

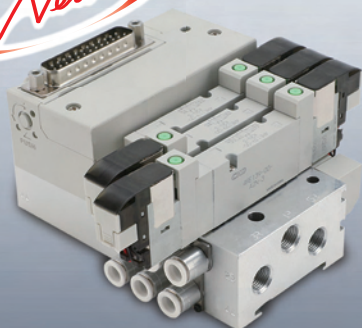
Pilot Operated 5-Port Valve 4RD/E Series



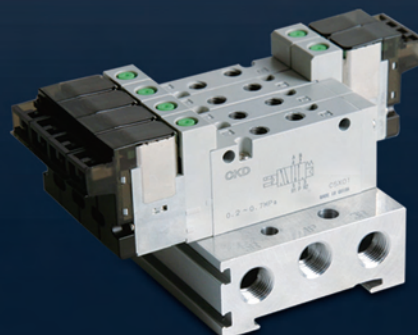
5 PORT PILOT OPERATED VALVE 4RD/E SERIES

New reduced wiring specifications!

New



New



A new valve from CKD having a good performance



4RD Series with body piping

Refined Specs

Refined specifications

Low power consumption
0.4 w
(Standard model)

High durability
over **50 million cycles**
(Under CKD's test conditions)

Large flow rates allow
cylinders up to
φ100 to be driven

Required Specs Satisfied

Meeting various needs

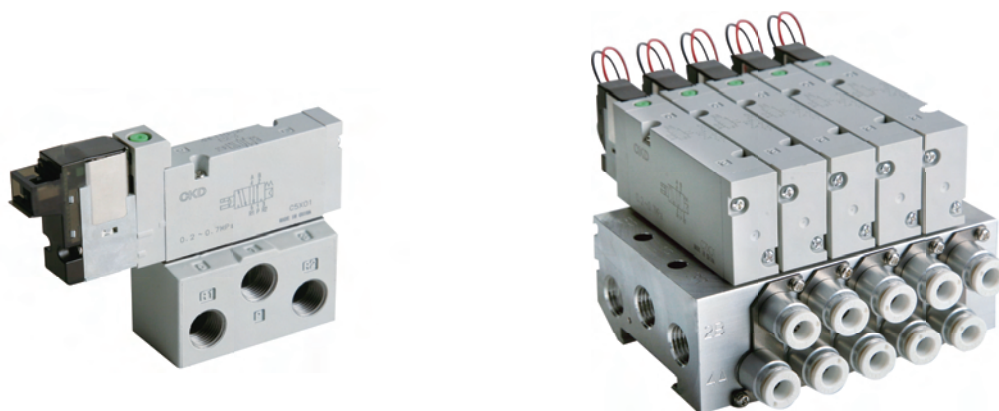
Airborne impurities
Water intrusion
Prevented

High
Mechanical strength

Manifold model
allows for
easy selection

NEW
Reduced wiring
type
Space saving

ratio, a simple construction and 4GR's basic performance.



4RE Series with rear piping

Low friction and long life

- Low sliding friction and long life are achieved through the superior main valve sliding structure and specially designed packing.

Pilot filtering piece

No entry of foreign matter

- Air intake filter equipped as standard (Port A/B, optionally equipped)
- Pilot filtering piece equipped as standard

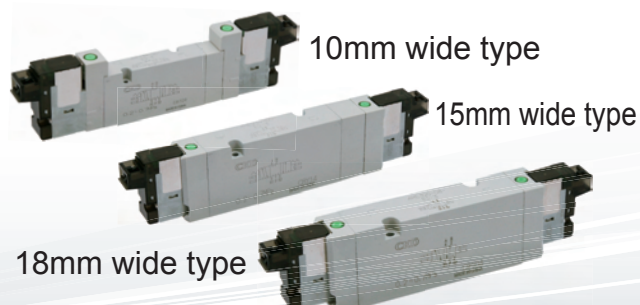
Optimized structure based on CAE analysis

Packing of special material

Air intake filter

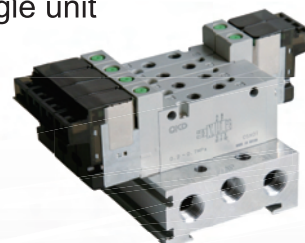
High-strength piping

- The piping is strengthened through integration with the valve body, so there is no need to worry about any damage to the valve body during piping.



Easy manifold selection model

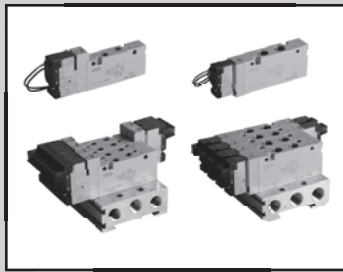
- Manifold assembly model can be procured as a single unit



Example of manifold model

M4RD280 - 06 - E2 - 5 - 3 - 2 2 0 0 1

*Select the solenoid valve indicated by the numbers at the end of the model (1st and 2nd stations: 2-position single, 3rd and 4th stations: 2-position double, 5th station: masking plate)



Pilot operated 5-port valve/body piping

4RD/M4RD Series

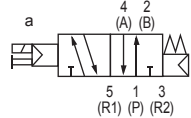
●Compatible cylinder diameter: $\phi 6$ to $\phi 100$



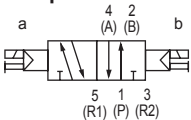
JIS symbol

● 5-port valve

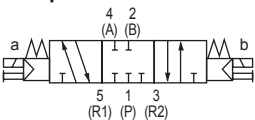
2-position single



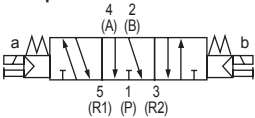
2-position double



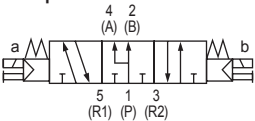
3-position mid closure



3-position A/B/R connection



3-position P/A/B connection



General specifications

Item	Description
Valve type and operation mode	Internal pilot operated soft spool
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 type
Pilot exhaust method	Main valve/pilot operated valve exhaust type
Lubrication Note1	Not required
Protection degree Note2	Dustproof
Vibration/impact m/s ²	50 or less/300 or less
Usage environment	Not for use in a corrosive gaseous atmosphere

Note 1: Use turbine oil class 1 ISO VG32 if necessary for lubrication.

Excessive or intermittent lubrication results in unstable operation.

Note 2: During use, prevent splattering of water droplets or oil, etc.

Electrical specifications

Item	Description
Rated voltage	DC24V DC12V AC100V AC220V
Voltage fluctuation range	±10%
Holding current A	0.017 0.034 0.009 0.006
Power W	0.4 -
Apparent power VA	- 0.98 1.26
Thermal class	B
Surge suppressor	Equipped as standard
Indicator lamp	With indicator lamp

Specifications of all the models

Item	4RD1	4RD2	4RD3	M4RD1	M4RD2	M4RD3
Port size	Port A/B M5 push-in fitting $\phi 4$, $\phi 6$	Rc1/8 push-in fitting $\phi 4$, $\phi 6$, $\phi 8$	Rc1/4 push-in fitting $\phi 6$, $\phi 8$, $\phi 10$	M5 push-in fitting $\phi 4$, $\phi 6$	Rc1/8 push-in fitting $\phi 4$, $\phi 6$, $\phi 8$	Rc1/4 push-in fitting $\phi 6$, $\phi 8$, $\phi 10$
	Port P/R1/R2 M5	Rc1/8	Rc1/4 Note1	Rc1/8	Rc1/4	Rc3/8

Note 1: For the model 4RD3, the size of port R1/R2 is Rc1/8.

Item		4RD1	4RD2	4RD3	M4RD1	M4RD2	M4RD3
Response time (ms)	2-position single	20 or less	30 or less	40 or less	20 or less	30 or less	40 or less
	2-position double	20 or less	30 or less	40 or less	20 or less	30 or less	40 or less
	3-position	30 or less	35 or less	50 or less	30 or less	40 or less	50 or less
Effective cross-sectional area (mm ²)	2-position	4.1	12.3	14.0	4.0	12.0	14.0
	3-position	3.5	10.0	11.0	4.0	10.5	11.5

The response times are values with working pressure of 0.5 MPa at 20°C, without lubrication.

Item			4RD1	4RD2	4RD3
Weight (g)	2-position single	Grommet lead wire	42	81	115
		E-connector	44	83	117
	2-position double	Grommet lead wire	59	101	135
		E-connector	61	105	139
	3-position	Grommet lead wire	60	109	145
		E-connector	64	113	149
	Weight of manifold sub-plate Calculation formula (n: number of stations)			23n+52	47n+64

Values for the E-connector include the socket assembly (with 300 mm lead wire).

For the manifold specification, add the number of stations in the above formula.

How to order

Single valve

4RD1 3 0-M5-G2 M1-3

Single valve for sub-plate mounting

4RD1 3 9-M5-G2 M1-3

A Model No.

B Solenoid position

C Port size

D Electrical connections

E Option

F Voltage

		A Model No.		
Code	Description	4RD1	4RD2	4RD3
B Solenoid position				
1	2-position single	●	●	●
2	2-position double	●	●	●
3	3-position all ports closed	●	●	●
4	3-position A/B/R connection	●	●	●
5	3-position P/A/B connection	●	●	●
C Port size				
Port	Port A/B			
M5	M5	●		
06	Rc1/8		●	
08	Rc1/4			●
GS4	Push-in fitting $\phi 4$	●	●	
GS6	Push-in fitting $\phi 6$	●	●	●
GS8	Push-in fitting $\phi 8$		●	●
GS10	Push-in fitting $\phi 10$			●
D Electrical connections				
G2	Grommet lead wire (300mm) *1	●	●	●
E2	E-connector (300mm)	●	●	●
E20	E-connector (500mm)	●	●	●
E21	E-connector (1000mm)	●	●	●
E22	E-connector (2000mm)	●	●	●
E23	E-connector (3000mm)	●	●	●
E2N	E-connector (without lead wire)	●	●	●
E Option				
Blank	Manual non-locking	●	●	●
M1	Manual locking	●	●	●
F	Port A/B filter integrated	●	●	●
F Voltage				
1	AC100V	●	●	●
3	DC24V	●	●	●
4	DC12V	●	●	●
6	AC220V	●	●	●

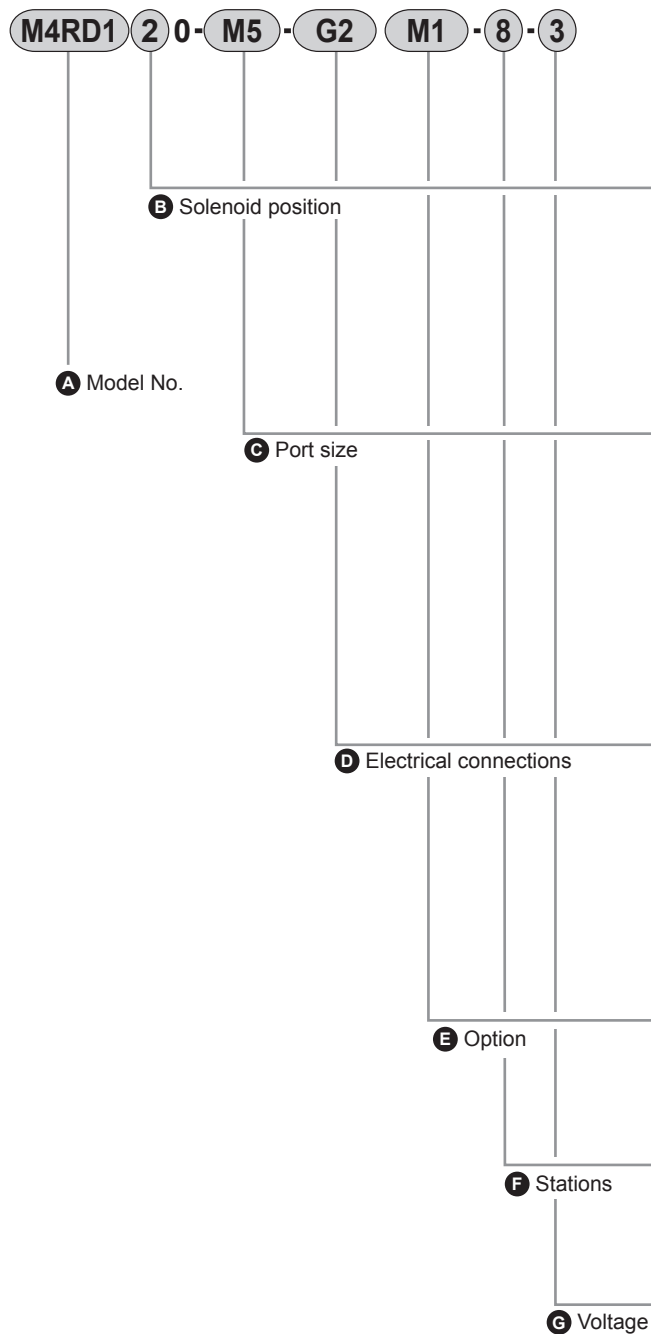
⚠ Precautions for model selection

*1: The grommet lead wire specifications are for DC voltages only

M4RD Series

How to order

Manifold

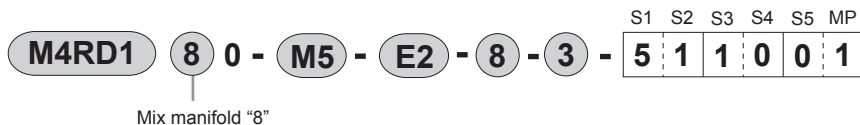


		A Model No.		
Code	Description	M4RD1	M4RD2	M4RD3
B Solenoid position				
1	2-position single	●	●	●
2	2-position double	●	●	●
3	3-position all ports closed	●	●	●
4	3-position A/B/R connection	●	●	●
5	3-position P/A/B connection	●	●	●
8	Mix manifold	●	●	●
C Port size				
Port	Port A/B			
M5	M5	●		
06	Rc1/8		●	
08	Rc1/4			●
GS4	Push-in fitting $\phi 4$	●	●	
GS6	Push-in fitting $\phi 6$	●	●	●
GS8	Push-in fitting $\phi 8$		●	●
GS10	Push-in fitting $\phi 10$			●
D Electrical connections				
G2	Grommet lead wire (300mm) *1	●	●	●
E2	E-connector (300mm)	●	●	●
E20	E-connector (500mm)	●	●	●
E21	E-connector (1000mm)	●	●	●
E22	E-connector (2000mm)	●	●	●
E23	E-connector (3000mm)	●	●	●
E2N	E-connector (without lead wire)	●	●	●
E Option				
Blank	Manual non-locking	●	●	●
M1	Manual locking	●	●	●
F	Port A/B filter integrated	●	●	●
F Stations				
2	2 stations	●	●	●
}	}	●	●	●
20	20 stations	●	●	●
G Voltage				
1	AC100V	●	●	●
3	DC24V	●	●	●
4	DC12V	●	●	●
6	AC220V	●	●	●

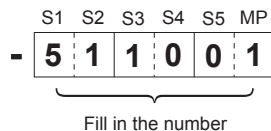
⚠ Precautions for model selection

*1: The grommet lead wire specifications are for DC voltages only

●How to order the mix manifold model

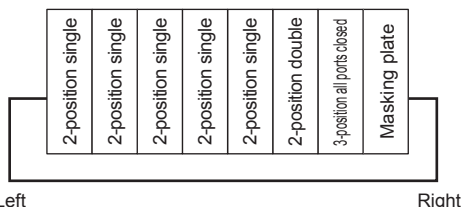


Indicate the number of solenoid positions at the end of the model. Functions and codes are as shown in the table below.



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

*Mounting example



If more than 10 valves of the same model are used, specify with symbols shown in the table below.

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

Note: The standard configuration of CKD's mix manifold valve upon delivery is: 2-position single, 2-position double, 3-position all ports closed and masking plate arranged in order from the left side of the manifold valve (as shown in the mounting example). For special position requirements, indicate them in the manifold specifications sheet. Refer to pages 40 to 42 for details.

●How to order the manifold sub-plate

M4RD1 - Stations

M4RD2 - Stations

M4RD3 - Stations *Stations : 2 to 20

●How to order the masking plate

4R1 - MPC

4R2 - MPC

4R3 - MPC

●E-connector sockets

4R - SOCKET - ASSY - Electrical connection - Voltage

Electrical connection	Socket length	Voltage	Magnitude
E2	E-connector (300 mm)	1	AC100V
E20	E-connector (500 mm)	3	DC24V
E21	E-connector (1000 mm)	4	DC12V
E22	E-connector (2000 mm)	6	AC220V
E23	E-connector (3000 mm)		

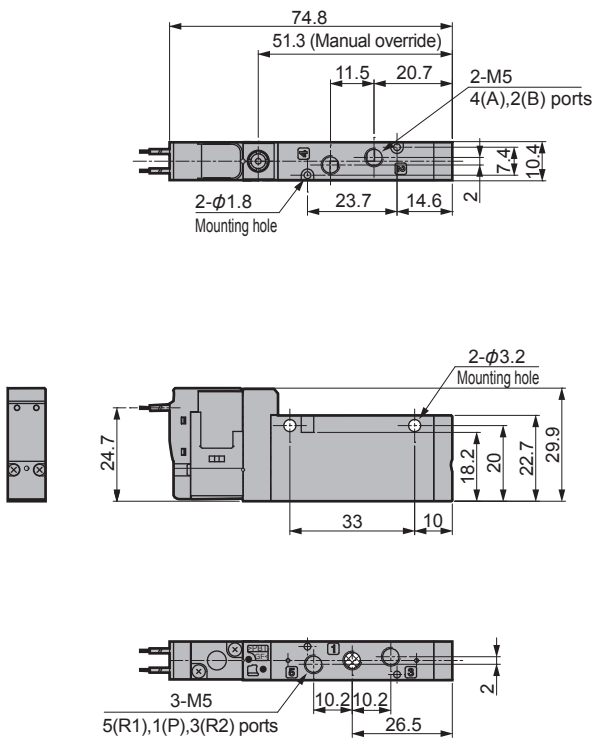
●How to order push-in fittings

Type	Size	Model	Name
4RD1	GS4	4R1-JOINT-GS4	Push-in fitting ϕ 4 (M5)
	GS6	4R1-JOINT-GS6	Push-in fitting ϕ 6 (M5)
4RD2	GS4	4R2-JOINT-GS4	Push-in fitting ϕ 4 (R1/8)
	GS6	4R2-JOINT-GS6	Push-in fitting ϕ 6 (R1/8)
	GS8	4R2-JOINT-GS8	Push-in fitting ϕ 8 (R1/8)
4RD3	GS6	4R3-JOINT-GS6	Push-in fitting ϕ 6 (R1/4)
	GS8	4R3-JOINT-GS8	Push-in fitting ϕ 8 (R1/4)
	GS10	4R3-JOINT-GS10	Push-in fitting ϕ 10 (R1/4)

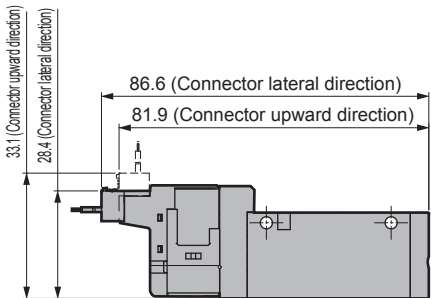
Dimensions

4RD110

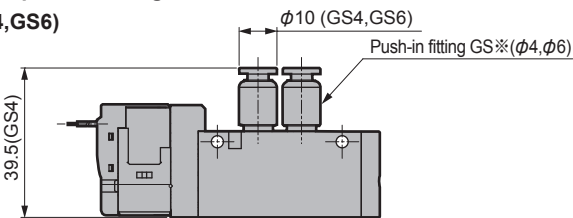
●Grommet lead wire (G2)



●E-connector (E2※)

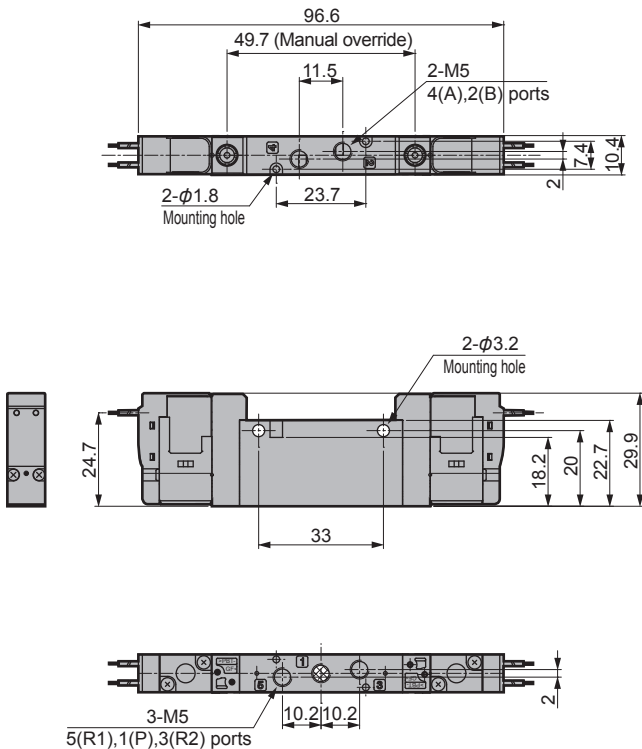


●φ4,φ6 push-in fittings (GS4,GS6)

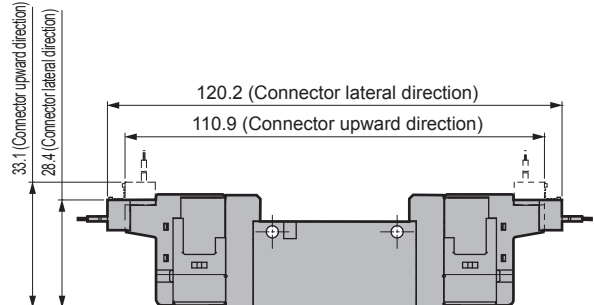


4RD120

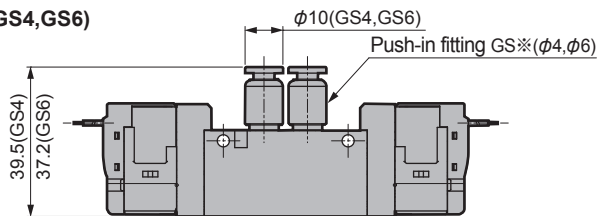
●Grommet lead wire (G2)



●E-type connector (E2※)



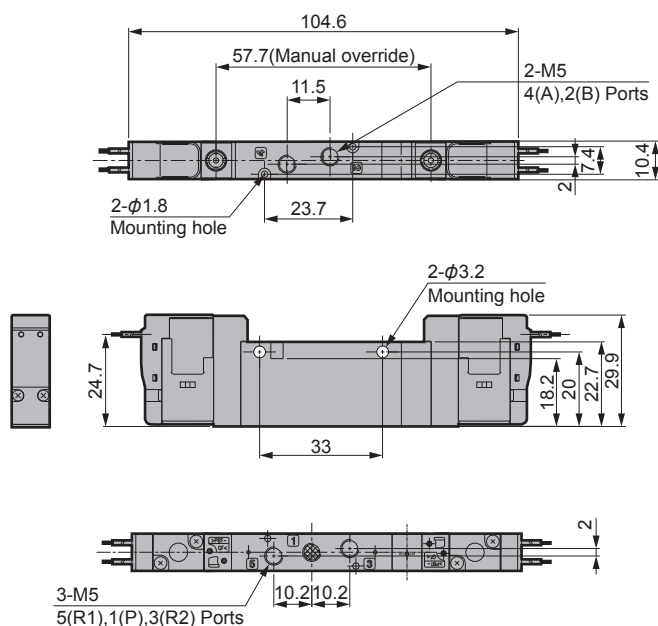
●φ4,φ6 push-in fittings (GS4,GS6)



