor (*5)		Zener diode		
Indicator		LED		

*1 Use turbine oil Class 1 ISO VG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
*2 Dust-proof degree of protection. Not drip-proof. Avoid dripping water or oil, etc., during use.
*3 The working pressure range is 0 to 0.7 MPa when the external pilot (option code: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.
*4 T6G1, T7□ and T8□ (serial transmission) may experience voltage drops due to internal circuitry, so care should be taken when regulating voltages.
*5 If low exoergic/energy circuit or surgeless types are selected then there will be a diode.

Individual specifications

Item			MN3GB1/MN4GB1									
			T10	T11	T30	T50	T51	T52	T53	T6G1	T7*1	T8*1/2
Max. station No.	Standard wiring		16 stations	24 stations	24 stations	16 stations	18 stations	8 stations	24 stations	16 stations	8/16 stations	16/24 stations
	Double wiring		8 stations	12 stations	12 stations	8 stations	9 stations	4 stations	12 stations	8 stations	4/8 stations	8/16 stations
Max. number of solenoids			16 points	24 points	24 points	16 points	18 points	8 points	24 points	16 points	8/16 points	16/32 points
Port size	Metric fitting/ M5, Rc thread	A/B port	Barbed fitting ø1.8 push-in fitting ø1.8, ø4, ø6									
		P/R port	Push-in fitting ø6, ø8									
	Inch fitting/M5, NPT thread	A/B port	Push-in fitting ø1/8", ø5/32"									
		P/R port	Push-in fitting ø1/4", ø5/16"									

· For weight, refer to page 666.

Item			MN3GB2/MN4GB2									
			T10	T11	T30	T50	T51	T52	T53	T6G1	T7*1	T8*1/2
Max. station No.	Standard wiring		16 stations	20 stations	20 stations	16 stations	18 stations	8 stations	20 stations	16 stations	8/16 stations	16/20 stations
	Double wiring		8 stations	12 stations	12 stations	8 stations	9 stations	4 stations	12 stations	8 stations	4/8 stations	8/16 stations
Max. number of solenoids			16 points	24 points	24 points	16 points	18 points	8 points	24 points	16 points	8/16 points	16/32 points
Port size	Metric fitting/ M5, Rc thread	A/B port	Push-in fitting ø4, ø6, ø8, Rc1/8									
		P/R port	Push-in fitting ø8, ø10									
	Inch fitting/M5, NPT thread	A/B port	Push-in fitting ø1/4", ø5/16", NPT1/8									
		P/R port	Push-in fitting ø5/16", ø3/8"									

· For weight, refer to page 666.

Flow characteristics

Model No.	Solenoid position		P→A/B C[dm³/(s·bar)]	P→A/B b	A/B→R1/R2 C[dm³/(s·bar)]	A/B→R1/R2 b
MN3GA1 MN4GA1	Two 3-port valves integrated		0.86	0.35	1.0 (0.66)	0.15 (0.25)
	2-position		1.0	0.30	1.1 (0.72)	0.11 (0.26)
	3-position	All ports closed	0.96	0.32	1.0 -	0.14 -
		ABR connection	0.96	0.29	1.2 (0.71)	0.11 (0.30)
		PAB connection	1.1	0.31	1.0 -	0.15 -
MN3GA2 MN4GA2	Two 3-port valves integrated		1.7	0.42	2.2 (1.6)	0.15 (0.19)
	2-position		2.4	0.35	2.5 (1.7)	0.19 (0.19)
	3-position	All ports closed	2.2	0.38	2.3 -	0.17 -
		ABR connection	2.2	0.38	2.5 (1.7)	0.18 (0.20)
		PAB connection	2.3	0.29	2.3 -	0.15 -

*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.
*2: Values in ( ) are with the exhaust check valve.

Reduced wiring specifications

Item	T10	T11	T30	T50	T51	T52	T53
Type	Common terminal block M3 thread	Common terminal block clamping	D-sub-connector	20-pin flat cable connector (with power supply terminal)	20-pin flat cable connector, no power supply terminal	10-pin flat cable connector, no power supply terminal	26-pin flat cable connector, no power supply terminal
Connector	—	—	D-sub-connector 25-pin	MIL-C-83503 standard compliant pressure welding socket 20-pin	MIL-C-83503 standard compliant pressure welding socket 20-pin	MIL-C-83503 standard compliant pressure welding socket 10-pin	MIL-C-83503 standard compliant pressure welding socket 26-pin

Serial transmission slave unit specifications

* The communication setting file can be downloaded from the CKD website (https://www.ckd.co.jp/en/).

Item		T6G1
Network name		CC-Link ver. 1.10
Power supply voltage	Unit side	24 VDC ±10%
	Valve side	24 VDC +10%, -5%
Current consumption	Unit side	100 mA or less (when all output points are ON)
	Valve side	15 mA or less (when all output points are OFF)
No. of I/O points		16 points
Occupied number		1 station
Operation display		LED (power supply and communication status)
Output		NPN

Item		T7G1	T7L1 *1	T7D1	T7S1	T7SP1
Network name		CC-Link ver. 1.10	SAVE NET	DeviceNet *2	CompoNet	
Power supply voltage	Unit side	24 VDC +10%, -5% Common power supply terminal				
	Valve side					
	Unit side	—	—	11 to 25 VDC *3	14.0 to 26.4 VDC	
Current consumption	Unit side	110 mA or less (when all output points are ON) Load current is not included			40 mA or less (when all output points are ON) Load current is not included	
	Valve side					
	Unit side	—	—	50 mA or less	65 mA or less (all points ON: 24 VDC) 95 mA or less (all points ON: 14 VDC)	
No. of I/O points		16 points	16 points	16 points	16 points	
Occupied number		1 station	1 station	2 bytes	Word slave 1 node (16 points)	
Operation display		LED (power supply and communication status)				
Output		NPN				PNP

Item		T8G1 / T8G2	T8GP1 / T8GP2	T8P1 / T8P2	T8PP1 / T8PP2	T8EC1 / T8EC2	T8ECP1 / T8ECP2	T8EN1 / T8EN2	T8ENP1 / T8ENP2	T8D1 / T8D2	T8DP1 / T8DP2	T8EB1 / T8EB2	T8EBP1 / T8EBP2	T8EF1 / T8EF2	T8EFP1 / T8EFP2	T8EP1 / T8EP2	T8EPP1 / T8EPP2	T8KC1 / T8KC2	T8KCP1 / T8KCP2
Communication protocol		CC-Link ver. 1.10		PROFIBUS-DP (V0)		EtherCAT		EtherNet/IP		DeviceNet		CC-Link IEF Basic		CC-Link IE Field		PROFINET		IO-Link	
Power supply voltage	Unit side	24 VDC ±10% (only the T8D* is 11 to 25 VDC)																	
	Valve side	24 VDC +10%, -5%																	
Current consumption	Unit side	60 mA or less (when all output points are ON)		60 mA or less (when all output points are ON)		110 mA or less (when all output points are ON)		120 mA or less (when all output points are ON)		70 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)		140 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)		50 mA or less (when all output points are ON)	
	Valve side	T8□1: 15 mA or less T8□2: 20 mA or less (When all output points are ON) Load current is not included								15 mA or less (When all output points are ON) Load current is not included									
No. of I/O points		T8□1: 16 points T8□2: 32 points																	
Occupied number		1 station																	
Operation display		LED (power supply and communication status)																	
Output		NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output

*1 Transmission bit rate of 128 bits and half-duplex transmission method are supported. Contact CKD for other specifications.
*2 DeviceNet compliant networks (DLNK, etc.) are supported as well.
*3 Communication power supply (V+ and V- of DeviceNet cable) is isolated from power supply terminals (unit power supply/valve power supply).

MN4GB1/2-T* Series

Reduced wiring block manifold; base piping

How to order

● Manifold model No.

MN4GB1 1 0 R - C6 - T30 W H - 10 - 3 - P70

● 3-port manifold model No.

MN3GB1 66 0 R - C6 - T30 W H - 10 - 3 - P70

● Discrete valve block with solenoid valve

N4GB1 1 0 R - C6 - A2N *1 H — 3 - P70

● Discrete 3-port valve block with solenoid valve

N3GB1 66 0 R - C6 - A2N *1 H — 3 - P70

* When a cable is required, refer to page 686 and specify the cable length for *1. When a cable is not required, leave the space blank.

● Discrete solenoid valve

4GB1 1 9 R - 00 - A2N H — 3 - P70

● Discrete 3-port solenoid valve

3GB1 66 9 R - 00 - A2N H — 3 - P70

Ⓐ Model No.
Ⓑ Solenoid position
Ⓒ Port size (*1) (*2) (*3)
Ⓓ Reduced wiring connection, serial transmission
Ⓔ Terminal/ connector pin array
Ⓕ Option
Ⓖ Station No.
Ⓗ Voltage
Ⓘ Clean room specs

Precautions for model selection

*1 : A and B port plug specifications are available for the 2-position single only.
Specify the P/R port bore size with the supply and exhaust block model No. in the manifold specifications sheet.
*2 : A and B ports are the same size for radial push-in fitting mix (CX).
*3 : For a discrete solenoid valve, select "00" for Port size.
*4 : Select MN4GB*80R when mixing with 4, 5-port valves.
Further, select MN3GB*80R when mixing with masking plate.
*5 : Not compatible with combination with external pilot (K).
Dimensions are the same as those of the respective 2-position double solenoid.
*6 : Simultaneously select option “L” for types other than single solenoid.
*7 : The push-in fitting cannot be mixed with the discrete valve’s 4(A) or 2(B) port.
*8 : Available only for single solenoids.

Code	Description		Ⓐ Model No. Manifold: Two 3-port valves integrated MN3GB1	MN3GB2	5-port valve MN4GB1	MN4GB2	Discrete valve block + solenoid valve/Discrete solenoid valve (N)3GB1	(N)3GB2	(N)4GB1	(N)4GB2
Ⓑ 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				●	●			●	●
66	Two 3-port valves integrated (*4) (*5)	A side valve: Normally closed B side valve: Normally closed	●	●			●	●		
67		A side valve: Normally closed B side valve: Normally open	●	●			●	●		
76		A side valve: Normally open B side valve: Normally closed	●	●			●	●		
77		A side valve: Normally open B side valve: Normally open	●	●			●	●		
8	Mix manifold (for multiple solenoid positions)		●	●	●	●	●	●	●	●
Ⓒ Port size (A/B-port)										
Code	**Metric fitting/Rc thread**									
CF	ø1.8 barbed fitting (compatible tube UP-9102-**)		●		●		●		●	
C18	ø1.8 push-in fitting (compatible tube UP-9402-**)		●		●		●		●	
C4	ø4 push-in fitting		●	●	●	●	●	●	●	●
C6	ø6 push-in fitting		●	●	●	●	●	●	●	●
C8	ø8 push-in fitting			●		●		●		●
CL18	Radial ø1.8 push-in fitting upward (compatible tube UP-9402-**) (*6)		●		●		●		●	
CL4	Radial ø4 push-in L fitting upward (*6)		●		●		●		●	
CL6	Radial ø6 push-in fitting (upward) (*6)		●	●	●	●	●	●	●	●
CL8	Radial ø8 push-in fitting (upward) (*6)			●		●		●		●
CD18	Radial ø1.8 push-in fitting downward (compatible tube UP-9402-**)		●		●		●		●	
CD4	Radial ø4 push-in fitting (downward)		●		●		●		●	
CD6	Radial ø6 push-in fitting (downward)		●	●	●	●	●	●	●	●
CD8	Radial ø8 push-in fitting (downward)			●		●		●		●
CX	Push-in fitting mix (*7)		●	●	●	●				
Single, plug specs	A port	B port								
CFNC	ø1.8 barbed (tube UP-9102-**)	Plug			●				●	
C18NC	ø1.8 push-in (tube UP-9402-**)				●				●	
C4NC	ø4 push-in fitting				●	●			●	●
C6NC	ø6 push-in fitting				●	●			●	●
C8NC	ø8 push-in fitting					●				●
CFNO	Plug	ø1.8 barbed fitting (compatible tube UP-9102-**)			●				●	
C18NO		ø1.8 push-in fitting (compatible tube UP-9402-**)			●				●	
C4NO		ø4 push-in fitting			●	●			●	●
C6NO		ø6 push-in fitting			●	●			●	●
C8NO		ø8 push-in fitting				●				●
CL18NC	Radial ø1.8 push-in upward (tube UP-9402-**)	Plug			●				●	
CL4NC	Radial ø4 push-in fitting (upward)				●				●	
CL6NC	Radial ø6 push-in fitting (upward)				●	●			●	●
CL8NC	Radial ø8 push-in fitting (upward)					●				●
CL18NO	Plug	Radial ø1.8 push-in upward (tube UP-9402-**)			●				●	
CL4NO		Radial ø4 push-in fitting (upward)			●				●	
CL6NO		Radial ø6 push-in fitting (upward)			●	●			●	●
CL8NO		Radial ø8 push-in fitting (upward)				●				●
CD18NC	Radial ø1.8 push-in downward (tube UP-9402-**)	Plug			●				●	
CD4NC	Radial ø4 push-in fitting (downward)				●				●	
CD6NC	Radial ø6 push-in fitting (downward)				●	●			●	●
CD8NC	Radial ø8 push-in fitting (downward)					●				●
CD18NO	Plug	Radial ø1.8 push-in downward (tube UP-9402-**)			●				●	
CD4NO		Radial ø4 push-in fitting (downward)			●				●	
CD6NO		Radial ø6 push-in fitting (downward)			●	●			●	●
CD8NO		Radial ø8 push-in fitting (downward)				●				●
Code	**Inch fitting/inch thread**									
C3N	ø1/8” push-in fitting		●		●		●		●	
C4N	ø5/32” push-in fitting		●		●		●		●	
C6N	ø1/4” push-in fitting			●		●		●		●
C8N	ø5/16” push-in fitting			●		●		●		●
CL3N	Radial ø1/8” push-in fitting upward (*8)		○		○		○		○	
CL4N	Radial ø5/32” push-in fitting upward (*8)		○		○		○		○	
CL6N	Radial ø1/4” push-in fitting upward (*8)			○		○		○		○
CL8N	Radial ø5/16” push-in fitting upward (*8)			○		○		○		○
CXN	Push-in fitting mix (*7)		●	●	●	●				
Single, plug specs	A port	B port								
C3NCN	ø1/8” push-in fitting	Plug			●				●	
C4NCN	ø5/32” push-in fitting				●				●	
C6NCN	ø1/4” push-in fitting					●				●
C8NCN	ø5/16” push-in fitting					●				●
C3NON	Plug	ø1/8” push-in fitting			●				●	
C4NON		ø5/32” push-in fitting			●				●	
C6NON		ø1/4” push-in fitting				●				●
C8NON		ø5/16” push-in fitting				●				●
CL3NCN	Radial ø1/8” push-in fitting (upward)	Plug			○				○	
CL4NCN	Radial ø5/32” push-in fitting (upward)				○				○	
CL6NCN	Radial ø1/4” push-in fitting (upward)					○				○
CL8NCN	Radial ø5/16” push-in fitting (upward)					○				○
CL3NON	Plug	Radial ø1/8” push-in fitting (upward)			○				○	
CL4NON		Radial ø5/32” push-in fitting (upward)			○				○	
CL6NON		Radial ø1/4” push-in fitting (upward)				○				○
CL8NON		Radial ø5/16” push-in fitting (upward)				○				○
00	Discrete valve for mounting base						●	●	●	●

is not available.
○ indicates a custom order.

[Port size/wiring method list]

Code	Description		Ⓐ Model No. Manifold: Two 3-port valves integrated MN3GB1	MN3GB2	5-port valve MN4GB1	MN4GB2	Single unit valve block with solenoid valve/single unit solenoid valve (N)3GB1	(N)3GB2	(N)4GB1	(N)4GB2
Ⓓ Reduced wiring connection (lamp and surge suppressor equipped as standard) 12/24 VDC										
T10	Common terminal block (M3 thread)	Left-sided specifications	●	●	●	●				
T10R		Right-sided specifications	●	●	●	●				
T11	Common terminal block (clamping)	Left-sided specifications	●	●	●	●				
T11R		Right-sided specifications	●	●	●	●				
T30	D-sub-connector	Left-sided specifications	●	●	●	●				
T30R		Right-sided specifications	●	●	●	●				
T50	20-pin flat cable connector (with power supply terminal)	Left-sided specifications	●	●	●	●				
T50R		Right-sided specifications	●	●	●	●				
T51	20-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●				
T51R		Right-sided specifications	●	●	●	●				
T52	10-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●				
T52R		Right-sided specifications	●	●	●	●				
T53	26-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●				
T53R		Right-sided specifications	●	●	●	●				
Ⓓ Serial transmission (lamp/surge suppressor equipped as standard) 24 VDC										
T6G1	CC-Link	NPN 16 points	●	●	●	●				
T7D1	DeviceNet	NPN 16 points	●	●	●	●				
T7G1	CC-Link	NPN 16 points	●	●	●	●				
T7L1	SAVE NET	NPN 16 points	●	●	●	●				
T7S1	CompoNet	NPN 16 points	●	●	●	●				
T7SP1		PNP 16 points	●	●	●	●				
T8G1	CC-Link	NPN 16 points	●	●	●	●				
T8G2		NPN 32 points	●	●	●	●				
T8GP1		PNP 16 points	●	●	●	●				
T8GP2		PNP 32 points	●	●	●	●				
T8P1	PROFIBUS-DP	NPN 16 points	●	●	●	●				
T8P2		NPN 32 points	●	●	●	●				
T8PP1		PNP 16 points	●	●	●	●				
T8PP2		PNP 32 points	●	●	●	●				
T8EC1	EtherCAT	NPN 16 points	●	●	●	●				
T8EC2		NPN 32 points	●	●	●	●				
T8ECP1		PNP 16 points	●	●	●	●				
T8ECP2		PNP 32 points	●	●	●	●				
T8EN1	EtherNet/IP	NPN 16 points	●	●	●	●				
T8EN2		NPN 32 points	●	●	●	●				
T8ENP1		PNP 16 points	●	●	●	●				
T8ENP2		PNP 32 points	●	●	●	●				
T8D1	DeviceNet	NPN 16 points	●	●	●	●				
T8D2		NPN 32 points	●	●	●	●				
T8DP1		PNP 16 points	●	●	●	●				
T8DP2		PNP 32 points	●	●	●	●				
T8EB1	CC-Link IEF Basic	NPN 16 points	●	●	●	●				
T8EB2		NPN 32 points	●	●	●	●				
T8EBP1		PNP 16 points	●	●	●	●				
T8EBP2		PNP 32 points	●	●	●	●				
T8EP1	PROFINET	NPN 16 points	●	●	●	●				
T8EP2		NPN 32 points	●	●	●	●				
T8EPP1		PNP 16 points	●	●	●	●				
T8EPP2		PNP 32 points	●	●	●	●				
A2N	Without lead wire (without socket)	with surge suppressor and indicator lamp					●	●	●	●
Ⓔ Terminal/connector pin array										
Blank	Standard wiring	(*9)	●	●	●	●	●	●	●	●
W	Double wiring	(*9)	●	●	●	●	●	●	●	●
W1	Double wiring (with single spare wiring)	(*9) (*10)	●	●	●	●	●	●	●	●
Ⓕ Option										
Blank	Non-locking/locking common manual override		●	●	●	●	●	●	●	●
M	Non-locking manual override		●	●	●	●	●	●	●	●
H	With exhaust check valve	(*11)	●	●	●	●	●	●	●	●
K	External pilot	(*12)			●	●			●	●
A	Ozone/coolant proof		●	●	●	●	●	●	●	●
S	Surgeless	(*13)	●	●	●	●	●	●	●	●
E	Low exoergic/energy saving circuit	(*13) (*14)	●	●	●	●	●	●	●	●
L	With pipe adaptor		●	●	●	●	●	●	●	●
Q	Reduced wiring duct	(*17)	●	●	●	●	●	●	●	●
F	A/B port filter integrated	(*15)	●	●	●	●	●	●	●	●
Z1	Air supply spacer	(*16)	●	●	●	●				
Z3	Exhaust spacer	(*16)	●	●	●	●				
Ⓖ Station No.										
1 to 24	1 station / to / 24 stations (Max. station number for MN4GB2 is 20.)		●	●	●	●				
Ⓗ Voltage										
3	24 VDC		●	●	●	●	●	●	●	●
4	12 VDC Copper-/silicon-/halogen-based materials (fluorine, chlorine, bromine) are prohibited		●	●	●	●	●	●	●	●

Ⓘ Clean room specifications (*18, 19, 20)	Structure	Material restriction								
P70	Exhaust treatment	—	●	●	●	●	●	●	●	●
P74	Exhaust treatment	Copper-/silicon-/halogen-based materials (fluorine, chlorine, bromine) are prohibited	○	○	○	○	○	○	○	○

Ozone-proof specifications . Coolant proof specifications

Can be selected with "How to order" Item Ⓕ option "A" above.

⚠ Precautions for model selection

*9: Blank: The wiring will be based on the type of valve used.
W*: All wired for double solenoid valves regardless of the type of valve used.

***10: Spare wiring (A type socket assembly) is included on the cap side for single types. A holder for retaining the socket assembly is included for single unit valves (A2N). For details, refer to page 697. Not compatible with combination with port size C*NC or C*NO.**

***11: 3-position all ports closed and PAB connection are not provided with the exhaust check valve specifications (H). Refer to page 751 for details on the exhaust check valve.**

*12: Consult with CKD when using vacuum with external pilot (K).

*13: In addition, surgeless "S" and low exoergic/energy saving circuit "E" cannot be selected together.

*14: Surgeless specifications.

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

***16: 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. Cannot be selected together with radial push-in fitting (upward). For details, refer to page 693 to page 696.**

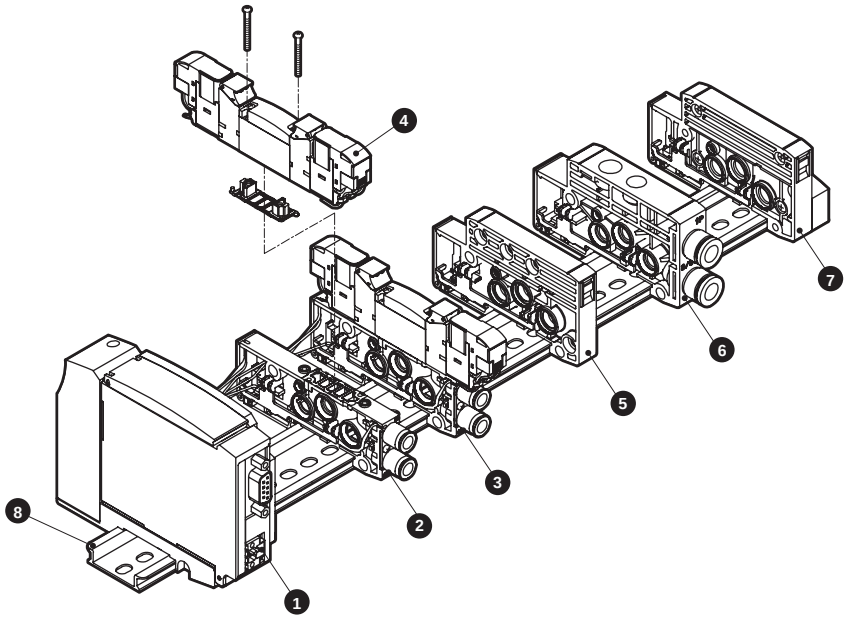
*17: When radial upward push-in fittings are selected, only 2-position single is supported.

*18: Combination of A and Item I (Ozone-proof) clean-room specifications P74 is not available.

*19: Copper-, silicon-, and halogen-free specifications are available as main valve part support.

*20: P74 Series is made to order.

Manifold components explanation and parts list



List of main components (refer to pages 682 to 698 for details)

No.	Component name	Model No. (example)	No.	Component name	Model No. (example)
1	Wiring block (*)	N4G1R-T8P1-P70	5	Partition block	N4G1R-S-P70/P74
2	Discrete valve block	N4GB1R-V2-C6-P70/P74	6	Supply and exhaust block	N4G1R-Q-8-P70/P74
3	Discrete valve block with solenoid valve	N4GB120R-C6-A2NH-3-P70/P74	7	End block R	N4G1R-ER-P70/P74
4	Solenoid valve body	4GB129R-00-A2NH-3-P70/P74	8	DIN rail	N4GR-BAA (Length)-P70

Note: Wiring block cannot be ordered as a single item.

B type reduced wiring weight

4GB1 (g)

Part name	Model No.	Weight	Part name	Model No.	Weight	Part name	Model No.	Weight
Valve block with solenoid valve	N4GB110R-C6-A2N-3	69	End block	N4G1R-E*	60	Wiring block	N4G1R-T10(R)	207
	N4GB120R-C6-A2N-3	88		N4G1R-EX*	60		N4G1R-T30(R)	165
	N4GB1 3/4 0R-C6-A2N-3	89	Partition block	N4G1R-S	45		N4G1R-T50(R)	167
	N3GB1660R-C6-A2N-3	88	Valve block	N4GB1R-V1-C*	33		N4G1R-T6G1	295
Valve block with masking plate	N4GB1R-MP*-C6	37		N4GB1R-V2-C*	35		N4G1R-T7*	203
Supply and exhaust block	N4G1R-Q-8	58	DIN rail	N4GR-BAA (Length)	0.19/mm		N4G1R-T8*	229
	N4G1R-QK-8	60						

Note: Wiring block cannot be ordered as a single item.

4GB2 (g)

Part name	Model No.	Weight	Part name	Model No.	Weight	Part name	Model No.	Weight
Valve block with solenoid valve	N4GB210R-C8-A2N-3	130	End block	N4G2R-E*	84	Wiring block	N4G2R-T10(R)	223
	N4GB220R-C8-A2N-3	149		N4G2R-EX*	85		N4G2R-T30(R)	182
	N4GB2 3/4 0R-C8-A2N-3	160	Partition block	N4G2R-S	60		N4G2R-T50(R)	184
	N3GB2660R-C8-A2N-3	149	Valve block	N4GB2R-V1-C*	55		N4G2R-T6G1	312
Valve block with masking plate	N4GB2R-MP*-C*	69		N4GB2R-V2-C*	57		N4G2R-T7*	204
Supply and exhaust block	N4G2R-Q-10	83	DIN rail	N4GR-BAA (Length)	0.19/mm		N4G2R-T8*	242
	N4G2R-QK-10	85						

Note: Wiring block cannot be ordered as a single item.

Parts list

Applicable	Part name	Model No.
Valve 4G1	ø1.8 barbed	4G1R-JOINT-CF-P70
	ø1.8 straight	4G1R-JOINT-C18-P70
	ø4 straight	4G1R-JOINT-C4-P70
	ø6 straight	4G1R-JOINT-C6-P70
	ø1.8 elbow	4G1R-JOINT-CL18, CLL18-P70
	ø4 elbow	4G1R-JOINT-CL4, CLL4-P70
	ø6 elbow	4G1R-JOINT-CL6, CLL6-P70
	ø1/8” straight	4G1R-JOINT-C3N-P70
	ø5/32” straight	4G1R-JOINT-C4N-P70
	ø1/8” elbow *1	4G1R-JOINT-CL3N-P70
	ø5/32” elbow *1	4G1R-JOINT-CL4N-P70
	Plug cartridge	4G1R-JOINT-CPG-P70
Valve 4G2	ø4 straight	4G2R-JOINT-C4-P70
	ø6 straight	4G2R-JOINT-C6-P70
	ø8 straight	4G2R-JOINT-C8-P70
	ø6 elbow	4G2R-JOINT-CL6, CLL6-P70
	ø8 elbow	4G2R-JOINT-CL8, CLL8-P70
	ø1/4” straight	4G2R-JOINT-C6N-P70
	ø5/16” straight	4G2R-JOINT-C8N-P70

Applicable	Part name	Model No.
Valve 4G2	ø1/4” elbow *1	4G2R-JOINT-CL6N-P70
	ø5/16” elbow *1	4G2R-JOINT-CL8N-P70
	Plug cartridge	4G2R-JOINT-CPG-P70
Common	Coil assembly	4GR-A2N-[*2]-COIL-[*3]-P70 *2: Ozone/coolant proof (blank, A) Surgeless (S) Low exoergic/energy circuit (E) *3: Voltage (1, 3, 4)
Manifold	Expansion socket assembly (Details on page 737)	For a side solenoid N4GR-SOCKET-ASSY-[selection No.]-P70
		For b side solenoid N4GR-RELAY-SOCKET-[selection No.]-P70

*1: Available as custom order.

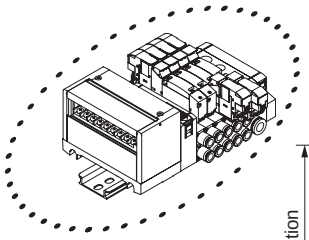
Dimensions CAD

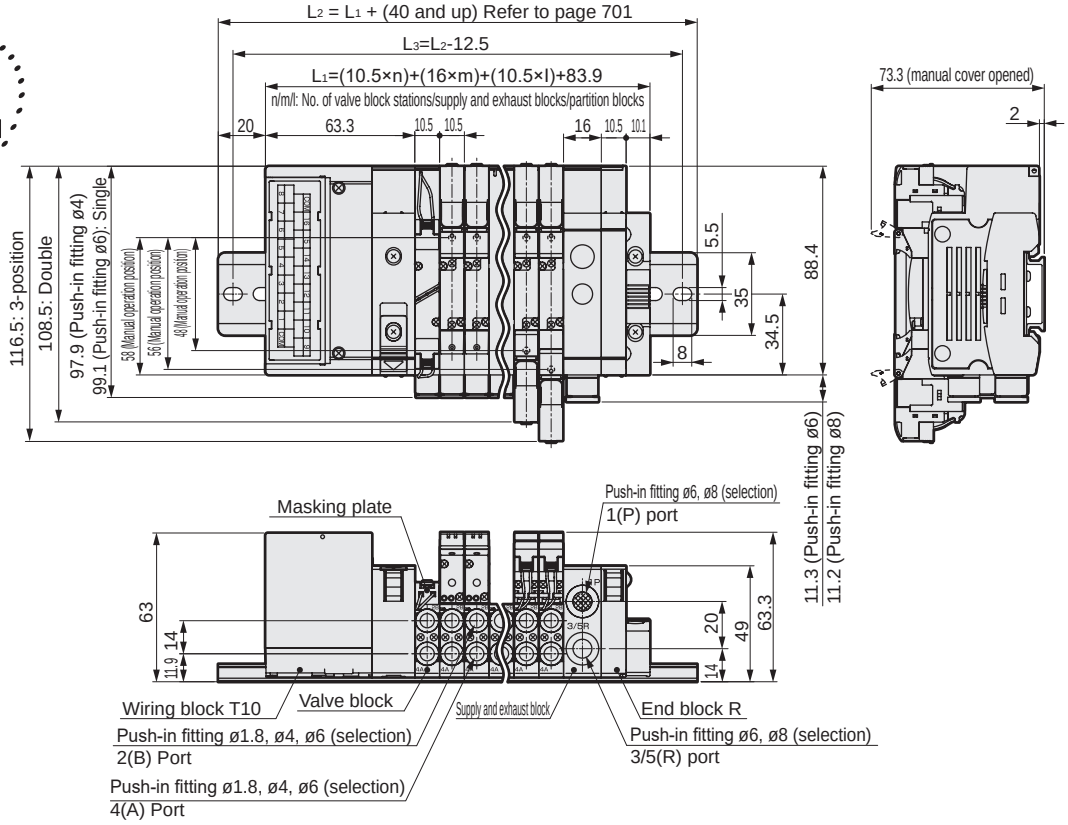
MN4GB1-P7*

Note: The two 3-port valve integrated have the same dimensions as the double.

● Common terminal block (M3 thread) left side (T10)

Note: Clamping specification (T11) is also available.
Dimensions are the same as T10.

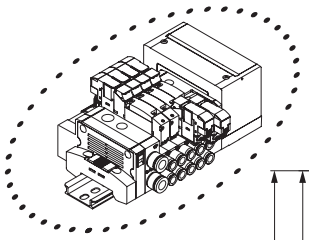


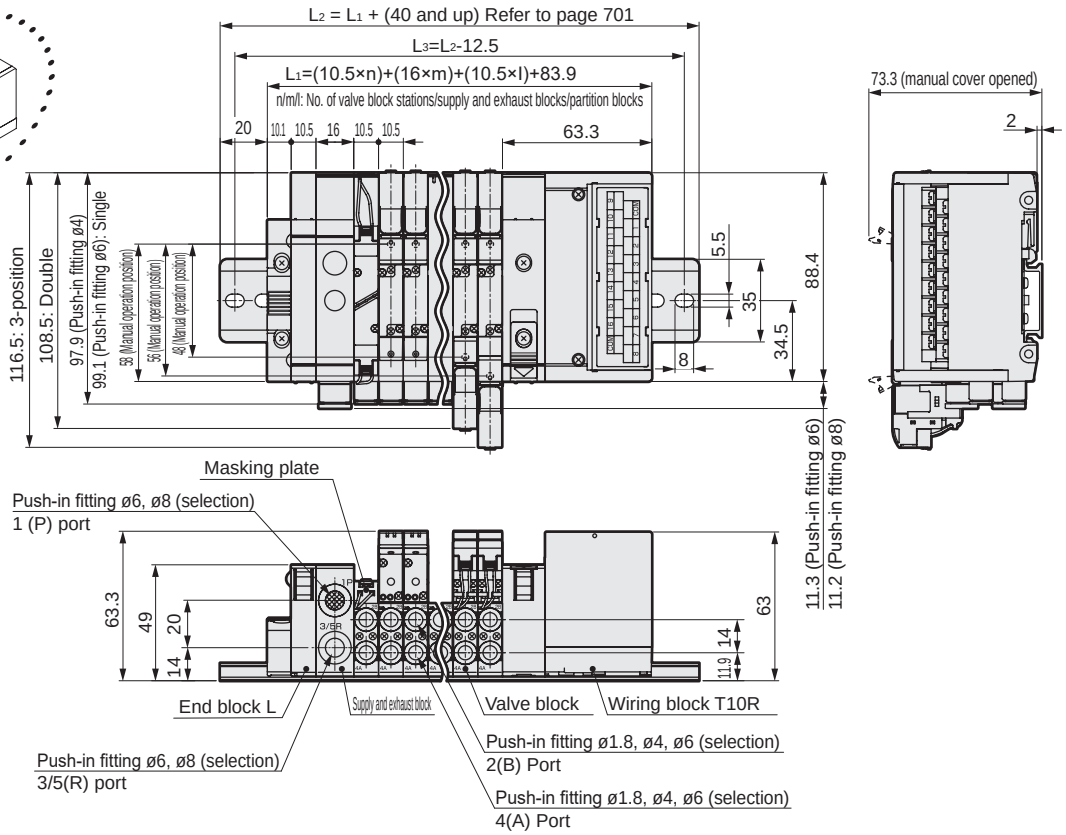


● Common terminal block (M3 thread) right side (T10R)

Note: Refer to page 676 for dimensions of the radial push-in fitting.

Note: Clamping specification (T11R) is also available.
Dimensions are the same as T10R.





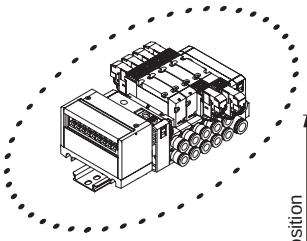
Dimensions

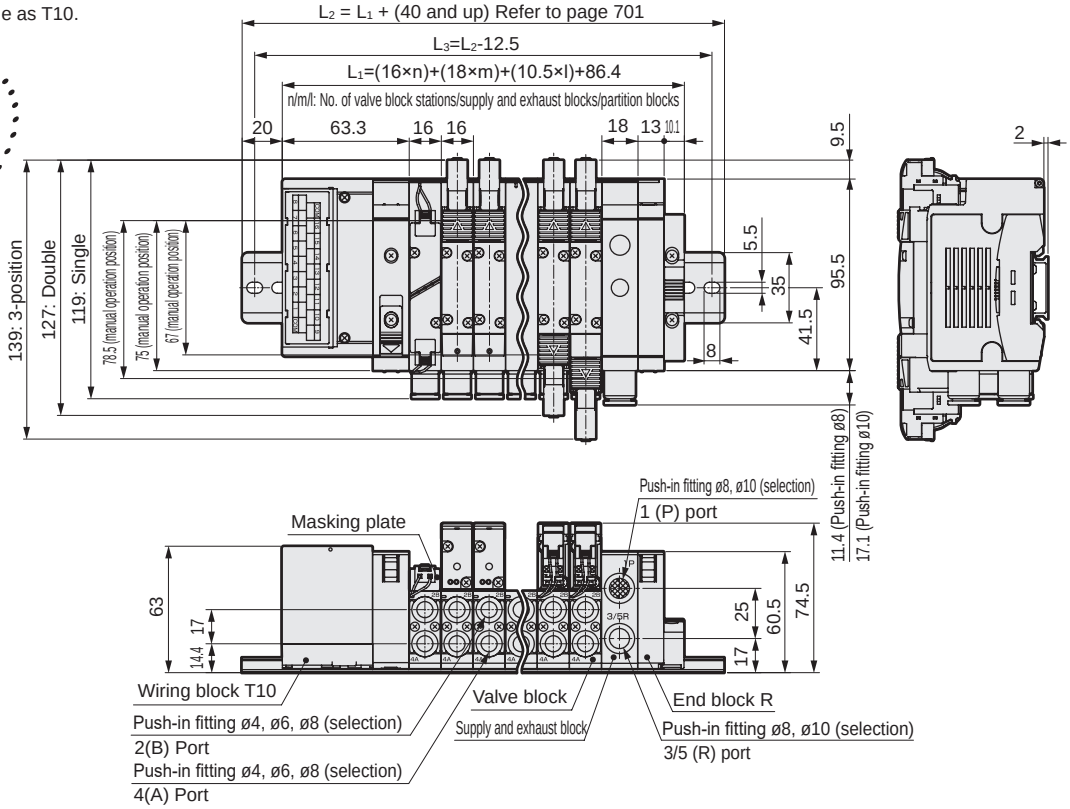
MN4GB2-P7*

Note: The two 3-port valve integrated have the same dimensions as the double.

● Common terminal block (M3 thread) left side (T10)

Note: Clamping specification (T11) is also available.
Dimensions are the same as T10.

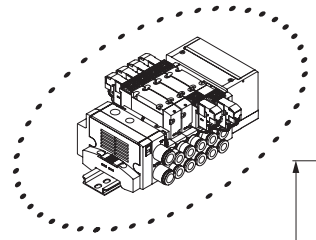


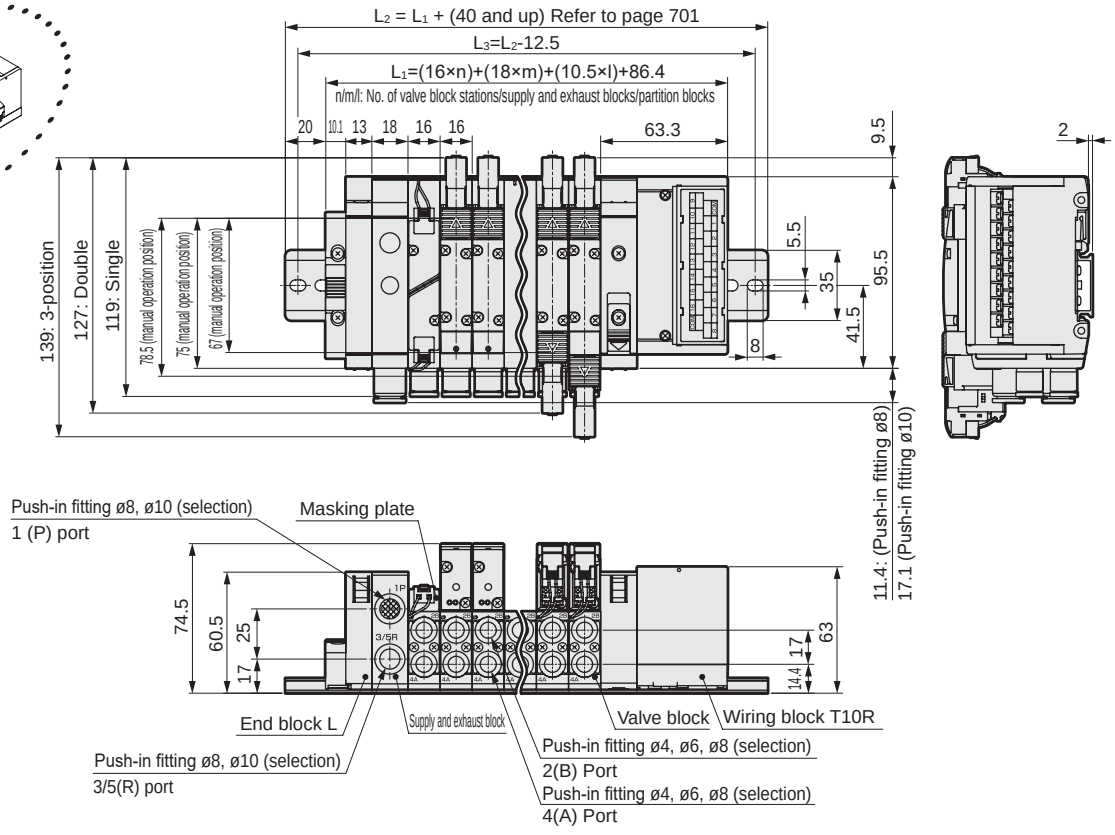


● Common terminal block (M3 thread) right side (T10R)

Note: Clamping specification (T11R) is also available.
Dimensions are the same as T10R.

Note: Refer to page 678 for dimensions of the radial push-in fitting.



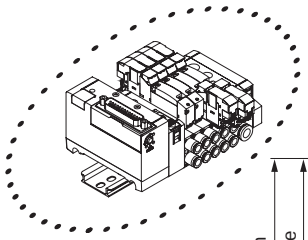


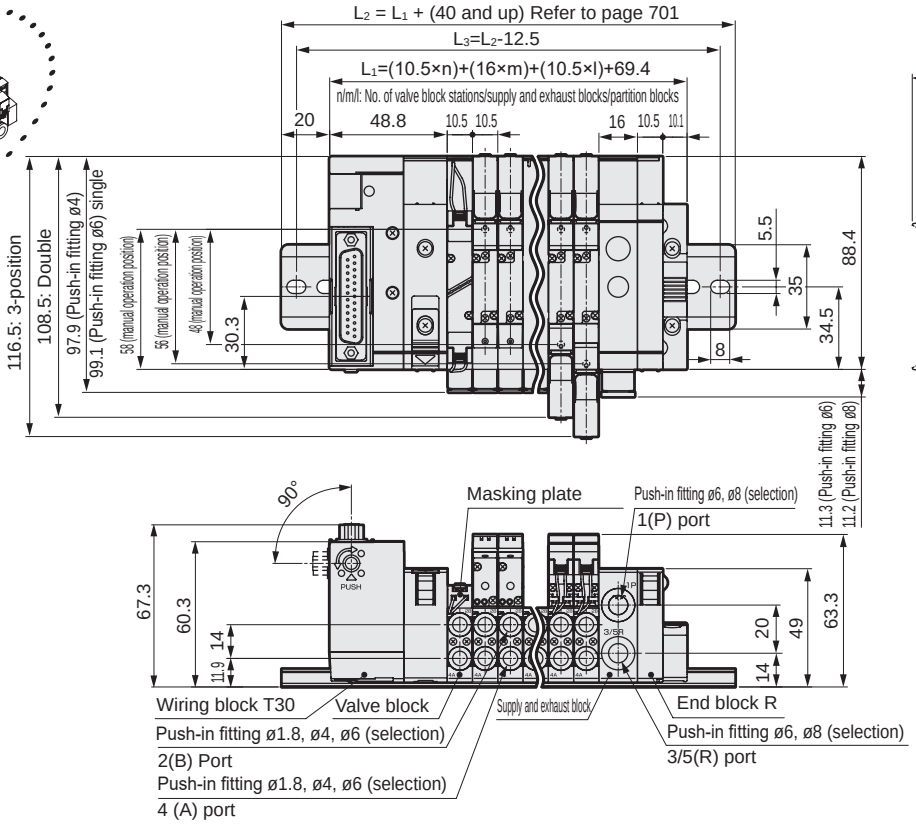
Dimensions CAD

MN4GB1-P7*

Note: The two 3-port valve integrated have the same dimensions as the double.

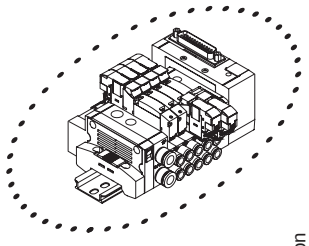
● D sub-connector left side (T30)

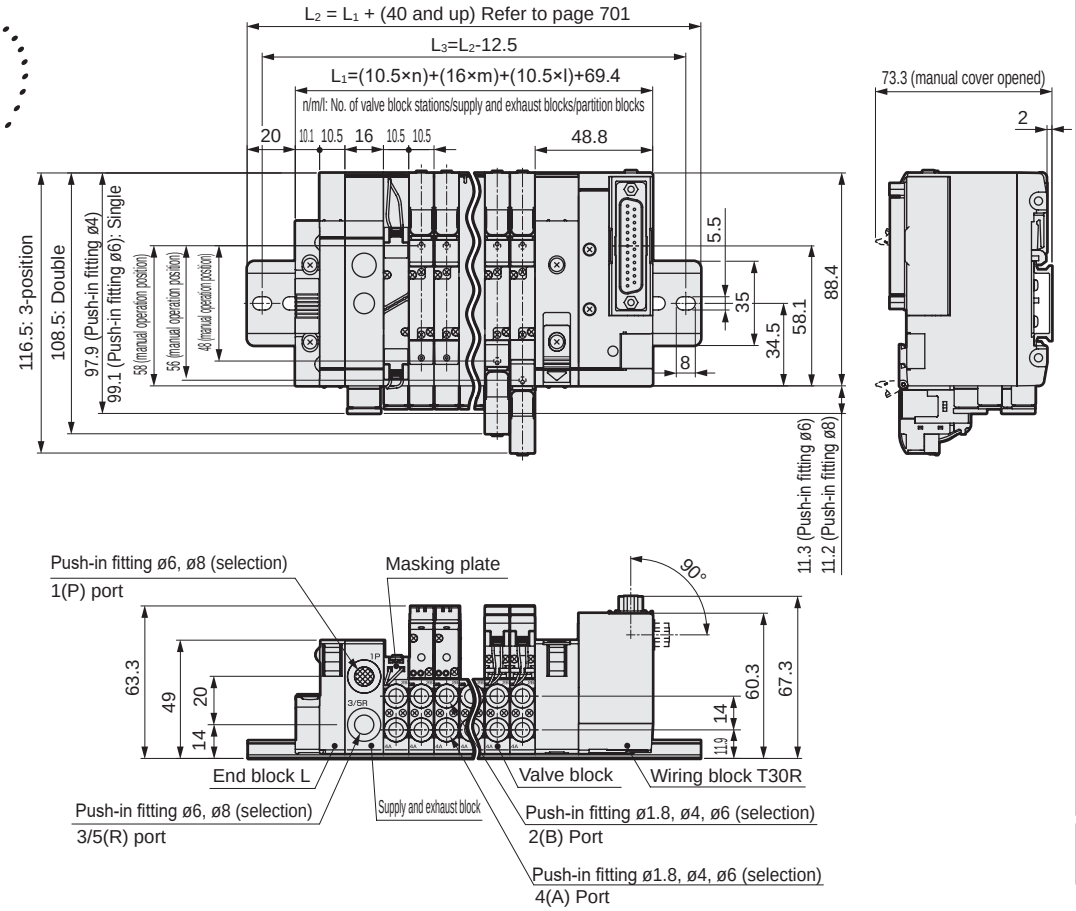




● D sub-connector right side (T30R)

Note: Refer to page 676 for dimensions of the radial push-in fitting.



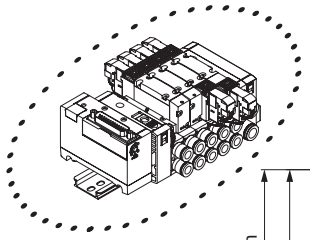


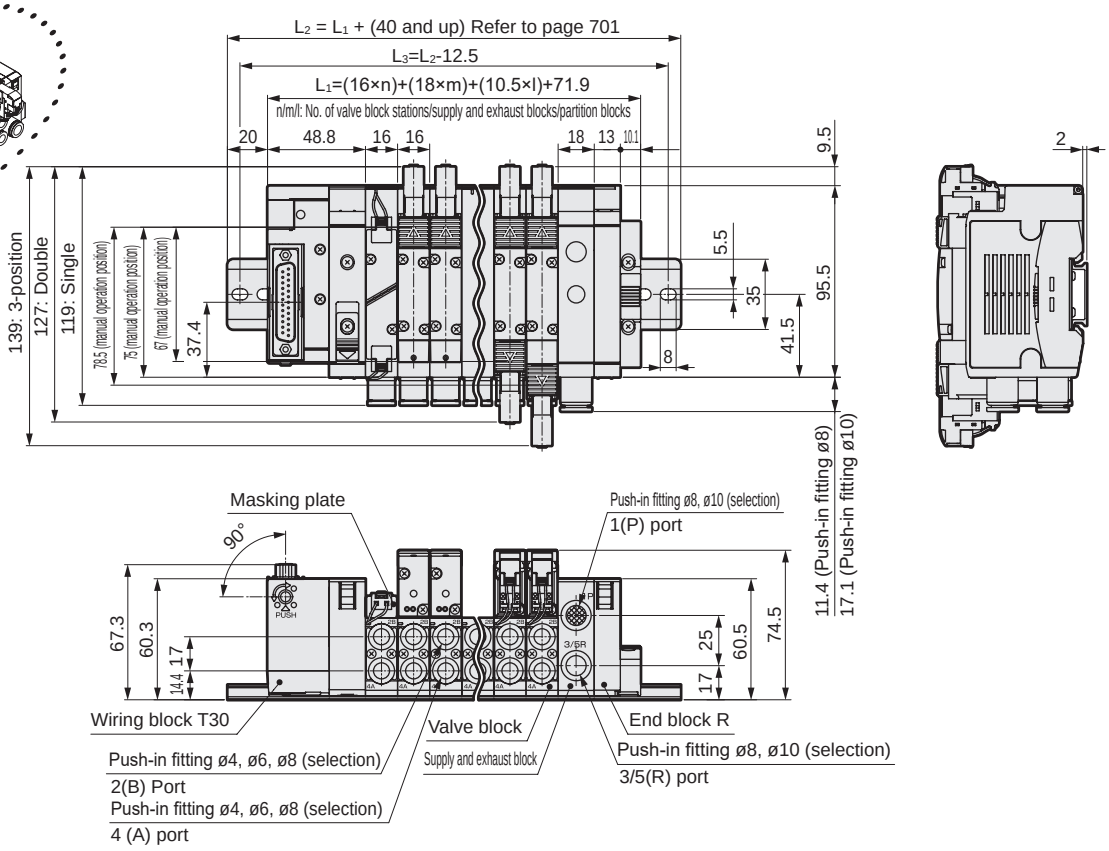
Dimensions CAD

MN4GB2-P7*

Note: The two 3-port valve integrated have the same dimensions as the double.

