W4G2

3, 5 port pilot operated valve plug-in block manifold

Overview

The 5 port pneumatic valve plug-in manifold W4G Series incorporates high environment resistance and environment compatibility to ease use and safety.

Features

Upgraded: Durability

IP65 protection structure (dust proof, jet flow proof) enables use in a variety of working environments.

Upgraded: Ease of use

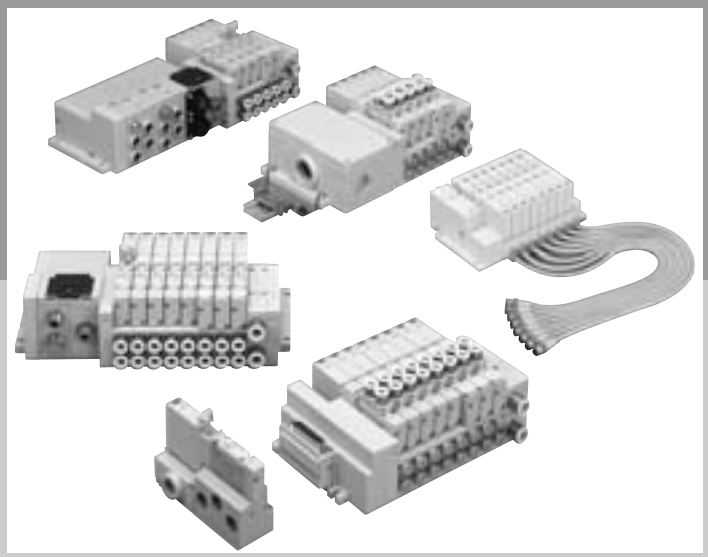
DIN rail mounting is available in addition to direct mounting.The plug-in method simplifies valve replacement work. The freedom of installation is greatly improved with a variety of wire connection and piping methods.

Upgraded: Safety

Standard protective cover on manual override
Standard filter on supply port
Check valve incorporated

Upgraded: Reliability

Responsiveness 24 ms or less
Life 60 million times or more



CONTENTS

W4G2- Increasing "eco" and

The highly functional 5 port pneumatic valve plug-in block manifold W4G2 has increased environment resistance and environment compatibility to ease all work from installation to maintenance.

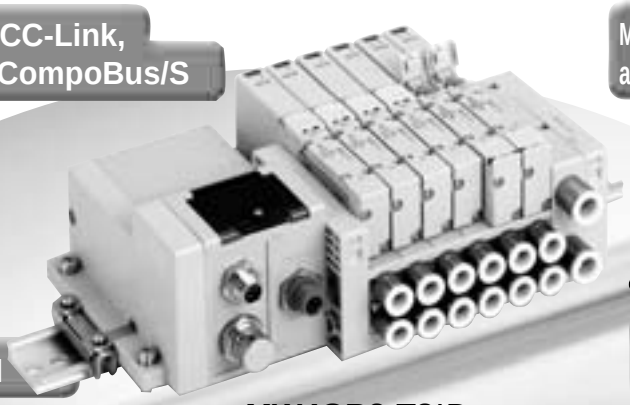
Lineup of diverse functions

● Serial transmission

Compatible with CC-Link, DeviceNet, AS-i, CompoBus/S

● Manual override

Models with OFF function and non-locking type also available



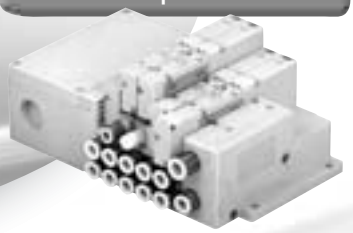
MW4GB2-T8*D

● Manifold installation

Compatible with DIN rail mounting

● Spacer

Supply spacers and exhaust spacers available



● Electric connection

D-sub connector, flat cable, and I/O connector (individual wiring) available

G Durability **Grade up**

Increased environment compatibility

● protection structure **IP65** compatible

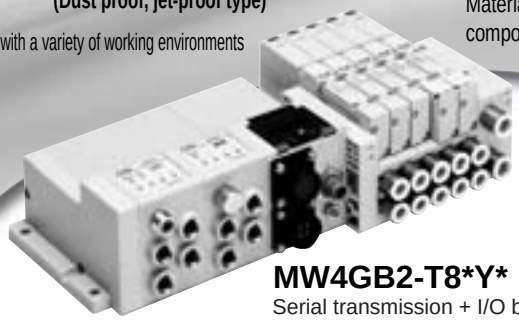
(Dust proof, jet-proof type)

Compatible with a variety of working environments

Increase environment resistance

● **Eco-friendly internal wiring**
Nonhalogen lead wires are used.

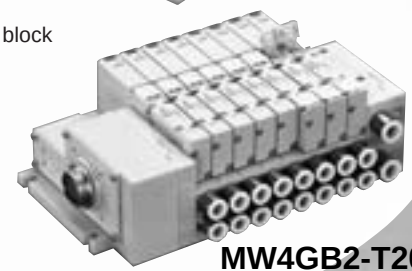
● **Material name indication**
Material names are stamped on main components to ease recycling, etc.



MW4GB2-T8*Y*
Serial transmission + I/O block

W4GB2

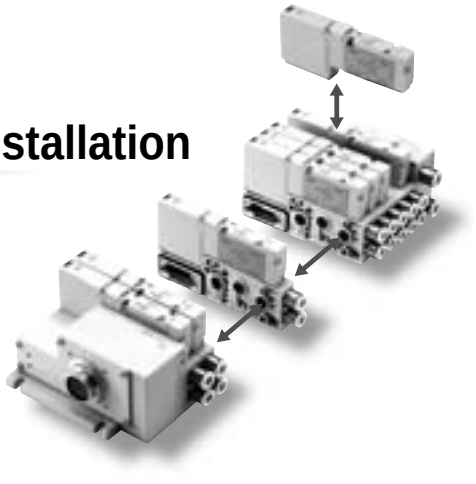
MW4GA2-T10
Common gland



MW4GB2-T20
Multi-connector

"worker" friendliness

Ease of use Grade up



Improved maintenance and installation

Easy valve replacement work
Plug-in method is used.

Reduce wiring work at expansion
Connection method is used between manifold blocks.
(Excluding AC specifications)

Compatible with DIN rail mounting
Specifications can be changed from direct mounting.

Increased adjustability

Supply spacer, exhaust spacer
Space-saving spacers are compatible with various pressure supply specifications and individual exhaust specifications.

Selective piping directions
* Top, side, and rear* directions available.
(* Excluding DIN rail mounting)

A multi-pressure use is also possible.

Diverse wire connection variations

Common gland

I/O connector (Individual wiring)

Multi-connector

Serial transmission
- CC-Link
- AS-i
- Device Net
- CompoBus/S

D sub-connector (IP40 or equivalent)

Flat cable (IP40 or equivalent)

Network control of peripheral devices
Using the expansion input/output block, valves and sensors around the manifold can be controlled over a network (Serial transmission)

Reliability Grade up

Responsiveness 24 ms or less
(CKD data: 2-position single solenoid)

Life 60 million times or more
(When clean air is supplied at 0.5 MPa)

Safety Grade up

Three types of manual overrides

(1) Non-locking/locking combination (Standard)

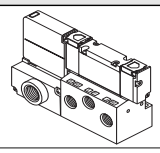
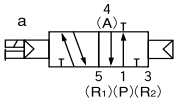
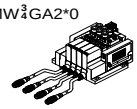
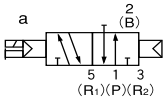
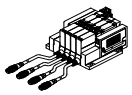
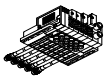
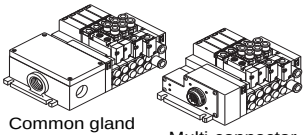
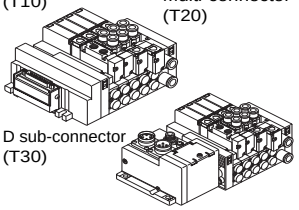
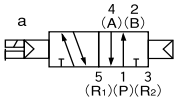
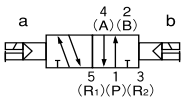
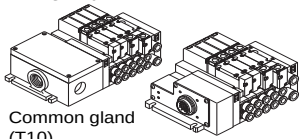
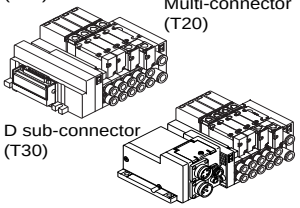
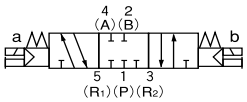
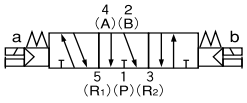
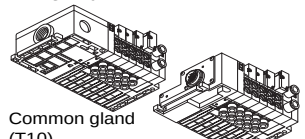
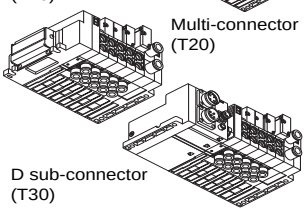
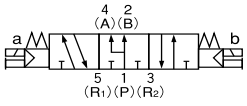
(2) With OFF function
The manifold can be turned off independently even when the valve power is ON, allowing the equipment to be started up and serviced easily. Normal manual override is also possible.
(Push, non-locking)

(3) Non-locking

Protective cover prevents misoperation of manual override

Built-in check valve prevents Cylinder misoperation caused by lead in of back pressure.

Filter on supply port (option for discrete type)

Series variation/appearance			Model no.		Position No. of solenoid JIS symbol	Valve performance: Flow characteristics C (dm³/(s·bar)) Note 1	Valve performance: Applicable cylinder bore size	Voltage: 100 V AC (1)	Voltage: 24 V DC (3)	Voltage: 12 V DC (4)	Protective structure
Discrete	Sub-base porting	W4GB2*0 	**W4GB2**		●3 port valve 2-position single solenoid N.C. type 	**2.1 to 2.5**	**ø20 to ø80**	●	●	●	**IP 65**
Individual wiring manifold	Body porting	MW3GA2*0  MW4GB2*0	**MW3GA2 MW4GA2 (NW3GA2) (NW4GA2)**	Individual wiring (-R1)	2-position single N.O. type 	**1.7 to 2.3**	**ø20 to ø80**		●	●	**IP 65** or equivalent
	Sub-base side porting	I/O connector (R1) MW4GZ2*0 	**MW4GB2 (NW4GB2)**						●	●	**IP 65** or equivalent
	Sub-base back porting	 I/O connector (R1)	**MW4GZ2 (NW4GZ2)**						●	●	**IP 65** or equivalent
Reduced wiring manifold	Body porting	MW3GA2*0  Common gland (T10) Multi-connector (T20)  D sub-connector (T30) Serial transmission (T8*)	**MW3GA2 MW4GA2 (NW3GA2) (NW4GA2)**	Common gland (-T10)	●5 port valve 2-position single 	**1.7 to 2.3**	**ø20 to ø80**	●	●	●	**IP 65**
				Multi-connector (-T20)					●	●	**IP 65**
				D sub-connector (-T30)					●	●	**IP 40**
				Flat cable connector (-T5*)	2-position double 				●	●	**IP 40**
				Serial transmission (-T8*)					●		**IP 65**
	Sub-base side porting	MW4GB2*0  Common gland (T10) Multi-connector (T20)  D sub-connector (T30) Serial transmission (T8*)	**MW4GB2 (NW4GB2)**	Common gland (-T10)		**1.7 to 2.3**	**ø20 to ø80**	●	●	●	**IP 65**
				Multi-connector (-T20)	3-position all ports closed 				●	●	**IP 65**
				D sub-connector (-T30)					●	●	**IP 40**
				Flat cable connector (-T5*)					●	●	**IP 40**
				Serial transmission (-T8*)	3-position A/B/R connection 				●		**IP 65**
	Sub-base back porting	MW4GZ2*0  Common gland (T10) Multi-connector (T20)  D sub-connector (T30) Serial transmission (T8*)	**MW4GZ2 (NW4GZ2)**	Common gland (-T10)		**1.7 to 2.3**	**ø20 to ø80**	●	●	●	**IP 65**
				Multi-connector (-T20)	3-position P/A/B connection 				●	●	**IP 65**
				D sub-connector (-T30)					●	●	**IP 40**
				Flat cable connector (-T5*)					●	●	**IP 40**
				Serial transmission (-T8*)					●		**IP 65**

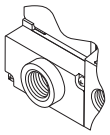
Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.

Solenoid position								A/B piping port							Electric connection							
2-position				3-position				Push-in joint			Push-in joint L type (upward)		Female thread									
Normally closed	Normally open	Single	Double	All ports closed	A/B/R connection	P/A/B connection	Mix	ø4	ø6	ø8	ø6	ø8	Rc 1/8	Rc 1/4	Gland	I/O connector	Common gland	Multi-connector	D sub-connector	Flat cable connector	Serial transmission	Page
								C4	C6	C8	CL6	CL8	06	08	Blank	R1	T10	T20	T30	T5*	T8*	
		●	●	●	●	●								●	●	●						**404**
●	●	●	●	●	●	●	●	●	●	●			●			●						**408**
		●	●	●	●	●	●	●	●	●	●	●				●						**412**
		●	●	●	●	●	●	●	●	●						●						**412**
●	●	●	●	●	●	●	●	●	●	●			●				●					
●	●	●	●	●	●	●	●	●	●	●			●					●				
●	●	●	●	●	●	●	●	●	●	●			●						●			**418**
●	●	●	●	●	●	●	●	●	●	●			●							●		
●	●	●	●	●	●	●	●	●	●	●			●								●	
		●	●	●	●	●	●	●	●	●	●	●					●					
		●	●	●	●	●	●	●	●	●	●	●						●				
		●	●	●	●	●	●	●	●	●	●	●							●			**438**
		●	●	●	●	●	●	●	●	●	●	●								●		
		●	●	●	●	●	●	●	●	●	●	●									●	
		●	●	●	●	●	●	●	●	●							●					
		●	●	●	●	●	●	●	●	●								●				
		●	●	●	●	●	●	●	●	●									●			**438**
		●	●	●	●	●	●	●	●	●										●		
		●	●	●	●	●	●	●	●	●											●	

Electric connection

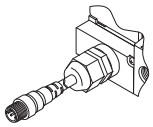
Discrete

Blank Gland



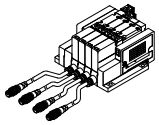
R1 I/O connector

● Lead wire length 500 mm



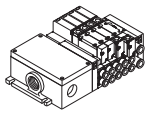
Individual wiring manifold

R1 I/O connector (M12)

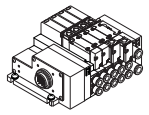


Reduced wiring manifold

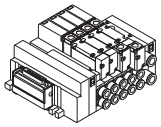
T10 Common gland



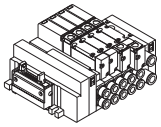
T20 Multi-connector



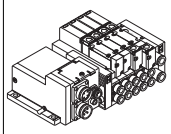
T30 D sub-connector



T5* Flat cable connector

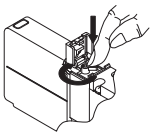


T8* Serial transmission



Manual override

● Non-locking/ locking common (Provided as standard)

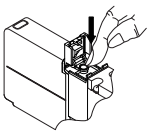


(1) For non-locking push to turn ON, release to turn OFF.

(2) For locking push and turn 90° clockwise to hold ON. Turn counterclockwise to release lock.

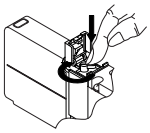
Other options

M Non-locking manual override



(1) Push to turn ON. Release to turn OFF.

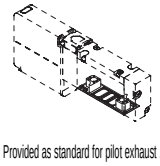
M7 Manual override with OFF function



(1) Normal manual operation (non-locking)
Push to turn ON.
Release to turn OFF.

(2) OFF function operation (at power ON, locking)
Push and turn 90° to right to stop pilot air supply.
Turn left to release lock and supply pilot air.

H With check valve



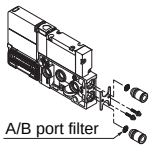
K External pilot

Individual circuit specifications of main pressure and pilot pressure

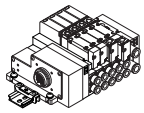
A Ozone and coolant proof

Select for cutting oil flow-in measures and ozone measures.

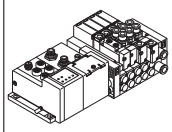
F A/B port filter integrated



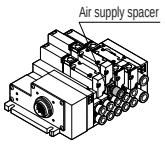
D DIN rail mount



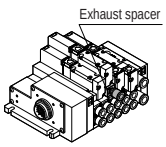
Y** I/O block



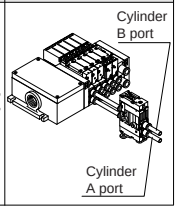
Z1 Air supply spacer



Z3 Exhaust spacer



Pilot check valve (*1) (separate type)

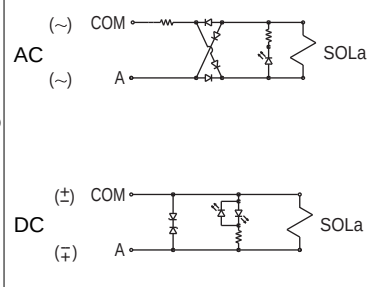


*1 Refer to page 237 for details.

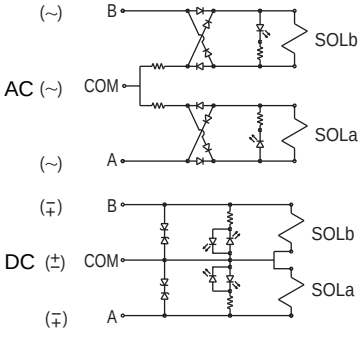
Electric connection circuit diagram (solenoid valve)

With light and surge suppressor (provided as standard)

Single



Double



Zener diode is used for a surge suppressor.

Pneumatic components

Safety precautions

Always read this section before starting use.
Refer to Intro 63 for precautions on general valve.

Precautions: 3, 5 port pilot operated valve W4G2 Series

Design & Selection

1. Working environment

CAUTION

■ IP65 (IEC60529 (IEC529: 1989-11)) standards are applied to the test. Avoid use in condition which water or coolant could directly contact the valve.

Explanation of protection property symbols and examination method of IP65

● Protective structure

Note: IP-65 is a standard as following.

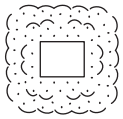
■ IEC (International Electrotechnical Commission) standards

(IEC60529 [IEC529: 1989-11])

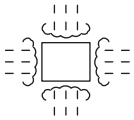
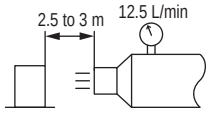
IP-**

Protection property symbols (International Protection)

1st characteristic number (protective class against external solids)

Grade	Degree of protection	
6	Dust proof type 	Powder and dust do not admit into the inside.

2nd characteristic number (protective class against entry of water)

Grade	Degree of protection		Overview of test method (fresh water is used.)
5	Protection for jet 	No harmful effects occur even when water is sprayed with nozzles from all directions.	Using the following test device, spray water for 1 minute per 1 m^2 of test sample (exterior) surface area from all directions, for a total of 3 minutes or more.  Spray nozzle inner diameter: ø6.3 mm

2. 100 VAC specifications

CAUTION

■ For 100 VAC, all wave rectified circuit is incorporated.
When using SSR to turn the solenoid valve on and off, solenoid valve recovery could fail. Take care when selecting the SSR. (Consult with the relay or PLC manufacturer.)

3. Serial transmission slave unit

CAUTION

■ If a communication error occurs, the slave unit functions as follows.
(1) All input signal points turn off.
(2) All output signal points turn off. (However, if there is an output mode setting switch on the slave unit, the set state will be maintained.)

4.Surge suppressor

⚠ CAUTION

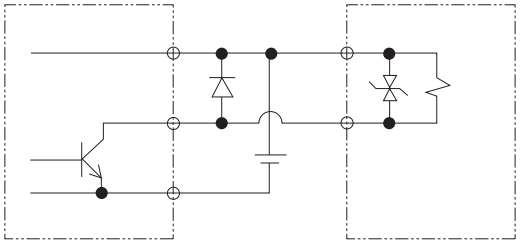
■ The surge suppressor enclosed with the solenoid valve is to protect the output contact for that solenoid valve's drive. There is no significant protection for other devices in the area, and the surge may cause damage or malfunctions. Surge generated by other devices could be absorbed and cause damage such as burning. Care must be taken for points below.

(1) The surge suppressor limits solenoid valve surge voltage, which can reach several hundred volts, to a lower voltage level withstandable by the output contact. Depending on the output circuit used, this may be insufficient and could result in damage or malfunction. Check whether the surge suppressor can be used by 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. If necessary, provide other surge measures. Solenoid valves with surge suppressors suppress the reverse voltage surge generated during OFF operation to the levels below.

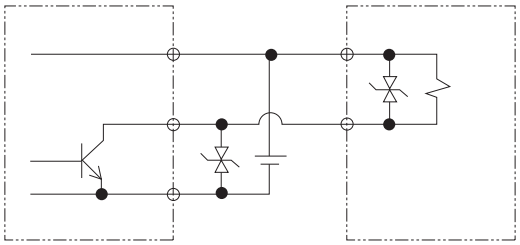
Rated voltage	Reverse voltage value when OFF
12 VDC	27 V
24 VDC	47 V

(2) When using the NPN output unit, a surge voltage equivalent to the voltage above plus the power voltage surge could be applied. Provide contact protection circuit.

(Example of output transistor protective circuit installation 1)



(Example of output transistor protective circuit installation 2)



(3) If another device or solenoid valve is connected in parallel to the solenoid valve, reverse voltage surge generated during the solenoid valve is off is applied to these devices. Even when using the solenoid valve with a 24 VDC surge suppressor, the surge voltage could reach several tens of volts depending on the model. This revere polarity voltage could damage devices connected in parallel or cause them to malfunction. Avoid parallel connection of devices suspected of reversing polarity voltages, e.g., LED indicators. When driving several solenoid valves in parallel, the surge from other solenoid valves could enter the surge suppressor of one solenoid valve with a surge suppressor. Depending on the current value, that surge suppressor could burn. When driving several solenoid valves with surge suppressors in parallel, surge current could concentrate at the surge suppressor with the lowest limit voltage and cause similar burning. Even if the solenoid valve type is the same, the surge suppressor's limit voltage can be inconsistent, and in the worst case, could result in burning.
Avoid driving several solenoid valves in parallel.

(4) The surge suppressor incorporated in the solenoid valve often short-circuits if damaged by excessive voltage or current the other solenoid valves. If the surge suppressor fails, if a large current flows when output is on, the output circuit or solenoid valve could be damaged or ignite. Do not keep power on in a faulty state. Provide an overcurrent protection circuit on the power or drive circuit or use a power supply with overcurrent protection so that a large current does not flow continuously.

Installation & Adjustment

1. Port indication

⚠ CAUTION

■ Port positions such as 1P and 4A, etc., are indicated in accordance with ISO and JIS standards.

● Any valve mounting attitude is permissible. The 4 (A) and 2 (B), and the 5 (R1) and 3 (R2) port positions of the W4G Series are the reverse of the 4K Series. Confirm the port symbol and pipe so that the cylinder, etc., operation is not reversed.

Applications	ISO standards	JIS standards
Supply port	1	P
Output port	4	A
Output port	2	B
Exhaust port	5	R1
Exhaust port	3	R2

2. External pilot (K) piping port

⚠ CAUTION

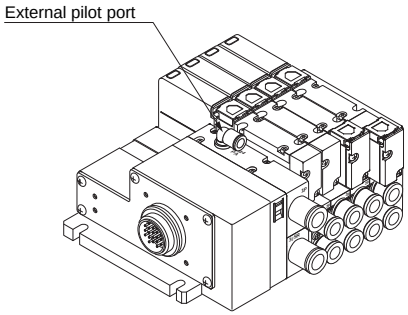
■ For the external pilot (K) type, pilot air supply ports are individually provided. The pilot air supply uses a ø6 push-in joint, so confirm that the piping connection position is correct. Incorrect piping causes operation faults.

Port indication

Applications		Indicator (ISO standards)
Pilot air	Air supplying port	12/14

* A/B port pressurizing and R port pressurizing is not possible.

MW4G2



The external pilot supply port is the ø6 push-in joint on the top of the supply/exhaust block.

3. How to install manifold

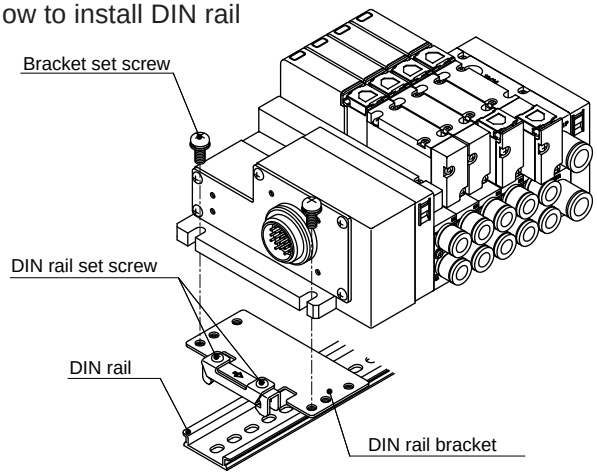
⚠ CAUTION

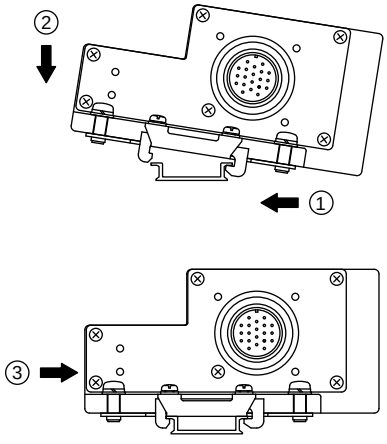
■ Installing with a DIN rail

● With the W4G2 Series, the direct mounting manifold can be changed to a DIN rail mounting and used.
The manifold could drop off or be damaged if not mounted correctly.
If the manifold weighs more than 1kg, or when using in an environment with vibration or impact, fix the DIN rail onto the mounting surface at 50 to 100 mm spacing, and confirm that there is no problem with mounting before starting operation.
The mounting direction and mounting attitude are not restricted, but the manifold could drop off if the set screws loosen because of vibration, so check the state carefully before starting operation.

* Refer to the block part configuration on page 480 for details on the DIN rail mounting bracket kit and DIN rail.

■ How to install DIN rail





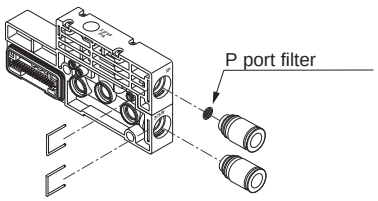
1. Mount the DIN rail mounting bracket. (Tightening torque: 1.8 to 2.3 N·m)
2. Catch the jaws into the DIN rail in the order of (1) and (2).
3. Press down in the direction of (3).
4. Tighten the DIN rail set screws. (Tightening torque: 1.2 to 1.6 N·m)

Installation & Adjustment

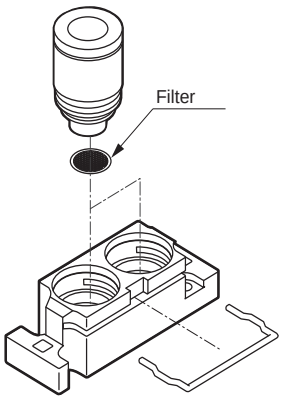
4. Port filter

⚠ CAUTION

■ Port filter is used to prevent foreign materials from entering, and problems in a valve. This does not improve the quality of compressed air, so read Warnings and Precautions in the Introduction, then set up, install, and adjust the filter.
Do not remove or force the port filter.
The filter could deform and result in problems. If contaminants and foreign materials are found on the filter surface, flash lightly, or remove them by tweezers, etc.



Example of integrating P port filter (standard)



Example of integrating A/B port filter (option)

5. Serial transmission slave unit

⚠ CAUTION

■ Shut off the power externally before starting installation or wiring work. There is a risk of electric shock and damage.

■ Check the product's rated voltage and terminal layout, and wire correctly. Connecting a power with incorrect rating or connecting the wires incorrectly could lead to fires or faults.

■ Tighten the waterproof connector and terminal screws within the specified torque range. Loose connections could lead to fire or misoperation.

■ Do not forcibly bend or pull the communication cables or power cables connected to the unit.

■ Use the designated cable for the communication cable. Separate the communication cable from the power cable and high-voltage cables.

■ Do not use this product where it will be continuously submerged in water.

During Use & Maintenance

1. Common

⚠ CAUTION

■ Energizing for a long time could impair solenoid valve performance. Similar caution is required in the following use.
· During intermittent energizing, energizing takes longer than non-energizing.
· During intermittent energizing, one energizing session exceeds 30 min.
Consider heat dissipation when installing.

2. Valve replacement

⚠ CAUTION

■ Check that the gasket and pilot check valve do not fall off when replacing and installing the valve.

	Screw size	Proper tightening torque (N·m)
W4G2	M2.5	0.25 to 0.30

3. Manual override

⚠ WARNING

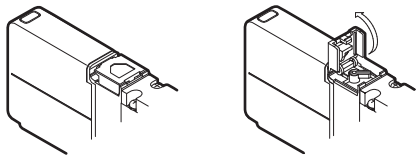
■ This valve is an internal pilot operated valve. If air is not supplied to the P port, the main valve will not change even if the manual override is operated.

■ Manual override protective cover is provided as standard. The manual override protective cover is closed when the valve is shipped to protect manual override, which cannot be seen when delivered. Open the protective cover and operate manual override.
Note that the protective cover does not close unless the manual override lock is released.

■ Non-locking/locking common manual override is provided as standard. The lock is applied by pressing down and turning manual override. Press down first and turn to lock. If manual override is turned without being pressed down, it could be damaged or air could leak.

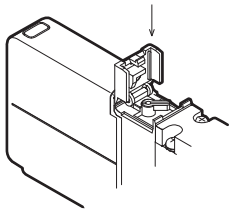
■ Opening and closing the manual protective cover
Do not excessively force the manual protective cover when opening and closing it. Excessive force could cause faults. (Less than 5 N)

W4G2 Series　　Turn type

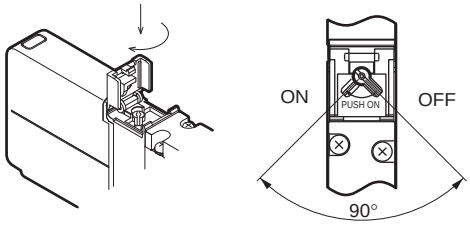


■ How to operate manual override

● Push & non-locking operation
Push in the direction of the arrow until it stops.
Manual override is unlocked when released.



● Push & locking operation
Push manual override and turn 90° in the direction of the arrow.
Manual override is not unlocked even when released.



■ When conducting manual operations, make sure that there are no people near the moving cylinder.

⚠ CAUTION

■ Manual override with OFF function
The supply of pilot air is forcibly stopped when power is on, so the main valve can be switched even when power is on.
When using the off function, caution is required because the cylinder moves immediately when using the 2-position single and 3-position A/B/R connection or P/A/B connection.