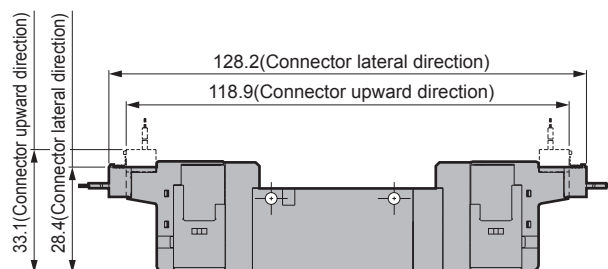
Dimensions

4RD1³₄0

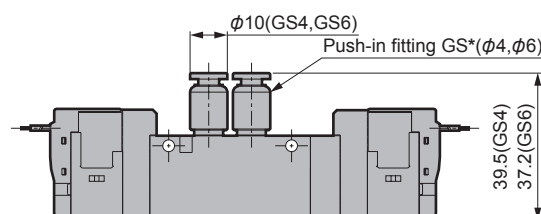
●Grommet lead wire (G2)



●E-connector (E2*)

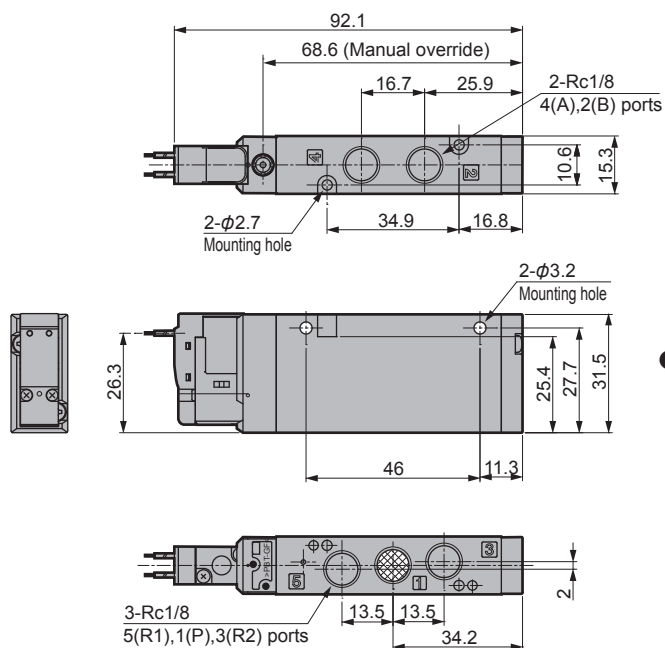


● ϕ 4, ϕ 6 Push-in fitting (GS4,GS6)

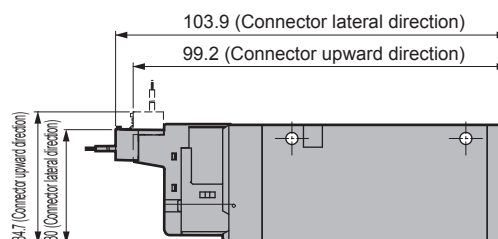


4RD210

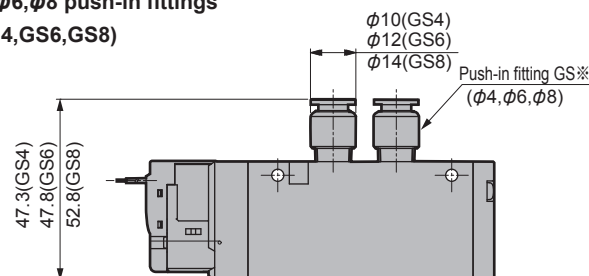
●Grommet lead wire (G2)



●E-connector (E2※)



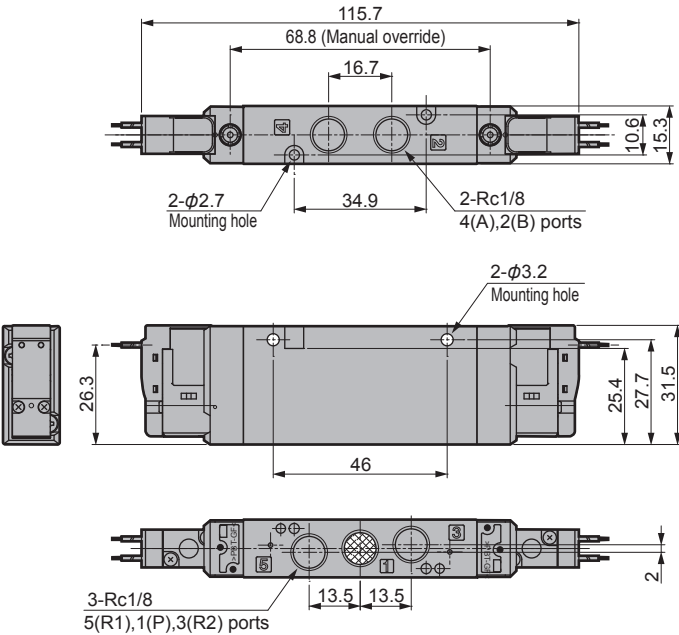
● ϕ 4, ϕ 6, ϕ 8 push-in fittings (GS4,GS6,GS8)



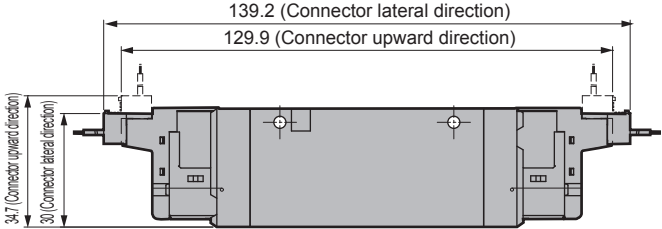
Dimensions

4RD220

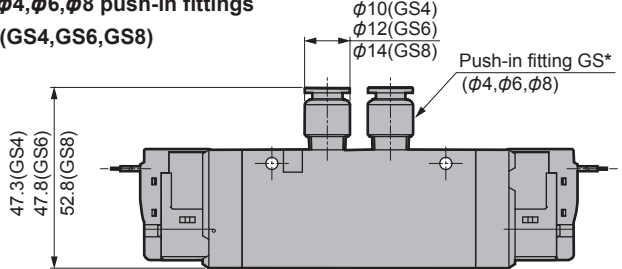
●Grommet lead wire (G2)



●E-connector (E2*)

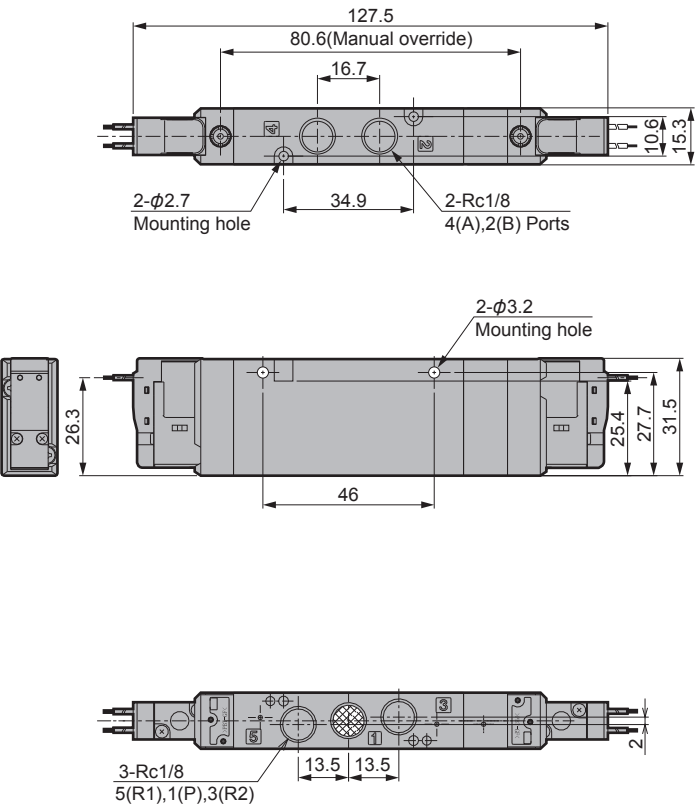


● ϕ 4, ϕ 6, ϕ 8 push-in fittings (GS4,GS6,GS8)

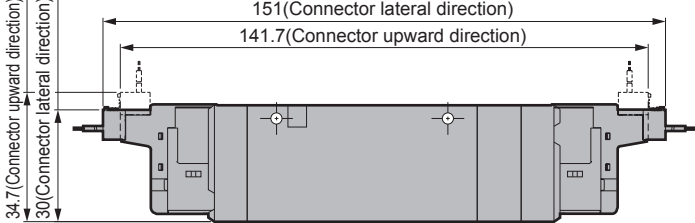


4RD2³/₄0

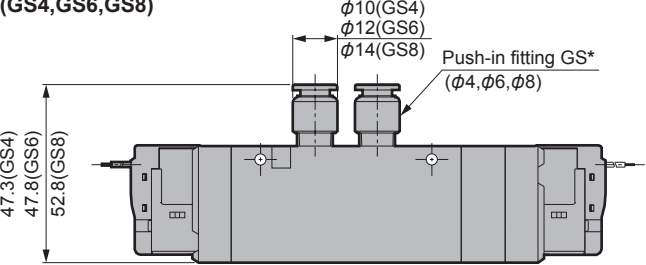
●Grommet lead wire (G2)



●E-connector (E2*)



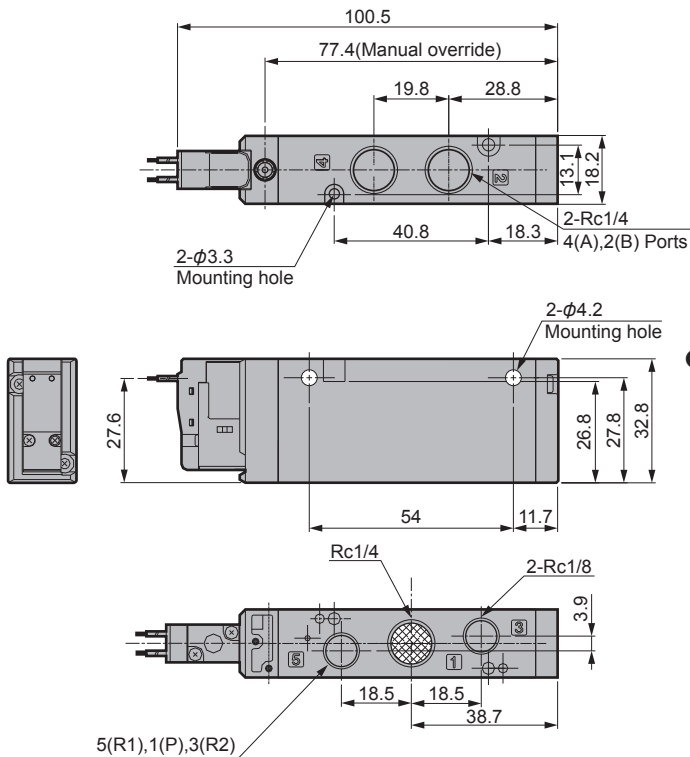
● ϕ 4, ϕ 6, ϕ 8 Push-in fittings (GS4,GS6,GS8)



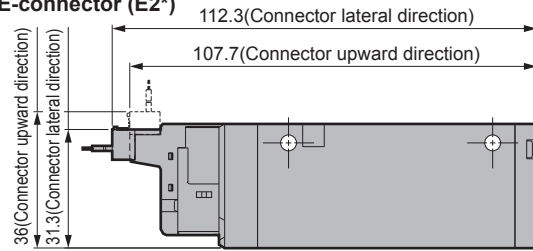
Dimensions

4RD310

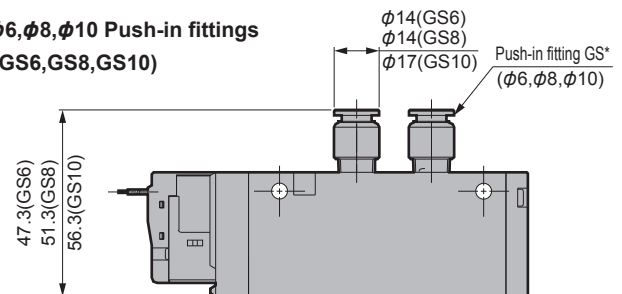
●Grommet lead wire (G2)



●E-connector (E2*)

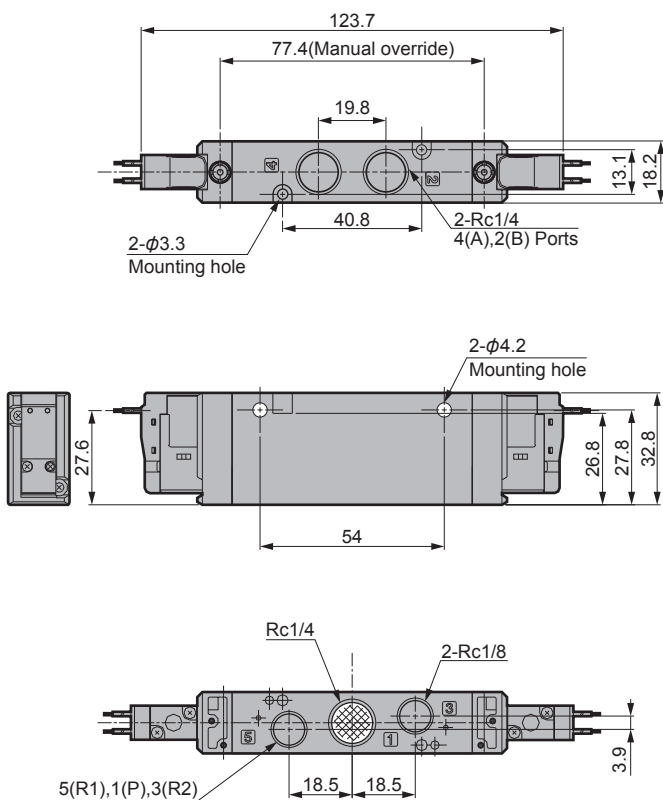


● ϕ 6, ϕ 8, ϕ 10 Push-in fittings (GS6,GS8,GS10)

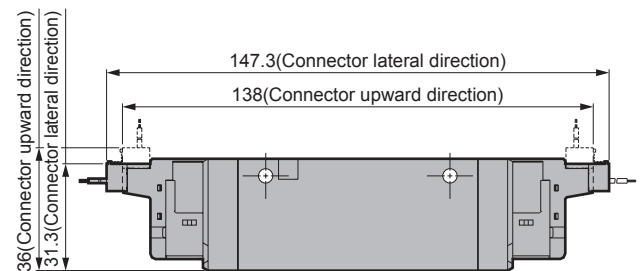


4RD320

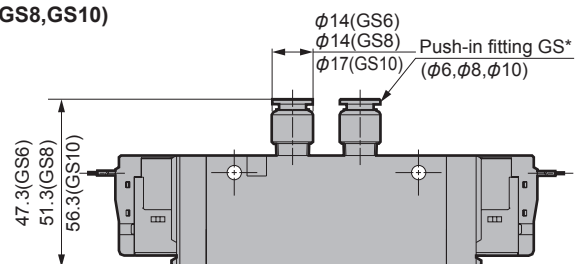
●Grommet lead wire (G2)



●E-connector (E2*)



● ϕ 6, ϕ 8, ϕ 10 Push-in fittings (GS6,GS8,GS10)

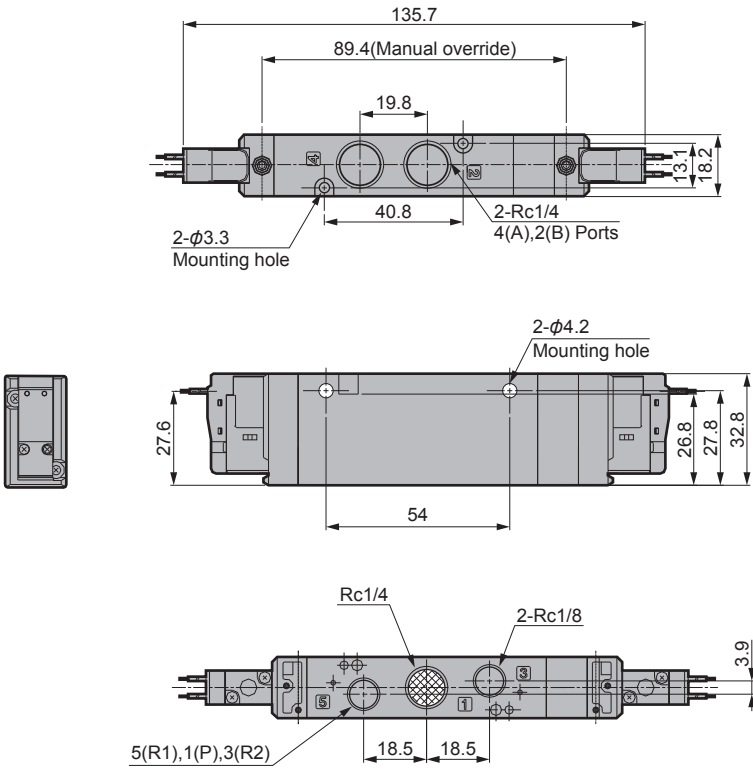


4RD3 Series

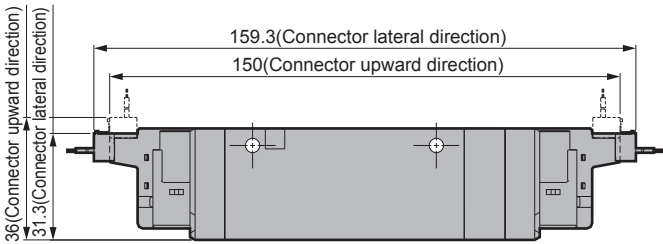
Dimensions

4RD3_{5A0}

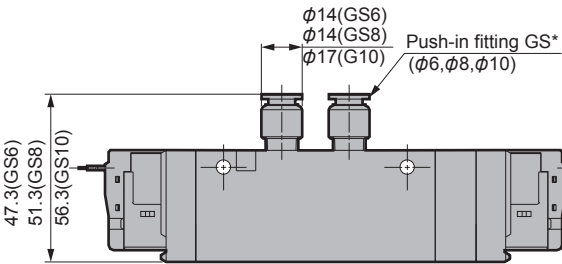
●Grommet lead wire (G2)



●E-connector (E2*)



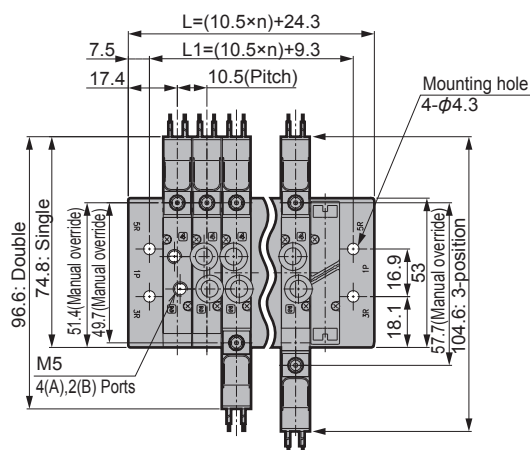
● ϕ 6, ϕ 8, ϕ 10 Push-in fittings (GS6,GS8,GS10)



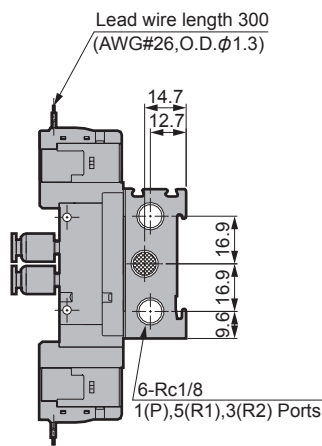
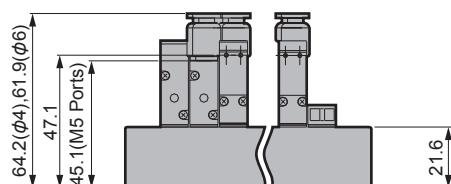
Dimensions

M4RD1*0

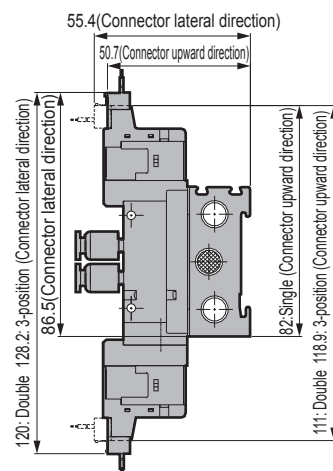
●Grommet lead wire (G2)



(1st station) ... (nth station)

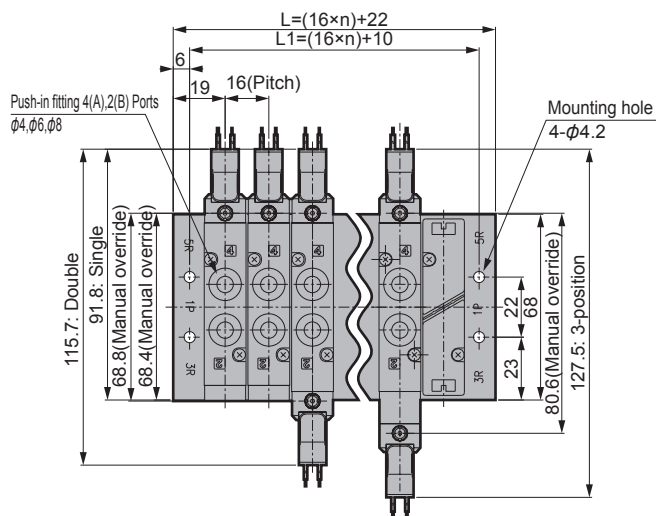


●E-connector (E2*)

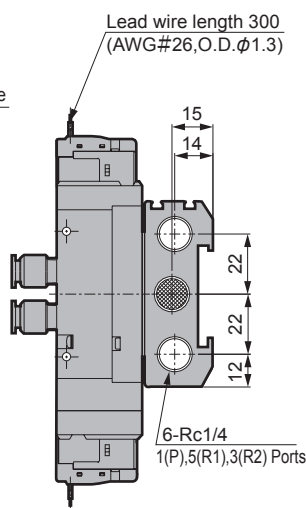
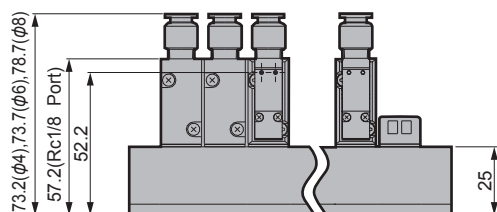


M4RD2*0

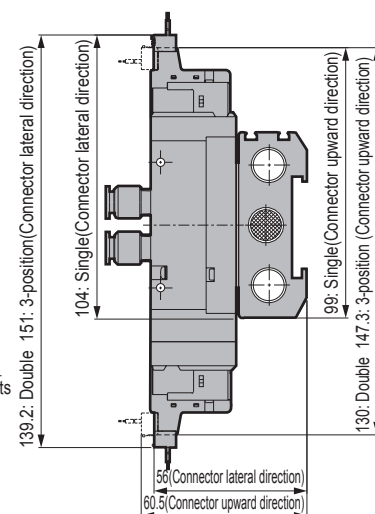
●Grommet lead wire (G2)



(1st station) ... (nth station)