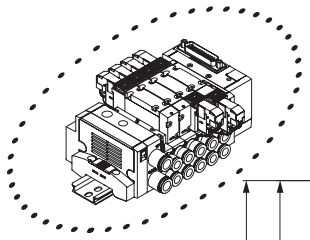
● D sub-connector left side (T30)

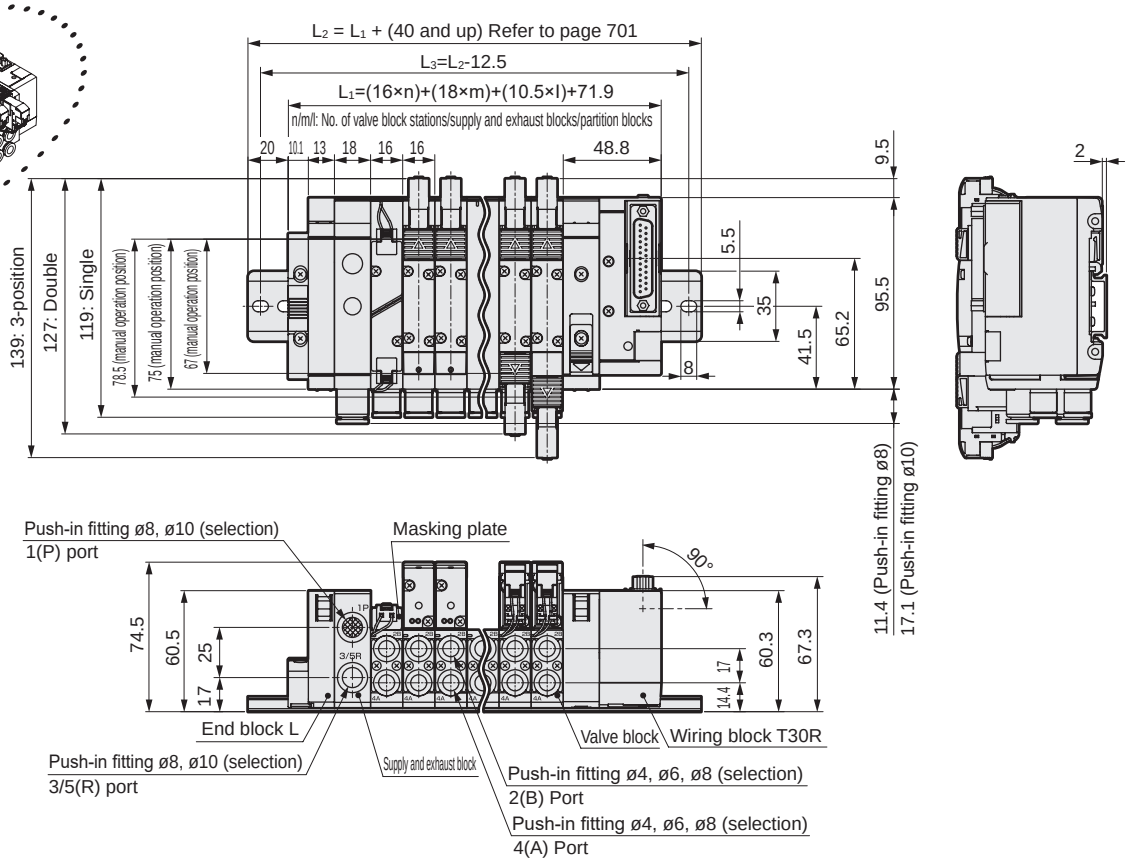




● D sub-connector right side (T30R)

Note: Refer to page 678 for dimensions of the radial push-in fitting.



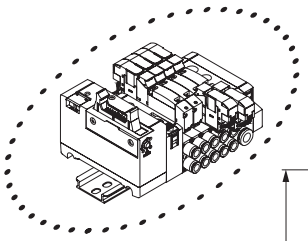


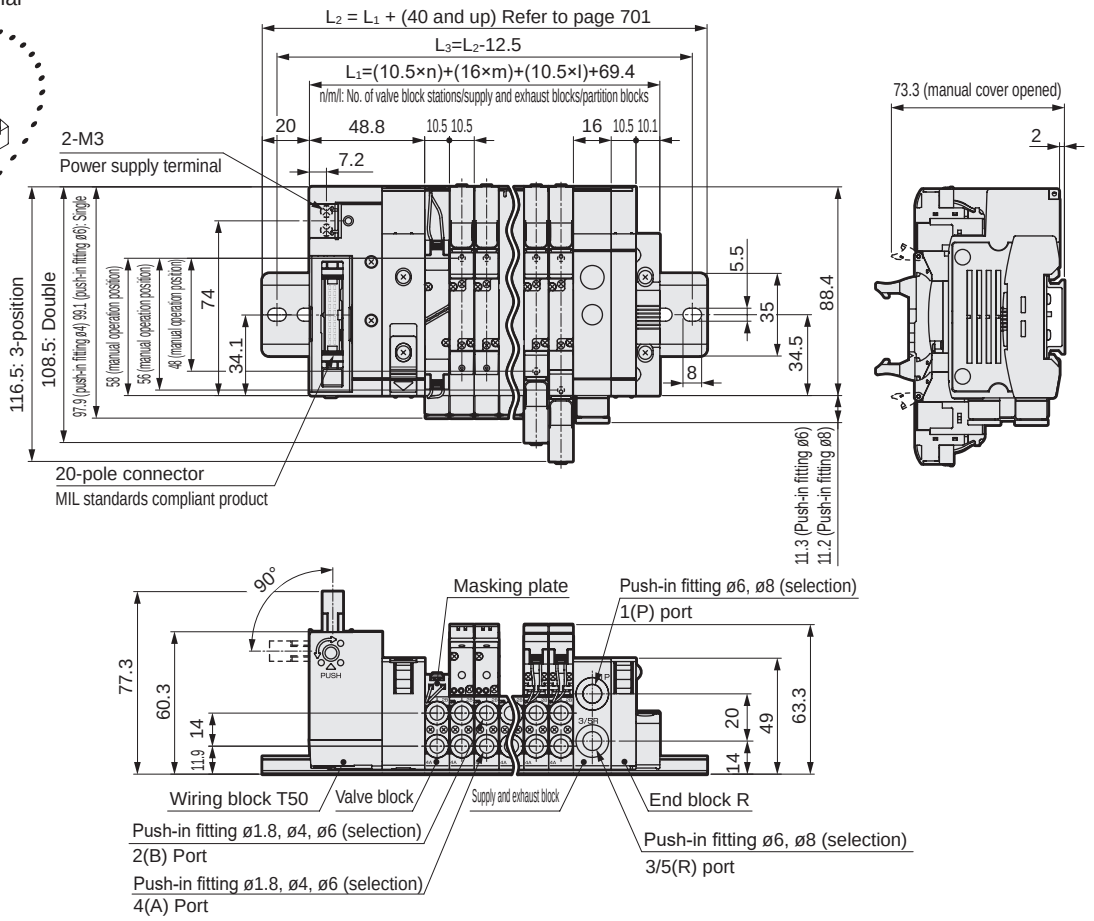
Dimensions CAD

MN4GB1-P7*

*1: T51, T52, and T53 are also available as flat cable connector. Dimensions are the same as T50.
*2: The two 3-port valve integrated have the same dimensions as the double.

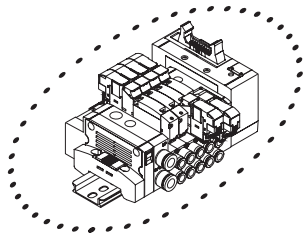
● Flat cable connector left side (T50) with power supply terminal

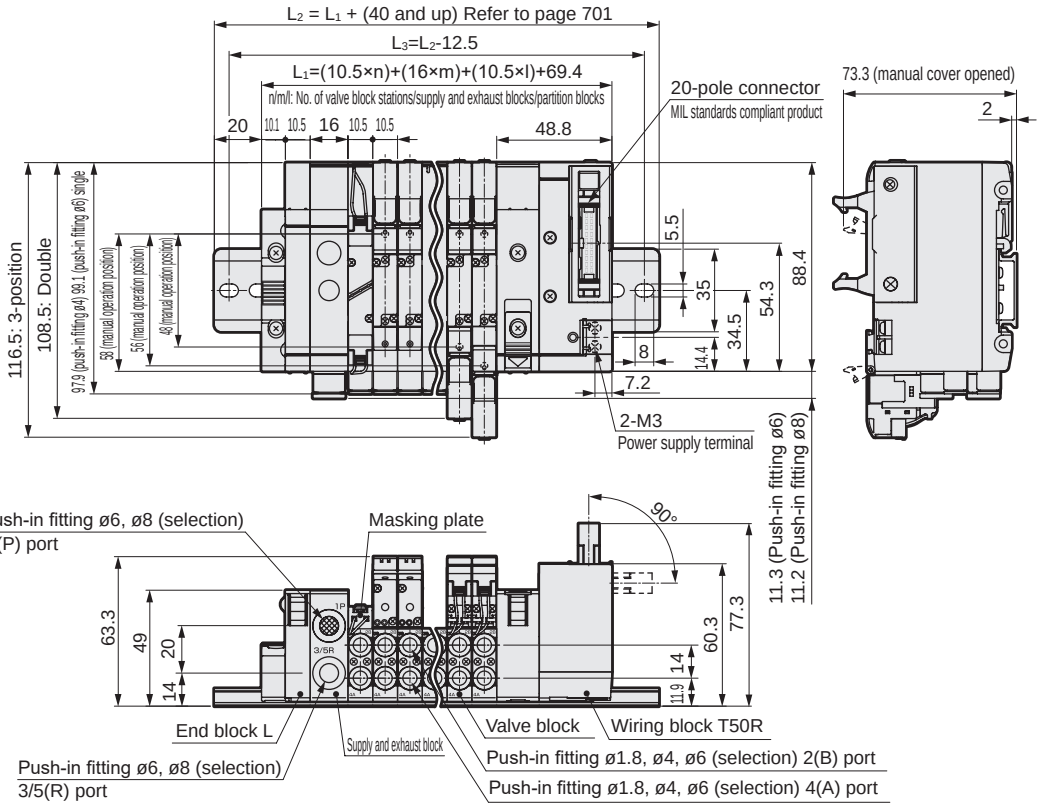




● Flat cable connector right side (T50R) with power supply terminal

Note: Refer to page 676 for dimensions of the radial push-in fitting.



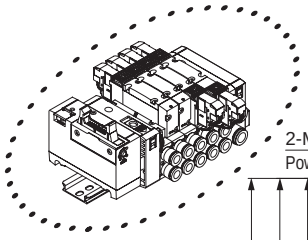


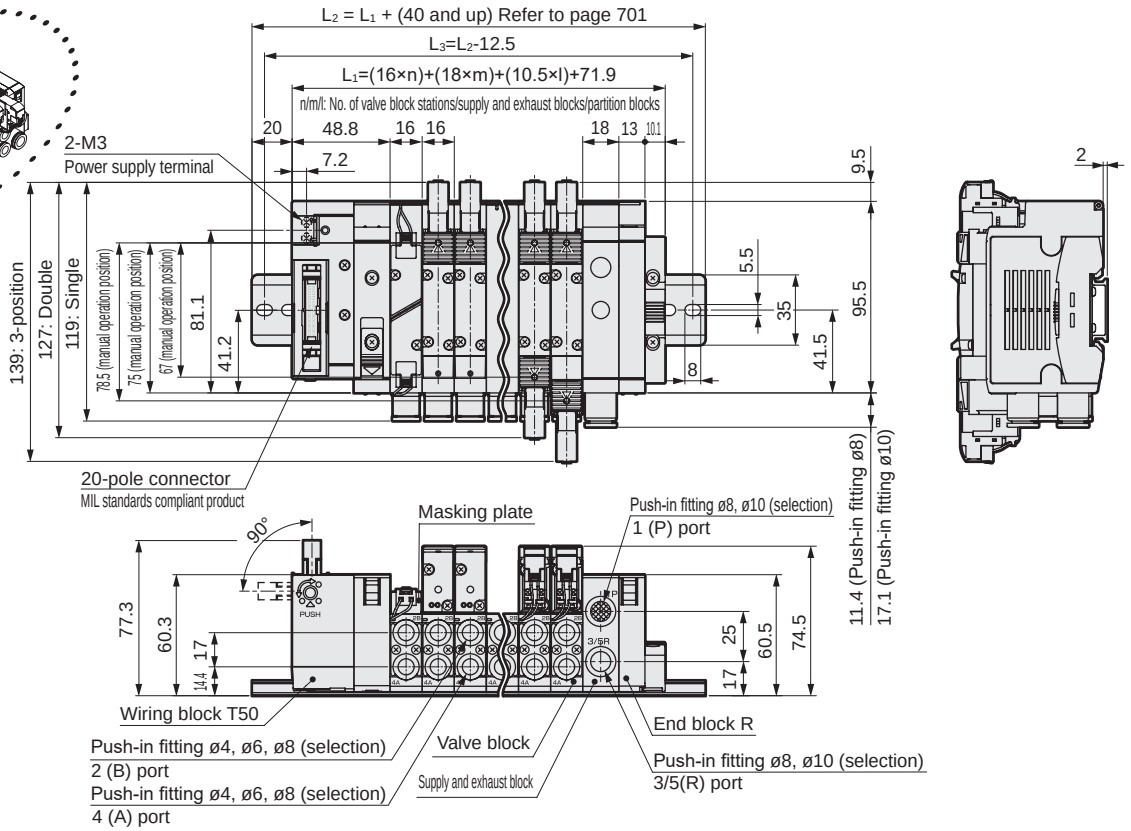
Dimensions CAD

MN4GB2-P7*

*1: T51, T52, and T53 are also available as flat cable connector. Dimensions are the same as T50.
*2: The two 3-port valve integrated have the same dimensions as the double.

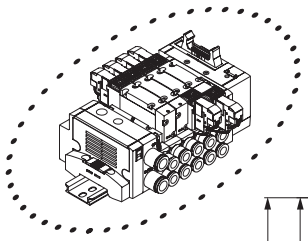
● Flat cable connector left side with power supply terminal (T50)

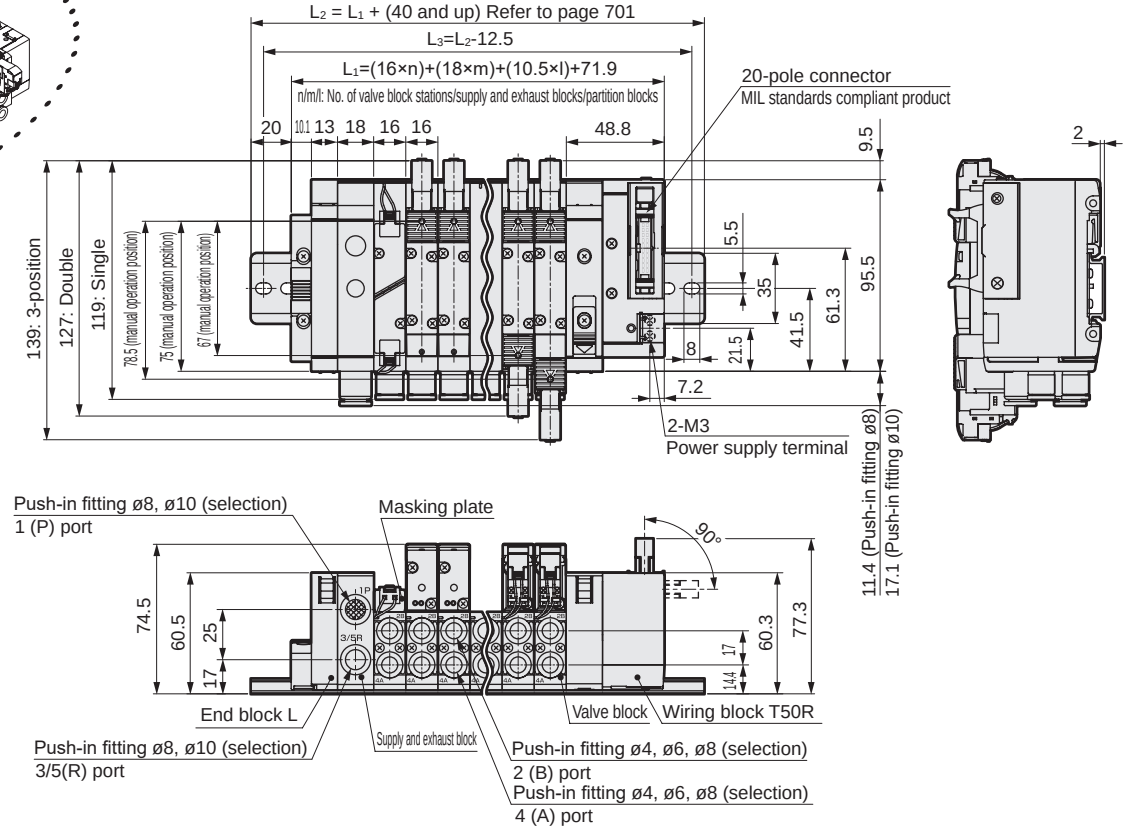




● Flat cable connector right side with power supply terminal (T50R)

Note: Refer to page 678 for dimensions of the radial push-in fitting.



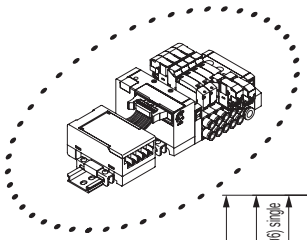


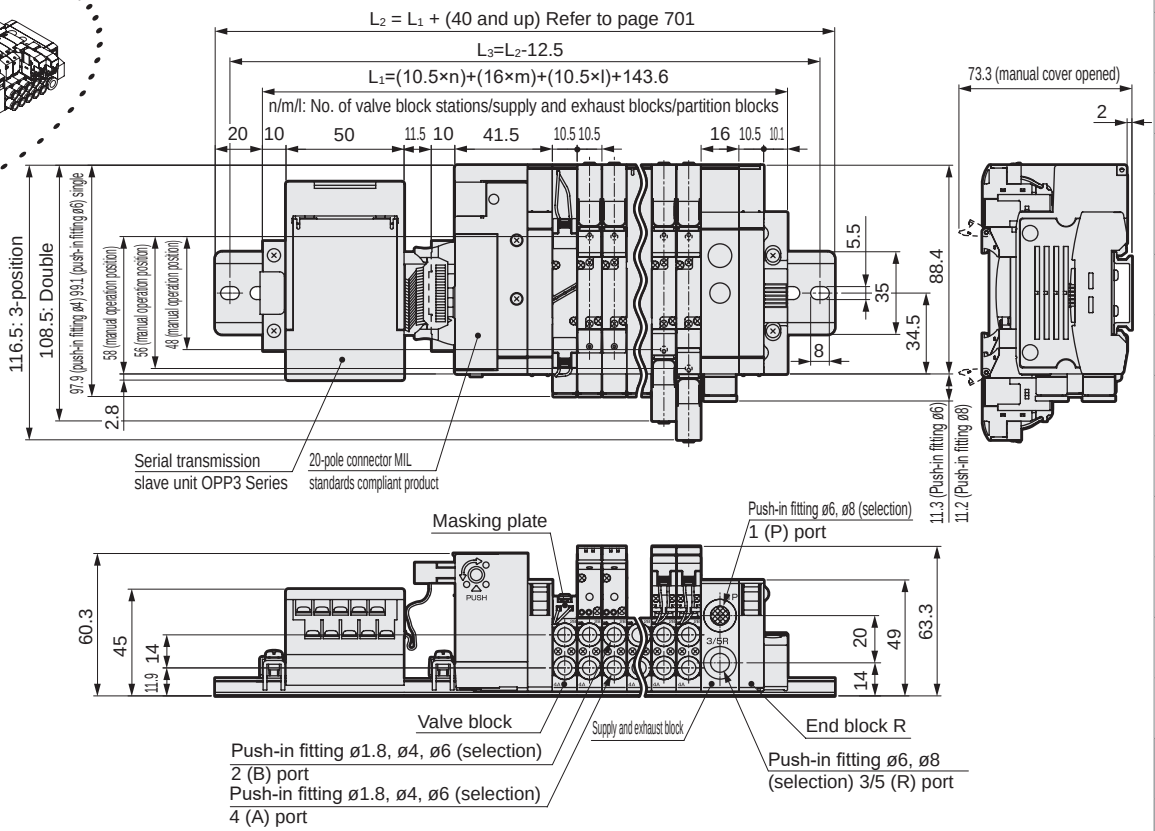
Dimensions CAD

MN4GB1-P7*

Note: The two 3-port valve integrated have the same dimensions as the double.

● Serial transmission (T6G1)

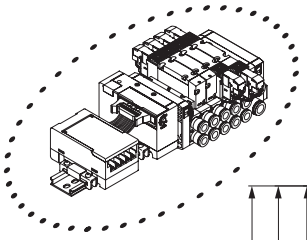


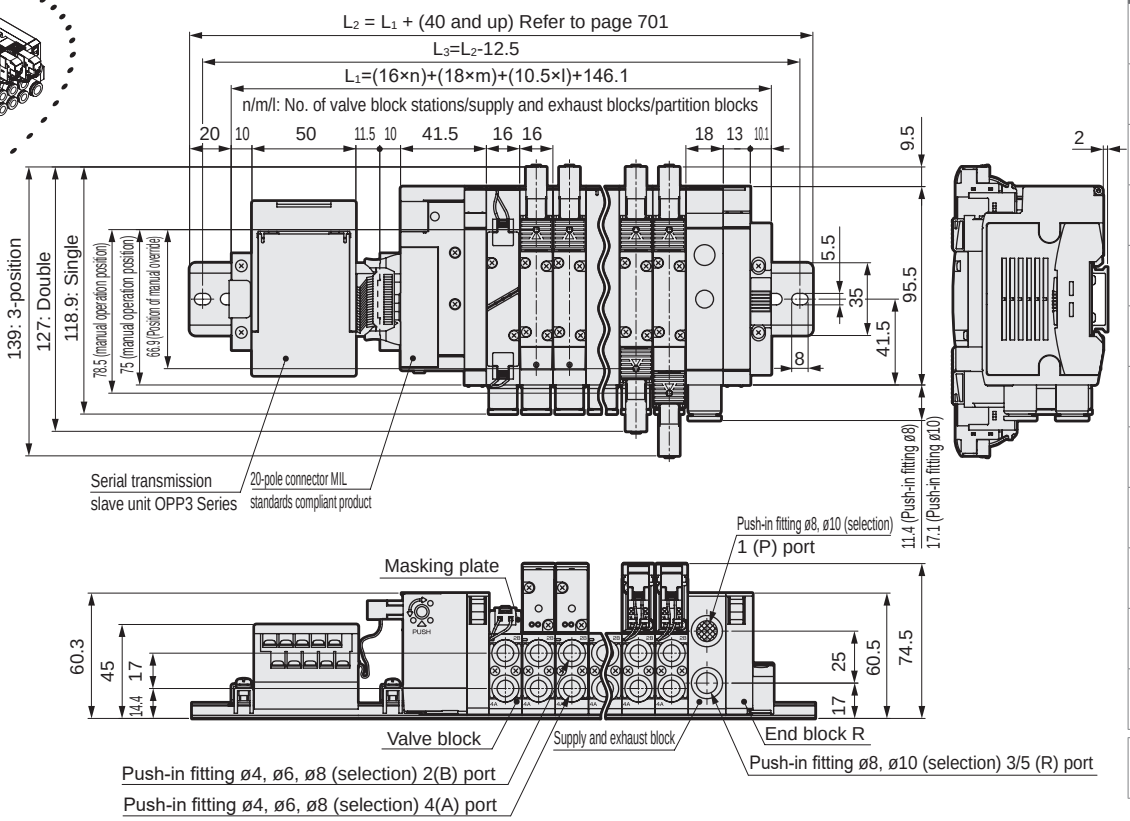


MN4GB2-P7*

Note: Refer to pages 676 and 678 for dimensions of the radial push-in fitting.

● Serial transmission (T6G1)



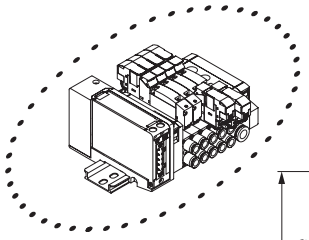


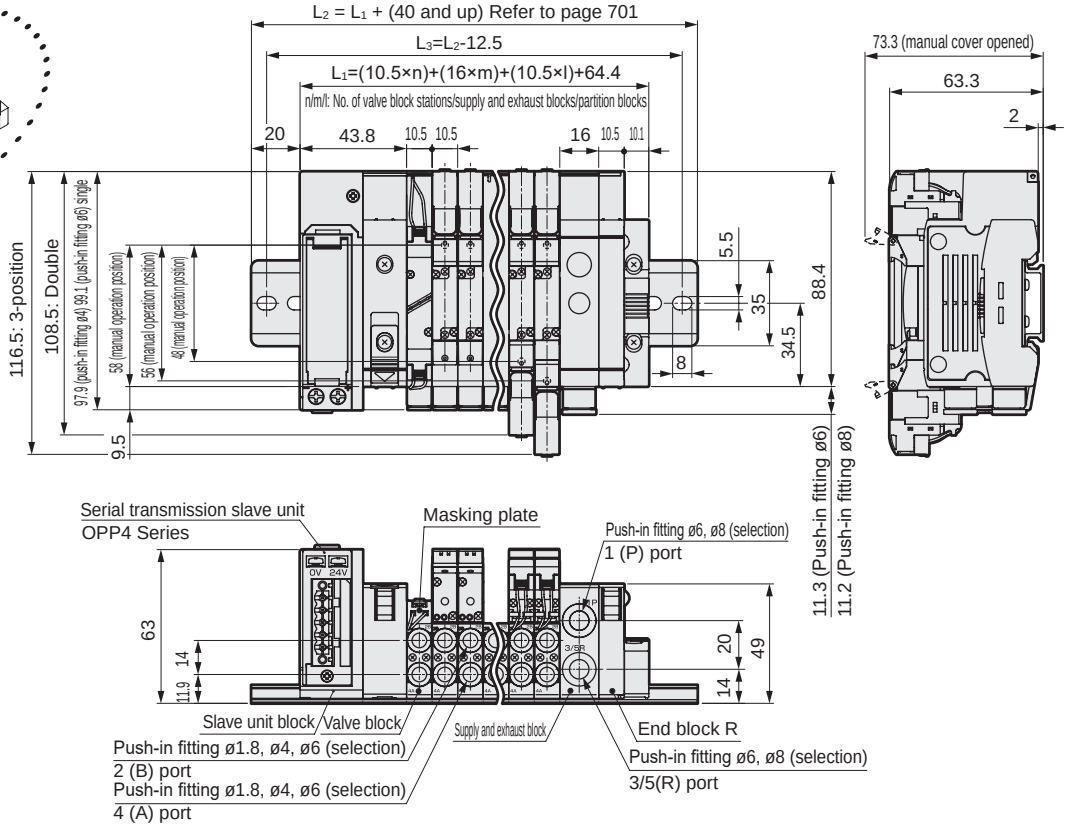
Dimensions CAD

MN4GB1-P7*

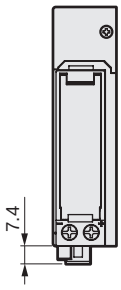
Note: The two 3-port valve integrated have the same dimensions as the double.

● Thin serial transmission (T7□)





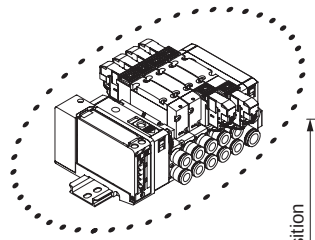
For T7S□1

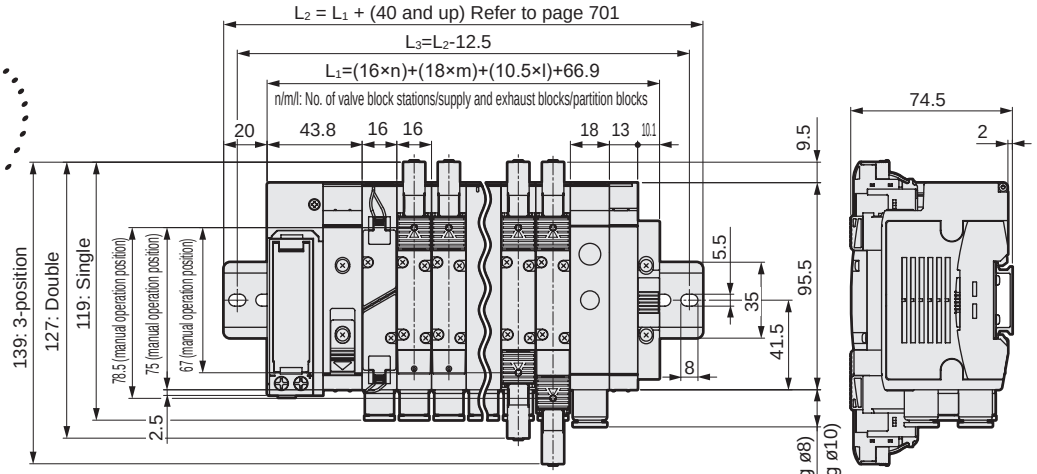


MN4GB2-P7*

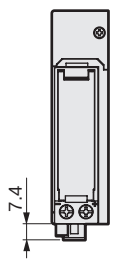
Note: Refer to pages 676 and 678 for dimensions of the radial push-in fitting.

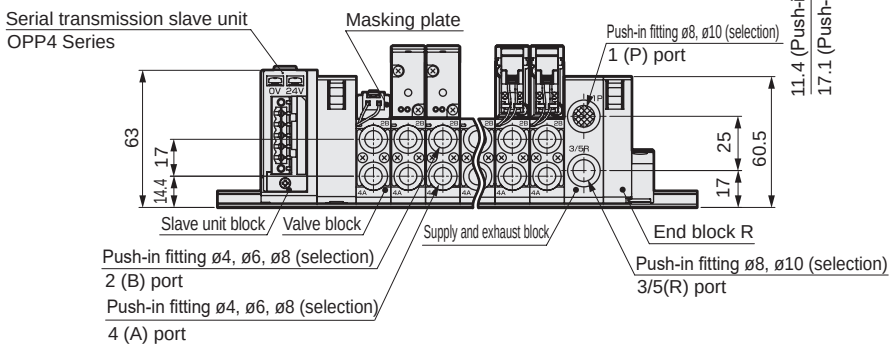
● Thin serial transmission (T7□)





For T7S□1



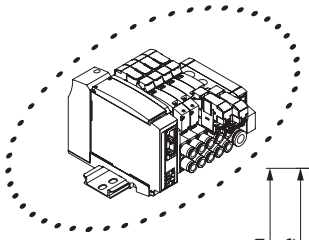


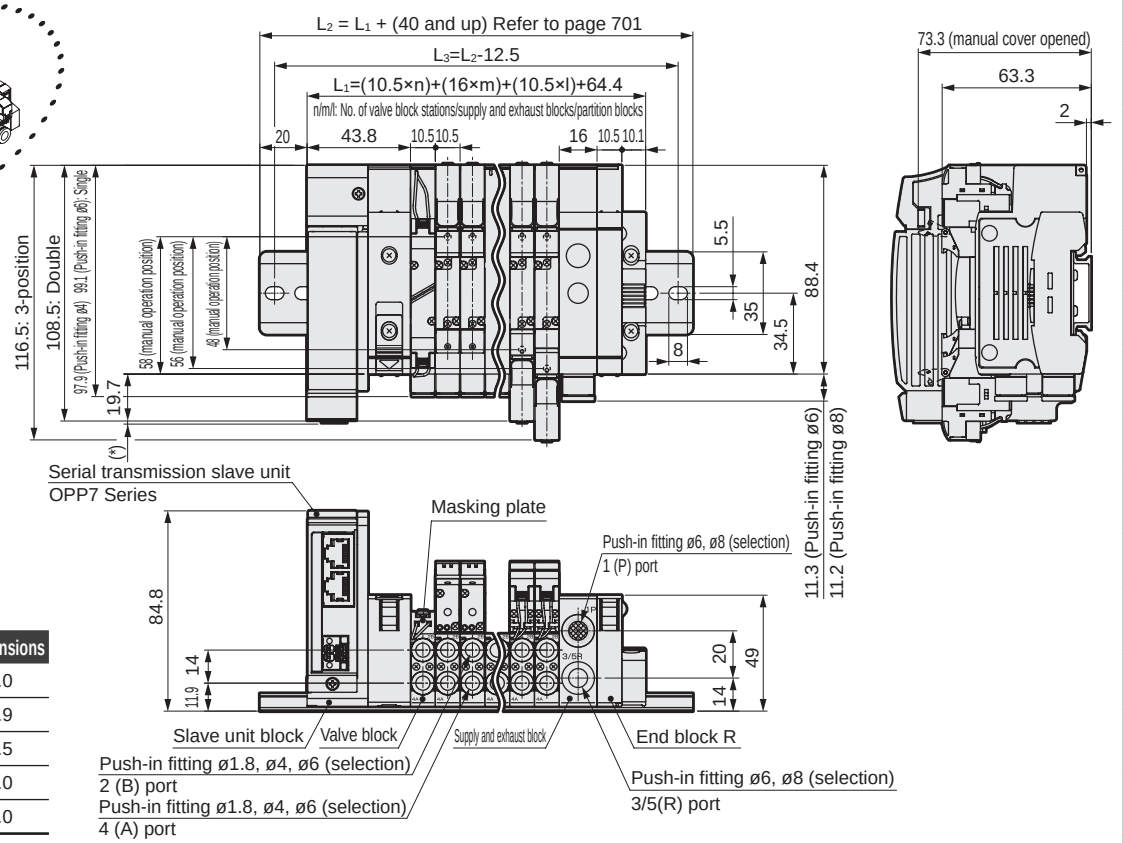
Dimensions CAD

MN4GB1-P7*

Note: The two 3-port valve integrated have the same dimensions as the double.

● Thin serial transmission (T8□)



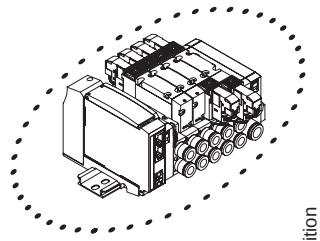


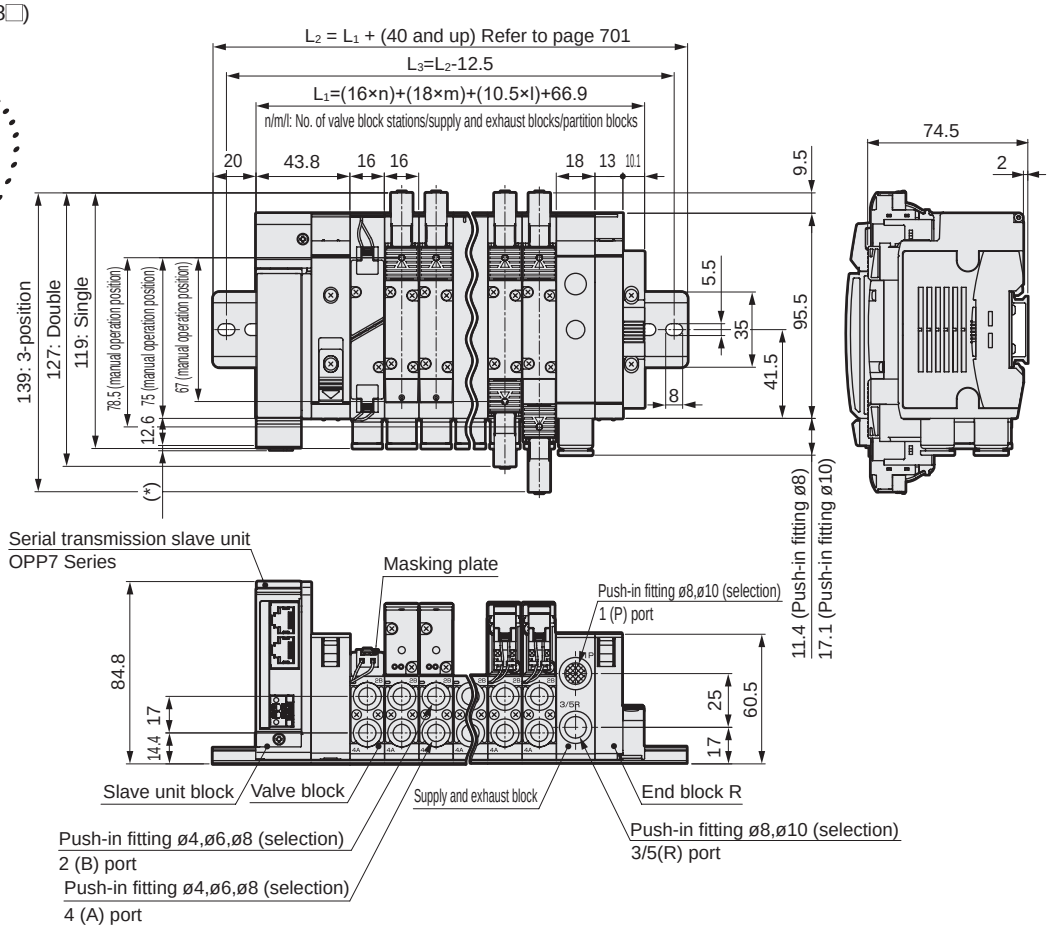
Serial transmission	* Dimensions
T8G□	1.0
T8P□	4.9
T8E□	1.5
T8D□	1.0
T8K□	1.0

MN4GB2-P7*

Note: Refer to pages 676 and 678 for dimensions of the radial push-in fitting.

● Thin serial transmission (T8□)





Serial transmission	* Dimensions
T8G□	1.0
T8P□	4.9
T8E□	1.5
T8D□	1.0
T8K□	1.0

Dimensions

MN4GB1 Valve block

● Fitting straight

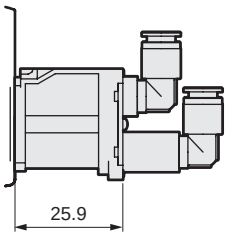
● ø1.8(CF)

● ø1.8(C18)

● ø4(C4)

● ø6(C6)

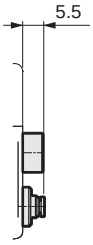
● When option L (with pipe adaptor) is selected, add 25.9 mm.



● Fitting straight, single plug

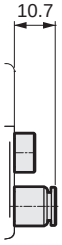
● ø1.8(CFNC)

● ø1.8(C18NC)



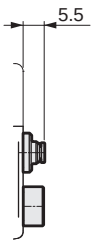
● ø4(C4NC)

● ø6(C6NC)



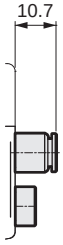
● ø1.8(CFNO)

● ø1.8(C18NO)



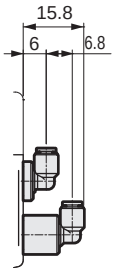
● ø4(C4NO)

● ø6(C6NO)

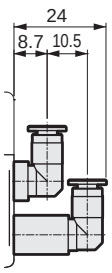


● L Fitting (upward)

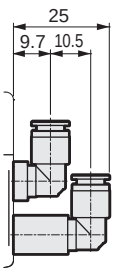
● ø1.8(CL18)



● ø4(CL4)

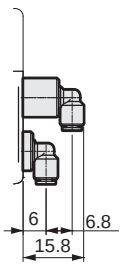


● ø6(CL6)

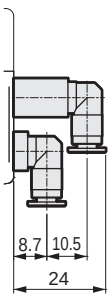


● L Fitting (downward)

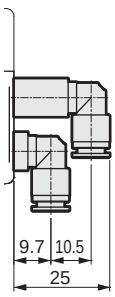
● ø1.8(CD18)



● ø4(CD4)

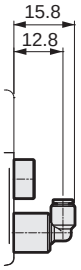


● ø6(CD6)

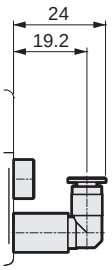


● L Fitting (upward), single plug

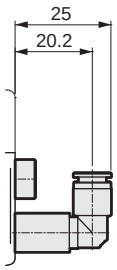
● ø1.8(CL18NC)



● ø4(CL4NC)



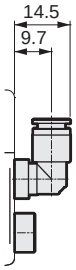
● ø6(CL6NC)



● ø1.8(CL18NO)

● ø4(CL4NO)

● ø6(CL6NO)

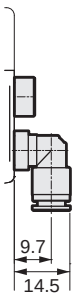


● L Fitting (downward), single plug

● ø1.8(CD18NC)

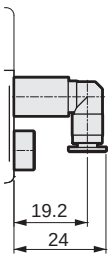
● ø4(CD4NC)

● ø6(CD6NC)

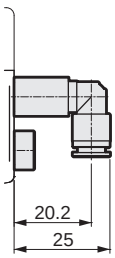


● ø1.8(CD18NO)

● ø4(CD4NO)



● ø6(CD6NO)

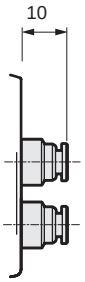


Dimensions

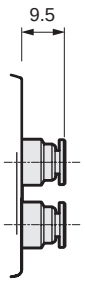
MN4GB1 Valve block

● Fitting straight

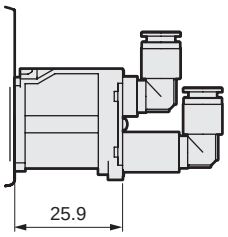
● ø1/8" (C3N)



● ø5/32" (C4N)

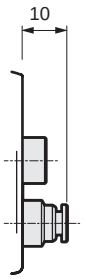


● When option L (with piping adapter) is selected, add 25.9 mm.

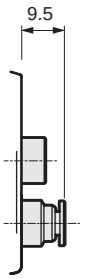


● Fitting straight, single plug

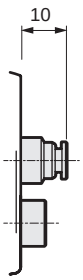
● ø1/8" (C3NCN)



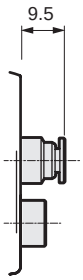
● ø5/32" (C4NCN)



● ø1/8" (C3NON)

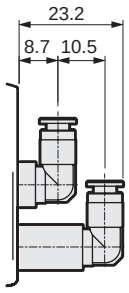


● ø5/32" (C4NON)

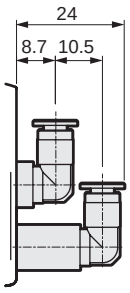


● Radial fitting (upward)

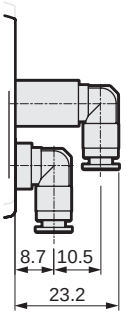
● ø1/8" (CL3N)



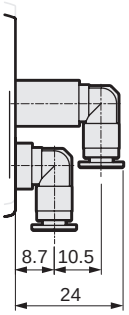
● ø5/32" (CL4N)



● ø1/8" (CD3N)

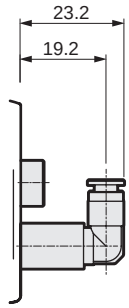


● ø5/32" (CD4N)

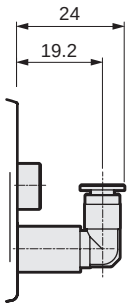


● L Fitting (upward), single plug

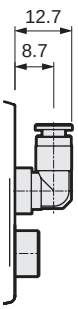
● ø1/8" (CL3NCN)



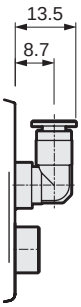
● ø5/32" (CL4NCN)



● ø1/8" (CL3NON)

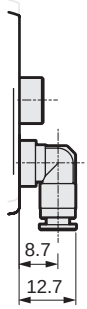


● ø5/32" (CL4NON)

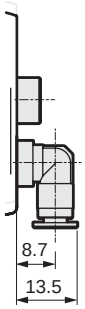


● L Fitting (downward), single plug

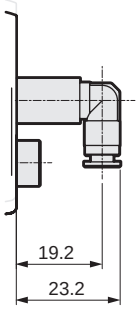
● ø1/8" (CD3NCN)



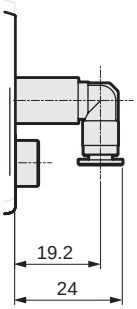
● ø5/32" (CD4NCN)



● ø1/8" (CD3NON)



● ø5/32" (CD4NON)

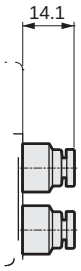


Dimensions

MN4GB2 Valve block

● Fitting straight

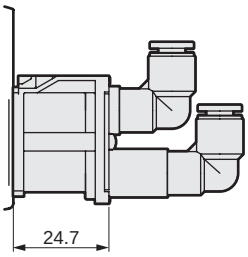
● ø4(C4)



● ø6(C6)

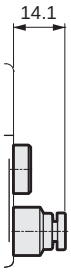
● ø8(C8)

● When option L (with piping adapter) is selected, add 24.7 mm.

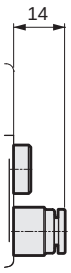


● Fitting straight, single plug

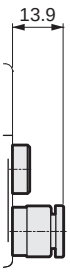
● ø4(C4NC)



● ø6(C6NC)

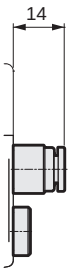


● ø8(C8NC)

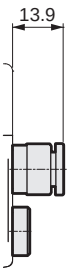


● ø4(C4NO)

● ø6(C6NO)

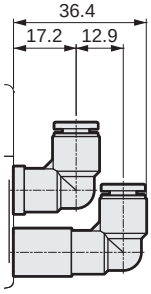


● ø8(C8NO)

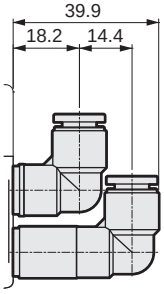


● L Fitting (upward)

● ø6(CL6)

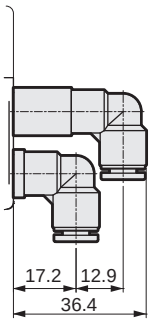


● ø8(CL8)

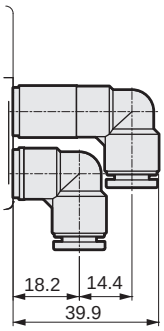


● L Fitting (downward)

● ø6(CD6)

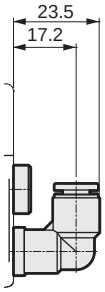


● ø8(CD8)

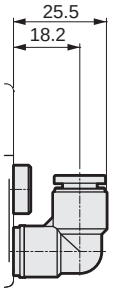


● L Fitting (upward), single plug

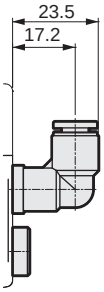
● ø6(CL6NC)



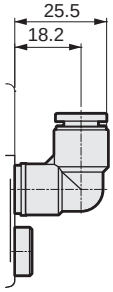
● ø8(CL8NC)



● ø6(CL6NO)

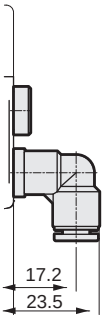


● ø8(CL8NO)

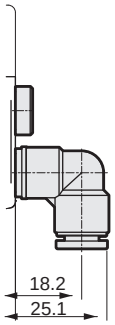


● L Fitting (downward), single plug

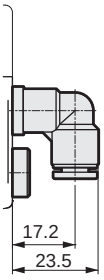
● ø6(CD6NC)



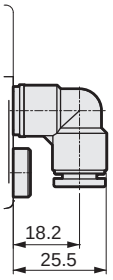
● ø8(CD8NC)



● ø6(CD6NO)



● ø8(CD8NO)

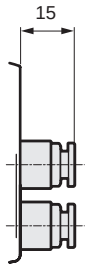


Dimensions

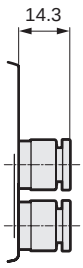
MN4GB2 Valve block

● Fitting straight

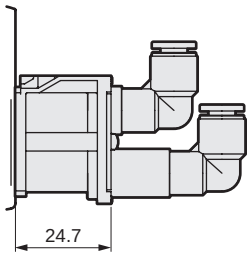
● ø1/4" (C6N)



● ø5/16" (C8N)

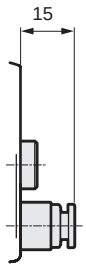


● When option L (with piping adapter) is selected, add 24.7 mm.

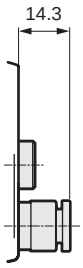


● Fitting straight, single plug

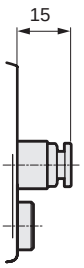
● ø1/4" (C6NNC)



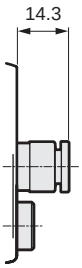
● ø5/16" (C8NNC)



● ø1/4" (C6NON)

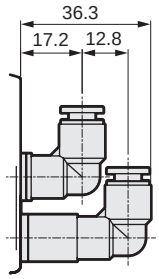


● ø5/16" (C8NON)

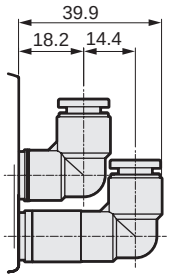


● L Fitting (upward)

● ø1/4" (CL6N)

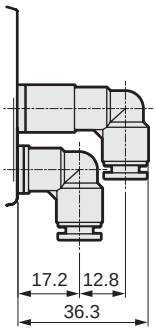


● ø5/16" (CL8N)

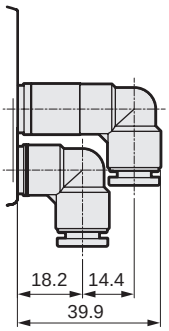


● L Fitting (downward)

● ø1/8" (CD6N)

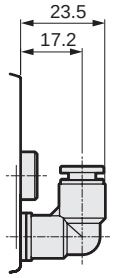


● ø5/32" (CD8N)

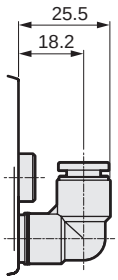


● L Fitting (upward), single plug

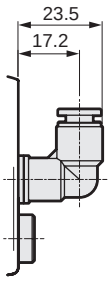
● ø1/4" (CL6NNC)



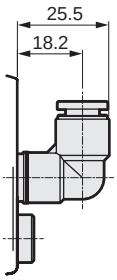
● ø5/16" (CL8NNC)



● ø1/4" (CL6NON)

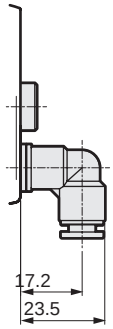


● ø5/16" (CL8NON)

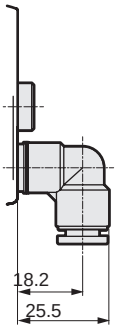


● L Fitting (downward), single plug

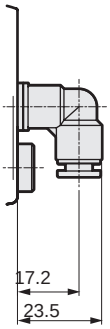
● ø1/4" (CD6NNC)



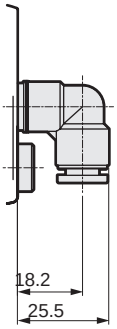
● ø5/16" (CD8NNC)

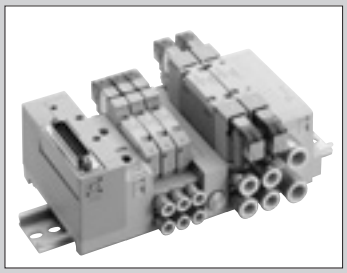


● ø1/4" (CD6NON)



● ø5/16" (CD8NON)





4G1/2 mixed manifold

MN3GAX12, MN4GAX12 MN4GBX12 Series

● Applicable cylinder bore size: ø20 to ø80

RoHS CAD

Specifications

The same as those of other series.