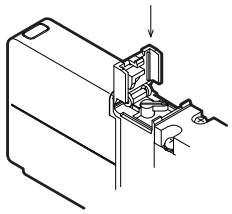
Output port destination list

Solenoid position			OFF function (energized side manual)		De-energized side manual
			No operation	Operation	Operation
2-position	Single solenoid	a side sol energizing	4 (A) →	2 (B)	-
	Double solenoid	a side sol energizing	4 (A)	4 (A) →	2 (B)
		b side sol energizing	2 (B)	2 (B) →	4 (A)
3-position	All ports closed	a side sol energizing	4 (A)	4 (A) →	2 (B)
		b side sol energizing	2 (B)	2 (B) →	4 (A)
	A/B/R connection	a side sol energizing	4 (A)	- →	2 (B)
		b side sol energizing	2 (B)	- →	4 (A)
	P/A/B connection	a side sol energizing	4 (A)	4(A) / 2(B) →	2 (B)
		b side sol energizing	2 (B)	4(A) / 2(B) →	4 (A)

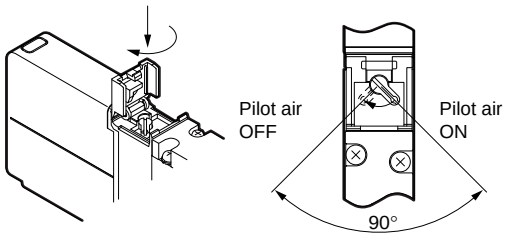
De-energized side manual is push/non-locking operation

■ How to operate manual override with OFF function

● During normal use (push/non-locking operation)
Push in the direction of the arrow until it stops.
Manual override is unlocked when released.



● When using OFF function (push/lock operation when energized)
Push manual override and turn 90° in the direction of the arrow.
Manual override is not unlocked even when released.



■ When conducting manual operations, make sure that there are no people near the moving cylinder.

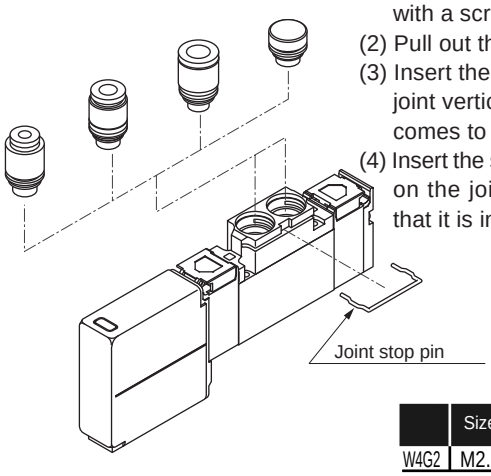
During Use & Maintenance

4. How to replace cartridge joint

⚠ CAUTION

■ Check procedures before changing the push-in joint size. Improper installation or improper tightening of the set screws may result in air leakage.

■ Body porting (A) type

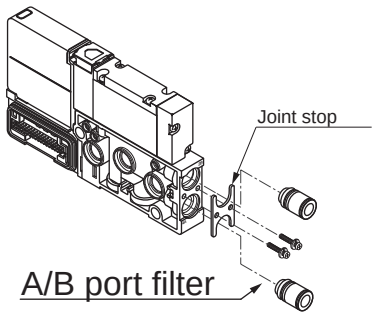


(1) Remove the stopper pin with a screwdriver, etc.
(2) Pull out the joint.
(3) Insert the replacement joint vertically until it comes to a stop.
(4) Insert the stopper pin. Pull on the joint and confirm that it is installed.

	Size	Tightening torque (N·m)
W4G2	M2.5	0.25 to 0.30

■ Sub-base side porting (B) type

■ Sub-base back porting (Z) type



(1) Remove the set screw.
(2) Pull the stopper plate and joint out together.
(3) Align the stopper plate with the groove on the replacement joint, and assemble temporarily.
(4) Assemble the stopper plate and joint together, and tighten the set screw. Pull on the joint and confirm that it is installed.

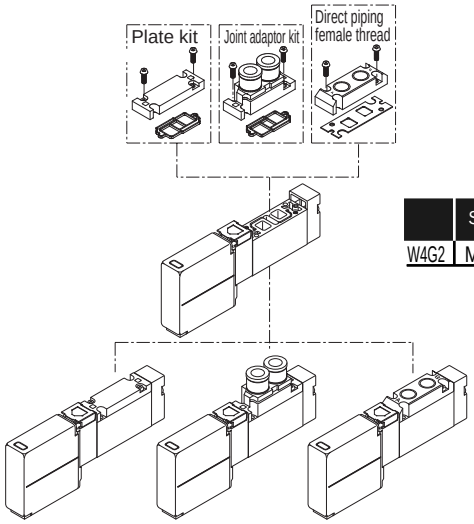
Cartridge type push-in joint model no.

Model	Part name	Model no.
W4G2	ø4 straight	4G2-JOINT-C4
	ø6 straight	4G2-JOINT-C6
	ø8 straight	4G2-JOINT-C8
	ø6 L type (upward)	4G2-JOINT-CL6/CLL6
	ø8 L type (upward)	4G2-JOINT-CL8/CLL8
	Plug cartridge	4G2-JOINT-CPG

5. How to change connecting port specifications

⚠ CAUTION

■ Air leaks, etc., could occur if the set screw is not tightened sufficiently after replacing the plate or joint adapter installed on the body, changing between the body port specifications and base piping specifications, or changing between the body port type push-in joint specifications and female thread specifications. Check that the tightening torque is correct.



	Size	Tightening torque (N·m)
W4G2	M2.5	0.25 to 0.30

Plate kit

Model	Kit model no.	Set part
W4G2	4G2-PLATE-KIT	Plate, gasket, 2 set screws

Joint adaptor kit

Model	Part name		Kit model no.	Set part
W4G2	ø4 joint adaptor kit	For N.C.	4G2-JNT-ADAPTOR-KIT-C4NC	Joint adaptor
		For N.O.	4G2-JNT-ADAPTOR-KIT-C4NO	2 push-in joints (N.C., N.O.: 1)
			4G2-JNT-ADAPTOR-KIT-C4	(N.C., N.O.: 1 plug cartridges)
	ø6 joint adaptor kit	For N.C.	4G2-JNT-ADAPTOR-KIT-C6NC	Gasket
		For N.O.	4G2-JNT-ADAPTOR-KIT-C6NO	Stopper pin
			4G2-JNT-ADAPTOR-KIT-C6	2 set screws
	ø8 joint adaptor kit	For N.C.	4G2-JNT-ADAPTOR-KIT-C8NC	
		For N.O.	4G2-JNT-ADAPTOR-KIT-C8NO	
			4G2-JNT-ADAPTOR-KIT-C8	

Female thread adaptor kit

Model	Kit model no.	Set part
W4G2	4G2-FML-ADAPTOR-KIT	Female thread adaptor, gasket, 2 set screws

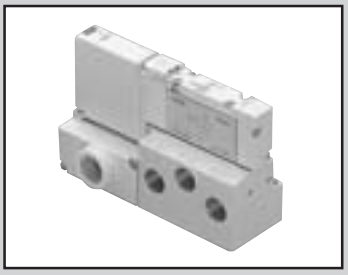
6. Serial transmission slave unit

⚠ CAUTION

■ Do not touch the terminals or connectors while the power is on. There is a risk of electric shock.

■ Shut the power off externally before cleaning or tightening the screws.

■ Do not disassemble or modify this product. There is a risk of faults and misoperation.



Discrete sub-base porting
W4GB2 Series

● Applicable cylinder bore size: ø20 to ø80 CE Refer to Intro 17 for details. RoHS CAD

Common specifications

Descriptions	W4GB2
Type of valve / operation method	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 °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking / locking common type (standard)
Lubrication Note 1	Not required
Protective structure Note 2	Dust proof/jet-proof (IP65)
Vibration/Impact m/s^2	49 or less / 294 or less
Working environment	Use in the environment containing corrosive gas is not permissible.

Note 1: Use the turbine oil Class 1 ISO VG32 if lubricated.
Excessive lubrication allows unstable operation.
Note 2: IP65 (IEC 60529 [IEC 529: 1989-11]) standards are applied to the test.
Refer to page 397 for details.

Electric specifications

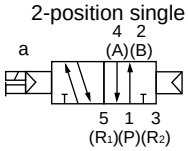
Descriptions		W4GB2
Rated voltage V	DC	12, 24
	AC	100
Rated voltage fluctuation range		±10%
Holding current A	24 VDC	0.025
	12 VDC	0.050
	100 VAC	0.012
Power consumption W Note 3	24 VDC	0.6
	12 VDC	0.6
Apparent power VA	100 VAC	1.2
Heat proof class		B

Note 3: Surge suppressor and indicator are provided as standard.

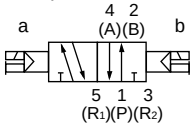
JIS symbol

● 5 port valve

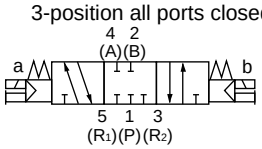
2-position single



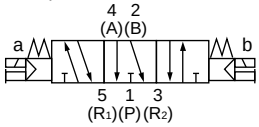
2-position double



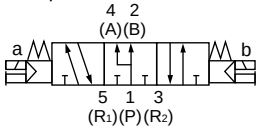
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



Individual specifications

Descriptions		W4GB2
Port size	A/B port	Rc1/4
	P/R port	Rc1/4

Descriptions			When turned ON	When turned OFF
Response time ms	2-position	Single	22	24
		Double	26	-
	3-position	A/B/R connection	25	35

Response time is the value when supply pressure 0.5 MPa, at 20°C and with pre-lubricated. The value will change based on quality of pressure and oil.

Descriptions				Gland	I/O connector
Weight	g	2-position	Single	351	409
			Double	367	424
		3-position	All ports closed	374	431

Flow characteristics

Model no.	Solenoid position		P ⟶ A/B		A/B ⟶ R	
			C (dm^3/ (s·bar))	b	C (dm^3/ (s·bar))	b
W4GB2	2-position		2.5	0.27	2.5	0.20
	3-position	All ports closed	2.3	0.32	2.1	0.21
		A/B/R connection	2.3	0.30	2.2	0.22
		P/A/B connection	2.4	0.02	2.3	0.19

Note: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.

Ozone specifications • Coolant proof specifications

Can be selected with "D" option "A" in How to Order on page 405.

How to order

● Discrete

W4GB2 1 0 - 08 - R1 H - 3

● Only discrete sub-plate

W4GB2 - SP - 08 - R1 F

Sub-plate

Ⓐ Solenoid position

Ⓑ Port size

Ⓒ Electric connection

Refer to page 396 for circuit diagram (inside solenoid valve).

Ⓓ Option

Ⓔ Voltage

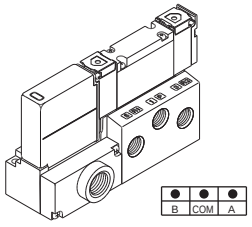
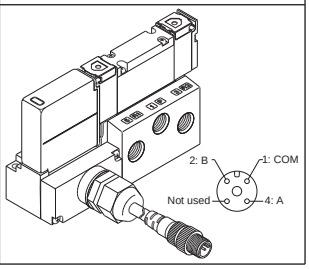
Symbol	Descriptions		Discrete	Only discrete sub-plate
Ⓐ Solenoid position				
1	2-position single		●	
2	2-position double		●	
3	3-position all ports closed		●	
4	3-position A/B/R connection		●	
5	3-position P/A/B connection		●	
Ⓑ Port size				
08	Rc1/4		●	●
Ⓒ Electric connection (light and surge suppressor provided as standard)				
Blank	Gland (cable clamp attached)		●	●
R1	I/O connector (500mm) (custom order)		●	●
Ⓓ Option				
Blank	No option		●	●
M	Non-locking manual override	Note 1	●	
M7	Manual override with OFF function	Note 1	●	
H	With check valve	Note 2	●	
A	Ozone and coolant proof		●	
F	P/A/B port filter integrated		●	●
Ⓔ Voltage				
1	100 VAC (rectified bridge integrated)		●	
3	24 VDC		●	
4	12 VDC		●	

Note on selection guide

Note 1: The non-locking manual override (M) and manual override with OFF function (M7) cannot be selected simultaneously.

Note 2: The check valve specifications (H) are not available for the 3-position all ports closed or P/A/B connection. Refer to page 510 for details on the check valve.

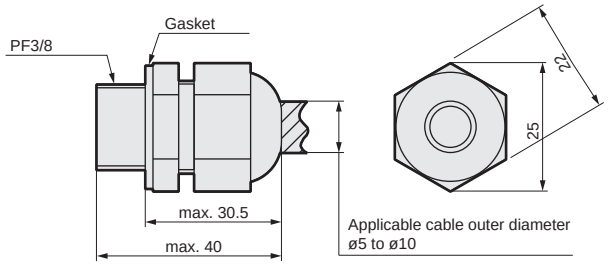
Electric connection

Name	Gland	I/O connector
Symbol	Blank	R1
Shape / Terminal arrangement		

Kit model no. for gland type

● Cable clamp (with gasket)

Model no.	Descriptions
W4G-BMS-038GP	Use to provide dustproof and jet-proof protection for the cable.



(Reference value)

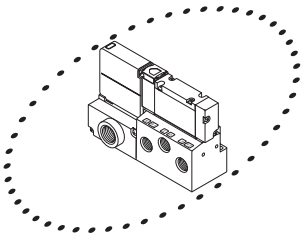
Body tightening torque	2.0 to 2.5 N·m
Cable clamp tightening torque	1.5 to 2.0 N·m

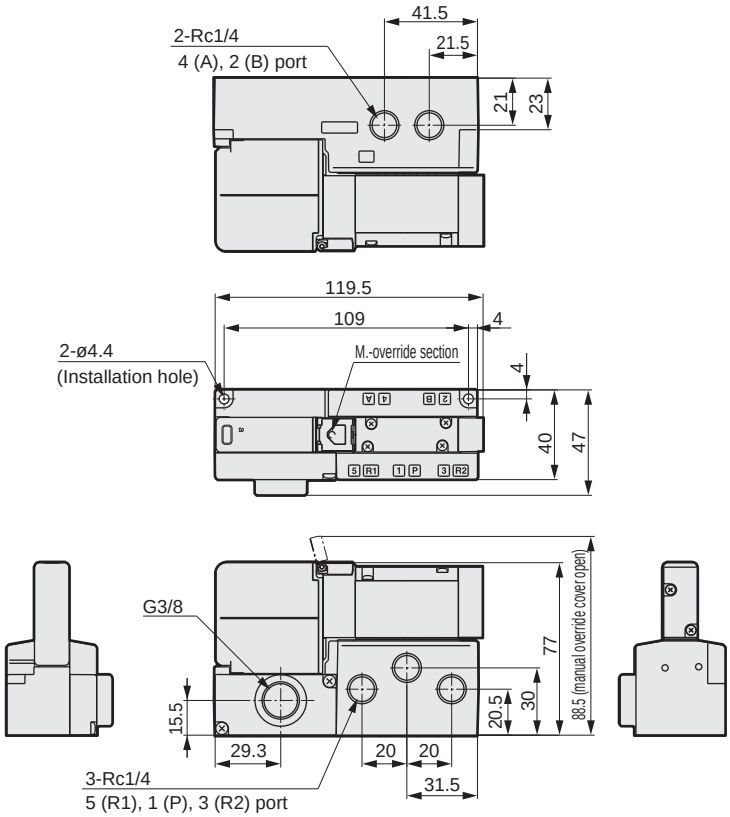
MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV HSV
2QV 3QV
SKH
PCD/ FS/FD
Ending

Dimensions CAD

W4GB210

● Gland (blank)

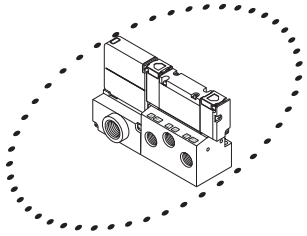


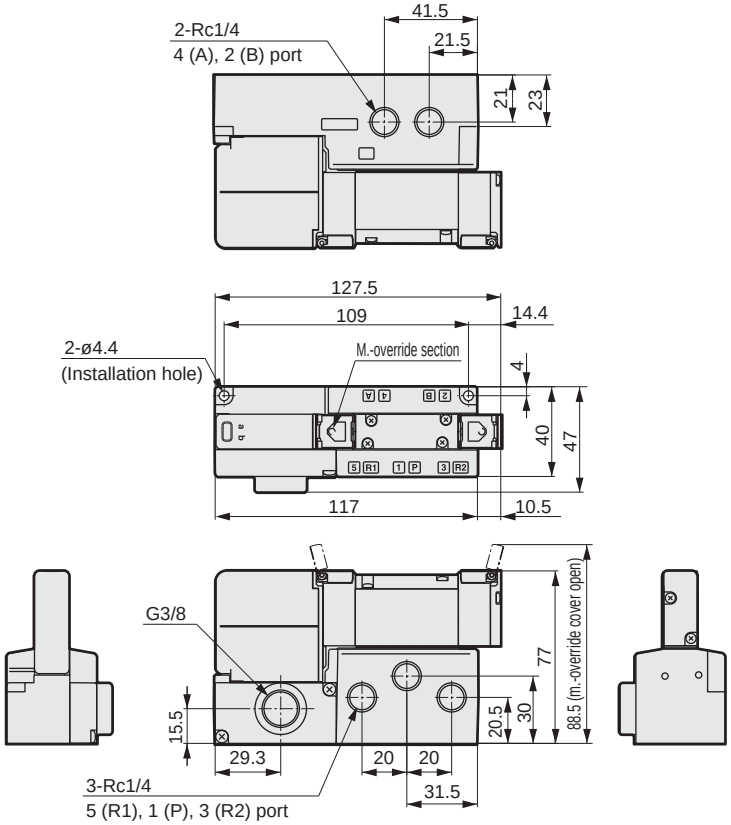


Note: Refer to page 407 for I/O conneector (R1).

W4GB220

● Gland (blank)

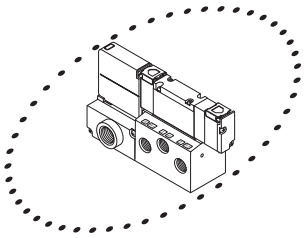


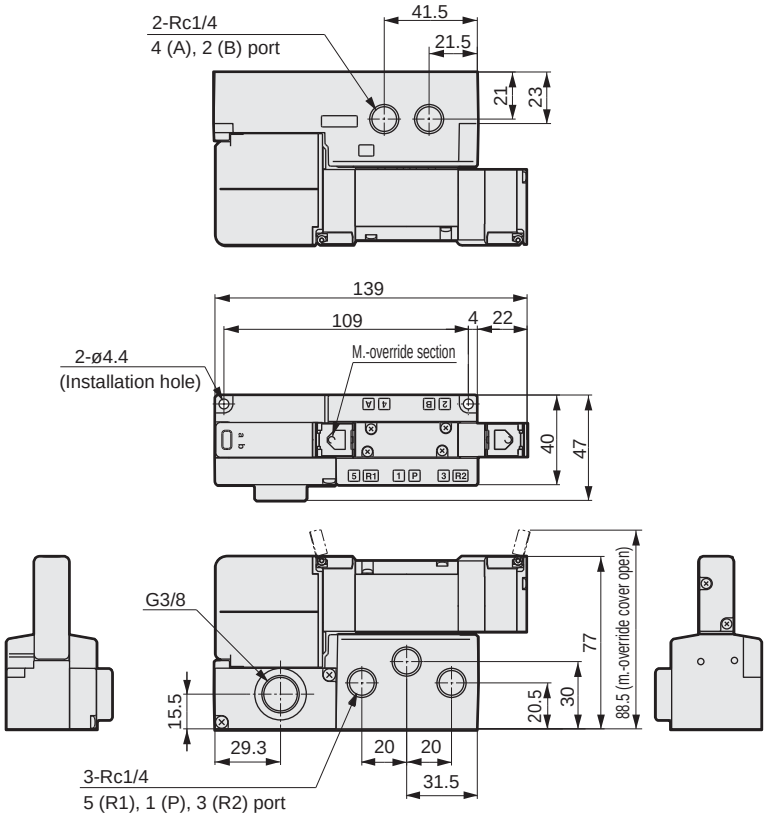


Dimensions

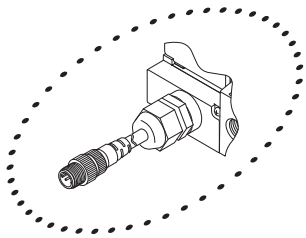
W4GB2$^{3}_{4}_{5}$0

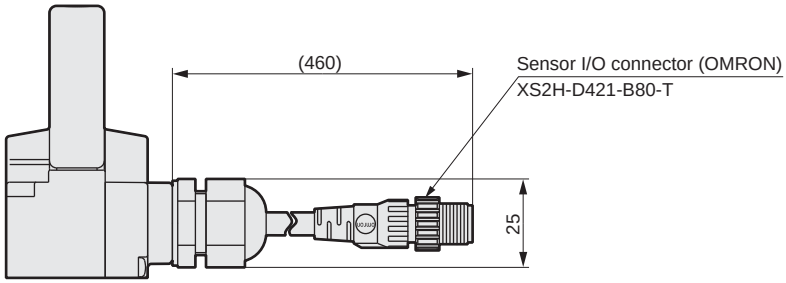
● Gland (blank)

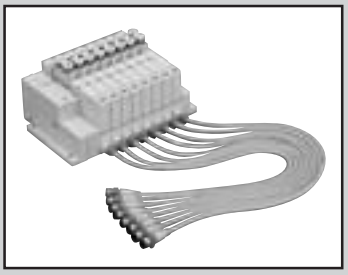




● I/O connector (R1)







Individual wiring manifold
Body porting
MW$^{3}_{4}$GA2-R1 Series

● Applicable cylinder bore size: ø20 to ø80

RoHS

Manifold common specifications

Descriptions		MW3GA2/MW4GA2
Manifold type		Block manifold
Air supply / exhaust method		Common supply / common exhaust (check valve integrated)
Pilot exhaust method	Internal pilot	Main valve and pilot valve common exhaust (pilot exhaust check valve integrated)
	External pilot	Main valve and pilot valve individual exhaust
Type of valve / operation method		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 °C		-5 to 55 (no freezing)
Fluid temperature °C		5 to 55
Manual override		Non-locking / locking common type (standard)
Lubrication Note 1		Not required
Protective structure Note 2		Dust proof / jet-proof (IP65 or equivalent)
Vibration/Impact m/s²		49 or less / 294 or less
Working environment		Use in the environment containing corrosive gas is not permissible.

Note 1: Use the turbine oil Class 1 ISO VG32 if lubricated.
Excessive lubrication allows unstable operation.
Note 2: IP65 (IEC 60529 [IEC 529: 1989-11]) standards are applied to the test.
Note 3: The working pressure range is 0 to 0.7 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

Electric specifications

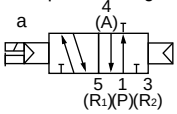
Descriptions		MW3GA2/MW4GA2
Rated voltage V	DC	12, 24
Rated voltage fluctuation range		±10%
Holding current A	24 VDC	0.025
	12 VDC	0.050
Power consumption W	24 VDC	0.6
Note 4	12 VDC	0.6
Heat proof class		B

Note 4: Surge suppressor and indicator are provided as standard.

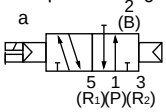
JIS symbol

● 3 port valve

2-position single N.C. type

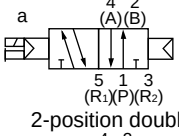


2-position single N.O. type

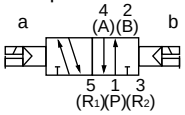


● 5 port valve

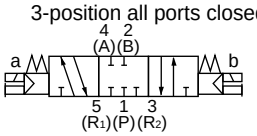
2-position single



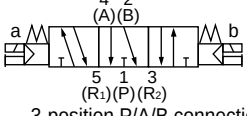
2-position double



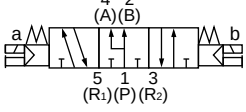
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



Individual specifications

Descriptions		MW3GA2/MW4GA2
Max. station number		16
Port size	A/B port	Push-in joint ø4, ø6, ø8, Rc1/8
	P/R port	Push-in joint ø8, ø10

Refer to page 410 for weight.

Descriptions			MW3GA2/MW4GA2	
			When turned ON	When turned OFF
Response time ms	2-position	Single	22	24
		Double	26	-
	3-position	A/B/R connection	25	35

Response time is the value when supply pressure 0.5 MPa, at 20°C and with pre-lubricated. The value will change based on quality of pressure and oil.

Flow characteristics

Model no.	Solenoid position		P ⟶ A/B		A/B ⟶ R	
			C (dm³/ (s·bar))	b	C (dm³/ (s·bar))	b
MW3GA2 MW4GA2	2-position		2.2	0.35	1.7	0.25
	3-position	All ports closed	2.0	0.36	2.2	0.21
		A/B/R connection	2.1	0.34	1.7	0.26
		P/A/B connection	2.3	0.35	2.3	0.27

Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.
Note 2: Values for the built-in check valve apply for the 2-position type and A/B/R connection.

Ozone specifications • Coolant proof specifications

Can be selected with "E" option "A" in How to Order on page 409.

How to order

Individual wiring I/O connector

● Manifold model no.

MW4GA2 1 0 - C8 — R1 H D - 5 - 3

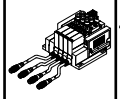
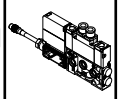
● Discrete valve block with solenoid valve

NW4GA2 1 0 - C8 — R1 H —— 3

● Discrete solenoid valve

W4GA2 1 9 - C8 —— H —— 3

Ⓐ Model no. Ⓑ Solenoid position Ⓒ Port size Note 1 Ⓓ Wiring method Refer to page 396 for circuit diagram (inside solenoid valve). Ⓔ Option Note 8 Ⓕ Mount type Ⓖ Station number Ⓗ Voltage

Symbol	Descriptions	Ⓐ Model no.					
		Manifold		Discrete valve block with solenoid valve		Discrete solenoid valve	
		3 port valve	5 port valve	3 port valve	5 port valve	3 port valve	5 port valve
							
		MW3GA2	MW4GA2	NW3GA2	NW4GA2	W3GA2	W4GA2
Ⓑ 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		●		●		●
1	2-position single normally closed	●		●		●	
11	2-position single normally open	●		●		●	
8	Mix manifold	●	●				
Ⓒ Port size (A/B port)							
C4	ø4 push-in joint	●	●	●	●	●	●
C6	ø6 push-in joint	●	●	●	●	●	●
C8	ø8 push-in joint	●	●	●	●	●	●
CX	Push-in joint mix	●	●				
06	Rc1/8	●	●	●	●	●	●
Ⓓ Wiring method (light and surge suppressor provided as standard)							
R1	I/O connector (M12) (500 mm)	●	●	●	●		
Ⓔ Option							
Blank	No option	●	●	●	●	●	●
M	Non-locking manual override Note 2	●	●	●	●	●	●
M7	Manual override with OFF function Note 2	●	●	●	●	●	●
H	With check valve Note 3	●	●	●	●	●	●
K	External pilot	●	●				
A	Ozone and coolant proof	●	●	●	●	●	●
F	A/B port filter integrated Note 4	●	●	●	●	●	●
Z1	Air supply spacer Note 5	●	●				
Z3	Exhaust spacer Note 5	●	●				
Ⓕ Mount type							
Blank	Direct mount type	●	●				
D	DIN rail mount type	●	●				
Ⓖ Station number							
2 to 16	2 stations to 16 stations	●	●				
Ⓗ Voltage							
3	24 VDC	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●

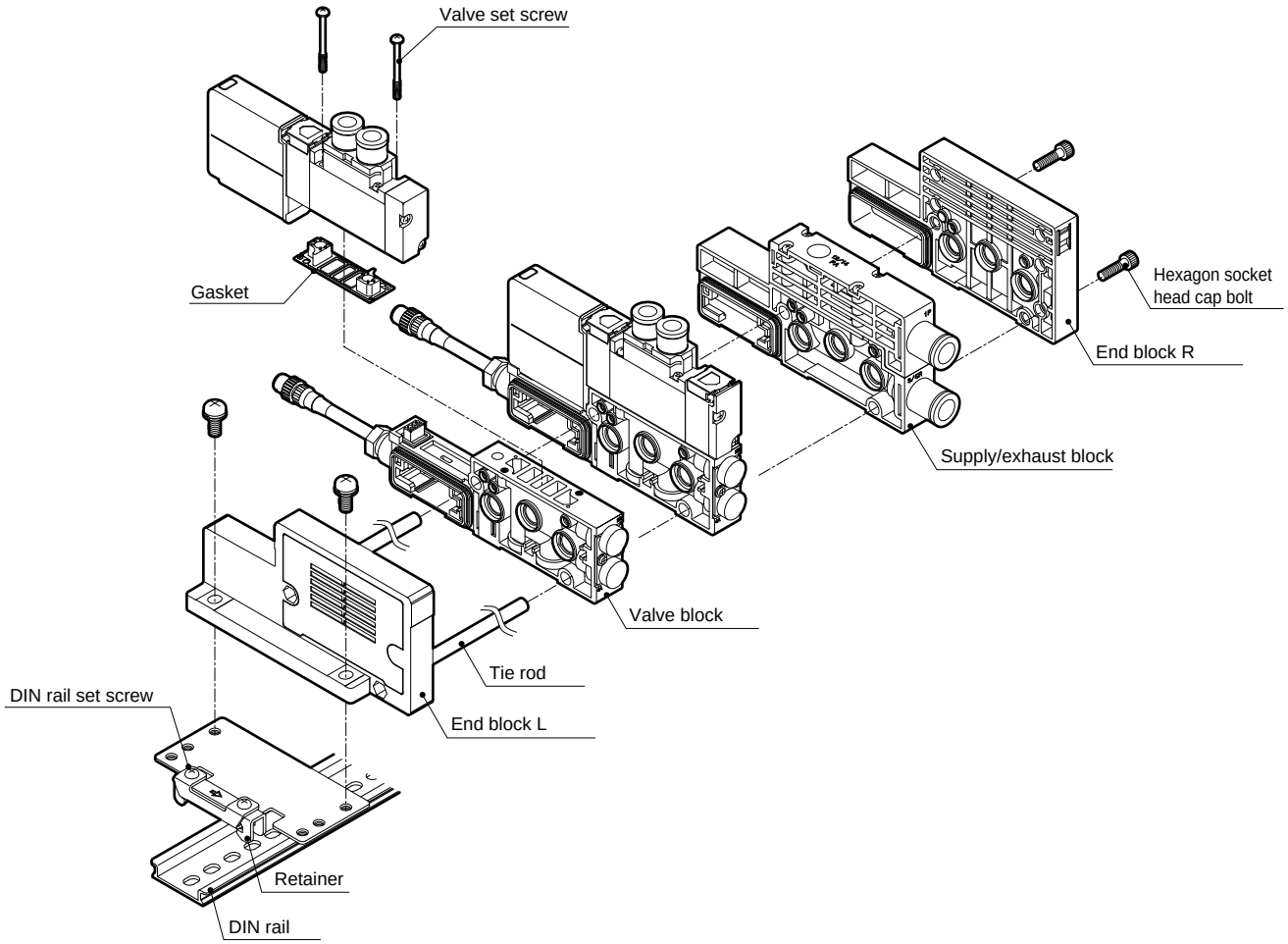
is not available.