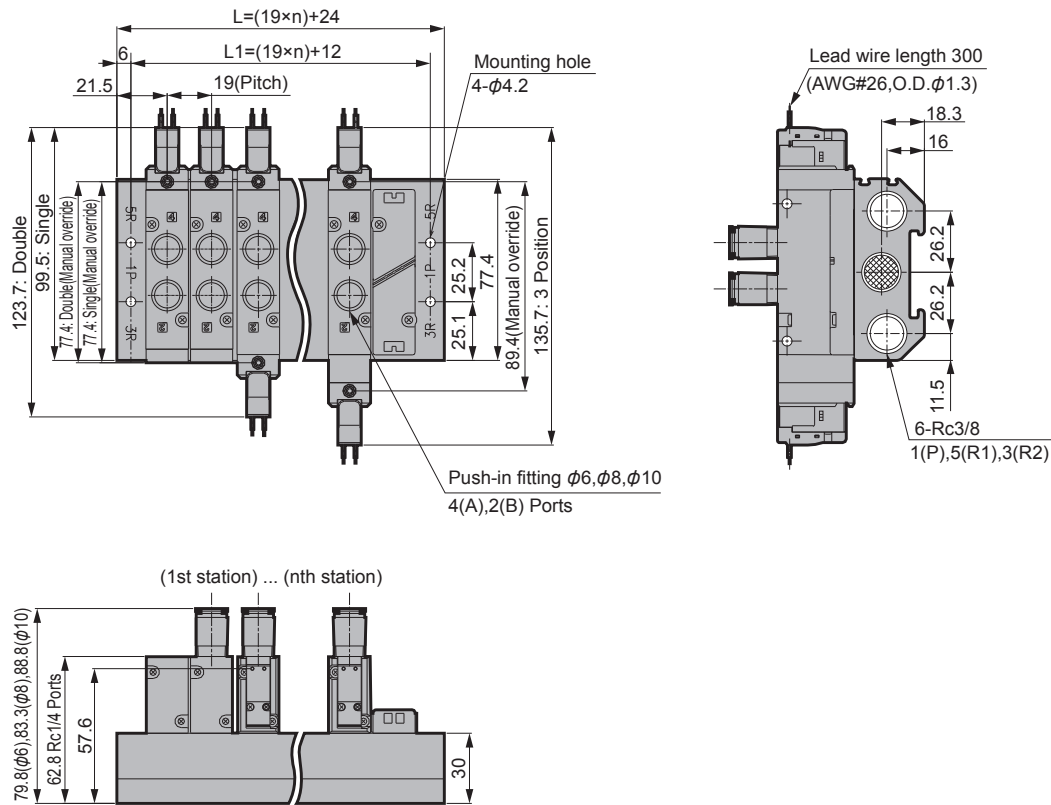
●E-connector (E2*)



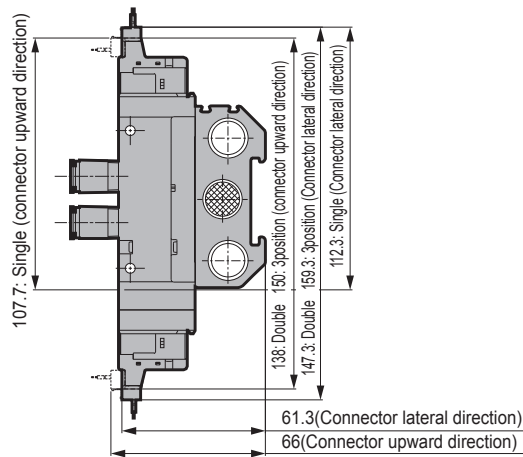
Dimensions

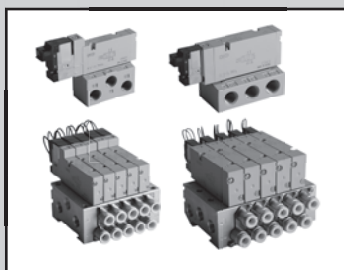
M4RD3*0

●Grommet lead wire (G2)



●E-connector (E2*)





Pilot operated 5-port valve valve Rear piping

4RE/M4RE Series

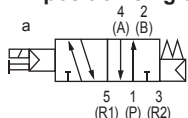
●Compatible cylinder diameter: $\phi 6$ to $\phi 100$



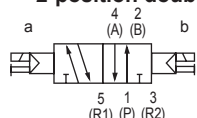
JIS symbol

● 5 port valve

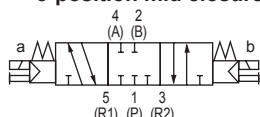
2-position single



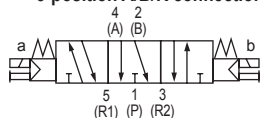
2-position double



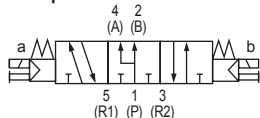
3-position mid closure



3-position A/B/R connection



3-position P/A/B connection



General specifications

Item	Description
Valve type and operation mode	Internal pilot operated soft spool
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 type
Pilot exhaust method	Main valve/pilot operated valve exhaust
Lubrication *1	Not required
Protection degree *2	Dustproof
Vibration/impact m/s ²	50 or less/300 or less
Usage environment	Do not use this product in a corrosive gaseous atmosphere

*1: Use turbine oil class 1 ISO VG32 if necessary for lubrication.

Excessive or intermittent lubrication results in unstable operation.

*2: During use, prevent splattering of water droplets or oil, etc.

Electrical specifications

Item	Description
Rated voltage	DC24V DC12V AC100V AC220V
Voltage fluctuation range	±10%
Holding current A	0.017 0.034 0.009 0.006
Power W	0.4 -
Apparent power VA	- 0.98 1.26
Thermal class	B
Surge suppressor	Equipped as standard
Indicator lamp	With indicator lamp

Specifications of all types

Item		4RE1	4RE2	4RE3	M4RE1	M4RE2	M4RE3
Port Size	Port A/B	Rc1/8	Rc1/4	Rc1/4, Rc3/8	M5 push-in fitting φ4, φ6	Rc1/8 push-in fitting φ4, φ6, φ8	Rc1/4 push-in fitting φ6, φ8, φ10
	Port P/R1/R2	Rc1/8	Rc1/4	Rc1/4, Rc3/8	Rc1/8	Rc1/4	Rc3/8

Item		4RE1	4RE2	4RE3	M4RE1	M4RE2	M4RE3
Response time (ms)	2-position single	20 or less	30 or less	40 or less	20 or less	30 or less	40 or less
	2-position double	20 or less	30 or less	40 or less	20 or less	30 or less	40 or less
	3-position	30 or less	35 or less	50 or less	30 or less	40 or less	50 or less
Effective cross-sectional area (mm ²)	2-position	6	13	16	6.0	13.5	16
	3-position	4.5	11.5	15	4.5	10	15

The response times are values with working pressure of 0.5 MPa at 20°C, without lubrication.

Item			4RE1	4RE2	4RE3
Weight (g)	2-position single	Grommet lead wire	40	79	113
		E-connector	42	81	115
	2-position double	Grommet lead wire	58	99	133
		E-connector	60	103	135
	3-position	Grommet lead wire	101(59)	148(106)	143
		E-connector	105(63)	152(110)	145
	Weight of manifold sub-plate Calculation formula (n: number of stations)		35n+51	71n+106	113n+170

() shows the value without piping adaptor. Values for the E-connector include the socket assembly (with 300 mm lead wire).

Manifold weight is the value for thread specification. For the manifold specification, add the number of stations in the above formula.

4RE Series

How to order

Single valve

4RE1 3 0-06-G2 M1-3

Single valve for sub-plate mounting

4RE1 3 9-00-G2 M1-3

A Model No.

B Solenoid position

C Port size

D Electrical connections

E Option

F Voltage

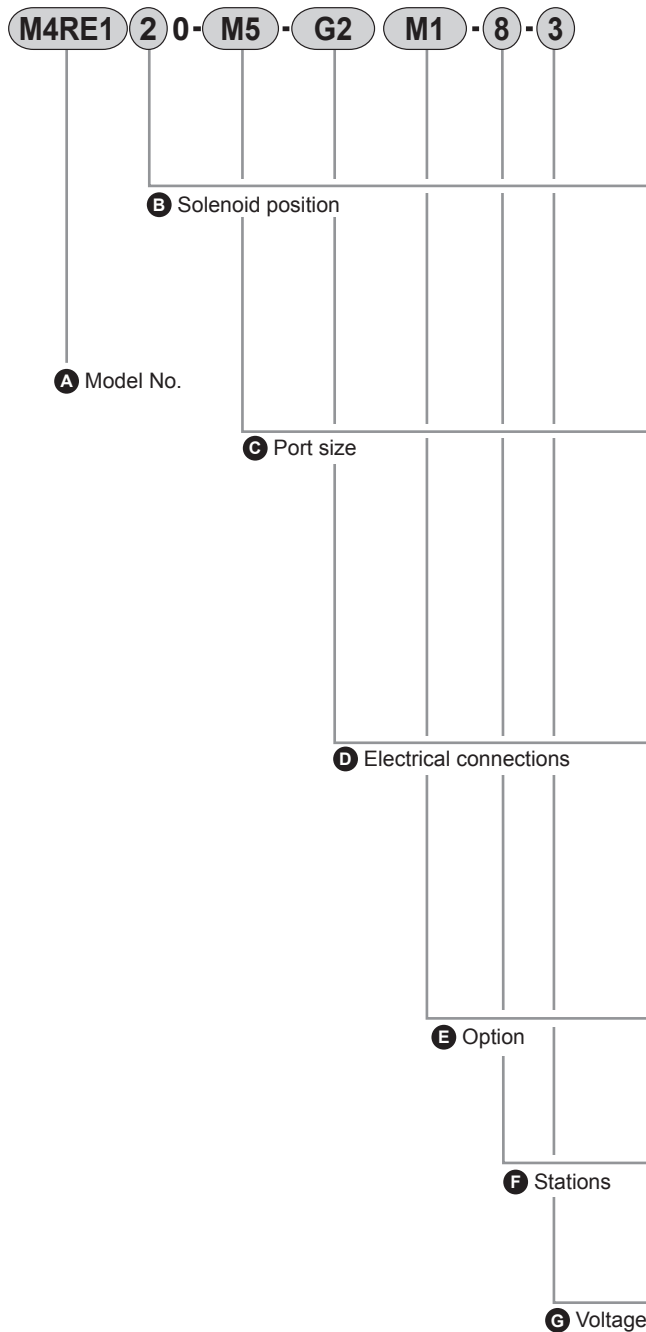
		A Model No.		
Code	Description	4RE1	4RE2	4RE3
B Solenoid position				
1	2-position single	●	●	●
2	2-position double	●	●	●
3	3-position all ports closed	●	●	●
4	3-position A/B/R connection	●	●	●
5	3-position P/A/B connection	●	●	●
C Port size				
Port	Port A/B			
06	Rc1/8	●		
08	Rc1/4		●	●
10	Rc3/8			●
00	For sub-plate mounting	●	●	●
D Electrical connections				
G2	Grommet lead wire (300mm) *1	●	●	●
E2	E-connector (300mm)	●	●	●
E20	E-connector (500mm)	●	●	●
E21	E-connector (1000mm)	●	●	●
E22	E-connector (2000mm)	●	●	●
E23	E-connector (3000mm)	●	●	●
E2N	E-connector (without lead wire)	●	●	●
E Option				
Blank	Manual non-locking	●	●	●
M1	Manual locking	●	●	●
F	Port A/B filter integrated	●	●	●
F Voltage				
1	AC100V	●	●	●
3	DC24V	●	●	●
4	DC12V	●	●	●
6	AC220V	●	●	●

⚠ Precautions for model selection

*1: The grommet lead wire specifications are for DC voltages only

How to order

Manifold

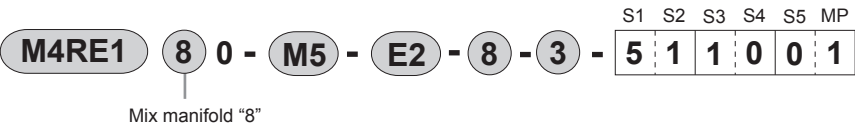


		A Model No.		
Code	Description	M4RE1	M4RE2	M4RE3
B Solenoid position				
1	2-position single	●	●	●
2	2-position double	●	●	●
3	3-position all ports closed	●	●	●
4	3-position A/B/R connection	●	●	●
5	3-position P/A/B connection	●	●	●
8	Mix manifold	●	●	●
C Port size				
Port	Port A/B			
M5	M5	●		
06	Rc1/8		●	
08	Rc1/4			●
C4	Push-in fitting $\phi 4$	●	●	
C6	Push-in fitting $\phi 6$	●	●	●
C8	Push-in fitting $\phi 8$		●	●
C10	Push-in fitting $\phi 10$			●
D Electrical connections				
G2	Grommet lead wire (300mm) *1	●	●	●
E2	E-connector (300mm)	●	●	●
E20	E-connector (500mm)	●	●	●
E21	E-connector (1000mm)	●	●	●
E22	E-connector (2000mm)	●	●	●
E23	E-connector (3000mm)	●	●	●
E2N	E-connector (without lead wire)	●	●	●
E Option				
Blank	Manual non-locking	●	●	●
M1	Manual locking	●	●	●
F	Port A/B filter integrated	●	●	●
F Stations				
2	2 stations	●	●	●
∅	∅	●	●	●
20	20 stations	●	●	●
G Voltage				
1	AC100V	●	●	●
3	DC24V	●	●	●
4	DC12V	●	●	●
6	AC220V	●	●	●

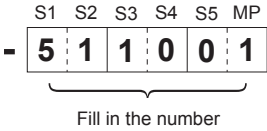
⚠ Precautions for model selection

*1: The grommet lead wire specifications are for DC voltages only

●How to order the mix manifold model

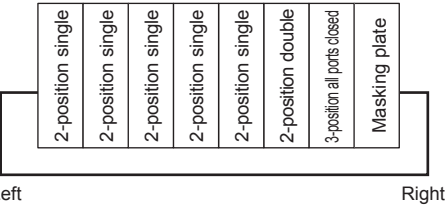


Indicate the number of solenoid positions at the end of the model.
Functions and codes are as shown in the table below.



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

*Mounting example



If more than 10 valves of the same model are used, specify with codes shown in the table below.

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

Note: The standard configuration of CKD's mix manifold valve upon delivery is: 2-position single, 2-position double, 3-position all ports closed and masking plate arranged in order from the left side of the manifold valve (as shown in the mounting example). For special position requirements, indicate them in the manifold specifications sheet. Refer to pages 40 to 42 for details.

●How to order the manifold sub-plate

M4RE1 - Size - Option - Stations *Size: M5, C4, C6, Option : Blank, F, Stations : 2 to 20

M4RE2 - Size - Option - Stations *Size: 06, C4, C6, C8, Option: Blank, F, Stations : 2 to 20

M4RE3 - Size - Option - Stations *Size: 08, C6, C8, C10, Option: Blank, F, Stations : 2 to 20

●How to order the masking plate

4R1 - MPC

4R2 - MPC

4R3 - MPC

●E-connector sockets

4R - SOCKET - ASSY - Electrical connection - Voltage

Electrical connection	Socket length	Voltage	Magnitude
E2	E-connector (300 mm)	1	AC100V
E20	E-connector (500 mm)	3	DC24V
E21	E-connector (1000 mm)	4	DC12V
E22	E-connector (2000 mm)	6	AC220V
E23	E-connector (3000 mm)		

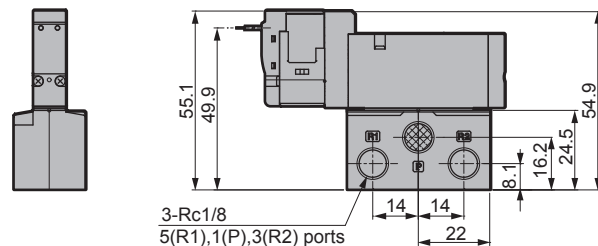
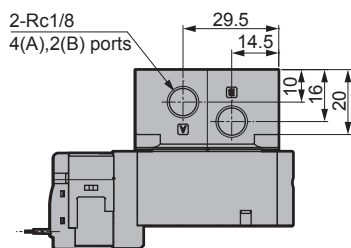
●How to order push-in fittings

Type	Size	Model	Name
M4RE1	C4	4R1-JOINT-C4	Push-in fitting ϕ 4
	C6	4R1-JOINT-C6	Push-in fitting ϕ 6
M4RE2	C4	4R2-JOINT-C4	Push-in fitting ϕ 4
	C6	4R2-JOINT-C6	Push-in fitting ϕ 6
	C8	4R2-JOINT-C8	Push-in fitting ϕ 8
M4RE3	C6	4R3-JOINT-C6	Push-in fitting ϕ 6
	C8	4R3-JOINT-C8	Push-in fitting ϕ 8
	C10	4R3-JOINT-C10	Push-in fitting ϕ 10

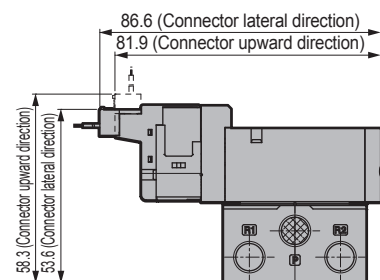
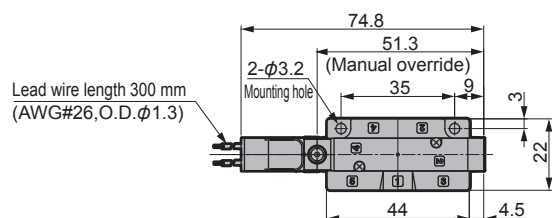
Dimensions

4RE110

●Grommet lead wire (G2)

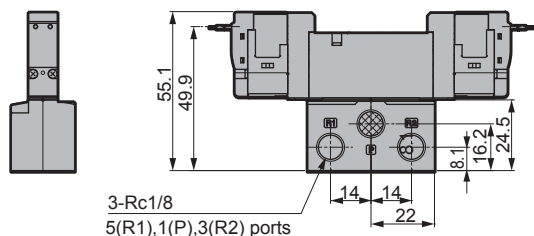
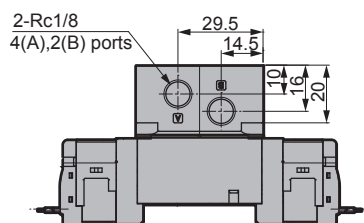


●E-connector (E2※)

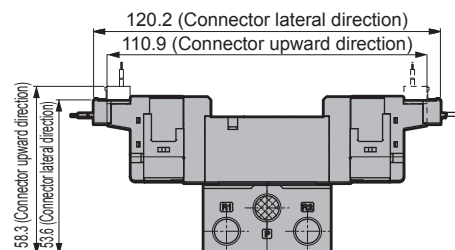
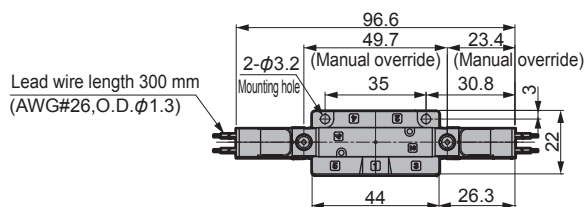


4RE120

●Grommet lead wire (G2)



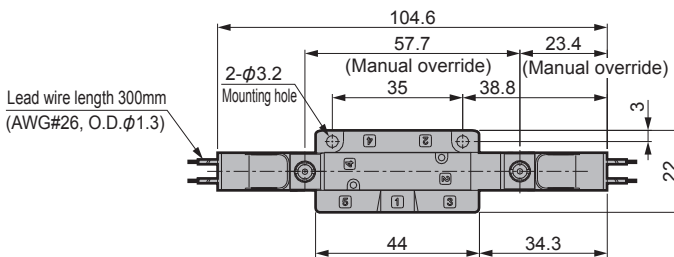
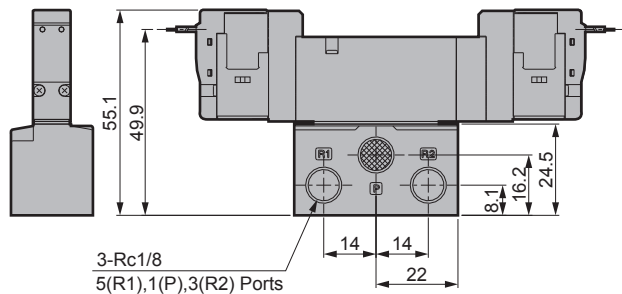
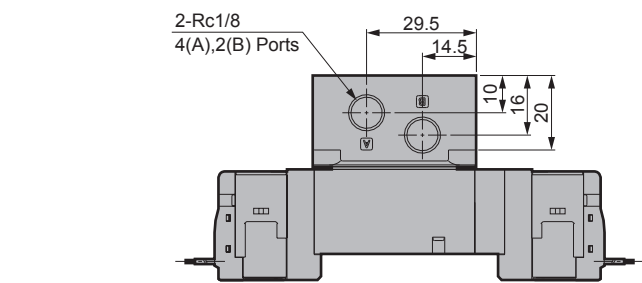
●E-connector (E2※)



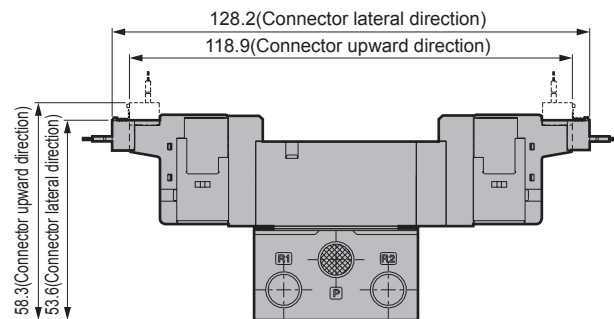
Dimensions

4RE1³₄0

●Grommet lead wire (G2)

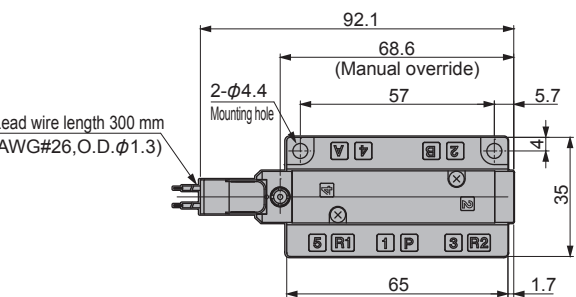
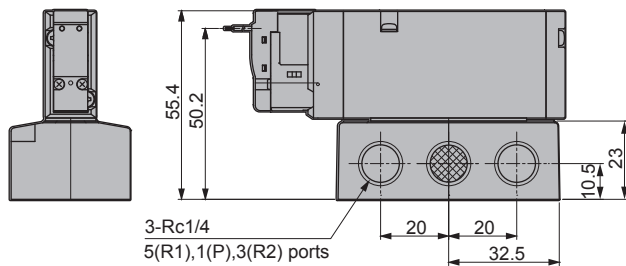
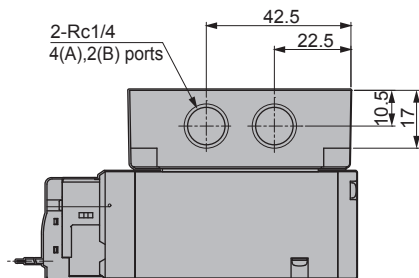


●E-connector (E2*)

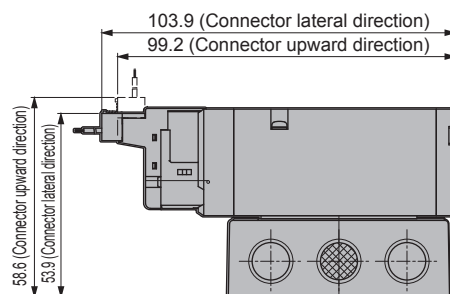


4RE210

●Grommet lead wire (G2)