For individual wiring, refer to page 630 (direct piping) or page 638 (base piping), and for reduced wiring, refer to page 646 (direct piping) or page 662 (base piping).

How to order

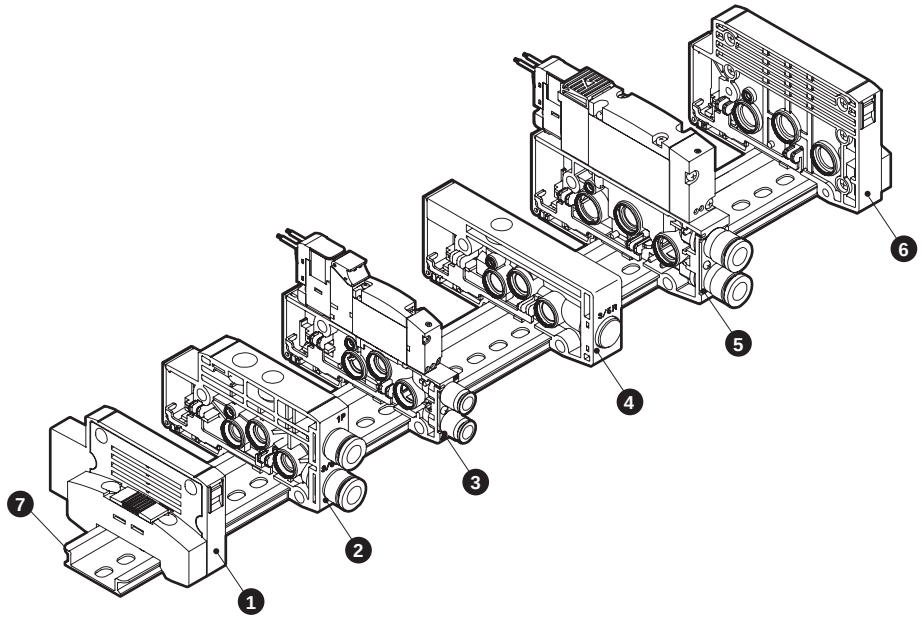
MN3G$^{A}_{B}$X12R - ○ - ○ ○ ○ - ○ - ○ - ○

MN4G$^{A}_{B}$X12R - ○ - ○ ○ ○ ○ - ○ - ○ - ○

A Model No. B Port size C Electrical connections (reduced wiring) D Terminal and connector pin wiring E Option F Station No. G Voltage H Clean room specs

* The model No. will be "MN□G□X12R-". Other items are common with the example of model No. for each series.
For individual wiring, refer to page 632 (direct piping) or page 640 (base piping), and for reduced wiring, refer to page 648 (direct piping) or page 664 (base piping).

Manifold components explanation and parts list



* Precautions regarding 4G1/2 mix manifolds
With the fitting towards the front, the left side of the mixed block will be the 4G1 Series while the right side will be the 4G2 Series. (Please be aware that it is not possible to configure these in the opposite positions.)

List of main components (refer to pages 682 to 698 for details)

No.	Component name	Model No. (example)
1	End block L	N4G1R-EL-P70
2	Supply and exhaust block	N4G1R-Q-8-P70/P74
3	Discrete valve block with solenoid valve	N4GB110R-C6-H-3-P70/P74
4	Mix block	N4G12R-MIX-P70/P74
5	Discrete valve block with solenoid valve	N4GB210R-C8-H-3-P70/P74
6	End block R	N4G2R-ER-P70/P74
7	DIN rail	N4GR-BAA (length)

Weight

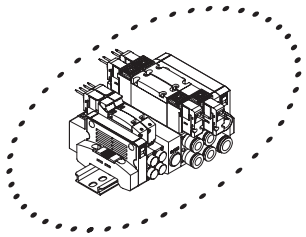
N4G12R-MIX: 49 g
Refer to the specifications of each series for other components.

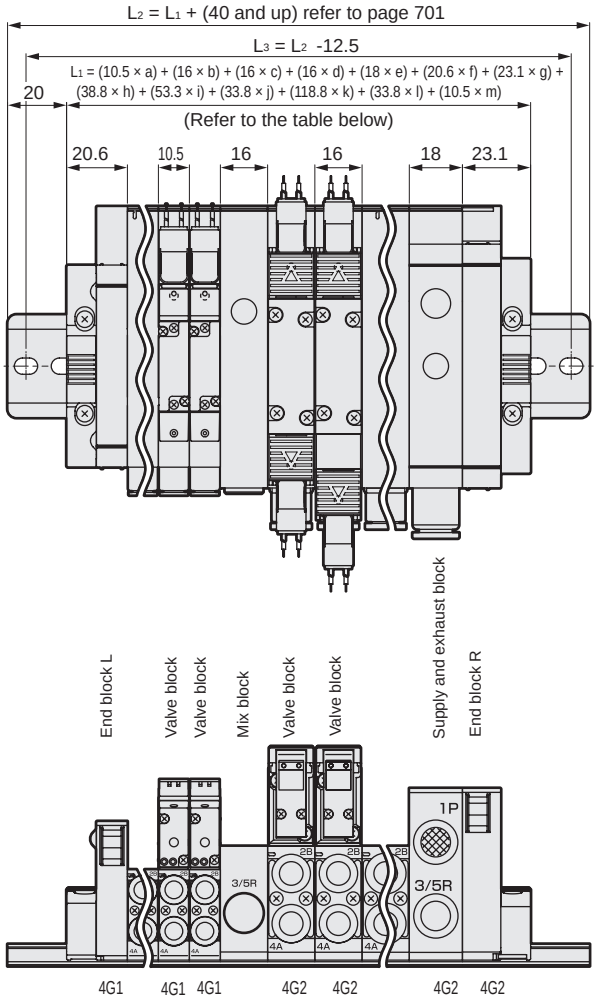
Mixed block: dimensions

Unit mm

MN4GBX12R-P7*

Note: For details regarding the E connector, EJ connector, and DIN terminal box, refer to the pages of each model (MN4GA: starting from page 635, MN4GB: starting from page 643).
Note: Refer to pages 676 to 679 for details of the radial push-in fitting.





This diagram is merely an example of a mix manifold as combinations can be configured freely.
As the dimensions are as listed below, configure combinations while referring to the previous page.

Part name	Dimensions
a:4G1 Number of valve blocks	10.5 × a
b:4G2 Number of valve blocks	16 × b
c: Number of mix blocks	16 × c
d:4G1 Number of supply and exhaust blocks	16 × d
e:4G2 Number of supply and exhaust blocks	18 × e
f:4G1 Number of end block L	20.6 × f
g:4G2 Number of end block R	23.1× g
h:4G1/2 Number of T30/T5* reduced wiring	48.8 × h
i:4G1/2 Number of T10 reduced wiring	63.3 × i
j:4G1/2 Number of T7* reduced wiring	43.8 × j
k:4G1/2 Number of T6* reduced wiring	123 × K
l:4G1/2 Number of T8* reduced wiring	43.8 × l
m:4G1/2 Number of partition blocks	10.5 × m

Note 1: The mixed block will always be placed between 4G1 and 4G2.
Note 2: The max. station No. is 20.

Block manifold; block configurations

Flexible assembly enables expansion of stations and maintenance.

● Valve block with solenoid valve

(1) The types of solenoid valve required can be arranged on a DIN rail at the number of stations required.
However, the max. number of stations depends on the wiring method. (Refer to pages 646 and 662.)
(2) Solenoid valves are numbered 1, 2, 3... from the left with the fitting in front.

● Supply and exhaust block

(1) At the connecting part of each block, a number of blocks can be freely connected.
(2) Select internal or external pilot according to the solenoid valve.

● End block

(1) Install on both sides for individual wiring specifications.
(2) Install only on wiring block opposite side for reduced wiring specifications.

● Partition block

(1) Install in combination with supply and exhaust blocks for multi-pressure specifications.

● Mixed block

(1) Install when combining 4G1 and 4G2 as a mix on the same DIN rail. This will have the effect of reduced piping.
Note : The mix block is narrow, with 4G1 on the left and 4G2 on the right.

Block manifold configuration

Piping section

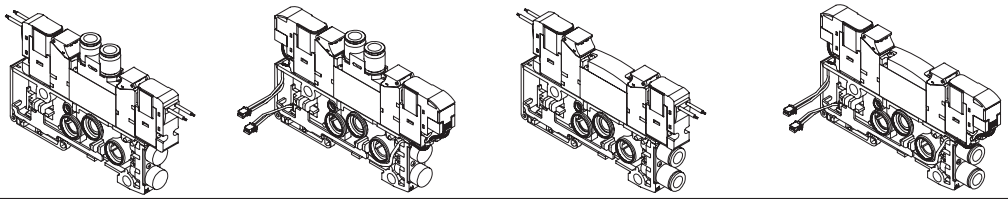
Wiring section

Related products

Piping block

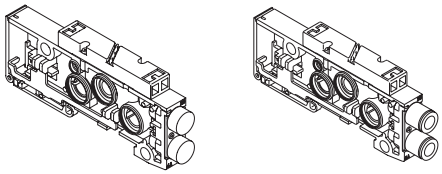
A Discrete valve block with solenoid valve

- For direct piping individual wiring
- For direct piping reduced wiring
- For base piping individual wiring
- For base piping reduced wiring



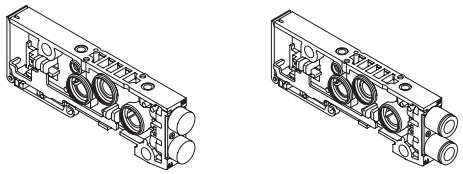
B Discrete valve block with masking plate

- For direct piping
- For base piping



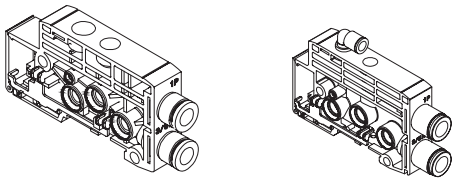
C Discrete valve block

- For direct piping
- For base piping



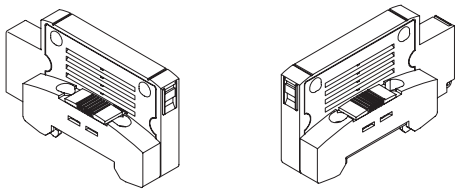
D Supply and exhaust block

- Internal pilot
- External pilot

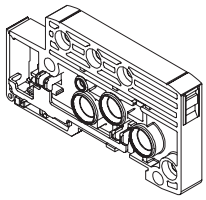


E End block

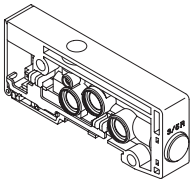
- For left
- For right



F Partition block



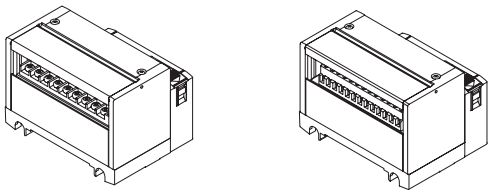
G Mix block



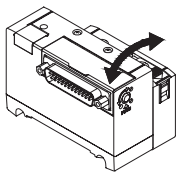
Wiring block

H Common terminal block

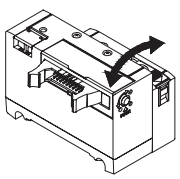
- M3 thread
- Clamping



I D sub-connector block

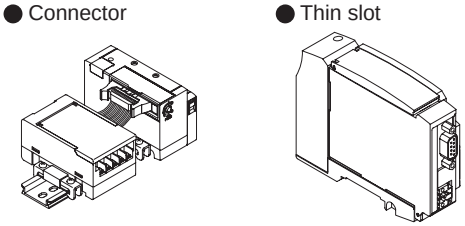


J Flat cable connector block



K Serial transmission block

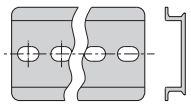
- Connector
- Thin slot



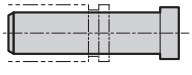
Related products

L Related products

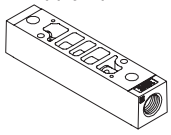
- Mounting rail



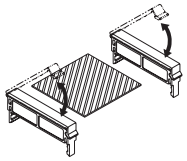
- Blanking plug



- Air supply spacer



- Tag plate



Piping section

A. Discrete valve block with solenoid valve

A block formed as an assembly of the main unit of a solenoid valve and a valve block (split resin base). For selection guides, refer to the following pages. Direct piping individual wiring: page 632, base piping individual wiring: page 640, direct piping reduced wiring: pages 648, base piping reduced wiring: pages 664

B. Discrete valve block with masking plate

A block formed as an assembly of a masking plate and a valve block (split resin base).

N4GA1 R - MP — 3 — P70

N4GB1 R - MPD - C4 - 3 F — P70

Ⓐ Model No. Ⓑ Type Ⓒ Port size Ⓓ Cable length *2 Ⓔ Option Ⓕ Clean room specifications

Ⓑ Type

MP	For individual wiring
MPS	For reduced wiring single
MPD	For reduced wiring double/3-position

Ⓓ Cable length *3

Blank	For individual wiring
2 to 10	Select a length from page 686.

Ⓔ Option

Blank	No option
L	With piping adaptor
F	A/B port filter integrated

***2: When purchasing the product for the purpose of expanding stations of reduced wiring, a socket assembly will be attached, where "2-10" should be selected. Select a cable length from page 686 and fill it in the section of Ⓓ Cable length. However, it will not be necessary to include the cable length when making arrangements with the manifold specifications.**

Ⓕ Clean room specifications

	Structure	Material restriction
P70	Exhaust treatment	—
P74	Exhaust treatment	Copper-based/ silicon-based/ halogen-based materials (fluorine, chlorine, bromine) are prohibited

Code	Content		Ⓐ Model No. N4GA1	N4GA2	N4GB1	N4GB2
Ⓒ Port size (it is necessary to configure this with base piping)						
Type	Millimeter fitting/Rc thread					
CF	ø1.8 barbed fitting (applicable tube UP-9102-**)				●	
C18	ø1.8 push-in fitting (applicable tube UP-9402-**)				●	
C4	ø4 push-in fitting				●	●
C6	ø6 push-in fitting				●	●
C8	ø8 push-in fitting					●
CL18	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**)				●	
CL4	ø4 radial facing-up push-in fitting				●	
CL6	ø6 radial facing-up push-in fitting				●	●
CL8	ø8 radial facing-up push-in fitting					●
CD18	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**)				●	
CD4	ø4 radial facing-down push-in fitting				●	
CD6	ø6 radial facing-down push-in fitting				●	●
CD8	ø8 radial facing-down push-in fitting					●
Single side plugged specifications	A port	B port				
CFNC	ø1.8 barbed fitting (applicable tube UP-9102-**)	Plug			●	
C18NC	ø1.8 push-in fitting (applicable tube UP-9402-**)	Plug			●	
C4NC	ø4 push-in fitting	Plug			●	●
C6NC	ø6 push-in fitting	Plug			●	●
C8NC	ø8 push-in fitting	Plug				●
CFNO	Plug	ø1.8 barbed fitting (applicable tube UP-9102-**)			●	
C18NO	Plug	ø1.8 push-in fitting (applicable tube UP-9402-**)			●	
C4NO	Plug	ø4 push-in fitting			●	●
C6NO	Plug	ø6 push-in fitting			●	●
C8NO	Plug	ø8 push-in fitting				●
CL18NC	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**)	Plug			●	
CL4NC	ø4 radial facing-up push-in fitting	Plug			●	●
CL6NC	ø6 radial facing-up push-in fitting	Plug			●	●
CL8NC	ø8 radial facing-up push-in fitting	Plug				●
CL18NO	Plug	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**)			●	
CL4NO	Plug	ø4 radial facing-up push-in fitting			●	
CL6NO	Plug	ø6 radial facing-up push-in fitting			●	●
CL8NO	Plug	ø8 radial facing-up push-in fitting				●

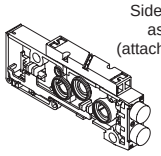
Code	Content		Ⓐ Model No. N4GA1	N4GA2	N4GB1	N4GB2
Type	Millimeter fitting/Rc thread					
Single side plugged specifications	A port	B port				
CD18NC	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**)	Plug			●	
CD4NC	ø4 radial facing-down push-in fitting	Plug			●	
CD6NC	ø6 radial facing-down push-in fitting	Plug			●	●
CD8NC	ø8 radial facing-down push-in fitting	Plug				●
CD18NO	Plug	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**)			●	
CD4NO	Plug	ø4 radial facing-down push-in fitting			●	
CD6NO	Plug	ø6 radial facing-down push-in fitting			●	●
CD8NO	Plug	ø8 radial facing-down push-in fitting				●
Type	Inch fitting/inch thread					
C3N	ø1/8 inch push-in fitting				●	
C4N	ø5/32 inch push-in fitting				●	
C6N	ø1/4 inch push-in fitting					●
C8N	ø5/16 inch push-in fitting					●
CL3N	ø1/8 inch radial facing-up push-in fitting *1				○	
CL4N	ø5/32 inch radial facing-up push-in fitting *1				○	
CL6N	ø1/4 inch radial facing-up push-in fitting *1					○
CL8N	ø5/16 inch radial facing-up push-in fitting *1					○
Single side plugged specifications	A port	B port				
C3NCN	ø1/8 inch push-in fitting	Plug			●	
C4NCN	ø5/32 inch push-in fitting	Plug			●	
C6NCN	ø1/4 inch push-in fitting	Plug				●
C8NCN	ø5/16 inch push-in fitting	Plug				●
C3NON	Plug	ø1/8 inch push-in fitting			●	
C4NON	Plug	ø5/32 inch push-in fitting			●	
C6NON	Plug	ø1/4 inch push-in fitting				●
C8NON	Plug	ø5/16 inch push-in fitting				●
CL3NCN	ø1/8 inch radial facing-up push-in fitting *1	Plug			○	
CL4NCN	ø5/32 inch radial facing-up push-in fitting *1	Plug			○	
CL6NCN	ø1/4 inch radial facing-up push-in fitting *1	Plug				○
CL8NCN	ø5/16 inch radial facing-up push-in fitting *1	Plug				○
CL3NON	Plug	ø1/8 inch radial facing-up push-in fitting *1			○	
CL4NON	Plug	ø5/32 inch radial facing-up push-in fitting *1			○	
CL6NON	Plug	ø1/4 inch radial facing-up push-in fitting *1				○
CL8NON	Plug	ø5/16 inch radial facing-up push-in fitting *1				○

*1: This is a custom order product.

indicates specifications not available.

○ Custom order products. Contact CKD for details.

N4GA1R-MP



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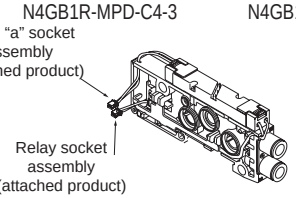

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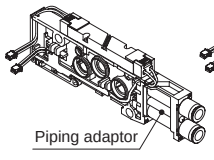
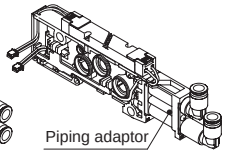
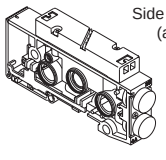


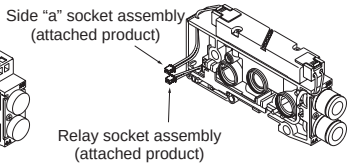
N4GB1R-MPD-CL4-3L



N4GA2R-MP



N4GB2R-MPD-C6-5

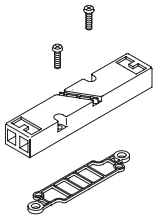


B-1. Masking plate

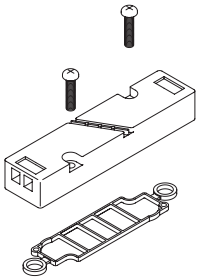
4G1R - MP-P70

Ⓐ Model No.

4G1R-MP



4G2R-MP



Piping section

C. Discrete valve block (discrete correspondence only)

A discrete valve block (split resin base).

N4GA1 R - V1 ——— 3 ——— P70
N4GB1 R - V2 - C4 - 3 - F - P70

Ⓐ Model No. Ⓑ Type Ⓒ Port size Ⓓ Cable length *2 Ⓔ Option Ⓕ Clean room specifications

Ⓑ Type

V1	For individual wiring For reduced wiring single
V2	For reduced wiring double/3-position

Ⓓ Cable length *3

Blank	For individual wiring
2 to 10	Select a length from page 686.

***2: When purchasing the product for the purpose of expanding stations of reduced wiring, a socket assembly will be attached, where "2-10" should be selected.
Select a cable length from page 686 and fill it in the section of Ⓓ Cable length. However, it will not be necessary to include the cable length when making arrangements with the manifold specifications.**

Ⓕ Clean room specifications

	Structure	Material restriction
P70	Exhaust treatment	—
P74	Exhaust treatment	Copper-based/ silicon-based/ halogen-based materials (fluorine, chlorine, bromine) are prohibited

Code	Content	A port	B port	Ⓐ Model No. N4GA1	N4GA2	N4GB1	N4GB2
Ⓒ Port size (it is necessary to configure this with base piping)							
Type	Millimeter fitting/Rc thread						
CF	ø1.8 barbed fitting (applicable tube UP-9102-**)					●	
C18	ø1.8 push-in fitting (applicable tube UP-9402-**)					●	
C4	ø4 push-in fitting					●	●
C6	ø6 push-in fitting					●	●
C8	ø8 push-in fitting						●
CL18	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**)					●	
CL4	ø4 radial facing-up push-in fitting					●	
CL6	ø6 radial facing-up push-in fitting					●	●
CL8	ø8 radial facing-up push-in fitting						●
CD18	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**)					●	
CD4	ø4 radial facing-down push-in fitting					●	
CD6	ø6 radial facing-down push-in fitting					●	●
CD8	ø8 radial facing-down push-in fitting						●
Single side plugged specifications		A port	B port				
CFNC	ø1.8 barbed fitting (applicable tube UP-9102-**)		Plug			●	
C18NC	ø1.8 push-in fitting (applicable tube UP-9402-**)		Plug			●	
C4NC	ø4 push-in fitting		Plug			●	●
C6NC	ø6 push-in fitting		Plug			●	●
C8NC	ø8 push-in fitting		Plug				●
CFNO		Plug	ø1.8 barbed fitting (applicable tube UP-9102-**)			●	
C18NO		Plug	ø1.8 push-in fitting (applicable tube UP-9402-**)			●	
C4NO		Plug	ø4 push-in fitting			●	●
C6NO		Plug	ø6 push-in fitting			●	●
C8NO		Plug	ø8 push-in fitting				●
CL18NC	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**)		Plug			●	
CL4NC	ø4 radial facing-up push-in fitting		Plug			●	●
CL6NC	ø6 radial facing-up push-in fitting		Plug			●	●
CL8NC	ø8 radial facing-up push-in fitting		Plug				●
CL18NO		Plug	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**)			●	
CL4NO		Plug	ø4 radial facing-up push-in fitting			●	
CL6NO		Plug	ø6 radial facing-up push-in fitting			●	●
CL8NO		Plug	ø8 radial facing-up push-in fitting				●

Code	Content	A port	B port	Ⓐ Model No. N4GA1	N4GA2	N4GB1	N4GB2
Type	Millimeter fitting/Rc thread						
Single side plugged specifications		A port	B port				
CD18NC	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**)		Plug			●	
CD4NC	ø4 radial facing-down push-in fitting		Plug			●	
CD6NC	ø6 radial facing-down push-in fitting		Plug			●	●
CD8NC	ø8 radial facing-down push-in fitting		Plug				●
CD18NO		Plug	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**)			●	
CD4NO		Plug	ø4 radial facing-down push-in fitting			●	
CD6NO		Plug	ø6 radial facing-down push-in fitting			●	●
CD8NO		Plug	ø8 radial facing-down push-in fitting				●
Type	Inch fitting/inch thread						
C3N	ø1/8 inch push-in fitting					●	
C4N	ø5/32 inch push-in fitting					●	
C6N	ø1/4 inch push-in fitting						●
C8N	ø5/16 inch push-in fitting						●
CL3N	ø1/8 inch radial facing-up push-in fitting *1					○	
CL4N	ø5/32 inch radial facing-up push-in fitting *1					○	
CL6N	ø1/4 inch radial facing-up push-in fitting *1						○
CL8N	ø5/16 inch radial facing-up push-in fitting *1						○
Single side plugged specifications		A port	B port				
C3NCN	ø1/8 inch push-in fitting		Plug			●	
C4NCN	ø5/32 inch push-in fitting		Plug			●	
C6NCN	ø1/4 inch push-in fitting		Plug				●
C8NCN	ø5/16 inch push-in fitting		Plug				●
C3NON		Plug	ø1/8 inch push-in fitting			●	
C4NON		Plug	ø5/32 inch push-in fitting			●	
C6NON		Plug	ø1/4 inch push-in fitting				●
C8NON		Plug	ø5/16 inch push-in fitting				●
CL3NCN	ø1/8 inch radial facing-up push-in fitting *1		Plug			○	
CL4NCN	ø5/32 inch radial facing-up push-in fitting *1		Plug			○	
CL6NCN	ø1/4 inch radial facing-up push-in fitting *1		Plug				○
CL8NCN	ø5/16 inch radial facing-up push-in fitting *1		Plug				○
CL3NON		Plug	ø1/8 inch radial facing-up push-in fitting *1			○	
CL4NON		Plug	ø5/32 inch radial facing-up push-in fitting *1			○	
CL6NON		Plug	ø1/4 inch radial facing-up push-in fitting *1				○
CL8NON		Plug	ø5/16 inch radial facing-up push-in fitting *1				○

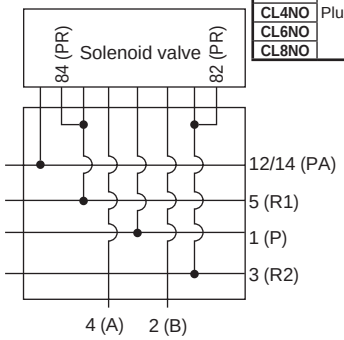
Ⓔ Option

		Ⓐ Model No. N4GA1	N4GA2	N4GB1	N4GB2
Blank	No option	●	●	●	●
L	With piping adapter			●	●
F	Port A/B filter built in			●	●
Z6	For spacer pilot check valve mounting				●

*1: This is a custom order product.

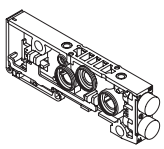
indicates specifications not available.

○ Custom order products. Contact CKD for details.

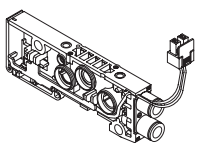


Discrete valve lock circuit diagram

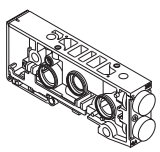
N4GA1R-V1



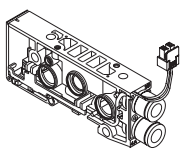
N4GB1R-V2-C4



N4GA2R-V1

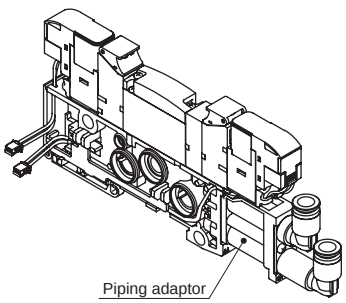


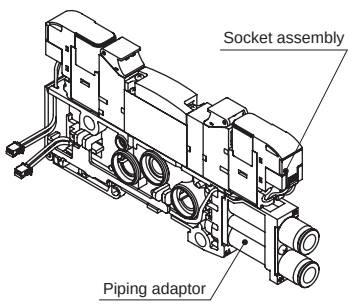
N4GB2R-V2-C6



Option L with piping adaptor attached

Select L (with piping adaptor) when using the radia facing-up push-in fitting at Double, 3 position.
Combination of the straight push-in fitting and the piping adaptor makes the fitting jut out further than the socket assembly and, as a result, the workability of connecting/ disconnecting tube is improved.





Piping section

As problems may occur depending on the configuration, make selections with a sufficient understanding of the features of each block.

C. Discrete valve block (discrete correspondence only)

Valve block for expansion, cable length

Calculate the distance W between the expansion position and the electrical block (Fig. 1), and select a cable of an appropriate length from [Table 1]. Please be aware that the required socket assembly will differ between the a side solenoid and the b side solenoid.

Although Fig. 1 shows specifications where the electrical block is on the left side, similarly calculate the distance W between the expansion position and the electrical block with right side specifications as well.

Calculation of W

- MN4G1

  W = (10.5 × n) + (16 × m) + (10.5 × l)

- MN4G2

  W = (16 × n) + (18 × m) + (10.5 × l)

  n: number of valve blocks m: number of supply and exhaust blocks l: number of partition blocks

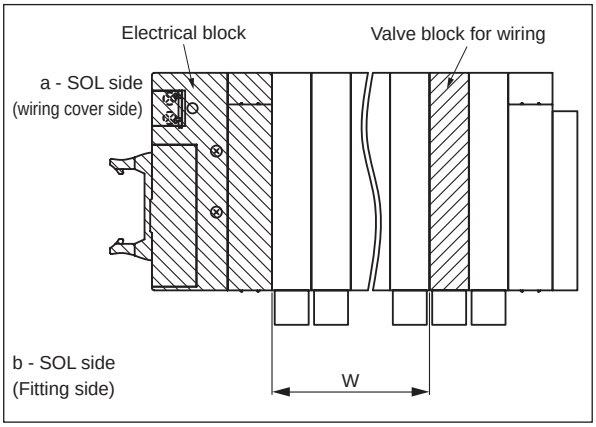
- MN4GX

  Calculate W using the mix block width of 16.

[Table 1] W length - selection No. compatibility table

Selection No.	Type of wiring		
	T10/11 (R)	T30/5*/6* (R)	T7*/T8*
2		0	25 or less
3	20 or less	Over 0 to 30	Over 25 to 55
4	Over 20 to 70	Over 30 to 80	Over 55 to 105
5	Over 70 to 120	Over 80 to 130	Over 105 to 155
6	Over 120 to 170	Over 130 to 180	Over 155 to 205
7	Over 170 to 260	Over 180 to 270	Over 205 to 295
8	Over 260 to 350	Over 270 to 360	Over 295 to 385
9	Over 350 to 450	Over 360 to 460	Over 385 to 485
10	Over 450 to 570	Over 460 to 580	Over 485 to 605

Fig. 1



D. Supply and exhaust block

The supply and exhaust block can be installed at any position adjacent to the valve block.

As there is no set number of units, install two or more units when necessary for combinations with partition blocks or when wanting to increase the flow rate for supply and exhaust. In order to prevent foreign objects from flowing in, the P port is equipped with a filter.

N4G1R - Q - 8 - P70

Model No. Ⓐ Type Ⓑ Port size Ⓒ Clean room specifications

Ⓐ Type		Ⓑ Port size	
Q	Internal pilot	6	ø6 push-in fitting
QK	External pilot	6L	ø6 push-in fitting Upward
		6D	ø6 push-in fitting Downward
		8	ø8 push-in fitting
		8L	ø8 push-in fitting Upward
		8D	ø8 push-in fitting Downward
		6N	ø1/4 inch push-in fitting
		6LN	ø1/4 inch push-in fitting Upward *1
		6DN	ø1/4 inch push-in fitting Downward *1
		8N	ø5/16 inch push-in fitting
		8LN	ø5/16 inch push-in fitting Upward *1
		8DN	ø5/16 inch push-in fitting Downward *1

Ⓑ Port size	
6M *2	P port ø1/4 inch push-in fitting R port ø6 push-in fitting
6LM *1 *2	P port ø1/4 inch push-in fitting Upward R port ø6 push-in fitting Upward
6DM *1 *2	P port ø1/4 inch push-in fitting Downward R port ø6 push-in fitting Downward
8M *2	P port ø5/16 inch push-in fitting R port ø8 push-in fitting *2
8LM *1 *2	P port ø5/16 inch push-in fitting Upward R port ø8 push-in fitting Upward
8DM *1 *2	P port ø5/16 inch push-in fitting Downward R port ø8 push-in fitting Downward

Ⓒ Clean room specifications
P70
P74

*1: This is a custom order product.
*2: When using a silencer for the inch fitting specifications, select 6*M and 8*M.
*3: For X end block, select atmosphere release (EX).

N4G2R - QK - 10L - P70

Model No. Ⓐ Type Ⓑ Port size Ⓒ Clean room specifications

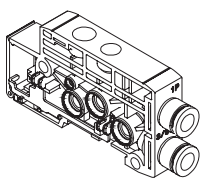
Ⓐ Type		Ⓑ Port size	
Q	Internal pilot	8	ø8 push-in fitting
QK	External pilot	8L	ø8 push-in fitting Upward
		8D	ø8 push-in fitting Downward
		10	ø10 push-in fitting
		10L	ø10 push-in fitting Upward
		10D	ø10 push-in fitting Downward
		8N	ø5/16 inch push-in fitting
		8LN	ø5/16 inch push-in fitting Upward *1
		8DN	ø5/16 inch push-in fitting Downward *1
		10N	ø3/8 inch push-in fitting
		10LN	ø3/8 inch push-in fitting Upward *1
		10DN	ø3/8 inch push-in fitting Downward *1

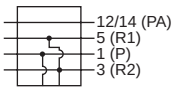
Ⓑ Port size	
8M *2	P port ø5/16 inch push-in fitting R port ø8 push-in fitting
8ML *1 *2	P port ø5/16 inch push-in fitting Upward R port ø8 push-in fitting Upward
8DM *1 *2	P port ø5/16 inch push-in fitting Downward R port ø8 push-in fitting Downward
10M *2	P port ø3/8 inch push-in fitting R port ø10 push-in fitting
10LM *1 *2	P port ø3/8 inch push-in fitting Upward R port ø10 push-in fitting Upward
10DM *1 *2	P port ø3/8 inch push-in fitting Downward R port ø10 push-in fitting Downward

Ⓒ Clean room specifications
P70
P74

*1: This is a custom order product.
*2: When using a silencer for the inch fitting specifications, select 6*M and 8*M.
*3: For X end block, select atmosphere release (EX).

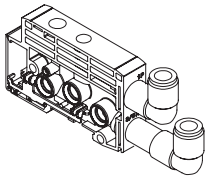
N4G1R-Q-8

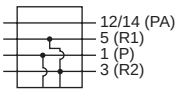




P (supply port)
R (exhaust port)

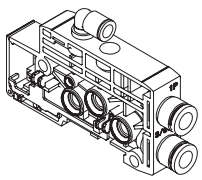
N4G2R-Q-10L

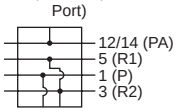




P (supply port)
R (exhaust port)

N4G1R-QK-8

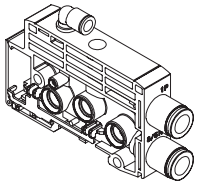


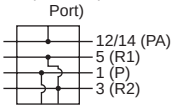


P (supply port)
R (exhaust port)

* External pilot port: ø6 push-in fitting

N4G2R-QK-10





P (supply port)
R (exhaust port)

* External pilot port: ø6 push-in fitting

Piping section

E. End block

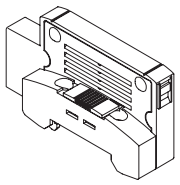
Install the units on both ends of the manifold with individual wiring. Install the units on opposite sides of the electrical block with reduced wiring.

N4G1 R - E - R - P70

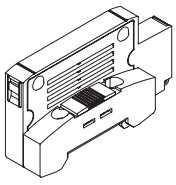
Model No. | Common exhaust | A Mounting position | B Clean room specifications

A Mounting position		B Clean room specifications
L	For left side	P70
R	For right side	P74

N4G1R-EL



N4G1R-ER

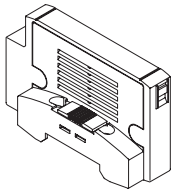


N4G2 R - E - L - P70

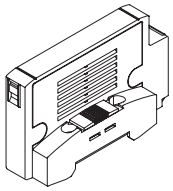
Model No. | Common exhaust | A Mounting position | B Clean room specifications

A Mounting position		B Clean room specifications
L	For left side	P70
R	For right side	

N4G2R-EL



N4G2R-ER



F. Partition block

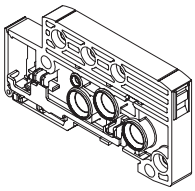
It is possible to implement measures to prevent mixture of different pressures and increase of back pressure by using the combination of a partition block and a supply and exhaust block.

N4G1 R - S - P70

Model No. | A Type | B Clean room specifications

A Type		B Clean room specifications
SA	P/R/PA stop	P70
S	P/R stop PA through	P74
SP	P stop R/PA through	
SE	R stop P/PA through	

N4G1-S

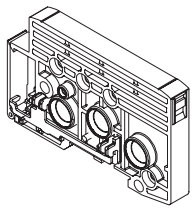


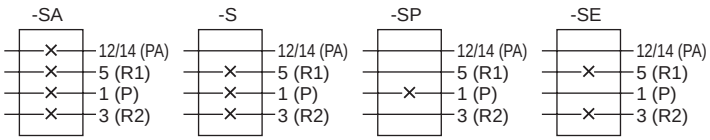
N4G2 R - SA - P70

Model No. | A Type | B Clean room specifications

A Type		B Clean room specifications
SA	P/R/PA stop	P70
S	P/R stop PA through	P74
SP	P stop R/PA through	
SE	R stop P/PA through	

N4G2-S

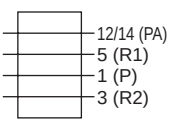




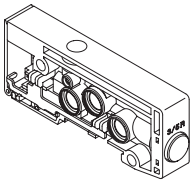
G. Mixed block

Installed in cases when 4G1 and 4G2 will coexist in the same manifold.
The mounting positions will be 4G1 on the left side of the mixed block and 4G2 on the right side.

N4G12 R - MIX - P70



Clean room specifications
P70
P74

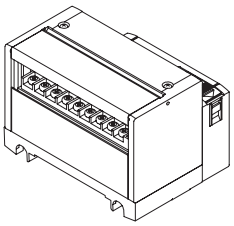


Wiring section Wiring block cannot be ordered as a separate item.
* Wiring blocks are: H. Common terminal box, I.D. sub-connector block, J. Flat cable connector block, K. Generic term for serial transmission blocks.

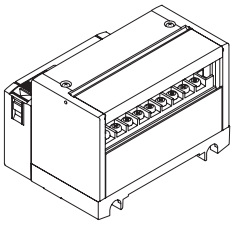
H. Common terminal block

M3 thread

N4G1R-T10

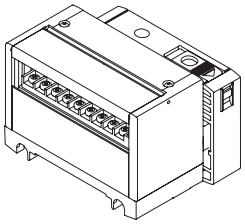


N4G1R-T10R

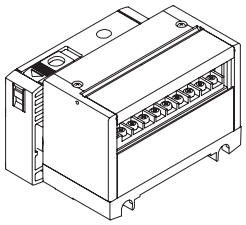


M3 thread

N4G2R-T10

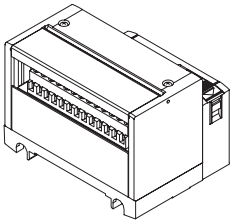


N4G2R-T10R

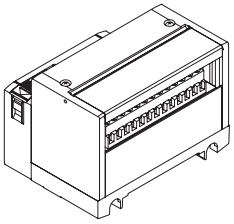


Clamping

N4G1R-T11

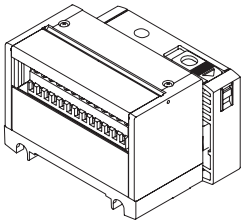


N4G1R-T11R

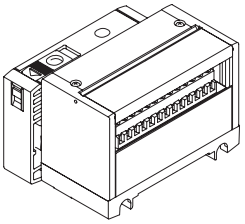


Clamping

N4G2R-T11

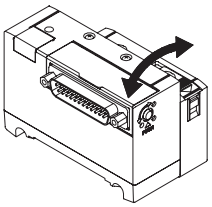


N4G2R-T11R

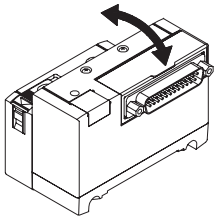


I. D sub-connector block

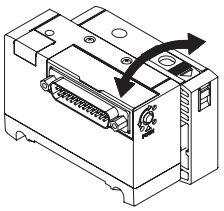
N4G1R-T30



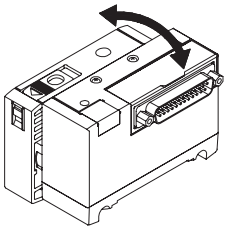
N4G1R-T30R



N4G2R-T30



N4G2R-T30R

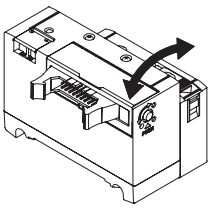


* Refer to page 717 for the model No. of cables with a D sub-connector cable.

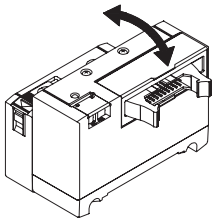
J. Flat cable connector block

● With power supply terminal

N4G1R-T50

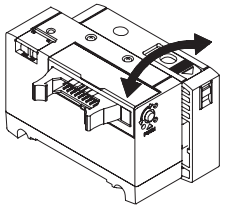


N4G1R-T50R

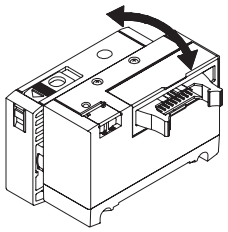


● With power supply terminal

N4G2R-T50

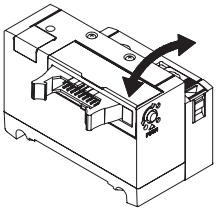


N4G2R-T50R

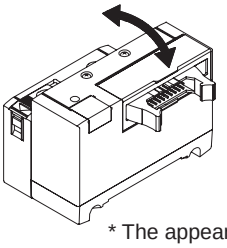


● Without power supply terminal

N4G1R-T51(N4G1R-T52) (N4G1R-T53)

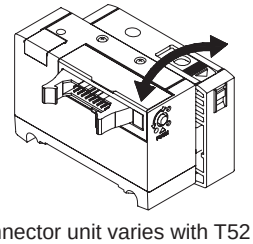


N4G1R-T51R(N4G1R-T52R) (N4G1R-T53R)

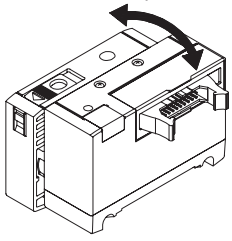


● Without power supply terminal

N4G2R-T51(N4G2R-T52) (N4G2R-T53)



N4G2R-T51R(N4G2R-T52R) (N4G2R-T53R)



* The appearance of the connector unit varies with T52 and T53.

Wiring section (Electrical block) *Orders cannot be placed for only an electrical block.

K. Serial transmission block

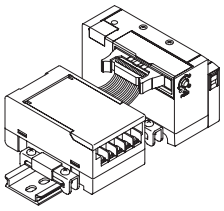
● Connector

N4G1R - T6G1

Model No. / Ⓐ Type

Ⓐ Type			
T6G1	CC-Link	NPN	16 points

N4G1R-T6*

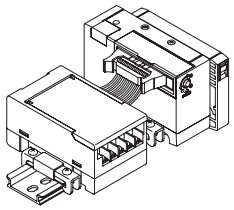


N4G2R- T6G1

Model No. / Ⓐ Type

Ⓐ Type			
T6G1	CC-Link	NPN	16 points

N4G2R-T6*



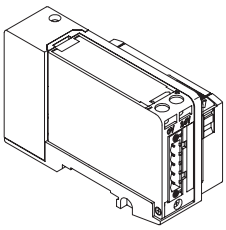
● Thin slot

N4G1R - T7D1

Model No. / Ⓐ Type

Ⓐ Type			
T7D1	DeviceNet	NPN	16 points
T7G1	CC-Link		16 points
T7L1	SAVE NET		16 points
T7S1	CompoNet	NPN	16 points
T7SP1		PNP	

N4G1R-T7*

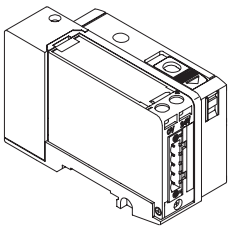


N4G2R- T7G1

Model No. / Ⓐ Type

Ⓐ Type			
T7D1	DeviceNet	NPN	16 points
T7G1	CC-Link		16 points
T7L1	SAVE NET		16 points
T7S1	CompoNet	NPN	16 points
T7SP1		PNP	

N4G2R-T7*



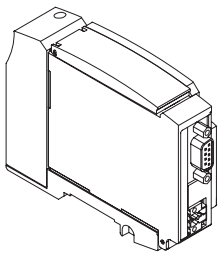
● Thin slot type

N4G1R - T8G1

Ⓐ Wiring method

Ⓐ Wiring method			
T8G1	CC-Link	NPN	16 points
T8G2			32 points
T8GP1		PNP	16 points
T8GP2			32 points
T8P1	PROFIBUS-DP	NPN	16 points
T8P2			32 points
T8PP1		PNP	16 points
T8PP2			32 points
T8EC1	EtherCAT	NPN	16 points
T8EC2			32 points
T8ECP1		PNP	16 points
T8ECP2			32 points
T8EN1	EtherNet/IP	NPN	16 points
T8EN2			32 points
T8ENP1		PNP	16 points
T8ENP2			32 points
T8D1	DeviceNet	NPN	16 points
T8D2			32 points
T8DP1		PNP	16 points
T8DP2			32 points
T8EB1	CC-Link IEF Basic	NPN	16 points
T8EB2			32 points
T8EBP1		PNP	16 points
T8EBP2			32 points
T8EF1	CC-Link IE Field	NPN	16 points
T8EF2			32 points
T8EFP1		PNP	16 points
T8EFP2			32 points
T8EP1	PROFINET	NPN	16 points
T8EP2			32 points
T8EPP1		PNP	16 points
T8EPP2			32 points
T8KC1	IO-Link	NPN	16 points
T8KC2			32 points
T8KCP1		PNP	16 points
T8KCP2			32 points

N4G1R-T8*

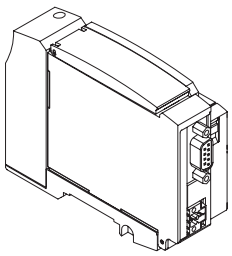


N4G2R- T8G1

Ⓐ Wiring method

Ⓐ Wiring method			
T8G1	CC-Link	NPN	16 points
T8G2			32 points
T8GP1		PNP	16 points
T8GP2			32 points
T8P1	PROFIBUS-DP	NPN	16 points
T8P2			32 points
T8PP1		PNP	16 points
T8PP2			32 points
T8EC1	EtherCAT	NPN	16 points
T8EC2			32 points
T8ECP1		PNP	16 points
T8ECP2			32 points
T8EN1	EtherNet/IP	NPN	16 points
T8EN2			32 points
T8ENP1		PNP	16 points
T8ENP2			32 points
T8D1	DeviceNet	NPN	16 points
T8D2			32 points
T8DP1		PNP	16 points
T8DP2			32 points
T8EB1	CC-Link IEF Basic	NPN	16 points
T8EB2			32 points
T8EBP1		PNP	16 points
T8EBP2			32 points
T8EF1	CC-Link IE Field	NPN	16 points
T8EF2			32 points
T8EFP1		PNP	16 points
T8EFP2			32 points
T8EP1	PROFINET	NPN	16 points
T8EP2			32 points
T8EPP1		PNP	16 points
T8EPP2			32 points
T8KC1	IO-Link	NPN	16 points
T8KC2			32 points
T8KCP1		PNP	16 points
T8KCP2			32 points

N4G2R-T8*



L. Serial transmission slave unit

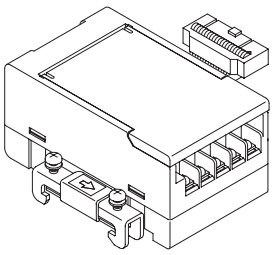
* The serial transmission slave unit may be ordered as a separate item.