Note on selection guide

Fill out "manifold specifications".

Note 1: Designate P and R port sizes with the supply/exhaust block.
Note 2: The non-locking manual override (M) and manual override with OFF function (M7) cannot be selected simultaneously.
Note 3: The check valve specifications (H) are not available for the 3-position all ports closed or P/A/B connection. Refer to page 510 for a check valve.
Note 4: A filter is used in the P port.
Note 5: Specify the spacer mounting location and quantity in manifold specifications. Refer to pages 476 to 477 for details.

Manifold components explanation and parts list



Main parts list (refer to pages 468 to 481 for details.)

No.	Component name	Model no. (example)	No.	Component name	Model no. (example)
1	End block	NW4G2-EL	4	Discrete solenoid valve	W4GA219-C8-H-3
2	Discrete valve block	NW4GA2-V-R1	5	Supply/exhaust block	NW4G2-Q-10
3	Discrete valve block with solenoid valve	NW4GA220-C8-R1H-3	6	End block R	NW4G2-ER

Weight (for DC)

NW4GA2

(g)

Block type		Weight	Block type		Weight
Valve block with solenoid valve	NW3GA210-*-R1	220	Valve block with masking plate	NW4GA2-MP-R1	141
	NW3GA2110-*-R1	220			
	NW4GA210-*-R1	225			
	NW4GA220-*-R1	241			
	NW4GA2$^{3}_{5}$0-*-R1	248			

Common

(g)

Block type		Weight	Block type		Weight
Supply/exhaust block	NW4G2-Q-*	137	End block	NW4G2-ER	91
	NW4G2-QK-*	140		NW4G2-EXR	96
	NW4G2-QZ-*	137		NW4G2-EL	91
	NW4G2-QKZ-*	143		NW4G2-EXL	96

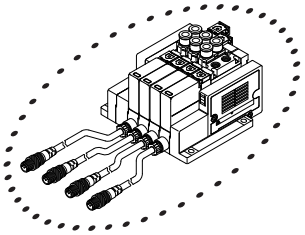
Repair parts and related parts list

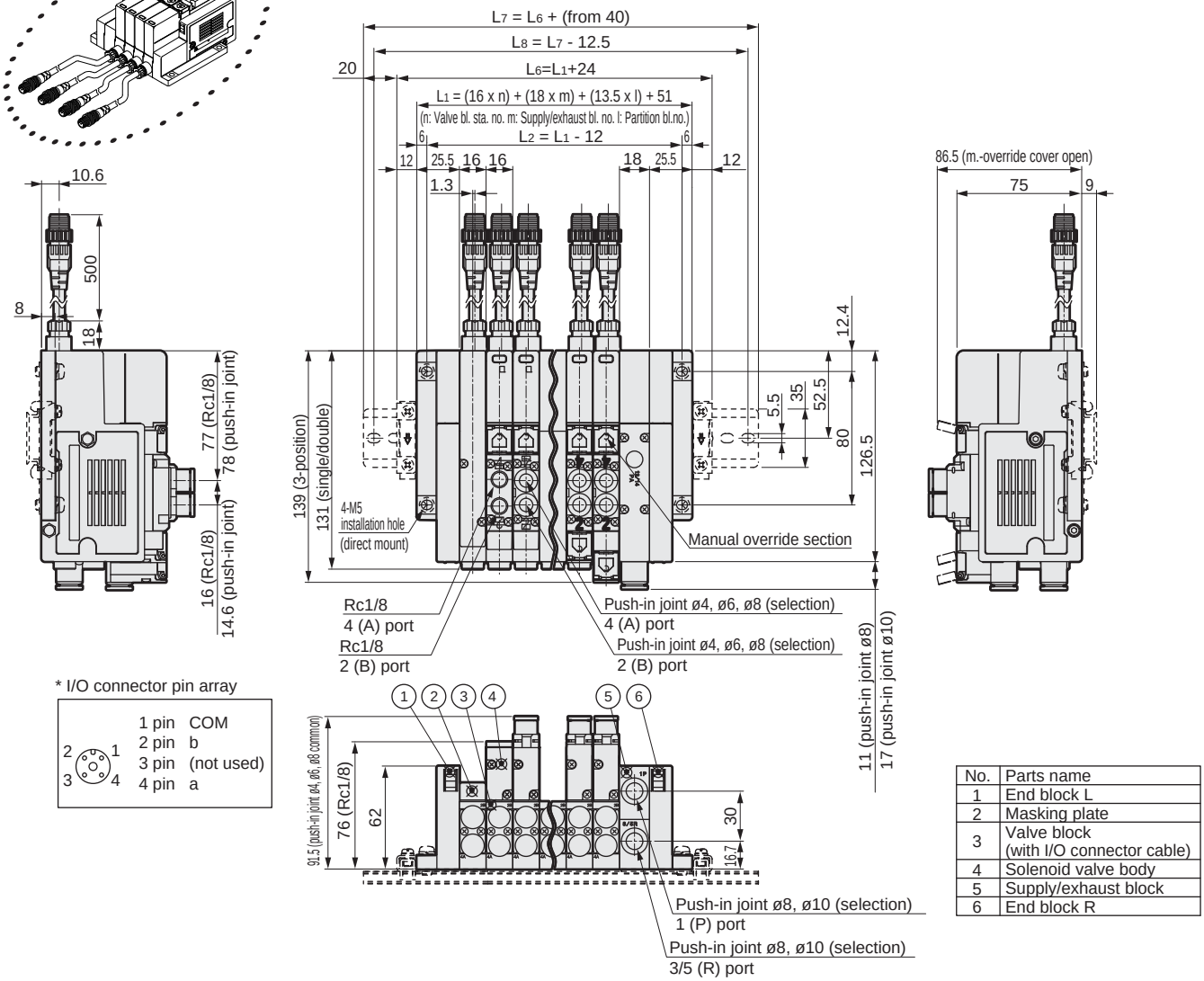
No.	Parts name		Model no.
-	Cartridge type push-in joint and related parts	ø4 straight	4G2-JOINT-C4
		ø6 straight	4G2-JOINT-C6
		ø8 straight	4G2-JOINT-C8
		Plug cartridge	4G2-JOINT-CPG

Dimensions

MW4GA2

● I/O connector (R1)





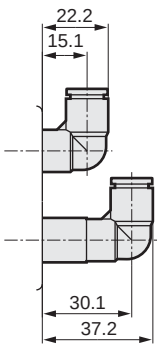
* I/O connector pin array

1 pin	COM
2 pin	b
3 pin	(not used)
4 pin	a

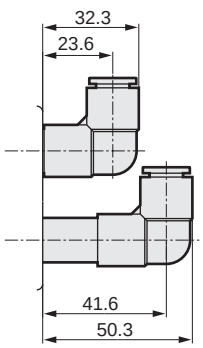
No.	Parts name
1	End block L
2	Masking plate
3	Valve block (with I/O connector cable)
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

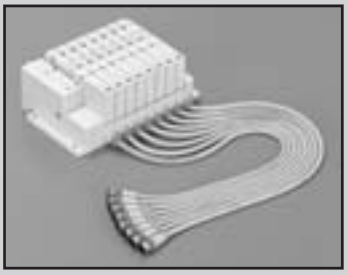
● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



● ø10 (CL10)





Individual wiring manifold
Sub-base side porting and back porting
MW4G$^{B}_{Z}$2-R1 Series

● Applicable cylinder bore size: ø20 to ø80

RoHS

Manifold common specifications

Descriptions	MW4GB2	MW4GZ2
Manifold type	Block manifold	
Air supply / exhaust method	Common supply / common exhaust (check valve integrated)	
Pilot exhaust method	Internal pilot: Main valve and pilot valve common exhaust (pilot exhaust check valve integrated)	
	External pilot: Main valve and pilot valve individual exhaust	
Piping direction	Sub-base side porting	Sub-base bottom porting
Type of valve / operation method	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 °C	-5 to 55 (no freezing)	
Fluid temperature °C	5 to 55	
Manual override	Non-locking / locking common type (standard)	
Lubrication Note 1	Not required	
Protective structure Note 2	Dust proof / jet-proof (IP65 or equivalent)	
Vibration/Impact m/s²	49 or less / 294 or less	
Working environment	Use in the environment containing corrosive gas is not permissible.	

Note 1: Use the turbine oil Class 1 ISO VG32 if lubricated.
Excessive lubrication allows unstable operation.
Note 2: IP65 (IEC 60529 [IEC 529: 1989-11]) standards are applied to the test.
Note 3: The working pressure range is 0 to 0.7 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

Electric specifications

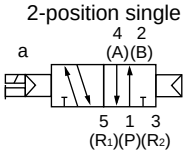
Descriptions		M4GB2
Rated voltage V	DC	12, 24
Rated voltage fluctuation range		±10%
Holding current A	24 VDC	0.025
	12 VDC	0.050
Power consumption W Note 4	24 VDC	0.6
	12 VDC	0.6
Heat proof class		B

Note 4: Surge suppressor and indicator are provided as standard.

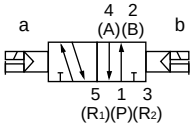
JIS symbol

● 5 port valve

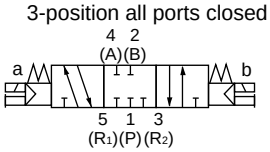
2-position single



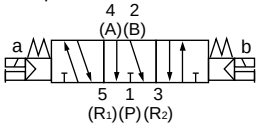
2-position double



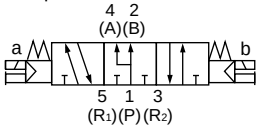
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



Individual specifications

Descriptions		MW4GB2/MW4GZ2
Max. station number		16
Port size	A/B port	Push-in joint ø4, ø6, ø8, Rc1/8
	P/R port	Push-in joint ø8, ø10

Refer to page 414 for weight.

Descriptions			MW4GB2/MW4GZ2	
			When turned ON	When turned OFF
Response time ms	2-position	Single	22	24
		Double	26	-
	3-position	A/B/R connection	25	35

Response time is the value when supply pressure 0.5 MPa, at 20°C and with pre-lubricated. The value will change based on quality of pressure and oil.

Flow characteristics

Model no.	Solenoid position		P ⟶ A/B		A/B ⟶ R	
			C (dm³/ (s·bar))	b	C (dm³/ (s·bar))	b
MW4GB2 MW4GZ2	2-position		2.4	0.36	1.7	0.25
	3-position	All ports closed	2.1	0.37	2.2	0.22
		A/B/R connection	2.2	0.35	1.7	0.25
		P/A/B connection	2.3	0.32	2.3	0.24

Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.
Note 2: Values for the built-in check valve apply for the 2-position type and A/B/R connection.

Ozone specifications • Coolant proof specifications

Can be selected with "E" option "A" in How to Order on page 413.

How to order

Individual wiring I/O connector

● Manifold model no.

MW4GB2 1 0 - C8 – R1 H D - 5 - 3
MW4GZ2 1 0 - C8 – R1 H — 5 - 3

● Discrete valve block with solenoid valve

NW4GB2 1 0 - C8 – R1 H — 3
NW4GZ2 1 0 - C8 – R1 H — 3

● Discrete solenoid valve (NW4GB2/NW4GZ2 common Note 6)

W4GB2 1 9 - 00 — H — 3

Ⓐ Model no.
Ⓑ Solenoid position
Ⓒ Port size Note 1 Note 2
Ⓓ Wiring method
Ⓔ Option Note 7
Ⓕ Mount type
Ⓖ Station number
Ⓗ Voltage

Symbol	Descriptions		Ⓐ Model no. Manifold MW4GB2	Manifold MW4GZ2	Discrete valve block with solenoid valve NW4GB2	Discrete valve block with solenoid valve NW4GZ2	Discrete solenoid valve W4GB2
Ⓑ 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		●	●			
Ⓒ Port size (A/B port)							
C4	ø4 push-in joint		●	●	●	●	
C6	ø6 push-in joint		●	●	●	●	
C8	ø8 push-in joint		●	●	●	●	
CL6	ø6 push-in joint L type (upward)		●		●		
CL8	ø8 push-in joint L type (upward)		●		●		
CX	Push-in joint mix		●	●			
Single plug	A port	B port					
C4NC	ø4 push-in joint	Plug	●	●	●	●	
C6NC	ø6 push-in joint	Plug	●	●	●	●	
C8NC	ø8 push-in joint	Plug	●	●	●	●	
C4NO	Plug	ø4 push-in joint	●	●	●	●	
C6NO	Plug	ø6 push-in joint	●	●	●	●	
C8NO	Plug	ø8 push-in joint	●	●	●	●	
CL6NC	ø6 push-in joint L type (upward)	Plug	●		●		
CL8NC	ø8 push-in joint L type (upward)	Plug	●		●		
CL6NO	Plug	ø6 push-in joint L type (upward)	●		●		
CL8NO	Plug	ø8 push-in joint L type (upward)	●		●		
Ⓓ Wiring method (light and surge suppressor provided as standard)							
R1	I/O connector (M12) (500 mm)		●	●	●	●	
Ⓔ Option							
Blank	No option		●	●	●	●	●
M	Non-locking manual override	Note 3	●	●	●	●	●
M7	Manual override with OFF function	Note 3	●	●	●	●	●
H	With check valve	Note 4	●	●	●	●	●
K	External pilot		●	●			
A	Ozone and coolant proof		●	●	●	●	●
F	A/B port filter integrated	Note 5	●	●	●	●	
Z1	Air supply spacer	Note 7	●	●			
Z3	Exhaust spacer	Note 7	●	●			
Ⓕ Mount type							
Blank	Direct mount type		●	●			
D	DIN rail mount type		●				
Ⓖ Station number							
2 to **16**	2 stations to 16 stations		●	●			
Ⓗ Voltage							
3	24 VDC		●	●	●	●	●
4	12 VDC		●	●	●	●	●

is not available.

Note on selection guide

Fill out "manifold specifications".

Note 1: A or B port plug specifications (*NC/*NO) are available only for the 2-position single.
Designate P and R port sizes with the supply/exhaust block.

Note 2: CL* push-in joint L (upward) is used only for the single/double solenoid manifold.
The A port is a long elbow and the B port a short elbow.
A/B port sizes do not differ for push-in joint L (upward) mix (CX). If CL*NC/NO is designated, a short elbow joint will be used.

Note 3: The non-locking manual override (M) and manual override with OFF function (M7) cannot be selected simultaneously.

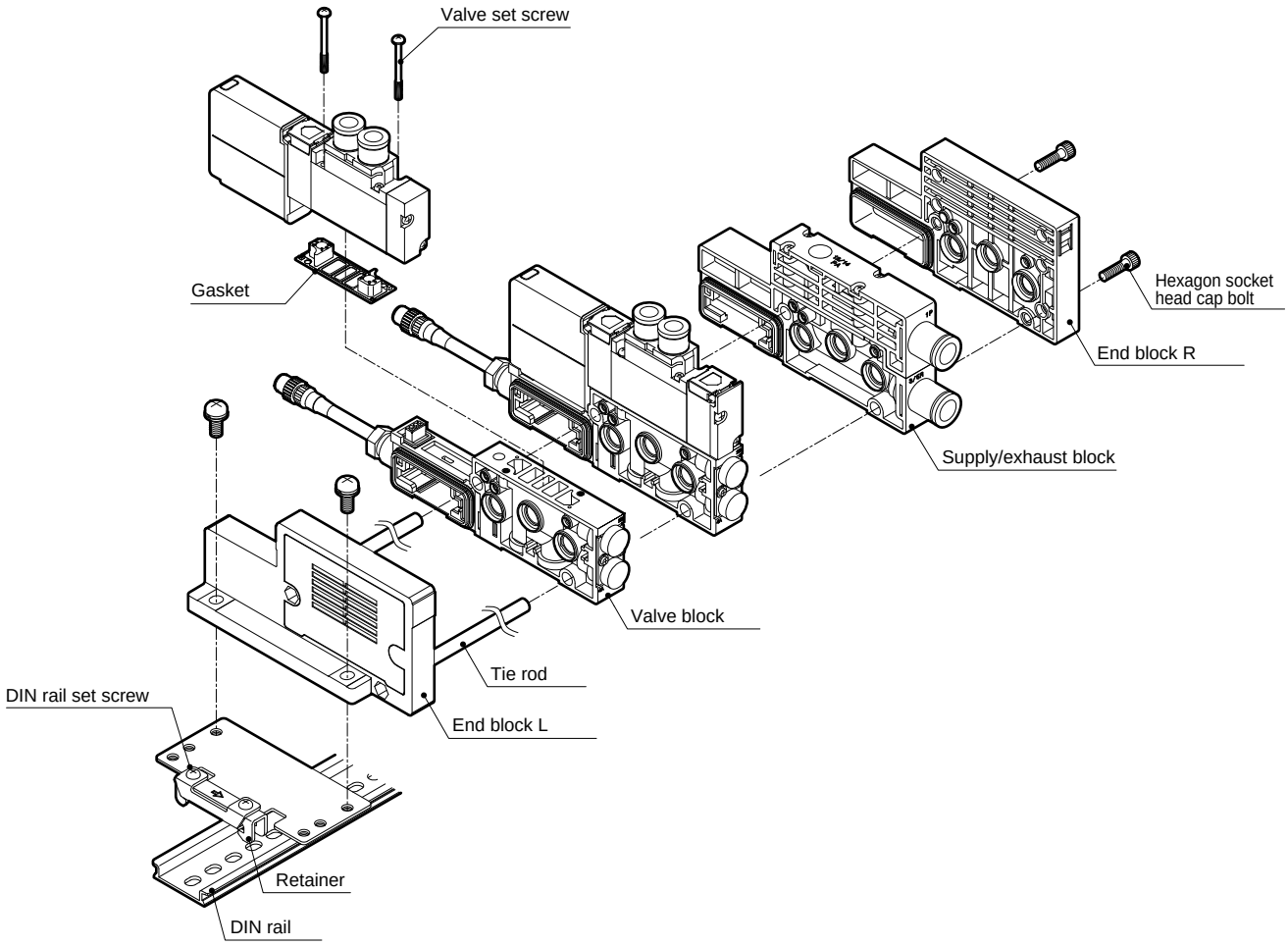
Note 4: The check valve specifications (H) are not available for the 3-position all ports closed or P/A/B connection.
Refer to page 510 for a check valve.

Note 5: A filter is used in the P port.

Note 6: The discrete solenoid valve used with the NW4GZ2 discrete valve block with solenoid valve is the same as that for the W4GB2*9

Note 7: Specify the spacer mounting location and quantity in manifold specifications.
Refer to pages 476 to 477 for details.

Manifold components explanation and parts list



Main parts list (refer to pages 468 to 481 for details.)

No.	Component name	Model no. (example)	No.	Component name	Model no. (example)
1	End block	NW4G2-EL	4	Discrete solenoid valve	W4GB219-00-H-3
2	Discrete valve block	NW4GB2-V-C8-R1	5	Supply/exhaust block	NW4G2-Q-10
3	Discrete valve block with solenoid valve	NW4GB220-C8-R1H-3	6	End block R	NW4G2-ER

Reduced wiring weight (for DC)

NW4GB2

Block type		Weight
Valve block with solenoid valve	NW4GB210	216
	NW4GB220	232
	NW4GB2$^{3}_{5}$0	239
Valve block with masking plate	NW4GB2-MP-C8-R1	152

NW4GZ2 (g)

Block type		Weight
Valve block with solenoid valve	NW4GZ210	216
	NW4GZ220	231
	NW4GZ2$^{3}_{5}$0	238
Valve block with masking plate	NW4GZ2-MP-C8-R1	151

Common (g)

Block type		Weight	Block type		Weight
Supply/exhaust block	NW4G2-Q-*	137	End block	NW4G2-ER	91
	NW4G2-QK-*	140		NW4G2-EXR	96
	NW4G2-QZ-*	137		NW4G2-EL	91
	NW4G2-QKZ-*	143		NW4G2-EXL	96

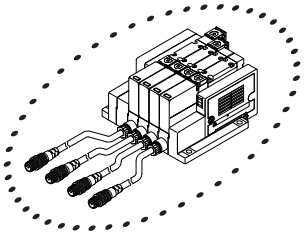
Repair parts and related parts list

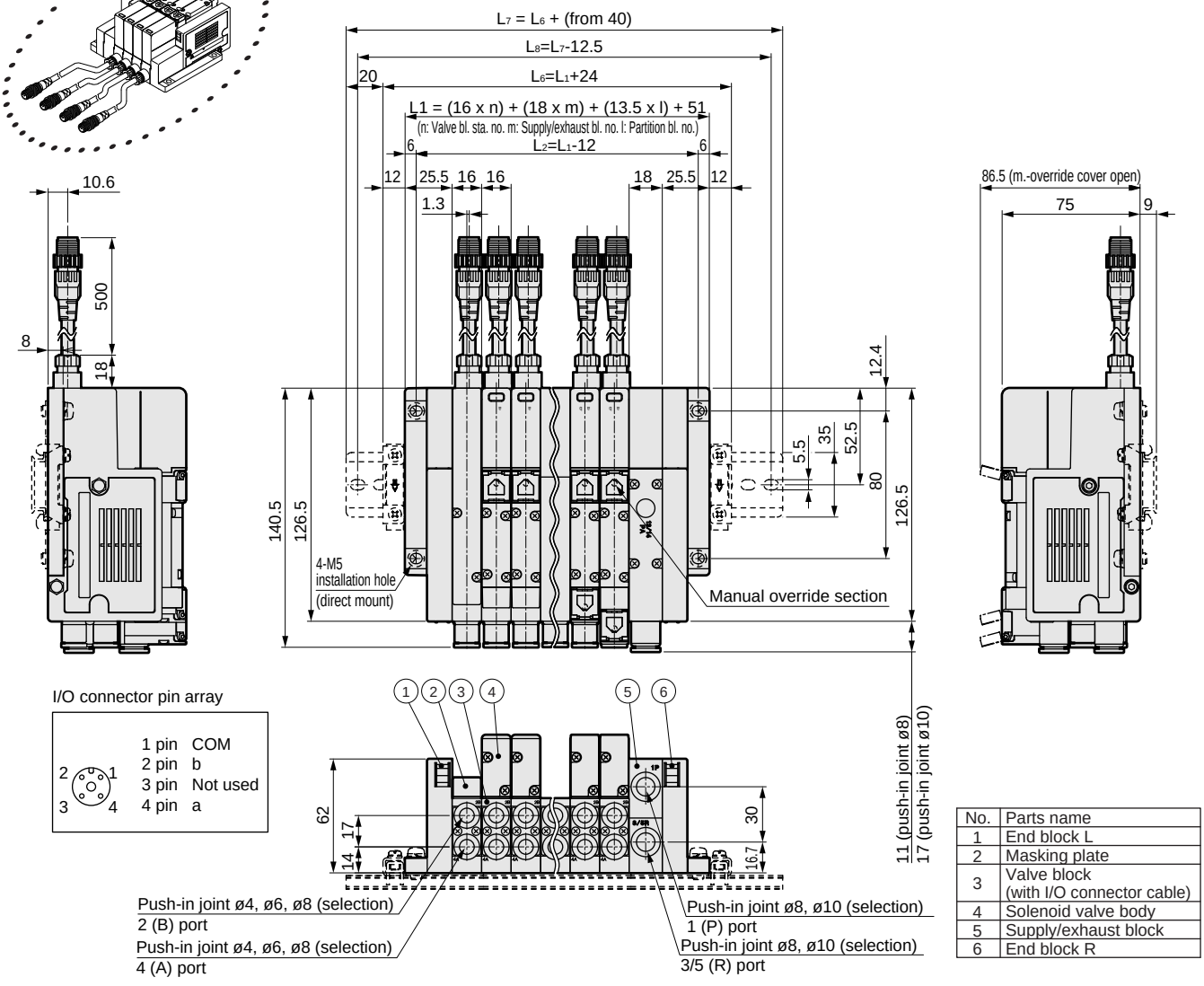
No.	Parts name		Model no.
-	Cartridge type push-in joint and related parts	ø4 straight	4G2-JOINT-C4
		ø6 straight	4G2-JOINT-C6
		ø8 straight	4G2-JOINT-C8
		ø6 L type	4G2-JOINT-CL6, CLL6
		ø8 L type	4G2-JOINT-CL8, CLL8
		Plug cartridge	4G2-JOINT-CPG
		Blanking plug	For ø4 GWP4-B, for ø6 GWP6-B, for ø8 GWP8-B

Dimensions

MW4GB2

● I/O connector (R1)





I/O connector pin array

1 pin	COM
2 pin	b
3 pin	Not used
4 pin	a

No.	Parts name
1	End block L
2	Masking plate
3	Valve block (with I/O connector cable)
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

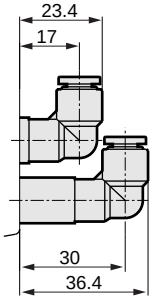
Push-in joint ø4, ø6, ø8 (selection)
2 (B) port
Push-in joint ø4, ø6, ø8 (selection)
4 (A) port
Push-in joint ø8, ø10 (selection)
1 (P) port
Push-in joint ø8, ø10 (selection)
3/5 (R) port

● Push-in joint L type for valve block (upward)

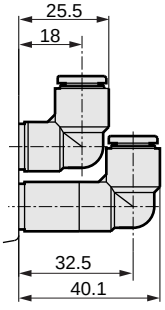
Compatible with only single and double solenoid manifold.

A port = long elbow, B port = short elbow

● ø6 (CL6)

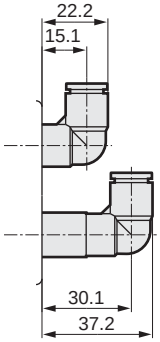


● ø8 (CL8)

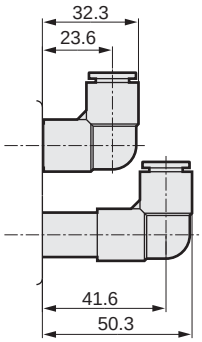


● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



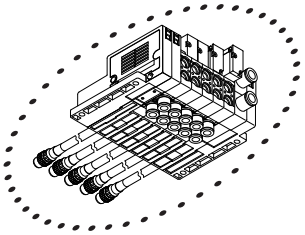
● ø10 (CL10)

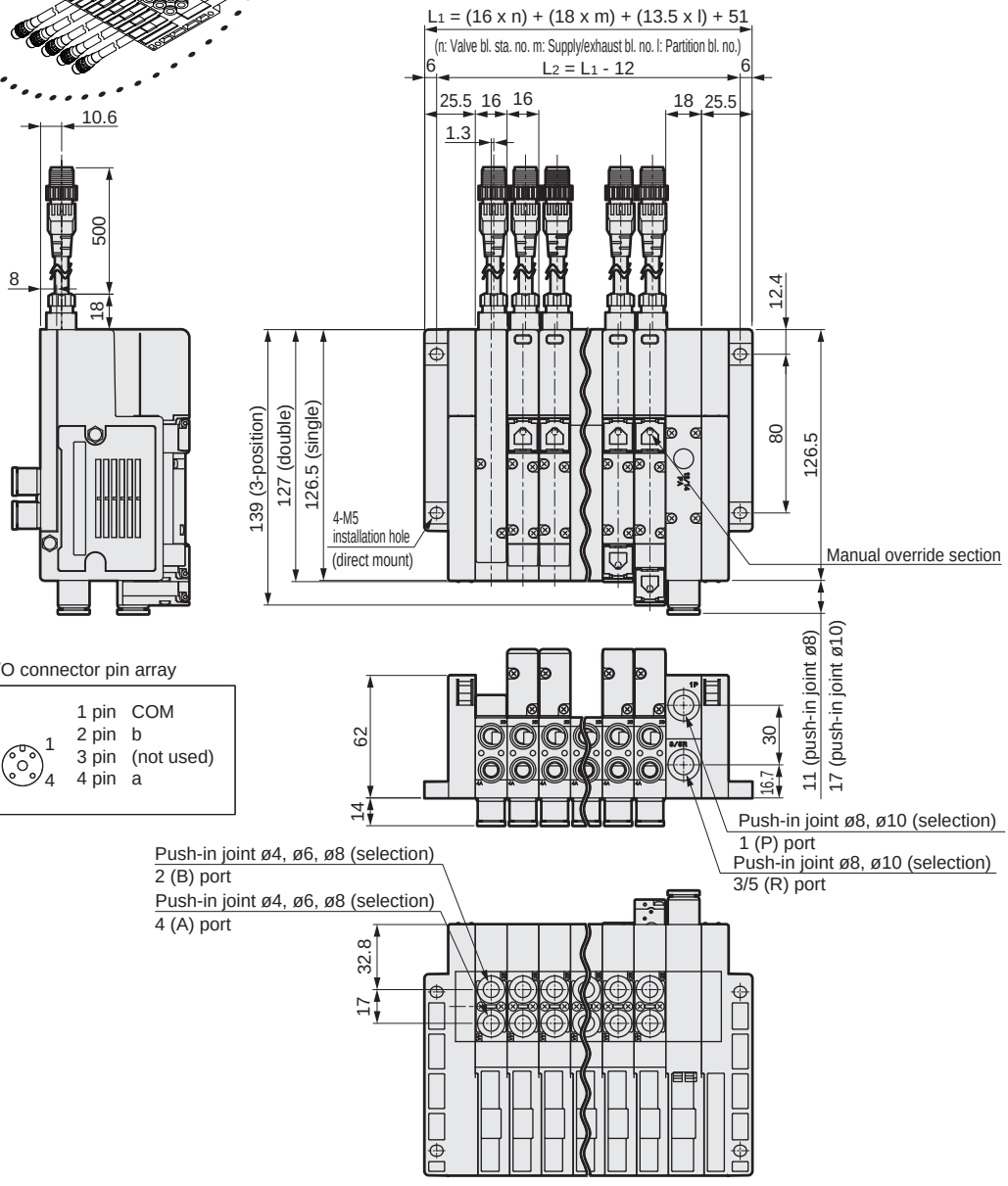


Dimensions

MW4GZ2

● I/O connector (R1)



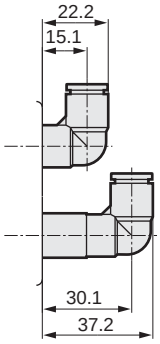


* I/O connector pin array

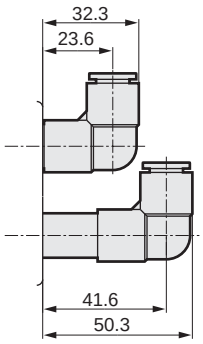
No.	Part name
1	End block L
2	Masking plate
3	Valve block (with I/O connector cable)
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

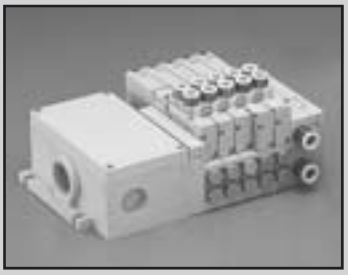
● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



● ø10 (CL10)





Reduced wiring manifold
Body porting
MW$^{3}_{4}$GA2-T1/2/3/5/8 Series

● Applicable cylinder bore size: ø20 to ø80 CE Refer to Intro 17 for details. RoHS CAD

Manifold common specifications

Descriptions	MW3GA2/MW4GA2
Manifold type	Block manifold
Air supply / exhaust method	Common supply / common exhaust (check valve integrated)
Pilot exhaust method	Internal pilot: Main valve and pilot valve common exhaust (pilot exhaust check valve integrated)
	External pilot: Main valve and pilot valve individual exhaust
Piping direction	Valve top direction
Type of valve / operation method	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 °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking / locking common type (standard)
Lubrication Note 1	Not required
Protective structure Note 2	Dust proof / jet-proof (IP65) Note 3
Vibration/Impact m/s²	49 or less / 294 or less
Working environment	Use in the environment containing corrosive gas is not permissible.