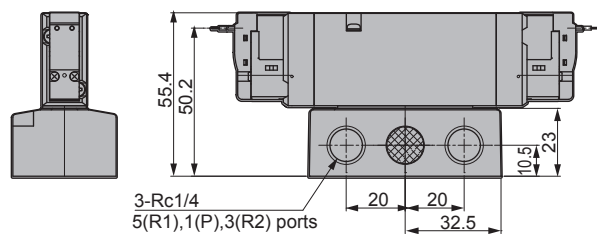
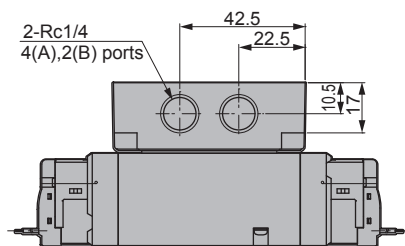
●E-connector (E2*)



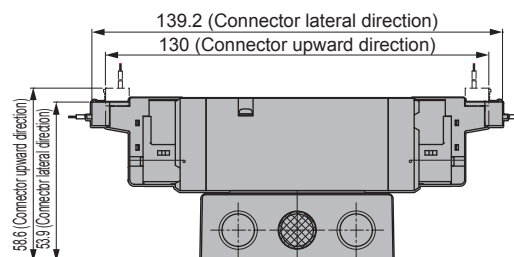
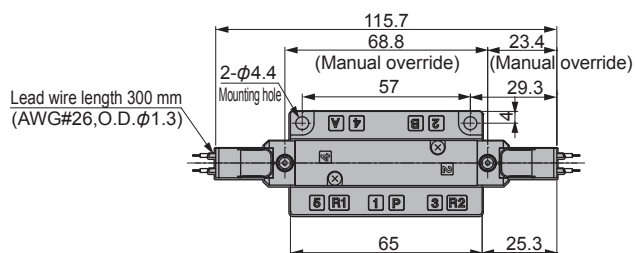
Dimensions

4RE220

●Grommet lead wire (G2)

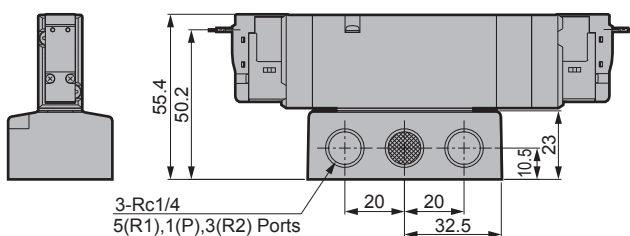
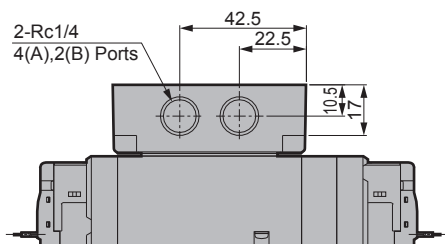


●E-connector (E2*)

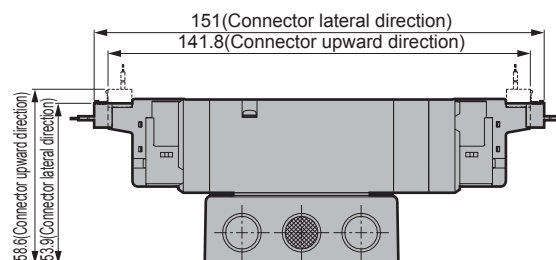
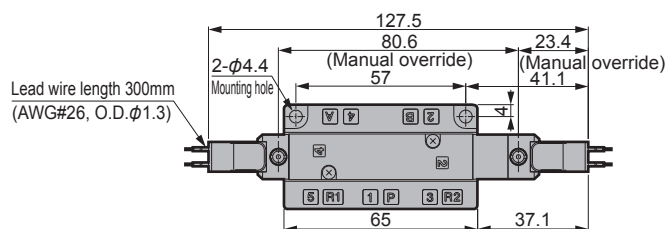


4RE2³/₅0

●Grommet lead wire (G2)



●E-connector (E2*)

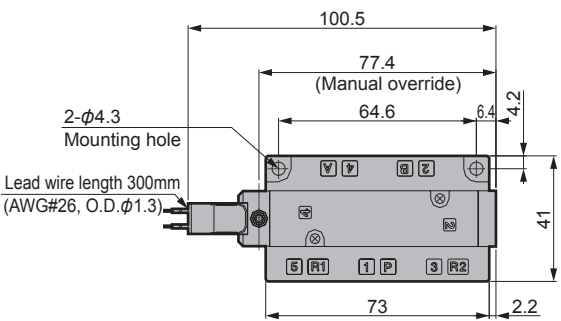
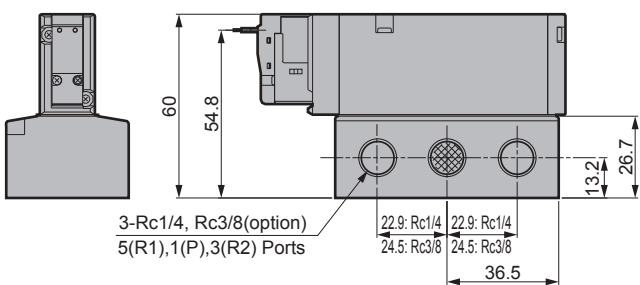
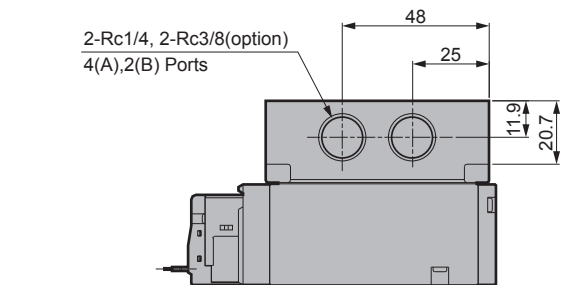


4RE3 Series

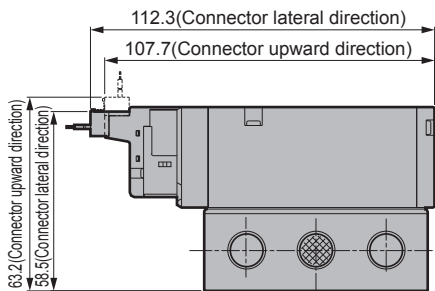
Dimensions

4RE310

●Grommet lead wire (G2)

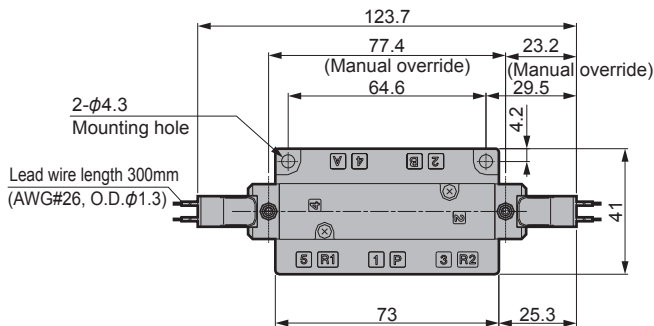
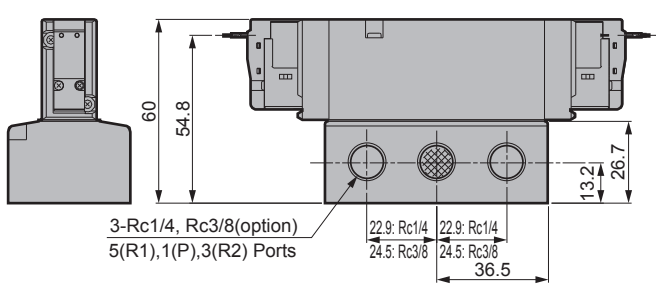
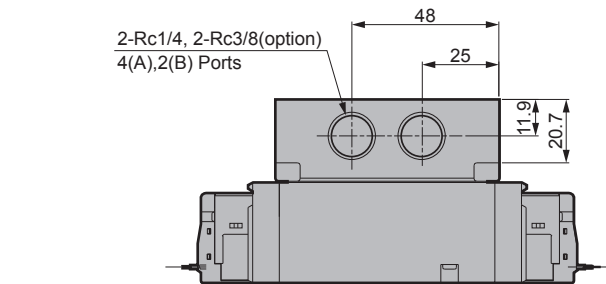


●E-connector (E2*)

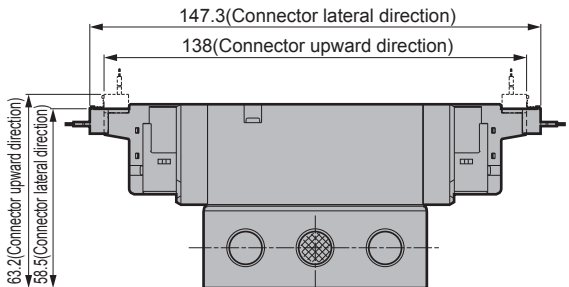


4RE320

●Grommet lead wire (G2)



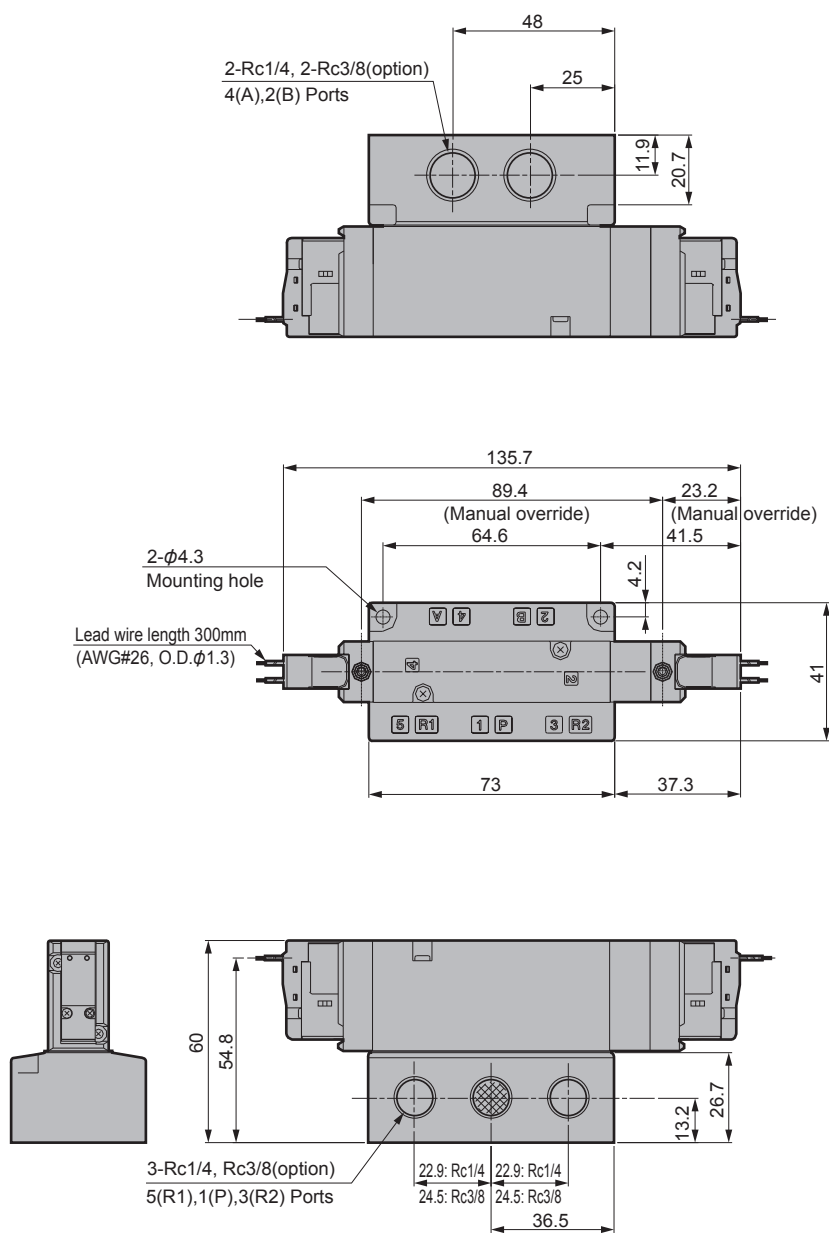
●E-connector (E2*)



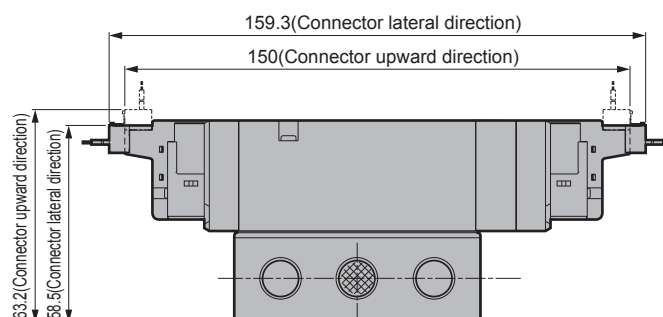
Dimensions

4RE3³₄₀

● Grommet lead wire (G2)



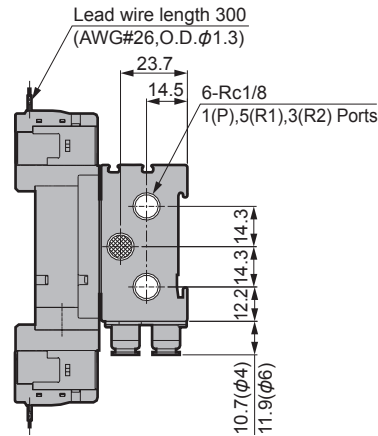
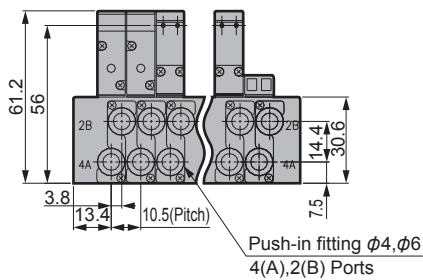
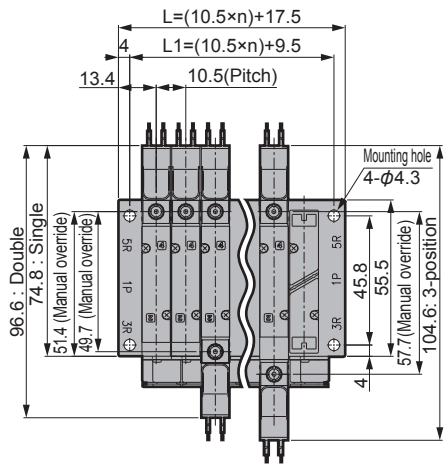
● E-connector (E2*)



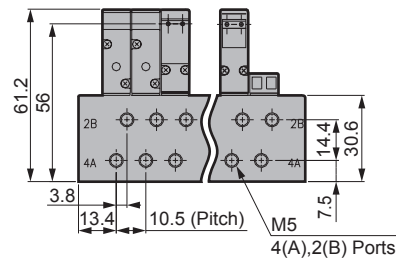
Dimensions

M4RE1*0

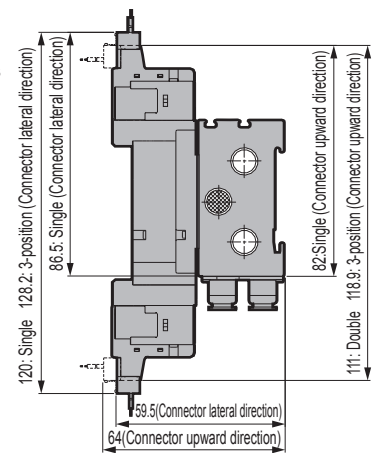
●Grommet lead wire (G2)



●M5 female thread type (M5)

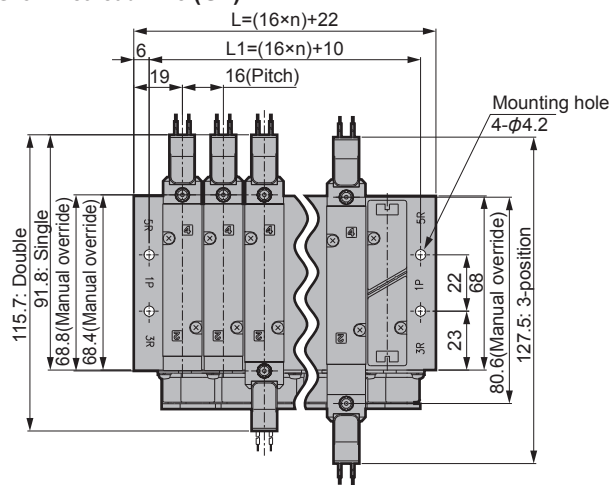


●E-connector (E2*)

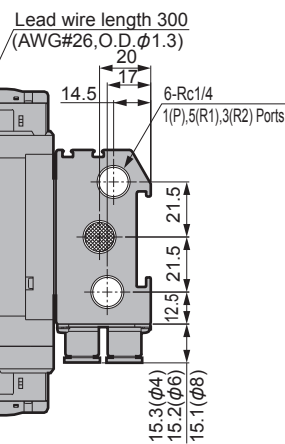
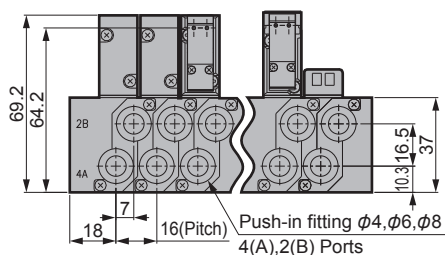


M4RE2*0

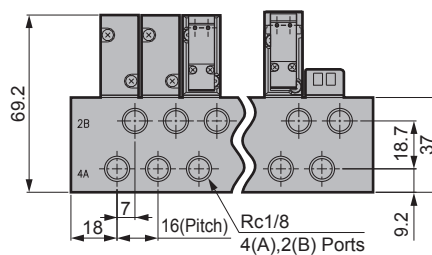
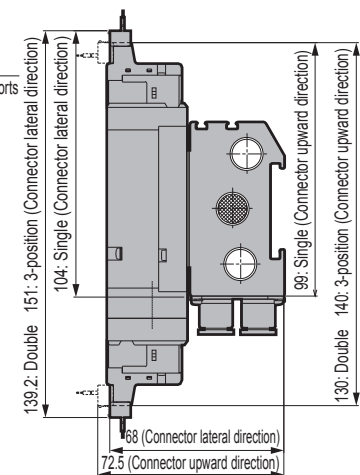
●Grommet lead wire (G2)



(1st station) ... (nth station)



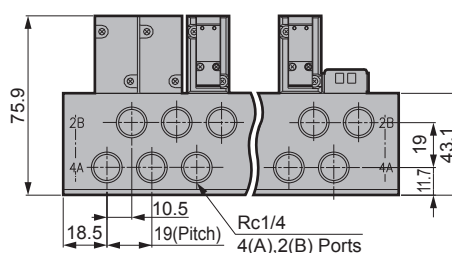
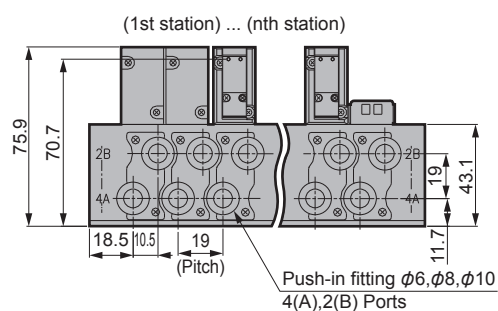
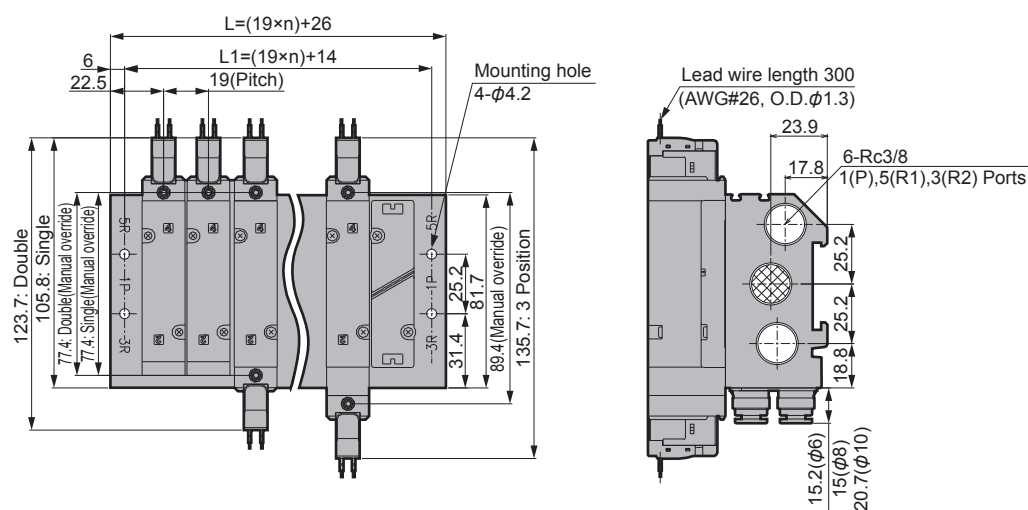
●E-connector (E2*)



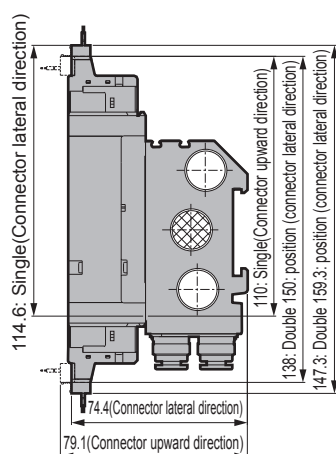
Dimensions

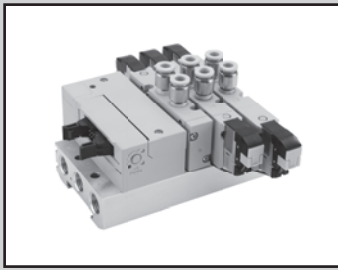
M4RE3*0

●Grommet lead wire (G2)



●E-connector (E2*)





Reduced wiring manifold Body piping
Direct mount/DIN rail mount

M4RD1/2/3-T*(D)Series

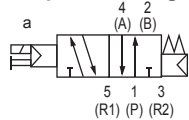
● Cylinder bore size: $\phi 20$ to $\phi 100$

RoHS

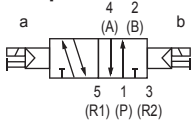
JIS symbol

● 5-port valve

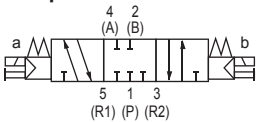
2-position single



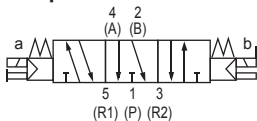
2-position double



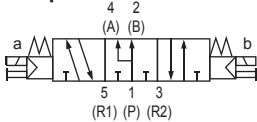
3-position mid closure



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Item	Description
Manifold style	Reduced wiring sub-plate integrated
Mounting style	Direct mount/DIN rail mount
Pilot exhaust method	Internal pilot
Piping direction	Valve upper surface direction
Valve type and operation mode	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure	MPa 0.7
Min. working pressure	MPa 0.2
Guaranteed 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
Lubrication	*1 No
Protection degree	*2 Dustproof
Vibration/impact	m/s ² 50 or less/300 or less
Usage environment	Cannot be used in corrosive gas environment

*1 Use turbine oil class 1 ISO VG32 if necessary for lubrication. Excessive or insufficient lubrication results in unstable operation.