● Discrete serial transmission slave unit (connector type)

4GR - OPP3 - 1G

Ⓐ Wiring method

Code	Content			
Ⓐ Wiring method				
1G	T6G1	CC-Link	NPN	16 points

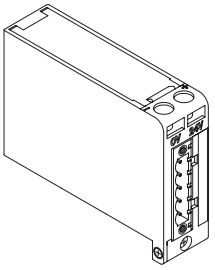


● Discrete serial transmission slave unit (thin slot type)

4GR - OPP4 - 1D

Ⓐ Wiring method

Code	Content			
Ⓐ Wiring method				
1D	T7D1	DeviceNet	NPN	16 points
1G	T7G1	CC-Link	NPN	16 points
1L	T7L1	SAVE NET	NPN	16 points
1S	T7S1	CompoNet	NPN	16 points
1S-P	T7SP1		PNP	16 points

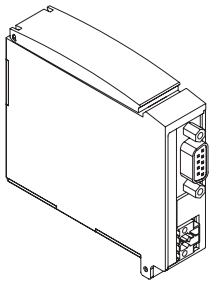


● Serial transmission slave unit single component (thin slot)

4GR - OPP7 - 2G

Ⓐ Wiring method

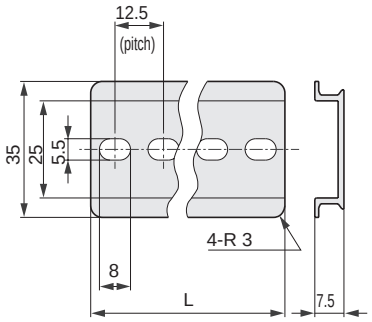
Code	Description			
Ⓐ Wiring method				
1G	T8G1	CC-Link	NPN	16 points
2G	T8G2			32 points
1G-P	T8GP1		PNP	16 points
2G-P	T8GP2			32 points
1P	T8P1	PROFIBUS-DP	NPN	16 points
2P	T8P2			32 points
1P-P	T8PP1		PNP	16 points
2P-P	T8PP2			32 points
1EC	T8EC1	EtherCAT	NPN	16 points
2EC	T8EC2			32 points
1EC-P	T8ECP1		PNP	16 points
2EC-P	T8ECP2			32 points
1EN	T8EN1	EtherNet/IP	NPN	16 points
2EN	T8EN2			32 points
1EN-P	T8ENP1		PNP	16 points
2EN-P	T8ENP2			32 points
1D	T8D1	DeviceNet	NPN	16 points
2D	T8D2			32 points
1D-P	T8DP1		PNP	16 points
2D-P	T8DP2			32 points
1EB	T8EB1	CC-Link IEF Basic	NPN	16 points
2EB	T8EB2			32 points
1EB-P	T8EBP1		PNP	16 points
2EB-P	T8EBP2			32 points
1EF	T8EF1	CC-Link IE Field	NPN	16 points
2EF	T8EF2			32 points
1EF-P	T8EFP1		PNP	16 points
2EF-P	T8EFP2			32 points
1EP	T8EP1	PROFINET	NPN	16 points
2EP	T8EP2			32 points
1EP-P	T8EPP1		PNP	16 points
2EP-P	T8EPP2			32 points
1K	T8KC1	IO-Link	NPN	16 points
2KC	T8KC2			32 points
1KC-P	T8KCP1		PNP	16 points
2KC-P	T8KCP2			32 points



Related products Mounting rail, blanking plug, tag plate

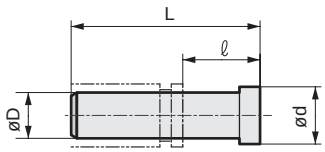
● Mounting rail

N4GR-BAA [length] -P70



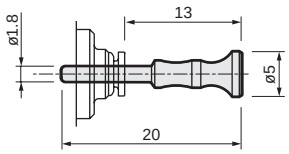
- The minimum length is 87.5 mm.
- Select the length in pitches of 12.5 mm.
- **Refer to page 701 for details.**

● Blanking plug



Model No.	D	L	ℓ	d
GWP4-B-P70	ø4	27	16	6
GWP6-B-P70	ø6	29	11.5	8
GWP8-B-P70	ø8	33	14	10
GWP10-B-P70	ø10	40	18.5	12

PG-P2-B (for ø1.8)



● Tag plate will be shipped upon being attached to the main unit of the manifold.

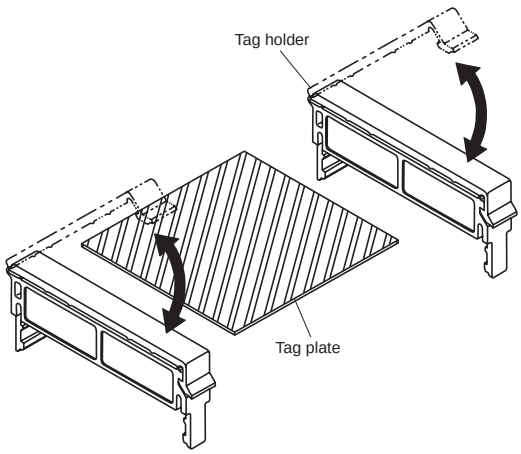
When required, place a circle on the field for tag plate in the manifold specifications on pages 703 to 706.

(Tag holder)

N4G1 R-TAG-HOLDER-P70

Ⓐ Model No.
N4G1
N4G2

(available in sets of 2.)



(Tag plate)

N4G1 R-TAG-PLATE-A-200*1-P70

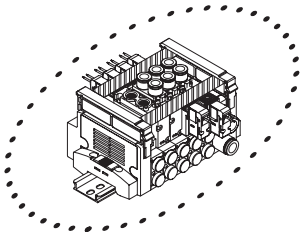
Ⓐ Model No.	Ⓑ Type		Ⓒ Length (mm) *1
N4G1	A	MN4GA1/2 shared	200
	B1	Wide type for MN4GB1	300
	B2	Thin type for MN4GB1 *2	400
N4G2	B	For MN4GB2	

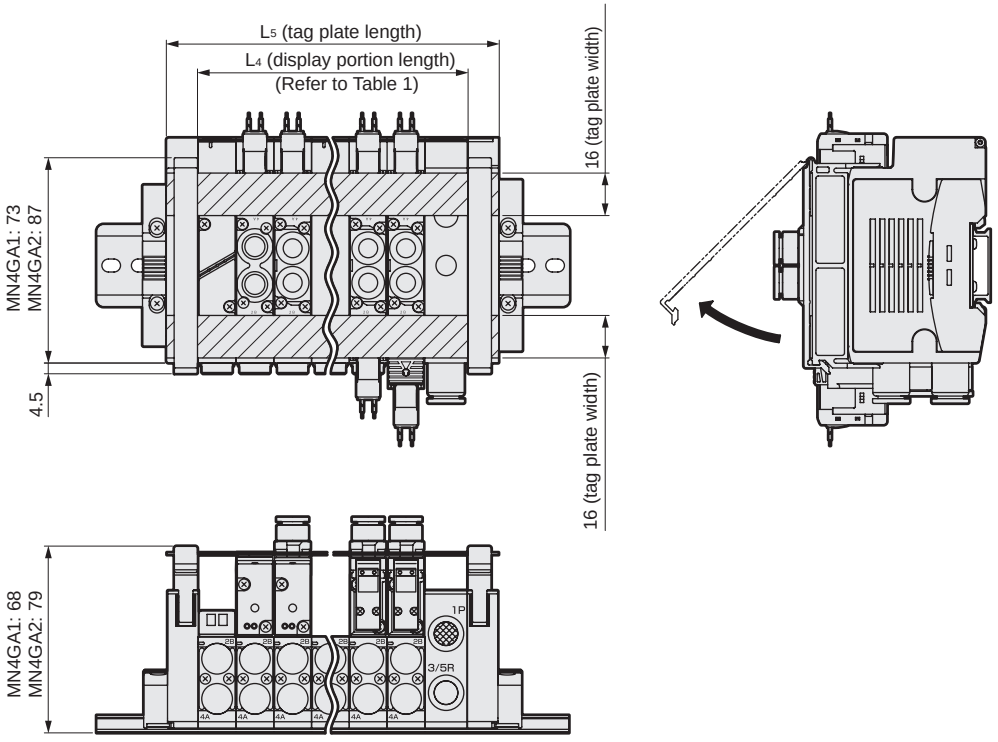
*1: As the (length) of the plates are available in the three different lengths of 200, 300, and 400, cut the plates to suit the product length.
*2: With the narrow type, manual operations are possible even with the tag plate covering the unit.
*3: Tag plate cannot be attached when spacers are used in the manifold specifications.
*4: Tag plate cannot be mounted when the DIN terminal box for MN3GA2/MN4GA2 is selected.

Dimensions: tag plate

MN4GA1/2

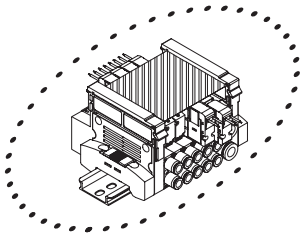
● Tag plate

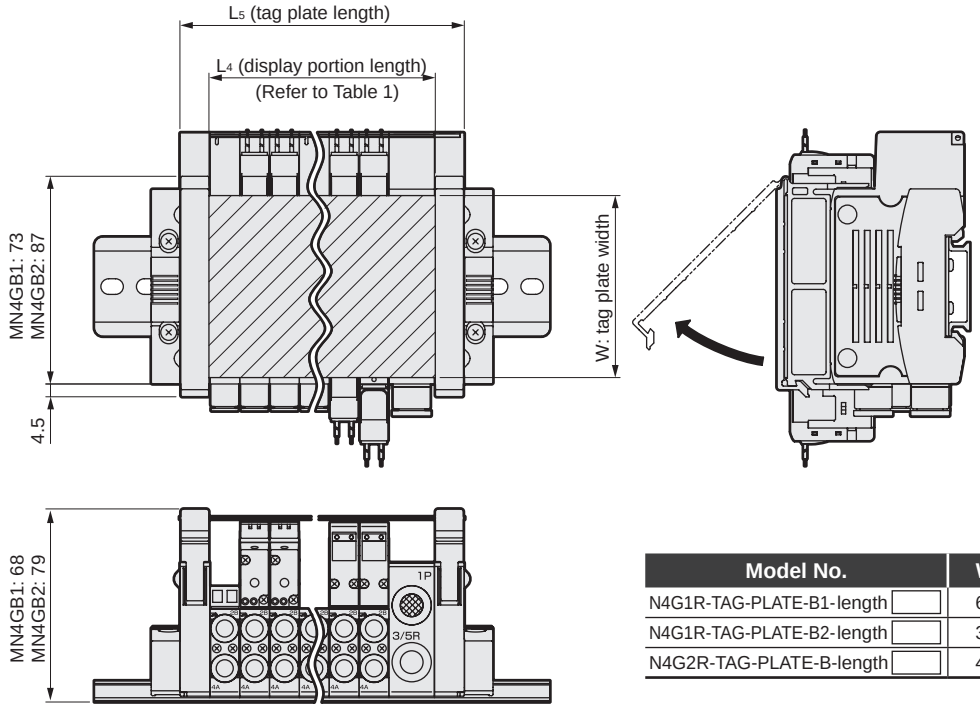




MN4GB1/2

● Tag plate





Model No.	W
N4G1R-TAG-PLATE-B1-length ☐	64
N4G1R-TAG-PLATE-B2-length ☐	30
N4G2R-TAG-PLATE-B-length ☐	45

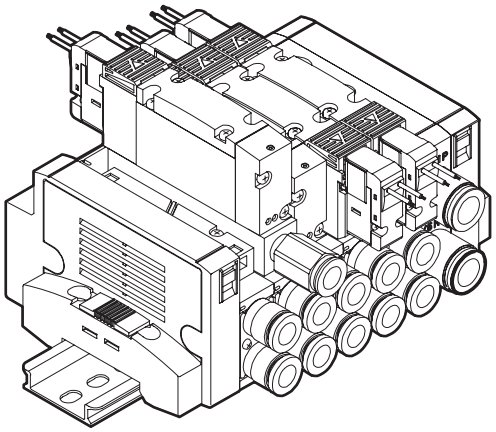
Table 1: Formula for calculation of L_5 (tag plate length)

MN4GA1	Individual wiring	$L_5 = (10.5 \times n) + (16 \times m) + (10.5 \times l) + 20$
MN4GB1	Reduced wiring	$L_5 = (10.5 \times n) + (16 \times m) + (10.5 \times l) + 25$
MN4GA2	Individual wiring	$L_5 = (16 \times n) + (18 \times m) + (10.5 \times l) + 20$
MN4GB2	Reduced wiring	$L_5 = (16 \times n) + (18 \times m) + (10.5 \times l) + 25$

n : number of valve blocks
m : number of supply and exhaust blocks
l : number of partition blocks

Related products Air supply spacer

● Air supply spacer



Specifications

Model No.	P→A/B		A/B→R		Weight g
	C [dm³/(s·bar)]	b	C [dm³/(s·bar)]	b	
4G1	0.70	0.23	0.93	0.16	8
4G2	1.6	0.17	1.8	0.16	35

Note 1: The values are for when a valve is mounted.
Note 2: Effective cross-sectional area S and sonic conductance C are converted as S ≒ 5.0 × C.

How to order discrete units

4G 2 R − P − GWS6 − P70

- Ⓐ Air supply spacer model No.
- Ⓑ Port size
- Ⓒ Clean room specifications

Code	Content	Model No. 4GA1	4GB1	4GA2	4GB2
Ⓐ Air supply spacer model No.					
1	For 4G1	●			
2	For 4G2			●	
Ⓑ Port size					
Blank	M5 thread (4G1), Rc thread (4G2)	●		●	
GWS4	ø4 fitting	●			
GWS6	ø6 fitting	●		●	
GWS8	ø8 fitting			●	
06N	1/8NPT thread			●	
06G	G1/8 thread			●	
Ⓒ Clean room specifications					
	Structure / Material restriction				
P70	Exhaust treatment / -	●		●	

indicates specifications not available.

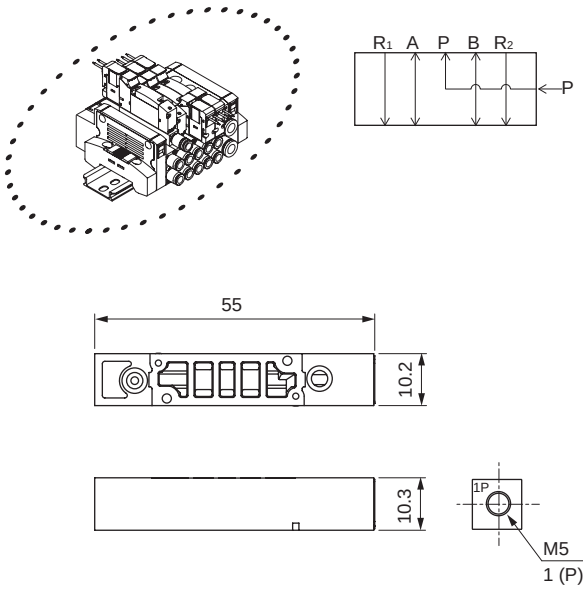
Attached products: 4G1 set screws (2), dedicated gasket (1)
4G2 set screws (2), PR check valves (2), body gasket (1)

⚠ Precautions for model selection

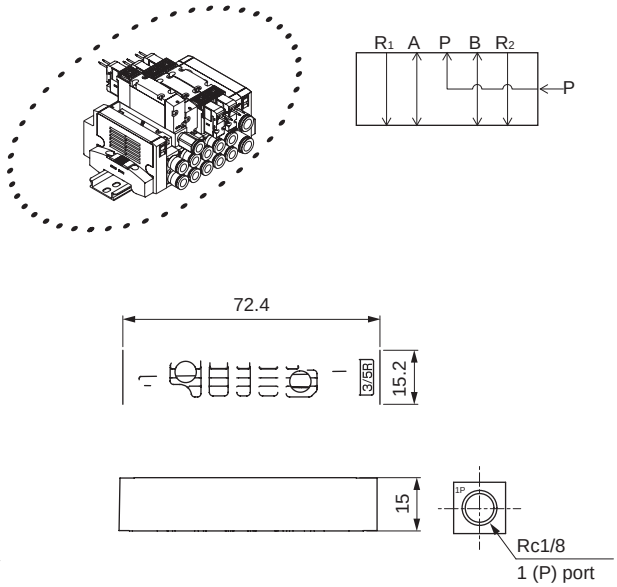
*1 Specify the positions and quantity of air supply spacers for manifold in the manifold specifications sheet.
*2 If the port A/B fitting is elbow, turn the air supply port of the air supply spacer toward the reverse side (“a” solenoid side).
*3 If the elbow (upward) port A/B fitting is used for the reduced wiring manifold, the air supply spacer cannot be selected.
*4 Combination with the masking plate is not supported.

Dimensions

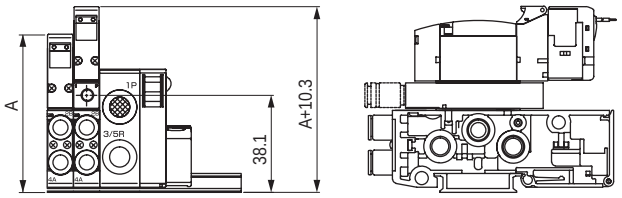
● 4G1



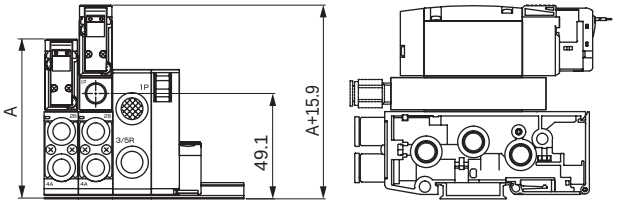
● 4G2



Dimensions when mounted



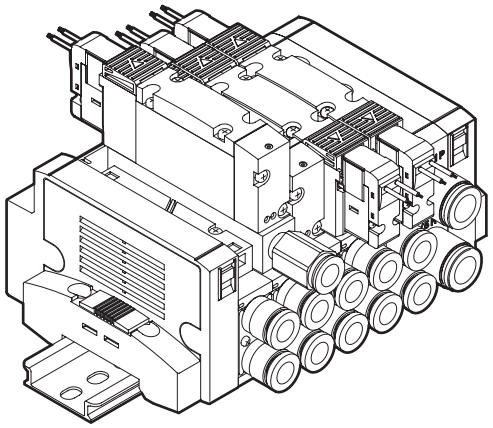
Dimensions when mounted



Note: For A dimensions, check the dimensions of the respective specifications.

Related products Exhaust spacer

● Exhaust spacer



Specifications

Model No.	P→A/B		A/B→R		Weight g
	C [dm³/(s·bar)]	b	C [dm³/(s·bar)]	b	
4G1	0.94	0.28	0.68	0.33	7
4G2	1.5	0.24	1.9	0.24	34

Note 1: The values are for when a valve is mounted.
Note 2: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.

How to order discrete units

4G (2) R − R − (GWS6) − (P70)

Ⓐ Exhaust spacer model No.
Ⓑ Port size
Ⓒ Clean room specifications

Code	Content	Model No. 4GA1	4GB1	4GA2	4GB2
Ⓐ Exhaust spacer model No.					
1	For 4G1	●			
2	For 4G2			●	
Ⓑ Port size					
Blank	M5 thread (4G1), Rc thread (4G2)	●		●	
GWS4	ø4 fitting	●			
GWS6	ø6 fitting	●		●	
GWS8	ø8 fitting			●	
06N	1/8NPT thread			●	
06G	G1/8 thread			●	
Ⓒ Clean room specifications					
	Structure / Material restriction				
P70	Exhaust treatment / -	●		●	

indicates specifications not available.

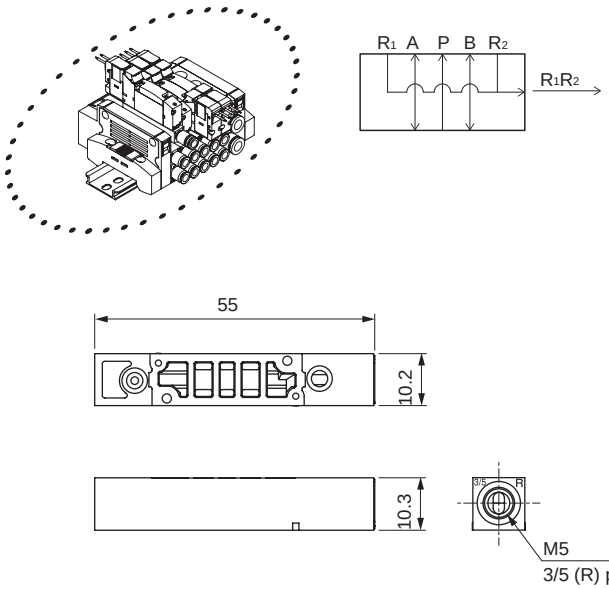
Attached products: 4G1 set screws (2), dedicated gasket (1)
4G2 set screws (2), PR check valves (2), body gasket (1)

⚠ Precautions for model selection

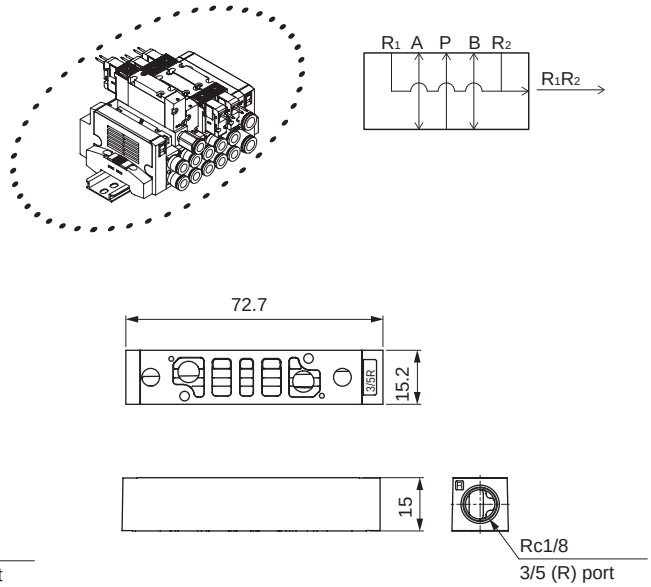
*1 Specify the positions and quantity of exhaust spacers for manifold in the manifold specifications sheet.
*2 If the port A/B fitting is elbow, turn the exhaust port of the exhaust spacer toward the reverse side (“a” solenoid side).
*3 If elbow upward port A/B fitting is used for the reduced wiring manifold, the exhaust spacer cannot be selected.
*4 Combination with the masking plate is not supported.

Dimensions

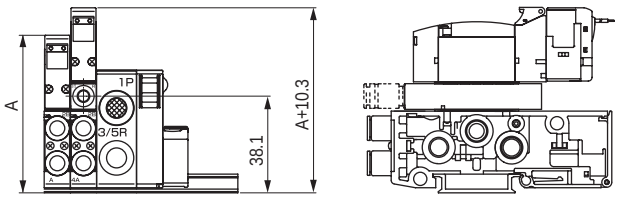
● 4G1



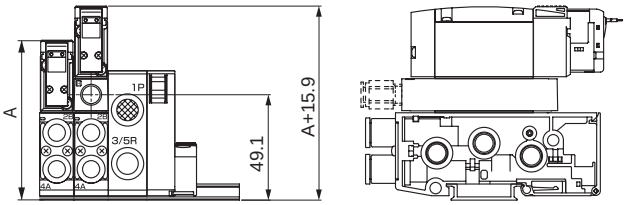
● 4G2



Dimensions upon mounting



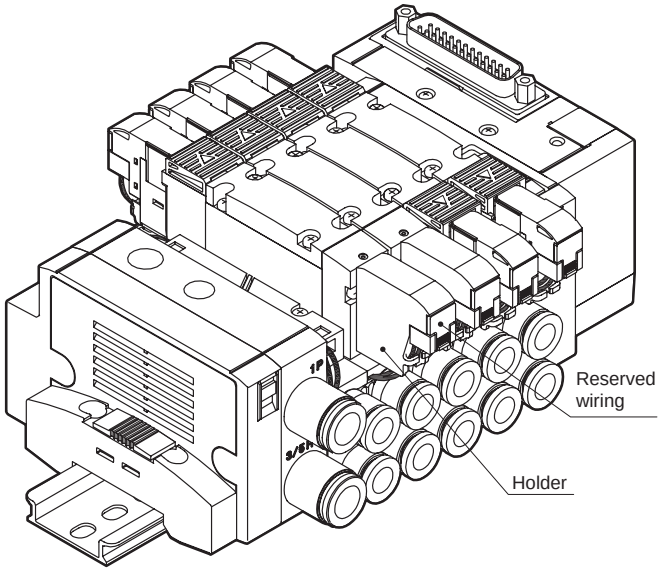
Dimensions upon mounting



Related products | Double wiring (with single spare wiring)

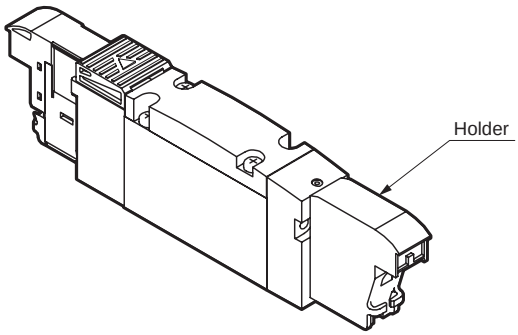
● Double wiring (with single spare wiring) (W1)

Manifold



Spare wiring (holder and A type socket assembly) is included on the cap side for single solenoid valves. This simplifies the workflow when changing valves from a single solenoid to a double solenoid, as you do not need to prepare the A type socket assembly separately.

Discrete valve (A2N)



A holder for retaining the socket assembly is attached.
(A-type socket assembly is not attached.)
This is used to impose and retain the socket assembly that is no longer required when the valve is changed from the double solenoid to the single solenoid.

How to order

● Model No. with manifold installed (example)

MN4GB1 1 0 R - C6 - T30 W1 H - 10 - 3 - P70

- A Model No.
- B Solenoid position
- C Port size
- D Wiring method
- E Terminal and connector pin wiring
- F Option
- G Station No.
- H Voltage
- I Clean room specifications

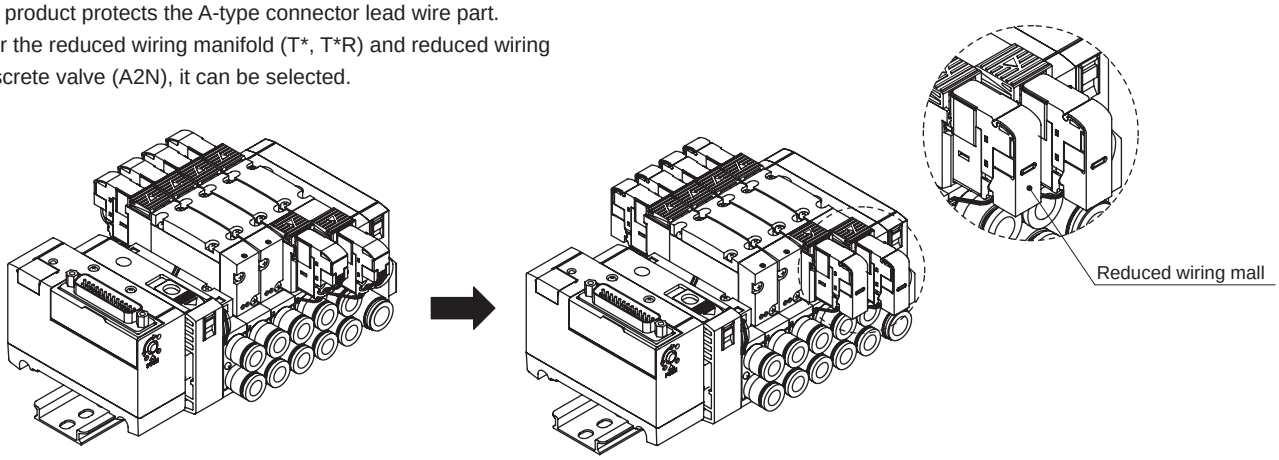
Code	Content
E Terminal and connector pin wiring	
W1	Double wiring (with single spare wiring)

* For details of model No., refer to How to order for each individual series.
Combination with port sizes C*NC and C*NO is not supported.

Related products Reduced wiring mall

● Reduced wiring mall (Q)

This product protects the A-type connector lead wire part.
・For the reduced wiring manifold (T*, T*R) and reduced wiring discrete valve (A2N), it can be selected.



Standard

When selecting Q (reduced wiring mall)

How to order

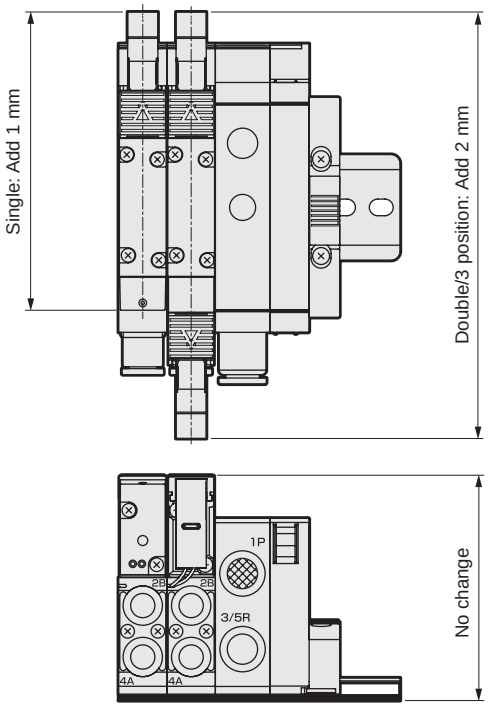
● Model No. with manifold installed (example)

MN4GB1 (A) 1 (B) 0 R - C6 (C) - T30 (D) W (E) Q (F) - 10 (G) - 3 (H) - P70 (I)

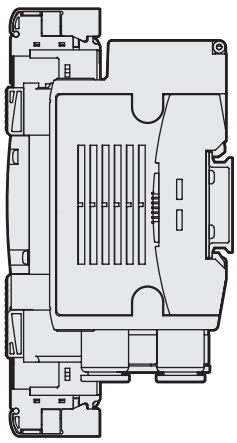
- (A) Model No.
- (B) Solenoid position
- (C) Port size
- (D) Wiring method
- (E) Terminal and connector pin wiring
- (F) Option
- (G) Station No.
- (H) Voltage
- (I) Clean room specifications

Code	Content
(F) Option	
Q	Reduced wiring mall

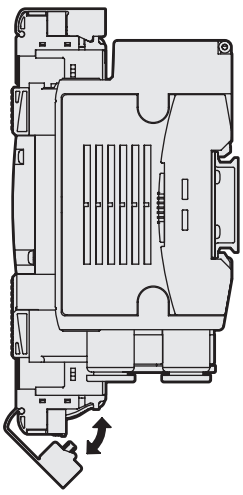
● Dimensions



Reduced wiring mall closed

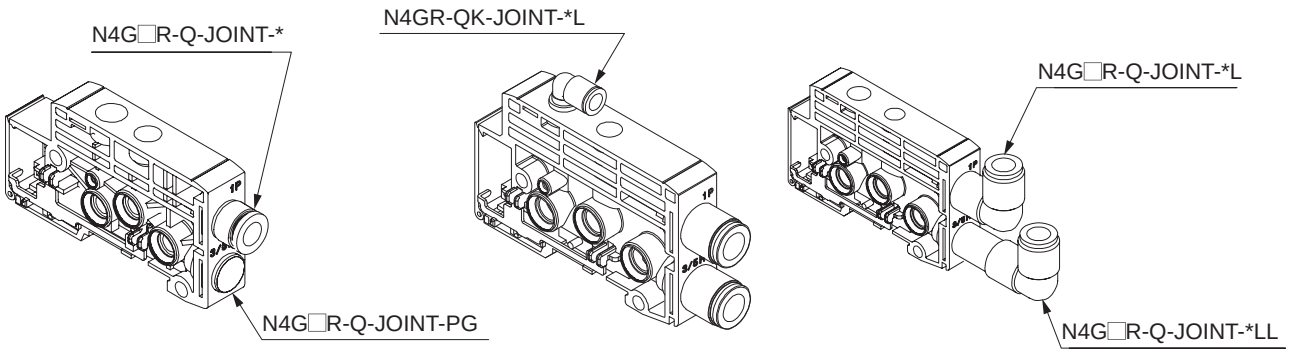


Opened



Related parts

1. MN4G cartridge push-in fitting for supply and exhaust block



1.1 MN4G1 supply and exhaust block, fitting for 1 (P), 3/5 (R)

Port size	Part model No.
ø6 straight	N4G1R-Q-JOINT-6-P70
ø8 straight	N4G1R-Q-JOINT-8-P70
ø6 elbow	N4G1R-Q-JOINT-6L, 6LL-P70
ø8 elbow	N4G1R-Q-JOINT-8L, 8LL-P70
ø1/4 inch straight	N4G1R-Q-JOINT-6N-P70
ø5/16 inch straight	N4G1R-Q-JOINT-8N-P70
ø1/4 inch elbow	N4G1R-Q-JOINT-6LN, 6LLN-P70
ø5/16 inch elbow	N4G1R-Q-JOINT-8LN, 8LLN-P70
Plug cartridge	N4G1R-Q-JOINT-PG

1.2 MN4G2 supply and exhaust block, fitting for 1 (P), 3/5 (R)

Port size	Part model No.
ø8 straight	N4G2R-Q-JOINT-8-P70
ø10 straight	N4G2R-Q-JOINT-10-P70
ø8 elbow	N4G2R-Q-JOINT-8L, 8LL-P70
ø10 elbow	N4G2R-Q-JOINT-10L, 10LL-P70
ø5/16 inch straight	N4G2R-Q-JOINT-8N-P70
ø3/8 inch straight	N4G2R-Q-JOINT-10N-P70
ø5/16 inch elbow	N4G2R-Q-JOINT-8LN, 8LLN-P70
ø3/8 inch elbow	N4G2R-Q-JOINT-10LN, 10LLN-P70
Plug cartridge	N4G1R-Q-JOINT-PG

1.3 MN4G1/2 common, fitting for 12/14 (PA)

Port size	Part model No.
ø6 straight	N4GR-QK-JOINT-6-P70
ø6 elbow	N4GR-QK-JOINT-6L-P70

MN4GA/4GB Series

How to fill out block manifold MN4G Series manifold specifications

● Example of manifold model No.

MN 4 GA1 8 0R− CX − T50 W H − 8 − 3 − P70

Ⓐ Model No. Ⓑ Solenoid position Ⓒ Port size Ⓓ Electrical connections (reduced wiring) Ⓔ Terminal / connector pin arrangement (Note: Be sure to fill in for reduced wiring.) Ⓕ Option Ⓖ Station No. Ⓗ Voltage Ⓘ Clean room specifications

When filling in this field, select the model No. from “Block configurations” (pages 683 to 698).

Part name	Model No.	Layout position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Qty.
Electrical block (pages 688, 689)	N4G1R-T 50	○																														1
Valve block with solenoid valve (page 684)	N4GA1 1 0R- C4 -		○	○																												2
	N4GA1 2 0R- C6 -					○																										1
	N4GA1 3 0R- C4 -				○																											1
	N4GA1 0R- -																															
	N4GA1 0R- -																															
	N4GA1 0R- -																															
	N3GA1 1 0R- C4 -									○	○	○																				3
	N3GA1 0R- -																															
Valve block with masking plate (page 684)	N4GA1R-MP																															
	N4GA1R-MPS																															
	N4GA1R-MPD						○																									1
Supply and exhaust block (page 686)	N4G1R-Q - 8L							○					○																			2
	N4G1R-Q -																															
	N4G1R-Q -																															
Partition block (page 687)	N4G1R-S A								○																							1
	N4G1R-S																															
	N4G1R-S																															
End block (page 687)	N4G1R-E R													○																		1
	N4G1R-E																															

Mounting rail	L_2= (How to calculate length on next page)	Blanking plug						Tag plate (attached)		Accessories
		GWP4-B		GWP6-B		GWP8-B		A	○	
		Cable with D sub-connector		4GR-CABLE-D0□-□		Push-in fitting tube remover (standard attached) ☑ Not required (Check)				

Place a check here if the tube remover (standard attached product) is not required.

* A circuit diagram of the above manifold model No. is provided on the next page. for reference.

Preparing the manifold specifications

● Complete from the left end, with the piping port facing forward.
(Please include the model No. of the block selected (from block configurations (pages 683 to 698) and instructions for the arrangement thereof.)
● Indicate the total number of blocks specified in the column for quantity on the right end of the table.
● Place a circle on attached products that are required.
● Fill in the length of the mounting rail. (Fill in only when a length other than the standard length is required.)
● As there are manifold specifications for each of the various series, fill in the form for the corresponding specifications.

· MN4GA1: page 703
· MN4GB1: page 704
· MN4GA2: page 705
· MN4GB2: page 706
· MN4GA×1/2 (Mix manifold): page 707
· MN4GB×1/2 (Mix manifold): page 708

MN4GA/4GB Series

● Mounting rail model No.: N4GR-BAA length - P70

Regarding the length (L2) of the mounting rail

(1) Determine the rail length using the calculation method shown below.
The obtained length is standard.
(2) For the standard length, it is not necessary to write the length (L2) in the specifications.
Indicate the length when using a non-standard length.

● How to determine the length of the mounting rail

Manifold length (L1) = (A × [Valve Block Qty.]) + (B × [Supply and exhaust Block Qty.]) + (C × [Partition Block Qty.]) + D + E [Electrical block] [Mix block]

Mounting rail length (L2) = L2' × 12.5 A, B, C, D, and E each indicate the length (width) of each block.

$$L2' : \frac{L1 + 40}{12.5} \rightarrow \text{Decimals rounded up}$$

Rail mounting pitch (L3) = L2 - 12.5

Block length (width) dimensions table (mm)

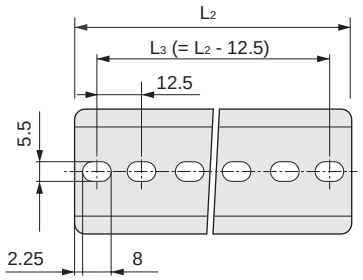
			MN4GA/B1	MN4GA/B2	MN4G1/2MIX	
					MN4GA/B1	MN4GA/B2
A	Valve block		10.5	16	10.5	16
B	Supply and exhaust block		16	18	16	18
C	Partition block		10.5	10.5	10.5	10.5
D	Individual wiring		41.2	46.2	43.7	
	Electrical block for reduced wiring	T10/T11	83.9	86.4	86.4	
		T10R/T11R	83.9	86.4	83.9	
		T30/T5*	69.4	71.9	71.9	
		T30R/T5*R	69.4	71.9	69.4	
		T6*	143.6	146.1	146.1	
		T7*	64.4	66.9	66.9	
		T8*	64.4	66.9	66.9	
E	Mix block				16	

* The end block is included in the electrical block.

● DIN rail length quick reference table

L1 ·· Manifold Length	47.5 or less	Over 47.5 to 60 or less	60 to 72.5	72.5 to 85	85 to 97.5	97.5 to 110	110 to 122.5	122.5 to 135	135 to 147.5	147.5 to 160	160 to 172.5	172.5 to 185	185 to 197.5	197.5 to 210	210 to 222.5	222.5 to 235	235 to 247.5	247.5 to 260	260 to 272.5	272.5 to 285	285 to 297.5	297.5 to 310	310 to 322.5	322.5 to 335	335 to 347.5	347.5 to 360
L2 ·· Rail Length	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375	387.5	400
Pitch L3	75	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375	387.5

Note 1: When L1 exceeds this table, calculate the length by referring to “How to calculate the length of the mounting rail”.



MN4GA/4GB Series

How to fill out the wiring specifications

This is not required with standard wiring or double wiring.

● Wiring specifications (example)

* The following example has been filled out in accordance with the manifold specifications on the previous page.

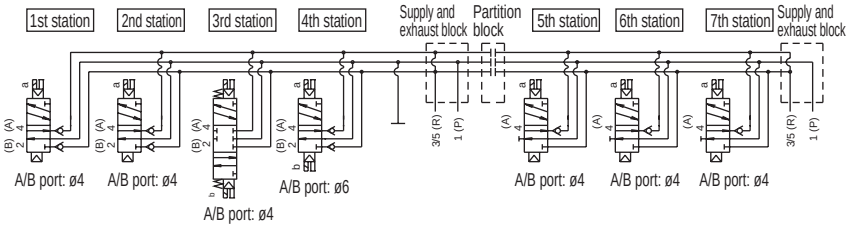
Connector pin No.				Valve No.																							
T50/T50R	**T51/T51R**	**T52/T52R**	**T53/T53R**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1	1	**a**																							
2	2	2	2		**a**																						
3	3	3	3				**a**																				
4	4	4	4				**b**																				
5	5	5	5					**a**																			
6	6	6	6					**b**																			
7	7	7	7			**a**																					
8	8	8	8			**b**																					
9 - Power supply	9	9 COM	9																								
10 + (COM) power supply	10	10 COM	10																								
11	11		11						**a**																		
12	12		12							**a**																	
13	13		13								**a**																
14	14		14																								
15	15		15																								
16	16		16																								
17	17		17																								
18	18		18																								
19 - Power supply	19 COM		19																								
20 + (COM) power supply	20 COM		20																								
			21																								
			22																								
			23																								
			24																								
			25 COM																								
			26 COM																								

* Please be aware that when the wiring method is T50/T50R, the polarity of COM will be + (plus).

● Precaution regarding wiring specifications

(1) Fill in and attach the form to the manifold specifications for those other than the standard wiring or double wiring. Separately consult us as products will be prepared on a made to order basis in such case.
(2) The valve No. is determined by only counting the valve blocks in order from the left with the ports facing forward. Please be careful as this will differ from the numbers for the mounting positions.
(3) As the connector pin No. and valve No. will differ for every reduced wiring method (T1*/T30/T5*/T6*/T7*/T8*), fill out the form upon reviewing the precautions (pages 714 to 734) for each reduced wiring method.
(4) Wiring (socket assembly) will be included in the valve blocks with masking plates. A side only for "-MPS". On both the A and B sides for "-MPD".
(5) It is not possible to assemble a double solenoid or 3-position solenoid valve to "-MPS". Make arrangements for the valve block with solenoid valve and perform the task of expansion.
(6) It is not possible to install spare wires for expansions of stations in advance. Wire the socket assembly of the solenoid valve for expansion of stations. Refer to page 736 for instructions on how to expand stations.

References circuit diagram Simplified circuit diagram of manifold model No. (example) from previous page



* Manifold stations are set in order from the left with the piping port facing forward.
(The electrical blocks, supply and exhaust blocks,partition block, and end block are not included in the number of manifold stations)
* Select the model No. from block components (pages 683 to 698) and the page for model nos. of each of the specifications.
* The positions of arrangements are set in order from the left with the piping port facing forward.

MN4GA1 Block manifold specifications

Issue date / /

● Contact ● Quantity set(s) ● Request date /

Company

Slip No. | Order No.

Contact

Order No.

● Manifold model No.

MN □ GA1 □ 0R− □ − □ □ □ − □ − □ − □

Ⓐ Model No. Ⓑ Solenoid position Ⓒ Port size Ⓓ Electrical connections (reduced wiring) Ⓔ Terminal / connector pin arrangement (Note: Be sure to fill in for reduced wiring.) Ⓕ Option Ⓖ Station No. Ⓗ Voltage Ⓘ Clean room specifications

When filling in this field, select the model No. from "Block components" (pages 683 to 698).

Part name (page)	Model No.	Layout position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Qty.
Electrical block (pages 688, 689)	N4G1R-T □																															
Valve block with solenoid valve (page 684)	N4GA1 □ 0R- □																															
	N4GA1 □ 0R- □																															
	N4GA1 □ 0R- □																															
	N4GA1 □ 0R- □																															
	N4GA1 □ 0R- □																															
	N4GA1 □ 0R- □																															
	N3GA1 □ 0R- □																															
	N3GA1 □ 0R- □																															
Valve block with masking plate (page 684)	N4GA1R-MP																															
	N4GA1R-MPS																															
	N4GA1R-MPD																															
Air supply spacer (page 693)	4G1R-P- □																															
	4G1R-P- □																															
Exhaust spacer (page 695)	4G1R-R- □																															
Supply and exhaust block (page 686)	N4G1R-Q □ - □																															
	N4G1R-Q □ - □																															
	N4G1R-Q □ - □																															
Partition block (page 687)	N4G1R-S □																															
	N4G1R-S □																															
	N4G1R-S □																															
End block (page 687)	N4G1R-E □																															
	N4G1R-E □																															

Mounting rail	Blanking plug								Tag plate (attached)		Accessories
L_2= □	PG-P2-B		GWP4-B		GWP6-B		GWP8-B		A		
* Write an integer multiple of 12.5.	Cable with D sub-connector		4GR-CABLE-D0*-*		Push-in fitting tube remover (standard attached) ☐ Not required (check)						
(How to determine the length page 701)											

MN4GB1 Block manifold specifications

Issue date / /

Company

Contact

Order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

MN4GB1 ☐ **0R–** ☐ **–** ☐ ☐ ☐ **–** ☐ **–** ☐ **–** ☐

Ⓐ Model No. Ⓑ Solenoid position Ⓒ Port size Ⓓ Electrical connections (reduced wiring) Ⓔ Terminal / connector pin arrangement (Note: Be sure to fill in for reduced wiring.) Ⓕ Option Ⓖ Station No. Ⓗ Voltage Ⓘ Clean room specifications

When filling in this field, select the model No. from "Block components" (pages 683 to 698).

Part name (page)	Model No.	Layout position																													Qty.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Electrical block (pages 688, 689)	**N4G1R-T** ☐																															
Valve block with solenoid valve (page 684)	**N4GB1** ☐ **0R-** ☐ **-** ☐																															
	N4GB1 ☐ **0R-** ☐ **-** ☐																															
	N4GB1 ☐ **0R-** ☐ **-** ☐																															
	N4GB1 ☐ **0R-** ☐ **-** ☐																															
	N4GB1 ☐ **0R-** ☐ **-** ☐																															
	N4GB1 ☐ **0R-** ☐ **-** ☐																															
	N3GB1 ☐ **0R-** ☐ **-** ☐																															
	N3GB1 ☐ **0R-** ☐ **-** ☐																															
Valve block with masking plate (page 684)	**N4GB1R-MP-** ☐																															
	N4GB1R-MPS- ☐																															
	N4GB1R-MPD- ☐																															
Air supply spacer (page 693)	**4G1R-P-** ☐																															
	4G1R-P- ☐																															
Exhaust spacer (page 695)	**4G1R-R-** ☐																															
Supply and exhaust block (page 686)	**N4G1R-Q** ☐ **-** ☐																															
	N4G1R-Q ☐ **-** ☐																															
	N4G1R-Q ☐ **-** ☐																															
Partition block (page 687)	**N4G1R-S** ☐																															
	N4G1R-S ☐																															
	N4G1R-S ☐																															
End block (page 687)	**N4G1R-E** ☐																															
	N4G1R-E ☐																															

Mounting rail	**L_2=** ☐ * Write an integer multiple of 12.5. (How to determine the length page 701)	Blanking plug								Tag plate (attached)				Accessories
		PG-P2-B		**GWP4-B**		**GWP6-B**		**GWP8-B**		**B1**		**B2**		
		Cable with D sub-connector	4GR-CABLE-D0☐-☐		Push-in fitting tube remover (standard attached) ☐ Not required (check)									

MN4GA2 Block manifold specifications

Issue date / /

● Contact ● Quantity set(s) ● Request date /

Company

Slip No. | Order No.

Contact

Order No.

● Manifold model No.

MN □ GA2 □ 0R– □ – □ □ □ – □ – □ – □

Ⓐ Model No. Ⓑ Solenoid position Ⓒ Port size Ⓓ Electrical connections (reduced wiring) Ⓔ Terminal/connector pin arrangement (Note: Be sure to fill in for reduced wiring.) Ⓕ Option Ⓖ Station No. Ⓗ Voltage Ⓘ Clean room specifications

When filling in this field, select the model No. from "Block components" (pages 683 to 698).

Part name (page)	Model No.	Layout position 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	Qty.
Electrical block (pages 688, 689)	N4G1R-T □		
Valve block with solenoid valve (page 684)	N4GA2 □ 0R- □		
	N4GA2 □ 0R- □		
	N4GA2 □ 0R- □		
	N4GA2 □ 0R- □		
	N4GA2 □ 0R- □		
	N4GA2 □ 0R- □		
	N3GA2 □ 0R- □		
	N3GA2 □ 0R- □		
Valve block with masking plate (page 684)	N4GA2R-MP		
	N4GA2R-MPS		
	N4GA2R-MPD		
Air supply spacer (page 693)	4G2R-P- □		
	4G2R-P- □		
Exhaust spacer (page 695)	4G2R-R- □		
Supply and exhaust block (page 686)	N4G2R-Q □ - □		
	N4G2R-Q □ - □		
	N4G2R-Q □ - □		
Partition block (page 687)	N4G2R-S □		
	N4G2R-S □		
	N4G2R-S □		
End block (page 687)	N4G2R-E □		
	N4G2R-E □		
Mounting rail	L_2= □ * Write an integer multiple of 12.5. (How to determine the length page 701)	Blanking plug: GWP4-B □ GWP6-B □ GWP8-B □ GWP10-B □ / Tag plate (attached): A □ / Cable with D sub-connector: 4GR-CABLE-D0□-□ / Push-in fitting tube remover (attached as standard), When not required (check the box) □	Accessories

MN4GB2 Block manifold specifications

Issue date / /
Company
Contact
Order No.

● Contact ● Quantity set(s) ● Request date /

Slip No.	Order No.

● Manifold model No.

MN4GB2 ☐ **0R–** ☐ **–** ☐ ☐ ☐ **–** ☐ **–** ☐ **–** ☐

Ⓐ Model No. Ⓑ Solenoid position Ⓒ Port size Ⓓ Electrical connections (reduced wiring) Ⓔ Terminal / connector pin arrangement (Note: Be sure to fill in for reduced wiring.) Ⓕ Option Ⓖ Station No. Ⓗ Voltage Ⓘ Clean room specifications

When filling in this field, select the model No. from "Block components" (pages 683 to 698).

Part name (page)	Model No.	Layout position																												Qty.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Electrical block (pages 688, 689)	**N4G2R-T** ☐																															
Valve block with solenoid valve (page 684)	**N4GB2** ☐ **0R-** ☐ **-** ☐																															
	N4GB2 ☐ **0R-** ☐ **-** ☐																															
	N4GB2 ☐ **0R-** ☐ **-** ☐																															
	N4GB2 ☐ **0R-** ☐ **-** ☐																															
	N4GB2 ☐ **0R-** ☐ **-** ☐																															
	N4GB2 ☐ **0R-** ☐ **-** ☐																															
	N3GB2 ☐ **0R-** ☐ **-** ☐																															
	N3GB2 ☐ **0R-** ☐ **-** ☐																															
Valve block with masking plate (page 684)	**N4GB2R-MP-** ☐																															
	N4GB2R-MPS- ☐																															
	N4GB2R-MPD- ☐																															
Air supply spacer (page 693)	**4G2R-P-** ☐																															
	4G2R-P- ☐																															
Exhaust spacer (page 695)	**4G2R-R-** ☐																															
Supply and exhaust block (page 686)	**N4G2R-Q** ☐ **-** ☐																															
	N4G2R-Q ☐ **-** ☐																															
	N4G2R-Q ☐ **-** ☐																															
Partition block (page 687)	**N4G2R-S** ☐																															
	N4G2R-S ☐																															
	N4G2R-S ☐																															
End block (page 687)	**N4G2R-E** ☐																															
	N4G2R-E ☐																															

Mounting rail	**L_2=** ☐ * Write an integer multiple of 12.5. (How to determine the length page 701)	Blanking plug								Tag plate (attached)		Accessories
		GWP4-B		**GWP6-B**		**GWP8-B**		**GWP10-B**		**B**		
		Cable with D sub-connector	4GR-CABLE-D0☐-☐									

MN4GA1/2 Mix manifold specifications

Issue date / /

● Contact ● Quantity set(s) ● Request date /

Company

Slip No. | Order No.