Note 1: Use the turbine oil Class 1 ISO VG32 if lubricated. Excessive lubrication allows unstable operation.
Note 2: IP65 (IEC 60529 [IEC 529: 1989-11]) standards are applied to the test. Refer to page 397 for details.
Note 3: The D-sub connector (T30) and flat cable connector (T5*) have a dustproof protective structure. Use these where water and oil, etc., will not come in contact.

Electric specifications

Descriptions		MW3GA2/MW4GA2
Rated voltage V	DC	12, 24
	AC	100
Rated voltage fluctuation range		±10%
Holding current A	24 VDC	0.025
	12 VDC	0.050
	100 VAC	0.012
Power consumption W Note 5	24 VDC	0.6
	12 VDC	0.6
Apparent power VA Note 6	100 VAC	1.2
Heat proof class		B

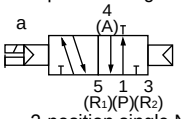
Note 5: Surge suppressor and indicator are provided as standard.
Note 6: The 100 VAC setting is not available for the multi-connector, D-sub connector or flat cable connector connection specifications. The 100 VAC and 12 VDC settings are not available for the serial transmission connection specifications.

Note 4: The working pressure range is 0 to 0.7 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

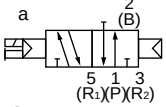
JIS symbol

● 3 port valve

2-position single N.C. type

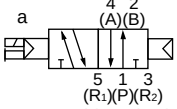


2-position single N.O. type

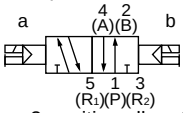


● 5 port valve

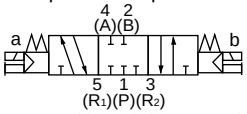
2-position single



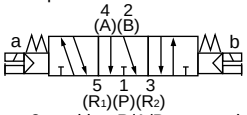
2-position double



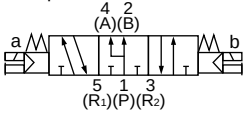
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



Individual specifications

Descriptions		MW3GA2/MW4GA2											
		T10	T20	T30	T51	T53	T8G1 T8D1	T8G2 T8D2	T8G7 T8D7	T8MA	T8M6	T8C1	T8C6
Max. station number	Standard wiring	18	-	18	18	18	16	18	16	4	8	16	8
	Double wiring	9	8	12	9	12	8	16	8	2	4	8	4
Max. solenoid number		18	16	24	18	24	16	32	16	4	8	16	8
Port size	A/B port	Push-in joint ø4, ø6, ø8, Rc1/8											
	P/R port	Push-in joint ø8, ø10											

Refer to page 426 for weight.

Descriptions			MW3GA2/MW4GA2	
			When turned ON	When turned OFF
Response time ms	2-position	Single	22	24
		Double	26	-
	3-position	A/B/R connection	25	35

Response time is the value when supply pressure 0.5 MPa, at 20°C and with pre-lubricated. The value will change based on quality of pressure and oil.

Flow characteristics

Model no.	Solenoid position		P ⟶ A/B		A/B ⟶ R	
			C (dm³/ (s·bar))	b	C (dm³/ (s·bar))	b
MW3GA2 MW4GA2	2-position		2.2	0.35	1.7	0.25
	3-position	All ports closed	2.0	0.36	2.2	0.21
		A/B/R connection	2.1	0.34	1.7	0.26
		P/A/B connection	2.3	0.35	2.3	0.27

Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.
Note 2: Values for the built-in check valve apply for the 2-position type and A/B/R connection.

Ozone specifications • Coolant proof specifications

Can be selected with "G" option "A" in How to Order on page 422, 424.

Reduced wiring specifications

Descriptions	T10	T20	T30	T51	T53
Type	Common gland M3 screw type	Multi-connector	D sub-connector	20P Flat cable connector without power supply terminal	26P Flat cable connector without power supply terminal
Connector	-	HIROSE ELECTRIC CO. LTD. RM21WTP-20S 20 pins	MIL standards D sub-connector 25 pins	MIL-C-83503 standards conformed pressure welding socket 20 pins	MIL-C-83503 standards conformed pressure welding socket 26 pins

Serial transmission slave unit specifications (refer to page 502 for the applicable PLC table.)

Descriptions \ Network name	Slave unit model no.	CC-Link (Ver. 1.10)			DeviceNet Note 1			AS-i (Ver. 2.0)	
		T8G1	T8G2	T8G7	T8D1	T8D2	T8D7	T8MA	T8M6
Communication speed		156K/625K/2.5M/5M/10Mbps			125K/250K/500Kbps			167Kbps	
Power voltage	Unit side	24 VDC ±10%			24 VDC ±10%			30 VDC ±2%	
	Valve side	24 VDC +10%, -5%			24 VDC +10%, -5%			24 VDC +10%, -5%	
	Communication side	-			11 to 25 VDC			-	
Current consumption	Unit side	60 mA or less	100 mA or less	75 mA or less Note 2	70 mA or less	90 mA or less	80 mA or less Note 2	60 mA or less Note 2	90 mA or less Note 2
	Valve side	15 mA or less (when all points OFF)			15 mA or less (when all points OFF)			15 mA or less (when all points OFF)	
	Communication side	-			50 mA or less			-	
Input no. / output no.		0/16	0/32	16/16	0/16	0/32	16/16	4/4 Note 3	8/8 Note 4
Occupied number		1 station			2 byte	4 byte	4 byte	1 station	2 stations
Operating indication		Power supply/communication state/valve power supply			Power supply/communication state/valve power supply			Power supply/communication state	
Other		-			Consult with CKD for EDS file. Note 5.			Profile: 7, F Note 6	

Descriptions \ Network name	Slave unit model no.	CompoBus/S	
		T8C1	T8C6
Communication speed		93.75K/750Kbps	
Power voltage	Unit side	24 VDC ±10% (communication power supply)	
	Valve side	24 VDC +10% and -5%	
	Communication side	-	
Current consumption	Unit side	50 mA or less Note 2 (communication power supply)	
	Valve side	15 mA or less (when all points OFF)	
	Communication side	-	
Input no. / output no.		0/16	8/8
Occupied number		-	
Operating indication		Power supply/communication state/valve power supply	
Other		-	

Note 1: Compatible with other DeviceNet complaint networks (DLNK, etc.).
Note 2: If the input block's power supply is common with the unit power supply, calculate with the following equation.
(Current consumed on unit side) = [*] + (35 mA x number of input blocks) + (total of current consumed in connected sensors)
[*] ·····T8G7: 60 mA, T8D7: 80 mA, T8MA: 60 mA, T8M6: 90 mA, T8C6: 50 mA
Note that the sensors must be selected so that the current consumed on the unit side is 600 mA or less (for T8G7, T8D7), or 250 mA or less (for T8MA, T8M6, T8C6).
Note 3: When using the 4-point input / 4-point output slave unit (T8MA), all outputs are dedicated for the valve.
Note 4: Two addresses must be set for the 8-point input / 8-point output type slave unit (T8M6). (The automatic address setting function cannot be used.)
Note 5: EDS file: Text file of parameters for communicating with each company's master.
Note 6: Profile: Definition of slave I/O data and parameter meanings when communicating with master. (Defined in AS-i specifications.)

I/O block specifications

● Input block

Model no. / Descriptions	NW4GA2-IN-N-K	NW4GA2-IN-N-B	NW4GA2-IN-P-K	NW4GA2-IN-P-B
Input no.	4 points			
Rated input voltage	24 VDC			
Rated input current	7 mA			
ON voltage	15 VDC and over (between each input terminal and V interval)		15 VDC and over (between each input terminal and G interval)	
OFF voltage / OFF current	5 VDC or less (between each input terminal and V interval) / 1.5 mA or less		5 VDC or less (between each input terminal and G interval) / 1.5 mA or less	
Input type	Sink type		Source type	
Power supply	Common with unit power supply	Supply from external power	Common with unit power supply	Supply from external power
Operating indication	Power supply / input state			

Note 1: Refer to page 476 for the model no.

● Output block

Model no. / Descriptions	NW4GA2-OUT-N-B	NW4GA2-OUT-P-B
Output no.	4 points	
Rated voltage	24 VDC	
Max. load current	1 A/1 point (3 A/common)	
Residual voltage	1.5 V or less	
Output type	Sink type	Source type
Protective circuit	Over current protection / reverse connection protection	
Fuse	Power supply for external load: 24 VDC and 5 A (can be replaced)	
Operating indication	Power supply / output state	

Note 1: Refer to page 476 for the model no.

MEMO

How to order

Common gland, multi-connector, D sub-connector, flat cable connector

● Manifold model no.

MW4GA2 1 0 - C8 — T10 W H D - 5 - 3

● Discrete valve block with solenoid valve

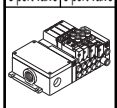
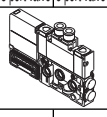
NW4GA2 1 0 - C8 - ○ W H — 3

● Discrete solenoid valve

W4GA2 1 9 - C8 — H — 3

Ⓐ Model no.
Ⓑ Solenoid position
Ⓒ Port size Note 1
Ⓓ Electric connection Note 2
Ⓔ Reduced wiring
Refer to page 396 for circuit diagram (inside solenoid valve).
Ⓕ Terminal and connector pin array
Ⓖ Option Note 8
Ⓗ Mount type
Ⓘ Station number
Ⓙ Voltage

· Refer to page 493 for the models of the cable with a D-sub connector.
· Refer to page 496 for models of the cable for a flat cable connector.

Symbol	Descriptions	Ⓐ Model no.					
		Manifold		Discrete valve block with solenoid valve		Discrete solenoid valve	
		3 port valve	5 port valve	3 port valve	5 port valve	3 port valve	5 port valve
							
		MW3GA2	MW4GA2	NW3GA2	NW4GA2	W3GA2	W4GA2
Ⓑ 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		●		●		●
1	2-position single normally closed	●		●		●	
11	2-position single normally open	●		●		●	
8	Mix manifold	●	●				
Ⓒ Port size (A/B port)							
C4	ø4 push-in joint	●	●	●	●	●	●
C6	ø6 push-in joint	●	●	●	●	●	●
C8	ø8 push-in joint	●	●	●	●	●	●
CX	Push-in joint mix	●	●				
06	Rc1/8	●	●	●	●	●	●
Ⓓ Electric connection							
Blank	DC connector relay PCB specifications			●	●		
2 to 8	Select the AC cable length from page 471.			●	●		
Ⓔ Reduced wiring (light and surge suppressor provided as standard)							
Refer to the next page for reduced wiring.							
Ⓕ Terminal and connector pin array							
Blank	Standard wiring Note 4	●	●	●	●		
W	Double wiring Note 4	●	●	●	●		
Ⓖ Option							
Blank	No option	●	●	●	●	●	●
M	Non-locking manual override Note 5	●	●	●	●	●	●
M7	Manual override with OFF function Note 5	●	●	●	●	●	●
H	With check valve Note 6	●	●	●	●	●	●
K	External pilot	●	●				
A	Ozone and coolant proof	●	●	●	●	●	●
F	A/B port filter integrated Note 7	●	●	●	●	●	●
Z1	Air supply spacer Note 8	●	●				
Z3	Exhaust spacer Note 8	●	●				
Ⓗ Mount type							
Blank	Direct mount type	●	●				
D	DIN rail mount type	●	●				
Ⓘ Station number							
2 to 18	2 stations to 18 stations (Differs depending on the reduced wiring specifications. Refer to individual specifications (page 418).)	●	●				
Ⓙ Voltage							
1	100 VAC (rectified bridge integrated)	●	●	●	●	●	●
3	24 VDC	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●

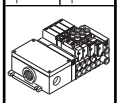
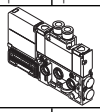
is not available.

⚠ Note on selection guide

Fill out "manifold specifications".

Note 1: Designate P and R port sizes with the supply/exhaust block.
Note 2: When using AC, if the specifications may change, select the valve block with masking plate as a spare block.
Note 4: Blank ····· Wired based on the type of valve used.
W ····· All wired for the double solenoid regardless of the type of valve used.
W does not need to be designated when the single solenoid is not mounted.
Only the double-wiring specifications are available for multi-connector T20 and AC voltage, so double-wiring will be selected automatically even if W is not designated.
Note 5: The non-locking manual override (M) and manual override with OFF function (M7) cannot be selected simultaneously.
Note 6: The check valve specifications (H) are not available for the 3-position all ports closed or P/A/B connection. Refer to page 510 for a check valve.
Note 7: A filter is used in the P port.
Note 8: Specify the spacer mounting location and quantity in manifold specifications. Refer to pages 476 to 477 for details.

(Reduced wiring list)

		Ⓐ Model no.					
		Manifold		Discrete valve block with solenoid valve		Discrete solenoid valve	
		3 port valve	5 port valve	3 port valve	5 port valve	3 port valve	5 port valve
							
		MW3GA2	MW4GA2	NW3GA2	NW4GA2	W3GA2	W4GA2
Ⓔ Reduced wiring (light and surge suppressor provided as standard)							
T10	Common gland (M3 screw) Left	●	●				
T20	Multi-connector Left Note 3	●	●				
T30	D sub-connector Left Note 3	●	●				
T51	20 pin flat cable connector (without power supply terminal) Left Note 3	●	●				
T53	26 pin flat cable connector (without power supply terminal) Left Note 3	●	●				

Note 3: The 100 VAC setting is not available for the multi-connector (T20), D-sub connector (T30) or flat cable connector (T5*) connection specifications.

MW$^{3}_{4}$GA2-T8 Series

Reduced wiring manifold: Body porting

How to order

Serial transmission

● Manifold model no.

MW4GA2 1 0 - C8 — T8G1 W H D - 5 - 3

● Discrete valve block with solenoid valve

NW4GA2 1 0 - C8 - ○ W H — 3

● Discrete solenoid valve

W4GA2 1 9 - C8 — H — 3

Ⓐ Model no.
Ⓑ Solenoid position
Ⓒ Port size Note 1
Ⓓ Electric connection
Ⓔ Reduced wiring
Refer to page 396 for circuit diagram (inside solenoid valve).
Ⓕ Terminal and connector pin array
Ⓖ Option Note 8
Ⓗ Mount type
Ⓘ Station number
Ⓙ Voltage

Symbol	Descriptions	MW3GA2	MW4GA2	NW3GA2	NW4GA2	W3GA2	W4GA2
	Ⓐ Model no.	Manifold		Discrete valve block with solenoid valve		Discrete solenoid valve	
		3 port valve	5 port valve	3 port valve	5 port valve	3 port valve	5 port valve
	Ⓑ 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		●		●		●
1	2-position single normally closed	●		●		●	
11	2-position single normally open	●		●		●	
8	Mix manifold	●	●				
	Ⓒ Port size (A/B port)						
C4	ø4 push-in joint	●	●	●	●	●	●
C6	ø6 push-in joint	●	●	●	●	●	●
C8	ø8 push-in joint	●	●	●	●	●	●
CX	Push-in joint mix	●	●				
06	Rc1/8	●	●	●	●	●	●
	Ⓓ Electric connection						
Blank	DC connector relay PCB specifications			●	●		
	Ⓔ Reduced wiring (light and surge suppressor provided as standard)						
	Refer to the next page for reduced wiring.						
	Ⓕ Terminal and connector pin array						
Blank	Standard wiring Note 2	●	●	●	●		
W	Double wiring Note 2	●	●	●	●		
	Ⓖ Option						
Blank	No option	●	●	●	●	●	●
M	Non-locking manual override Note 3	●	●	●	●	●	●
M7	Manual override with OFF function Note 3	●	●	●	●	●	●
H	With check valve Note 4	●	●	●	●	●	●
K	External pilot	●	●				
A	Ozone and coolant proof	●	●	●	●	●	●
F	A/B port filter integrated Note 5	●	●	●	●	●	●
Y**	I/O block Note 6 (For **, designate the number which indicates the input/output block combination given in Table 1 (Input/output block combination table) on the next page.)	●	●				
Z1	Air supply spacer Note 8	●	●				
Z3	Exhaust spacer Note 8	●	●				
	Ⓗ Mount type						
Blank	Direct mount type	●	●				
D	DIN rail mount type	●	●				
	Ⓘ Station number						
2 to 16	2 stations to 16 stations (Differs depending on the reduced wiring specifications. Refer to individual specifications (page 418).)	●	●				
	Ⓙ Voltage						
3	24 VDC Note 7	●	●	●	●	●	●

is not available.

Note on selection guide

Fill out "manifold specifications".

Note 1: Designate P and R port sizes with the supply/exhaust block.
Note 2: Blank ··· Wired based on the type of valve used.
W ····· All wired for the double solenoid regardless of the type of valve used.
W does not need to be designated when the single solenoid is not mounted.
Note 3: The non-locking manual override (M) and manual override with OFF function (M7) cannot be selected simultaneously.
Note 4: The check valve specifications (H) are not available for the 3-position all ports closed or P/A/B connection. Refer to page 510 for details on the check valve.
Note 5: A filter is used in the P port.
Note 6: Designate the input/output block's input/output format (sink/source) and power supply type (slave unit common/external) with the manifold specifications (page 517).
Note 7: 100 VAC and 12 VDC settings are not available for the serial transmission connection specifications.
Note 8: Specify the spacer mounting location and quantity in manifold specifications. Refer to pages 476 to 477 for details.

(Reduced wiring list)

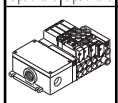
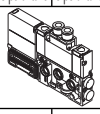
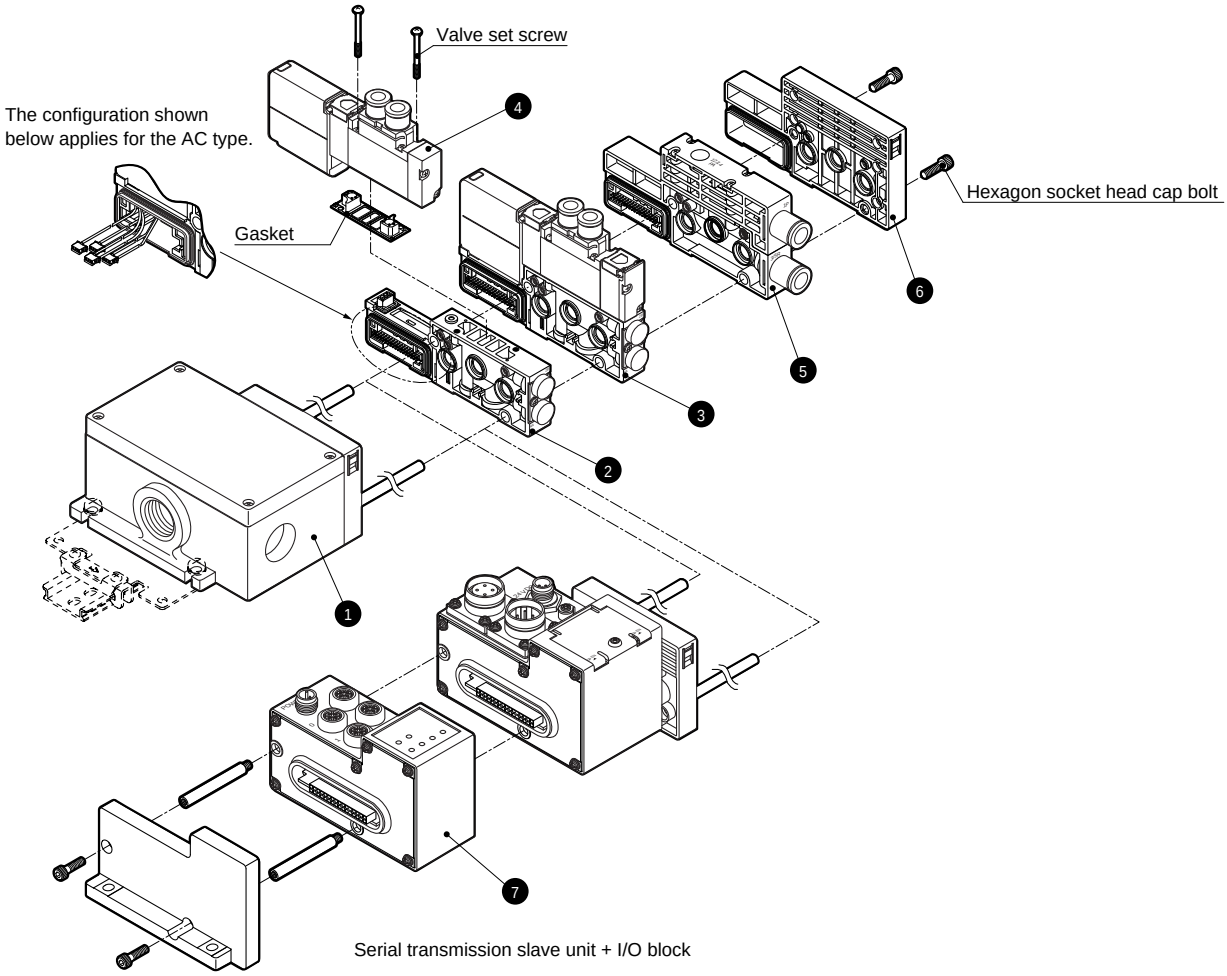
Ⓔ Reduced wiring (light and surge suppressor provided as standard)			Ⓐ Model no.					
			Manifold		Discrete valve block with solenoid valve		Discrete solenoid valve	
			3 port valve	5 port valve	3 port valve	5 port valve	3 port valve	5 port valve
								
			MW3GA2	MW4GA2	NW3GA2	NW4GA2	W3GA2	W4GA2
T8G1	Serial transmission CC-Link	16 points output	●	●				
T8G2		32 points output	●	●				
T8G7		16 points input / 16 points output	●	●				
T8C1	Serial transmission CompoBus/S	16 points output	●	●				
T8C6		8 points input / 8 points output	●	●				
T8D1	Serial transmission DeviceNet	16 points output	●	●				
T8D2		32 points output	●	●				
T8D7		16 points input / 16 points output	●	●				
T8MA	Serial transmission AS-i	4 points input / 4 points output	●	●				
T8M6		8 points input / 8 points output	●	●				

Table 1 (I/O block combination table)

Symbol	Arrangement of I/O bl. / sta. no. combination						Transmission block side
Y10						IN	
Y20					IN	IN	
Y30				IN	IN	IN	
Y40			IN	IN	IN	IN	
Y01						OUT	
Y02					OUT	OUT	
Y03				OUT	OUT	OUT	
Y04			OUT	OUT	OUT	OUT	
Y11					OUT	IN	
Y21				OUT	IN	IN	
Y31			OUT	IN	IN	IN	
Y41		OUT	IN	IN	IN	IN	
Y12				OUT	OUT	IN	
Y22			OUT	OUT	IN	IN	
Y32		OUT	OUT	IN	IN	IN	
Y42	OUT	OUT	IN	IN	IN	IN	

*1: Reading the table
Example) Y11 is combination for one input block (4-point) and one output block (4-point).
2: Refer to page 498 "Input/output point numbers corresponding to wiring method T8 I/O No." for details.

Manifold components explanation and parts list



Main parts list (refer to pages 468 to 481 for details.)

No.	Component name	Model no. (example)	No.	Component name	Model no. (example)
1	Wiring block	NW4GA2-T10	5	Supply/exhaust block	NW4G2-Q-10
2	Discrete valve block	NW4GA2-V1	6	End block R	NW4G2-ER
3	Discrete valve block with solenoid valve	NW4GA220-C8-H-3	7	I/O block	NW4GA2-IN-N-B
4	Discrete solenoid valve	W4GA219-C8-H-3			

Weight (for DC)

NW4GA2

(g)

Block type		Weight	Block type		Weight
Valve block with solenoid valve	NW3GA210	181	Valve block with masking plate	NW4GA2-MP $^{S}_{D}$	102
	NW3GA2110	181	Wiring block (serial transmission slave unit)	NW4GA2-T8*	430
	NW4GA210	186	I/O block	NW4GA2-$^{IN}_{OUT}$-$^{N}_{P}$-$^{K}_{B}$	220
	NW4GA220	202			
	NW4GA2$^{3}_{4}$$^{4}_{5}$0	209			

Common

(g)

Block type		Weight	Block type		Weight
Supply/exhaust block	NW4G2-Q-*	137	Wiring block	NW4G2-T10	423
	NW4G2-QK-*	140		NW4G2-T20	490
	NW4G2-QZ-*	137		NW4G2-T30	370
	NW4G2-QKZ-*	143		NW4G2-T5*	367
End block	NW4G2-ER	91			
	NW4G2-EXR	96			

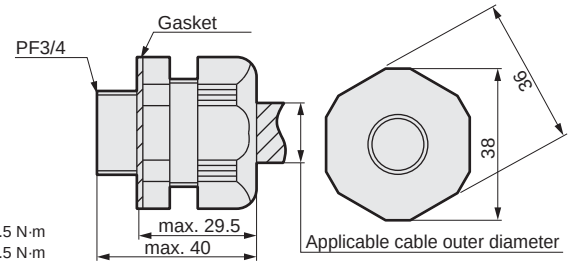
Repair parts and related parts list

No.	Parts name		Model no.
-	Cartridge type push-in joint and related parts	ø4 straight	4G2-JOINT-C4
		ø6 straight	4G2-JOINT-C6
		ø8 straight	4G2-JOINT-C8
		Plug cartridge	4G2-JOINT-CPG

Kit for wiring block T10

● Cable clamp

Model no.	Applicable cable O.D.	Descriptions
W4G-SCL-18A	ø14.5 to 16.5	Use to provide dustproof and jet-proof protection for the cable.
W4G-SCL-18B	ø16.5 to 18.5	

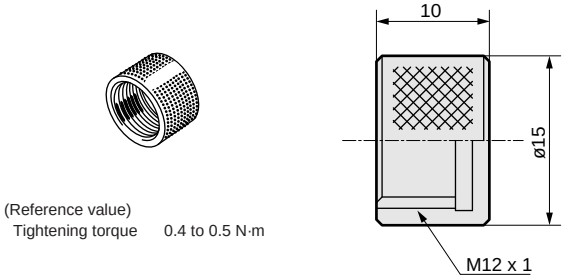


(Reference value)
Body tightening torque 4.0 to 4.5 N·m
Cable clamp tightening torque 3.0 to 3.5 N·m

Part for I/O block

● Water proof cap

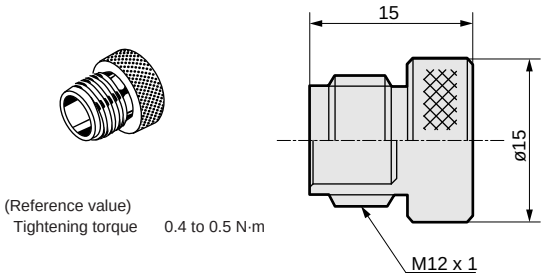
Model no.	Descriptions
W4G-XSZ-11	Use to provide jet-proof protection for the power connector when the power supply is common with the serial transmission slave unit.



(Reference value)
Tightening torque 0.4 to 0.5 N·m

● Water proof plug

Model no.	Descriptions
W4G-XSZ-12	Use to provide jet-proof protection for idle signal connectors.