*2 During use, prevent splattering of water droplets or oil, etc.

Electrical specifications

Item	Description	
	T30□, T5□	
Rated voltage	24 VDC	12 VDC
Voltage fluctuation range	±10%	
Holding current	A 0.017	0.034
Power	W 0.4	
Thermal class	B	
Surge suppressor	Zener diode	
Indicator	LED	

Specifications of all the models

General specifications

Item	M4RD1	M4RD2	M4RD3
Port size	Port A/B	Push-in fitting $\phi 4$, $\phi 6$ M5	Push-in fitting $\phi 4$, $\phi 6$, $\phi 8$ Rc1/8
	Port P/R1/R2	Push-in fitting $\phi 6$, $\phi 8$, $\phi 10$ Rc1/4	Push-in fitting $\phi 6$, $\phi 8$, $\phi 10$ Rc3/8

T30□, T5□

Item	M4RD1		M4RD2		M4RD3	
	Direct mounting	DIN rail mount	Direct mounting	DIN rail mount	Direct mounting	DIN rail mount
Max. station No.	20 stations	16 stations	20 stations	16 stations	16 stations	
Weight of manifold sub-plate Calculation formula (n: number of stations)	29n+215	31n+228	54n+264	56n+297	84n+320	86n+354

The manifold sub-plate weight is the screw connection specification value when equipped with DIN rail, wiring block or slave unit.

The max. station number of the manifold is limited by the max. number of solenoids for each of the wiring specifications as shown on the next page.

M4RD1/2/3-T*(D) Series

Reduced wiring manifold: Body piping

Wiring specifications

Item	T30□ D sub-connector	T52□ Flat cable 10-pin	T53□ Flat cable 26-pin
Connector and terminal block specifications	D sub-connector 25-pin	MIL-C-83503 standard compliant pressure welding socket 10-pin	MIL-C-83503 standard compliant pressure welding socket 26-pin
Max. number of solenoids	24 points	8 points	24 points
Manifold internal wiring	Refer to pages 49 to 51 for details		
Wiring block position Blank: Left side R : Right side	Left side: T□ a solenoid side Right side: T□R a solenoid side		
Array method Blank: Standard sequential W : Double wiring	(Example) For T52□		
	Manifold specifications		
Standard wiring (sequential): Blank			
Double wiring: W			
Connector pin No. 1 2 3 4 5 6			
Solenoid valve coil No. 1a 2a 2b 3a 4a 4b			
Connector pin No. 1 2 3 4 5 6 7 8			
Solenoid valve coil No. 1a Blank 2a 2b 3a Blank 4a 4b			

M4RD1/2/3-T*(D) Series

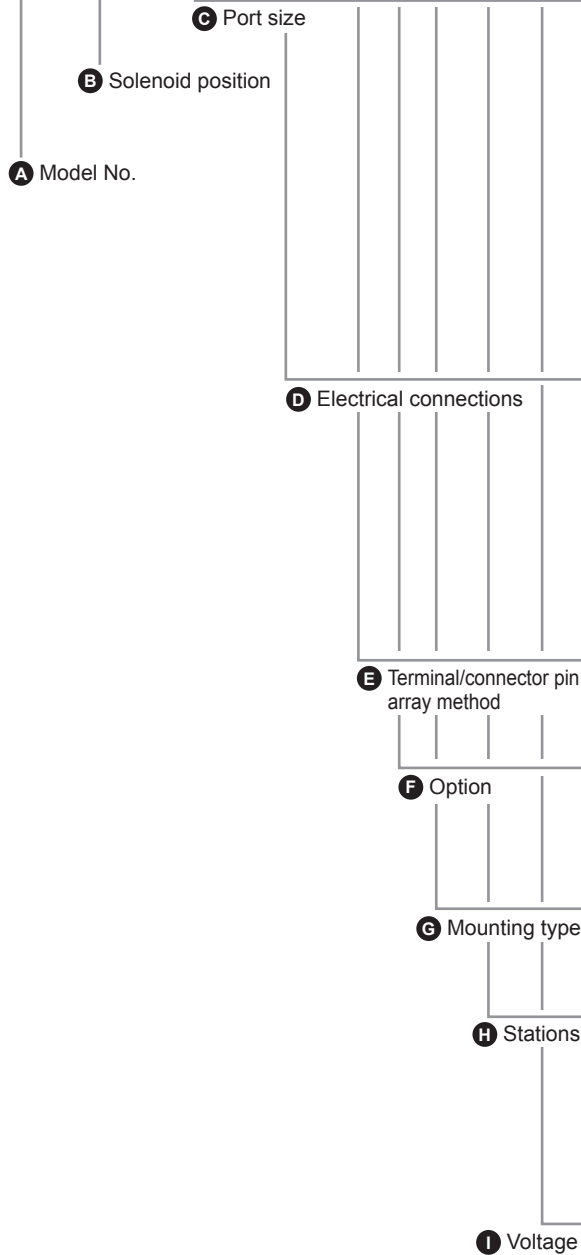
How to order

Manifold

(M) - 4RD1 - 1 0 - GSX - T30R - W F D - 5 - 3

Single valve for sub-plate mounting

4RD1 - 1 9 - GS6 - A2N - F - 3



		A Model No.		
Code	Description	M4RD1	M4RD2	M4RD3
B Solenoid position				
1	2-position single	●	●	●
2	2-position double	●	●	●
3	3-position mid closure	●	●	●
4	3-position A/B/R connection	●	●	●
5	3-position P/A/B connection	●	●	●
8	Mix manifold *1	●	●	●
C Port size				
Ports	Port A/B			
GS4	Push-in fitting $\phi 4$	●	●	
GS6	Push-in fitting $\phi 6$	●	●	●
GS8	Push-in fitting $\phi 8$		●	●
GS10	Push-in fitting $\phi 10$			●
GSX	Mix push-in fitting	●	●	●
M5	M5	●		
06	Rc1/8		●	
08	Rc1/4			●
00	Single valve for sub-plate mounting			
D Electrical connections				
Reduced wiring (surge suppressor equipped as standard) 12/24 VDC				
T30	D sub-connector Left-sided spec.	●	●	●
T30R	D sub-connector Right-sided spec.	●	●	●
T53	26-pin flat cable connector (without power supply terminal) Left-sided spec.	●	●	●
T53R	26-pin flat cable connector (without power supply terminal) Right-sided spec.	●	●	●
T52	10-pin flat cable connector (without power supply terminal) Left-sided spec.	●	●	●
T52R	10-pin flat cable connector (without power supply terminal) Right-sided spec.	●	●	●
E Terminal/connector pin array method				
Blank	Standard wiring *2	●	●	●
W	Double wiring *2	●	●	●
F Option				
Blank	None	●	●	●
M1	Manual locking	●	●	●
F	Port P/A/B filter integrated *3	●	●	●
G Mounting type				
Blank	Direct mount	●	●	●
D	With DIN rail mount *4	●	●	●
H Stations				
2	2 stations	●	●	●
}	}	●	●	●
10	10 stations	●	●	●
}	}	●	●	●
20	20 stations *4	●	●	●
I Voltage				
3	24 VDC	●	●	●
4	12 VDC	●	●	●

⚠ Precautions for model selection

*1: If the solenoid position is mix manifold (8), indicate the combination with the manifold specifications sheet.

Refer to pages 43 to 48 for details.

*2: Blank...The wiring will be based on the type of valve used.

W ...All wired as double solenoid regardless of the type of valve used.

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

*4:

	M4RD1		M4RD2		M4RD3	
	Direct mounting	DIN rail mount	Direct mounting	DIN rail mount	Direct mounting	DIN rail mount
Max. station No.	20	16	20	16	16	

M4RD1/2/3-T*(D) Series

Reduced wiring manifold: Body piping

Main parts list

No.	Component name	Model	Description	Remarks
1	Single valve for sub-plate mounting	4RD <input type="checkbox"/> <input type="checkbox"/> 9- <input type="checkbox"/> Port size -A2N <input type="checkbox"/> Option - <input type="checkbox"/> Voltage <div style="margin-left: 100px;"> <input type="checkbox"/> Solenoid position <input type="checkbox"/> Series flow rate size </div>	Single valve Sealing gasket Mounting screw 2	Refer to page 25 for details
2	Shielding plate	4R1 4R1-MPC 4R2 4R2-MPC 4R3 4R3-MPC	Shielding plate Sealing gasket Mounting screw 2	
3	Manifold sub-plate kit	M4RD <input type="checkbox"/> <input type="checkbox"/> T30 - <input type="checkbox"/> Option - <input type="checkbox"/> Stations - <input type="checkbox"/> Voltage <div style="margin-left: 100px;"> <input type="checkbox"/> Electrical connections <input type="checkbox"/> Series flow rate size </div>	Manifold sub-plate Wiring block	

Main parts list

No.	Part name	Model
—	Coil set	4R-COIL-A2N- <input type="checkbox"/> Rated voltage
—	A type connector Socket set	<div style="margin-left: 20px;"> <input type="checkbox"/> Series flow rate size 4R <input type="checkbox"/> -SOCKET-ASSY-A <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/> Row No. Blank: Left side, R: Right side a: aSOL side, b: bSOL side n: Specify position of valve to be connected </div>

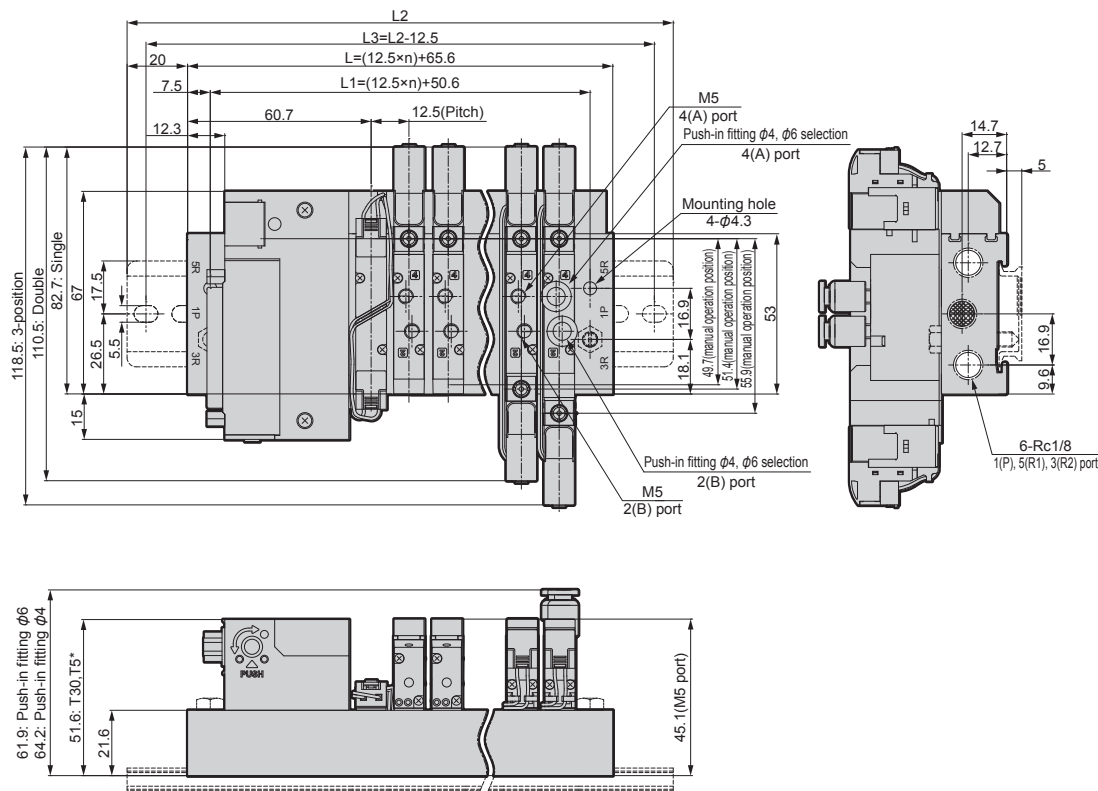
M4RD1-T* Series

Dimensions

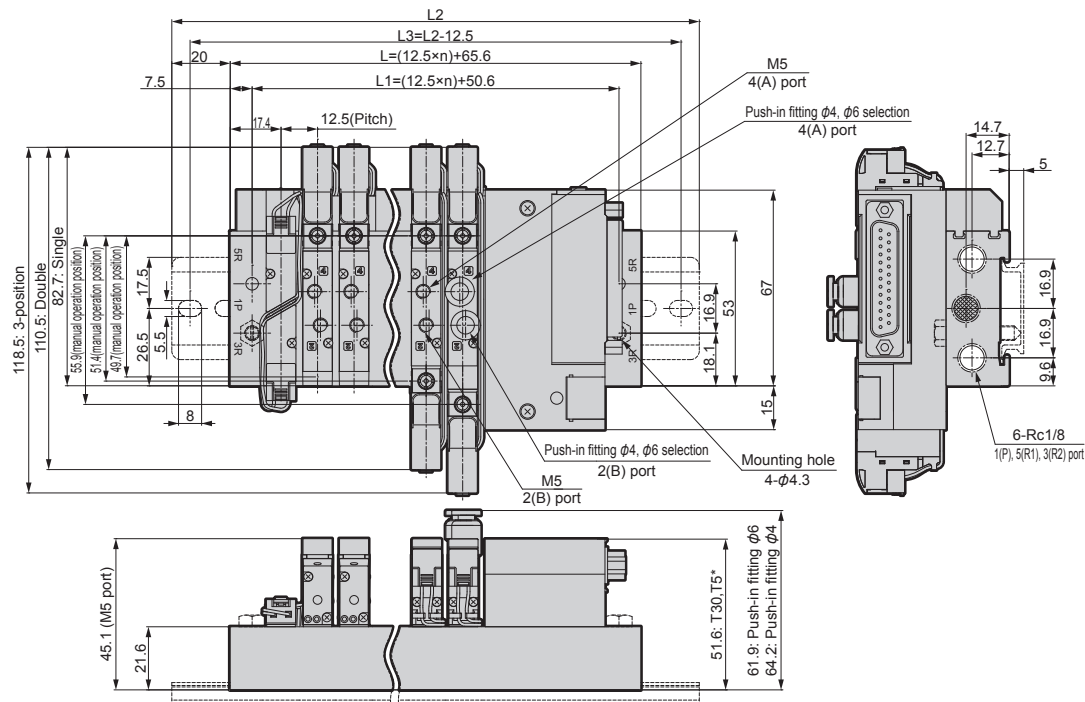
M4RD1

● Reduced wiring left side type (T30/T52/T53)

* Figure shows T30. Refer to page 30 for detailed dimensions of the wiring block.



● Reduced wiring right side type (T30R/T52R/T53R)



Stations	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
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				

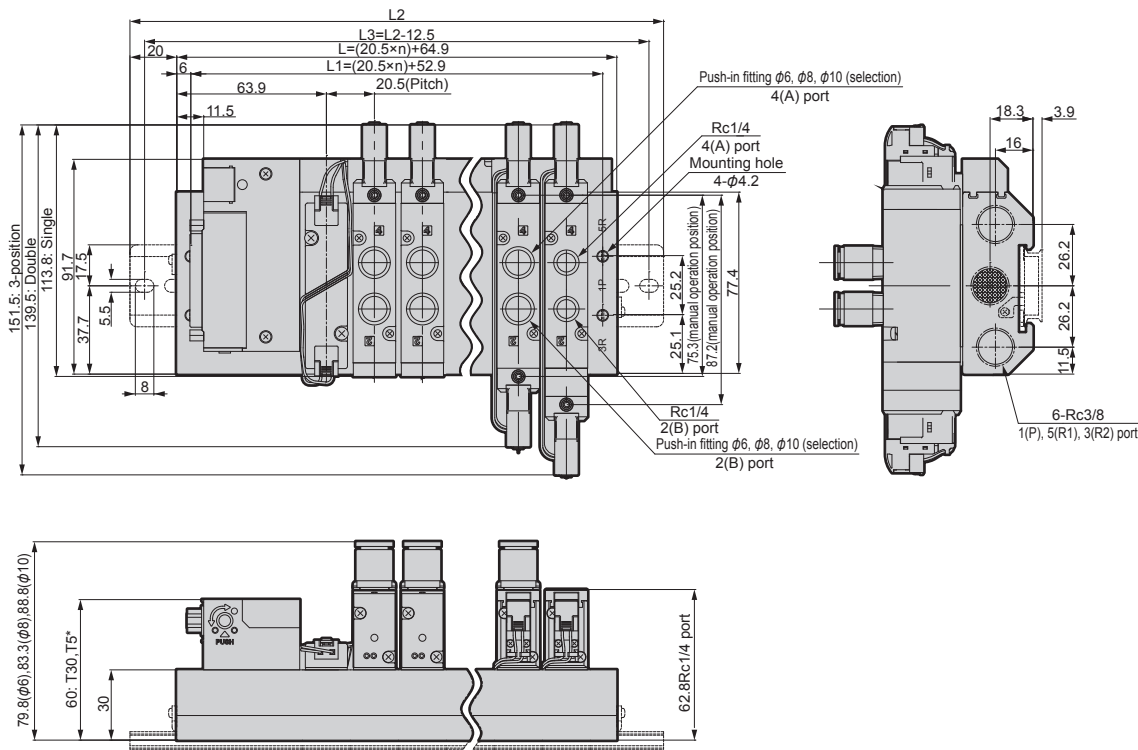
M4RD3-T* Series

Dimensions

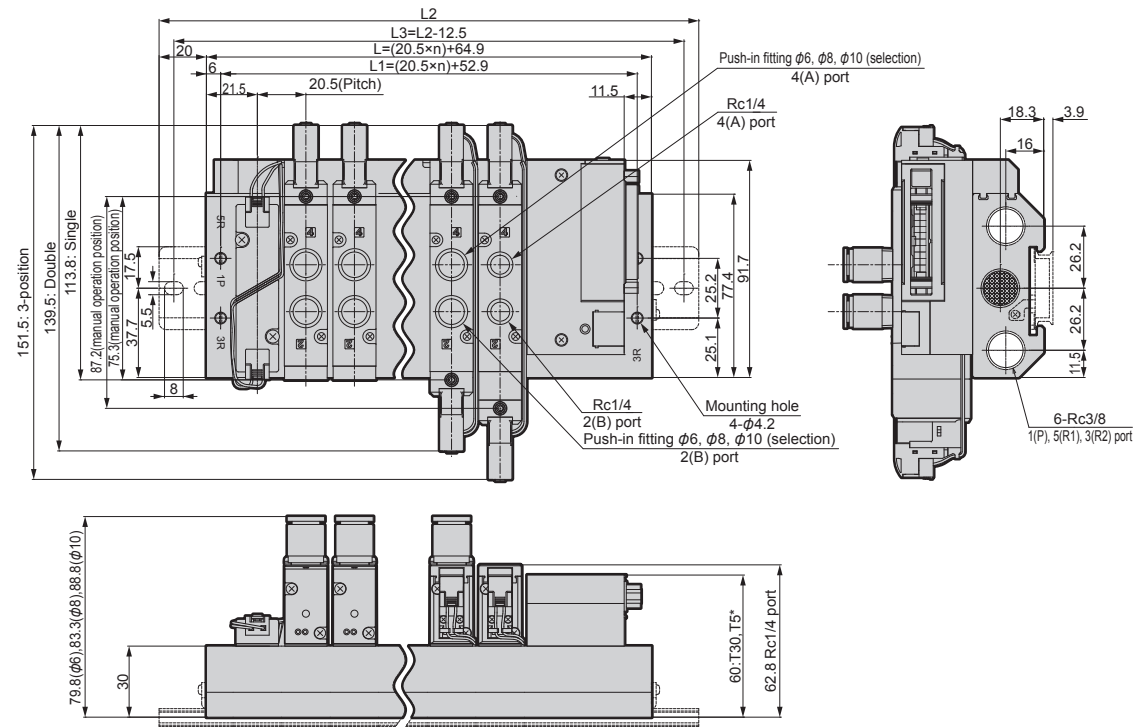
M4RD3

● Reduced wiring left side type (T30/T52/T53)

* Figure shows T53. Refer to page 30 for detailed dimensions of the wiring block.



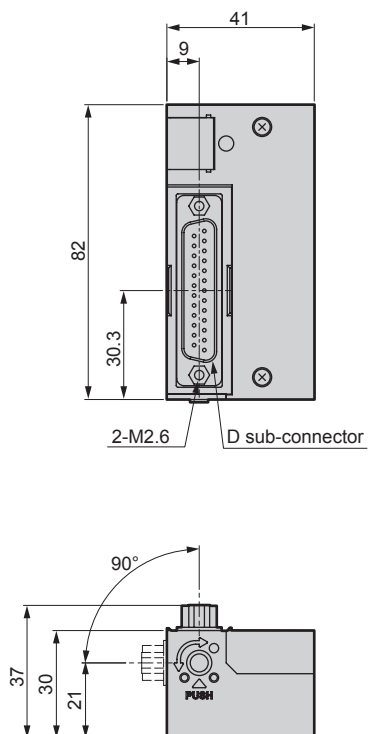
● Reduced wiring right side type (T30R/T52R/T53R)



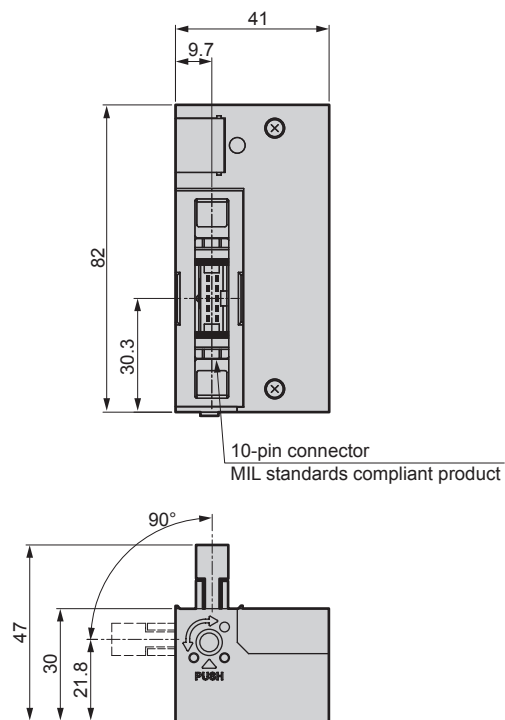
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	105.9	126.4	146.9	167.4	187.9	208.4	228.9	249.4	269.9	290.4	310.9	331.4	351.9	372.4	392.9
L1	93.9	114.4	134.9	155.4	175.9	196.4	216.9	237.4	257.9	278.4	298.9	319.4	339.9	360.4	380.9
L2	150.0	175.0	200.0	212.5	237.5	250.0	275.0	300.0	312.5	337.5	362.5	375.0	400.0	412.5	437.5
L3	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

Wiring block part: Dimensions

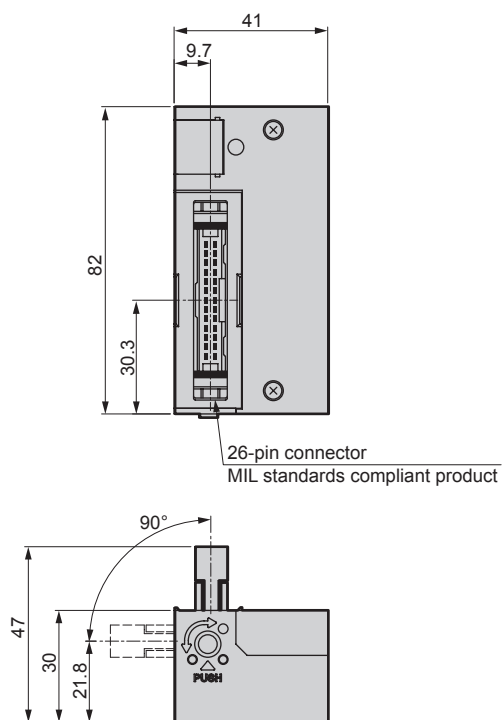
- D sub-connector
T30

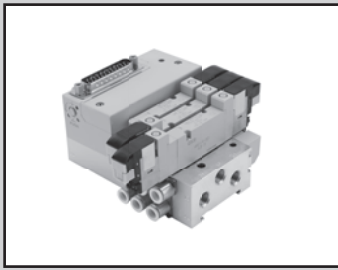


- 10-pin flat cable connector (without power supply terminal)
T52



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





Reduced wiring manifold
Sub-plate piping
Direct mount/DIN rail mount

M4RE1/2/3-T*(D) Series

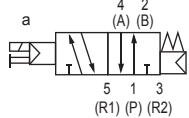
● Cylinder bore size: $\phi 20$ to $\phi 100$

RoHS

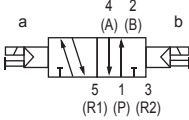
JIS symbol

● 5-port valve

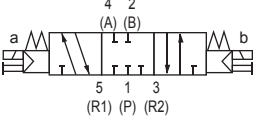
2-position single



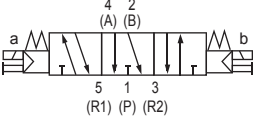
2-position double



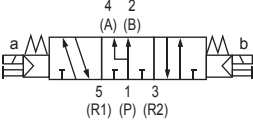
3-position mid closure



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Item	Description
Manifold style	Reduced wiring sub-plate integrated
Mounting style	Direct mount/DIN rail mount
Pilot exhaust method	Internal pilot
Piping direction	Sub-plate lateral
Valve type and operation mode	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2
Withstanding pressure MPa	1.05
Ambient temperature $^{\circ}\text{C}$	-5 to 55 (no freezing)
Fluid temperature $^{\circ}\text{C}$	5 to 55
Manual override	Locking/non-locking common
Lubrication *1	No
Protection degree *2	Dustproof
Vibration/impact m/s^2	50 or less/300 or less
Usage environment	Cannot be used in corrosive gas environment

*1 Use turbine oil class 1 ISO VG32 if necessary for lubrication.
Excessive or insufficient lubrication results in unstable operation.