Contact

Order No.

● Manifold model No.

MN ☐ GAX12R− ☐ − ☐ ☐ ☐ − ☐ − ☐ − ☐

Ⓐ Model No. Ⓒ Port size Ⓓ Electrical connections (reduced wiring) Ⓔ Terminal/connector pin arrangement (Note: Be sure to fill in for reduced wiring.) Ⓕ Option Ⓖ Station No. Ⓗ Voltage Ⓘ Clean room specifications

When filling in this field, select the model No. from "Block components" (pages 683 to 698).

Part name (page)	Model No.	Layout position 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	Qty.
Electrical block (pages 688, 689)	N4G ☐ R-T ☐		
Valve block with solenoid valve (page 684)	N4GA ☐ 0R- ☐		
	N4GA ☐ 0R- ☐		
	N4GA ☐ 0R- ☐		
	N4GA ☐ 0R- ☐		
	N4GA ☐ 0R- ☐		
	N4GA ☐ 0R- ☐		
	N3GA ☐ 0R- ☐		
	N3GA ☐ 0R- ☐		
Valve block with masking plate (page 684)	N4GA ☐ R-MP		
	N4GA ☐ R-MPS		
	N4GA ☐ R-MPD		
Air supply spacer (page 693)	4G1R-P- ☐		
	4G2R-P- ☐		
Exhaust spacer (page 695)	4G1R-R- ☐		
	4G2R-R- ☐		
Mix block (page 687)	N4G12R-MIX		
Supply and exhaust block (page 686)	N4G ☐ R-Q ☐ - ☐		
	N4G ☐ R-Q ☐ - ☐		
	N4G ☐ R-Q ☐ - ☐		
Partition block (page 687)	N4G ☐ R-S ☐		
	N4G ☐ R-S ☐		
	N4G ☐ R-S ☐		
End block (page 687)	N4G ☐ R-E ☐		
	N4G ☐ R-E ☐		
Mounting rail	L_2= ☐ * Write an integer multiple of 12.5. (How to determine the length page 701)	Blanking plug: PG-P2-B ☐ GWP ☐ -B ☐ GWP ☐ -B ☐ GWP ☐ -B ☐ GWP ☐ -B; Cable with D-sub-connector 4GR-CABLE-D0☐-☐ ☐; Push-in fitting tube remover (standard attached), When not required (check) ☐	Accessories

MN4GB1/2 Mix manifold specifications sheet

● Contact ● Quantity Set ● Delivery date /

Slip No.	Order No.

Issued / /

Company

Contact

Order No.

● Manifold model No.

MN4GBX12R- ☐ **-** ☐ ☐ ☐ **-** ☐ **-** ☐

Ⓐ Model No. Ⓒ Port size Ⓓ Electrical connections (Reduced wiring connection) Ⓔ Terminal/connector pin array (Note: Fill in for reduced wiring.) Ⓕ Option Ⓖ Station No. Ⓗ Voltage

When filling in this field, select the model No. from "Block configurations" (pages 683 to 698).

Part name	Model No.	Layout position																													Quantity
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Wiring block (pages 688, 689)	**N4G** ☐ **R-T** ☐																															
Valve block with solenoid valve (page 684)	**N4GB** ☐ **0R-** ☐ **-** ☐																															
	N4GB ☐ **0R-** ☐ **-** ☐																															
	N4GB ☐ **0R-** ☐ **-** ☐																															
	N4GB ☐ **0R-** ☐ **-** ☐																															
	N4GB ☐ **0R-** ☐ **-** ☐																															
	N4GB ☐ **0R-** ☐ **-** ☐																															
	N3GB ☐ **0R-** ☐ **-** ☐																															
	N3GB ☐ **0R-** ☐ **-** ☐																															
Valve block with masking plate (page 684)	**N4GB** ☐ **R-MP-** ☐																															
	N4GB ☐ **R-MPS-** ☐																															
	N4GB ☐ **R-MPD-** ☐																															
Air supply spacer (page 693)	**4G1R-P-** ☐																															
	4G2R-P- ☐																															
Exhaust spacer (Page 695)	**4G1R-R-** ☐																															
	4G2R-R- ☐																															
Mixed block (Page 687)	**N4G12R-MIX**																															
Supply and exhaust block (page 686)	**N4G** ☐ **R-Q** ☐ **-** ☐																															
	N4G ☐ **R-Q** ☐ **-** ☐																															
	N4G ☐ **R-Q** ☐ **-** ☐																															
Partition block (page 687)	**N4G** ☐ **R-S** ☐																															
	N4G ☐ **R-S** ☐																															
	N4G ☐ **R-S** ☐																															
End block (page 687)	**N4G** ☐ **R-E** ☐																															
	N4G ☐ **R-E** ☐																															

Mounting rail	**L₂=** ☐ * Write an integer multiple of 12.5. (How to determine the length page 701)	Blanking plug									Accessory
		PG-P2-B		**GWP** ☐ **-B**		**GWP** ☐ **-B**		**GWP** ☐ **-B**		**GWP** ☐ **-B**	
		Cable with D sub-connector	4GR-CABLE-D0☐-☐		Push-in fitting tube remover (attached as standard) ☐ Not required (check the box)						

Common terminal block (T10/T11) wiring specifications

* Please fill in and attach to the manifold specifications for those other than the standard wiring or double wiring. (Available on a made to order basis)
* This is not required with standard wiring/double wiring.

Connector pin No.		Valve No.																							
T10 ☐	**T11** ☐	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1																								
2	2																								
3	3																								
4	4																								
5	5																								
6	6																								
7	7																								
8	8																								
9	9																								
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16	16																								
COM	17																								
COM	18																								
	19																								
	20																								
	21																								
	22																								
	23																								
	24																								
	COM																								
	COM																								

D sub-connector (T30) wiring specifications

* Please fill in and attach to the manifold specifications for those other than the standard wiring or double wiring. (Available on a made to order basis)
* This is not required with standard wiring/double wiring.

Connector pin No.	Valve No.																							
T30 ☐	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1																								
14																								
2																								
15																								
3																								
16																								
4																								
17																								
5																								
18																								
6																								
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8																								
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9																								
22																								
10																								
23																								
11																								
24																								
12																								
25																								
13 (COM)																								

Flat cable connector (T50/T51/T52/T53) wiring specifications

* Please fill in and attach to the manifold specifications for those other than the standard wiring or double wiring. (Available on a made to order basis)
* This is not required with standard wiring/double wiring.

Connector pin No.				Valve No.																							
T50/T50R	**T51/T51R**	**T52/T52R**	**T53/T53R**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1	1																								
2	2	2	2																								
3	3	3	3																								
4	4	4	4																								
5	5	5	5																								
6	6	6	6																								
7	7	7	7																								
8	8	8	8																								
9 - power supply	9	9 COM	9																								
10 + (COM) power supply	10	10 COM	10																								
11	11		11																								
12	12		12																								
13	13		13																								
14	14		14																								
15	15		15																								
16	16		16																								
17	17		17																								
18	18		18																								
19 - power supply	19 COM		19																								
20 + (COM) power supply	20 COM		20																								
			21																								
			22																								
			23																								
			24																								
			25 COM																								
			26 COM																								

* Please be aware that when the wiring method is T50/T50R, the polarity of COM will be + (plus).

Serial transmission (T6G1/T7*) wiring specifications

* Please fill in and attach to the manifold specifications for those other than the standard wiring or double wiring. (Available on a made to order basis)
* This is not required with standard wiring/double wiring.

Serial transmission	Connector pin No.		Valve No.														
	T6G1	**T7***	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Connector T6G1: CC-Link 16 points	1	1																
	2	2																
	3	3																
	4	4																
	5	5																
	6	6																
	7	7																
	8	8																
	9	9																
	10 COM	10																
	11	11																
	12	12																
Thin slot-insertion T7D1: DeviceNet 16 points T7G1: CC-Link 16 points T7L1: SAVE NET 16 points T7S1:CompoNet 16 points (NPN) T7SP1:CompoNet 16 points (PNP)	13	13																
	14	14																
	15	15																
	16	16																
	17	17																
	18	18																
	19	19																
	20 COM	20																

Serial transmission (T8*) wiring specifications

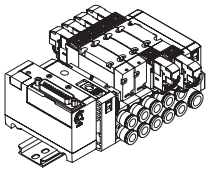
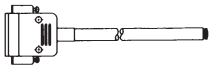
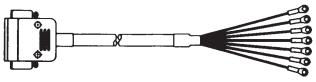
* Please fill in and attach to the manifold specifications for those other than the standard wiring or double wiring. (Available on a made to order basis)
* This is not required with standard wiring/double wiring.

Serial transmission				Connector pin No.	Valve No.																							
T8*					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
T8G1	CC-Link	NPN	16 points	1																								
T8G2			32 points	2																								
T8GP1		PNP	16 points	3																								
T8GP2			32 points	4																								
T8P1	PROFIBUS-DP	NPN	16 points	5																								
T8P2			32 points	6																								
T8PP1		PNP	16 points	7																								
T8PP2			32 points	8																								
T8EC1	EtherCAT	NPN	16 points	9																								
T8EC2			32 points	10																								
T8ECP1		PNP	16 points	11																								
T8ECP2			32 points	12																								
T8EN1	EtherNet/IP	NPN	16 points	13																								
T8EN2			32 points	14																								
T8ENP1		PNP	16 points	15																								
T8ENP2			32 points	16																								
T8D1	DeviceNet	NPN	16 points	17																								
T8D2			32 points	18																								
T8DP1		PNP	16 points	19																								
T8DP2			32 points	20																								
T8EB1	CC-Link IEF Basic	NPN	16 points	21																								
T8EB2			32 points	22																								
T8EBP1		PNP	16 points	23																								
T8EBP2			32 points	24																								
T8EP1	CC-Link IE Field	NPN	16 points	25																								
T8EP2			32 points	26																								
T8EPP1		PNP	16 points	27																								
T8EPP2			32 points	28																								
T8EP1	PROFINET	NPN	16 points	29																								
T8EP2			32 points	30																								
T8EPP1		PNP	16 points	31																								
T8EPP2			32 points	32																								
T8KC1	IO-Link	NPN	16 points																									
T8KC2			32 points																									
T8KCP1		PNP	16 points																									
T8KCP2			32 points																									

MEMO

Case example of wiring connection (recommended combination)

● Use with the combination below.

Wiring method	Cable application	Connection cable
D sub-connector (T30/T30R) 	 	Cable with D sub-connector (Refer to page 717 for cable model No. and details.)

*: Set the power supply voltage for valve activation by considering the voltage drop of the PLC and the flat cable.

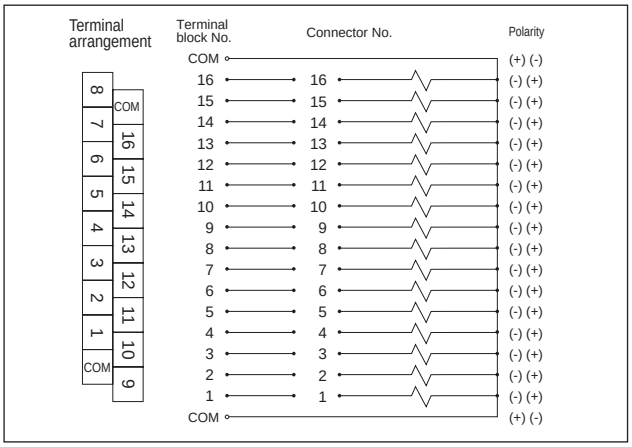
Common terminal block (wiring method T10)

Notes on wiring

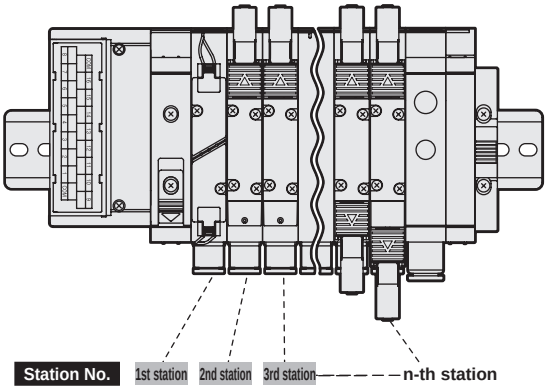
[Precautions for common terminal box (T10)]

(1) With the common terminal block, common wires are treated inside beforehand.
When using the independent contact PLC output unit, lay the common wires at the contact section.
(2) Check the correspondence of the number of stations with solenoid positions to prevent incorrect wiring.
(Refer to the table below.)
(3) Note that the correspondence cannot be applied if the number of solenoid stations exceeds 16.
(4) The manifold station Nos. are set in order from left with the piping port facing forward.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

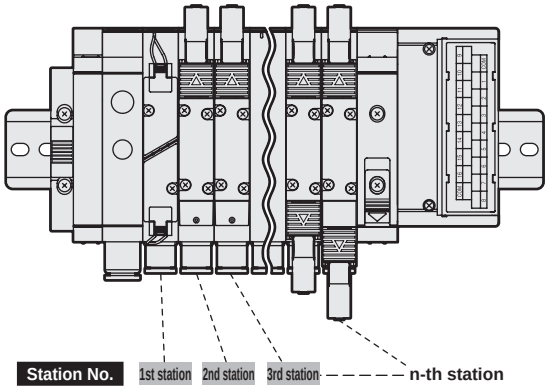
Internal wiring of wiring method T10 (up to 16 solenoid stations)



T10 (left side specifications)



T10R (right side specifications)



Terminal array of wiring method T10 (example)

*: The numbers in the valve No. 1a, 1b, 2a, 2b…and so forth indicate the 1st station and the 2nd station.
The alphabetic characters a and b indicate a side solenoid and b side solenoid.
Max. station No. differs depending on the model.
Check the individual specifications.

Terminal No.

COM	16	15	14	13	12	11	10	9
8	7	6	5	4	3	2	1	COM

[Standard wiring]

● Single solenoid valve

Terminal block No.	16	15	14	13	12	11	10	9
Valve No.	16a	15a	14a	13a	12a	11a	10a	9a
Terminal block No.	8	7	6	5	4	3	2	1
Valve No.	8a	7a	6a	5a	4a	3a	2a	1a

● For double solenoid valve

Terminal block No.	16	15	14	13	12	11	10	9
Valve No.	8b	8a	7b	7a	6b	6a	5b	5a
Terminal block No.	8	7	6	5	4	3	2	1
Valve No.	4b	4a	3b	3a	2b	2a	1b	1a

● Mix (single/double solenoid mixture)

Terminal block No.	16	15	14	13	12	11	10	9
Valve No.	11b	11a	10a	9a	8a	7b	7a	6a
Terminal block No.	8	7	6	5	4	3	2	1
Valve No.	5b	5a	4b	4a	3b	3a	2a	1a

[Double wiring]

Terminal block No.	16	15	14	13	12	11	10	9
Valve No.	(Void)	8a	(Void)	7a	(Void)	6a	(Void)	5a
Terminal block No.	8	7	6	5	4	3	2	1
Valve No.	(Void)	4a	(Void)	3a	(Void)	2a	(Void)	1a

Terminal block No.	16	15	14	13	12	11	10	9
Valve No.	8b	8a	7b	7a	6b	6a	5b	5a
Terminal block No.	8	7	6	5	4	3	2	1
Valve No.	4b	4a	3b	3a	2b	2a	1b	1a

Terminal block No.	16	15	14	13	12	11	10	9
Valve No.	(Void)	8a	7b	7a	(Void)	6a	5b	5a
Terminal block No.	8	7	6	5	4	3	2	1
Valve No.	4b	4a	3b	3a	(Void)	2a	(Void)	1a

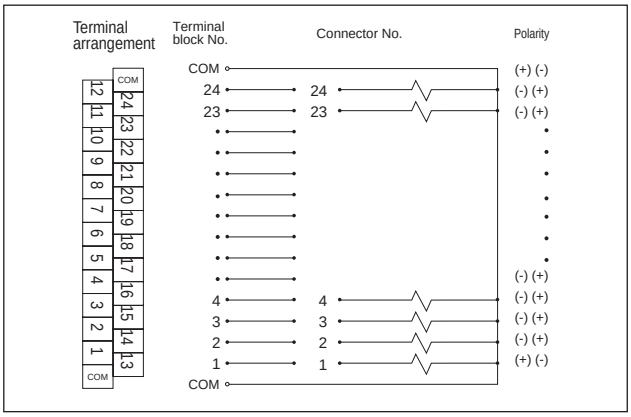
Common terminal block (wiring method T11)

Notes on wiring

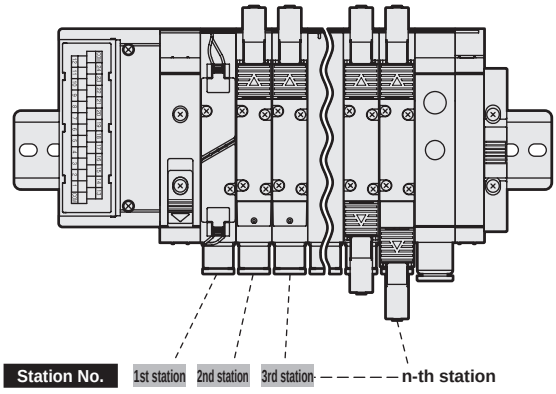
[Caution for common terminal block (T11)]

(1) With the common terminal block, common wires are treated inside beforehand.
When using the independent contact PLC output unit, lay the common wires at the contact section.
(2) Check the correspondence of the number of stations with solenoid positions to prevent incorrect wiring.
(Refer to the table below.)
(3) Note that the correspondence cannot be applied if the number of solenoid stations exceeds 24.
(4) The manifold station Nos. are set in order from left with the piping port facing forward.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

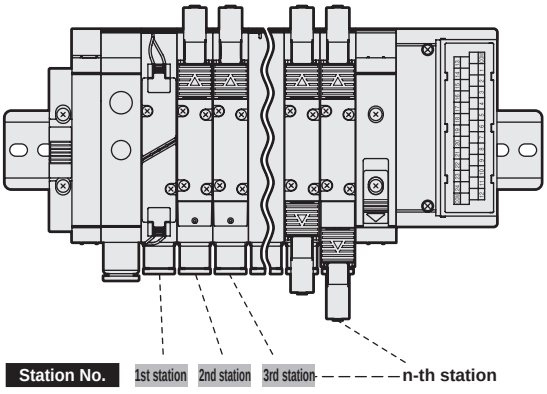
Internal wiring of wiring method T11 (up to 24 solenoid stations)



T11 (left side specifications)



T11R (right side specifications)



Terminal array of wiring method T11 (example)

*: The numbers in the valve No. 1a, 1b, 2a, 2b…and so forth indicate the 1st station and the 2nd station. The alphabetic characters a and b indicate a side solenoid and b side solenoid. Max. station No. differs depending on the model. Check the individual specifications.

Terminal No.

COM	24	23	22	21	20	19	18	17	16	15	14	13
12	11	10	9	8	7	6	5	4	3	2	1	COM

[Standard wiring]

● Single solenoid valve

Terminal block No.	24	23	22	21	20	19	18	17	16	15	14	13
Valve No.	24a	23a	22a	21a	20a	19a	18a	17a	16a	15a	14a	13a
Terminal block No.	12	11	10	9	8	7	6	5	4	3	2	1
Valve No.	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a

● For double solenoid valve

Terminal block No.	24	23	22	21	20	19	18	17	16	15	14	13
Valve No.	12b	12a	11b	11a	10b	10a	9b	9a	8b	8a	7b	7a
Terminal block No.	12	11	10	9	8	7	6	5	4	3	2	1
Valve No.	6b	6a	5b	5a	4b	4a	3b	3a	2b	2a	1b	1a

● Mix (single/double solenoid mixture)

Terminal block No.	24	23	22	21	20	19	18	17	16	15	14	13
Valve No.	18b	18a	17a	16a	15a	14a	13a	12b	12a	11b	11a	10a
Terminal block No.	12	11	10	9	8	7	6	5	4	3	2	1
Valve No.	9a	8a	7b	7a	6a	5a	4b	4a	3b	3a	2a	1a

[Double wiring]

Terminal block No.	24	23	22	21	20	19	18	17	16	15	14	13
Valve No.	(Void)	12a	(Void)	11a	(Void)	10a	(Void)	9a	(Void)	8a	(Void)	7a
Terminal block No.	12	11	10	9	8	7	6	5	4	3	2	1
Valve No.	(Void)	6a	(Void)	5a	(Void)	4a	(Void)	3a	(Void)	2a	(Void)	1a

Terminal block No.	24	23	22	21	20	19	18	17	16	15	14	13
Valve No.	12b	12a	11b	11a	10b	10a	9b	9a	8b	8a	7b	7a
Terminal block No.	12	11	10	9	8	7	6	5	4	3	2	1
Valve No.	6b	6a	5b	5a	4b	4a	3b	3a	2b	2a	1b	1a

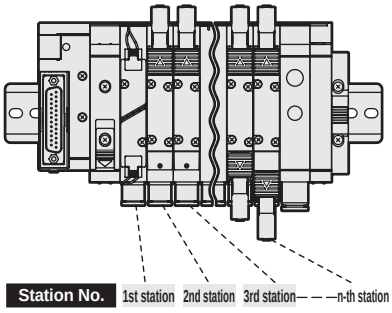
Terminal block No.	24	23	22	21	20	19	18	17	16	15	14	13
Valve No.	12b	12a	11b	11a	(Void)	10a	(Void)	9a	(Void)	8a	7b	7a
Terminal block No.	12	11	10	9	8	7	6	5	4	3	2	1
Valve No.	(Void)	6a	(Void)	5a	4b	4a	3b	3a	(Void)	2a	(Void)	1a

D-sub connector: Wiring method T30

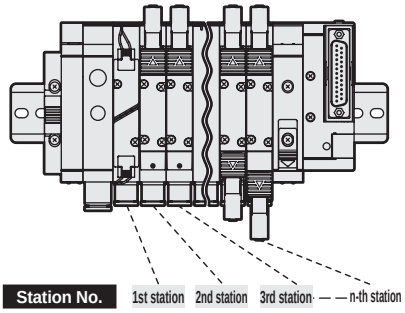
T30 connector

Connectors used for T30 wiring, called a D sub-connector, is used widely for FA and OA devices. The 25P is an RS-232-C Standards designated connector especially used for personal computer communication. The manifold station Nos. are set in order from left with the piping port facing forward.

T30 (left side specifications)

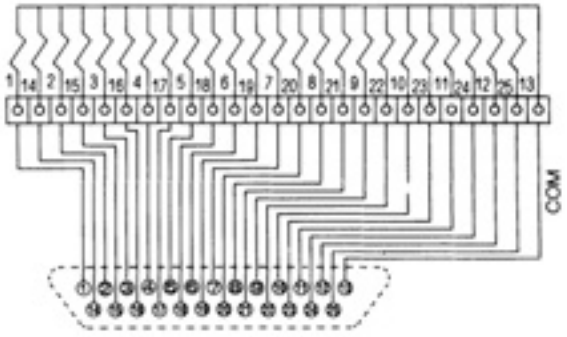


T30R (right side specifications)



Precautions for connector T30

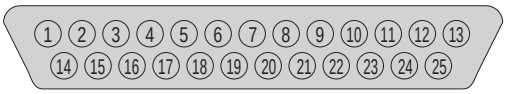
(1) Signal arrays of the PLC output unit must match signal arrays of the valve side.
(2) The working power is 12/24 VDC dedicated.
(3) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.



T30 connector pin array (example)

*1: The numbers in the valve No. 1a, 1b, 2a, 2b… and so forth indicate the 1st station and the 2nd station. The alphabetic characters a and b indicate a side solenoid and b side solenoid.
Max. station No. differs depending on the model.
Check the individual specifications.

Connector pin No.



● For single solenoid valve

[Standard wiring]

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	3a	5a	7a	9a	11a	13a	15a	17a	19a	21a	23a	COM
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Valve No.	2a	4a	6a	8a	10a	12a	14a	16a	18a	20a	22a	24a	

[Double wiring]

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a	COM
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Valve No.	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	

● For double solenoid valve

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a	COM
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Valve No.	1b	2b	3b	4b	5b	6b	7b	8b	9b	10b	11b	12b	

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a	COM
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Valve No.	1b	2b	3b	4b	5b	6b	7b	8b	9b	10b	11b	12b	

● Mix (single/double solenoid mixture)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	3a	4a	5a	7a	8a	10a	11b	12b	14a	15b	17a	COM
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Valve No.	2a	3b	4b	6a	7b	9a	11a	12a	13a	15a	16a	17b	

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a	COM
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Valve No.	(Void)	(Void)	3b	4b	(Void)	(Void)	7b	(Void)	(Void)	(Void)	11b	12b	

How to order

Cable with D sub-connector model No.

4GR - CABLE - D 0 0 - 1 - P70

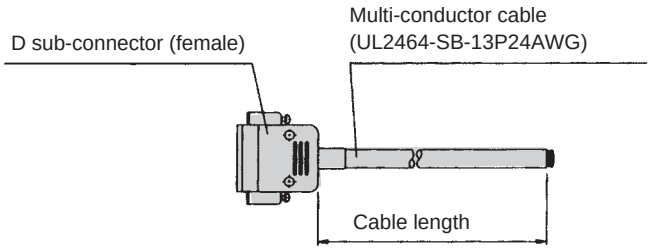
- Clean room specifications
- Ⓐ User interface
- Ⓑ Cable length

* Each model of pneumatic valves Available for D sub-connector T30/T31

Code	Content	Model No. 4GR
Ⓐ User interface		
0	Cutting only	●
1	With round terminal for M3.5 screw	●
Ⓑ Cable length		
1	1 m	●
3	3 m	●
5	5 m	●

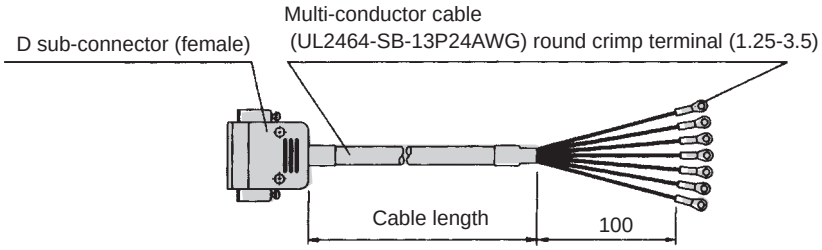
D sub-connector terminal No. and conductor

● 4GR-CABLE-D00-Ⓑ-P70



D sub-connector terminal No.		1	2	3	4	5	6	7	8	9	10	11	12	13
Conductor	Insulator color	Orange	Orange	Yellow	Yellow	Green	Green	Gray	Gray	White	White	Orange	Orange	Yellow
	Mark type	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	2 point	2 point	2 point
	Mark color	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black
D sub-connector terminal No.		14	15	16	17	18	19	20	21	22	23	24	25	
Conductor	Insulator color	Yellow	Green	Green	Gray	Gray	White	White	Orange	Orange	Yellow	Yellow	Green	
	Mark type	2 point	2 point	2 point	2 point	2 point	2 point	2 point	3 point	3 point	3 point	3 point	3 point	
	Mark color	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	

● 4GR-CABLE-D01-Ⓑ-P70



D sub-connector terminal No.		1	2	3	4	5	6	7	8	9	10	11	12	13
Conductor	Insulator color	Orange	Orange	Yellow	Yellow	Green	Green	Gray	Gray	White	White	Orange	Orange	Yellow
	Mark type	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	2 point	2 point	2 point
	Mark color	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black
Mark tube No.		1	2	3	4	5	6	7	8	9	10	11	12	13
D sub-connector terminal No.		14	15	16	17	18	19	20	21	22	23	24	25	
Conductor	Insulator color	Yellow	Green	Green	Gray	Gray	White	White	Orange	Orange	Yellow	Yellow	Green	
	Mark type	2 point	2 point	2 point	2 point	2 point	2 point	2 point	3 point	3 point	3 point	3 point	3 point	
	Mark color	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	
Mark tube No.		14	15	16	17	18	19	20	21	22	23	24	25	

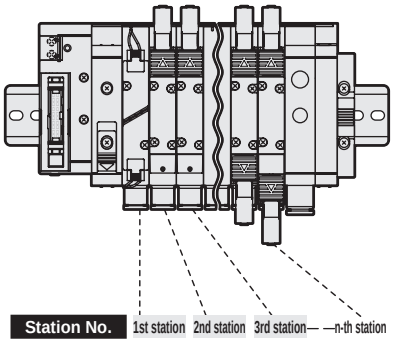
* Can be used up to 24 points. Cut the wires for surplus points before use.

Flat cable connector: wiring method T50

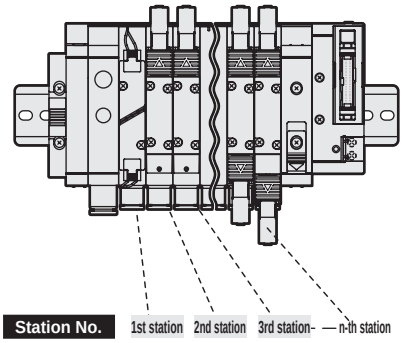
T50 connector

The connector used for T50 wiring method complies with MIL Standards (MIL-C-83503). Wiring work is simplified with the pressure welded flat cable.
Pin No. is assigned differently based on the PLC maker, but the function assignment is the same.
Layout using connectors and the triangular mark (▼) shown below as a reference. The ▼ mark is the reference for both the plug and socket. The manifold station Nos. are set in order from left with b side solenoid side (cap side for single) facing forward.

T50 (left side specifications)

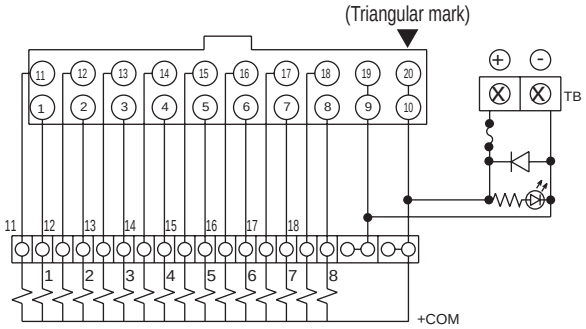


T50R (right side specifications)



Precautions for connector T50

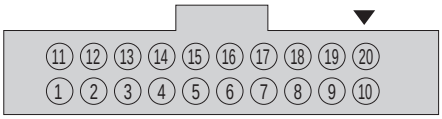
(1) Signal arrays of the PLC output unit must match signal arrays of the valve side. Direct connections with the PLC are limited. Use the dedicated cable for each PLC manufacturer.
(2) The working power is 12/24 VDC dedicated.
(3) When connecting the T50 to a general output unit, use the + terminal (20, 10) of the 20P connector as the + side common, and use the NPN transistor output open collector for the drive circuit.
(4) Do not connect this manifold to the input unit as major faults could occur in this device and in peripherals. Connect this manifold to the output unit.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.



T50 connector pin array (example)

*1: The numbers in the valve No. 1a, 1b, 2a, 2b… and so forth indicate the 1st station and the 2nd station. The alphabetic characters a and b indicate a side solenoid and b side solenoid. Max. station No. differs depending on the model. Check the individual specifications.

Connector pin No.



● For single solenoid valve

[Standard wiring]

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	9a	10a	11a	12a	13a	14a	15a	16a	-power supply	+power supply
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	-power supply	+power supply

[Double wiring]

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	5a	(Void)	6a	(Void)	7a	(Void)	8a	(Void)	-power supply	+power supply
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	(Void)	2a	(Void)	3a	(Void)	4a	(Void)	-power supply	+power supply

● For double solenoid valve

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	5a	5b	6a	6b	7a	7b	8a	8b	-power supply	+power supply
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	-power supply	+power supply

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	5a	5b	6a	6b	7a	7b	8a	8b	-power supply	+power supply
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	-power supply	+power supply

● Mix (single/double solenoid mixture)

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	7a	7b	8a	9a	10a	10b	11a	11b	-power supply	+power supply
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	2a	3a	3b	4a	4b	5a	6a	-power supply	+power supply

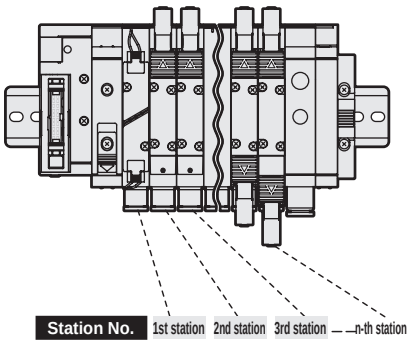
Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	5a	(Void)	6a	(Void)	7a	7b	8a	(Void)	-power supply	+power supply
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	(Void)	2a	(Void)	3a	3b	4a	4b	-power supply	+power supply

Flat cable connector: wiring method T51

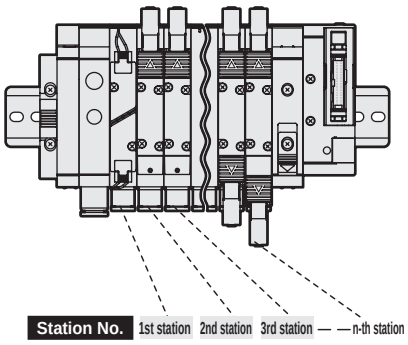
T51 connector

The connector used for T51 wiring method complies with MIL Standards (MIL-C-83503). Wiring work is simplified with the pressure welded flat cable.
Pin Nos. are assigned differently based on the PLC maker, but the function assignment is the same. Layout using connectors and the triangular mark (▼) shown below as a reference. The (▼) mark is the reference for both the plug and socket. The manifold station Nos. are set in order from left with b side solenoid (cap for single) facing forward.

T51 (left side specifications)

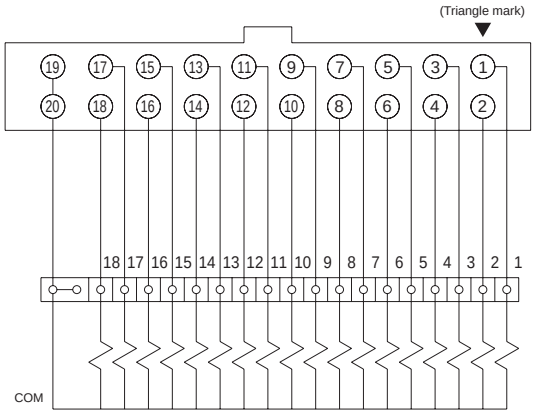


T51R (right side specifications)



Precautions for connector (T51)

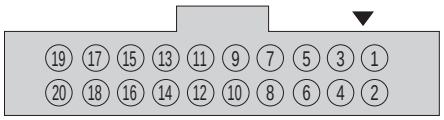
(1) Signal arrays of the PLC output unit must match signal arrays of the valve side.
(2) The working power is 12/24 VDC dedicated.
(3) The T51 is driven with a general output unit.
(4) Do not connect this manifold to the input unit as major faults could occur in this device and in peripherals. Connect this manifold to the output unit.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.



T51 connector pin array (example)

*: The numbers in the valve No. 1a, 1b, 2a, 2b…and so forth indicate the 1st station and the 2nd station. The alphabetic characters a and b indicate a side solenoid and b side solenoid. Max. station number differs depending on the model No. Check the individual specifications.

Connector pin No.



● For single solenoid valve

[Standard wiring]

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	17a	15a	13a	11a	9a	7a	5a	3a	1a
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	18a	16a	14a	12a	10a	8a	6a	4a	2a

[Double wiring]

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)

● For double solenoid valve

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	9b	8b	7b	6b	5b	4b	3b	2b	1b

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	9b	8b	7b	6b	5b	4b	3b	2b	1b

● Mix (single/double solenoid mixture)

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	12a	11a	10a	8a	7a	5a	4a	3a	1a
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	13a	11b	10b	9a	7b	6a	4b	3b	2a

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	(Void)	(Void)	7b	(Void)	(Void)	4b	3b	(Void)	(Void)

Flat cable connector: wiring method T52

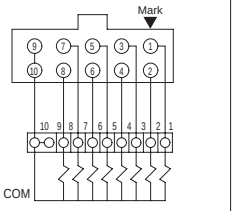
T52 connector

The connector used for T52 wiring method complies with MIL Standards (MIL-C-83503).
Wiring work is simplified with the pressure welded flat cable.
Pin Nos. are assigned differently based on the PLC maker, but the function assignment is the same. Layout using connectors and the triangular mark (▼) shown below as a reference. The (▼) mark is the reference for both the plug and socket.
The manifold station Nos. are set in order from left with b side solenoid (cap for single) facing forward.

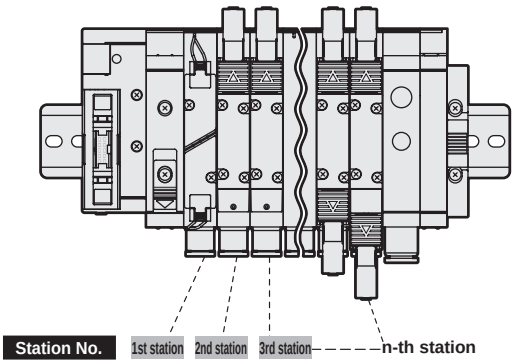
Precautions for connector (T52)

(1) Signal arrays of the PLC output unit must match signal arrays of the valve side.
(2) The working power is 12/24 VDC dedicated.
(3) The T52 is driven with a general output unit.
(4) Do not connect this manifold to the input unit as major faults could occur in this device and in peripherals. Connect this manifold to the output unit.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

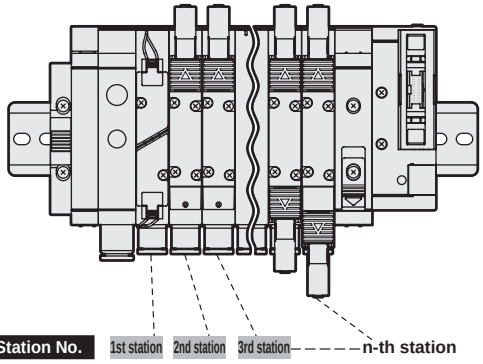
Connector pin layout diagram (top view) and internal circuit diagram



T52 (left side specifications)



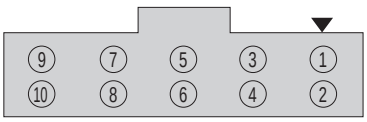
T52R (right side specifications)



T52 connector pin array (example)

*: The numbers in the valve No. 1a, 1b, 2a, 2b…and so forth indicate the 1st station and the 2nd station. The alphabetic characters a and b indicate a side solenoid and b side solenoid.
Max. station number differs depending on the model No. Check the individual specifications.

Connector pin No.



● For single solenoid valve

[Standard wiring]

Pin No.	9	7	5	3	1
Valve No.	COM	7a	5a	3a	1a
Pin No.	10	8	6	4	2
Valve No.	COM	8a	6a	4a	2a

[Double wiring]

Pin No.	9	7	5	3	1
Valve No.	COM	4a	3a	2a	1a
Pin No.	10	8	6	4	2
Valve No.	COM	(Void)	(Void)	(Void)	(Void)

● For double solenoid valve

Pin No.	9	7	5	3	1
Valve No.	COM	4a	3a	2a	1a
Pin No.	10	8	6	4	2
Valve No.	COM	4b	3b	2b	1b

Pin No.	9	7	5	3	1
Valve No.	COM	4a	3a	2a	1a
Pin No.	10	8	6	4	2
Valve No.	COM	4b	3b	2b	1b

● For mixed use (single/double solenoid mixture)

Pin No.	9	7	5	3	1
Valve No.	COM	5b	4b	3a	1a
Pin No.	10	8	6	4	2
Valve No.	COM	6a	5a	4a	2a

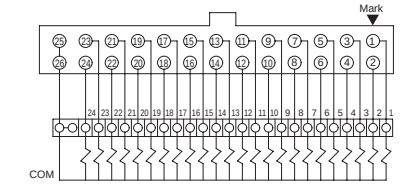
Pin No.	9	7	5	3	1
Valve No.	COM	4a	3a	2a	1a
Pin No.	10	8	6	4	2
Valve No.	COM	4b	(Void)	(Void)	(Void)

Flat cable connector: wiring method T53

T53 connector

The connector used for T53 wiring method complies with MIL Standards (MIL-C-83503).
Wiring work is simplified with the pressure welded flat cable.
Pin Nos. are assigned differently based on the PLC maker, but the function assignment is the same. Layout using connectors and the triangular mark (▼) shown below as a reference. The (▼) mark is the reference for both the plug and socket.
The manifold station Nos. are set in order from left with b side solenoid (cap for single) facing forward.

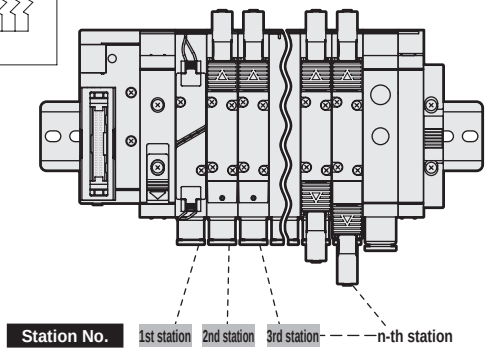
Connector pin layout diagram (top view) and internal circuit diagram



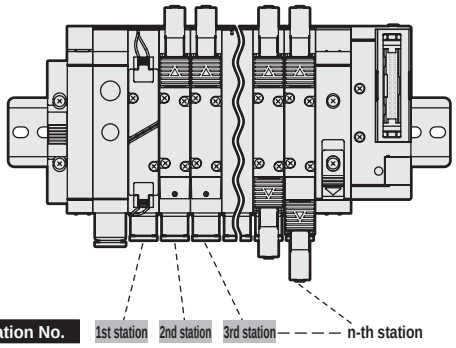
Precautions for connector (T53)

(1) Signal arrays of the PLC output unit must match signal arrays of the valve side.
(2) The working power is 12/24 VDC dedicated.
(3) The T53 is driven with a general output unit.
(4) Do not connect this manifold to the input unit as major faults could occur in this device and in peripherals. Connect this manifold to the output unit.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

T53 (left side specifications)



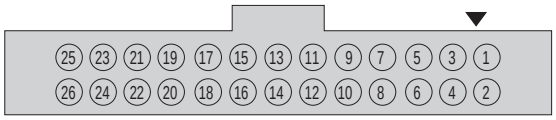
T53R (right side specifications)



T53 connector pin array (example)

*: The numbers in the valve No. 1a, 1b, 2a, 2b…and so forth indicate the 1st station and the 2nd station. The alphabetic characters a and b indicate a side solenoid and b side solenoid.
Max. station number differs depending on the model No. Check the individual specifications.

Connector pin No.



[Standard wiring]

● Single solenoid valve

Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	23a	21a	19a	17a	15a	13a	11a	9a	7a	5a	3a	1a
Pin No.	26	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	24a	22a	20a	18a	16a	14a	12a	10a	8a	6a	4a	2a

● For double solenoid valve

Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	26	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	12b	11b	10b	9b	8b	7b	6b	5b	4b	3b	2b	1b

● For mixed use (single/double solenoid mixture)

Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	16a	15a	14a	12a	10a	9a	8a	7a	5b	4b	3a	1a
Pin No.	26	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	16b	15b	14b	13a	11a	9b	8b	7b	6a	5a	4a	2a

[Double wiring]

Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	26	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)

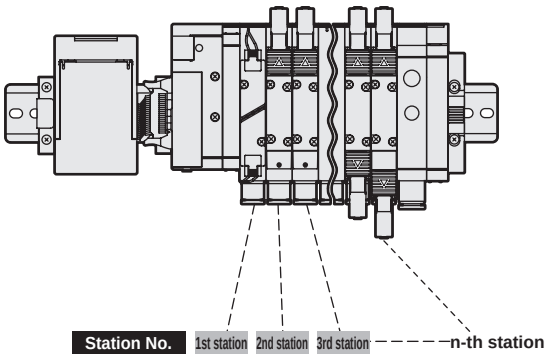
Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	26	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	12b	11b	10b	9b	8b	7b	6b	5b	4b	3b	2b	1b

Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	26	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	(Void)	(Void)	(Void)	9b	8b	7b	(Void)	5b	4b	(Void)	(Void)	(Void)

Serial transmission: (Wiring method T6G1)

T6G1 Serial transmission

- The slave unit's output No. differs with the manufacturer. The connector pin No. and the manifold solenoid correspond as shown below.
- Station manifolds are set in order from the left with the piping port facing forward regardless of the wiring block position.
- Internal connectors are wired in order, so there may be some void numbers depending on the number of stations. These void outputs cannot be used for drive other than the solenoid manifold in use.
- The working power is 24 VDC.
- A slave unit for each communication system is used. Contact CKD for the specifications on the usable PLC model Nos., master unit model Nos. and communication systems.
- Output No. is assigned differently based on the PLC maker, but the function assignment is the same. Layout using connectors and the triangular mark (▼) shown below as a reference. The ▼ mark is the reference for both the plug and socket.



Combination of output No. and connector pin No.

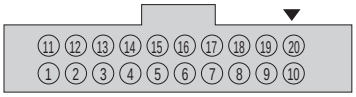
● T6G1

Output No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Connector pin No.	1	2	3	4	5	6	7	8	11	12	13	14	15	16	17	18

T6G1 connector pin array (example)

*: The numbers in the valve No. 1a, 1b, 2a, 2b…and so forth indicate the 1st station and the 2nd station. The alphabetic characters a and b indicate a side solenoid and b side solenoid.
Max. station number differs depending on the model No. Check the individual specifications.

Connector pin No.



● For single solenoid valve

[Standard wiring]

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	9a	10a	11a	12a	13a	14a	15a	16a	(Void)	+COM
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	(Void)	+COM

[Double wiring]

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	5a	(Void)	6a	(Void)	7a	(Void)	8a	(Void)	(Void)	+COM
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	(Void)	2a	(Void)	3a	(Void)	4a	(Void)	(Void)	+COM

● For double solenoid valve

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	5a	5b	6a	6b	7a	7b	8a	8b	(Void)	+COM
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	(Void)	+COM

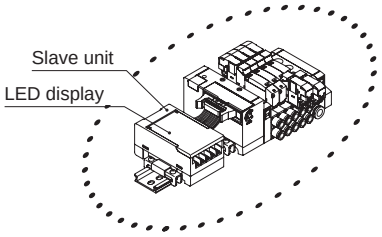
Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	5a	5b	6a	6b	7a	7b	8a	8b	(Void)	+COM
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	(Void)	+COM

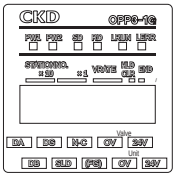
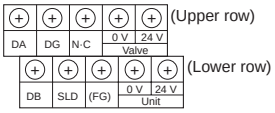
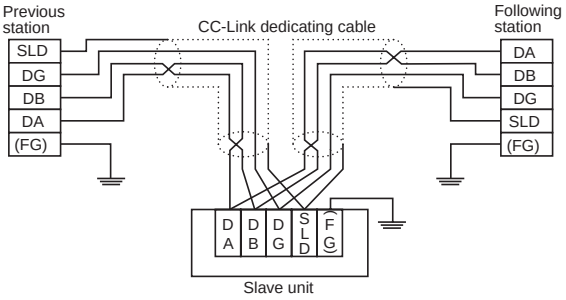
● Mix (single/double solenoid combination)

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	7a	7b	8a	9a	10a	10b	11a	11b	(Void)	+COM
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	2a	3a	3b	4a	4b	5a	6a	(Void)	+COM

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	5a	(Void)	6a	(Void)	7a	7b	8a	(Void)	(Void)	+COM
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	(Void)	2a	(Void)	3a	3b	4a	4b	(Void)	+COM

* Do not use the position marked (Void).



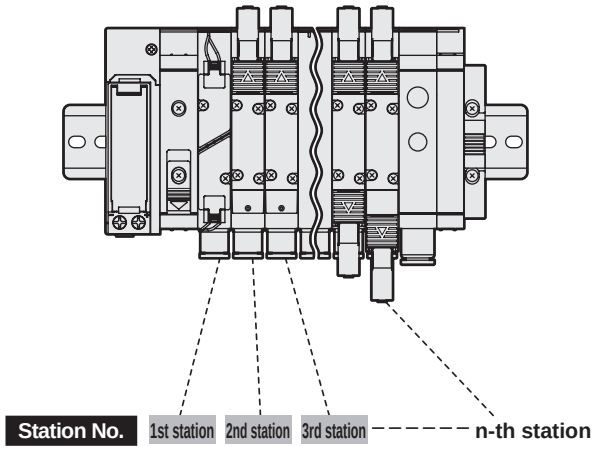
	LED display	Wiring method
T6G1		 

LED name	Display description
PW1	Lights when unit power is ON.
PW2	Lights when valve power is ON.
SD	Turns on when sending data.
RD	Turns on when receiving data.
L RUN	Lights when receiving normal data, and turns OFF at time over.
L ERR	Lights when transmission error occurs. Turns off when the time limit is exceeded. Lights when station No. setting or transmission speed setting is incorrect. Blinks when station No. setting or transmission speed setting changes midway.

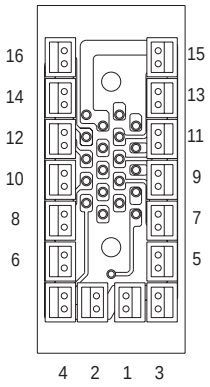
Serial transmission: Wiring method

T7 *serial transmission

- The slave unit's output No. is different with each manufacturer. The internal connector pin No. and the manifold solenoid correspond as shown below.
- Station manifolds are set in order from the left with the piping port facing forward regardless of the wiring block position.
- Internal connectors are wired in order, so there may be some void numbers depending on the number of stations. These void outputs cannot be used for drive other than the solenoid manifold in use.
- The working power is 24 VDC.
- A slave unit for each communication system is used. Contact CKD for the specifications on the usable PLC model Nos., master unit model Nos. and communication systems.
- Securely fix the enclosed connector with set screw. (Proper tightening torque 0.3 N·m)



Internal circuit board connector pin No.



Combination of output No. and connector pin No.

● T7D1, T7L1, T7S□1

Output No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Connector pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

● T7G1

Output No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Connector pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

T7* connector pin array (example)

*: The numbers in the valve No. 1a, 1b, 2a, 2b…and so forth indicate the first station and 2nd station. The alphabetic characters a and b indicate the a side solenoid and the b side solenoid.
Max. station number differs depending on the model No. Check the individual specifications.