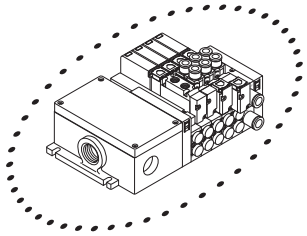


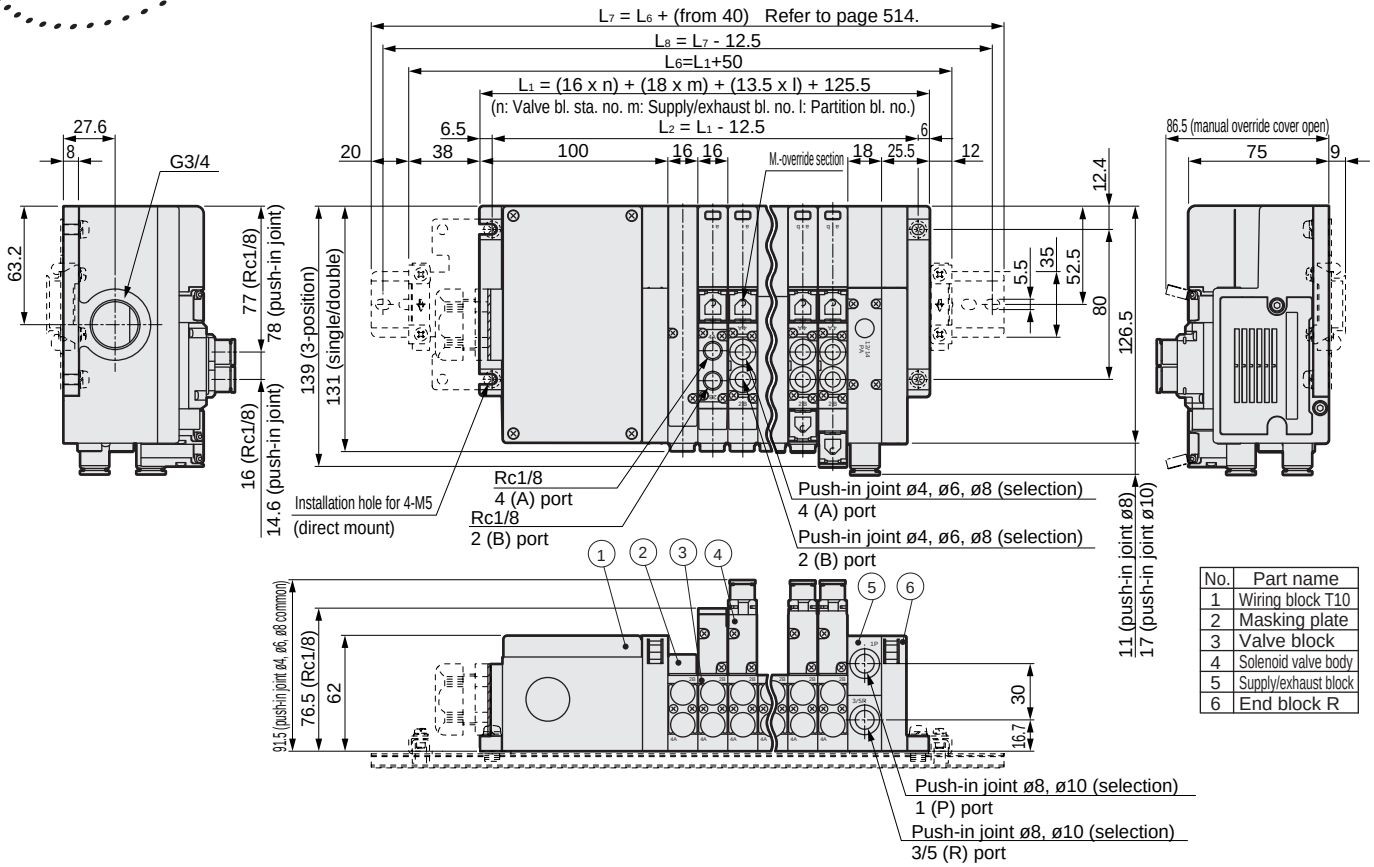
(Reference value)
Tightening torque 0.4 to 0.5 N·m

Dimensions CAD

MW4GA2

● Common gland (T10)

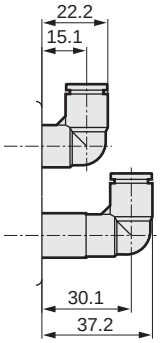




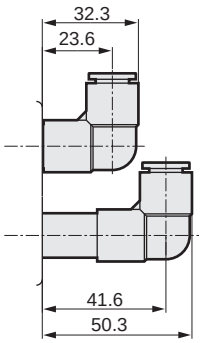
No.	Part name
1	Wiring block T10
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



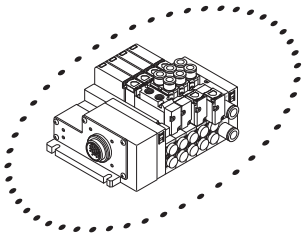
● ø10 (CL10)

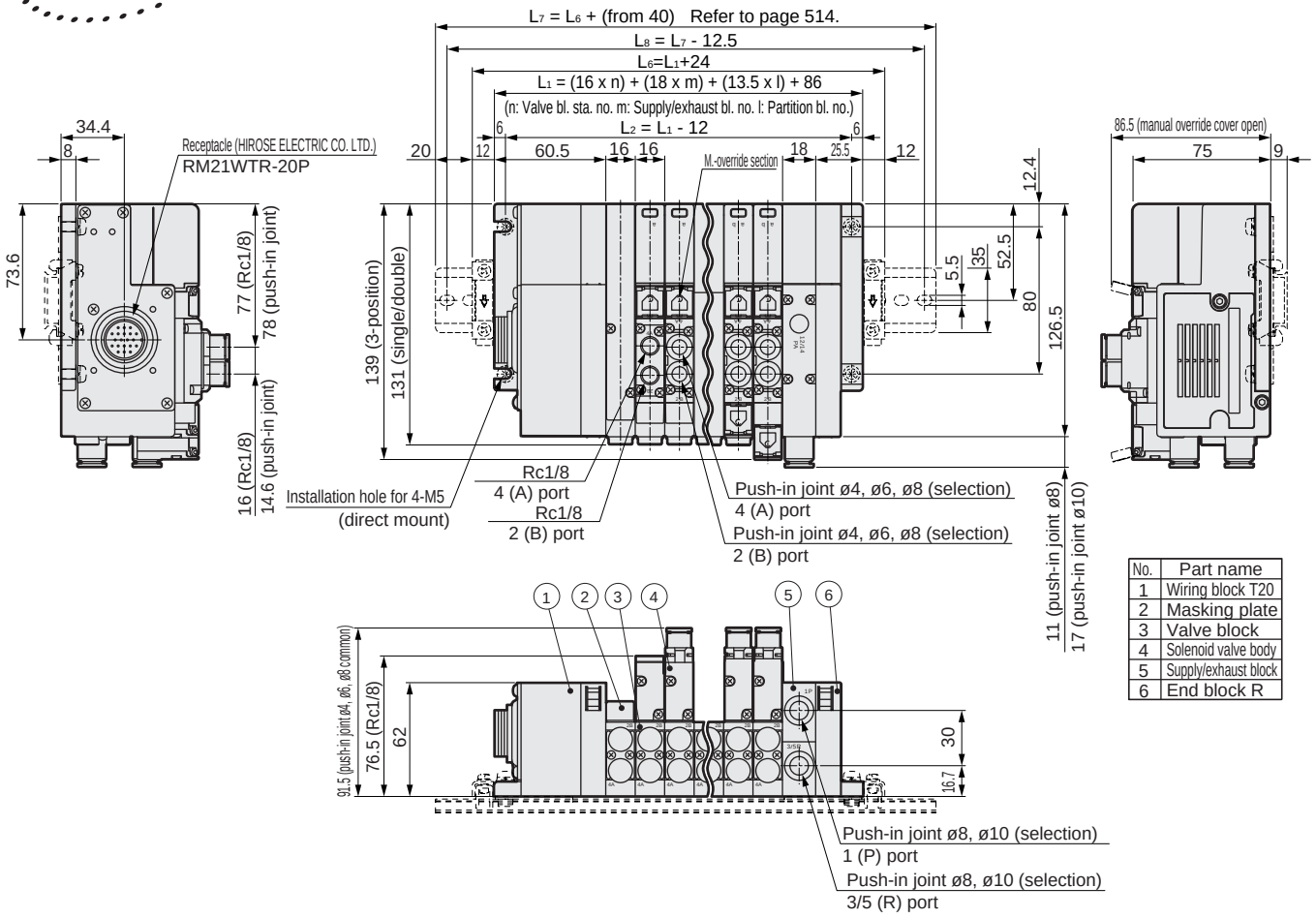


Dimensions CAD

MW4GA2

● Multi-connector (T20)

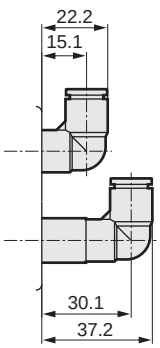




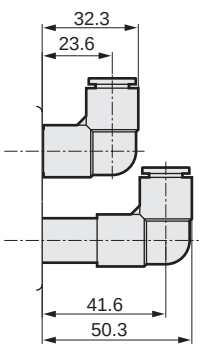
No.	Part name
1	Wiring block T20
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



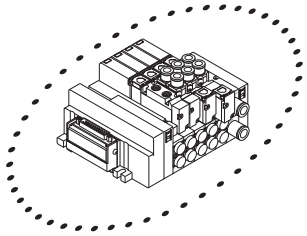
● ø10 (CL10)

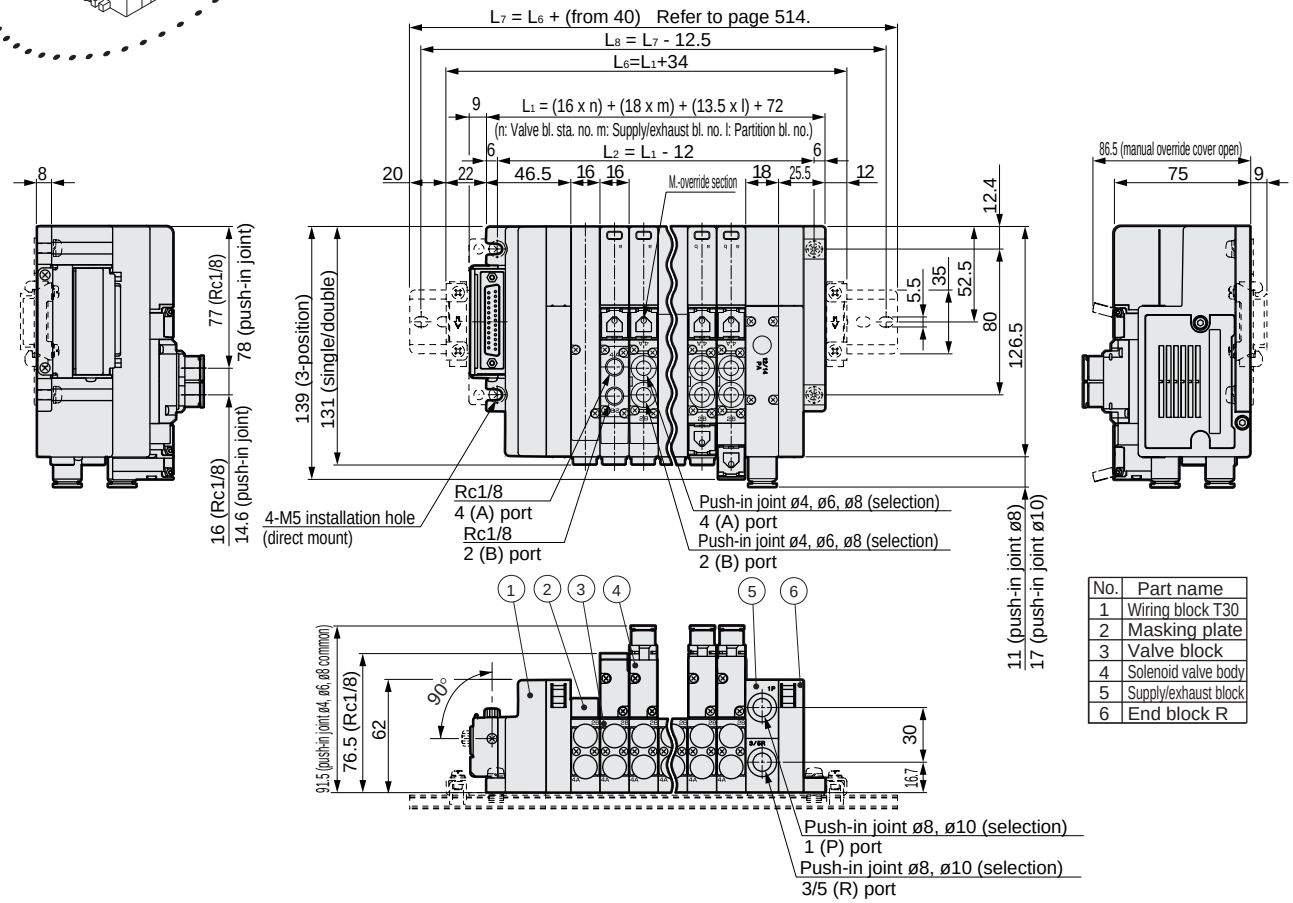


Dimensions CAD

MW4GA2

● D sub-connector (T30)

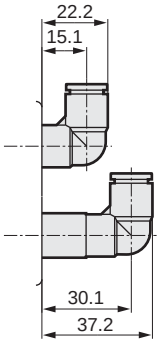




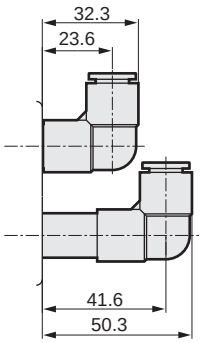
No.	Part name
1	Wiring block T30
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



● ø10 (CL10)

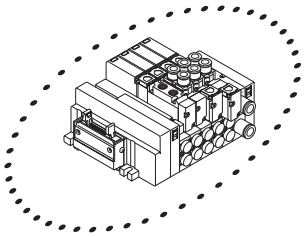


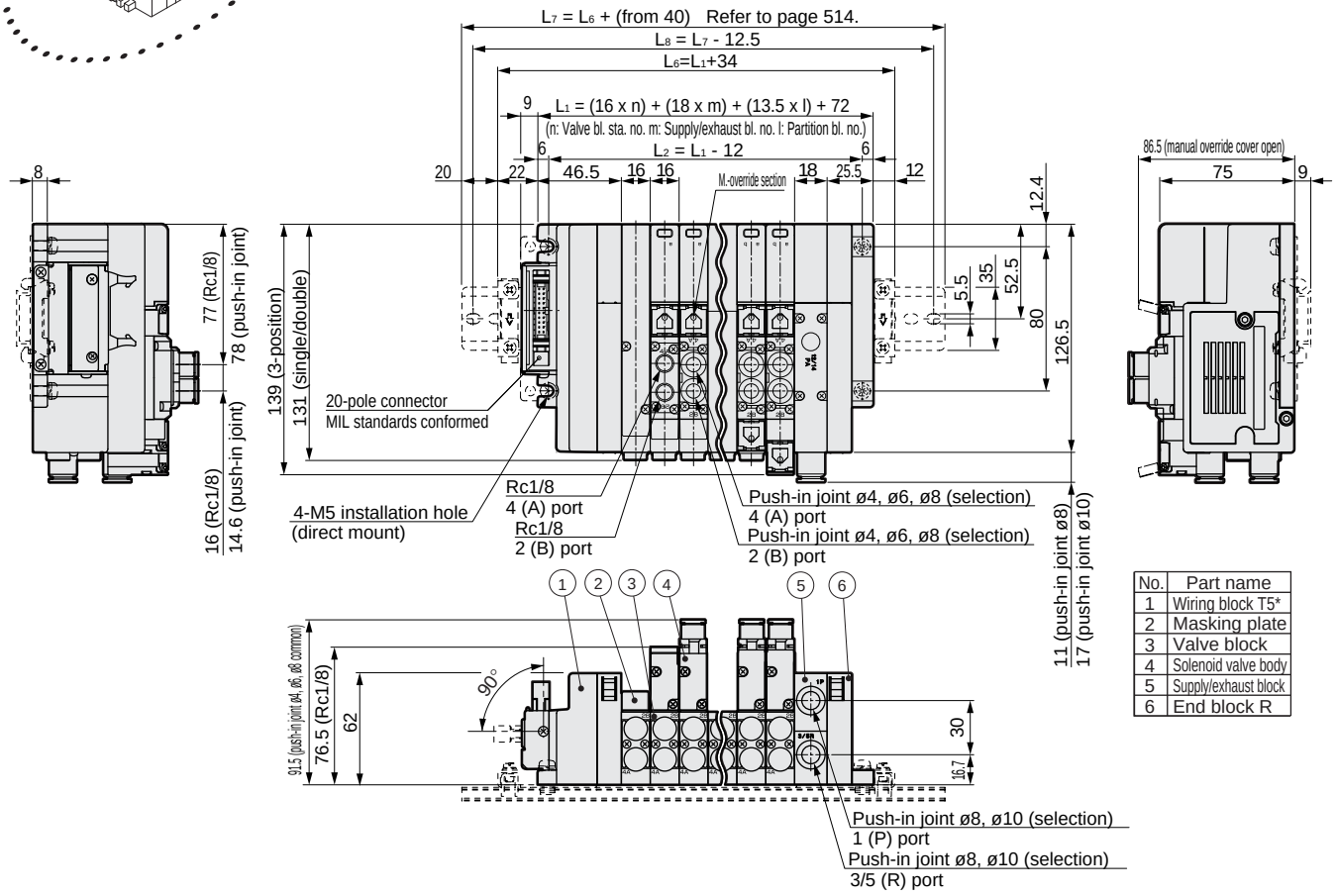
Dimensions CAD

MW4GA2

● Flat cable connector (T5*)

* This drawing indicates T51.
T53 is also available for flat cable connector.
Dimensions are same as T51.

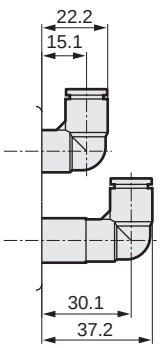




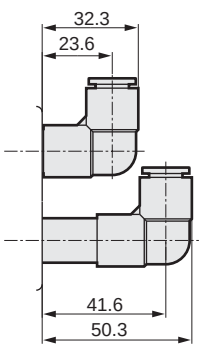
No.	Part name
1	Wiring block T5*
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



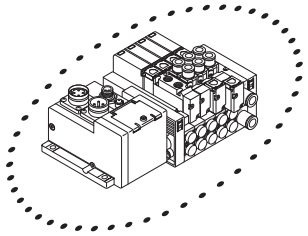
● ø10 (CL10)

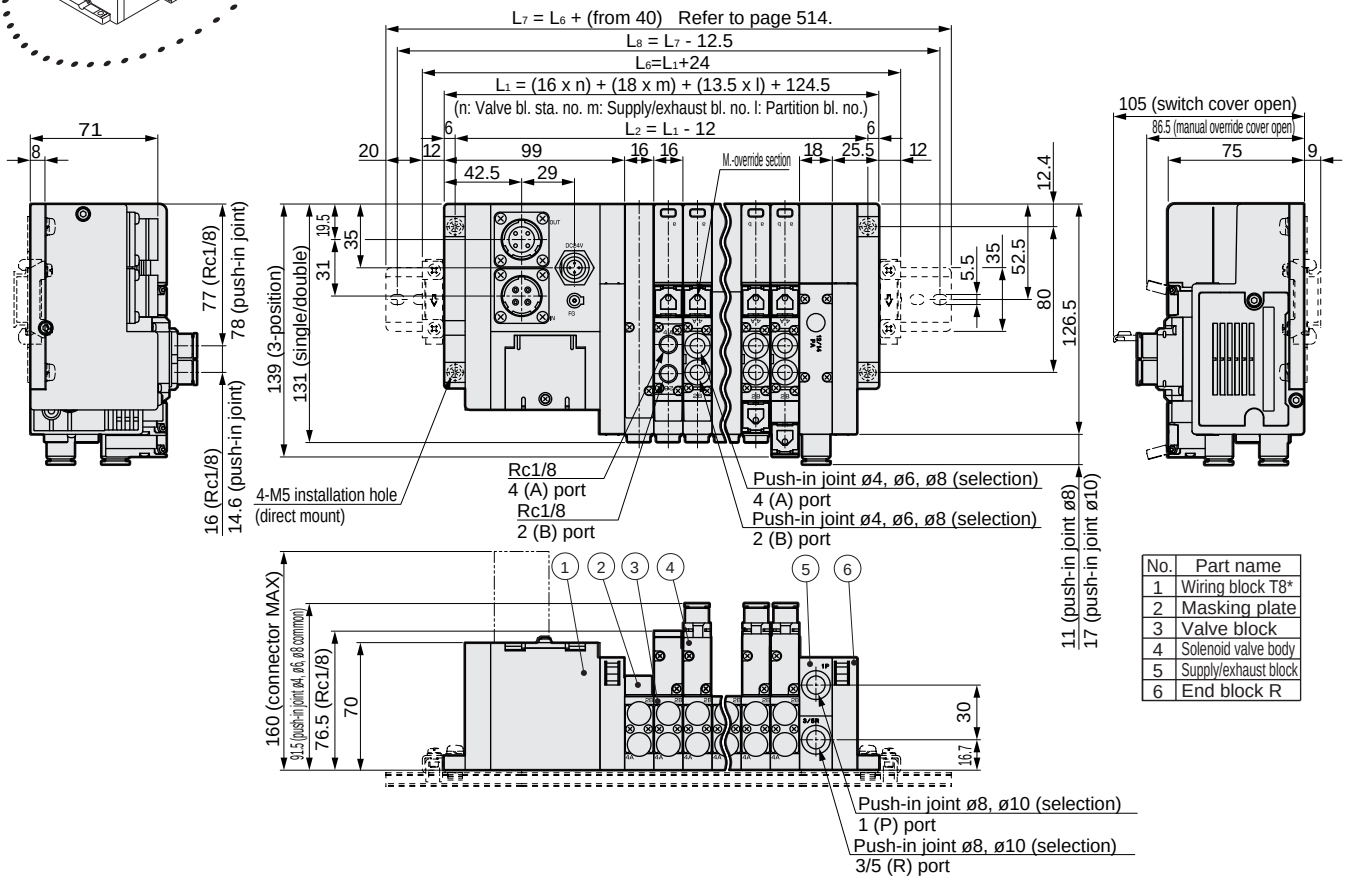


Dimensions CAD

MW4GA2

● Serial transmission CC-Link (T8G*)

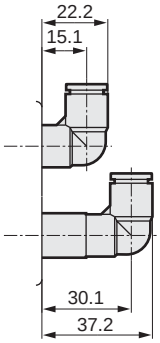




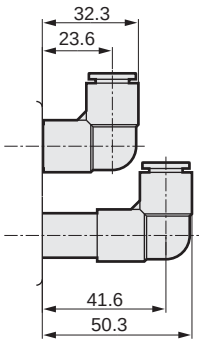
No.	Part name
1	Wiring block T8*
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



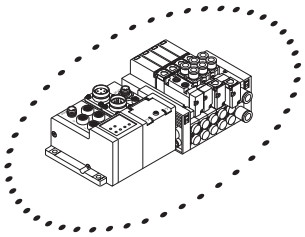
● ø10 (CL10)

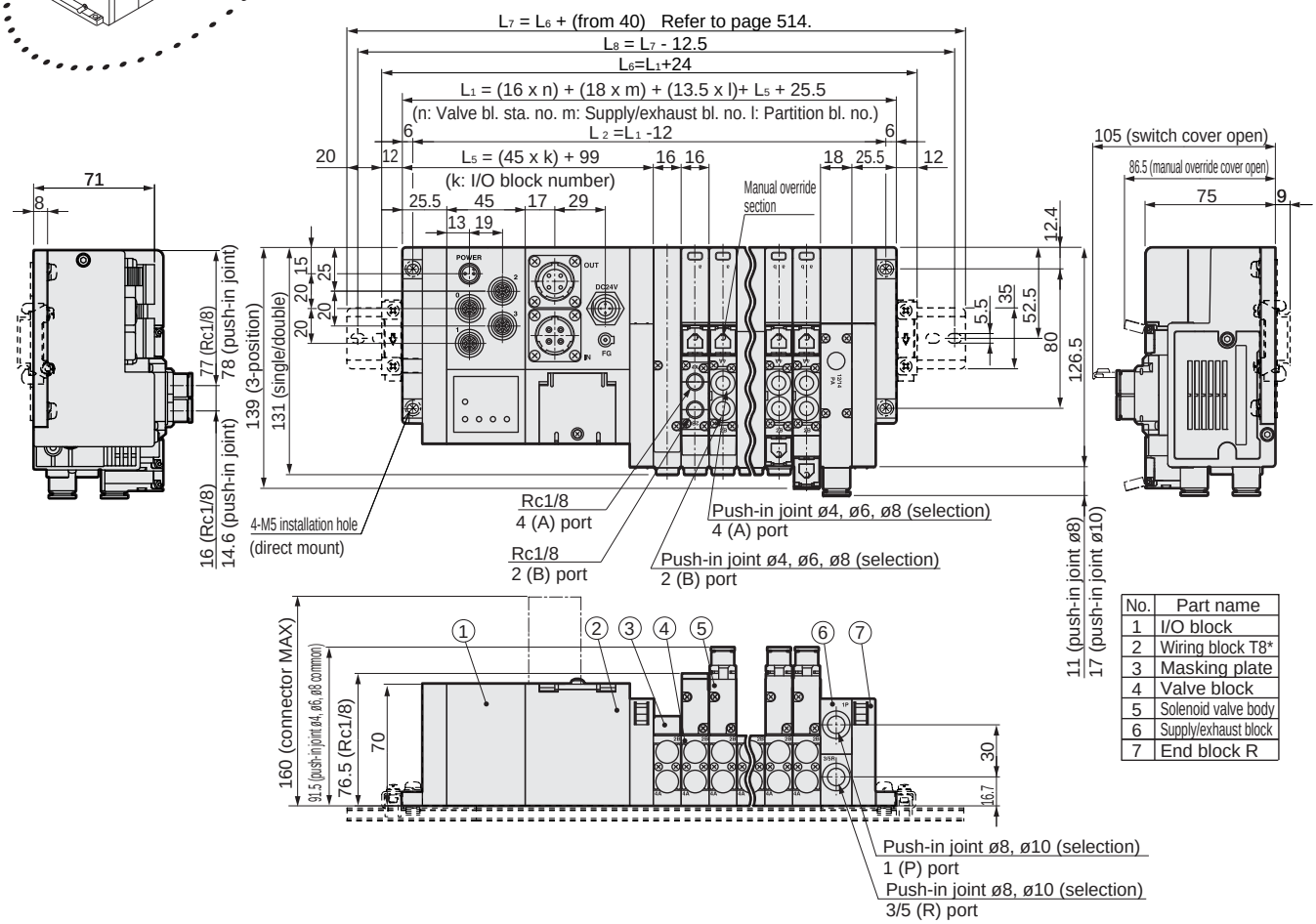


Dimensions CAD

MW4GA2

● Serial transmission CC-Link (T8G*) + I/O block

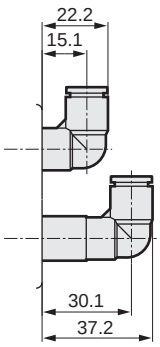




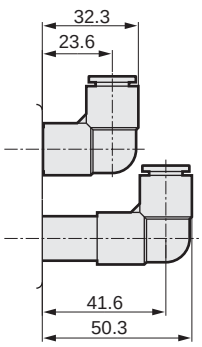
No.	Part name
1	I/O block
2	Wiring block T8*
3	Masking plate
4	Valve block
5	Solenoid valve body
6	Supply/exhaust block
7	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



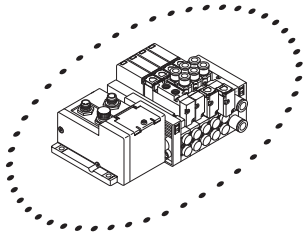
● ø10 (CL10)

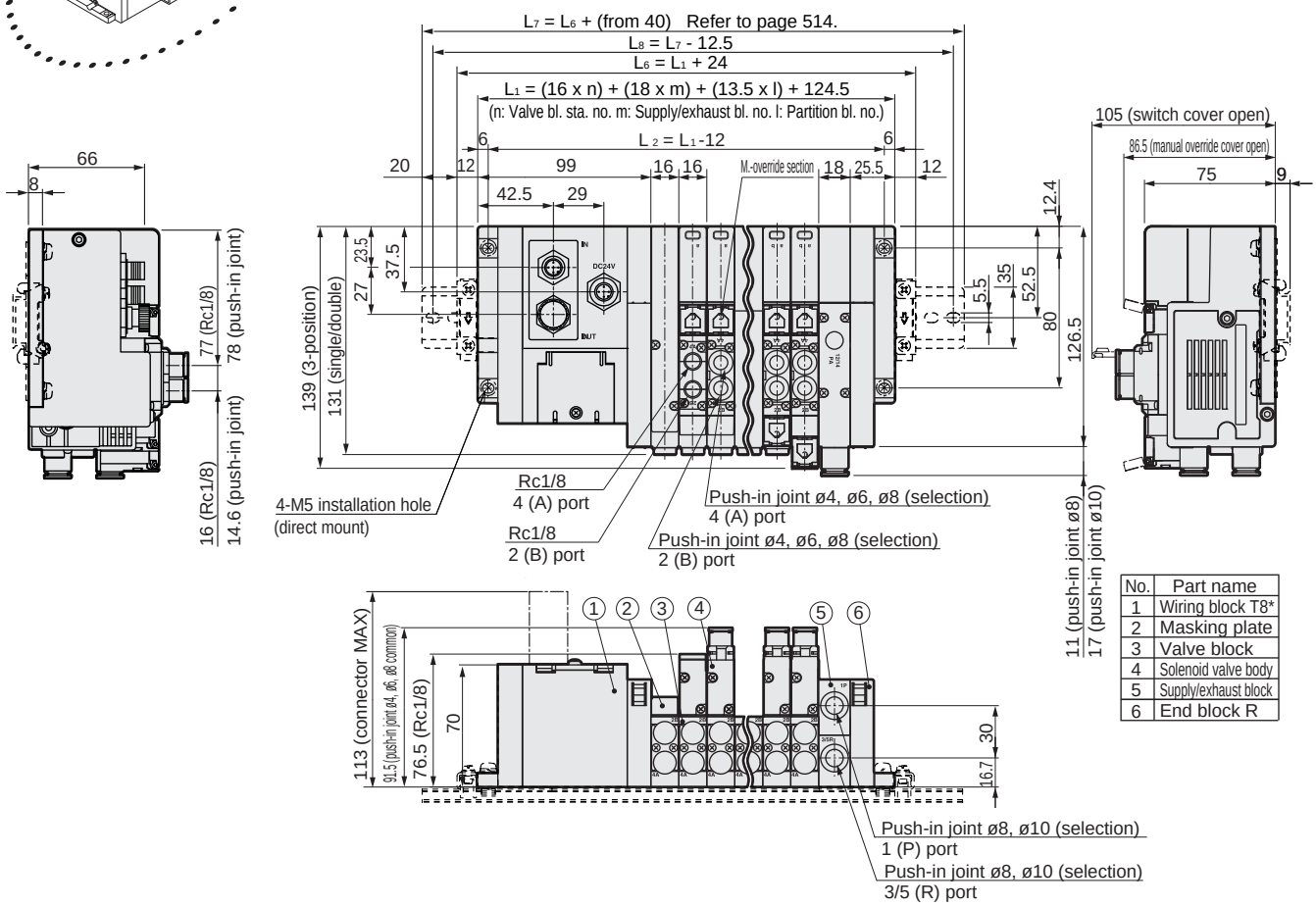


Dimensions CAD

MW4GA2

● Serial transmission DeviceNet (T8D*)

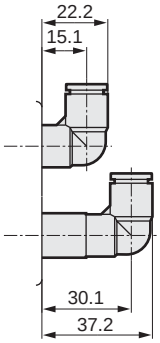




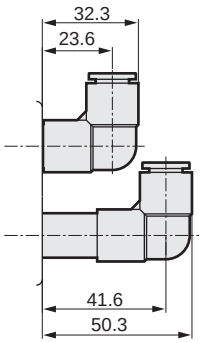
No.	Part name
1	Wiring block T8*
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



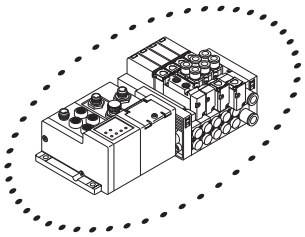
● ø10 (CL10)