*2 During use, prevent splattering of water droplets or oil, etc.

Electrical specifications

Item	Description	
	T30□, T5□	
Rated voltage	24 VDC	12 VDC
Voltage fluctuation range	$\pm 10\%$	
Holding current A	0.017	0.034
Power W	0.4	
Thermal class	B	
Surge suppressor	Zener diode	
Indicator	LED	

Specifications of all the manifold models

General specifications

Item		M4RE1	M4RE2	M4RE3
Port size	Port A/B	Push-in fitting $\phi 4$, $\phi 6$ M5	Push-in fitting $\phi 4$, $\phi 6$, $\phi 8$ Rc1/8	Push-in fitting $\phi 6$, $\phi 8$, $\phi 10$ Rc1/4
	Port P/R1/R2	Rc1/8	Rc1/4	Rc3/8

T30□, T5□

Item	M4RE1		M4RE2		M4RE3	
	Direct mounting	DIN rail mount	Direct mounting	DIN rail mount	Direct mounting	DIN rail mount
Max. station No.	20 stations	16 stations	20 stations	16 stations	16 stations	
Weight of manifold sub-plate Calculation formula (n: number of stations) g	43n+335	45n+348	80n+398	82n+431	124n+548	126n+562

The manifold sub-plate weight is the specification value for screw connection type when equipped with DIN rail, wiring block or slave unit.

The max. station number of the manifold is limited by the max. number of solenoids for each of the wiring specifications as shown on the next page.

M4RE1/2/3-T*(D) Series

Reduced wiring manifold: sub-plate piping

Wiring specifications

Item	T30□ D sub-connector	T52□ Flat cable 10-pin	T53□ Flat cable 26-pin																																
Connector and terminal block specifications	D sub-connector 25-pin	MIL-C-83503 standard compliant pressure welding socket 10-pin	MIL-C-83503 standard compliant pressure welding socket 26-pin																																
Max. number of solenoids	24 points	8 points	24 points																																
Manifold internal wiring	Refer to pages 49 to 51 for details																																		
Wiring block position Blank: Left side R : Right side	<div><div><div>Left side: T□</div><div><div>a Solenoid valve side</div><div><div>b Solenoid valve side</div><div>Wiring block1st station2nd station3rd station...6th station</div></div></div></div><div><div>Right side: T□R</div><div><div>a Solenoid valve side</div><div><div>b Solenoid valve side</div><div>1st station2nd station3rd station...6th stationWiring block</div></div></div></div></div>																																		
	Array method Blank: Standard sequential W : Double wiring	<div><div><div>(Example) For □T52</div><div>Manifold specifications</div><div><div><div>1a2a3a4a</div><div>SDS</div><div>2b4b</div></div><div>1st station3rd station 2nd station4th station</div></div><div>Standard wiring (sequential): Blank</div><div><table><tr><td>Connector pin No.</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>Valve solenoid No.</td><td>1a</td><td>2a</td><td>2b</td><td>3a</td><td>4a</td><td>4b</td></tr></table></div><div>Double wiring: W</div><div><table><tr><td>Connector pin No.</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr><tr><td>Valve solenoid No.</td><td>1a</td><td>Blank</td><td>2a</td><td>2b</td><td>3a</td><td>Blank</td><td>4a</td><td>4b</td></tr></table></div></div></div>			Connector pin No.	1	2	3	4	5	6	Valve solenoid No.	1a	2a	2b	3a	4a	4b	Connector pin No.	1	2	3	4	5	6	7	8	Valve solenoid No.	1a	Blank	2a	2b	3a	Blank	4a
Connector pin No.		1	2	3	4	5	6																												
Valve solenoid No.	1a	2a	2b	3a	4a	4b																													
Connector pin No.	1	2	3	4	5	6	7	8																											
Valve solenoid No.	1a	Blank	2a	2b	3a	Blank	4a	4b																											

M4RE1/2/3-T*(D) Series

How to order

Manifold model No.

(M) - 4RE1 - 1 0 - CX - T30R - W F D - 5 - 3

Single valve for sub-plate mounting

4RE1 - 1 9 - 00 - A2N - F - 3

A Model No.

B Solenoid position

C Port size

D Electrical connections

E Terminal/connector pin array method

F Option

G Mounting type

H Stations

I Voltage

		A Model No.		
Code	Description	M4RE1	M4RE2	M4RE3
B Solenoid position				
1	2-position single	●	●	●
2	2-position double	●	●	●
3	3-position mid closure	●	●	●
4	3-position A/B/R connection	●	●	●
5	3-position P/A/B connection	●	●	●
8	Mix manifold *1	●	●	●
C Port size				
Ports	Port A/B			
C4	Push-in fitting $\phi 4$	●	●	
C6	Push-in fitting $\phi 6$	●	●	●
C8	Push-in fitting $\phi 8$		●	●
C10	Push-in fitting $\phi 10$			●
CX	Mix push-in fitting	●	●	●
M5	M5	●		
06	Rc1/8		●	
08	Rc1/4			●
00	Single valve for sub-plate mounting	●	●	●
D Electrical connections				
Reduced wiring (surge suppressor equipped as standard) 12/24 VDC				
T30	D sub-connector Left-sided spec.	●	●	●
T30R	D sub-connector Right-sided spec.	●	●	●
T53	26-pin flat cable connector (without power supply terminal) Left-sided spec.	●	●	●
T53R	26-pin flat cable connector (without power supply terminal) Right-sided spec.	●	●	●
T52	10-pin flat cable connector (without power supply terminal) Left-sided spec.	●	●	●
T52R	10-pin flat cable connector (without power supply terminal) Right-sided spec.	●	●	●
E Terminal/connector pin array method				
Blank	Standard wiring *2	●	●	●
W	Double wiring *2	●	●	●
F Option				
Blank	None	●	●	●
M1	Manual locking	●	●	●
F	Port P/A/B filter integrated *3	●	●	●
G Mounting type				
Blank	Direct mount	●	●	●
D	With DIN rail mount *4	●	●	●
H Stations				
2	2 stations	●	●	●
{	{	●	●	●
10	10 stations	●	●	●
{	{	●	●	●
20	20 stations *4	●	●	●
I Voltage				
3	24 VDC	●	●	●
4	12 VDC	●	●	●

⚠ Precautions for model selection

*1: If the solenoid position is mix manifold (8), indicate the combination with the manifold specifications sheet.

Refer to pages 43 to 48 for details.

*2: Blank...The wiring will be based on the type of valve used.

W ...All wired as double solenoid regardless of the type of valve used.

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

*4:

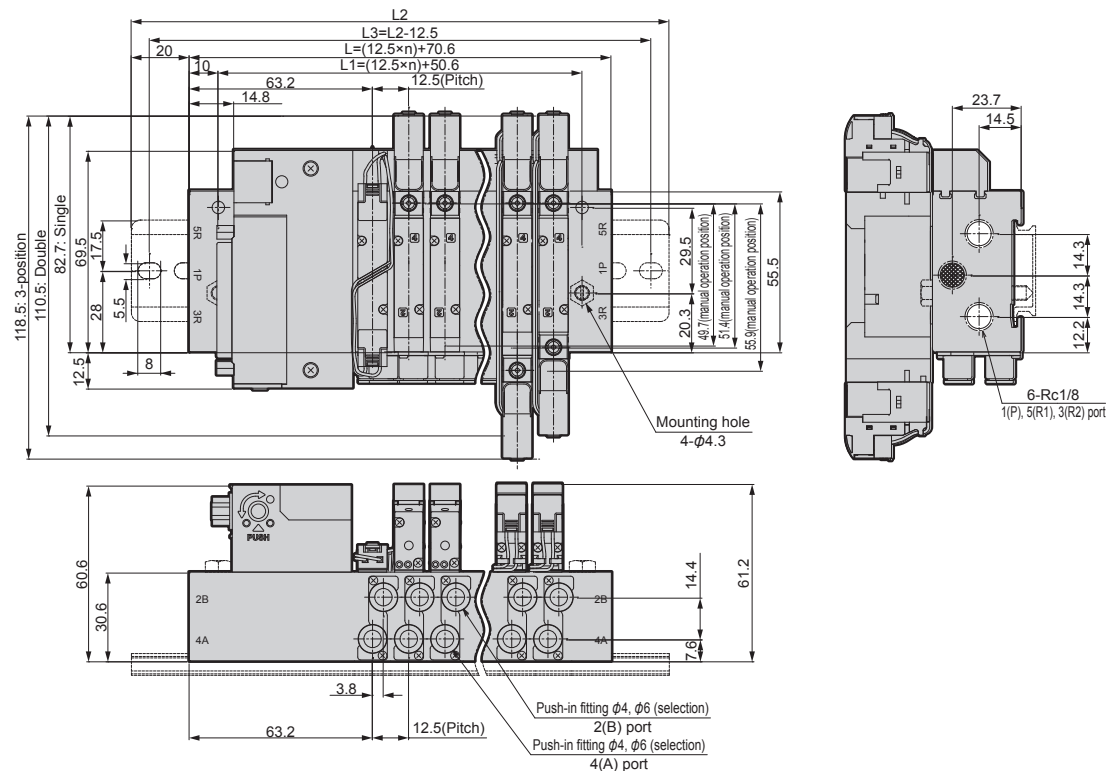
	M4RE1		M4RE2		M4RE3	
	Direct mounting	DIN rail mount	Direct mounting	DIN rail mount	Direct mounting	DIN rail mount
Max. station No.	20	16	20	16	16	

Dimensions

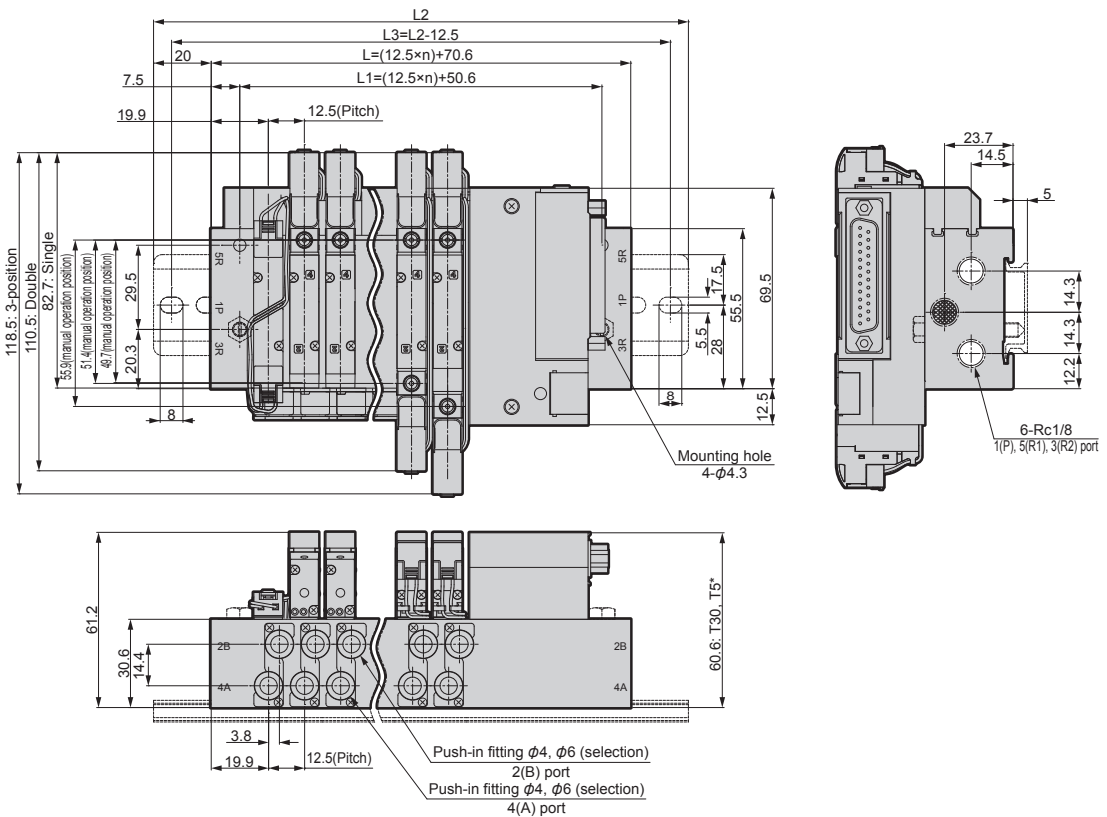
M4RE1

● Reduced wiring left side type (T30/T52/T53)

* Figure shows T30. Refer to page 37 for detailed dimensions of the wiring block.



● Reduced wiring right side type (T30R/T52R/T53R)



Stations	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				

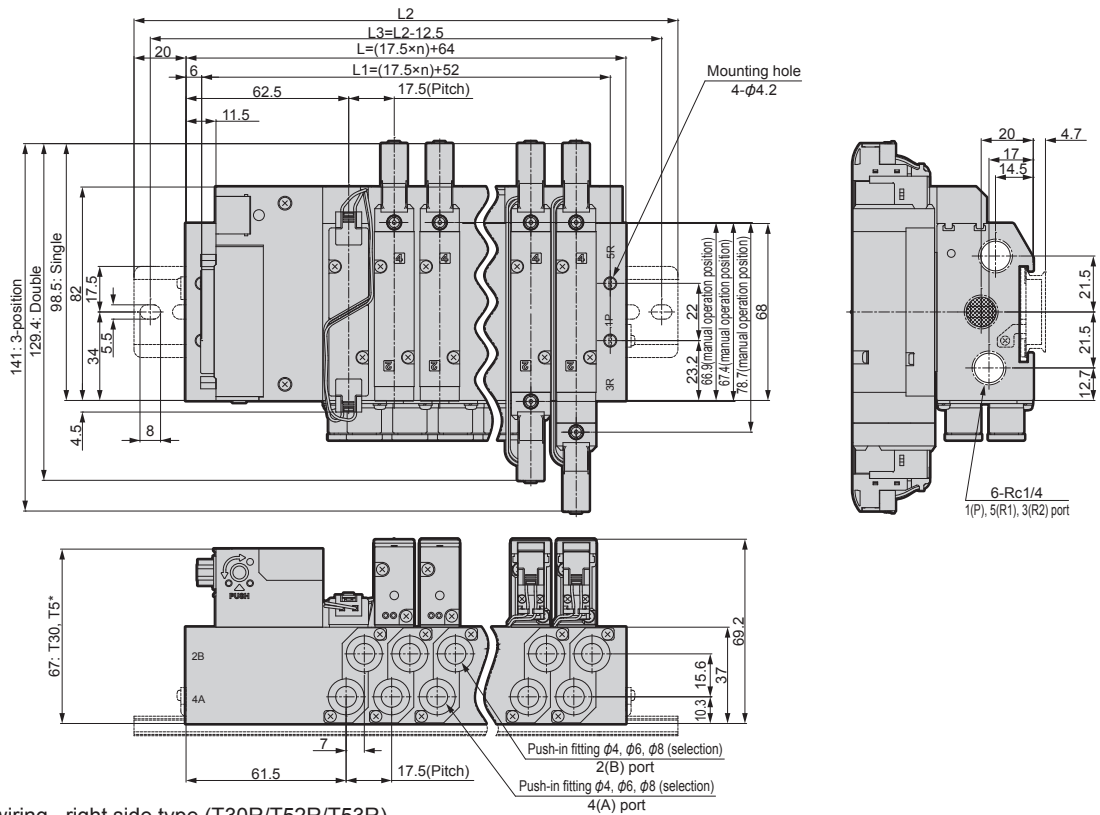
M4RE2-T* Series

Dimensions

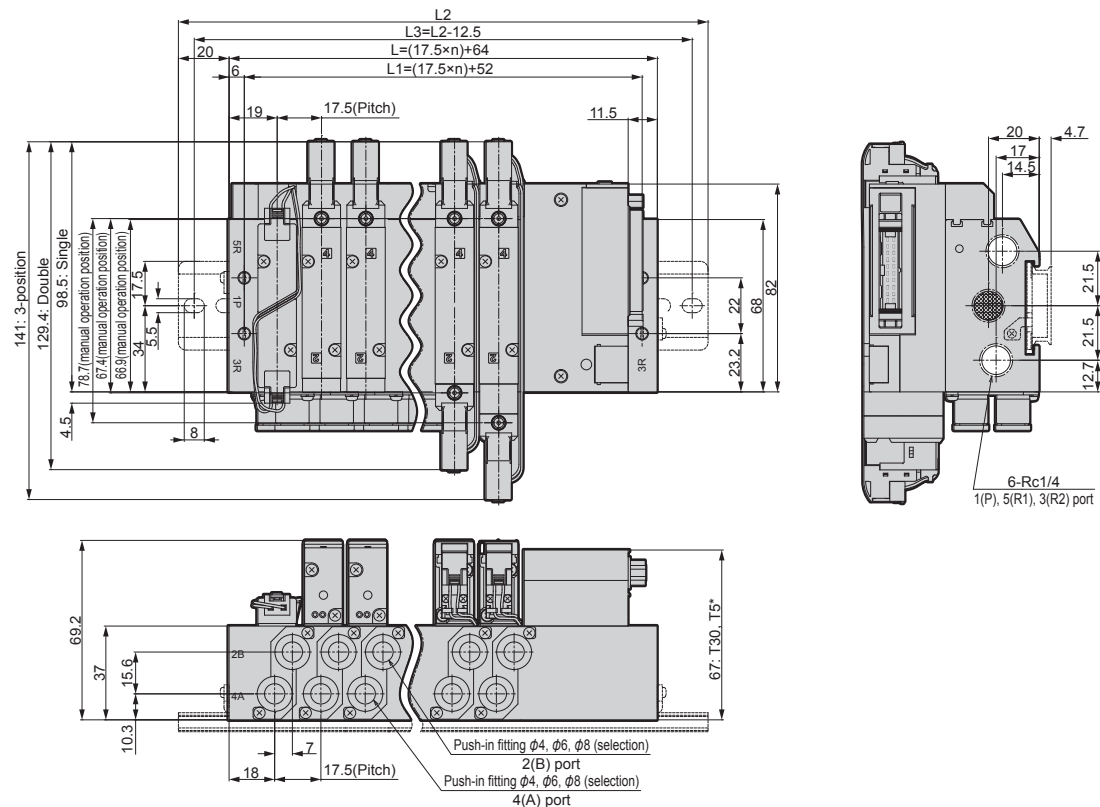
M4RE2

● Reduced wiring left side type (T30/T52/T53)

* Figure shows T53. Refer to page 37 for detailed dimensions of the wiring block.