[Standard wiring]

● For single solenoid valve

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a	13a	14a	15a	16a

● For double solenoid valve

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b

● For mixed use (single/double solenoid mixture)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	2a	3a	3b	4a	4b	5a	6a	7a	7b	8a	9a	10a	10b	11a	11b

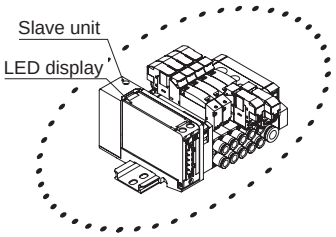
[Double wiring]

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	(Void)	2a	(Void)	3a	(Void)	4a	(Void)	5a	(Void)	6a	(Void)	7a	(Void)	8a	(Void)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b

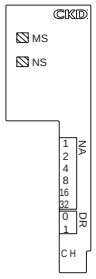
Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	(Void)	2a	(Void)	3a	3b	4a	4b	5a	(Void)	6a	(Void)	7a	7b	8a	(Void)

* Do not use the position marked with (Void).

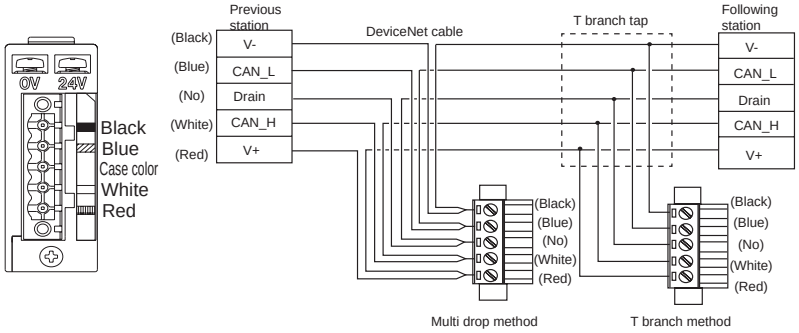


Model No.	LED display	Wiring method

T7D1

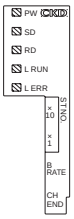


LED name	Display description
MS	Slave status is indicated with green and red LEDs. Errors are indicated using combination with "NS LED".
NS	Network status is indicated with green and red LEDs. Errors are indicated using combination with "MS LED".

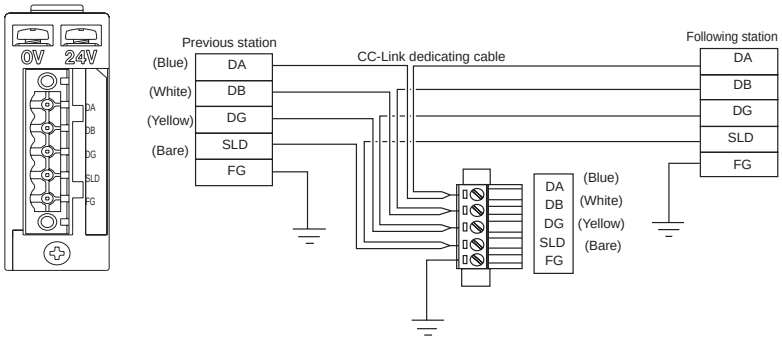


- Power supply line is connected to the terminal box.
- DeviceNet cable is connected to the connector.
- The power terminal box (24 V, 0 V) is insulated from the communication power terminal (V+, V-).
- Power supply for an unit and a valve is a common terminal.
- The wiring section connectors are enclosed.

T7G1

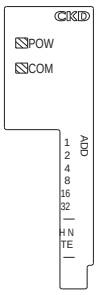


LED name	Display description
PW	Lights when power is ON.
SD	Lights when transmitting data.
RD	Lights when receiving data.
L RUN	Lights when receiving normal data. Turns OFF when time over occurs.
L ERR	Lights when transmission error occurs. Turns OFF when time over occurs. Lights when station No. or transmission speed setting fails. Blinks when station No. or transmission speed in setting changes.

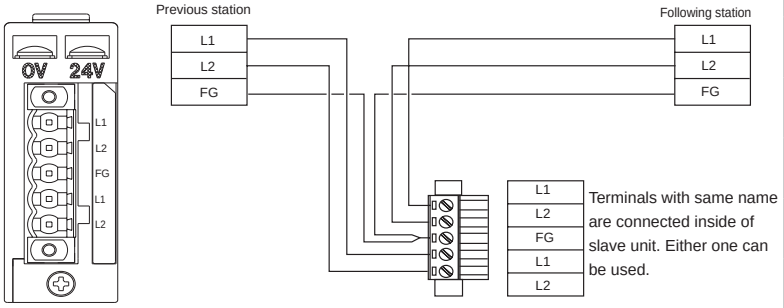


- Power supply line is connected to the terminal box.
- CC-Link cable is connected to the connector.
- Power supply for an unit and a valve is a common terminal.
- The wiring section connectors are enclosed.

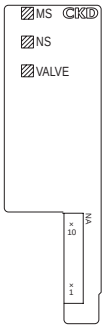
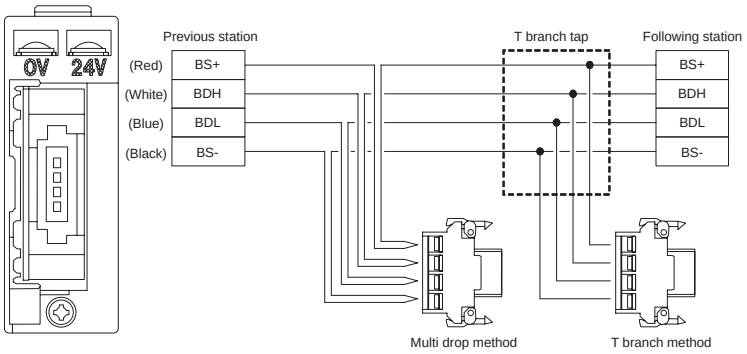
T7L1



LED name	Display description
POW	Light is on when power supplies of master and slave units are ON.
COM	Light is on when normally communicating with master unit. Light is off when communication failure continues for a certain period.



- Power supply line is connected to the terminal box.
- Communication line is connected to the connector.
- Power supply for an unit and a valve is a common terminal.
- The wiring section connectors are enclosed.

Model No.	LED display	Wiring method
T7S□1		

LED name	Display description
MS	Slave status is indicated with green and red lights. Errors are indicated using combination with "NS LED".
NS	Network status is indicated with green and red lights. Errors are indicated using combination with "MS LED".
VALVE	Green light is on when valve power is ON.

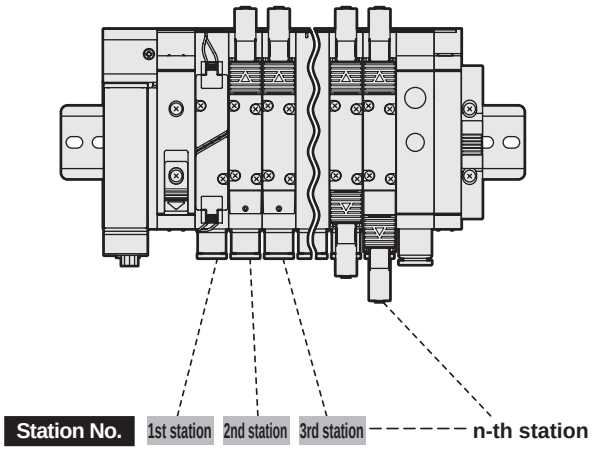
- Communication line/communication power supply are connected to the plug for communication.
- Valve power supply is connected to the terminal box.
- The plug for communication is not attached for this product.

MEMO

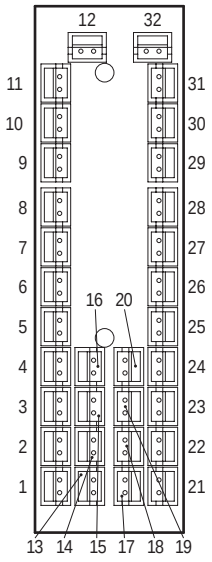
Serial transmission: Wiring method

T8 *serial transmission

- The slave unit's output No. is different with each manufacturer. The internal connector pin No. and the manifold solenoid correspond as shown below.
- Station manifolds are set in order from the left with the piping port facing forward regardless of the wiring block position.
- Internal connectors are wired in order, so there may be some void numbers depending on the number of stations. These void outputs cannot be used for drive other than the solenoid manifold in use.
- The working power is 24 VDC.
- Securely fix the enclosed connector with set screw. (Proper tightening torque 0.3 N·m)



Internal circuit board connector pin No.



Combination of output No. and connector pin No.

● T8□1

Output No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Connector pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

● T8□2

Output No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Connector pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Output No.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Connector pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

T8* connector pin array (example)

*: The numbers in the valve No. 1a, 1b, 2a, 2b…and so forth indicate the first station and 2nd station. The alphabetic characters a and b indicate the a side solenoid and the b side solenoid.
Max. station number differs depending on the model No. Check the individual specifications.

[Standard wiring]

● For single solenoid valve

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a	13a	14a	15a	16a
Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Valve No.	17a	18a	19a	20a	21a	22a	23a	24a	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)

● For double solenoid valve

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b
Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Valve No.	9a	9b	10a	10b	11a	11b	12a	12b	13a	13b	14a	14b	15a	15b	16a	16b

● For mixed use (single/double solenoid mixture)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	2a	3a	3b	4a	4b	5a	6a	7a	7b	8a	9a	10a	10b	11a	11b
Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Valve No.	12a	13a	14a	14b	15a	15b	16a	17a	18a	18b	19a	20a	21a	21b	22a	22b

[Double wiring]

● For single solenoid valve

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	(Void)	2a	(Void)	3a	(Void)	4a	(Void)	5a	(Void)	6a	(Void)	7a	(Void)	8a	(Void)
Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Valve No.	9a	(Void)	10a	(Void)	11a	(Void)	12a	(Void)	13a	(Void)	14a	(Void)	15a	(Void)	16a	(Void)

● For double solenoid valve

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b
Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Valve No.	9a	9b	10a	10b	11a	11b	12a	12b	13a	13b	14a	14b	15a	15b	16a	16b

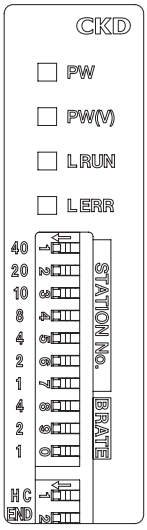
● For mixed use (single/double solenoid mixture)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	(Void)	2a	(Void)	3a	3b	4a	4b	5a	(Void)	6a	(Void)	7a	7b	8a	(Void)
Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Valve No.	9a	(Void)	10a	10b	11a	11b	12a	(Void)	13a	(Void)	14a	14b	15a	15b	16a	(Void)

* Do not use the position marked (Void).

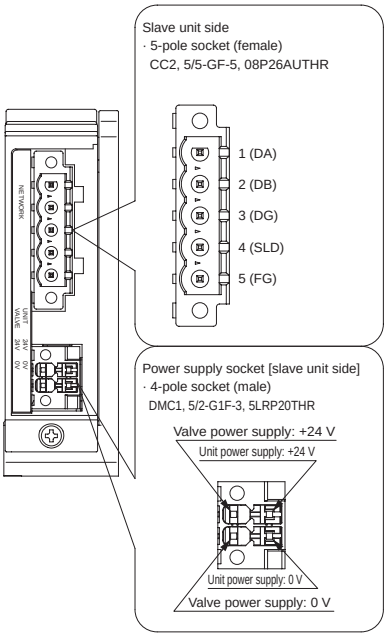
Model No.	LED display	Wiring section

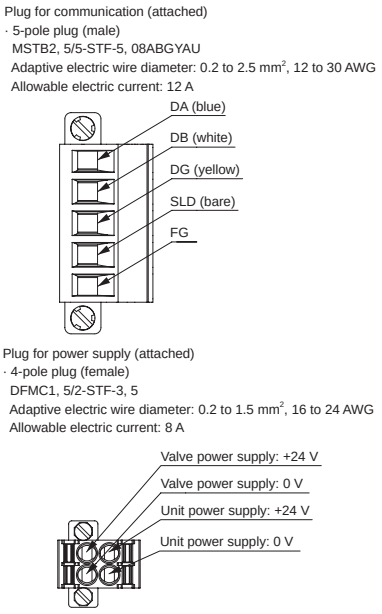
T8G*



LED Indicator descriptions

LED name	Display description
PW	Lights when unit power is ON. Lights red during normal operation
PW (V)	Lights when valve power is ON. Lights red during normal operation (unable to monitor when the unit power supply is not ON)
L RUN	Lights up when receiving CC-Link refresh data successfully. Lights red during normal operation
L ERR	Lights up (red) when failing to receive CC-Link data. Lights out during normal operation

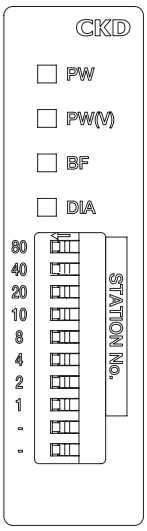




Socket pin configuration for communication

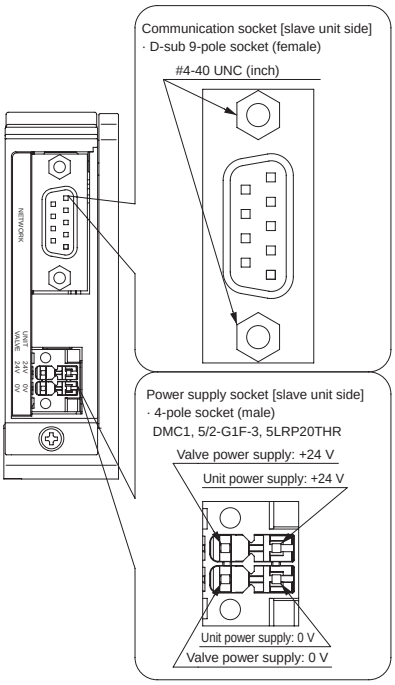
Pin	Signal name (cable color)	Function
1	DA (blue)	Communication line “DA”
2	DB (white)	Communication line “DB”
3	DG (yellow)	Communication line “DG”
4	SLD (bare)	Communication line “SLD”
5	FG	Ground

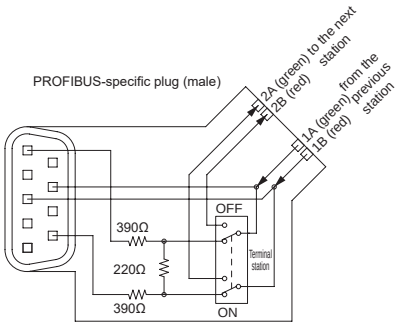
T8P*

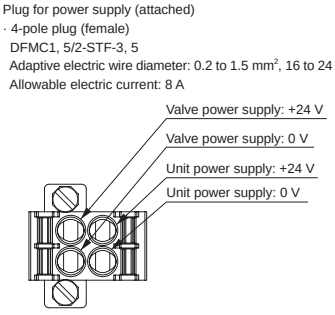


LED Indicator descriptions

LED name	Display description
PW	Lights when unit power is ON. Lights green during normal operation
PW (V)	Lights when valve power is ON. Lights green during normal operation (unable to monitor when the unit power supply is not ON)
BF	Lights up when failing to receive/send data. Lights red during anomalous operation
DIA	Lights up when a self-diagnostic failure occurs Lights red during anomalous operation







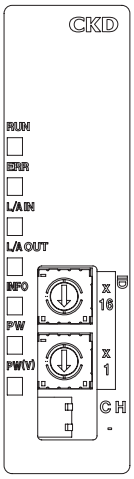
Socket pin configuration for communication

Pin	Signal name	Function
1	Shield	Shield
2	M24	Reserved
3	RxD/TxD-P	Data receive/send (plus)
4	CNTR-P	Reserved
5	DGND	GND

Pin	Signal name	Function
6	VP	Supply voltage of terminator (+5 V)
7	P24	Reserved
8	RxD/TxD-N	Data receive/send (minus)
9	CNTR-N	Reserved

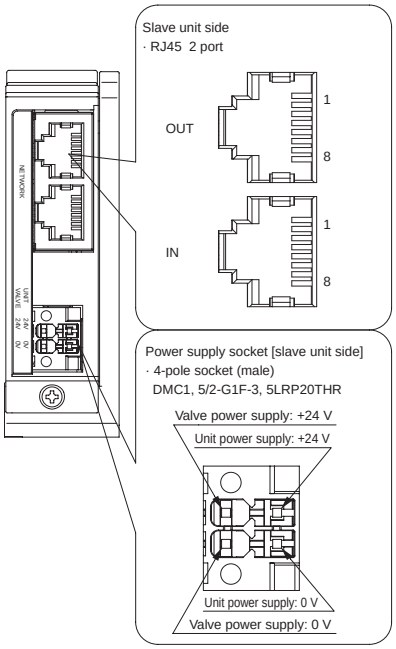
Model No.	LED display	Wiring method

T8EC*

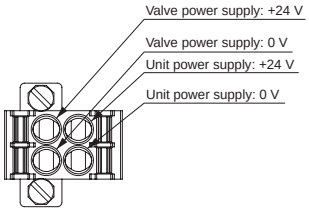


LED Indicator descriptions

LED name	Display description
RUN	Indicates the communication status of EtherCAT by lighting up/out or blinking this LED (green) (lights up green during normal communication)
ERR	Indicates the anomalous status of EtherCAT by lighting up/out or blinking this LED (red) (lights out during normal communication)
L/A IN	Indicates the status of the Ethernet port (IN side) by lighting up/out or fast-blinking this LED (green)
L/A OUT	Indicates the status of Ethernet port (OUT side) by lighting up/out or fast-blinking this LED (green)
INFO	Indicates the error status of the slave unit by lighting up this LED (red) (lights out during normal operation)
PW	Lights when unit power is ON. Lights green during normal operation
PW(V)	Lights when valve power is ON. Lights green during normal operation (unable to monitor when the unit power supply is not ON)



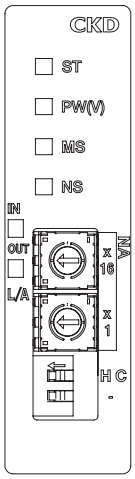
Plug for power supply (attached)
· 4-pole plug (female)
DFMC1, 5/2-STF-3, 5
Adaptive electric wire diameter: 0.2 to 1.5 mm^2, 16 to 24 AWG
Allowable electric current: 8 A



Socket pin configuration for communication

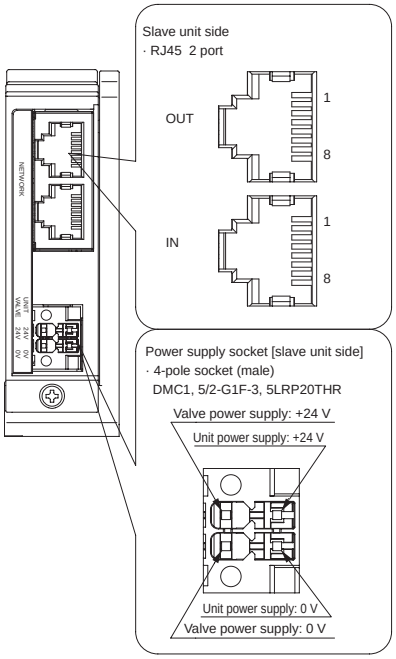
Port	Pin	Signal name	Function
IN/OUT	1	TXD+	Sending data, plus
	2	TXD-	Sending data, minus
	3	RXD+	Receiving data, plus
	4	Reserved	
	5	Reserved	
IN/OUT	6	RXD-	Receiving data, minus
	7	Reserved	
	8	Reserved	

T8EN*

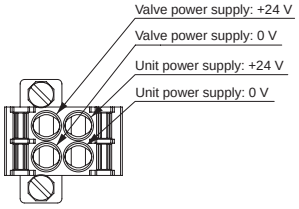


LED Indicator descriptions

LED name	Display description
ST	Indicates the status of the slave unit by lighting up or blinking this LED and changing its color (green, yellow)
PW (V)	Lights when valve power is ON. Lights green during normal operation (unable to monitor when the unit power supply is not ON)
MS	Indicates the status of the slave unit relating to EtherNet/IP by lighting up or blinking this LED and changing its color (green, red)
NS	Indicates the status of the network relating to EtherNet/IP by lighting up or blinking this LED and changing its color (green, red)
L/A IN	Indicates the status of the Ethernet port (IN side) by the color of this LED (green, yellow)
L/A OUT	Indicates the status of the Ethernet port (OUT side) by the color of this LED (green, yellow)



Plug for power supply (attached)
· 4-pole plug (female)
DFMC1, 5/2-STF-3, 5
Adaptive electric wire diameter: 0.2 to 1.5 mm^2, 16 to 24 AWG
Allowable electric current: 8 A

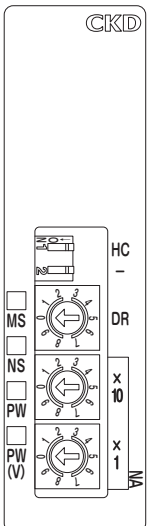


Socket pin configuration for communication

Port	Pin	Signal name	Function
IN/OUT	1	TXD+	Sending data, plus
	2	TXD-	Sending data, minus
	3	RXD+	Receiving data, plus
	4	Reserved	
	5	Reserved	
IN/OUT	6	RXD-	Receiving data, minus
	7	Reserved	
	8	Reserved	

T8D*

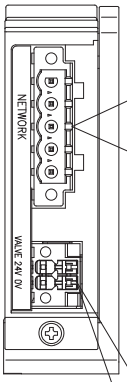
LED display



LED display description

LED name	Display description
MS	Status of slave unit related to DeviceNet indicated by LED color (green/red) and ON status (ON/blinking)
NS	Status of network related to DeviceNet indicated by LED color (green/red) and ON status (ON/blinking)
PW	Lights when communication power is ON. Green lamp ON when normal
PW(V)	Lights when valve power is ON. Green lamp ON when normal (Cannot be monitored when communication power is OFF)

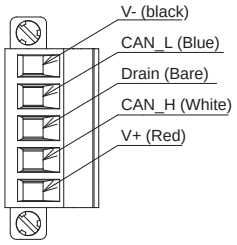
Wiring



Slave unit side
・ 5-pole socket (female)
CC2,5/5-GF-5,08P26AUTHRR56

1 (V=)
2 (CAN_L)
3 (Drain)
4 (CAN_H)
5 (V+)

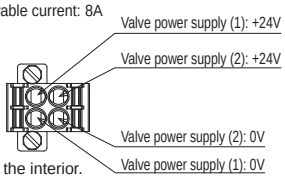
Communication plug (accessory)
・ 5-pole plug (male)
MSTB2,5/5-STF-5,08AUM
Compatible wire diameter: 0.2 to 2.5mm² 12 to 30AWG
Allowable current: 12A



Power supply socket [Slave unit side]
・ 4-pole socket (male)
DMC1,5/2-G1F-3,5-LRP20THRR44

Valve power supply (1): +24V
Valve power supply (2):+24V
Valve power supply (2):0V
Valve power supply (1): 0V

Power supply plug (accessory)
・ 4-pole plug (female)
DFMC1,5/2-STF-3,5
Compatible wire diameter: 0.2 to 1.5mm² 16 to 24AWG
Allowable current: 8A



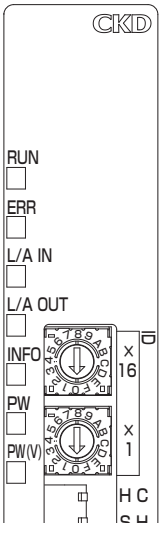
* Valve power supplies (1) and (2) are short-circuited in the interior.

Communication connector pin array

Pin	Signal name	Function
1	V-	Communication power supply (-)
2	CAN_L	Communication terminal (L)
3	Drain	Shield terminal
4	CAN_H	Communication terminal (H)
5	V+	Communication power supply (+)

T8EB*

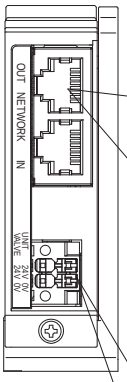
LED display



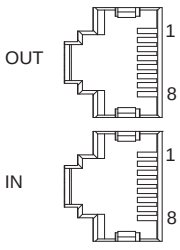
LED display description

LED name	Display description
RUN	Status of CC-Link IEF Basic communication indicated by LED ON status (ON/blinking)
ERR	Status of CC-Link IEF Basic abnormal communication indicated by LED ON status (ON/blinking)
L/A IN	Status of Ethernet port (IN side) indicated by ON LED status (ON/blinking)
L/A OUT	Status of Ethernet port (OUT side) indicated by LED ON status (ON/blinking)
INFO	Status of slave unit indicated by LED ON status (ON/blinking)
PW	Indicates unit power supply power status. Green lamp ON when powered ON
PW(V)	Indicates valve power supply power status. Green lamp ON when power turned ON (Cannot be monitored when unit power supply is OFF)

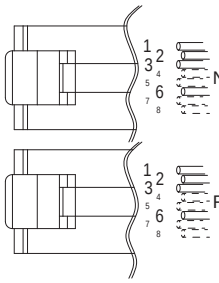
Wiring



Slave unit side
・ RJ45 2-port



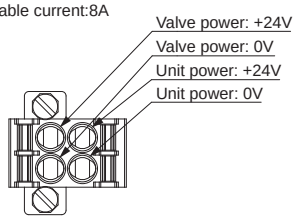
Communication plug (not accessory)



Power supply socket [Slave unit side]
・ 4-pole socket (male)
DMC1,5/2-G1F-3,5LRP20THR

Valve power supply: +24V
Unit power: +24V
Unit power: 0V
Valve power: 0V

Power supply plug (accessory)
・ 4-pole plug (female)
DFMC1,5/2-STF-3,5
Compatible wire diameter: 0.2 to 1.5mm² 16 to 24AWG
Allowable current:8A



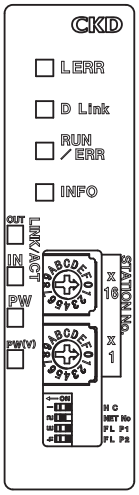
Communication plug pin array

Port	Pin	Signal name	Function
IN/OUT	1	TD+	Transmitted data, positive
	2	TD-	Transmitted data, negative
	3	RD+	Received data, positive
	4	Vacant	Vacant

Port	Pin	Signal name	Function
IN/OUT	5	Vacant	Vacant
	6	RD-	Received data, negative
	7	Vacant	Vacant
	8	Vacant	Vacant

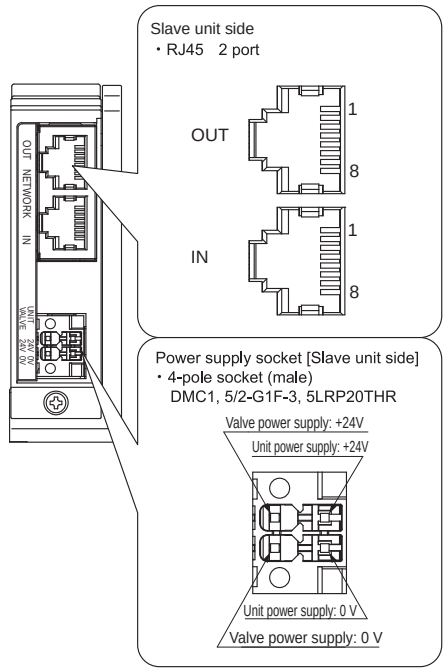
Model No.	LED display	Wiring

T8EF*



LED display description

LED□		□□□□
L ERR		Link status of Ethernet port is indicated by the LED state
D Link		Communication status of CC-Link IE Field is indicated by the LED state
RUN / ERR		Status of slave unit operation/communication is indicated by the LED state
INFO		Status of the slave unit is indicated by the LED state
Link/ ACT	OUT (P1)	Status of the Ethernet port (OUT side) is indicated by the LED state
	IN (P2)	Status of the Ethernet port (IN side) is indicated by the LED state
PW		Indicates the power status of the unit power supply. Lights when power is turned ON.
PW□V□		Indicates the power status of the valve power supply. Lights when power is ON (Cannot be monitored when the unit power is OFF.)



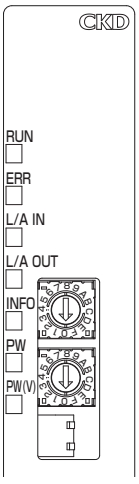
Communication plug pin array

Port	Pin	Signal name	LED
IN/OUT	1	BI_DA+	Transmit/receive data, positive
	2	BI_DA-	Transmit/receive data, negative
	3	BI_DB+	Transmit/receive data, positive
	4	BI_DC+	Transmit/receive data, positive

Port	Pin	Signal name	LED
IN/OUT	5	BI_DC-	Transmit/receive data, negative
	6	BI_DB-	Transmit/receive data, negative
	7	BI_DD+	Transmit/receive data, positive
	8	BI_DD-	Transmit/receive data, negative

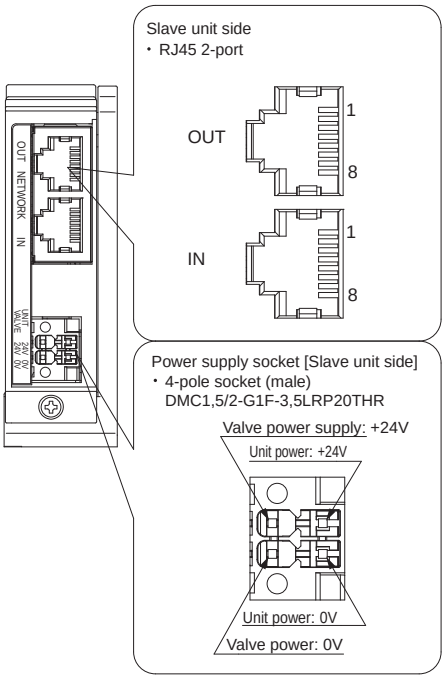
*1000BASE-T straight wiring compliant

T8EP*



LED display description

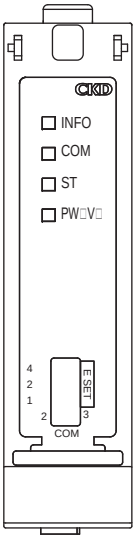
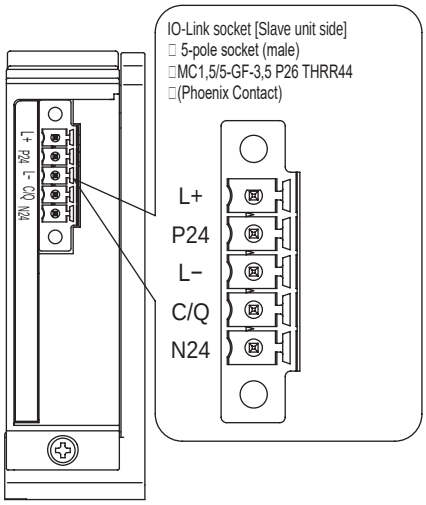
LED name	Display description
RUN	Communication status of PROFINET indicated by LED ON status (ON/blinking)
ERR	Communication abnormal status of PROFINET indicated by LED ON status (ON/blinking)
L/A IN	Status of Ethernet port (IN side) indicated by ON LED status (ON/blinking)
L/A OUT	Status of Ethernet port (OUT side) indicated by LED ON status (ON/blinking)
INFO	Status of slave unit indicated by LED ON status (ON/blinking)
PW	Indicates unit power supply power status. Green lamp ON when powered ON
PW(V)	Indicates valve power supply power status. Green lamp ON when power turned ON (Cannot be monitored when unit power supply is OFF)



Communication plug pin array

Port	Pin	Signal name	Function
IN/OUT	1	TD+	Transmitted data, positive
	2	TD-	Transmitted data, negative
	3	RD+	Received data, positive
	4	Vacant	Vacant

Port	Pin	Signal name	Function
IN/OUT	5	Vacant	Vacant
	6	RD-	Received data, negative
	7	Vacant	Vacant
	8	Vacant	Vacant

Model No.	LED display	Wiring
T8KC*		

LED display description

LED name	Display description
INFO	Green lamp is ON when normal Blinks red when abnormal
COM	OFF: Unit power is not turned ON Green ON: Unit power is ON □□□□(IO-Link communication not implemented) Green blinking: unit power is ON (IO-Link communication)
ST	OFF: No abnormalities Red blinking (low speed): With maintenance Red blinking (high speed): With warning Red light: With error
PW□V□	OFF: Valve power supply not turned ON Green ON: Valve power is ON * Cannot be monitored when the unit power is not turned ON

Switch setting

Output setting during communication error

E SET			Valve output operation in the event of a communication error
4	2	1	
OFF	OFF	OFF	all points OFF
	OFF	ON	All points final output data
	ON	OFF	all points ON
	ON	ON	All points final reception process data
ON	–	–	Operations set above by IO-Link communication for each point

Communication speed setting

COM	Communication speed
2□3	
OFF	COM3
ON	COM2

Note: Wiring connection connectors
If the connector fits the slave unit side connector listed below, it can be used.

	Slave unit side connector model No.	Recommended connector model No. on wiring side (attachment)
T7D (DeviceNet)	MSTB2.5/5-GF-5.08AU Phoenix Contact Corp.	MSTB2.5/5-STF-5.08AUM Phoenix Contact Corp.
T7G (CC-Link) T7L (SAVE NET)	SL5.08/5/90FAU Weidmueller Corp.	BLZP50.8Hc/05/180F SN OR BX Weidmüller Corp.
T7S	XW7D-PB4-R OMRON Corporation	The plug for communication is not attached for this product. [Recommended communication plug] DCN4-BR4 Flat connector plug (without sheath) Manufactured by OMRON Corporation DCN4-TB4 Open connector (terminal box) Manufactured by OMRON Corporation HCN-TB4LMZG-#B10 Open connector (terminal box): 10 pieces included Manufactured by Honda Tsushin Kogyo Co., Ltd. HCN-A4SMUG-#B10 Connector plug (VCTF/flat): 10 pieces included Manufactured by Honda Tsushin Kogyo Co., Ltd. [Recommended connector for multiple wiring] DCN4-MD4 Connector for multiple wiring Manufactured by OMRON Corporation HCN-MD4SAG-#B10 Connector for multiple wiring: 10 pieces included Manufactured by Honda Tsushin Kogyo Co., Ltd.

Model No.		Slave unit side connector model No.	Recommended connector model No. on wiring side (attachment)
T8G** (CC-Link)	Communication	CC2,5/5-GF-5,08P26AUTHR [Phoenix Contact Corp.]	Attachment MSTB 2,5/5-STF-5,08 ABGY AU (1882832) [Phoenix Contact Corp.]
	Power supply	DMC1,5/2-G1F-3,5LRP20THR [Phoenix Contact Corp.]	Attachment DFMC1,5/2-STF-3,5 (1790292) [Phoenix Contact Corp.]
T8P** (PROFIBUS-DP)	Communication	D-SUB9 Pin (#4-40UNC: With inch type flange)	Communication plug is not attached with this product. Recommended plug for communication SUBCON-PLUS-PROFIBUS/SC2 (2708232) [Phoenix Contact Corp.] SUBCON-PLUS-PROFIBUS/AX/SC (2744380) [Phoenix Contact Corp.]
	Power supply	DMC1,5/2-G1F-3,5LRP20THR [Phoenix Contact Corp.]	Attachment DFMC1,5/2-STF-3,5 (1790292) [Phoenix Contact Corp.]
T8EC** (EtherCAT)	Communication	RJ45 connector (8 Pin × 2 port)	Communication plug is not attached with this product. Cable with recommended plug attached IETP-SB-S***□ (Shield grounding on both ends) [JMACS] ***: Cable length, □: Unit M=meter C=centimeter
	Power supply	DMC1,5/2-G1F-3,5LRP20THR [Phoenix Contact Corp.]	Attachment DFMC1,5/2-STF-3,5 (1790292) [Phoenix Contact Corp.]
T8EN** (EtherNet/IP)	Communication	RJ45 connector (8 Pin × 2 port)	Communication plug is not attached with this product. Cable with recommended plug attached IETP-SB-S***□ (Shield grounding on both ends) [JMACS] ***: Cable length, □: Unit M=meter C=centimeter
	Power supply	DMC1,5/2-G1F-3,5LRP20THR [Phoenix Contact Corp.]	Attachment DFMC1,5/2-STF-3,5 (1790292) [Phoenix Contact Corp.]
T8D** (DeviceNet)	Communication	CC 2,5/ 5-GF-5,08 P26 AUTHRR56 [Phoenix Contact Corp.]	Attachment MSTB2, 5/5-STF-5, 08AUM [Phoenix Contact Corp.]
	Power supply	DMC 1,5/2-G1F-3,5-LRP20THRR44 [Phoenix Contact Corp.]	Attachment DFMC1, 5/2-STF-3, 5 [Phoenix Contact Corp.]
T8EB** (CC-Link IEF Basic)	Communication	RJ45 connector (8 pin x 2-port)	Communication plug is not included with this product. Cable with recommended plug IETP-SB-S***□ (both ends shielded ground) [JMACS] ***: Length □: Unit M = meter C = centimeter
	Power supply	DMC 1,5/2-G1F-3,5-LRP20THRR44 [Phoenix Contact Corp.]	Attachment DFMC1, 5/2-STF-3, 5[Phoenix Contact Corp.]
T8EF** (CC-Link IE Field)	Communication	RJ45 connector (8 pin x 2-port)	Communication plug is not attached with this product. Cable with recommended plug □ IETP-SB-S**** (Both end shield ground) [JMACS] ***: Length □: Unit M = meter C = centimeter
	Power supply	DMC 1,5/2-G1F-3,5-LRP20THRR44 [Phoenix Contact Corp.]	Attachment DFMC1, 5/2-STF-3, 5 [Phoenix Contact Corp.]
T8EP** (PROFINET)	Communication	RJ45 connector (8 pin x 2-port)	Communication plug is not included with this product. Cable with recommended plug IETP-SB-S***□ (both ends shielded ground) [JMACS] ***: Length □: Unit M = meter C = centimeter
	Power supply	DMC 1,5/2-G1F-3,5-LRP20THRR44 [Phoenix Contact Corp.]	Attachment DFMC1, 5/2-STF-3, 5 [Phoenix Contact Corp.]
T8KC** (IO-Link)	Communication	RJ45 connector (□ pin x □-port)	Communication plug is not attached with this product. Cable with recommended plug □ IETP-SB-S**** (Both end shield ground) [JMACS] ***: Length □: Unit M = meter C = centimeter
	Power supply	MC1,5/5-GF-3,5P26 THRR44 [Phoenix Contact Corp.]	Accessories □FK-MCP1, 5/5-STF-3, 5 [Phoenix Contact Corp.]

MEMO

M4G (metal base manifold)

* Refer to page 738 for MN4G (block manifold).

Pattern 1 Expansion to the position where preparatory wiring is equipped with

The masking plate at the planned expansion position is equipped with preparatory wiring beforehand. For the valve expansion method when preparatory wiring is equipped with, follow the steps below.

❶ Remove the preparatory socket from the masking plate.

❷ Remove the masking plate from the base.

❸ Mount the valve for expansion and assemble the socket.

Pattern 2 Expansion to the position where no preparatory wiring is equipped with

When changing the single to the double, additional internal wiring to the b side solenoid for expansion is required. For the valve expansion method when no preparatory wiring is equipped with, follow the steps below.

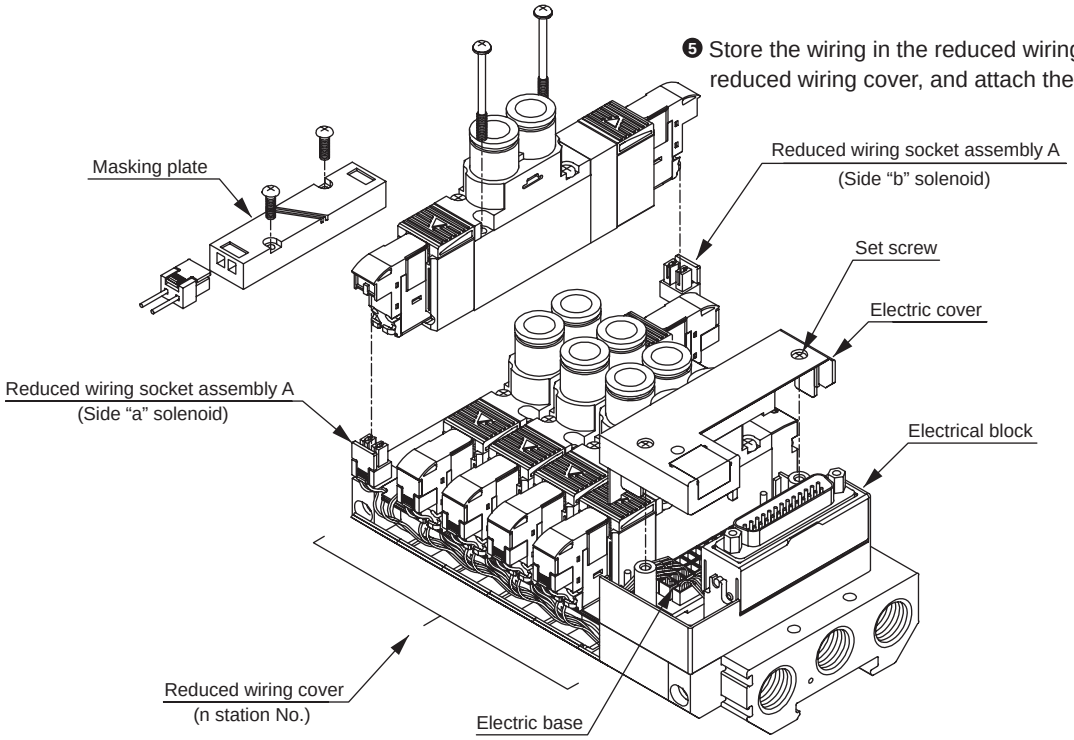
❶ Remove the electric cover and open the reduced wiring cover.

❷ Exchange the valve at the change position. Exchange the solenoid for the a side solenoid.

❸ Attach the socket for the b side solenoid (separately purchased). Pass the wiring through the valve and pull it out to the a side.

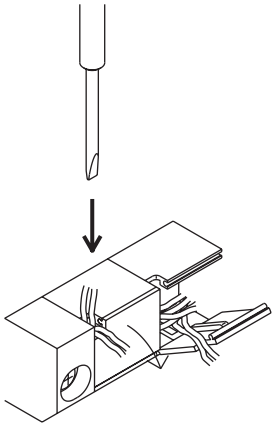
❹ Route the wire to inside of the electric block and insert the connector to the electric base.

❺ Store the wiring in the reduced wiring cover, close the reduced wiring cover, and attach the electric cover.



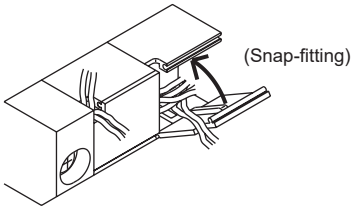
How to open and close the reduced wiring cover

How to open the reduced wiring cover



Catch the cable through hole of the reduced wiring cover with precision screw driver, etc. and open the cover. Do not use a pointed tool so as not to damage the cable while catching the hole.

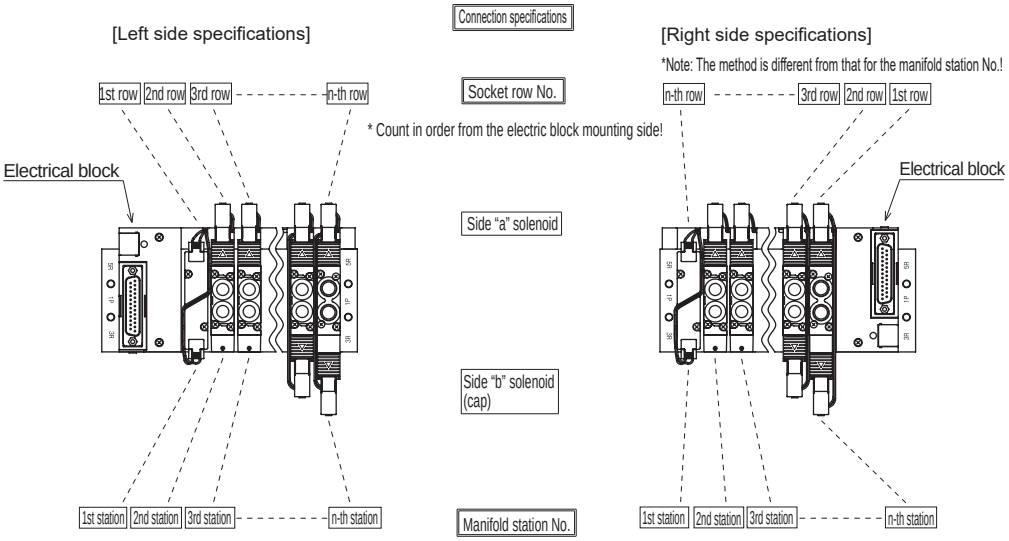
How to close the reduced wiring cover



Pass the cable through the cable-through hole of the reduced wiring cover and close the cover. Be careful about line bite of cable, and close the cover until it clicks into place.

Selection of expansion socket assembly

For the socket assembly for expansion, specify a cable with appropriate length corresponding to the expansion position. Incorrect selection could cause disconnection or line bite of cable.
For A type socket assembly model No., the expansion positions are set in order from the electric block mounting side. Be careful that this method is different from setting method for the manifold valve station Nos. which are set in order from left with the b side solenoid facing forward.

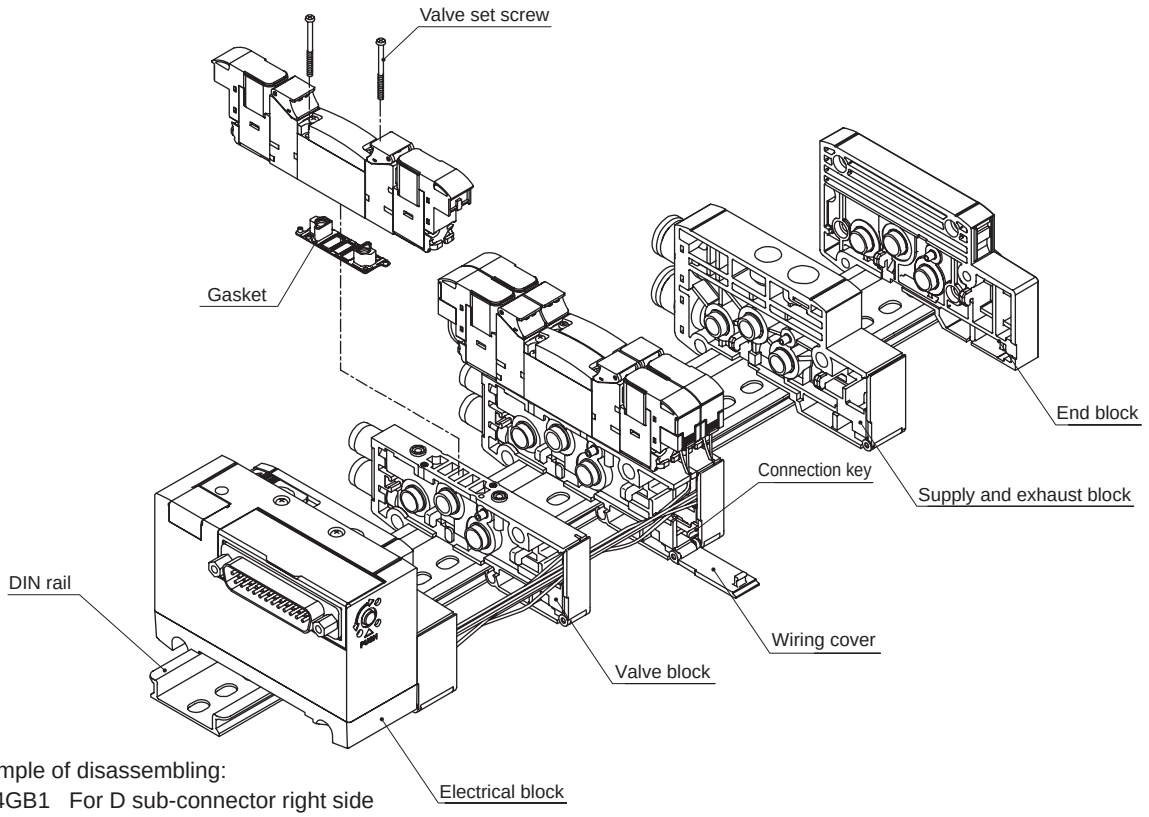


Note
1. The same for T50/T51

Model No. of socket assembly for expansion
A type connector socket assembly
4G *1 R - SOCKET- ASSY- A *2 *3 - *4

*1: Series		*2: Connection specifications		*3: Solenoid position		*4: Number of socket row	
1	4G1	Blank	Left	A	a side	1	1st row
2	4G2	R	Right	B	b side	to	to
3	4G3					24	24th row

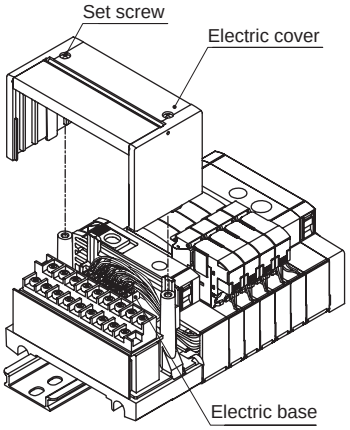
MN4G (exploded view of block manifold)



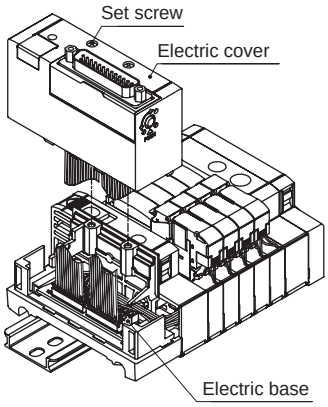
Example of disassembling:
MN4GB1 For D sub-connector right side wiring specifications

Removing the electric cover

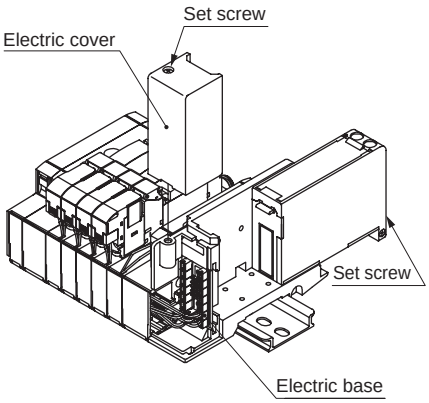
T10R/T11R



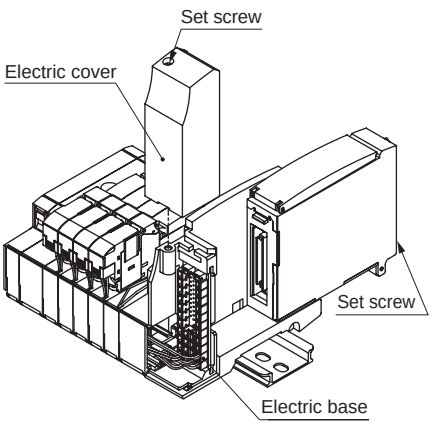
T30R/T5*R



T7*



T8*



Replacing valves

Removing method
(1) Remove the socket (signal line).
(2) Loosen the set screws (2 positions).
(3) Remove the valve from the valve block.