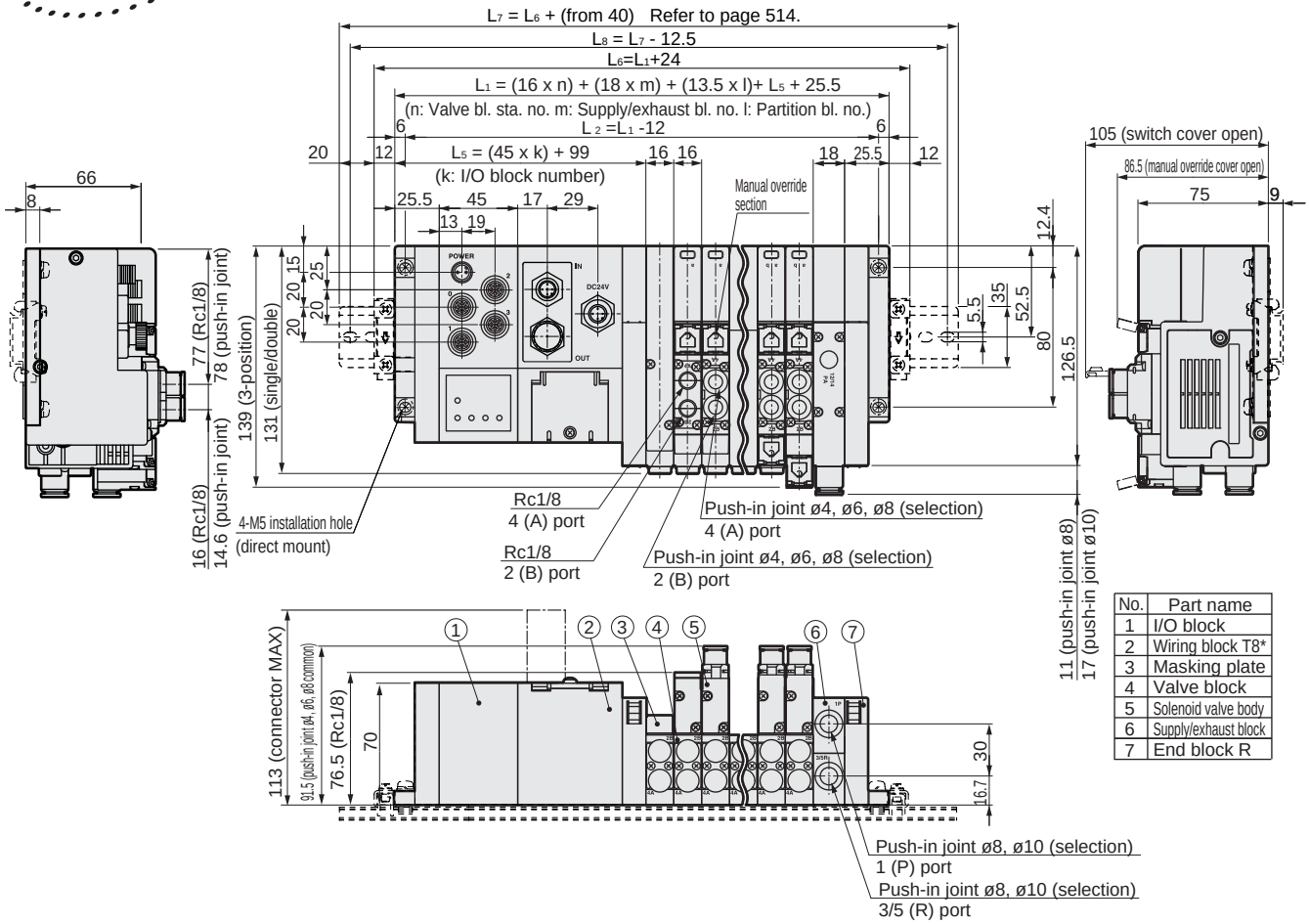


Dimensions CAD

MW4GA2

● Serial transmission slave unit DeviceNet (T8D*) + I/O block

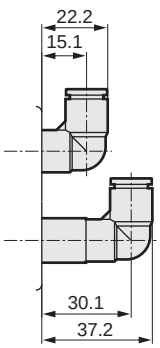




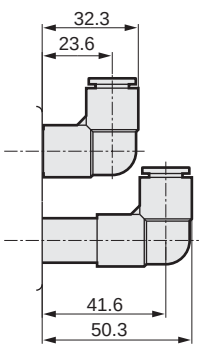
No.	Part name
1	I/O block
2	Wiring block T8*
3	Masking plate
4	Valve block
5	Solenoid valve body
6	Supply/exhaust block
7	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



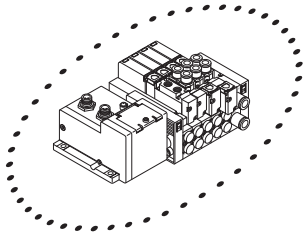
● ø10 (CL10)

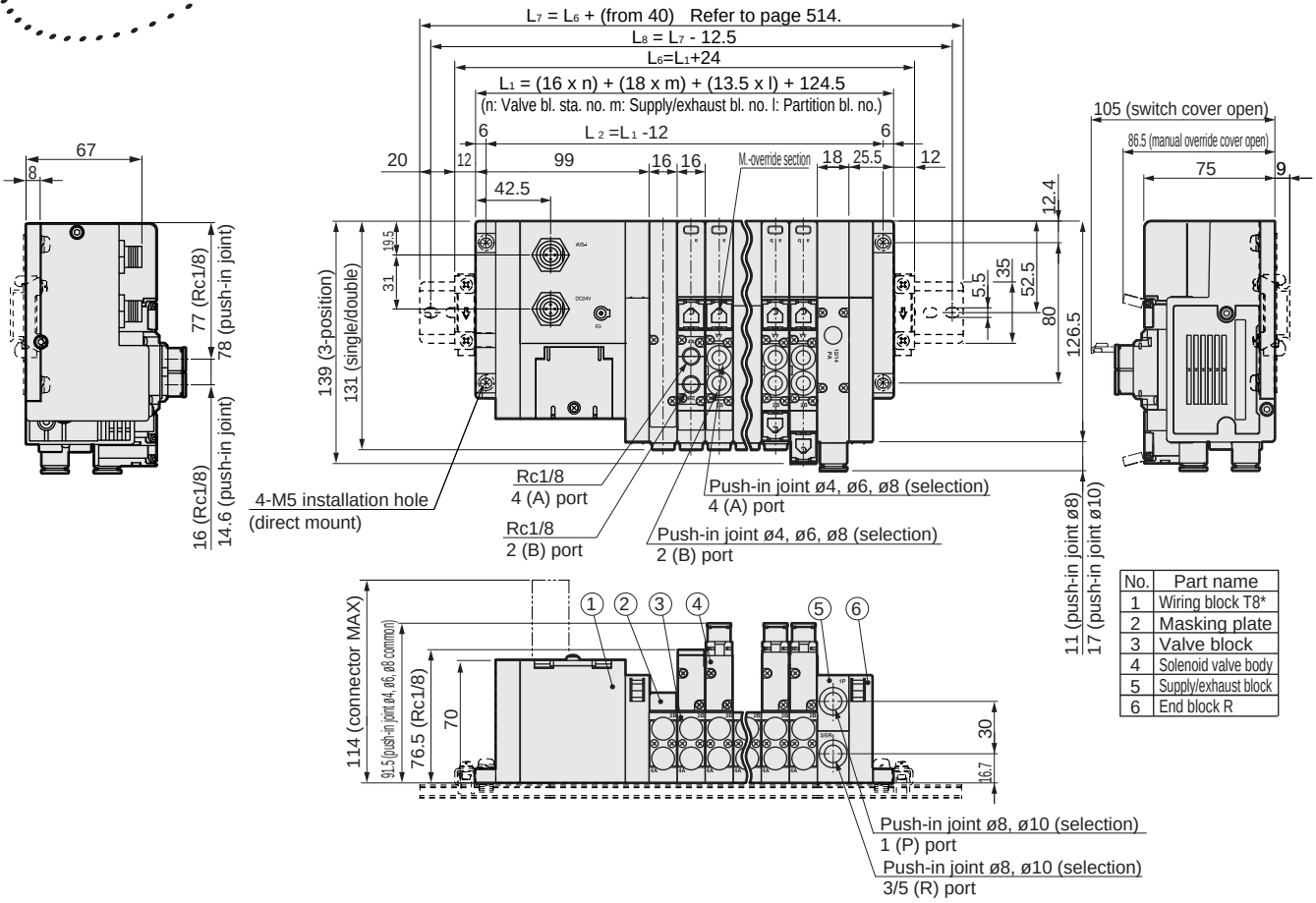


Dimensions CAD

MW4GA2

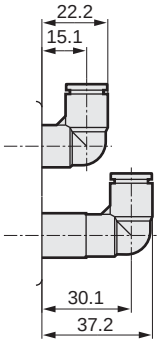
- Serial transmission AS-i (T8M*)
- Serial transmission CompoBus/S (T8C*)

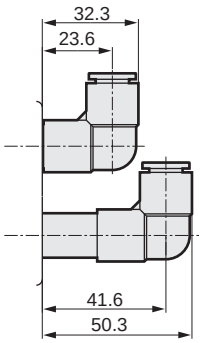




No.	Part name
1	Wiring block T8*
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

- Push-in joint L type for supply and exhaust block (upward)
- ø8 (CL8)
- ø10 (CL10)

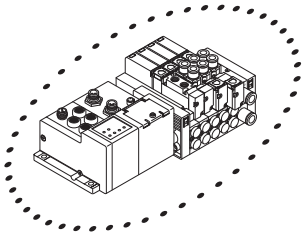


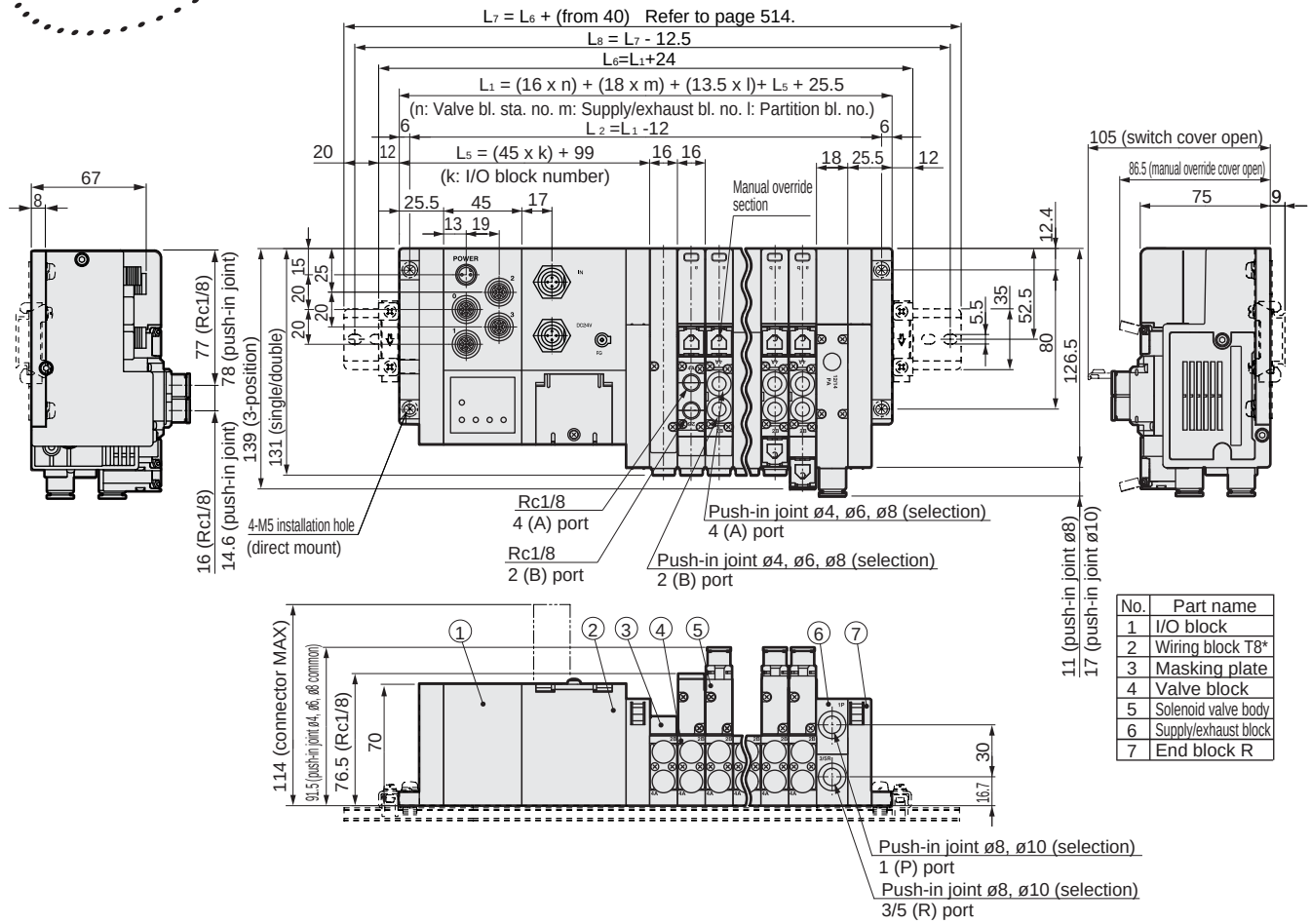


Dimensions CAD

MW4GA2

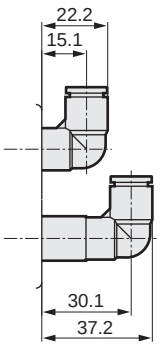
- Serial transmission AS-i (T8M*) + I/O block
- Serial transmission CompoBus/S (T8C*) + I/O block

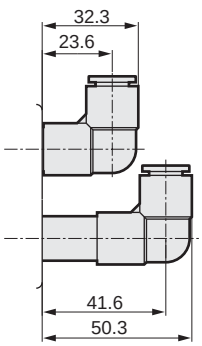


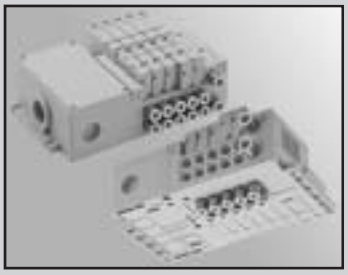


No.	Part name
1	I/O block
2	Wiring block T8*
3	Masking plate
4	Valve block
5	Solenoid valve body
6	Supply/exhaust block
7	End block R

- Push-in joint L type for supply and exhaust block (upward)
- ø8 (CL8)
- ø10 (CL10)







Reduced wiring manifold
Sub-base side porting and back porting
MW4G$^{B}_{Z}$2-T1/2/3/5/8 Series

● Applicable cylinder bore size: ø20 to ø80 CE Refer to Intro 17 for details. RoHS CAD

Manifold common specifications

Descriptions	MW4GB2	MW4GZ2
Manifold type	Block manifold	
Air supply / exhaust method	Common supply / common exhaust (check valve integrated)	
Pilot exhaust method	Internal pilot: Main valve and pilot valve common exhaust (pilot exhaust check valve integrated)	
	External pilot: Main valve and pilot valve individual exhaust	
Piping direction	Sub-base side porting	Sub-base bottom porting
Type of valve / operation method	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 °C	-5 to 55 (no freezing)	
Fluid temperature °C	5 to 55	
Manual override	Non-locking / locking common type (standard)	
Lubrication Note 1	Not required	
Protective structure Note 2	Dust proof / jet-proof (IP65) Note 3	
Vibration / Impact m/s^2	49 or less / 294 or less	
Working environment	Use in the environment containing corrosive gas is not permissible.	

Note 1: Use the turbine oil Class 1 ISO VG32 if lubricated. Excessive lubrication allows unstable operation.
Note 2: IP65 (IEC 60529 [IEC 529: 1989-11]) standards are applied to the test. Refer to page 397 for details.
Note 3: The D-sub connector (T30) and flat cable connector (T5*) have a dustproof protective structure. Use these where water and oil, etc., will not come in contact.

Electric specifications

Descriptions		W4GB2
Rated voltage V	DC	12, 24
	AC	100
Rated voltage fluctuation range		±10%
Holding current A	24 VDC	0.025
	12 VDC	0.050
	100 VAC	0.012
Power consumption Note 5 W	24 VDC	0.6
	12 VDC	0.6
Apparent power VA Note 6	100 VAC	1.2
Heat proof class		B

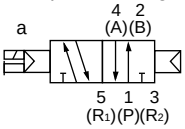
Note 5: Surge suppressor and indicator are provided as standard.
Note 6: The 100 VAC setting is not available for the multi-connector, D-sub connector or flat cable connector connection specifications. The 100 VAC and 12 VDC settings are not available for the serial transmission connection specifications.

Note 4: The working pressure range is 0 to 0.7 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

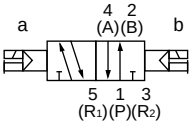
JIS symbol

● 5 port valve

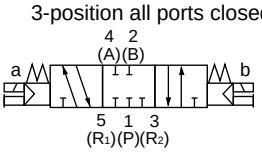
2-position single



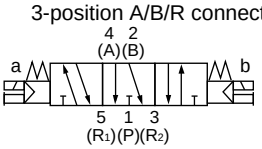
2-position double



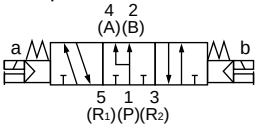
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



Individual specifications

Descriptions		MW4GB2/MW4GZ2											
		T10	T20	T30	T51	T53	T8G1 T8D1	T8G2 T8D2	T8G7 T8D7	T8MA	T8M6	T8C1	T8C6
Max. station number	Standard wiring	18	-	18	18	18	16	18	16	4	8	16	8
	Double wiring	9	8	12	9	12	8	16	8	2	4	8	4
Max. solenoid number		18	16	24	18	24	16	32	16	4	8	16	8
Port size	A/B port	Push-in joint ø4, ø6, ø8, Rc1/8											
	P/R port	Push-in joint ø8, ø10											

Refer to page 446 for weight.

Descriptions			MW4GB2/MW4GZ2	
			When turned ON	When turned OFF
Response time ms	2-position	Single	22	24
		Double	26	-
	3-position	A/B/R connection	25	35

Response time is the value when supply pressure 0.5 MPa, at 20°C and with pre-lubricated. The value will change based on quality of pressure and oil.

Flow characteristics

Model no.	Solenoid position		P ⟶ A/B		A/B ⟶ R	
			C (dm^3/ (s·bar))	b	C (dm^3/ (s·bar))	b
MW4GB2 MW4GZ2	2-position		2.4	0.36	1.7	0.25
	3-position	All ports closed	2.1	0.37	2.2	0.22
		A/B/R connection	2.2	0.35	1.7	0.25
		P/A/B connection	2.3	0.32	2.3	0.24

Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.
Note 2: Values for the built-in check valve apply for the 2-position type and A/B/R connection.

Ozone specifications • Coolant proof specifications

Can be selected with "G" option "A" in How to Order on page 442, 444.

Reduced wiring specifications

Descriptions	T10	T20	T30	T51	T53
Type	Common gland M3 screw type	Multi-connector	D sub-connector	20P Flat cable connector without power supply terminal	26P Flat cable connector without power supply terminal
Connector	-	HIROSE ELECTRIC CO. LTD. RM21WTP-20S 20 pins	MIL standards D sub-connector 25 pins	MIL-C-83503 standards conformed pressure welding socket 20 pins	MIL-C-83503 standards conformed pressure welding socket 26 pins

Serial transmission slave unit specifications (refer to page 502 for the applicable PLC table.)

Descriptions \ Network name	Slave unit model no.	CC-Link (Ver. 1.10)			DeviceNet Note 1			AS-i (Ver. 2.0)	
		T8G1	T8G2	T8G7	T8D1	T8D2	T8D7	T8MA	T8M6
Communication speed		156K/625K/2.5M/5M/10Mbps			125K/250K/500Kbps			167Kbps	
Power voltage	Unit side	24 VDC ±10%			24 VDC ±10%			30 VDC ±2%	
	Valve side	24 VDC +10%, -5%			24 VDC +10%, -5%			24 VDC +10%, -5%	
	Communication side	-			11 to 25 VDC			-	
Current consumption	Unit side	60 mA or less	100 mA or less	75 mA or less Note 2	70 mA or less	90 mA or less	80 mA or less Note 2	60 mA or less Note 2	90 mA or less Note 2
	Valve side	15 mA or less (when all points OFF)			15 mA or less (when all points OFF)			15 mA or less (when all points OFF)	
	Communication side	-			50 mA or less			-	
Input no. / output no.		0/16	0/32	16/16	0/16	0/32	16/16	4/4 Note 3	8/8 Note 4
Occupied number		1 station			2 byte	4 byte	4 byte	1 station	2 stations
Operating indication		Power supply/communication state			Power supply/communication state/valve power supply			Power supply/communication state	
Other		-			Consult with CKD for EDS file. Note 5.			Profile: 7, F Note 6	

Descriptions \ Network name	Slave unit model no.	CompoBus/S	
		T8C1	T8C6
Communication speed		93.75K/750Kbps	
Power voltage	Unit side	24 VDC ±10% (communication power supply)	
	Valve side	24 VDC +10%, -5%	
	Communication side	-	
Curren consumption	Unit side	50 mA or less Note 2 (communication power supply)	
	Valve side	15 mA or less (when all points OFF)	
	Communication side	-	
Input no. / output no.		0/16	8/8
Occupied number		-	
Operating indication		Power supply/communication state/valve power supply	
Other		-	

Note 1: Compatible with other DeviceNet complaint networks (DLNK, etc.).
Note 2: If the input block's power supply is common with the unit power supply, calculate with the following equation.
(Current consumed on unit side) = [*] + (35 mA x number of input blocks) + (total of current consumed in connected sensors)
[*] ·····T8G7: 60 mA, T8D7: 80 mA, T8MA: 60 mA, T8M6: 90 mA, T8C6: 50 mA
Note that the sensors must be selected so that the current consumed on the unit side is 600 mA or less (for T8G7, T8D7), or 250 mA or less (for T8MA, T8M6, T8C6).
Note 3: When using the 4-point input / 4-point output slave unit (T8MA), all outputs are dedicated for the valve.
Note 4: Two addresses must be set for the 8-point input / 8-point output type slave unit (T8M6). (The automatic address setting function cannot be used.)
Note 5: EDS file: Text file of parameters for communicating with each company's master.
Note 6: Profile: Definition of slave I/O data and parameter meanings when communicating with master. (Defined in AS-i specifications.)

I/O block specifications

● Input block

Model no. / Descriptions	NW4GB2-IN-N-K	NW4GB2-IN-N-B	NW4GB2-IN-P-K	NW4GB2-IN-P-B
Input no.	4 points			
Rated input voltage	24 VDC			
Rated input current	7 mA			
ON voltage	15 VDC and over (between each input terminal and V interval)		15 VDC and over (between each input terminal and G interval)	
OFF voltage / OFF current	5 VDC or less (between each input terminal and V interval) / 1.5 mA or less		5 VDC or less (between each input terminal and G interval) / 1.5 mA or less	
Input type	Sink type		Source type	
Power supply	Common with unit power supply	Supply from external power	Common with unit power supply	Supply from external power
Operating indication	Power supply / input state			

Note 1: Refer to page 476 for the model no.

● Output block

Model no. / Descriptions	NW4GB2-OUT-N-B	NW4GB2-OUT-P-B
Output no.	4 points	
Rated voltage	24 VDC	
Max. load current	1 A/1 point (3 A/common)	
Residual voltage	1.5 V or less	
Output type	Sink type	Source type
Protective circuit	Over current protection / reverse connection protection	
Fuse	Power supply for external load: 24 VDC and 5 A (can be replaced)	
Operating indication	Power supply / output state	

Note 1: Refer to page 476 for the model no.

MEMO

MW4G$^{B}_{Z}$2-T1/2/3/5 Series

Reduced wiring manifold: Sub-base side porting and back porting

How to order

Common gland, multi-connector, D sub-connector, flat cable connector

● Manifold model no.

MW4GB2 1 0 - C8 – T10 W H D - 5 - 3
MW4GZ2 1 0 - C8 – T10 W H — 5 - 3

● Discrete valve block with solenoid valve

NW4GB2 1 0 - C8 - ○ W H — 3
NW4GZ2 1 0 - C8 - ○ W H — 3

● Discrete solenoid valve (NW4GB2/NW4GZ2 common Note 9)

W4GB2 1 9 - 00 — H — 3

Ⓐ Model no.
Ⓑ Solenoid position
Ⓒ Port size Note 1 Note 2
Ⓓ Electric connection Note 3
Ⓔ Reduced wiring
Refer to page 396 for circuit diagram (inside solenoid valve).
Ⓕ Terminal and connector pin array
Ⓖ Option Note 10
Ⓗ Mount type
Ⓘ Station number
Ⓙ Voltage

· Refer to page 493 for the models of the cable with a D-sub connector.
· Refer to page 496 for models of the cable for a flat cable connector.

Symbol	Descriptions	Ⓐ Model no. Manifold MW4GB2	Manifold MW4GZ2	Discrete valve block with solenoid valve NW4GB2	Discrete valve block with solenoid valve NW4GZ2	Discrete solenoid valve W4GB2
Ⓑ 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	●	●			
Ⓒ Port size (A/B port)						
C4	ø4 push-in joint	●	●	●	●	
C6	ø6 push-in joint	●	●	●	●	
C8	ø8 push-in joint	●	●	●	●	
CL6	ø6 push-in joint L type (upward)	●		●		
CL8	ø8 push-in joint L type (upward)	●		●		
CX	Push-in joint mix	●	●			
Single plug	A port	B port				
C4NC	ø4 push-in joint	Plug	●	●	●	
C6NC	ø6 push-in joint	Plug	●	●	●	
C8NC	ø8 push-in joint	Plug	●	●	●	
C4NO	Plug	ø4 push-in joint	●	●	●	
C6NO	Plug	ø6 push-in joint	●	●	●	
C8NO	Plug	ø8 push-in joint	●	●	●	
CL6NC	ø6 push-in joint L type (upward)	Plug	●		●	
CL8NC	ø8 push-in joint L type (upward)	Plug	●		●	
CL6NO	Plug	ø6 push-in joint L type (upward)	●		●	
CL8NO	Plug	ø8 push-in joint L type (upward)	●		●	
Ⓓ Electric connection						
Blank	DC connector relay PCB specifications			●	●	
2 to 8	Select the AC cable length from page 471			●	●	
Ⓔ Reduced wiring (light and surge suppressor provided as standard)	Refer to the next page for reduced wiring.					
Ⓕ Terminal and connector pin array						
Blank	Standard wiring Note 5	●	●	●	●	
W	Double wiring Note 5	●	●	●	●	
Ⓖ Option						
Blank	No option	●	●	●	●	●
M	Non-locking manual override Note 6	●	●	●	●	●
M7	Manual override with OFF function Note 6	●	●	●	●	●
H	With check valve Note 7	●	●	●	●	●
K	External pilot	●	●			
A	Ozone and coolant proof	●	●	●	●	●
F	A/B port filter integrated Note 8	●	●	●	●	
Z1	Air supply spacer Note 10	●	●			
Z3	Exhaust spacer Note 10	●	●			
Ⓗ Mount type						
Blank	Direct mount type	●	●			
D	DIN rail mount type	●				
Ⓘ Station number						
2 to 18	2 stations to 18 stations (Differs depending on the reduced wiring specifications. Refer to individual specifications (page 438).)	●	●			
Ⓙ Voltage						
1	100 VAC (rectified bridge integrated)	●	●	●	●	●
3	24 VDC	●	●	●	●	●
4	12 VDC	●	●	●	●	●

is not available.

Note on selection guide

Fill out "manifold specifications".

Note 1: A or B port plug specifications (*NC/*NO) are available only for the 2-position single.
Designate P and R port sizes with the supply/exhaust block.

Note 2: CL* push-in joint L (upward) is used only for the single/double solenoid manifold. The A port is a long elbow and the B port a short elbow.
A/B port sizes do not differ for push-in joint L (upward) mix (CX).
If CL*NC/NO is designated, a short elbow joint will be used.

Note 3: When using AC, if the specifications may change, select the valve block with masking plate as a spare block.

Note 5: Blank ... Wired based on the type of valve used.
W ... All wired for the double solenoid regardless of the type of valve used.
W does not need to be designated when the single solenoid is not mounted.
Only the double-wiring specifications are available for multi-connector T20 and AC voltage, so double-wiring will be selected automatically even if W is not designated.

Note 6: The non-locking manual override (M) and manual override with OFF function (M7) cannot be selected simultaneously.

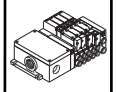
Note 7: The check valve specifications (H) are not available for the 3-position all ports closed or P/A/B connection. Refer to page 510 for a check valve.

Note 8: A filter is used in the P port.

Note 9: The discrete solenoid valve used with the NW4GZ2 discrete valve block with solenoid valve is the same as that for the W4GB2*9

Note 10: Specify the spacer mounting location and quantity in manifold specifications. Refer to pages 476 to 477 for details.

(Reduced wiring list)

			Ⓐ Model no.				
			Manifold		Discrete valve block with solenoid valve		Discrete solenoid valve
							
			MW4GB2	MW4GZ2	NW4GB2	NW4GZ2	W4GB2
Ⓔ Reduced wiring (light and surge suppressor provided as standard)							
T10	Common gland (M3 screw) Left		●	●			
T20	Multi-connector Left	Note 4	●	●			
T30	D sub-connector Left	Note 4	●	●			
T51	20 pin flat cable connector (without power supply terminal) Left	Note 4	●	●			
T53	26 pin flat cable connector (without power supply terminal) Left	Note 4	●	●			

Note 4: The 100 VAC setting is not available for the multi-connector (T20), D-sub connector (T30) or flat cable connector (T5*) connection specifications.

MW4G$^{B}_{Z}$2-T8 Series

Reduced wiring manifold: Sub-base side porting and back porting

How to order

Serial transmission

● Manifold model no.

MW4GB2 1 0 - C8 – T8G1 W H D - 5 - 3

MW4GZ2 1 0 - C8 – T8G1 W H — 5 - 3

● Discrete valve block with solenoid valve

NW4GB2 1 0 - C8 - ○ W H — 3

NW4GZ2 1 0 - C8 - ○ W H — 3

● Discrete solenoid valve (NW4GB2/NW4GZ2 common Note 7)

W4GB2 1 9 - 00 — H — 3

Ⓐ Model no.
Ⓑ Solenoid position
Ⓒ Port size
Note 1
Note 2
Ⓓ Electric connection
Ⓔ Reduced wiring
Refer to page 396 for circuit diagram (inside solenoid valve).
Ⓕ Terminal and connector pin array
Ⓖ Option
Ⓗ Mount type
Ⓘ Station number
Ⓙ Voltage

Symbol	Descriptions		Ⓐ Model no. Manifold MW4GB2	Manifold MW4GZ2	Discrete valve block with solenoid valve NW4GB2	Discrete valve block with solenoid valve NW4GZ2	Discrete solenoid valve W4GB2
Ⓑ 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		●	●			
Ⓒ Port size (A/B port)							
C4	ø4 push-in joint		●	●	●	●	
C6	ø6 push-in joint		●	●	●	●	
C8	ø8 push-in joint		●	●	●	●	
CL6	ø6 push-in joint L type (upward)		●		●		
CL8	ø8 push-in joint L type (upward)		●		●		
CX	Push-in joint mix		●	●			
Single plug	A port	B port					
C4NC	ø4 push-in joint	Plug	●	●	●	●	
C6NC	ø6 push-in joint	Plug	●	●	●	●	
C8NC	ø8 push-in joint	Plug	●	●	●	●	
C4NO	Plug	ø4 push-in joint	●	●	●	●	
C6NO	Plug	ø6 push-in joint	●	●	●	●	
C8NO	Plug	ø8 push-in joint	●	●	●	●	
CL6NC	ø6 push-in joint L type (upward)	Plug	●		●		
CL8NC	ø8 push-in joint L type (upward)	Plug	●		●		
CL6NO	Plug	ø6 push-in joint L type (upward)	●		●		
CL8NO	Plug	ø8 push-in joint L type (upward)	●		●		
Ⓓ Electric connection							
Blank	DC connector relay PCB specifications				●	●	
Ⓔ Reduced wiring (light and surge suppressor provided as standard)							
Refer to the next page for reduced wiring.							
Ⓕ Terminal and connector pin array							
Blank	Standard wiring	Note 3	●	●	●	●	
W	Double wiring	Note 3	●	●	●	●	
Ⓖ Option							
Blank	No option		●	●	●	●	●
M	Non-locking manual override	Note 4	●	●	●	●	●
M7	Manual override with OFF function	Note 4	●	●	●	●	●
H	With check valve	Note 5	●	●	●	●	●
K	External pilot		●	●			
A	Ozone and coolant proof		●	●	●	●	●
F	A/B port filter integrated	Note 6	●	●	●	●	
Y**	I/O block (For **, designate the number which indicates the input/output block combination given in Table 1 (Input/output block combination table) on the next page.)	Note 8	●	●			
Z1	Air supply spacer	Note 10	●	●			
Z3	Exhaust spacer	Note 10	●	●			
Ⓗ Mount type							
Blank	Direct mount type		●	●			
D	DIN rail mount type		●				
Ⓘ Station number							
2 to **16**	2 stations to 16 stations (Differs depending on the reduced wiring specifications. Refer to individual specifications (page 438).)		●	●			
Ⓙ Voltage							
3	24 VDC	Note 9	●	●	●	●	●

is not available.