● Reduced wiring right side type (T30R/T52R/T53R)



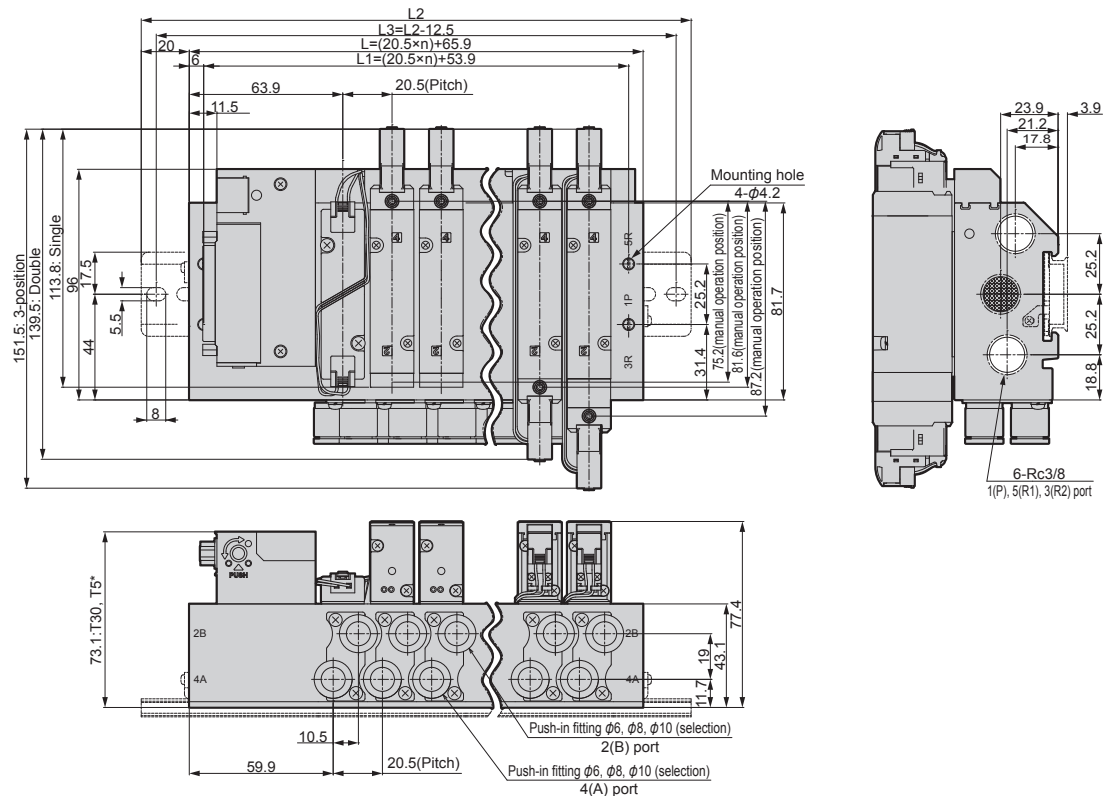
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5	379.0	396.5	414.0
L1	87.0	104.5	122.0	139.5	157.0	174.5	192.0	209.5	227.0	244.5	262.0	279.5	297.0	314.5	332.0	349.5	367.0	384.5	402.0
L2	150.0	162.5	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				
L3	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

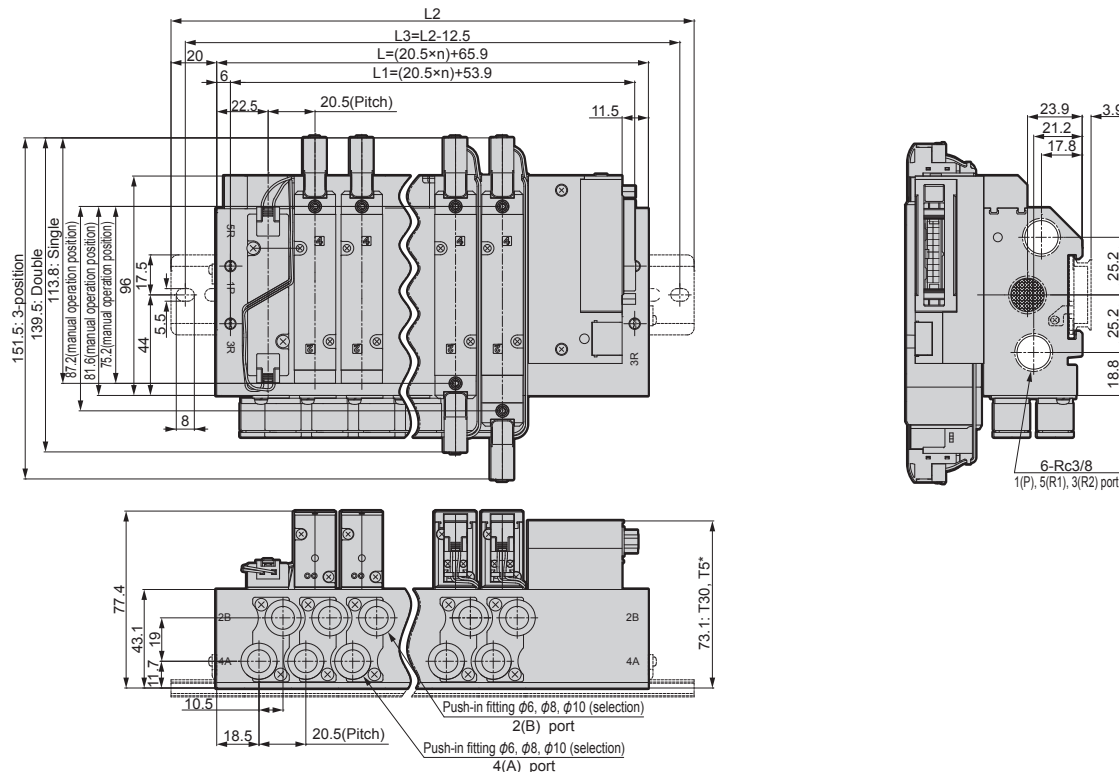
M4RE3

● Reduced wiring left side type (T30/T52/T53)

* Figure shows T53. Refer to page 37 for detailed dimensions of the wiring block.



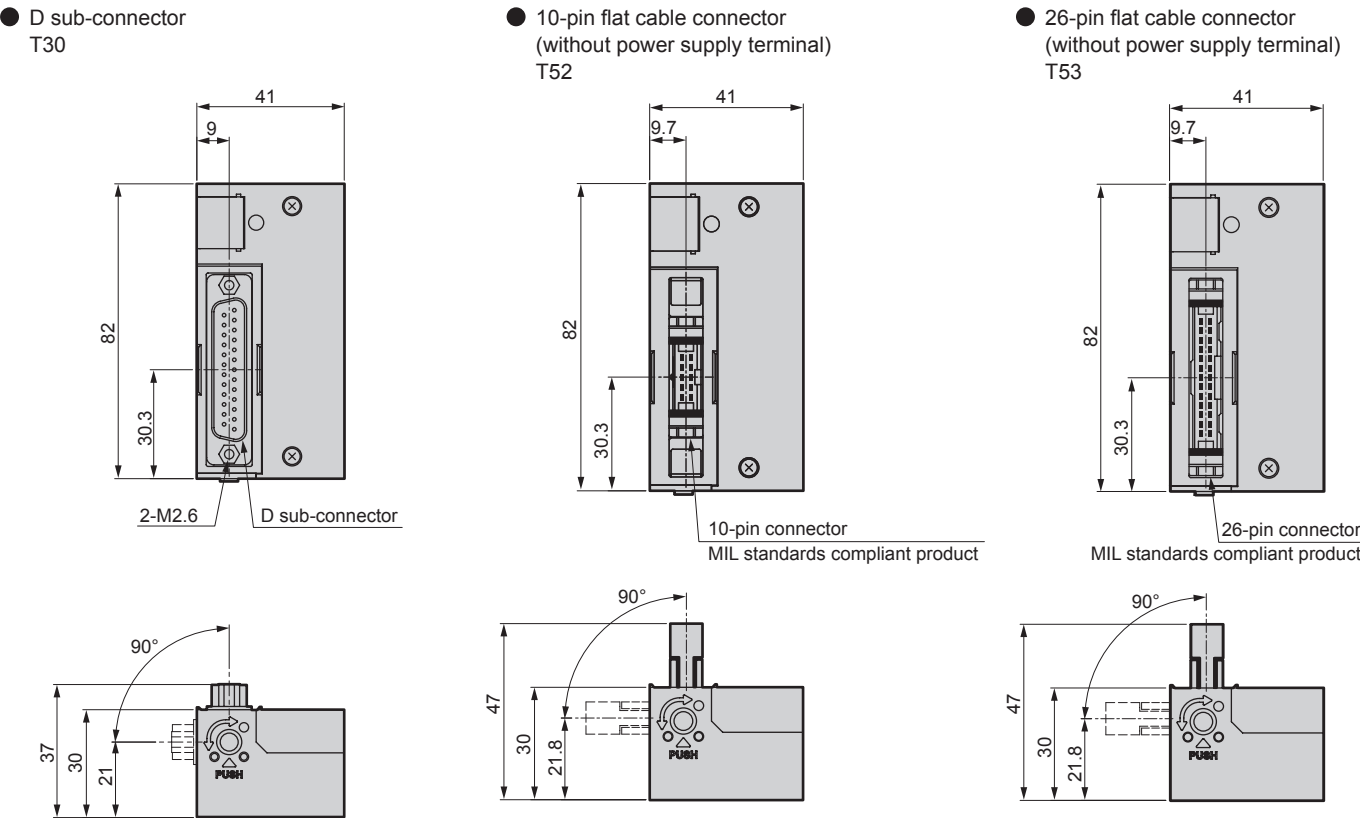
● Reduced wiring right side type (T30R/T52R/T53R)



Stations	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
L1	94.9	115.4	133.9	156.4	176.9	197.4	218.9	238.4	258.9	279.4	299.9	320.4	340.9	361.4	381.9
L2	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
L3	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

M4RE1/2/3-T* Series

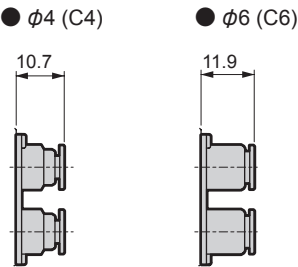
Wiring block part: Dimensions



Dimensions

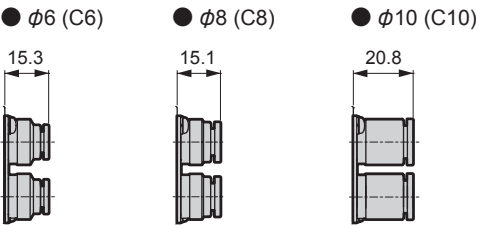
M4RE1

Straight fitting



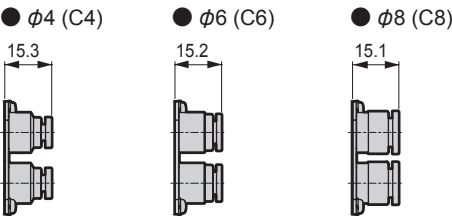
M4RE3

Straight fitting



M4RE2

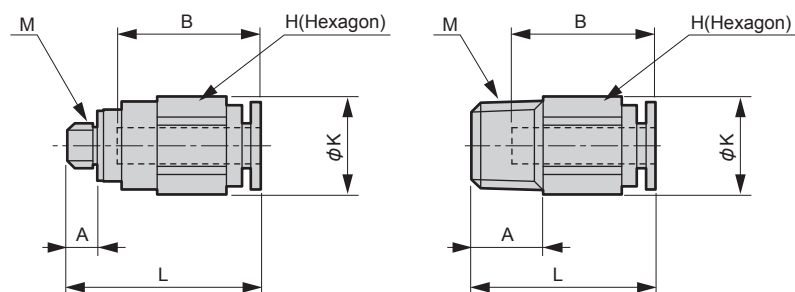
Straight fitting



Push-in fitting

Single straight

•GWS□-□/K

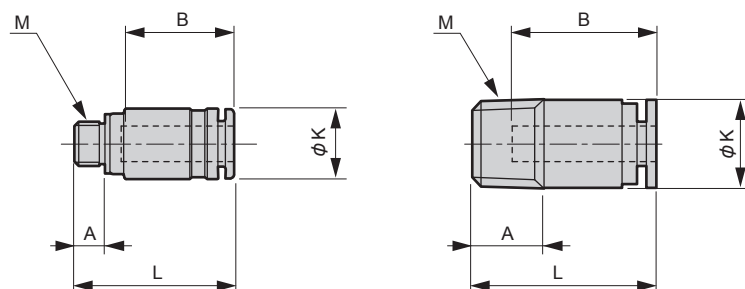


M5 type

Model	Compatible tube O.D. φ	M	H	K	L	A	B	Min. bore	Effective crosssectional area mm ²
GWS 4-M5/K	4	M5×0.8	10	11	21.5	3.4	16	2.5	4
GWS 4- 6/K		R1/8	10	11	20.5	8	16	2.5	4
GWS 4- 8/K		R1/4	14	15.8	19.5	11	16	2.5	4
GWS 6-M5/K	6	M5×0.8	12	13.5	23	3.4	17.5	2.5	4.4
GWS 6- 6/K		R1/8	12	13.5	23	8	17.5	4	10.3
GWS 6- 8/K		R1/4	14	15.8	23.5	11	17.5	4	10.3
GWS 8- 6/K	8	R1/8	14	15.8	28	8	19	5	17.5
GWS 8- 8/K		R1/4	14	15.8	27	11	19	6	22.4
GWS10- 8/K	10	R1/4	17	19.1	32.5	11	21.5	8	30.5

Single straight (round)

•GWS□-□-S/K



M5 type

Model	Compatible tube O.D. φ	M	K	L	A	B	Min. bore	Effective crosssectional area mm ²
GWS 4-M5-S/K	4	M5×0.8	7.9	17.9	3.4	12.9	2	2.7
GWS 4- 6-S/K		R1/8	9.8	20.5	8	16	2.5	4.1
GWS 6-M5-S/K	6	M5×0.8	9.9	19.2	3.4	14.2	2.5	4.4
GWS 6- 6-S/K		R1/8	11.8	23	8	17.5	4	10.6
GWS 6- 8-S/K		R1/4	13.8	23	11	17.5	4	10.6
GWS 8- 6-S/K	8	R1/8	14	28	8	19	5	20.4
GWS 8- 8-S/K		R1/4	14	27	11	19	6	22
GWS10- 8-S/K	10	R1/4	17.5	28.5	11	21.5	6	26.3

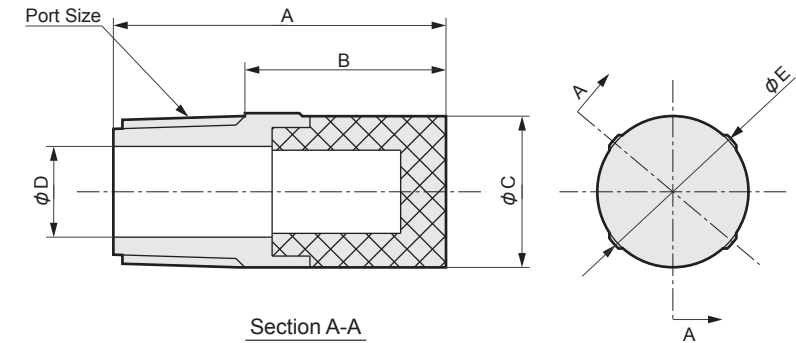
Silencer

How to order and dimensions

SLW - 8 S

A Port Size	
6	R1/8
8	R1/4

●SLW-□S

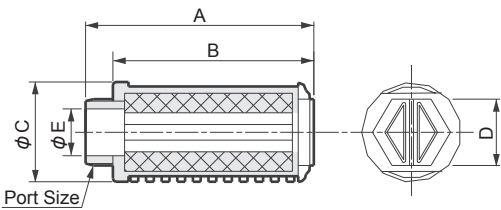


Model	Port Size	A	B	C	D	E
SLW-6S	R1/8	22	13.3	10.5	6	10.5
SLW-8S	R1/4	28	19	14.8	9	15.4

SLW - 6 A

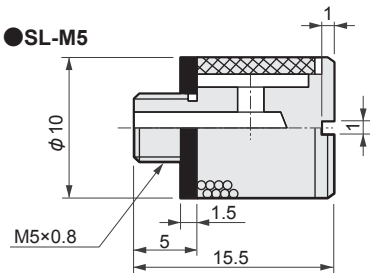
A Port Size	
6	R1/8
8	R1/4
10	R3/8

●SLW-□A

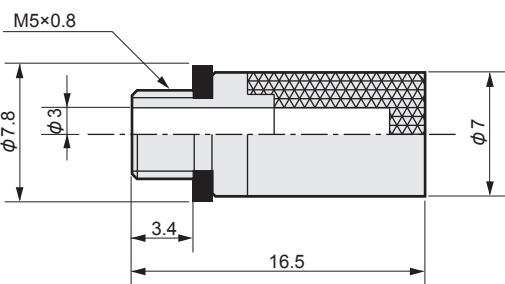


Model	Port Size	A	B	C	D	E
SLW-6A	R1/8	34	28	16.5	10	7
SLW-8A	R1/4	44.5	36	20	13	8.5
SLW-10A	R3/8	58.5	48.5	25.5	17	12

●SL-M5



●SLM-M5



M4R^D_E1 Manifold specifications sheet

Date issued

Company

Company contact

Order No.

● Contact ● Quantity set(s) ● Delivery date /

Receipt number

Order No.

● Manifold model No.

M4R^D_E1 **0-** - - -

Solenoid position Port size Electrical connections Option Stations Voltage

Solenoid valve model No.		Fitting GSX/CX		Installation position of valve																								Quantity	
		A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
4R	1 9																												
4R	1 9																												
4R	1 9																												
4R	1 9																												
4R	1 9																												
Shielding plate 4R1-MPC-																													

● Note: For M4RD, select fitting GSX; For M4RE, select fitting CX.

M4R^D_E2 Manifold specifications sheet

Order No.

Order No.

M4R^D_E2 **0-** - - -

Solenoid position Port size Electrical connections Option Stations Voltage

[illegible]

● Note: For M4RD, select fitting GSX; For M4RE, select fitting CX.

M4R individual wiring

M4R_{DE}3 Manifold specifications sheet Date issued _____

Company

Order No.

Receipt number	Order No.
----------------	-----------

M4R^{DE}3 **0-** - - -

Solenoid position Port size Electrical connections Option Stations Voltage

Solenoid valve model No.		Fitting GSX/CX		Installation position of valve																								Quantity
		A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
4R	<div style="border: 1px dashed black; padding: 2px;">3 9</div>																											
4R	<div style="border: 1px dashed black; padding: 2px;">3 9</div>																											
4R	<div style="border: 1px dashed black; padding: 2px;">3 9</div>																											
4R	<div style="border: 1px dashed black; padding: 2px;">3 9</div>																											
Shielding plate 4R3-MPC-																												
Mounting rail	L ₂ = <div style="border: 1px dashed black; width: 40px; height: 20px;"></div>	Accessory	Blanking plug										Plug				Silencer											
	GWP6-B			GWP8-B		GWP10-B		4R3-08P		SLW-10A		SLW-10L																
			Cable with D sub-connector					4R-CABLE-D0□-□					Push-in fitting tube remover (attached as standard) □ Not required (Tick)															

● Note: For M4RD, select fitting GSX; For M4RE, select fitting CX.

M4R1 reduced wiring

M4R^D_E1-T3 Manifold specifications sheet

Date issued

Company

Company contact

Order No. _____

● Delivery date /

Receipt number	Order No.
----------------	-----------

● Manifold model No.

M **[4]** **R^DE** **1** [] **0-**[-] [-] [-] [-] -[]-[]

Solenoid valve	Solenoid position	Port size	Reduced wiring connection	Terminal connector pin array method	Option	Mount type	Stations	Voltage
----------------	-------------------	-----------	---------------------------	-------------------------------------	--------	------------	----------	---------

Solenoid valve model No.			Fitting GSX/CX		Installation position of valve																								Quantity
			A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
4R	<div>1</div>	<div>9</div>																											
4R	<div>1</div>	<div>9</div>																											
4R	<div>1</div>	<div>9</div>																											
4R	<div>1</div>	<div>9</div>																											
4R	<div>1</div>	<div>9</div>																											
Shielding plate 4R1-MPC- <div></div>																													

● **Wiring specifications sheet** (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables.)

[illegible]

M4R^{DE}2-T3 Manifold specifications sheet

Date issued

Company

Company contact

Order No.

● Contact

● Quantity

```
set(s)
```

● Delivery date /

Receipt number

Order No.

● Manifold model No.

M **4** **R**_E **2** **0**- - - - - - - - - - - -
Solenoid valve Solenoid position Port size Reduced Terminal Option Mount type Stations Voltage

Solenoid valve

Solenoid position

Port size

Reduced wiring connection

Terminal
connector pin
array method

Option 1

Mount type

Stations

Voltage

Solenoid valve model No.		Fitting GSX/CX		Installation position of valve																								Quantity
		A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
4R 2 9																												
4R 2 9																												
4R 2 9																												
4R 2 9																												
Shielding plate 4R2-MPC-																												

● **Wiring specifications sheet** (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables.)

[illegible]

M4R^D_E3-T3 Manifold specifications sheet

Date issued

Company

Company contact

Order No.

● Contact

● Quantity

set(s)

● Delivery date /

Receipt number

Order No.

● Manifold model No.

M **R_E** - - - -

Solenoid valve	Solenoid position	Port size	Reduced wiring connection	Terminal connector pin array method	Option	Mount type	Stations	Voltage
----------------	-------------------	-----------	---------------------------	-------------------------------------	--------	------------	----------	---------

Solenoid valve model No.		Fitting GSX/CX		Installation position of valve																								Quantity
		A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
4R 3 9																												
4R 3 9																												
4R 3 9																												
4R 3 9																												
4R 3 9																												
Shielding plate 4R3-MPC-																												

● **Wiring specifications sheet** (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables.)

[illegible]

M4R1 reduced wiring

M4R^D_E1-T5 Manifold specifications sheet

Date issued

Company

Company contact

Order No. _____

● Delivery date /

Receipt number	Order No.
----------------	-----------

● Manifold model No.

M **4** **R**_E **1** **0**- - - - - - - - - - - -
 Solenoid valve Solenoid position Port size Reduced wiring connection Terminal connector pin array method Option Mount type Stations Voltage

Solenoid valve model No.		Fitting GSX/CX		Installation position of valve																								Quantity
		A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
4R	1 9																											
4R	1 9																											
4R	1 9																											
4R	1 9																											
4R	1 9																											
Shielding plate 4R1-MPC-																												

● **Wiring specifications sheet** (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables.)

[illegible]

M4R2 reduced wiring

M4R^D_E2-T5 Manifold specifications sheet

Date issued

Company

Company contact

Order No.

● Delivery date /

Receipt number	Order No.
----------------	-----------

● Manifold model No.

M **4** **R_E 2** **0-** - - - - - - - - - -
Solenoid valve Solenoid position Port size Reduced Terminal Option Mount type Stations Voltage

Voltage

Solenoïd valve model No.		Fitting GSX/CX		Installation position of valve																								Quantity
		A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
4R	2 9																											
4R	2 9																											
4R	2 9																											
4R	2 9																											
Shielding plate 4R2-MPC																												

● **Wiring specifications sheet** (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables.)

[illegible]

M4R^D_E3-T5 Manifold specifications sheet

Date issued

Company

Company contact

Order No.

● Contact

● Quantity

```
set(s)
```

● Delivery date /

Receipt number

Order No.

● Manifold model No.

M **4** **R_E** **3** **0-**- - - - - - - - - - - -
Solenoid valve Solenoid position Port size Reduced Terminal Option Mount type Stations Voltage

Solenoid valve

Solenoid position

Port size

Reduced wiring connection

Terminal
connector pin
array method

Option

Mount type

Stations

Voltage

[illegible]

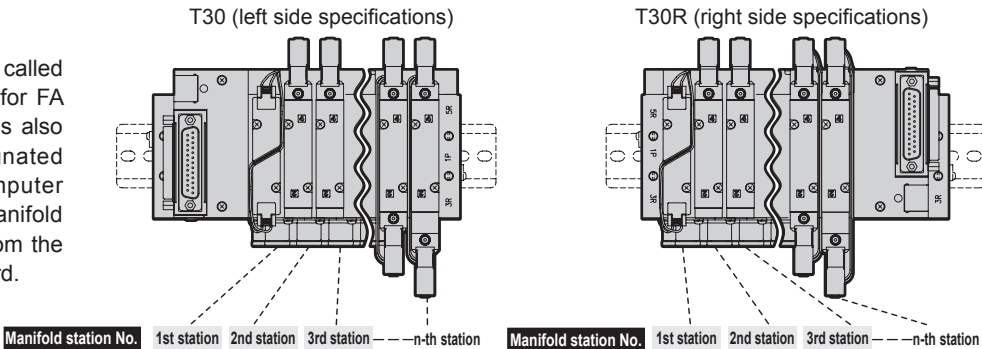
● **Wiring specifications sheet** (Not required for standard wiring and double wiring. Complete these specifications when specifying the wiring order and additional cables.)

[illegible]

D sub-connector: Wiring method T30

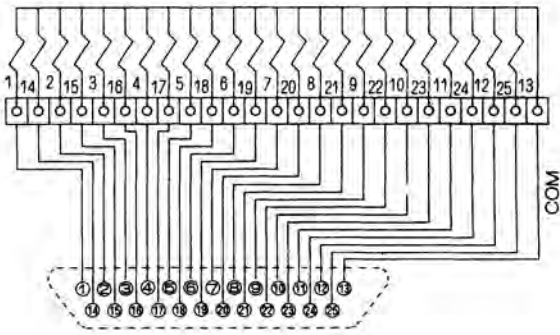
T30 Connectors

The connector used for T30 wiring, called a D sub-connector, is used widely for FA and OA devices. 25P in particular is also an RS-232C Specifications designated connector, used as personal computer communication. In addition, the manifold station numbers are set in order from the left with the piping port facing forward.