Mounting method
Perform the reverse order of removing.
Refer to the right table below for the recommended tightening torque for the set screw.

Note) Different valve blocks are used for single wiring (V1) and double wiring (V2) respectively. Accordingly, when changing from single to double or from double to single, exchange the whole of discrete valve block with solenoid valve.

Recommended tightening torque for the valve set screw

	Size	Recommended tightening torque (N·m)
4G1	M1.7	0.18 to 0.22
4G2	M2.5	0.35 to 0.40

Increasing the valve blocks

(1) Loosen the DIN rail fixing screws.
(2) Open the reduced wiring cover
(3) Pull the connection key of where the manifold to be increased, and remove the connection between blocks.
(4) Remove the cover of the electric block to expose the electric base. (Removing the electric cover)
(5) Connect (*2) the signal wire (socket assembly) (*1) to electrical base, and mount the signal wire to valve block. (Fig. 1)
*1 [Refer to Selection of expansion socket assembly below.]
*2 [Refer to pages 740 to 743 for instructions on connecting to the electric base.]
(6) Mount the valve block to be added to the DIN rail. (Fig. 2)
(7) Press and connect so that there is no gap between blocks, and press the key.
(8) Close wiring cover and tighten electrical block cover, while taking care not to catch signal wires. (tightening torque: 0.35 to 0.50 N·m)
(9) Push the operation button to the direction indicated by the arrow. The built-in DIN rail fixing brackets slide to the fixed position.
(10) While holding down so that there is no gap between blocks, tighten DIN rail set screws. At this time, make sure that the operation button locates on the fixing side. (recommended tightening torque 1.2 to 1.6 N·m)
* Up to 2 stations can be expanded before the furthest position from the wiring block.

Fig. 1

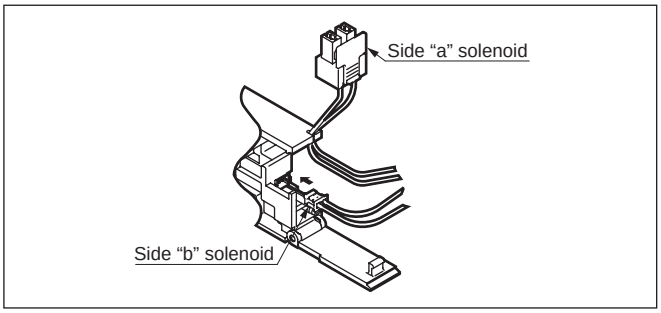
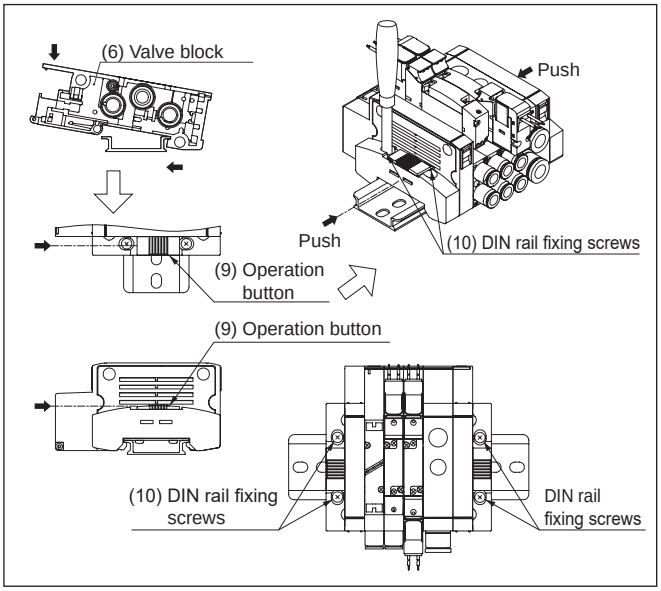


Fig. 2



Selection of expansion socket assembly

Calculate the distance W between the expansion position and the electrical block (Fig. 3), and select a cable of an appropriate length from [Table 1].
Be careful that the required socket assembly differs between a side solenoid and b side solenoid. Although Fig. 3 shows the electric block with left side specifications, similarly calculate the distance W between the expansion position and the electric block for the right side specifications.

Calculation of W

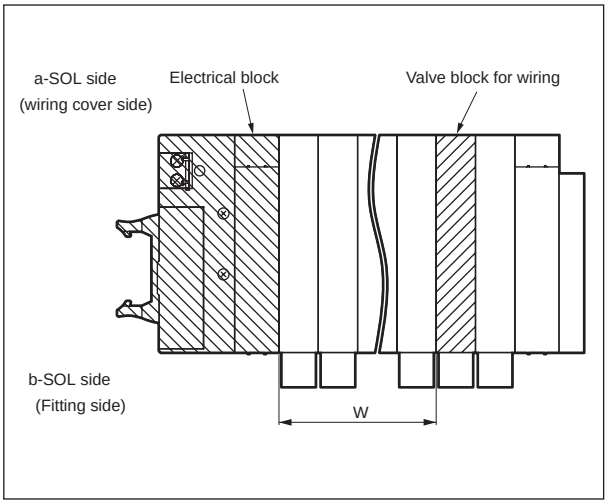
• MN4G1
W = (10.5 × n) + (16 × m) + (10.5 × l)

• MN4G2
W = (16 × n) + (18 × m) + (10.5 × l)
n: Number of valve blocks m: Number of supply and exhaust blocks
l: Number of partition blocks

• MN4GX
Calculate W using the mix block width of 16.

[Model No. of socket assembly for expansion]
For a side solenoid
N4GR - SOCKET - ASSY - A - Selection No.
For b side solenoid
N4GR - RELAY - SOCKET - Selection No.

Fig. 3



[Table 1] W length - selection No. compatibility table

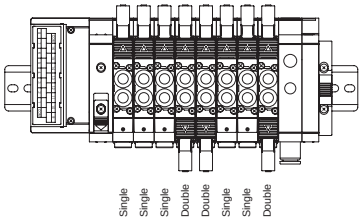
Selection No.	Type of wiring		
	T10/11 (R)	T30/5*/6* (R)	T7*/T8*
2		0	25 or less
3	20 or less	Over 0 to 30	Over 25 to 55
4	Over 20 to 70	Over 30 to 80	Over 55 to 105
5	Over 70 to 120	Over 80 to 130	Over 105 to 155
6	Over 120 to 170	Over 130 to 180	Over 155 to 205
7	Over 170 to 260	Over 180 to 270	Over 205 to 295
8	Over 260 to 350	Over 270 to 360	Over 295 to 385
9	Over 350 to 450	Over 360 to 460	Over 385 to 485
10	Over 450 to 570	Over 460 to 580	Over 485 to 605

Instructions for connecting electric base (standard wiring)

The corresponding rules for connector and valve on the electric base vary depending on the reduced wiring specifications (T10, T11, T30, T50, T51, T52, T53, T6*, T7*, T8*). For connector wiring, check the connector No. printed on the base.

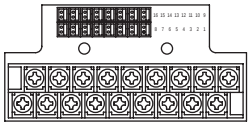
For wiring of mix (consolidation), the manifold configuration as shown in the right figure is indicated as an example.

⊙ Manifold configuration (Example)

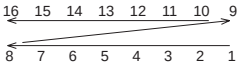


T10

Electric circuit board assembly



Wire in order of arrow



Compatibility with valves

1) For single SOL only (MF station No. up to 16 stations)

Terminal block No.	16	15	14	13	12	11	10	9
Valve No.	16a	15a	14a	13a	12a	11a	10a	9a
Terminal block No.	8	7	6	5	4	3	2	1
Valve No.	8a	7a	6a	5a	4a	3a	2a	1a

2) For double SOL only (MF station No. up to 8 stations)

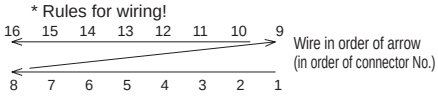
Terminal block No.	16	15	14	13	12	11	10	9
Valve No.	8b	8a	7b	7a	6b	6a	5b	5a
Terminal block No.	8	7	6	5	4	3	2	1
Valve No.	4b	4a	3b	3a	2b	2a	1b	1a

Wire in order of arrow

3) For mix (consolidation) (solenoid No. up to 16 positions)

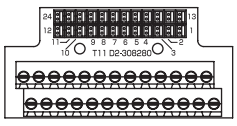
Terminal block No.	16	15	14	13	12	11	10	9
Valve No.	(Void)	(Void)	(Void)	(Void)	(Void)	8b	8a	7a
Terminal block No.	8	7	6	5	4	3	2	1
Valve No.	6a	5b	5a	4b	4a	3a	2a	1a

* Rules for wiring!

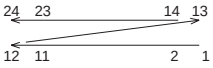


T11

Electric circuit board assembly



Wire in order of arrow



Compatibility with valves

1) For single SOL only (MF station No. up to 24 stations)

Connector No.	24	23	22	21	20	19	18	17	16	15	14	13
Valve No.	24a	23a	22a	21a	20a	19a	18a	17a	16a	15a	14a	13a
Connector No.	12	11	10	9	8	7	6	5	4	3	2	1
Valve No.	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a

2) For double SOL only (MF station No. up to 12 stations)

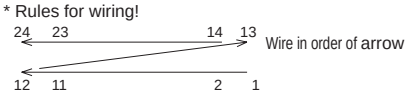
Connector No.	24	23	22	21	20	19	18	17	16	15	14	13
Valve No.	12b	12a	11b	11a	10b	10a	9b	9a	8b	8a	7b	7a
Connector No.	12	11	10	9	8	7	6	5	4	3	2	1
Valve No.	6b	6a	5b	5a	4b	4a	3b	3a	2b	2a	1b	1a

Wire in order of arrow

3) For mix (consolidation) (solenoid No. up to 24 positions)

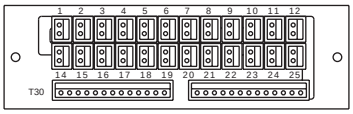
Connector No.	24	23	22	21	20	19	18	17	16	15	14	13
Valve No.	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)
Connector No.	12	11	10	9	8	7	6	5	4	3	2	1
Valve No.	(Void)	8b	8a	7a	6a	5b	5a	4b	4a	3a	2a	1a

* Rules for wiring!



T30

Electric circuit board assembly



Wire in order of arrow

Compatibility with valves

1) For single SOL (MF station No. up to 24 stations)

Connector No.	1	2	3	4	5	6	7	8	9	10	11	12
Valve No.	1a	3a	5a	7a	9a	11a	13a	15a	17a	19a	21a	23a
Connector No.	14	15	16	17	18	19	20	21	22	23	24	25
Valve No.	2a	4a	6a	8a	10a	12a	14a	16a	18a	20a	22a	24a

2) For double SOL (MF station No. up to 12 stations)

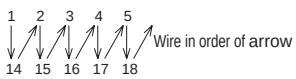
Connector No.	1	2	3	4	5	6	7	8	9	10	11	12
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a
Connector No.	14	15	16	17	18	19	20	21	22	23	24	25
Valve No.	1b	2b	3b	4b	5b	6b	7b	8b	9b	10b	11b	12b

Wire in order of arrow

3) For mix (consolidation) (solenoid No. up to 24 positions)

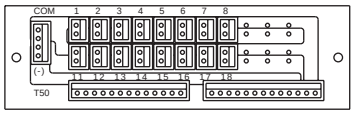
Connector No.	1	2	3	4	5	6	7	8	9	10	11	12
Valve No.	1a	3a	4b	5b	7a	8b	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)
Connector No.	14	15	16	17	18	19	20	21	22	23	24	25
Valve No.	2a	4a	5a	6a	8a	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)

* Rules for wiring!

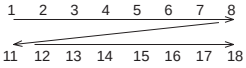


T50/T6G1

Electric circuit board assembly



Wire in order of arrow



Compatibility with valves

1) For single SOL (MF station No. up to 16 stations)

Connector No.	1	2	3	4	5	6	7	8
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a
Connector No.	11	12	13	14	15	16	17	18
Valve No.	9a	10a	11a	12a	13a	14a	15a	16a

2) For double SOL (MF station No. up to 8 stations)

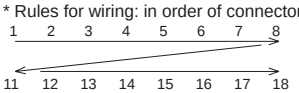
Connector No.	1	2	3	4	5	6	7	8
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b
Connector No.	11	12	13	14	15	16	17	18
Valve No.	5a	5b	6a	6b	7a	7b	8a	8b

Wire in order of arrow

3) For mix (consolidation) (solenoid No. up to 16 positions)

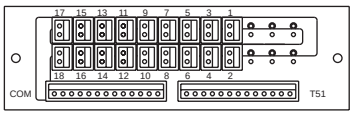
Connector No.	1	2	3	4	5	6	7	8
Valve No.	1a	2a	3a	4a	4b	5a	5b	6a
Connector No.	11	12	13	14	15	16	17	18
Valve No.	7a	8a	8b	(Void)	(Void)	(Void)	(Void)	(Void)

* Rules for wiring: in order of connector No.!

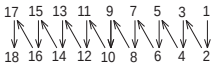


T51

Electric circuit board assembly



Wire in order of arrow



Compatibility with valves

1) For single SOL (MF station No. up to 18 stations)

Connector No.	17	15	13	11	9	7	5	3	1
Valve No.	17a	15a	13a	11a	9a	7a	5a	3a	1a
Connector No.	18	16	14	12	10	8	6	4	2
Valve No.	18a	16a	14a	12a	10a	8a	6a	4a	2a

2) For double SOL (MF station No. up to 9 stations)

Connector No.	17	15	13	11	9	7	5	3	1
Valve No.	9a	8a	7a	6a	5a	4a	3a	2a	1a
Connector No.	18	16	14	12	10	8	6	4	2
Valve No.	9b	8b	7b	6b	5b	4b	3b	2b	1b

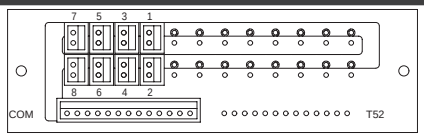
3) For mix (consolidation) (solenoid No. up to 18 positions)

Connector No.	17	15	13	11	9	7	5	3	1
Valve No.	(Void)	(Void)	(Void)	8b	7a	5b	4b	3a	1a
Connector No.	18	16	14	12	10	8	6	4	2
Valve No.	(Void)	(Void)	(Void)	(Void)	8a	6a	5a	4a	2a

* Rules for wiring!
Wire in order of arrow (in order of connector No.)

T52

Electric circuit board assembly



Wire in order of arrow

Compatibility with valves

1) For single SOL (MF station No. up to 8 stations)

Connector No.	7	5	3	1
Valve No.	7a	5a	3a	1a
Connector No.	8	6	4	2
Valve No.	8a	6a	4a	2a

2) For double SOL (MF station No. up to 4 stations)

Connector No.	7	5	3	1
Valve No.	4a	3a	2a	1a
Connector No.	8	6	4	2
Valve No.	4b	3b	2b	1b

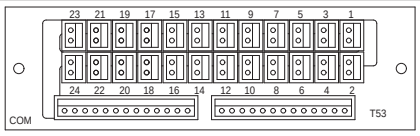
3) For mix (consolidation) (solenoid No. up to 8 positions)

Connector No.	7	5	3	1
Valve No.	5b	4b	3a	1a
Connector No.	8	6	4	2
Valve No.	6a	5a	4a	2a

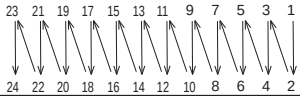
* Rules for wiring!
Wire in order of arrow (in order of connector No.)

T53

Electric circuit board assembly



Wire in order of arrow



Compatibility with valves

1) For single SOL (MF station No. up to 24 stations for MN4G1 and up to 20 stations for MN4G2)

Connector No.	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	23a	21a	19a	17a	15a	13a	11a	9a	7a	5a	3a	1a
Connector No.	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	24a	22a	20a	18a	16a	14a	12a	10a	8a	6a	4a	2a

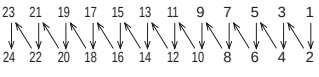
2) For double SOL (MF station No. up to 12 stations)

Connector No.	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Connector No.	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	12b	11b	10b	9b	8b	7b	6b	5b	4b	3b	2b	1b

3) For mix (consolidation) (solenoid No. up to 24 positions)

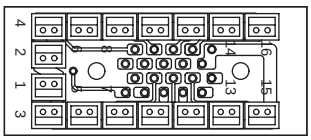
Connector No.	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	8b	7a	5b	4b	3a	1a
Connector No.	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	8a	6a	5a	4a	2a

* Rules for wiring!
Wire in order of arrow (in order of connector No.)

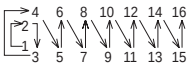


T7*

Electric circuit board assembly



Wire in order of arrow



Compatibility with valves

1) For single SOL only (MF station No. up to 16 stations)

Connector No.	2	4	6	8	10	12	14	16
Valve No.	2a	4a	6a	8a	10a	12a	14a	16a
Connector No.	1	3	5	7	9	11	13	15
Valve No.	1a	3a	5a	7a	9a	11a	13a	15a

2) For double SOL only (MF station No. up to 8 stations)

Connector No.	2	4	6	8	10	12	14	16
Valve No.	1b	2b	3b	4b	5b	6b	7b	8b
Connector No.	1	3	5	7	9	11	13	15
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a

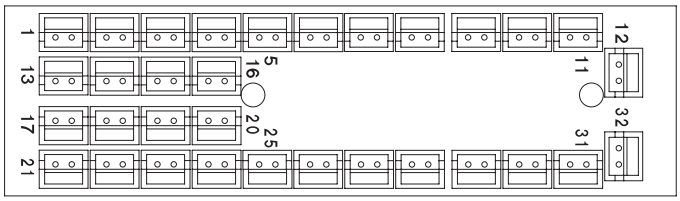
3) For mix (consolidation) (solenoid No. up to 16 positions)

Connector No.	2	4	6	8	10	12	14	16
Valve No.	2a	4a	5a	6a	8a	(Void)	(Void)	(Void)
Connector No.	1	3	5	7	9	11	13	15
Valve No.	1a	3a	4b	5b	7a	8b	(Void)	(Void)

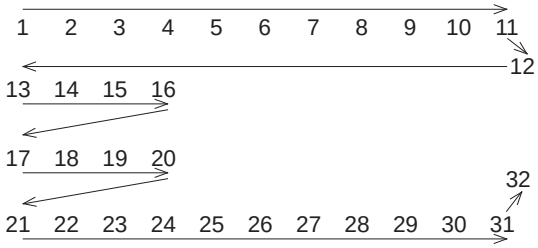
* Rules for wiring!
Wire in order of arrow (in order of connector No.)

T8*

Electric circuit board assembly



Wire in order of arrow



Compatibility with valves

1) For single SOL only (MF station No. up to 24 stations for MN4G1 and up to 20 stations for MN4G2)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a	13a	14a	15a	16a
Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Valve No.	17a	18a	19a	20a	21a	22a	23a	24a	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)

2) For double SOL only (MF station No. up to 16 stations)

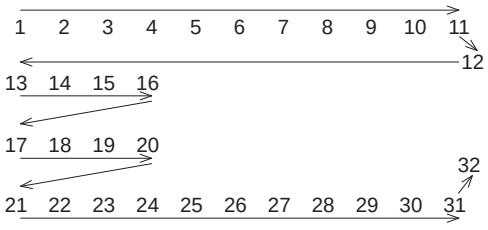
Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b
Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Valve No.	9a	9b	10a	10b	11a	11b	12a	12b	13a	13b	14a	14b	15a	15b	16a	16b

3) For mix (consolidation) (solenoid No. up to 32 positions)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Valve No.	1a	2a	3a	4a	4b	5a	5b	6a	7a	8a	8b	(Void)	(Void)	(Void)	(Void)	(Void)
Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Valve No.	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)

Wire in order of arrow

* Rules for wiring!



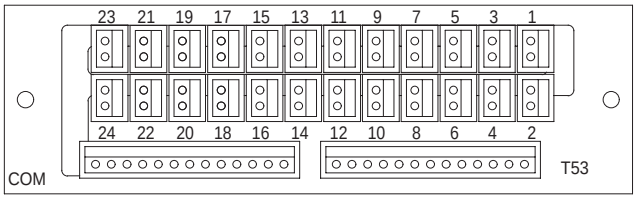
Wire in order of arrow
(in order of connector No.)

Instructions for connecting electric base (double wiring)

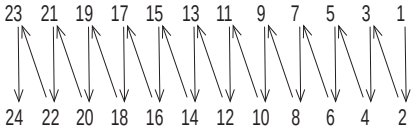
The double wiring specifications correspond to the wiring of the double solenoid not depending on the switching position classification of solenoid valve to be mounted. Accordingly, the standard wiring and the double SOL only of double wiring have the same wiring. As an example, T53 is shown in the figure below. Refer to this example.

T53 (example)

Electric circuit board assembly



Wire in order of arrow



Compatibility with valves

1) For single SOL (MF station No. up to 12 stations)

Connector No.	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Connector No.	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)

2) For double SOL (MF station No. up to 12 stations)

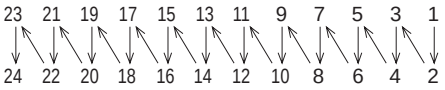
Connector No.	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Connector No.	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	12b	11b	10b	9b	8b	7b	6b	5b	4b	3b	2b	1b

Wire in order of arrow

3) For mix (consolidation) (solenoid No. up to 24 positions)

Connector No.	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	(Void)	(Void)	(Void)	(Void)	8a	7a	6a	5a	4a	3a	2a	1a
Connector No.	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	(Void)	(Void)	(Void)	(Void)	8b	(Void)	(Void)	5b	4b	(Void)	(Void)	(Void)

* Rules for wiring!
Wire in order of arrow
(in order of connector No.)



(1) The cylinder average speed is obtained from the combination of 4G series and piping system. It is expressed as the cylinder's piston speed calculated by dividing the stroke length by the time that the piston rod takes from start to end of movement with the cylinder rod installed facing upward. When the load factor is 50%, the average speed should be approximately the cylinder's piston speed multiplied by 0.5.
(2) The cylinder average speed described in "Pneumatic system device selection guide" is that when one cylinder is operated alone.
(3) Effective cross-sectional area of the solenoid valve used for calculation in table below is a value at 2-position.
(4) This selection guide should be used as a guideline. Make sure your actual use conditions and refer to our sizing program for details.
(5) Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.

Standard system list 4G (metal base)

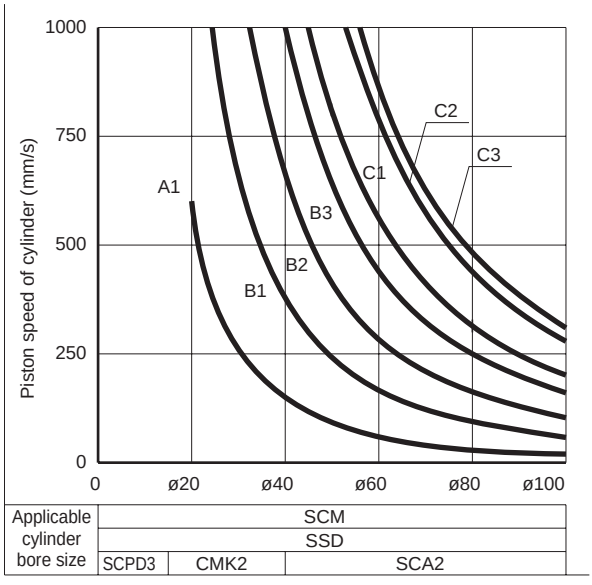
* Refer to page 746 for MN4G (block manifold).

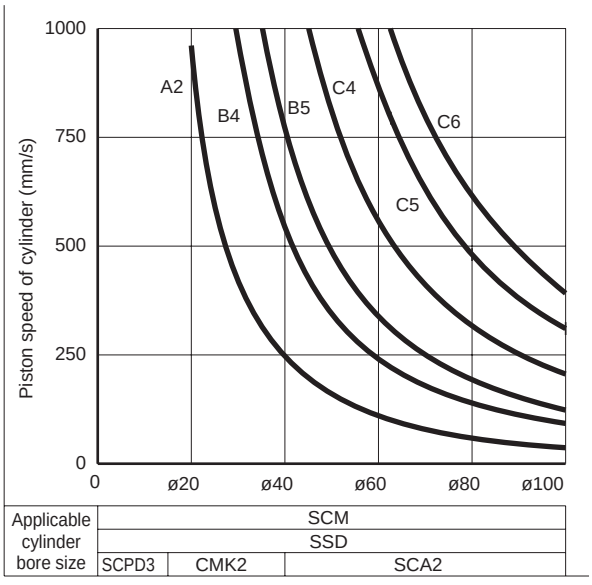
[Discrete]

Series	Body piping					
	Model No.	System No.	Speed controller	Silencer	Piping	Combined effective cross-sectional area (mm^2) Pipe length 1 m
4G1	4GA110R-C4	A1	SC3W-M5-4	SLM-M5	ø4 × ø2.5	1.0
	4GA110R-C6	B1	SC1-6	SLM-M5	ø6 × ø4	2.5
4G2	4GA210R-C6	B2	SC1-6	SLW-6S	ø6 × ø4	4.3
	4GA210R-C8	B3	SC1-8	SLW-6S	ø8 × ø5.7	6.5
4G3	4GA310R-C8	C1	SC1-8	SLW-8S	ø8 × ø5.7	8.3
	4GA310R-C10	C2	SC1-10	SLW-8S	ø10 × ø7.2	11.6
	4GA310R-C10	C3	SC1-15	SLW-8S	ø10 × ø7.2	12.7

Series	Base piping					
	Model No.	System No.	Speed controller	Silencer	Piping	Combined effective cross-sectional area (mm^2) Pipe length 1 m
4G1	4GB110R-06	A2	SC3W-6-4	SLW-6S	ø4 × ø2.5	1.6
	4GB110R-06	B4	SC1-6	SLW-6S	ø6 × ø4	3.6
4G2	4GB210R-08	B5	SC1-8	SLW-8S	ø6 × ø4	5.0
	4GB210R-08	C4	SC1-10	SLW-8S	ø8 × ø5.7	8.3
4G3	4GB310R-10	C5	SC1-10	SLW-10L	ø10 × ø7.2	12.6
	4GB310R-10	C6	SC1-15	SLW-10L	ø12 × ø8.9	15.9

* System Nos. are indicated in the graph below.

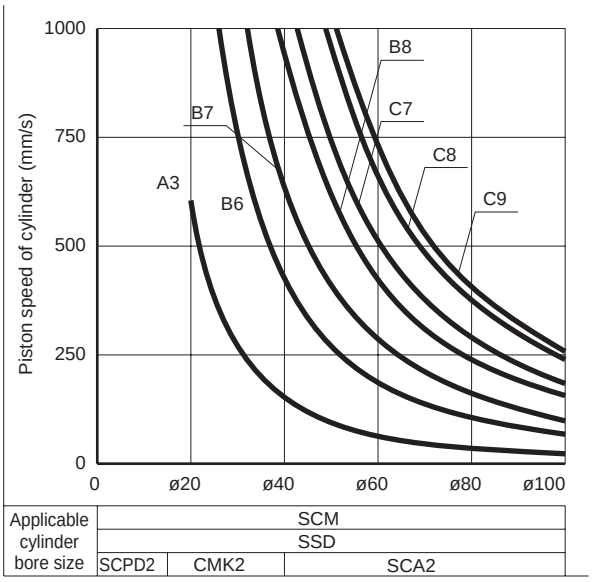




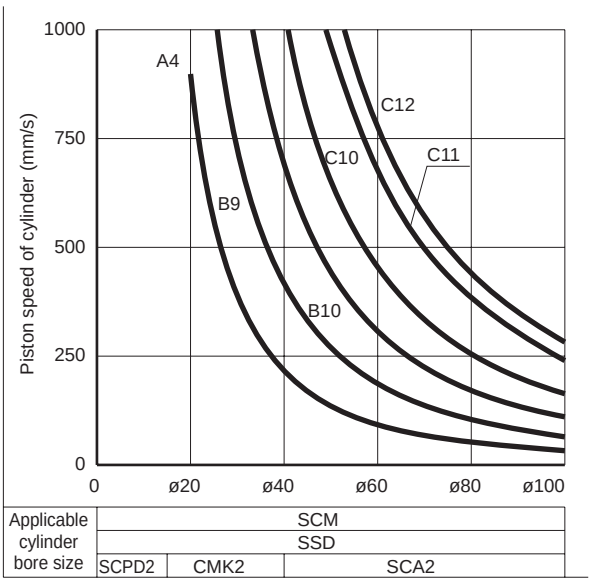
[Manifold] (With internal exhaust check valve)

Series	Body piping					
	Model No.	System No.	Speed controller	Silencer	Piping	Combined effective cross-sectional area (mm^2) Pipe length 1 m
4G1	M4GA110R-C4	A3	SC3W-M5-4	SLW-6S	ø4 × ø2.5	1.0
	M4GA110R-C6	B6	SC1-6	SLW-6S	ø6 × ø4	2.8
4G2	M4GA210R-C6	B7	SC1-6	SLW-8S	ø6 × ø4	4.2
	M4GA210R-C8	B8	SC1-8	SLW-8S	ø8 × ø5.7	6.2
4G3	M4GA310R-C8	C7	SC1-8	SLW-10L	ø8 × ø5.7	7.5
	M4GA310R-C10	C8	SC1-10	SLW-10L	ø10 × ø7.2	9.8
	M4GA310R-C10	C9	SC1-15	SLW-10L	ø10 × ø7.2	10.5
Series	**Base piping**					
	Model No.	**System No.**	**Speed controller**	**Silencer**	**Piping**	**Combined effective cross-sectional area (mm^2) Pipe length 1 m**
4G1	M4GB110R-C4	A4	SC3W-6-4	SLW-6S	ø4 × ø2.5	1.5
	M4GB110R-C6	B9	SC1-6	SLW-6S	ø6 × ø4	2.8
4G2	M4GB210R-C6	B10	SC1-8	SLW-8S	ø6 × ø4	4.6
	M4GB210R-C8	C10	SC1-10	SLW-8S	ø8 × ø5.7	6.7
4G3	M4GB310R-C10	C11	SC1-10	SLW-10L	ø10 × ø7.2	10.0
	M4GB310R-C10	C12	SC1-15	SLW-10L	ø12 × ø8.9	11.5

* System No. are indicated in the graph below.



Applicable cylinder bore size	SCM		
	SSD		
	SCPD2	CMK2	SCA2



Applicable cylinder bore size	SCM		
	SSD		
	SCPD2	CMK2	SCA2

Standard system list **MN4G (block manifold)** (With internal exhaust check valve)

1. Common exhaust

Series	Solenoid valve port size	System No.	Speed controller	Cylinder piping pipe length 1 m	Common exhaust piping	Combined effective cross-sectional area (mm²)
MN4G1	C4	A1	SC3W-M5-4	ø4 × ø2.5	ø6 × ø4 × 3 m	1.0
	C4	A2	SC3W-6-4	ø4 × ø2.5	ø6 × ø4 × 3 m	1.4
	C6	B1	SC1-6	ø6 × ø4	ø8 × ø5.7 × 3 m	2.7
MN4G2	C6	B2	SC1-6	ø6 × ø4	ø8 × ø5.7 × 3 m	3.8
	C8	B3	SC1-8	ø8 × ø5.7	ø10 × ø7.2 × 3 m	5.9

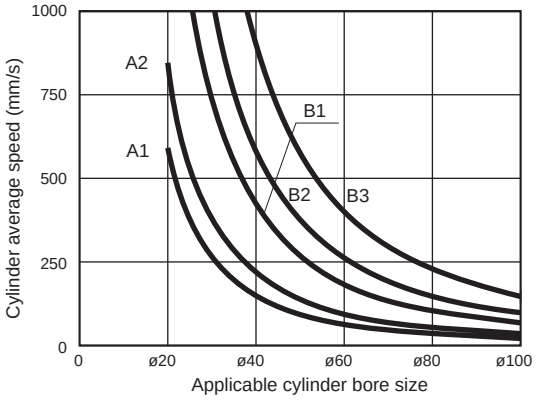
2. Open atmospheric exhaust (with exhaust muffler built-in)

Series	Solenoid valve port size	System No.	Speed controller	Cylinder piping pipe length 1 m	End block	Combined effective cross-sectional area (mm²)
MN4G1	C4	A3	SC3W-M5-4	ø4 × ø2.5	N4G1-EX	1.0
	C4	A4	SC3W-6-4	ø4 × ø2.5		1.5
	C6	B4	SC1-6	ø6 × ø4		2.9
MN4G2	C6	B5	SC1-6	ø6 × ø4	N4G2-EX	4.2
	C8	B6	SC1-8	ø8 × ø5.7		5.9

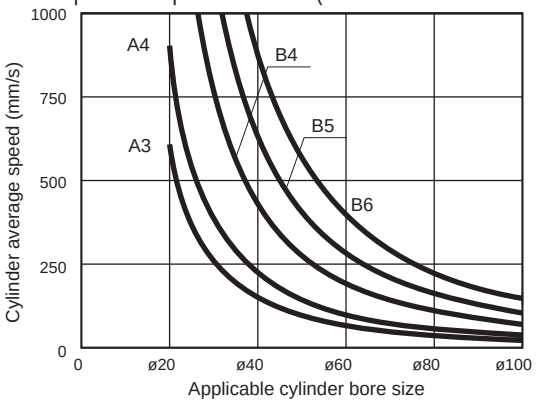
3. Exhaust with silencer attached

Series	Model No.	System No.	Speed controller	Cylinder piping pipe length 1 m	Silencer	Combined effective cross-sectional area (mm²)
MN4G1	C4	A5	SC3W-M5-4	ø4 × ø2.5	SLW-H6	1.0
	C4	A6	SC3W-6-4	ø4 × ø2.5	SLW-H6 SLW-H8	1.5
	C6	B7	SC1-6	ø6 × ø4		2.7
MN4G2	C6	B8	SC1-6	ø6 × ø4	SLW-H8 SLW-H10	3.8
	C8	B9	SC1-8	ø8 × ø5.7		6.0

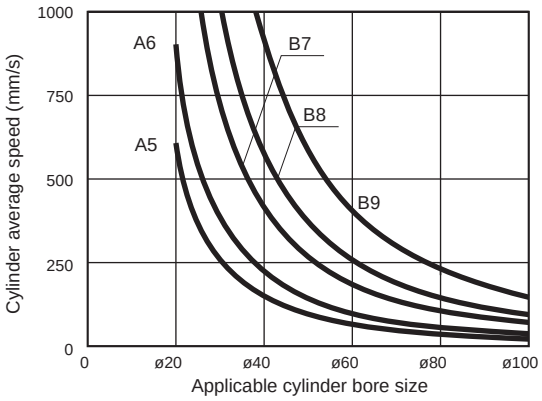
1. Common exhaust



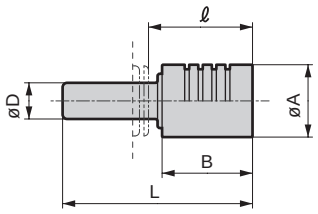
2. Open atmospheric exhaust (with exhaust muffler built-in)



3. Exhaust with silencer attached



● Silencer



Model No.	D	L	A	B	ℓ
SLW-H6	ø6	41	16	20	23.5
SLW-H8	ø8	42	16	20	23
SLW-H10	ø10	53	20	27	31.5

The device selection guide is useful to make a rough selection of suitable device models.

● Selecting control device

It is assumed that the inside diameter of the cylinder tube to be used and how fast the cylinder operates are predefined as operating conditions. Use the table below as a guideline, select a value of theoretical reference speed of the cylinder.

Cylinder speed mode	Theoretical reference speed (mm/s)
Low speed	250
Medium speed	500
High speed	750
Ultrahigh speed	1,000

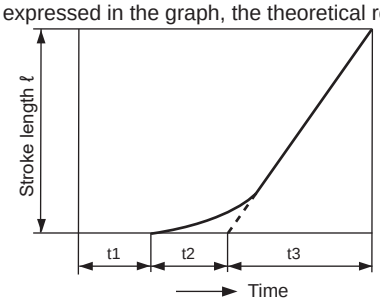
Refer to the tables shown in the device selection guide-1 (pages 748, 749), select an inside diameter of the cylinder tube and a standard system No. suitable for the theoretical reference speed.

● Theoretical reference speed: Indicates a level of cylinder speed and is expressed by the following equation. (This value approximately equals to the speed with no load applied. Adding a load will significantly lower the speed.)

$$vo = 1920 \times \frac{S}{A} = 2445 \times \frac{S}{D^2} \quad \text{(1)}$$

vo : Theoretical reference speed (mm/s)
A : Cylinder cross-sectional area (cm^2)
S : Combined effective cross-sectional area of the circuit (exhaust side) (mm^2)
D : Cylinder bore (cm)

As expressed in the graph, the theoretical reference speed is a speed in the range of uniform motion.



$$vo = \frac{\ell}{t3} \text{ (mm/s)}$$

t1 : Time period until start moving
t2 : Time period of primary delay
t3 : Time period in uniform motion
ℓ : Stroke length

● Note: t1 and t2 change in accordance with the load. With no load applied, this change can be almost neglected.

● Required flow rate: An instantaneous flow rate observed when the cylinder operates at the speed of *vo*, described in the tables below. In the tables, the values are obtained at P = 0.5 MPa. A value of required flow rate is required when selecting clean air system components.

$$Q = \frac{Avo\,(P + 0.101) \times 60}{0.101 \times 10^4} \quad \text{(2)}$$

Q: Required flow rate (ℓ/min) (ANR)
P: Supply pressure (MPa)

● Required effective cross-sectional area: A combined effective cross-sectional area for the exhaust side circuit, which required to operate the cylinder at the speed of *vo*. (combined effective cross-sectional area of solenoid valve, speed controller, silencer and piping) Effective cross-sectional area S and sonic conductance C are converted as S ≒ 5.0 ×C.

● Suitable standard system: A most suitable combination of solenoid valve, speed controller, silencer and pipe diameter when operating the cylinder at the speed of *vo*. Combinations described in the tables are applicable for the pipe length of 1 m.

Based on the actual units, required flow rate: Q is expressed by the following equations:

$\frac{P_2 + 0.1}{P_1 + 0.1} \leq b$, then the choke flow is expressed by

$$Q = 600 \times C\,(P_1 + 0.1)\sqrt{\frac{293}{273 + t}} \quad \cdots\cdots\cdots\cdots \text{(1)}$$

$\frac{P_2 + 0.1}{P_1 + 0.1} > b$, then the subsonic flow is expressed by

$$Q = 600 \times C\,(P_1 + 0.1)\sqrt{1 - \left(\frac{\frac{P_2 + 0.1}{P_1 + 0.1} - b}{1 - b}\right)^2}\sqrt{\frac{293}{273 + t}} \quad \cdots\cdots\cdots\cdots \text{(2)}$$

Q : Air flow rate [dm^3/min (ANR)], SI unit dm^3 (cubic decimeter) can be expressed by ℓ (liter). 1 dm^3 = 1 ℓ
C : Sonic conductance [dm^3/(s·bar)]
b : Critical pressure ratio [−]
P_1 : Upstream pressure [MPa]
P_2 : Downstream pressure [MPa]
t : Temperature [°C]

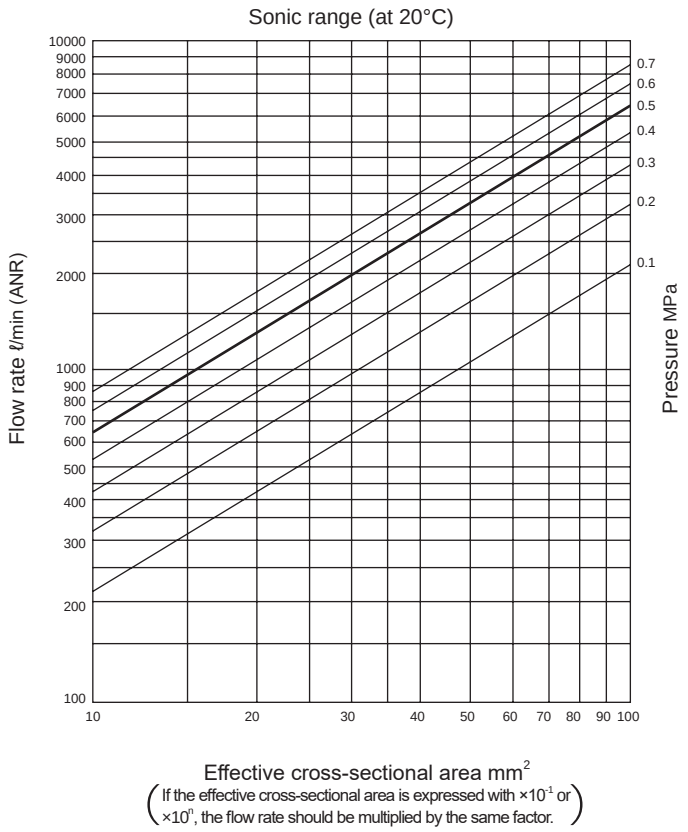
When calculating with Effective cross-sectional area: S, C = S/5 is assigned to C in the equation above.
For the subsonic flow, b = 0.5 is assigned in the equation (2) above.

4G Series [Device selection guide-1]

Cylinder bore (mm)	Theoretical reference speed (mm/s)	Required flow rate (ℓmin)(ANR)	Required effective cross-sectional area (mm^2)	Suitable standard system No.			
				Discrete		Manifold	
				Body piping	Base piping	Body piping	Base piping
ø6	(500)	–	(0.1)	A 1	A 2	A 3	A 4
ø10	(500)	–	(0.2)	A 1	A 2	A 3	A 4
ø16	(500)	–	(0.5)	A 1	A 2	A 3	A 4
ø20	250	29	0.5	A 1	A 2	A 3	A 4
	400	46	1.6	B 1	A 2	B 6	A 4
ø25	250	44	0.8	B 1	A 2	A 3	A 4
	400	70	1.9	B 1	B 4	B 6	B 9
ø30	250	64	1.1	B 1	A 2	B 6	A 4
	400	100	2.8	B 1	B 4	B 6	B 9
ø32	250	73	1.3	B 1	A 2	B 6	A 4
	400	120	3.1	B 1	B 4	B 6	B 9
ø40	250	110	2.0	B 1	B 4	B 6	B 9
	400	180	4.9	B 2	B 4	B 7	B 9
ø40	250	110	1.7	B 1	B 4	B 6	B 9
	500	230	3.3	B 2	B 4	B 7	B10
	750	340	5.0	B 3	B 5	B 8	C10
	1000	450	6.6	C 1	C 4	C 7	C10
ø50	250	180	2.6	B 2	B 4	B 7	B10
	500	350	5.2	B 3	C 4	B 8	C10
	750	530	7.7	C 1	C 5	C 7	C11
	1000	710	10.4	C 2	C 5	C 8	C12
ø63	250	280	4.1	B 3	B 5	B 8	B10
	500	560	8.2	C 2	C 4	C 8	C11
	750	840	12.3	C 3	C 5	C 9	C12
	1000	1,100	16.4	–	C 6	–	–
ø75	250	400	5.8	C 1	C 4	C 7	C10
	500	800	11.6	C 3	C 5	C 9	C11
	750	1,200	17.4	–	–	–	–
	1000	1,600	23.2	–	–	–	–
ø80	250	450	6.6	C 1	C 4	C 7	C10
	500	910	13.2	C 3	C 6	–	C12
	750	1,400	19.8	–	–	–	–
	1000	1,800	25.4	–	–	–	–
ø100	250	710	10.3	C 2	C 5	C 8	C11
	500	1,400	20.6	–	–	–	–
	750	2,100	30.9	–	–	–	–
	1,000	2,800	41.2	–	–	–	–

*** Refer to pages 744, 745 for system No.**

[Effective cross-sectional area]



[Clean air system components]

Clean air system components

Product name	Model No.	Port size	Max. flow rate (ℓmin, atmospheric pressure equivalent)
F.R·L kit	C1000-6-W	Rc1/8	450
	C1000-8-W	Rc1/4	630
	C3000-8-W	Rc1/4	1280
	C3000-10-W	Rc3/8	1750
	C4000-8-W	Rc1/4	1430
	C4000-10-W	Rc3/8	2400
	C4000-15-W	Rc1/2	3000
F.R unit	W1000-6-W	Rc1/8	830
	W1000-8-W	Rc1/4	1150
	W3000-8-W	Rc1/4	2150
	W3000-10-W	Rc3/8	2430
	W4000-8-W	Rc1/4	2500
	W4000-10-W	Rc3/8	4350
	W4000-15-W	Rc1/2	4750
Air filter (F)	F1000-6-W	Rc1/8	460
	F1000-8-W	Rc1/4	610
	F3000-8-W	Rc1/4	1230
	F3000-10-W	Rc3/8	1500
	F4000-8-W	Rc1/4	1320
	F4000-10-W	Rc3/8	2140
	F4000-15-W	Rc1/2	3000
Regulator (R)	R1000-6-W	Rc1/8	770
	R1000-8-W	Rc1/4	1350
	R3000-8-W	Rc1/4	2000
	R3000-10-W	Rc3/8	2600
	R4000-8-W	Rc1/4	2500
	R4000-10-W	Rc3/8	4400
	R4000-15-W	Rc1/2	5000
Lubricator (L)	L1000-6-W	Rc1/8	550
	L1000-8-W	Rc1/4	700
	L3000-8-W	Rc1/4	1100
	L3000-10-W	Rc3/8	2250
	L4000-8-W	Rc1/4	1000
	L4000-10-W	Rc3/8	1700
	L4000-15-W	Rc1/2	2700

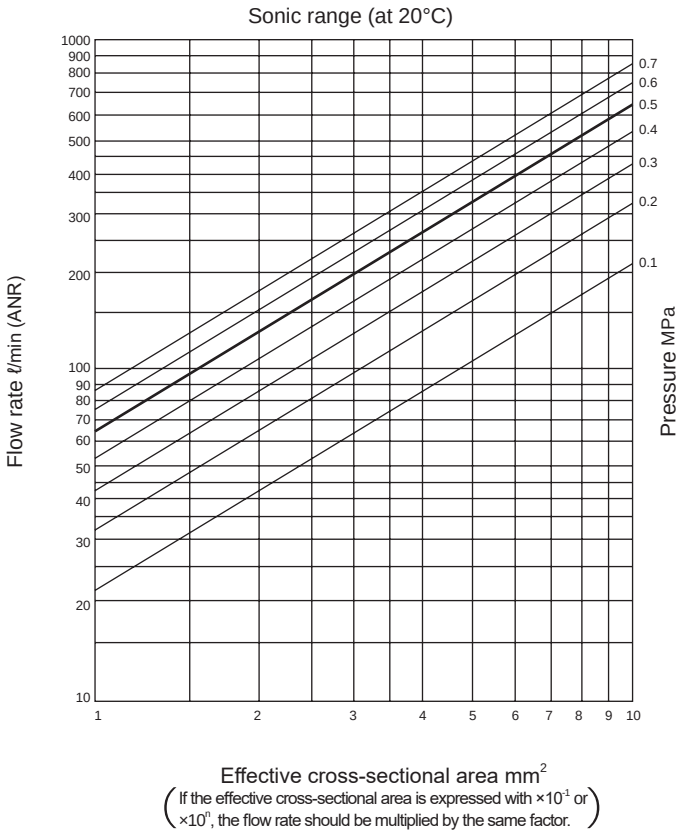
Note) Max. flow rate: For FRL, FR and R, primary pressure: 0.7 MPa, setting pressure: 0.5 MPa, pressure drop: 0.1 MPa are applied. For Air filter, flow rates at primary pressure: 0.7 MPa, pressure drop: 0.02 MPa; for Lubricator, primary pressure: 0.5 MPa, pressure: 0.03 MPa.

MN4G Series [Device selection guide-1]

Cylinder bore (mm)	Theoretical reference speed (mm/S)	Required flow rate (ℓmin)(ANR)	Required effective cross-sectional area (mm^2)	Suitable standard system No.		
				1. Common exhaust	2. Open atmospheric exhaust	3. Exhaust with silencer attached
ø6	(500)	−	(0.1)	A 1	A 3	A 5
ø10	(500)	−	(0.2)	A 1	A 3	A 5
ø16	(500)	−	(0.5)	A 1	A 3	A 5
ø20	250	29	0.5	A 1	A 3	A 5
	400	46	1.6	B 1	B 4	B 7
ø25	250	44	0.8	A 2	A 4	A 6
	400	70	1.9	B 1	B 4	B 7
ø30	250	64	1.1	A 2	A 4	A 6
	400	100	2.8	B 1	B 4	B 7
ø32	250	73	1.3	A 2	A 4	A 6
	400	120	3.1	B 2	B 4	B 8
ø40	250	110	2.0	B 1	B 4	B 7
	400	180	4.9	B 3	B 6	B 9
ø40	250	110	1.7	B 1	B 4	B 7
	500	230	3.3	B 2	B 5	B 8
	750	340	5.0	B 3	B 6	B 9
	1000	450	6.6	−	−	−
ø50	250	180	2.6	B 1	B 1	B 7
	500	350	5.2	B 3	B 6	B 9
	750	530	7.7	−	−	−
	1000	710	10.4	−	−	−
ø63	250	280	4.1	B 2	B 5	B 8
	500	560	8.2	−	−	−
	750	840	12.3	−	−	−
	1000	1,100	16.4	−	−	−
ø80	250	450	6.6	−	B 6	−
	500	910	13.2	−	−	−
	750	1,400	19.8	−	−	−
	1000	1,800	25.4	−	−	−

*** Refer to page 746 for system No.**

[Effective cross-sectional area]



[Clean air system components]

Clean air system components

Product name	Model No.	Port size	Max. flow rate (ℓmin, atmospheric pressure equivalent)
F·R·L kit	C1000-6-W	Rc1/8	450
	C1000-8-W	Rc1/4	630
	C3000-8-W	Rc1/4	1280
	C3000-10-W	Rc3/8	1750
	C4000-8-W	Rc1/4	1430
	C4000-10-W	Rc3/8	2400
	C4000-15-W	Rc1/2	3000
F·R unit	W1000-6-W	Rc1/8	830
	W1000-8-W	Rc1/4	1150
	W3000-8-W	Rc1/4	2150
	W3000-10-W	Rc3/8	2430
	W4000-8-W	Rc1/4	2500
	W4000-10-W	Rc3/8	4350
	W4000-15-W	Rc1/2	4750
Air filter (F)	F1000-6-W	Rc1/8	460
	F1000-8-W	Rc1/4	610
	F3000-8-W	Rc1/4	1230
	F3000-10-W	Rc3/8	1500
	F4000-8-W	Rc1/4	1320
	F4000-10-W	Rc3/8	2140
	F4000-15-W	Rc1/2	3000
Regulator (R)	R1000-6-W	Rc1/8	770
	R1000-8-W	Rc1/4	1350
	R3000-8-W	Rc1/4	2000
	R3000-10-W	Rc3/8	2600
	R4000-8-W	Rc1/4	2500
	R4000-10-W	Rc3/8	4400
	R4000-15-W	Rc1/2	5000
Lubricator (L)	L1000-6-W	Rc1/8	550
	L1000-8-W	Rc1/4	700
	L3000-8-W	Rc1/4	1100
	L3000-10-W	Rc3/8	2250
	L4000-8-W	Rc1/4	1000
	L4000-10-W	Rc3/8	1700
	L4000-15-W	Rc1/2	2700

Note) Max. flow rate: For FRL, FR and R, primary pressure: 0.7 MPa, setting pressure: 0.5 MPa, pressure drop: 0.1 MPa are applied.
For Air filter, flow rates at primary pressure: 0.7 MPa, pressure drop: 0.02 MPa; for Lubricator, primary pressure: 0.5 MPa, pressure: 0.03 MPa.