Note on selection guide

Fill out "manifold specifications".

Note 1: A or B port plug specifications (*NC/*NO) are available only for the 2-position single.
Designate P and R port sizes with the supply/exhaust block.

Note 2: CL* push-in joint L (upward) is used only for the single/double solenoid manifold. The A port is a long elbow and the B port a short elbow.
A/B port sizes do not differ for push-in joint L (upward) mix (CX).
If CL*NC/NO is designated, a short elbow joint will be used.

Note 3: Blank ... Wired based on the type of valve used.
W ... All wired for the double solenoid regardless of the type of valve used.
W does not need to be designated when the single solenoid is not mounted.

Note 4: The non-locking manual override (M) and manual override with OFF function (M7) cannot be selected simultaneously.

Note 5: The check valve specifications (H) are not available for the 3-position all ports closed or P/A/B connection. Refer to page 510 for a check valve.

Note 6: A filter is used in the P port.

Note 7: The discrete solenoid valve used with the NW4GZ2 discrete valve block with solenoid valve is the same as that for the W4GB2*9

Note 8: Designate the input/output block's input/output format (sink/source) and power supply type (slave unit common/external) with the manifold specifications (page 518, 519).

Note 9: 100 VAC and 12 VDC settings are not available for the serial transmission connection specifications.

Note 10: Specify the spacer mounting location and quantity in manifold specifications. Refer to pages 476 to 477 for details.

(Reduced wiring list)

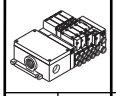
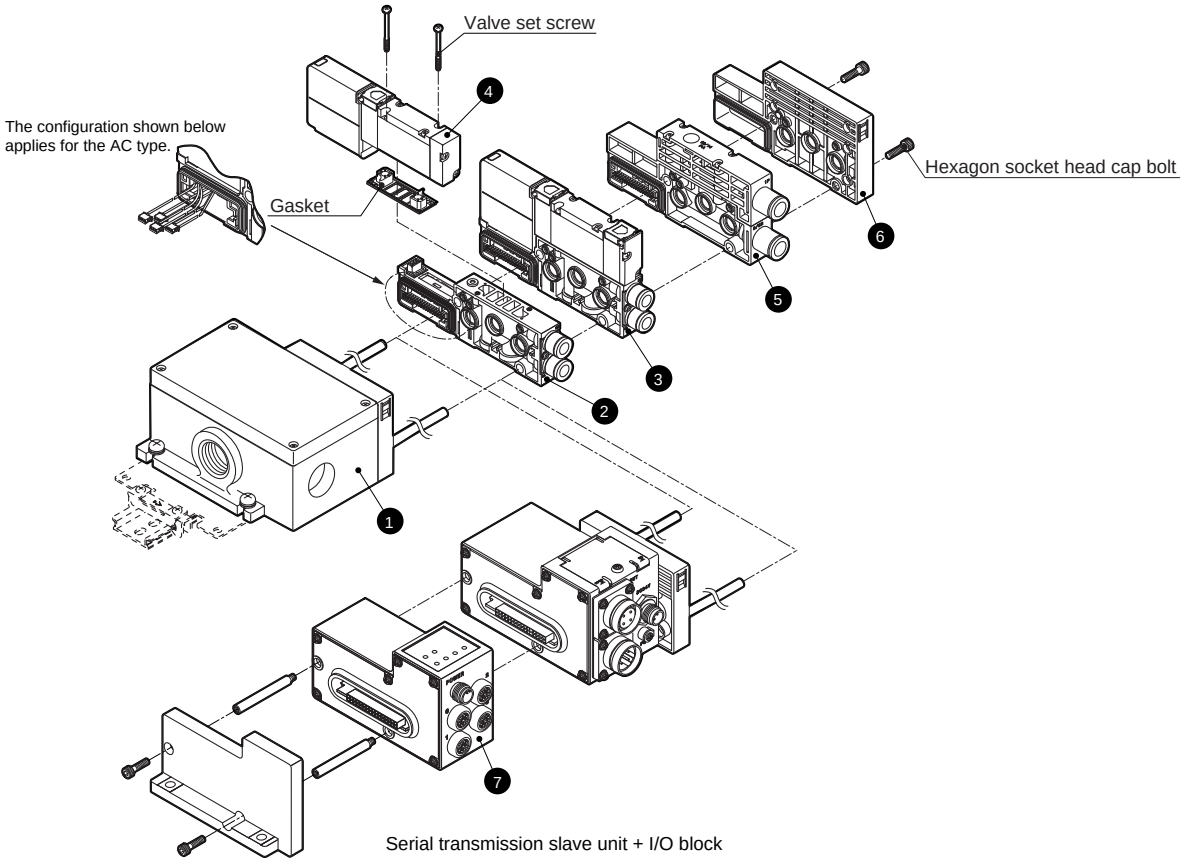
			Ⓐ Model no.				
			Manifold		Discrete valve block with solenoid valve		Discrete solenoid valve
							
			MW4GB2	MW4GZ2	NW4GB2	NW4GZ2	W4GB2
Ⓔ Reduced wiring (light and surge suppressor provided as standard)							
T8G1	Serial transmission CC-Link	16 points output	●	●			
T8G2		32 points output	●	●			
T8G7		16 points input / 16 points output	●	●			
T8C1	Serial transmission CompoBus/S	16 points output	●	●			
T8C6		8 points input / 8 points output	●	●			
T8D1	Serial transmission DeviceNet	16 points output	●	●			
T8D2		32 points output	●	●			
T8D7		16 points input / 16 points output	●	●			
T8MA	Serial transmission AS-i	4 points input / 4 points output	●	●			
T8M6		8 points input / 8 points output	●	●			

Table 1 (I/O block combination table)

Symbol	Arrangement of I/O bl. / sta. no. combination						Transmission block side
Y10						IN	
Y20					IN	IN	
Y30				IN	IN	IN	
Y40			IN	IN	IN	IN	
Y01						OUT	
Y02					OUT	OUT	
Y03				OUT	OUT	OUT	
Y04			OUT	OUT	OUT	OUT	
Y11					OUT	IN	
Y21				OUT	IN	IN	
Y31			OUT	IN	IN	IN	
Y41		OUT	IN	IN	IN	IN	
Y12				OUT	OUT	IN	
Y22			OUT	OUT	IN	IN	
Y32		OUT	OUT	IN	IN	IN	
Y42	OUT	OUT	IN	IN	IN	IN	

*1: Reading the table
Example) Y11 is combination for one input block (4-point) and one output block (4-point).
2: Refer to page 498 "Input/output point numbers corresponding to wiring method T8 I/O No." for details.

Manifold components explanation and parts list



Serial transmission slave unit + I/O block

Main parts list (refer to pages 468 to 481 for details.)

No.	Component name	Model no. (example)	No.	Component name	Model no. (example)
1	Wiring block	NW4GB2-T10	5	Supply/exhaust block	NW4G2-Q-10
2	Discrete valve block	NW4GB2-V1-C8	6	End block R	NW4G2-ER
3	Discrete valve block with solenoid valve	NW4GB220-C8-H-3	7	I/O block	NW4GB2-IN-N-B
4	Discrete solenoid valve	W4GB219-00-H-3			

Reduced wiring weight (for DC)

NW4GB2

NW4GZ2

(g)

Block type		Weight	Block type		Weight
Valve block with solenoid valve	NW4GB210	177	Valve block with solenoid valve	NW4GZ210	177
	NW4GB220	193		NW4GZ220	192
	NW4GB2$^{3}_{5}$0	200		NW4GZ2$^{3}_{5}$0	199
Valve block with masking plate	NW4GB2-MP$^{S}_{D}$	113	Valve block with masking plate	NW4GZ2-MP$^{S}_{D}$	112
Wiring block (serial transmission slave unit)	NW4GB2-T8*	650	Wiring block (serial transmission slave unit)	NW4GB2-T8*	430
I/O block	NW4GB2-$^{IN}_{OUT}$-N-$^{K}_{B}$	220	I/O block	NW4GB2-$^{IN}_{OUT}$-N-$^{K}_{B}$	220

Common

(g)

Block type		Weight	Block type		Weight
Supply/exhaust block	NW4G2-Q-*	137	Wiring block	NW4G2-T10	423
	NW4G2-QK-*	140		NW4G2-T20	490
	NW4G2-QZ-*	137		NW4G2-T30	370
	NW4G2-QKZ-*	143		NW4G2-T5*	367
End block	NW4G2-ER	91			
	NW4G2-EXR	96			

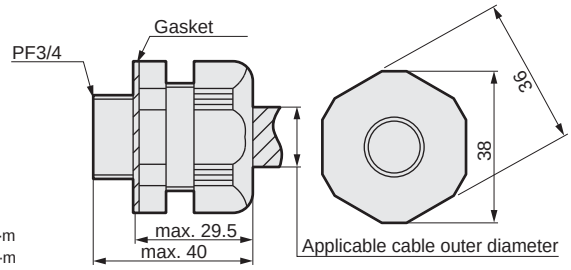
Repair parts and related parts list

No.	Parts name		Model no.
-	Cartridge type push-in joint and related parts	ø4 straight	4G2-JOINT-C4
		ø6 straight	4G2-JOINT-C6
		ø8 straight	4G2-JOINT-C8
		ø6 L type	4G2-JOINT-CL6, CLL6
		ø8 L type	4G2-JOINT-CL8, CLL8
		Plug cartridge	4G2-JOINT-CPG
		Blanking plug	For ø4/GWP4-B, for ø6/GWP6-B For ø8/GWP8-B

Kit for wiring block T10

● Cable clamp

Model no.	Applicable cable O.D.	Descriptions
W4G-SCL-18A	ø14.5 to 16.5	Use to provide dustproof and jet-proof protection for the cable.
W4G-SCL-18B	ø16.5 to 18.5	

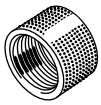


(Reference value)
Body tightening torque 4.0 to 4.5 N·m
Cable clamp tightening torque 3.0 to 3.5 N·m

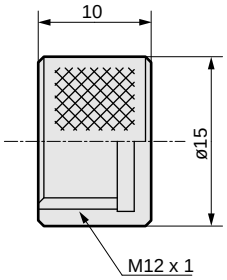
Part for I/O block

● Water proof cap

Model no.	Descriptions
W4G-XSZ-11	Use to provide jet-proof protection for the power connector when the power supply is common with the serial transmission slave unit.



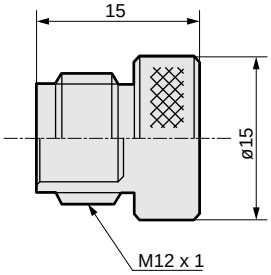
(Reference value)
Tightening torque 0.4 to 0.5 N·m



● Water proof plug

Model no.	Descriptions
W4G-XSZ-12	Use to provide jet-proof protection for idle signal connectors.

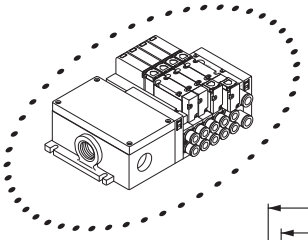
(Reference value)
Tightening torque 0.4 to 0.5 N·m

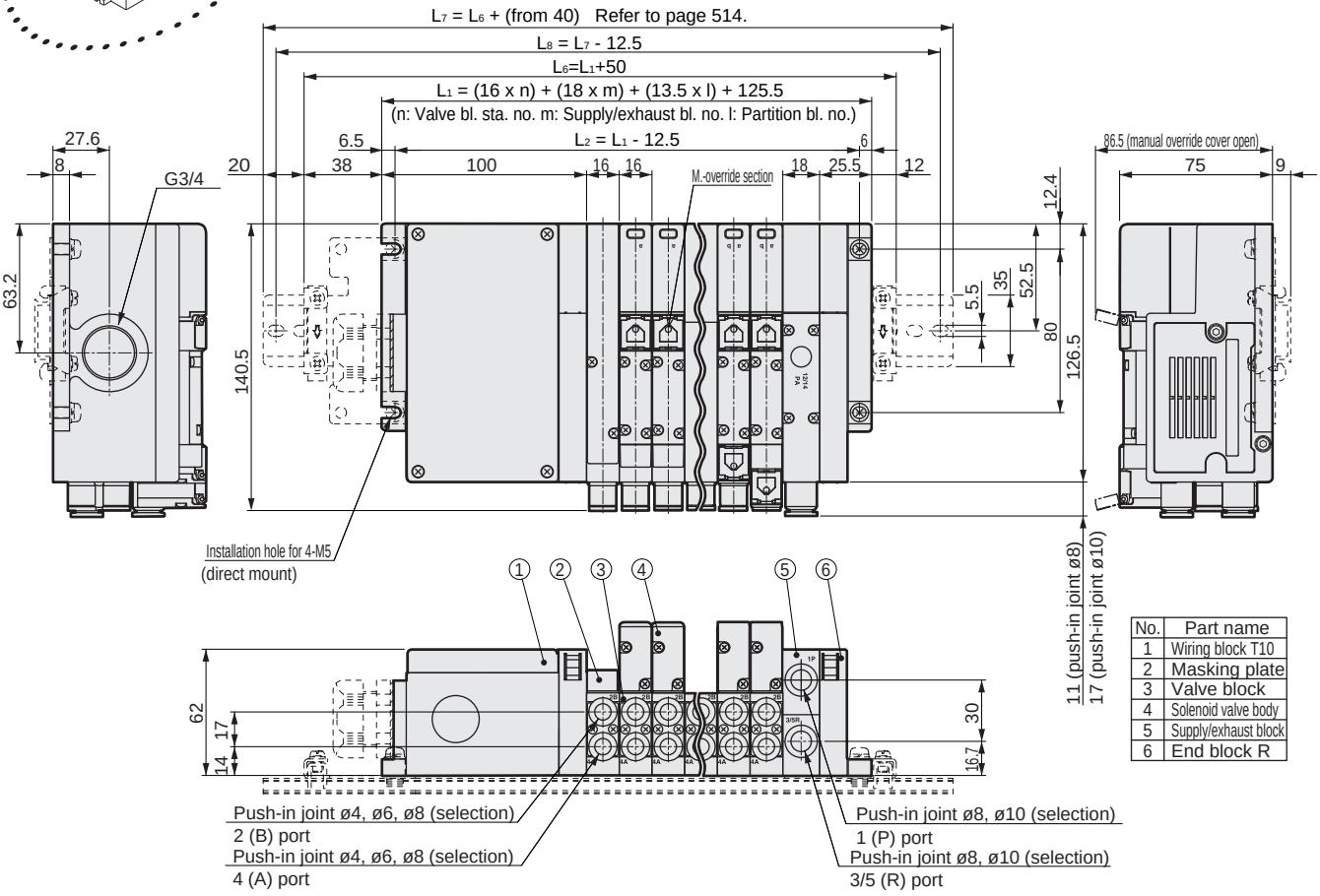


Dimensions CAD

MW4GB2

● Common gland (T10)

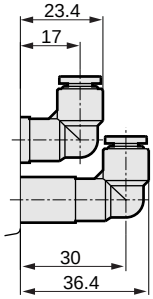




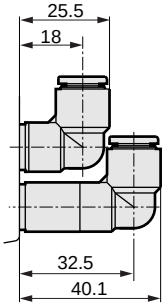
No.	Part name
1	Wiring block T10
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for valve block (upward)
Compatible with only single and double solenoid manifold.
A port = long elbow, B port = short elbow

● ø6 (CL6)

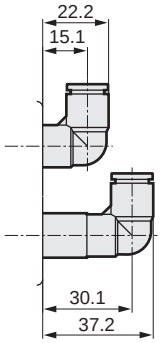


● ø8 (CL8)

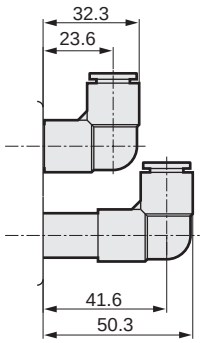


● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



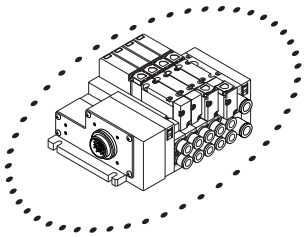
● ø10 (CL10)

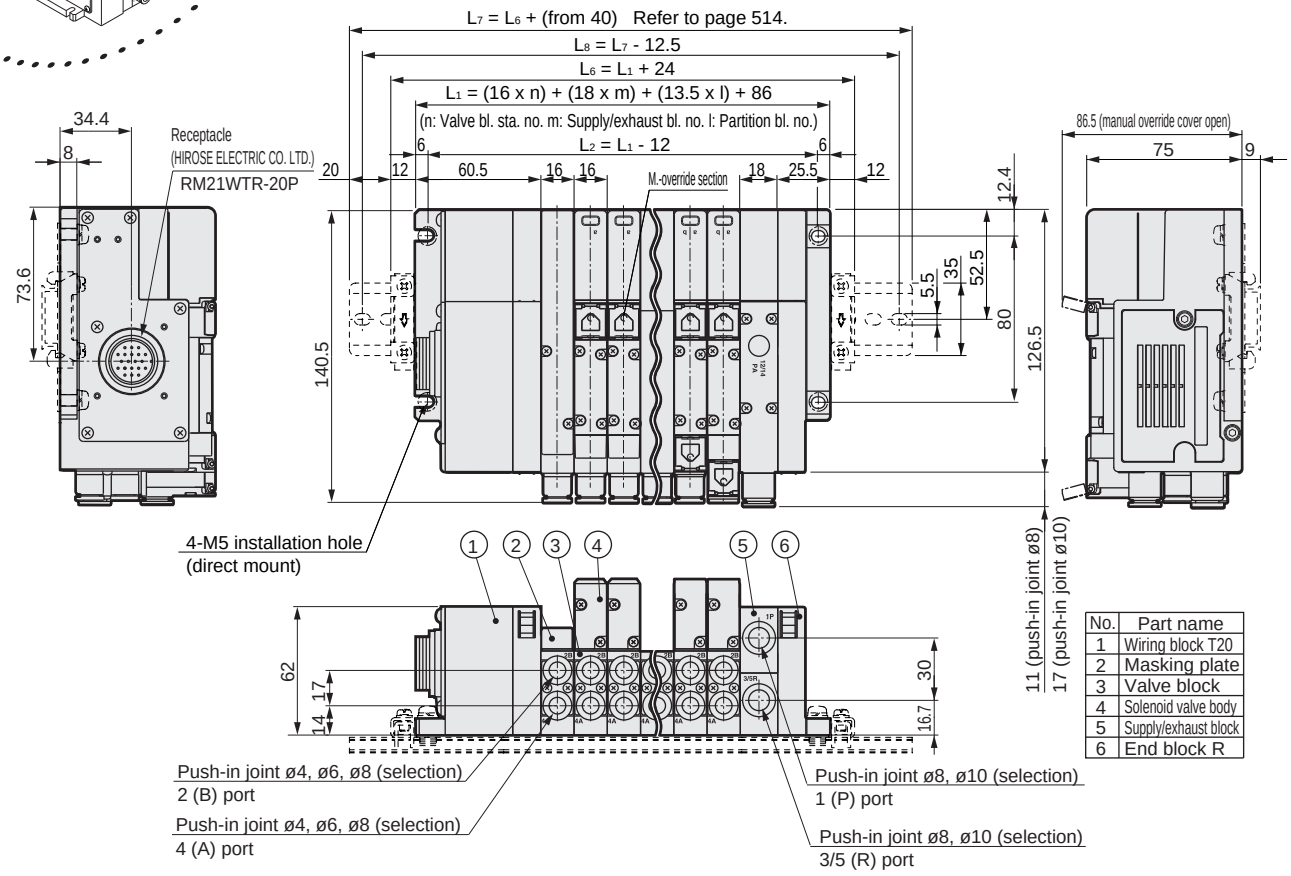


Dimensions CAD

MW4GB2

● Multi-connector (T20)

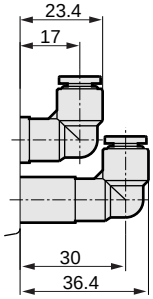




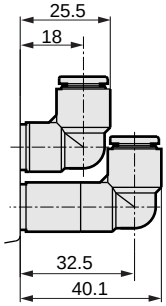
No.	Part name
1	Wiring block T20
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for valve block (upward)
Compatible with only single and double solenoid manifold.
A port = long elbow, B port = short elbow

● ø6 (CL6)

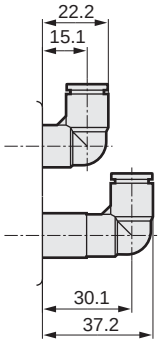


● ø8 (CL8)

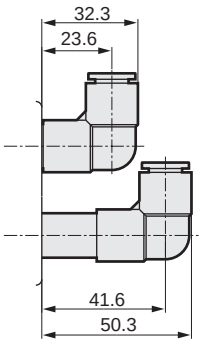


● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



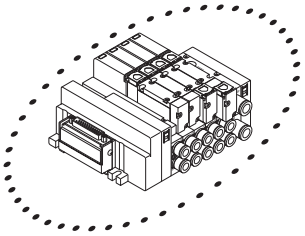
● ø10 (CL10)

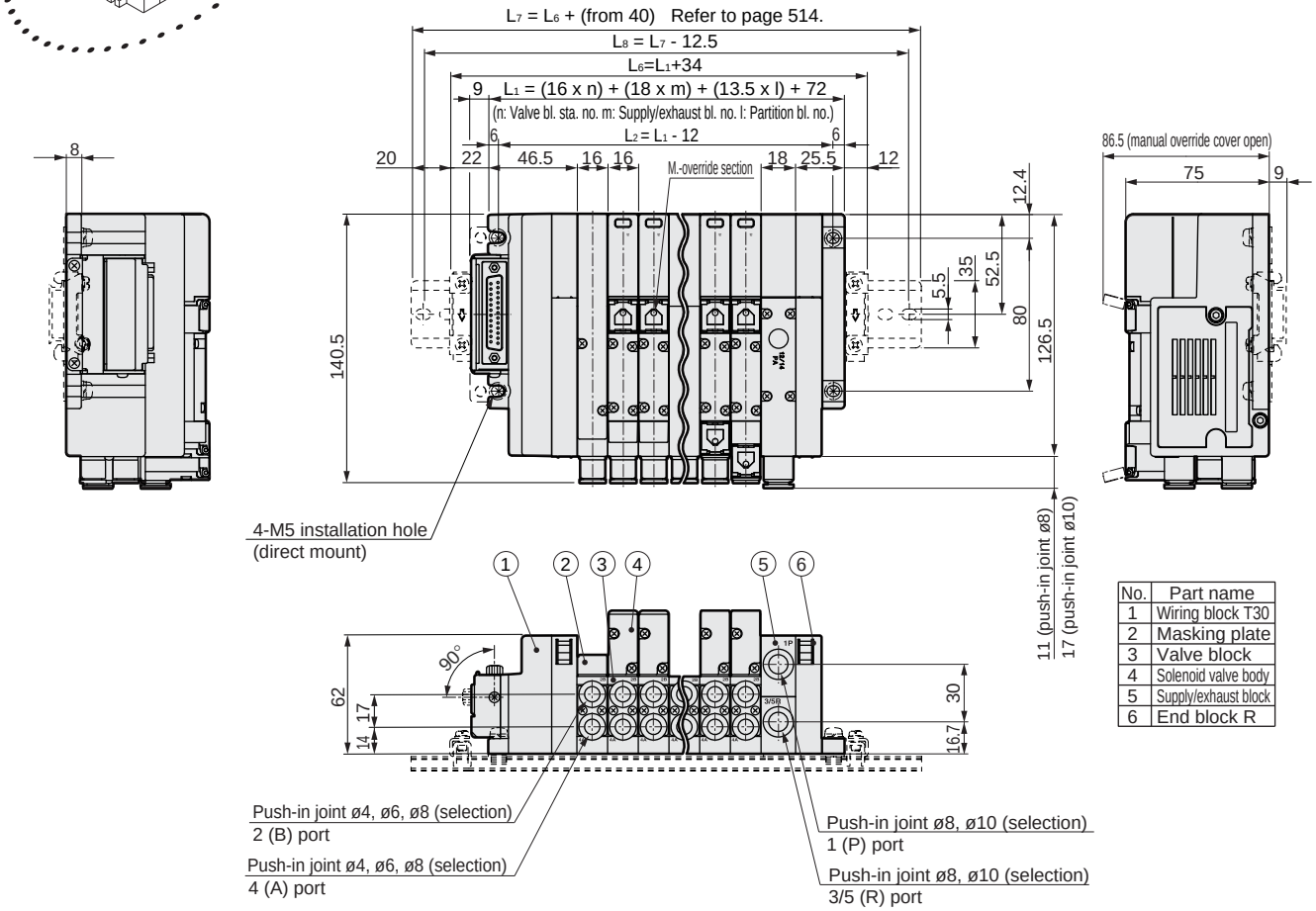


Dimensions CAD

MW4GB2

● D sub-connector (T30)

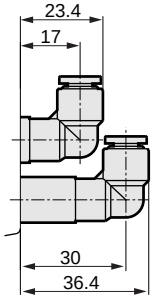




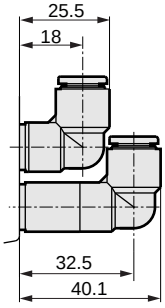
No.	Part name
1	Wiring block T30
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for valve block (upward)
Compatible with only single and double solenoid manifold.
A port = long elbow, B port = short elbow

● ø6 (CL6)

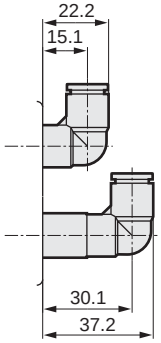


● ø8 (CL8)

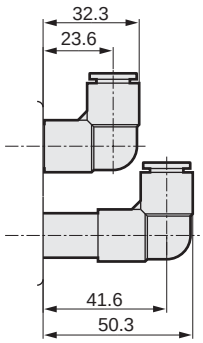


● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



● ø10 (CL10)

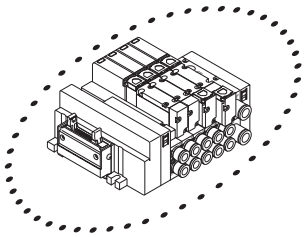


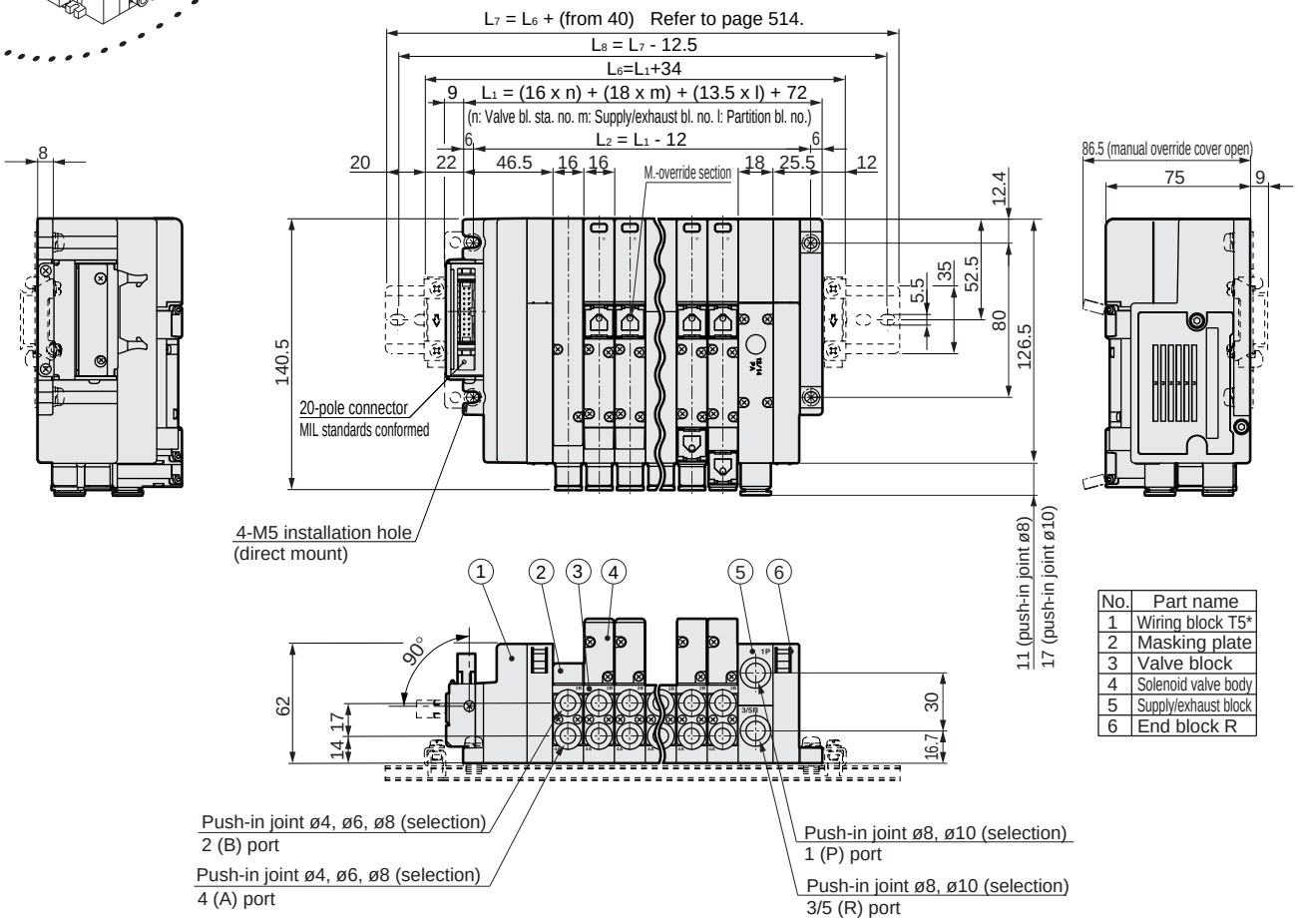
Dimensions CAD

MW4GB2

● Flat cable connector (T5*)

* This drawing indicates T51.
T53 is also available for flat cable connector.
Dimensions are same as T51.