Precautions for connector T30

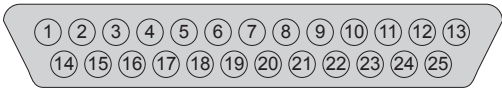
- (1) Signal arrays of the PLC output unit must match signal arrays on the valve side.
- (2) The working power is 12/24 VDC dedicated.
- (3) A voltage drop may occur due to simultaneous energizing or cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.



T30 connector pin array (example)

*1: The numerals of valve numbers (1a, 1b, 2a, 2b ...) indicate the order of stations (first station, second station...), and the letters a and b indicate the a side solenoid and b side solenoid, respectively. The manifold's max. station number differs depending on the model. Check the specifications of each model.

Connector pin No.



[Standard wiring]

[Double wiring]

● For single solenoid valve only

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	

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.	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	

● For double solenoid valve only

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	

● For mixed use (single/double 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.	(Blank)	(Blank)	3b	4b	(Blank)	(Blank)	7b	(Blank)	(Blank)	(Blank)	11b	12b	

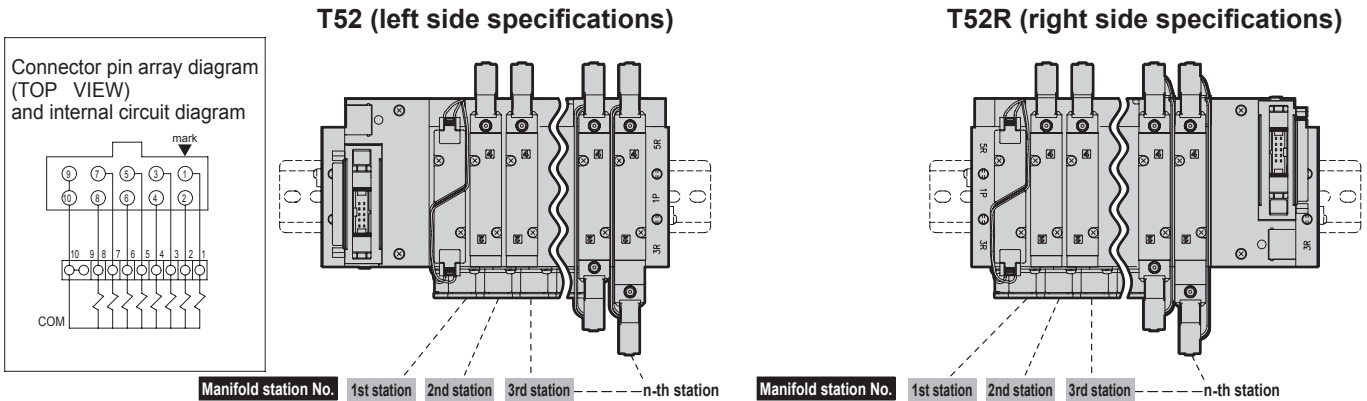
Flat cable connector: wiring method T52

T52 Connectors

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 number differs by PLC manufacturer, but the function assignment is the same.
Layout using connectors and the triangular mark (▼) shown below as a standard. The triangular mark (▼) is the standard for both plug and socket.
The manifold station numbers are set in order from left with b side solenoid (cap for single) facing forward.

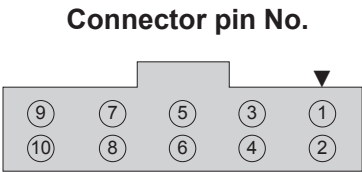
Precautions for connector (T52)

- (1) Signal arrays of the PLC output unit must match signal arrays on the valve side.
- (2) The working power is 12/24 VDC dedicated.
- (3) The T52 type is driven with a general output unit.
- (4) If the output unit is connected to the manifold, it will cause serious failures not only to the above devices, but also to peripheral devices. Please do not connect it. Be sure to connect the manifold to the output unit.
- (5) A voltage drop may occur due to simultaneous energizing or cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.



T52 connector pin array (example)

* The numerals of valve numbers (1a, 1b, 2a, 2b ...) indicate the order of stations (first station, second station...), and the letters a and b indicate the a side solenoid and b side solenoid, respectively.
The manifold's max. station number differs depending on the model.
Check the specifications of each model.



● For single solenoid valve only

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

Pin No.	9	7	5	3	1
Valve NO.	COM	4a	3a	2a	1a
Pin No.	10	8	6	4	2
Valve NO.	COM	(Blank)	(Blank)	(Blank)	(Blank)

● For double solenoid valve only

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 mixture)

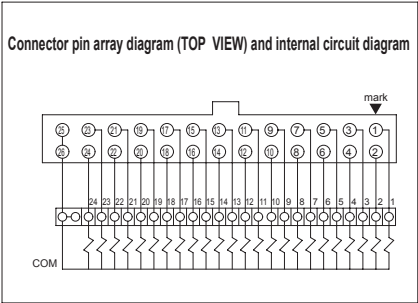
Pin No.	9	7	5	3	1
Valve NO.	COM	5b	4b	3a	1a
Pin No.	10	8	6	4	2
Valve NO.	COM	6a	5a	4a	2a

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	(Blank)	(Blank)	(Blank)

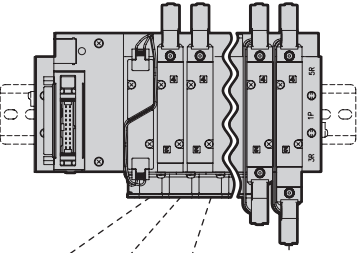
Flat cable connector: wiring method T53

T53 Connectors

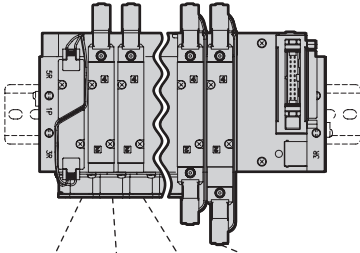
The connector used for T53 wiring method complies with MIL Standards (MIL-C-83503).
Wiring work is simplified with the pressure welded flat cable.
Pin number differs by PLC manufacturer, but the function assignment is the same.
Layout using connectors and the triangular mark (▼) shown below as a standard.
The triangular mark (▼) is the standard for both plug and socket.
In addition, the manifold station numbers are set in order from the left with b side solenoid (cap for single).



T53 (left side specifications)



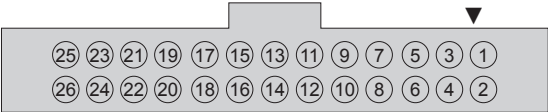
T53R (right side specifications)



T53 connector pin array (example)

* The numerals of valve numbers (1a, 1b, 2a, 2b ...) indicate the order of stations (first station, second station...) and the letters a and b indicate the a side solenoid and b side solenoid, respectively.
The manifold's max. station number differs depending on the model.
Check the specifications of each model.

Connector pin No.



[Standard wiring]

● For 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 only

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 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

Precautions for connector (T53)

- (1) Signal arrays of the PLC output unit must match signal arrays on the valve side.
- (2) The working power is 12/24 VDC dedicated.
- (3) The T53 type is driven with a general output unit.
- (4) If the output unit is connected to the manifold, it will cause serious failures not only to the above devices, but also to peripheral devices. Please do not connect it. Be sure to connect the manifold to the output unit.
- (5) A voltage drop may occur due to simultaneous energizing or cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

[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	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)

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	(Blank)	(Blank)	(Blank)	9b	8b	7b	(Blank)	5b	4b	(Blank)	(Blank)	(Blank)



Safety Precautions

Be sure to read this section before use.

When using CKD's product to design and manufacture any device, the customer is obliged to check and confirm the safety of the device's mechanical mechanism, pneumatic control circuit or fluid control circuit, as well as the safety of the entire system that operates through electrical control of such mechanism and circuits, and manufacture a safe device on this basis.

It is important to select, use, handle, and maintain CKD products appropriately to ensure their safe usage. Observe warnings and precautions to ensure device safety. Check that device safety is ensured, and manufacture a safe device.


WARNING


- 1 This product is designed and manufactured as a general industrial machine part. Therefore, it must be handled by an operator with sufficient knowledge and experience.**
 - 2 Use the product within the specifications range.**


This product must be used within its stated specifications. In addition, never modify or additionally machine this product. This product is intended for use in general industrial machinery equipment or parts. It is not intended for use outdoors or for use under the following conditions or environments. (Note that this product can be used when CKD is consulted prior to its usage and the customer consents to the CKD product specifications. The customer should provide safety measures to avoid danger in the event of problems.)

 - (1) Use in applications which require safety such as nuclear energy, railways, aircraft, marine vessels, vehicles, medicinal devices, devices or applications that come into contact with beverages or foodstuffs, amusement devices, emergency shutoff circuits, press machines, brake circuits, or other safety measures.
 - (2) Use for applications where life or assets could be significantly affected, and special safety measures are required.
 - 3 Observe industrial standards and legal regulations, etc., pertaining to the safety of equipment design and management.**

ISO4414, JIS B 8370 (General Rules for Pneumatic Systems)
JFPS2008 (Cylinder Selection and Usage Guide)
High Pressure Gas Safety Law, Labor Safety and Health Law and other relevant safety standards, industry standards, laws and regulations, etc.
 - 4 Unless safety is confirmed, never perform operation of this product or removal of piping and equipment.**
 - (1) Inspect and service the machine and devices after confirming the safety of the entire system related to this product.
 - (2) Note that there may be hot or charged sections even after operation is stopped.
 - (3) When inspecting or servicing the device, turn OFF the energy source (gas supply or water supply), and turn OFF power to the facility. Discharge any compressed air from the system, and pay enough attention to possible water leakage and leakage of electricity.
 - (4) When starting or restarting a machine or device that incorporates pneumatic components, make sure to secure system safety, such as pop-out prevention measures. Always work with caution.
 - 5 Observe the warnings and cautions on the following pages to prevent accidents.**
- Precautions are ranked as "DANGER", "WARNING", and "CAUTION" in this section.

 **Danger:** In the case where mishandled product operation may lead to fatalities or serious injuries, and the urgency of a dangerous situation is high.

 **Warning:** A dangerous situation may occur due to incorrect handling, leading to fatal or serious injuries.

 **Caution:** A dangerous situation may occur due to incorrect handling, leading to minor injuries or property damage.

Note that some items indicated with "CAUTION" may lead to serious results depending on the conditions.
All items contain important information and must be observed.

Disclaimer regarding orders

- 1 Warranty period**

This warranty is valid for one (1) year after delivery to the customer's designated site.
- 2 Scope of warranty**

In case any defect clearly attributable to CKD is found during the warranty period, CKD shall, at its own discretion, repair the defect or replace the relevant product in whole or in part and at no cost, according to its own judgment.
Note that the following failures are excluded from the warranty scope:

 - (1) When used outside of conditions/environment described in product specifications;
 - (2) Failures resulting from factors other than these delivered products;
 - (3) Failures caused by improper use of the product;
 - (4) Faults incurred due to modification or repair not related to CKD;
 - (5) Failures caused by matters that could not be predicted with the technologies in practice when the product was delivered;
 - (6) Faults incurred due to natural disasters not attributable to CKD's responsibility.
- 3 Compatibility check**

The customer is responsible for confirming the compatibility of CKD products with the customer's systems, machines, and equipment.



Safety Precautions

Always read this section before use.

Product-specific cautions: 5-port pilot operated valve 4RD/E series

Design / selection

1. Surge suppressor

CAUTION

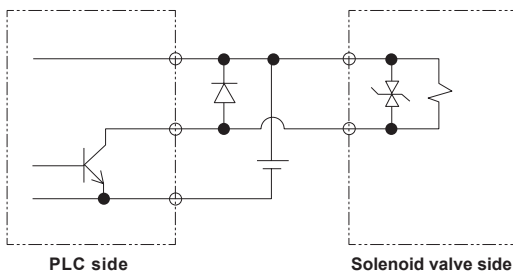
■ The surge suppressor attached to the solenoid valve is intended to protect the output contacts for the solenoid valve drive. It cannot be expected to protect other peripheral devices or be immune to surge (damage, malfunction). It may also absorb surge from other devices, resulting in burnout and other damages. Pay attention to the following points."

- The surge suppressor functions to limit solenoid valve surge voltage, which can reach several hundred volts, to a low voltage level that the work coil can withstand. If the surge from the output circuit in use is not fully absorbed, damage or malfunction may result. Check whether the surge suppressor can be used within the surge voltage limit of the solenoid valve in use, the output device's withstand pressure and circuit structure, and by the degree of return delay time. When necessary, other surge suppressing measures can be further adopted. 4RD/E 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.

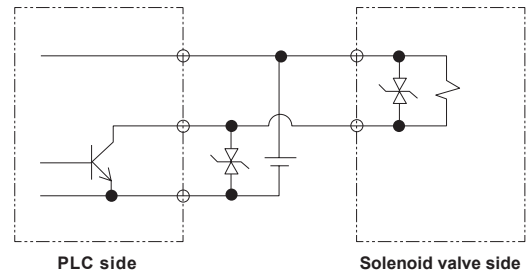
Specification voltage	Peak reverse voltage when OFF
24 VDC	Approx. 47 V

- When NPN type output device is used, the output transistor may be subject to surge voltage from meter voltage + power supply voltage. Therefore, set the contact protection circuit in parallel.

(Output transistor protection circuit Simultaneous setting example 1)



(Output transistor protection circuit Simultaneous setting example 2)



- If another device is connected in parallel to the solenoid valve, the inverse voltage surge generated when the solenoid valve is turned OFF would apply to those devices. Even in the case of a solenoid valve with 24 VDC surge suppressor, the surge voltage may reach negative tens of volts for some models. This inverse voltage may cause damage or malfunction to other components connected in parallel. Parallel connection with devices less capable of withstanding inverse voltage (e.g., LED indicator lamp) should be avoided. When driving several solenoid valves in parallel, the surge from other solenoid valves may enter the surge suppressor of one solenoid valve, and it may burn depending on the current value. When driving several solenoid valves with surge suppressors in parallel, surge current could concentrate at the surge suppressor with the lowest voltage limit and cause similar burning. Even if the solenoid valve is the same, the surge suppressor's voltage limit can be inconsistent, and in the worst case, could result in burning. Avoid driving several solenoid valves connected in parallel. "The surge suppressor incorporated in the solenoid valve will often be short-circuited if it is damaged by an overvoltage or overcurrent from other solenoid valves."
- The surge suppressor incorporated in the solenoid valve will often be short-circuited if it is damaged by external overvoltage or overcurrent. Where there is a failed surge suppressor, if a large current flows when the output is ON, in the worst case scenario, the output circuit or solenoid valve could be damaged or ignited. Do not continue energizing the solenoid valve if the surge suppressor becomes faulty. Besides, in order to prevent continuous flow of large current, set overcurrent protection circuit in the power supply circuit and driving circuit, or use a power supply with an overcurrent protection device. The reference value of overcurrent protection is less than 2 times the rated current of each solenoid valve.

Mounting, installation, and adjustment

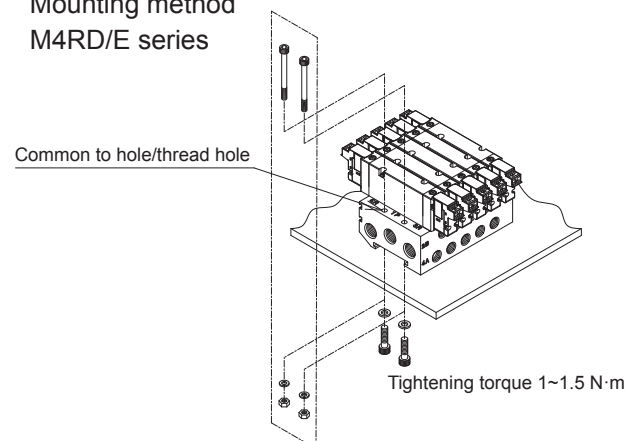
1. Manifold mounting method (Metal sub-plate 4RD/E series)

CAUTION

■ Direct mounting

- When mounting M4RD/E series, it can be either tightened using the through bolt above the manifold sub-plate or tightened using the bolt from the back side. When mounting M4RD/E series valve, sealing plate and sub-plate, use proper tightening torque to avoid leakage due to unsecure mounting. Incorrect mounting could result in thread damage.

Mounting method M4RD/E series



Mounting, installation, and adjustment

2. Connection of lead wire

CAUTION

- During manifold setting of wire connection, take care to prevent the lead wire from applying drawing tension to the coil of the solenoid valve.

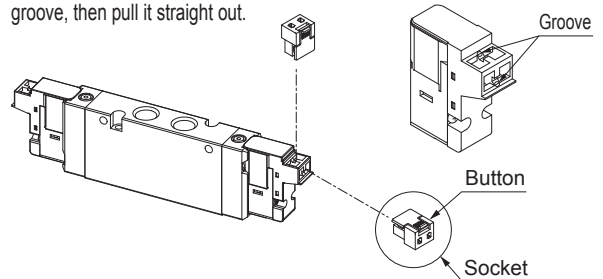
3. How to use the E-connector

CAUTION

- The E-connector has top and side connectors to which sockets can be connected. As a connector suitable for connection in both upward direction and lateral direction, it is delivered with sockets. Select connection direction according to the setting.

How to mount or remove the socket

- When mounting the socket, hold the control rod and the socket with fingers, then insert the socket straight into the angular window of the connector. Insert the claw of the control handle into the groove of the connector for locking. Note that the control handle is in the front when mounting in upward direction and the control handle is in the above when mounting in lateral direction.
- When removing the socket, press the button to disengage the claw from the groove, then pull it straight out.



Use/maintenance

1. General precautions

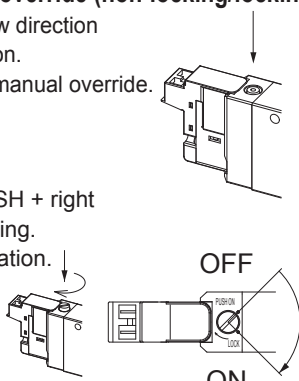
CAUTION

- Continuous energizing for long periods may accelerate degradation of the solenoid valve. Also note that the following usage method has the same effect as long time continuous power supply.
 - When the energized time exceeds non-energized time in intermittent operation.
 - When one energizing session exceeds 30 minutes in intermittent operation.
- Consider heat dissipation during setting. Contact CKD when energizing this device continuously.

2. Manual override

WARNING

- 4R series uses an internal pilot operated solenoid valve. If air is not supplied to port P, the main valve will not be switched even if the manual override is operated.
- How to operate manual override (non-locking/locking type)
 - Press down in the arrow direction for non-locking operation. Release to unlock the manual override.
 - Keep ON state by PUSH + right rotation 90° when locking. Unlock OFF by left rotation.
- Check that there is no person near the working cylinder during manual operation.



3. How to replace the coil

WARNING

E-connector coils

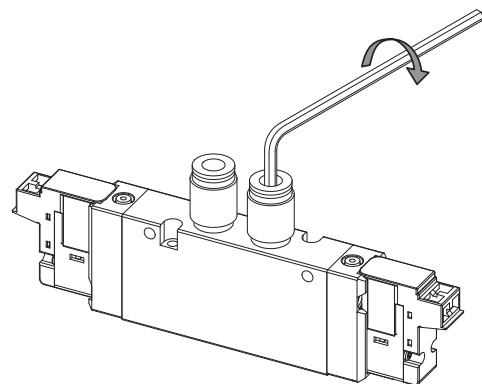
Note that the loosening of other screws will result in air leakage and faulty operation. During the assembly, check if the sealing washer on the coil side is mounted into position and pay attention to the tightening torque. Note that incorrect mounting will result in accidents like air leakage.

4. How to mount the piping joint

CAUTION

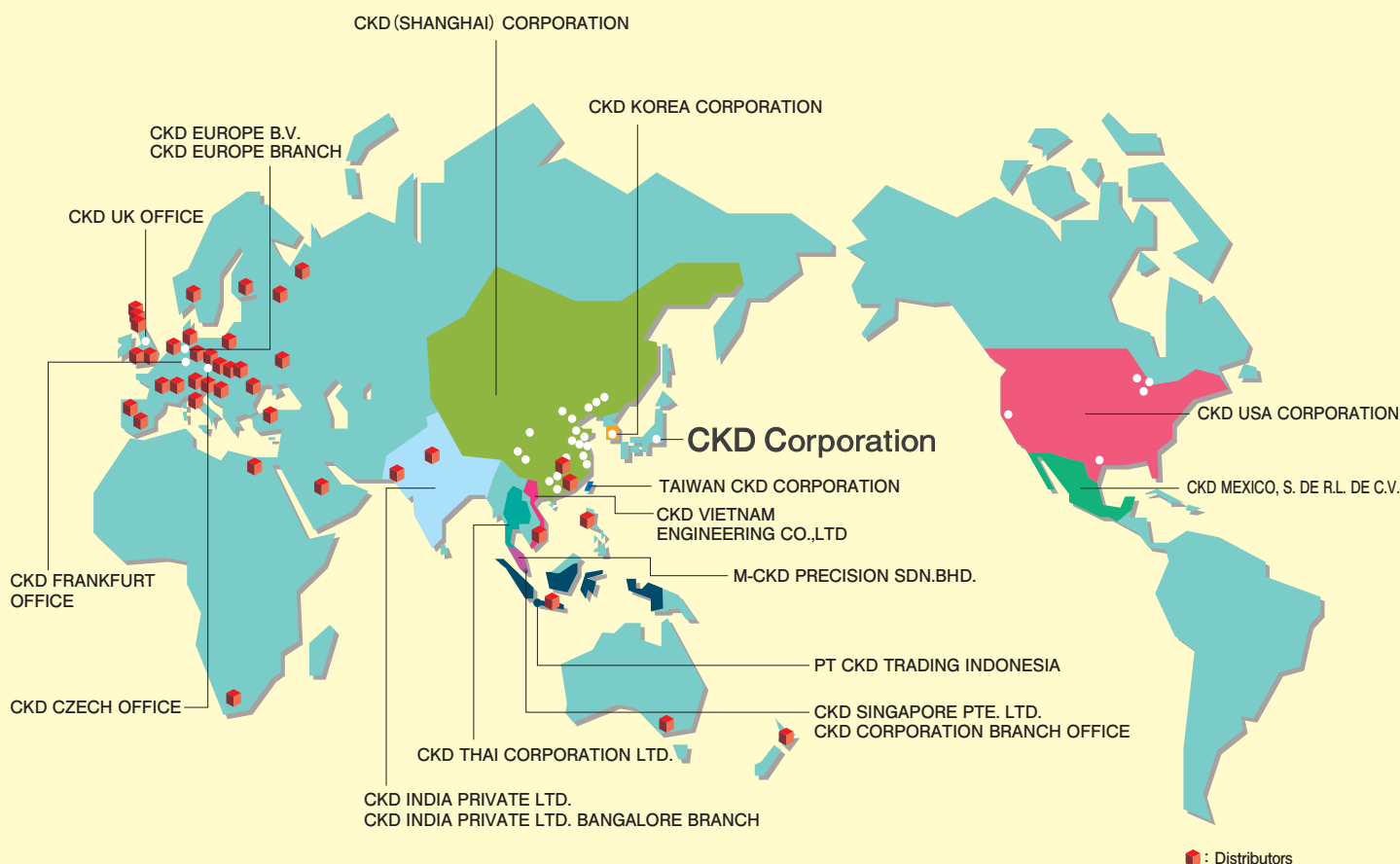
- Apply proper tightening torque during piping mounting. Otherwise, it will result in leakage and thread damage. Mounting method and torque value are as follows:

Piping thread	Tightening torque(N·m)
M5	1 to 1.5
Rc1/8	3 to 5
Rc1/4	6 to 8



MEMO

MEMO



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