Safety Precautions

Always read this section before use.
Refer to 328 for general precautions for using valves.

3, 5 port pilot operated valve 4G*/MN4G* Series

Design & selection

1. Surge suppressor

CAUTION

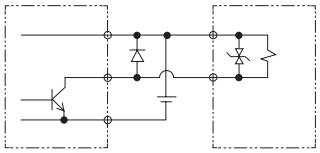
■ "The surge suppressor enclosed with the solenoid valve is used to protect the output contact driving the solenoid valve. There is no significant protection for the other peripheral devices, and devices could be damaged or malfunction by the surge. Surge generated by other devices could be absorbed and cause damage such as burning. Note the following points."

● "The surge suppressor regulates the solenoid valve surge voltage that can reach a few hundred volts to a lower voltage level that the output contact can tolerate. Depending on the output circuit that is being used, this may be insufficient, resulting in damage or malfunction. Before use, check the surge voltage limiting level of your solenoid valve, and the output component's proof pressure and circuit composition or return delay time, in order to determine whether or not to use the component. If necessary, implement a separate anti-surge protection. 4G Series solenoid valve with surge suppressor can also suppress inverse voltage surge that occurs when the product is turned OFF to the level shown in the table below.

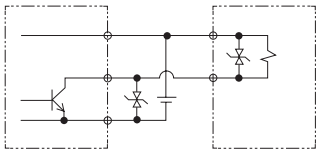
Voltage specification	Reverse voltage value when power turned OFF
3 VDC	Approx. 6.2 V
5 VDC	Approx. 13 V
12 VDC	Approx. 27 V
24 VDC	Approx. 47 V
When Option "S", "E" selected	Approx. 1 V

● If the output unit is NPN, always connect a contact protection circuit or select option S in order to avoid the risk of surge voltage equivalent to the sum of the voltage shown in the table above and the power supply voltage being applied to the output transistor.

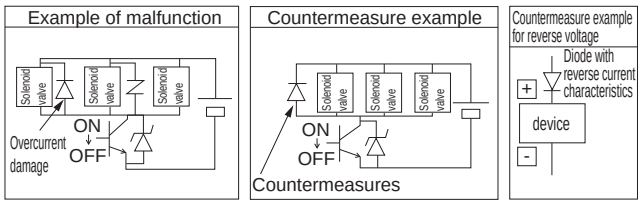
[Example of output transistor protective circuit installation 1]



[Example of output transistor protective circuit installation 2]



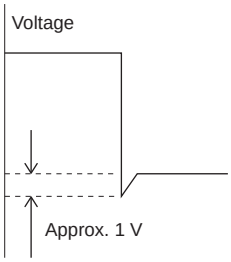
● "If another device or solenoid valve is connected in parallel to the solenoid valve, the inverse voltage surge generated when the solenoid valve is OFF would apply to those devices. Even in the case of a solenoid valve for 24 VDC with surge suppressor, surge voltage may reach several tens of volts for some models, and this inverse voltage may cause damage to or malfunction in the other parallel-connected components. Avoid parallel connection with components that are vulnerable to inverse voltage (example LED indicator lights). Furthermore, in the case of operating multiple solenoid valves in parallel, surge from another solenoid valve may flow into the surge suppressor of a solenoid valve with surge suppressor, and with certain current value, cause that surge suppressor to burn out. When driving several solenoid valves with surge suppressors in parallel, surge current could concentrate at the surge suppressor with the lowest limit voltage and cause similar burning. Due to variations in surge suppressor limiting voltages that also exist among solenoid valves of the same model No., in the worst case the surge suppressor may burn out. Avoid parallel operation of multiple solenoid valves.



● "The surge suppressor incorporated in the solenoid valve may often be short-circuited if it is damaged by an overvoltage or overcurrent from the other solenoid valves. For that reason, large current flows when the output is turned ON after the damage is incurred. In the worst case, this may result in damage/fire in the output circuit and/or solenoid valve. Do not continue energizing in a state of malfunction. Additionally, to prevent large currents from continuing to flow, connect an overcurrent protection circuit to the power supply and drive circuit, or use a power supply with overcurrent protection.

2. Surgeless

■ The surgeless has a built-in diode to reduce the solenoid valve surge voltage to around 1 V. There is no polarity.

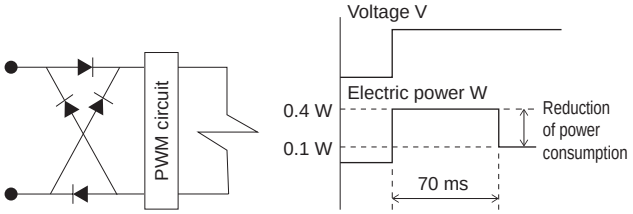


3. Low exoergic/energy saving circuit

■ With the type with low exoergic, energy-saving circuit, the PWM circuit is built into the solenoid valve. The power when the coil is sucked and held is lowered with this structure. As a result, power consumption is reduced to 1/4 comparing to standard products. There is no polarity.

[Specifications for low exoergic, energy saving]

Descriptions		Current A	Power consumption W
Starting	12 VDC	0.033	0.4
	24 VDC	0.017	0.4
Holding	12 VDC	0.017	0.1
	24 VDC	0.008	0.1



⚠CAUTION

- Do not use this valve in an environment where the vibration and impact exceeding specifications are made. Doing so may result in a valve malfunction.
- The valve cannot be kept energized if instantaneous power outage of 30 ms or less occurs on the power source driving the solenoid valve. If instantaneous power outage of 30 ms or less occurs on the power source driving the solenoid valve due to a disturbance, cut the power off for 50 ms or longer to turn the solenoid valve on again.
- Do not use the device with the voltage increasing gradually. If doing so, the valve will not operate.

4. AC voltage specifications

⚠CAUTION

- AC voltage specification has a built-in all wave rectified circuit. If an SSR is used to turn the solenoid valve ON and OFF, depending on the type of SSR, a return failure may occur to the solenoid valve. Use caution when selecting SSRs. (It is recommended to consult with the relay or sequencer manufacturer.)

5. When using the product in combination with low sliding cylinders

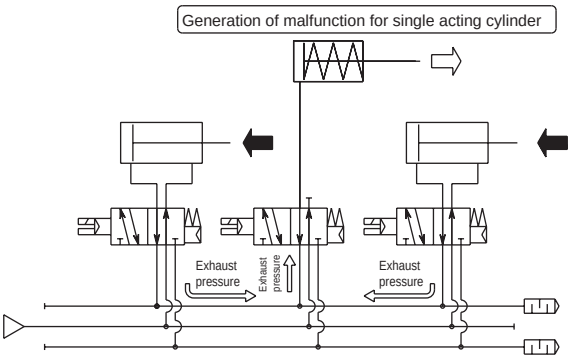
- Malfunctions could occur because of the exhaust pressure. Contact CKD.

6. Exhaust check valve

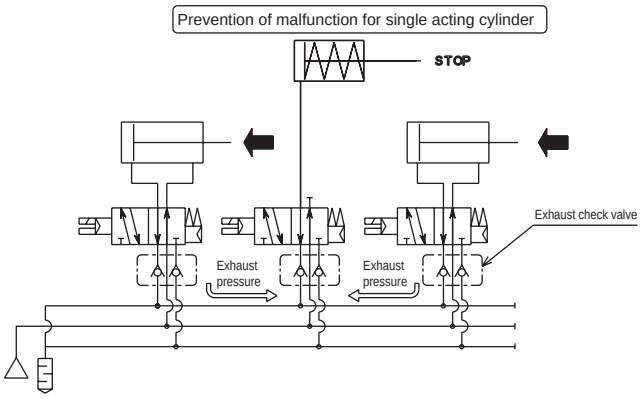
⚠**CAUTION**: The exhaust check valve is a check valve. Note that when operating the cylinder rod directly without pressurized, the check valve opens and the cylinder rod does not move.

Generally, the double acting cylinder connected at the manifold to single acting cylinders or ABR connection valves may malfunction when it is adversely affected by the exhaust pressure coming around due to the operation of other cylinders. For the manifold of 4G Series, the "exhaust check valve" integrated for preventing this malfunction can be selected except for all ports closed valve and PAB connection valve. When using components that are affected by a small amount of leakage or pressure of low sliding cylinders, it may not function properly.

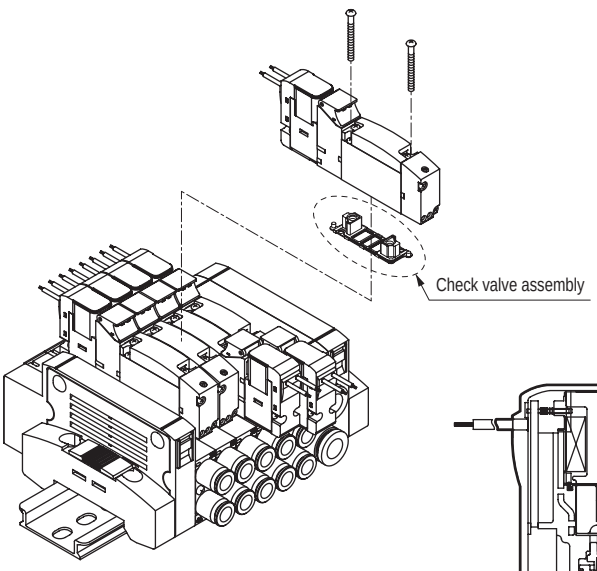
Example of pneumatic pressure system that may malfunction



4G Series pneumatic pressure system



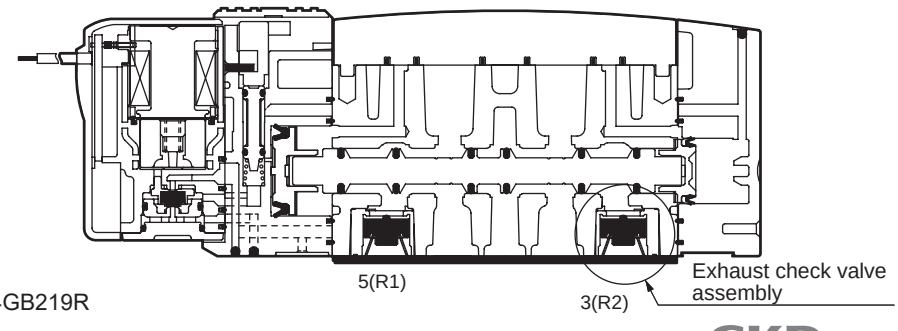
Internal structure



Standard specifications of check valve

Model No.		Flow path switching	Option (H) selection
4G	MN4G		
3GA*19R	3GA*10R	2-position single NC	Selected
3GA*119R	3GA*110R	2-position single NO	Selected
3G $^{A}_{B}$*669R	3G $^{A}_{B}$*660R	Dual 3 port valve integrated NC/NC	Selected
4G $^{A}_{B}$*19R	4G $^{A}_{B}$*10R	2-position single	Selected
4G $^{A}_{B}$*29R	4G $^{A}_{B}$*20R	2-position double	Selected
4G $^{A}_{B}$*39R	4G $^{A}_{B}$*30R	3-position all ports closed	None
4G $^{A}_{B}$*49R	4G $^{A}_{B}$*40R	3-position ABR connection	Selected
4G $^{A}_{B}$*59R	4G $^{A}_{B}$*50R	3-position PAB connection	None

Note: Because 3 position all ports closed and PAB connection are not adversely affected by the exhaust pressure coming around from other cylinders at the neutral position, installation of the check valve is not required.



This figure is for 4GB219R

Mounting, installation and adjustment

1. External pilot (K) piping port

⚠CAUTION

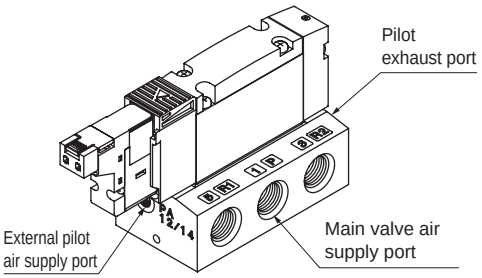
■ Metal base 4G$^{A}_{B}$ Series

● The external pilot (K) has a separate pilot air exhaust. M5 screw ports are used to supply and exhaust the pilot air, so check that the piping connection position is correct. Improper wiring could result in operation failures.

Port indication

Applications		Indication (ISO standards)
Pilot air	Supply port	12/14
	Exhaust port	82/84

Discrete base piping

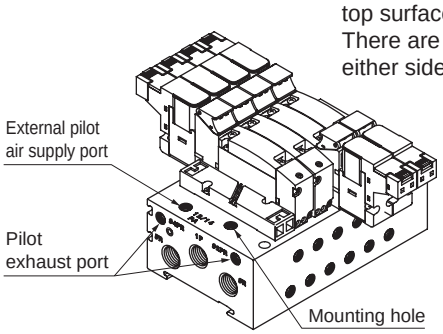


The port position of external pilot air supply port is at the left side when the valve air supply port is at front side.

Manifold

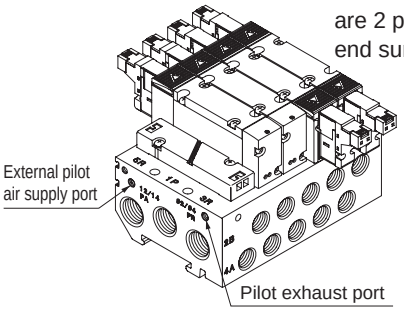
M4G1

The port position of external pilot air supply port is on the top surface of the manifold. There are 2 positions on the either side.



M4G2/3

The port position of external pilot air supply port is at the far side from A/B port. There are 2 positions on the either end surface.



■ Block manifold MN4G$^{A}_{B}$ Series

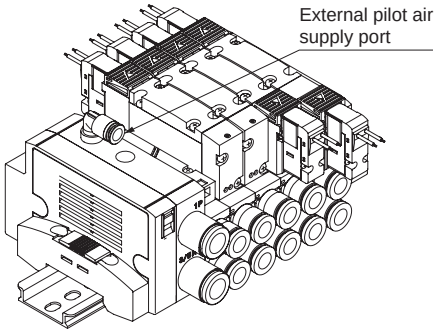
● The external pilot (K) has a separate pilot air supply. ø 6 push-in fitting is used to supply the pilot air, so be careful that the piping connection position is correct. Improper wiring could result in operation failures.

Port indication

Applications		Indication (ISO standards)
Pilot air	Supply port	12/14

* A/B ports and the R port cannot be pressurized.

MN4G2



The external pilot air supply port is the ø6 push-in fitting on the top of the supply/exhaust block.

■ Note supply pressure for dual 3 port valve integrated

● The valving element of dual 3 port valve integrated is operated with the main (P port) supply pressure.

(1) Check that the main pressure (P port) is not higher than the pilot pressure (PA port).

(2) Check that the main pressure (P port) does not drop below 0.2 MPa.

Mounting, installation and adjustment

2. How to install discrete body piping (A)

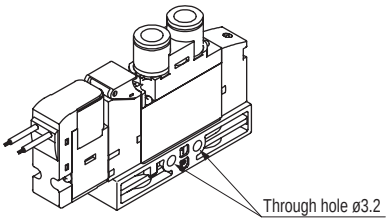
⚠CAUTION

■ When directly installing the manifold

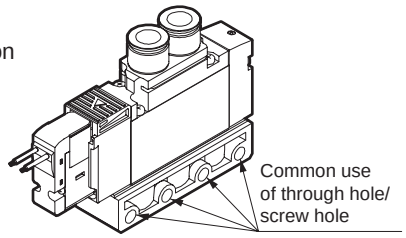
●The discrete body piping 4GA Series can be installed using (a) through hole or (b) screw hole. When using the screw holes, be careful about the tightening torque.

Screw hole Tightening torque 0.7 to 1.2 N·m

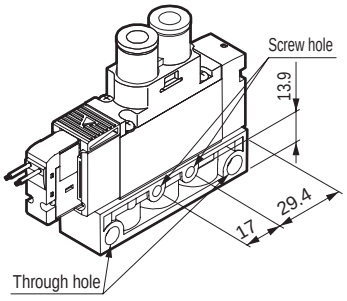
4GA1 Series
(a) 2 positions for through hole



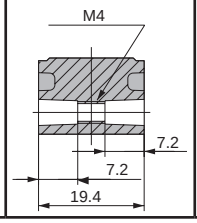
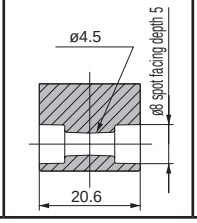
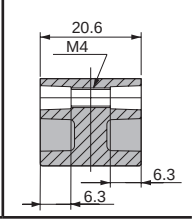
4GA2 Series
(a) Through hole
(b) 4 positions for common use of screw hole



4GA3 Series
(a) Through hole
(b) 2 positions each for exclusive use of screw



Mounting hole shape

	4GA2	4GA3	
	(a) (b) Common use	(a) Through hole	(b) Screw hole
Sectional view of mounting hole			

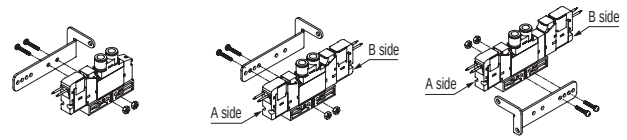
■ When installing the manifold with mounting plate (P)

● Mounting method of the mounting plate (P) for discrete body piping differs depending on the position of single, double and 3-position. Be careful for the mounting position and direction since damage could be occurred if incorrectly installed.

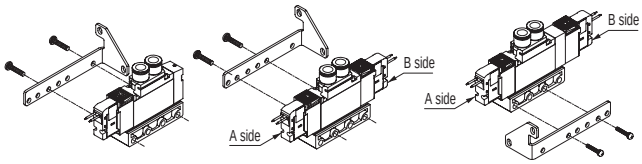
■ How to mount mounting plate (P)

● Grommet lead wire and E connector (DC voltage)

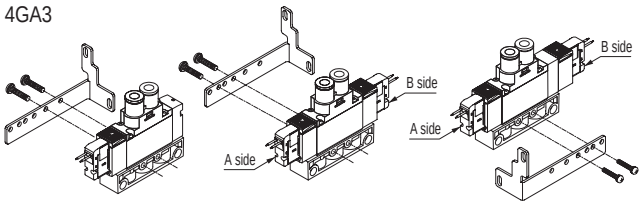
4GA1



4GA2

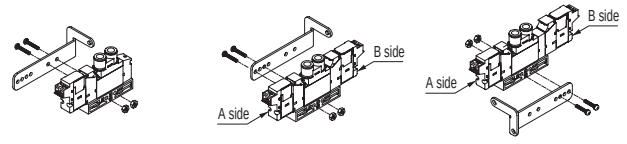


4GA3

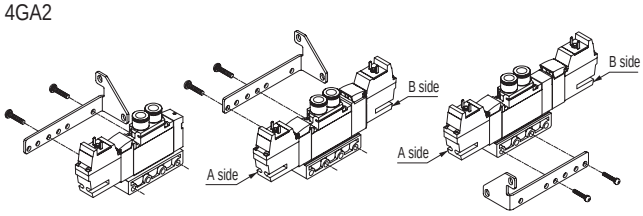


● DIN terminal box and E connector (AC voltage)

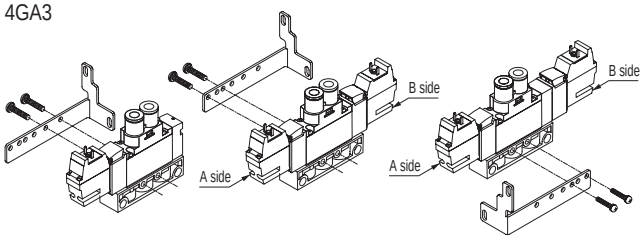
4GA1



4GA2



4GA3



Mounting (P) kit

	Kit model No.	Accessory part
4GA1	4G1R-MOUNT-PLATE-KIT-P70	Mounting plate, 2 set screws, 2 nuts
4GA2	4G2R-MOUNT-PLATE-KIT-P70	Mounting plate, 2 set screws
4GA3	4G3R-MOUNT-PLATE-KIT-P70	Mounting plate, 2 set screws

Mounting, installation and adjustment

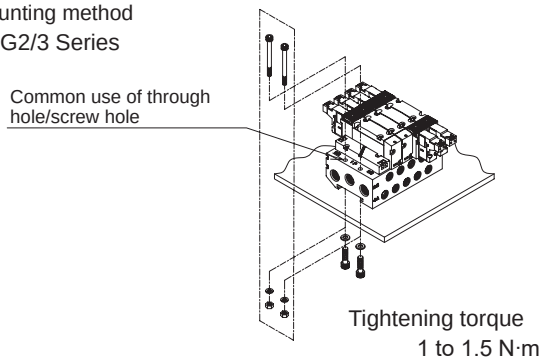
3. How to install manifold (Metal base 4G$^{A}_{B}$ Series)

⚠CAUTION

■ When directly installing the manifold

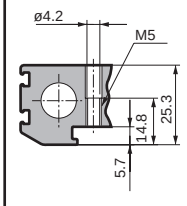
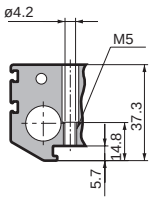
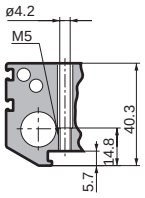
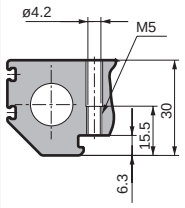
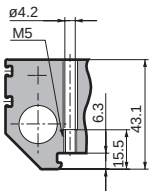
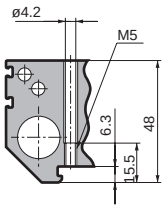
● For Mounting of the M4G2/3 Series, there are 2 methods of tightening the manifold with bolts after passing them through the upper side of the manifold base or after inserting them from the back side.
When using the female screw as shown in the figure below, check the thread depth, select the mounting bolt that can screw in for 10 threads and over, and be careful for the tightening torque. The screw could be damaged if incorrectly installed.

Mounting method
M4G2/3 Series



Tightening torque
1 to 1.5 N·m

Mounting hole shape (sectional view)

	Standard manifold (internal pilot)		External pilot
	M4GA (direct piping)	M4GB (base piping)	M4G-K
M4G2			
M4G3			

■ When mounting the manifold with DIN rail
M4G1, 2, 3

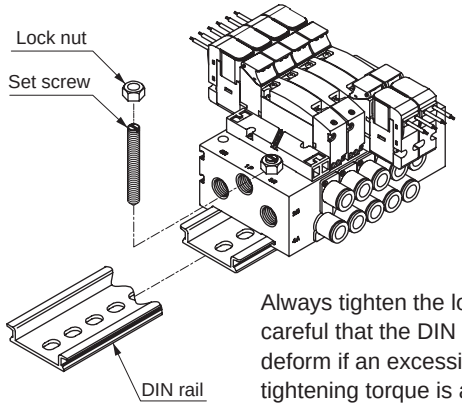
● The manifold of direct mounting specification can be changed to that of DIN rail mounting specification for its use. Be careful that the manifold could drop off or be damaged if incorrectly installed. If the manifold weighs more than 1 kg, or when using in an environment with vibration or impact, fix the DIN rail onto the surface at 50 to 100 mm intervals, and confirm that there is no problem with mounting before starting operation. Use the individual specifications to calculate the weight.
(CAUTION: Only for M4GB1 (page 523), its dedicated base is provided with either of direct mount or DIN rail mount. The direct mounting cannot be changed to the DIN rail mounting, but the direct mounting type can be directly mounted.)
The upper limit of station No. for DIN rail mounting is 16.

Mounting, installation and adjustment

■ How to mount DIN rail

● Only for M4GB1, its dedicated base is provided with either of direct mount or DIN rail mount type. The direct mounting cannot be changed to the DIN rail mounting.

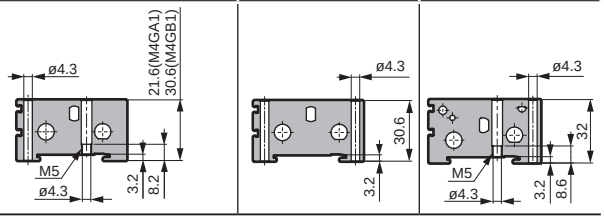
Tightening torque 0.3 to 0.5 N·m



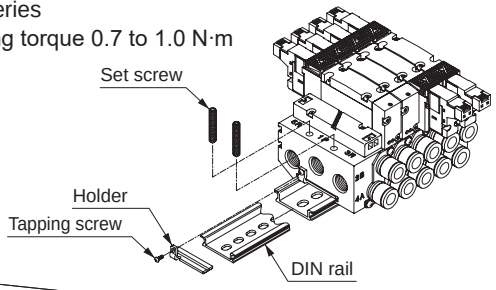
Always tighten the lock nut. Be careful that the DIN rail may deform if an excessive tightening torque is applied.

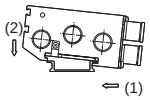
Mounting hole shape (sectional view)

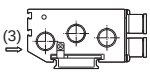
Internal pilot		External pilot
M4GA/D1 M4GB/E1 (DIN rail mount)	M4GB/E1 (Direct mount)	M4GA1-K M4GB1-K



M4G2 Series
M4G3 Series
Tightening torque 0.7 to 1.0 N·m







1. Attach the holder (Tightening with tapping screw for preventing drop off)
2. Temporally set the set screw
3. Catch the jaws into the DIN rail in the order of (1) (2).
4. Apply pushing force to the direction of (3).
5. Tighten the set screw.

DIN rail kit

	Model No.	Content
M4G1	4GA1R-BAA length - Option D-P70	DIN rail, 2 set screws, 2 lock nuts
	4GB1R-BAA length - Option D-P70	
M4G2	4GA2R-BAA length - Option D-P70	DIN rail/holder 2 Tapping screw 2, set screw 4
	4GB2R-BAA length - Option D-P70	
M4G3	4GA3R-BAA length - Option D-P70	
	4GB3R-BAA length - Option D-P70	

If the DIN rail is not required, specify the length with "0". When using the kit for a manifold base for external pilot, specify the option with "K".

For setting the DIN rail length, refer to dimensions and DIN rail length quick reference table (page 701) for the manifold in use.

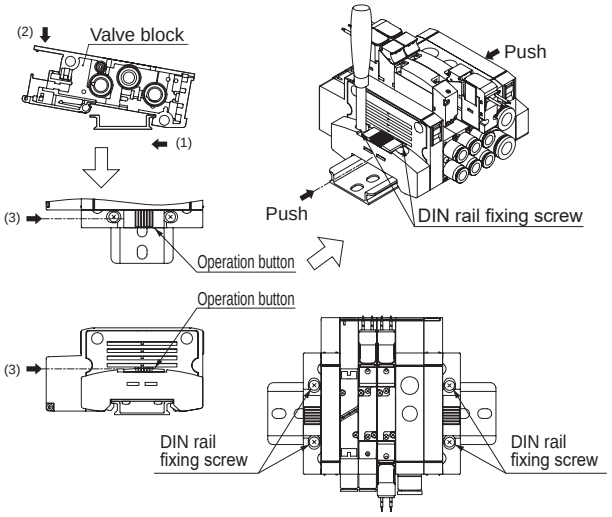
4. How to install manifold (Block manifold)

⚠CAUTION

■ Mounting orientation

● The Block manifold is mounted on a DIN rail. If the manifold's total weight exceeds 1 kg, or when using the MEVT in an environment with vibration or impact, fix the DIN rails on the mounting surface at pitch of 50 to 100 mm. Check that there are no problems with mounting.
Although there is no restriction in mounting direction and orientation, attention should be paid to loose set screws caused by resonance due to vibration that may cause drop of manifold during operation.

● How to mount and remove manifold
Removal
Loosen the four DIN rail fixing screws (two each on left/right).
Mounting
1. Catch the jaws into the DIN rail in the order of (1) (2).
2. Push the operation button to the direction indicated by (3).
3. While holding down so that there is no gap between blocks, tighten DIN rail set screws. (recommended tightening torque 1.2 to 1.6 N·m).



5. Lead wire connection

⚠CAUTION

■ Lead wire standards differ depending on the type of electrical connections. Connect wires according to each lead wire to be used.

Electrical connection code	Content	Conductor size	Conductor sectional area	Outer diameter of insulator	Outer diameter of covering
Blank	Grommet lead wire	AWG#26	0.13 equiv.	1.3	-
E□	E connector (with lead wire)	AWG#26	0.13 equiv.	1.3	-
E□J	EJ connector	AWG#24	0.16 equiv.	1.14	3.7

When installing the manifold and making electrical connections, check that tension by lead wires is not applied to the solenoid valve coil.

Mounting, installation and adjustment

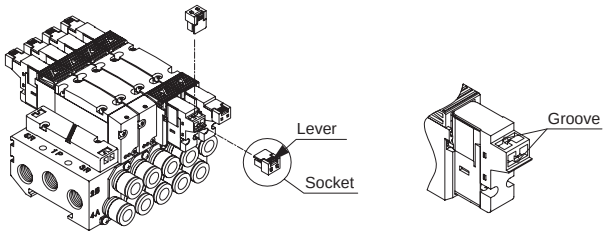
6. How to use the E connector

⚠CAUTION

■ The E connector has top and side connecting portions to which sockets can be connected either from the top or side directions. The socket assembly is connected from the side direction at shipment. Select the connection direction based on the mounting environment.

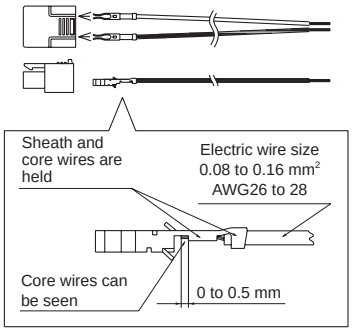
■ How to mount and remove socket

- When mounting the socket, hold the lever and socket with fingers and insert straight into the square window on the connector body. Align the lever jaw with the groove on the connector body and lock it. When mounting from the top, position the socket so that the lever faces the front. When mounting from the side, position the socket so that the lever is in an upward direction.
- When pulling out the socket, press down the lever to release its jaw from the groove, then pull straight out.



■ How to connect lead wire

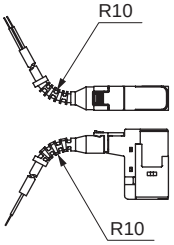
- Strip about 3 mm of the lead wire end. Align the end of core wires, insert them into the contact terminal, and crimp with a crimp tool. When crimping, check that both the sheath and core wires are held, and 0 to 0.5 mm of the core wire end is visible.
- After crimping, position the contact terminal as shown below, and insert into the square window on the socket. The terminal locks when it is inserted to the end. After inserting, pull the terminal lightly to check that it is locked.



7. How to use E □ J connector

⚠CAUTION

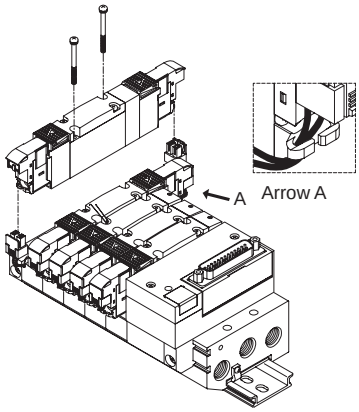
■ Use the lead wire with limitation of bending dimension as shown in the figure right.



8. How to use the A connector

⚠CAUTION

■ The A connector is a connector for exclusive use of reduced wiring manifold mounting, which can be connected from the bottom direction. When mounting or removing the socket, similar attention as how to use E connector is required.



9. DIN terminal box

⚠WARNING

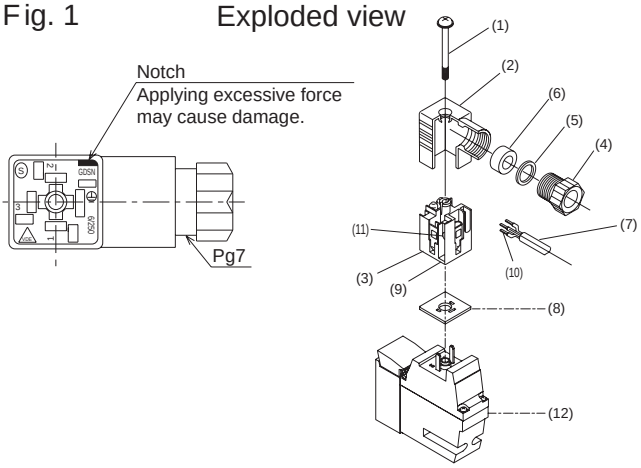
■ As there is a risk of electric shock when assembling or disassembling the terminal box, perform the assembly and/or disassembly after turning OFF the power supply.

⚠CAUTION

■ Disassembly

- Loosen screw (1) and pull cover (2) in the direction of screw (1) to remove the connector from coil assembly (12).
- Pull out screw (1) from cover (2).
- Notch (9) (next to the GDSN mark) can be found at the bottom of terminal block (3). Insert a compact flathead screwdriver in the gap between housing (2) and terminal block (3) and pry to remove terminal block (3) from cover (2) (Refer to Fig. 1). Remove the terminal block without applying excessive force. There is a risk of damage.
- Remove cable terminal block (4) and take out washer (5) and rubber packing (6).

Fig. 1 Exploded view



Mounting, installation and adjustment

■ Wiring

● Wiring preparation

- The applicable dimensions for cable ⑦ are the VCTF2(3) core (ø3.5 to 7) defined in JIS C3306.
- The length of the lead wire stripping of the cable is 10 mm.
- Both stranded wires and solid wires can be used for wiring.
- When using a stranded wire, avoid connecting a pre-soldered wire.
- When using a crimp sleeve ⑩ at the end of the twisted wire, select H0.5/6 (0.3 to 0.5 mm^2) or H0.75/6 (0.75 mm^2) made by Weidmüller Japan, or an equivalent product. Crimp sleeves are not included.

● Wiring

- Pass cable ⑦ through cable gland ④, washer ⑤, and rubber packing ⑥ in this order, and insert it into cover ②.
- Connect it to terminals 1 and 2. There is no polarity.
- The recommended tightening torque is 0.2 to 0.25 N·m.
- Be sure to lay ground wiring for AC. However, DC type does not require ground wiring.

■ Assembly

● Set the wired terminal block ③ on cover ②. (Push in until it clicks.)

* The terminal block can be set in any of the four different directions (Fig.2).

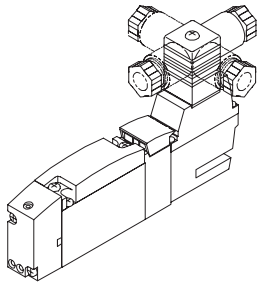
● Insert rubber packing ⑥, and washer ⑤, in this order into the cable through hole in cover ②, and securely tighten cable gland ④.

Remarks: The recommended tightening torque for the cable gland is 1.0 to 1.5 N·m.
Pull the cable to check that it does not become loose.

● Place gasket ⑧ between the bottom part of terminal block ③ and the plug of the coil assembly ⑫, insert the connector, insert screw ② from over the cover ① and tighten it.

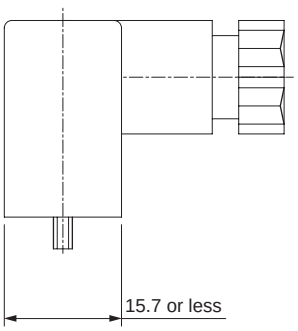
Remarks: The recommended tightening torque for screws is 0.4 to 0.45 N·m.

Fig. 2



■ Terminal box

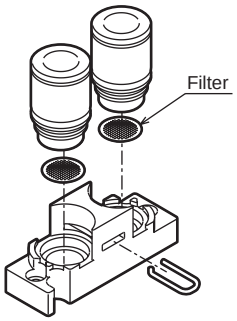
● When not using CKD's terminal box, make sure to use a EN175301-803 Type C (DIN 43650-C) compliant product. For the dimensions of solenoid valve side (below), select the terminal box of 15.7 or less.



10. Port filter

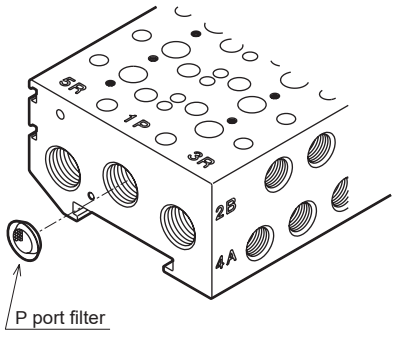
⚠ CAUTION

■ The port filter prevents the entry of foreign matter, and prevents problems from occurring in the valve. As this does not improve the quality of the compressed air, read Warnings and Precautions on Intro Pages 61 to 68, then mount, install, and adjust the filter accordingly.
Do not detach or press down the port filter forcibly. The filter could deform, causing problems. If contaminants and foreign matters are found on the filter surface, blow them lightly, or remove them by tweezers, etc.



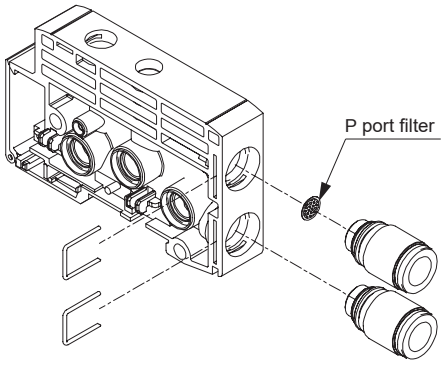
Example of A/B port filter option combination

M4G Series



P port filter (standard) example of embedding

MN4G Series



P port filter (standard) example of embedding

Use/maintenance

1. Continuous energizing

⚠CAUTION

■ When using in a continuously energized state for long periods, use the low exoergic/energy saving type.

■ If a valve other than the low exoergic/energy saving type is used in a continuously energized state for long periods, the valve performance may deteriorate more quickly.
Furthermore, use caution under the following working conditions likewise.
- When the energized time exceeds non-energized time in intermittent operation
- When one energizing session exceeds 30 minutes in intermittent operation

Give sufficient consideration to heat dissipation when installing the product.

■ When using the AC voltage in a continuously energized state, the temperature of the coil's outer surface will be high. It may cause burns. Do not touch it when it is energized.

2. Manual ocerride

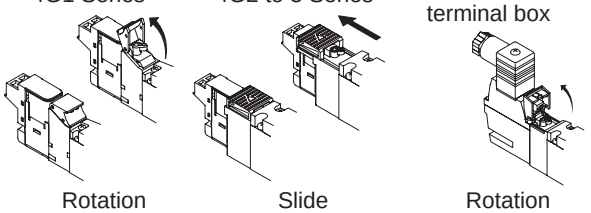
⚠WARNING

■ The 4G Series is a pilot operated solenoid valve. If air is not supplied to the P port, the main valve will not be switched even if the manual override is operated.

■ Manual override protective cover is provided as standard. The protective cover is closed when shipped. Therefore, the manual override device cannot be seen when delivered. Open the protective cover to operate the manual override. Note that the protective cover will not close unless the locking manual override is released.

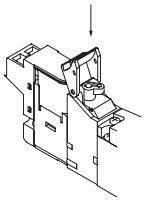
■ Manual override is used for both non-locking and locking. Holding down and turning the button locks the valve. For locking, be sure to press down and turn. If manual override is turned without being pressed down, it could be damaged or air could leak.

■ Opening and closing the manual protective cover
Do not excessively force the manual protective cover when opening and closing it. Excessive external force could cause failures. (Below 5 N)

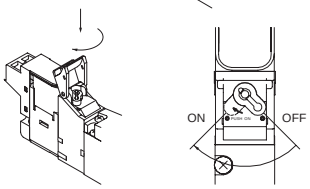


■ How to operate manual override

- Push non-locking operation
Push straight in the direction of the arrow until it stops
Release to cancel.



- Push & locking operation
Push manual override and turn 90° in the direction of the arrow.
The function is not canceled even when the button is released.



■ When conducting manual operations, make sure that there are no people near the operating cylinder.

During use & maintenance

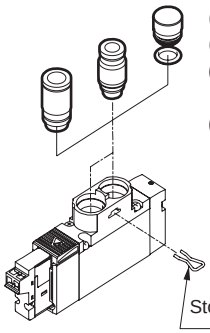
3. How to replace cartridge fitting

⚠ CAUTION

■ Check procedures before changing the push-in fitting size. If installed incorrectly, or if the tightening of the mounting screw is insufficient, air leakage could occur.

■ Body piping (A)

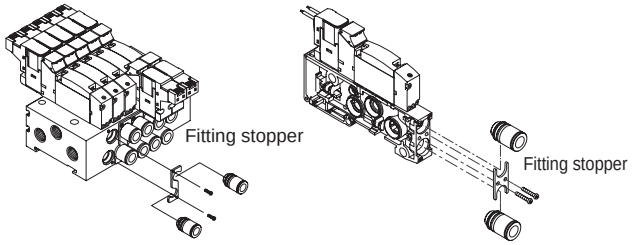
4G1, 2, 3



(1) Remove the stopper pin with a screwdriver.
(2) Pull the joint out.
(3) Insert the joint for replacement vertically until it reaches the back.
(4) Insert the stopper pin. Pull on the fitting to confirm that it is properly installed.

	Size	Tightening torque (N·m)
4G1	M1.7	0.18 to 0.22
4G2	M2.5	0.25 to 0.30
4G3	M3	0.6 to 0.7

■ Base piping (B)



(1) Remove the mounting screw.
(2) Pull out the stopper plate and fitting together.
(3) Align the groove of the replacement fitting with the stopper plate and assemble them temporarily.
(4) Assemble the stopper plate with the fitting, and tighten the mounting screw. Pull on the fitting to confirm that it is properly installed.

Model No. of cartridge push-in fitting

Model	Part name		Model No.
4G1	ø1.8 barbed		4G1R-JOINT-CF-P70
	ø1.8 straight		4G1R-JOINT-C18-P70
	ø4 straight		4G1R-JOINT-C4-P70
	ø6 straight		4G1R-JOINT-C6-P70
	ø8 straight		4G1R-JOINT-C8-P70
	ø1.8 elbow		4G1R-JOINT-CL18, CLL18-P70
	ø4 elbow		4G1R-JOINT-CL4, CLL4-P70
	ø6 elbow		4G1R-JOINT-CL6, CLL6-P70
	ø1/8” straight		4G1R-JOINT-C3N-P70
	ø5/32” straight		4G1R-JOINT-C4N-P70
	ø1/8” elbow	(*1)	4G1R-JOINT-CL3N, CLL3N-P70
	ø5/32” elbow	(*1)	4G1R-JOINT-CL4N, CLL4N-P70
	Plug cartridge		4G1R-JOINT-CPG-P70
4G2	ø4 straight		4G2R-JOINT-C4-P70
	ø6 straight		4G2R-JOINT-C6-P70
	ø8 straight		4G2R-JOINT-C8-P70
	ø10 straight	(*2)	4G2R-JOINT-C10-P70
	ø6 elbow		4G2R-JOINT-CL6, CLL6-P70
	ø8 elbow		4G2R-JOINT-CL8, CLL8-P70
	ø1/4” straight		4G2R-JOINT-C6N-P70
	ø5/16” straight		4G2R-JOINT-C8N-P70
	ø1/4” elbow	(*1)	4G2R-JOINT-CL6N, CLL6N-P70
	ø5/16” elbow	(*1)	4G2R-JOINT-CL8N, CLL8N-P70
	Plug cartridge		4G2R-JOINT-CPG-P70
4G3	ø6 straight		4G3R-JOINT-C6-P70
	ø8 straight		4G3R-JOINT-C8-P70
	ø10 straight		4G3R-JOINT-C10-P70
	ø8 elbow		4G3R-JOINT-CL8, CLL8-P70
	ø10 elbow		4G3R-JOINT-CL10, CLL10-P70
	ø5/16” straight		4G3R-JOINT-C8N-P70
	ø3/8” straight		4G3R-JOINT-C10N-P70

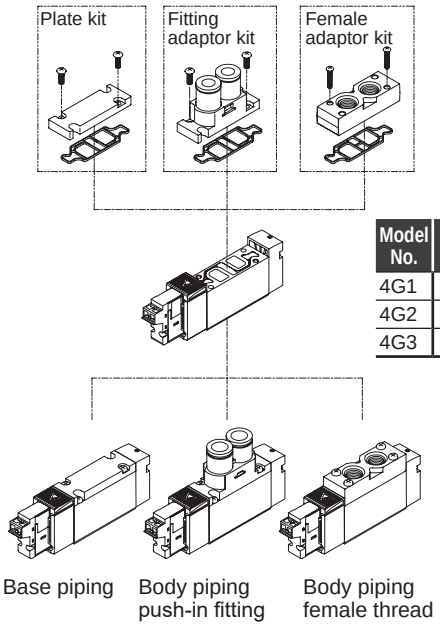
*1: Custom order. *2: Common product with the 4G3 ø10 straight.

During use & maintenance

4. How to change piping connection specification

⚠ CAUTION

■ When replacing the plate or fitting adaptor on the body, changing the body piping and base piping, or changing the push-in fitting and female thread of body piping, be sure to use appropriate tightening torque since air may leak if the mounting screws are loose.



Model No.	Size	Tighten torque (N·m)
4G1	M1.7	0.18 to 0.22
4G2	M2.5	0.25 to 0.30
4G3	M3	0.6 to 0.7

Plate kit

Model No.	Kit model No.	Accessory part
4GB1	4G1R-PLATE-KIT-P70	Plate, gasket, 2 set screws
4GB2	4G2R-PLATE-KIT-P70	Plate, gasket, 2 set screws
4GB3	4G3R-PLATE-KIT-P70	Plate, gasket, 2 set screws

Fitting adaptor kit

4G1 R-JNT-ADAPTOR-KIT- C4 NC - F - P70

Ⓐ Model No. Ⓑ Port size Ⓒ NC/NO Ⓓ Option Ⓔ Clean room specifications

Code	Content	Ⓐ Model No. 3G1	3G2	3G3	4G1	4G2	4G3
Ⓑ Port size							
CF	ø1.8 barbed	●			●		
C18	ø1.8 straight	●			●		
C4	ø4 straight	●	●			●	
C6	ø6 straight	●	●	●		●	●
C8	ø8 straight		●	●		●	●
C10	ø10 straight			●			●
C3N	ø1/8 inch straight	●			●		
C4N	ø5/32 inch straight	●			●		
C6N	ø1/4 inch straight		●			●	
C8N	ø5/16 inch straight		●	●		●	●
C10N	ø3/8 inch straight			●			●
Ⓒ NC/NO							
NC	For 3GA□10	●	●	●			
NO	For 3GA□110	●	●	●			
Blank	3GA□10, 3GA□110 excluded	●	●		●	●	●
Ⓓ Option							
Blank		●	●	●	●	●	●
F	A/B port filter integrated	●	●	●	●	●	●

Ⓔ Clean room specifications

	Structure	Material restriction	3G1	3G2	3G3	4G1	4G2	4G3
P70	Exhaust treatment	—	●	●	●	●	●	●
P74	Exhaust treatment	Copper-based/silicon-based/ halogen-based materials (fluorine, chlorine, bromine) are prohibited	●	●	●	●	●	●

Note: Fitting adaptor (with fitting), gasket and set screws (2) are included in a set.

Female adaptor kit

Model No.	Kit model No.	Accessory part
4G1	4G1R - FML - ADAPTOR - KIT - Port size - Option -P70	Female screw adaptor, gasket, 2 set screws
4G2	4G2R - FML - ADAPTOR - KIT - Port size - Option -P70	Female screw adaptor, gasket, 2 set screws
4G3	4G3R - FML - ADAPTOR - KIT - Port size - Option -P70	Female screw adaptor, gasket, 2 set screws, 2 body set screws

When using the A/B port filter integrated, specify the Option with "F".

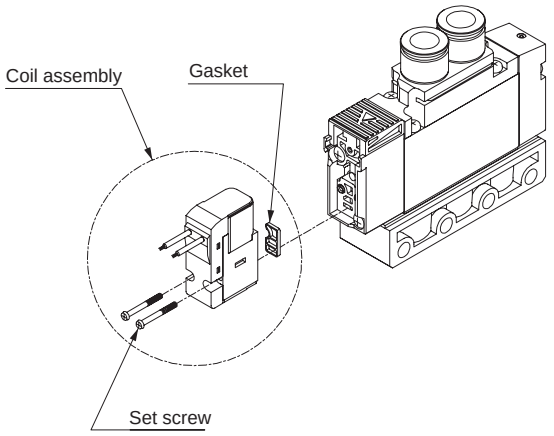
During use & maintenance

5. How to replace coil

⚠ WARNING

■ Grommet lead wire, E and EJ connector coil assemblies

Replace the coil by removing the set screws shown below. Loosening other screws could cause operation failures. When installing, check that the gasket is installed on the coil side and tightening torque is proper. Improper mounting could result in air leakage or operation failures.



■ DIN terminal box coil assembly

Replace the coil assembly by removing the set screws shown below. Loosening other screws could cause operation failures. When installing, check that the gasket is installed on the coil assembly side and tightening torque is proper. Improper mounting could result in air leakage or operation failures.

The coil assembly of grommet lead wire, E-connector specification and DIN terminal box specification cannot be replaced. Recommended tightening torque 0.15 to 0.19 N·m