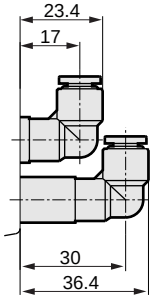




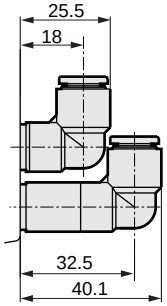
No.	Part name
1	Wiring block T5*
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for valve block (upward)
Compatible with only single and double solenoid manifold.
A port = long elbow, B port = short elbow

● ø6 (CL6)

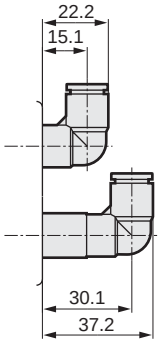


● ø8 (CL8)

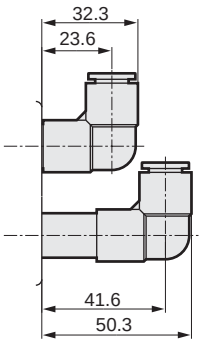


● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



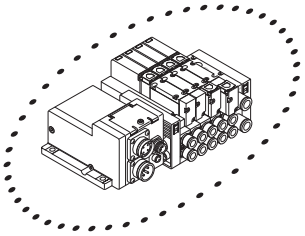
● ø10 (CL10)

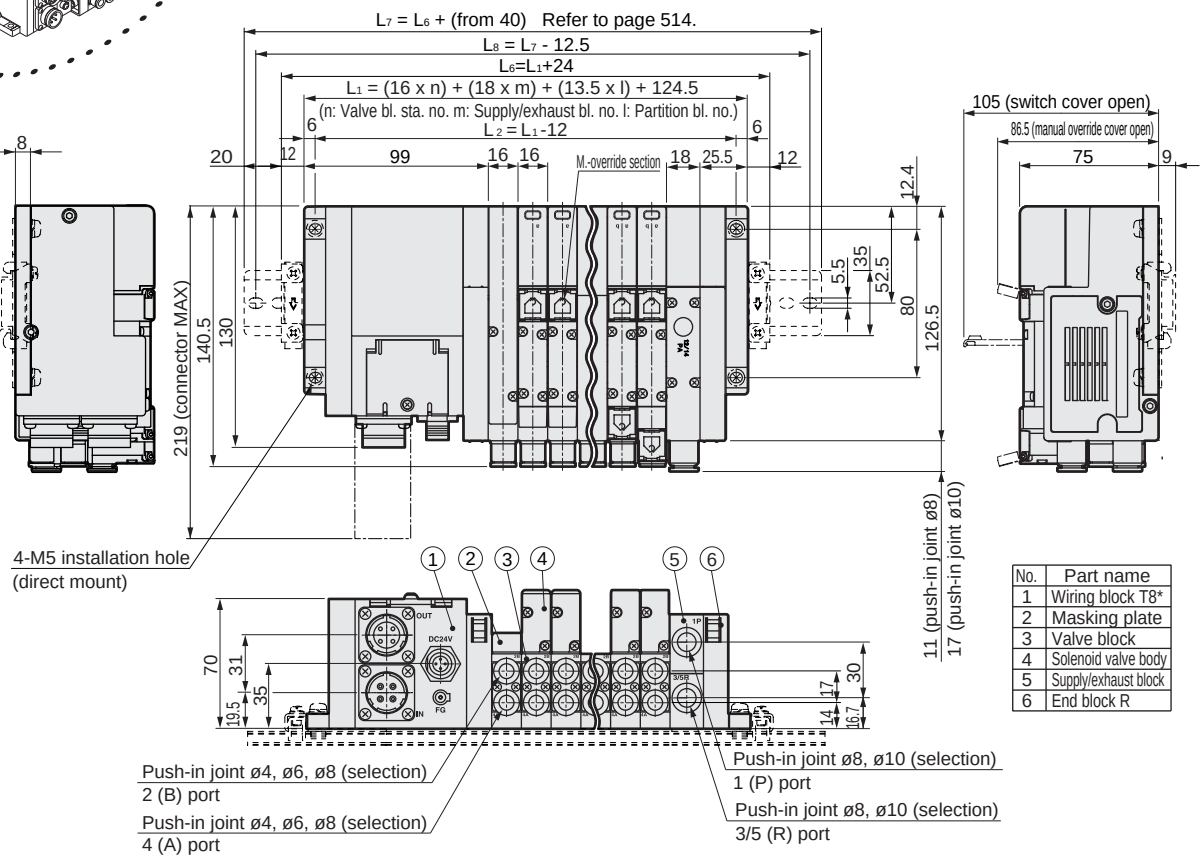


Dimensions CAD

MW4GB2

● Serial transmission CC-Link (T8G*)

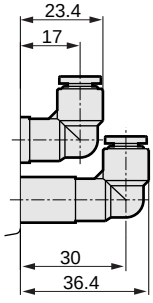




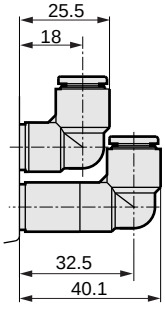
No.	Part name
1	Wiring block T8*
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for valve block (upward)
Compatible with only single and double solenoid manifold.
A port = long elbow, B port = short elbow

● ø6 (CL6)

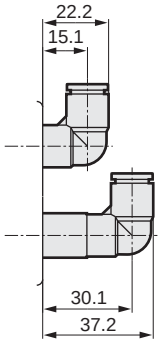


● ø8 (CL8)

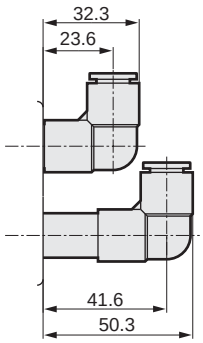


● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



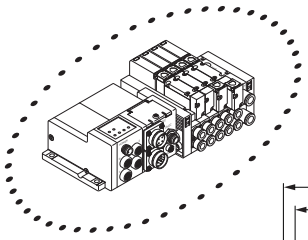
● ø10 (CL10)

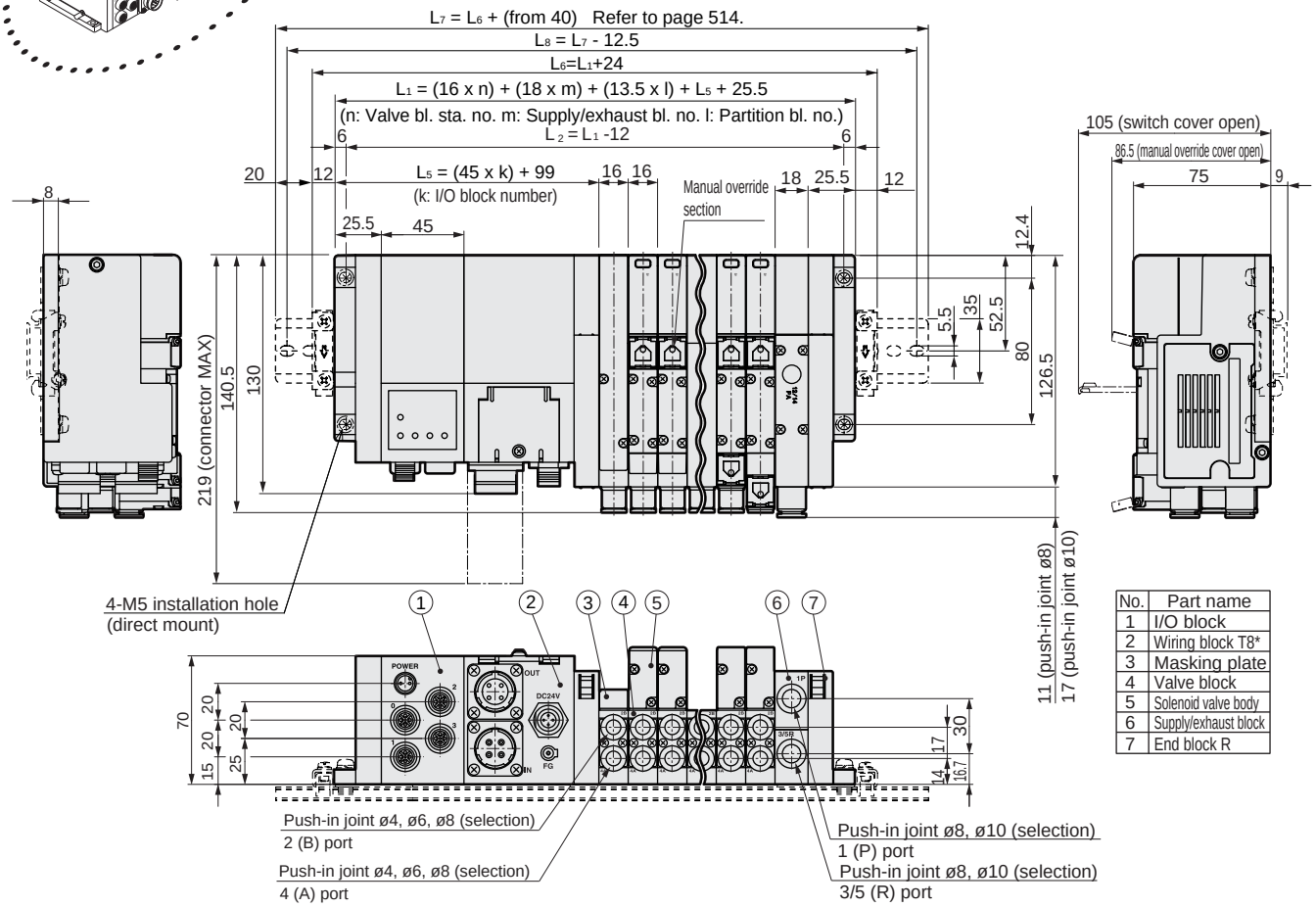


Dimensions CAD

MW4GB2

● Serial transmission CC-Link (T8G*) + I/O block

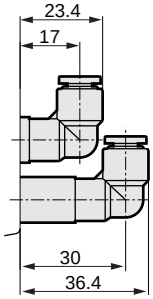




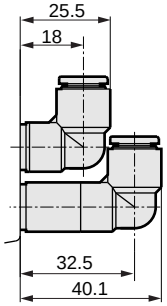
No.	Part name
1	I/O block
2	Wiring block T8*
3	Masking plate
4	Valve block
5	Solenoid valve body
6	Supply/exhaust block
7	End block R

● Push-in joint L type for valve block (upward)
Compatible with only single and double solenoid manifold.
A port = long elbow, B port = short elbow

● ø6 (CL6)

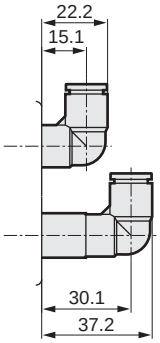


● ø8 (CL8)

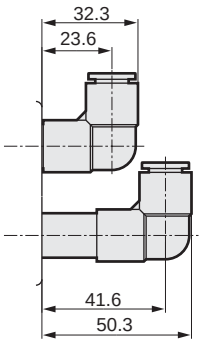


● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



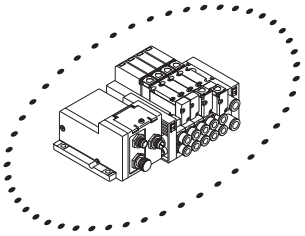
● ø10 (CL10)

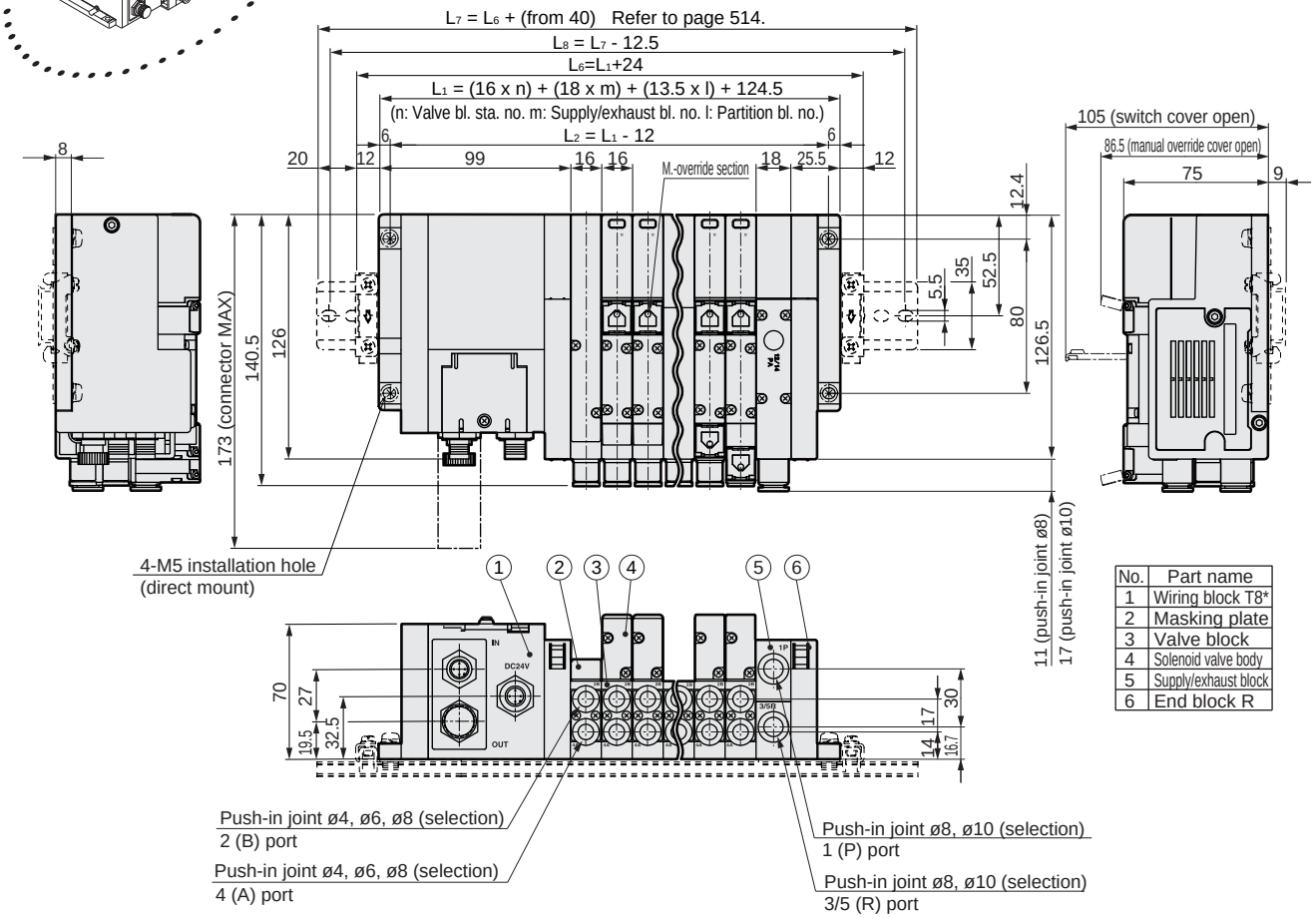


Dimensions CAD

MW4GB2

● Serial transmission DeviceNet (T8D*)

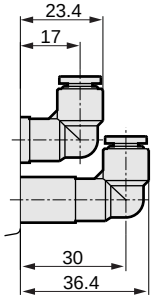




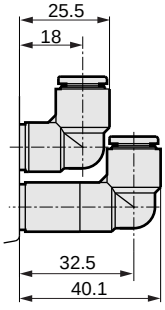
No.	Part name
1	Wiring block T8*
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for valve block (upward)
Compatible with only single and double solenoid manifold.
A port = long elbow, B port = short elbow

● ø6 (CL6)

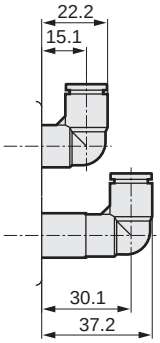


● ø8 (CL8)

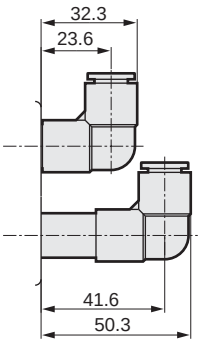


● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



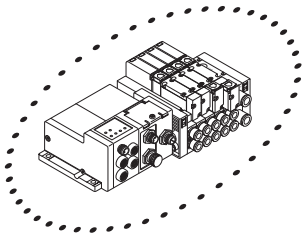
● ø10 (CL10)

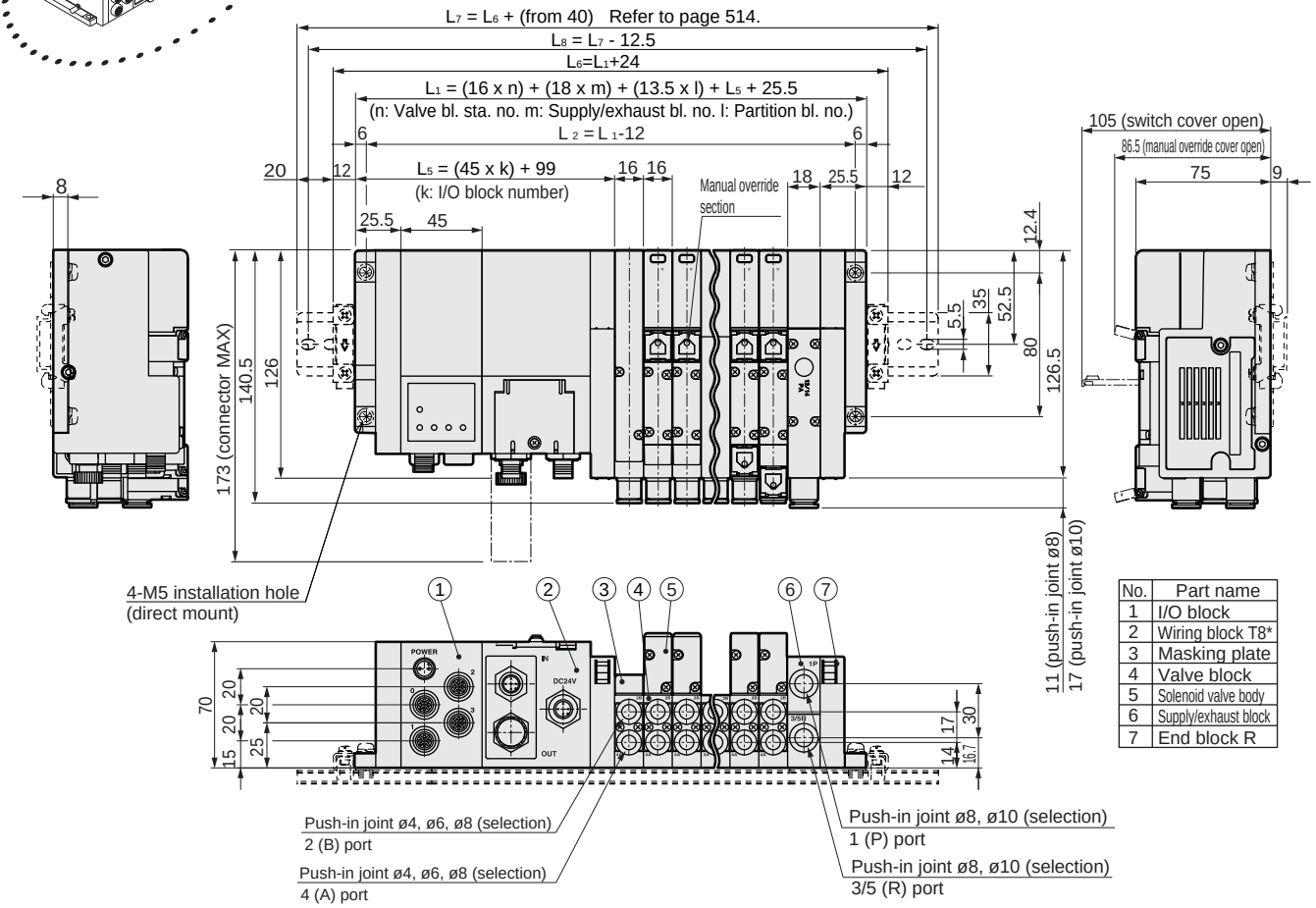


Dimensions CAD

MW4GB2

● Serial transmission DeviceNet (T8D*) + I/O block

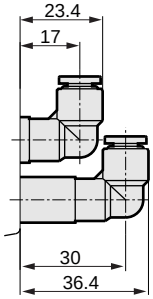




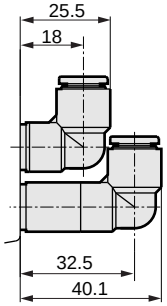
No.	Part name
1	I/O block
2	Wiring block T8*
3	Masking plate
4	Valve block
5	Solenoid valve body
6	Supply/exhaust block
7	End block R

● Push-in joint L type for valve block (upward)
Compatible with only single and double solenoid manifold.
A port = long elbow, B port = short elbow

● ø6 (CL6)

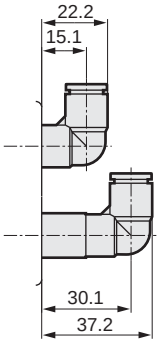


● ø8 (CL8)

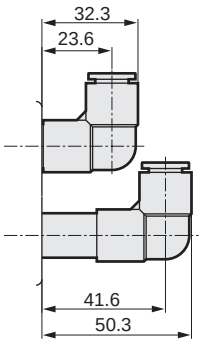


● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



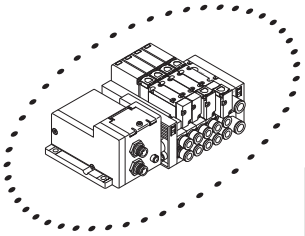
● ø10 (CL10)

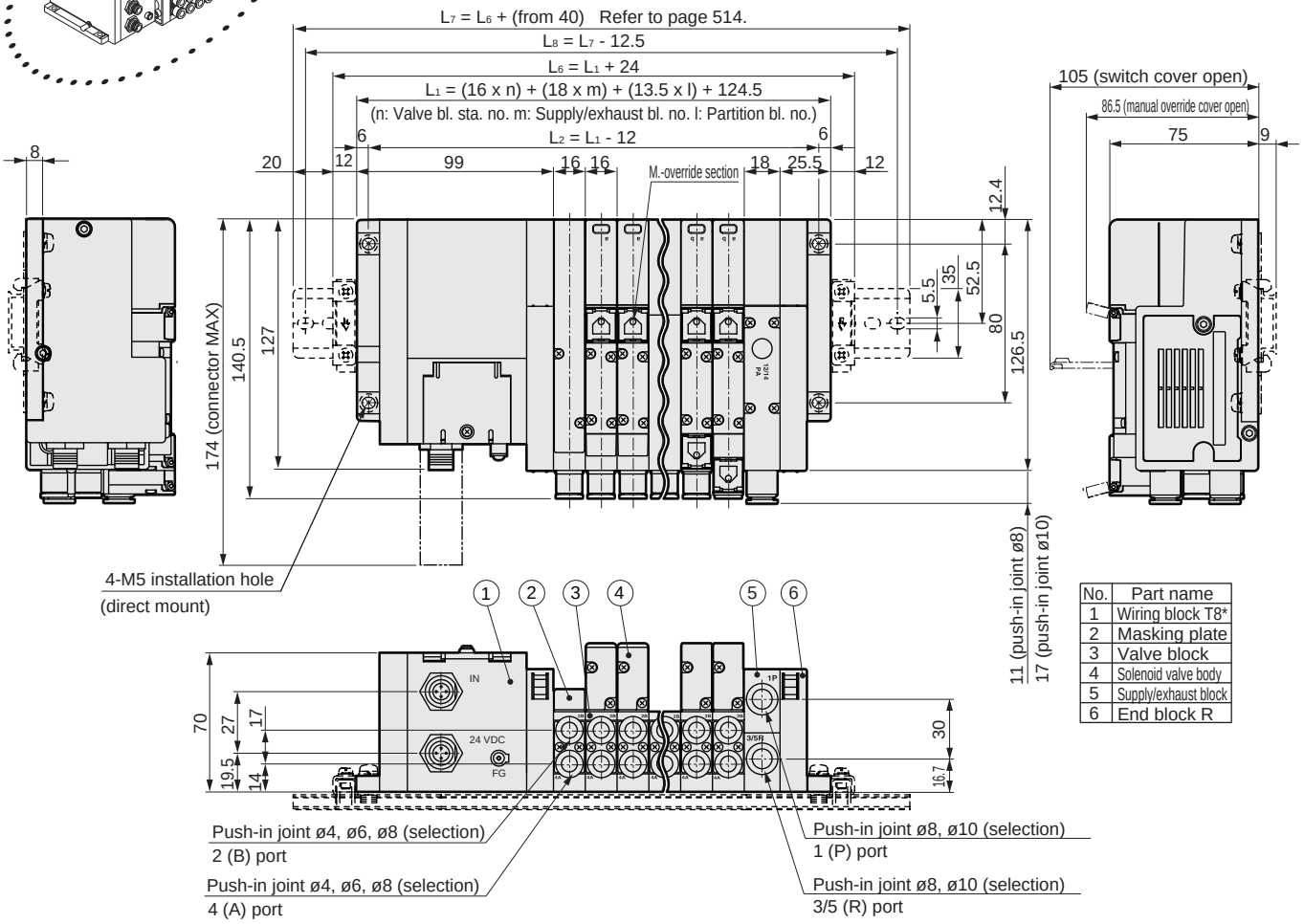


Dimensions CAD

MW4GB2

- Serial transmission AS-i (T8M*)
- Serial transmission CompoBus/S (T8C*)

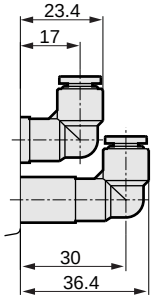




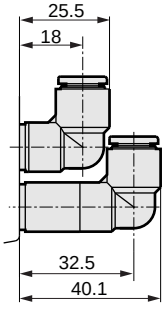
No.	Part name
1	Wiring block T8*
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

- Push-in joint L type for valve block (upward)
  Compatible with only single and double solenoid manifold.
  A port = long elbow, B port = short elbow

- ø6 (CL6)

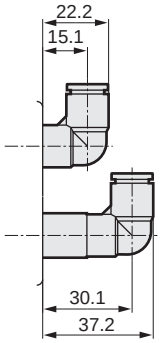


- ø8 (CL8)

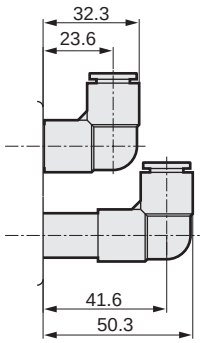


- Push-in joint L type for supply and exhaust block (upward)

- ø8 (CL8)



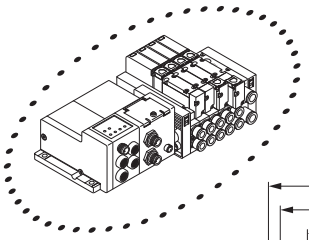
- ø10 (CL10)

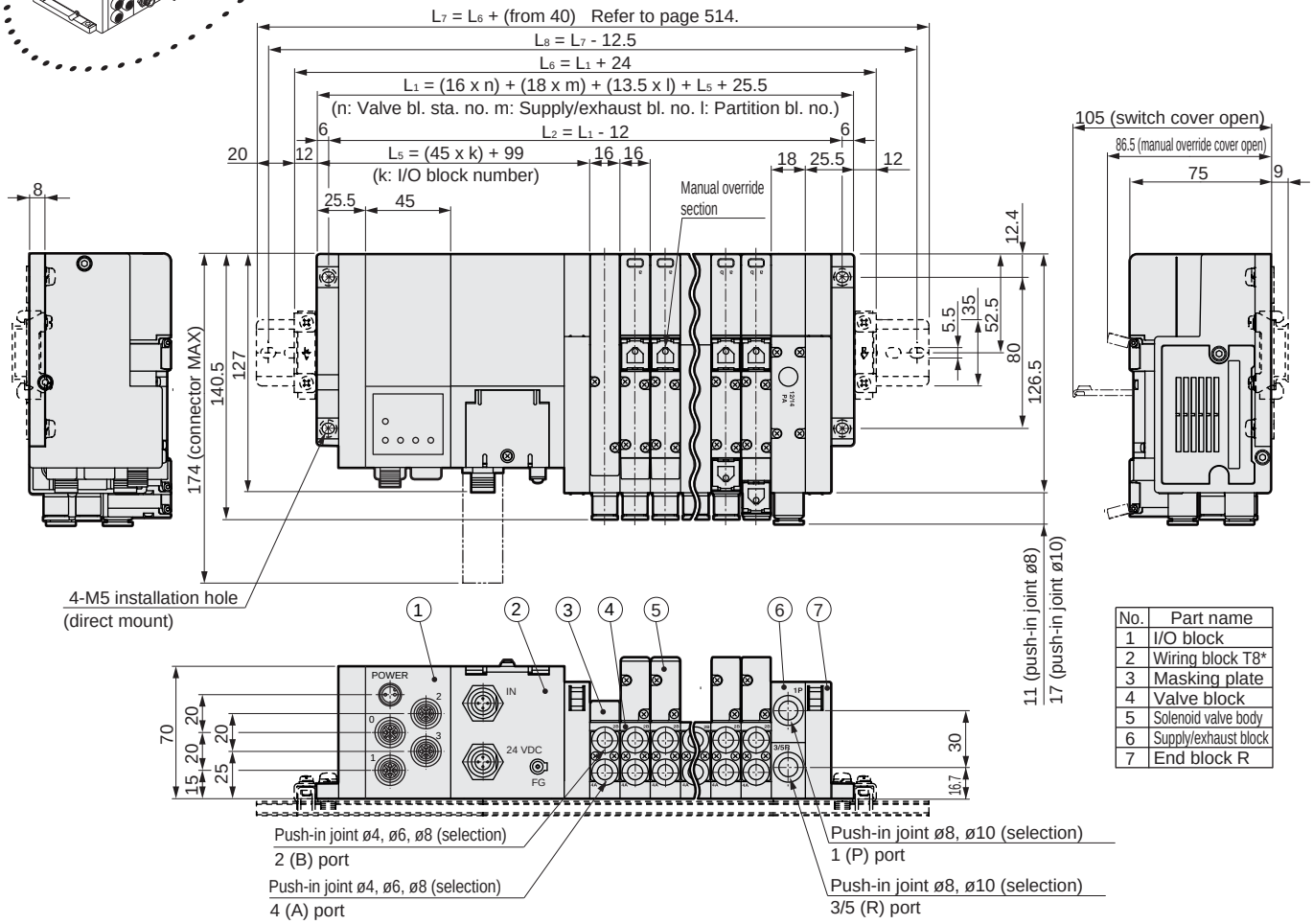


Dimensions CAD

MW4GB2

- Serial transmission AS-i (T8M*) + I/O block
- Serial transmission CompoBus/S (T8C*) + I/O block

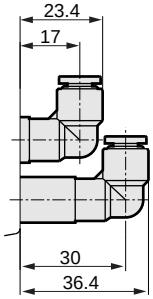




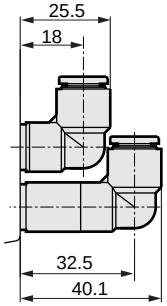
No.	Part name
1	I/O block
2	Wiring block T8*
3	Masking plate
4	Valve block
5	Solenoid valve body
6	Supply/exhaust block
7	End block R

- Push-in joint L type for valve block (upward)
  Compatible with only single and double solenoid manifold.
  A port = long elbow, B port = short elbow

- ø6 (CL6)

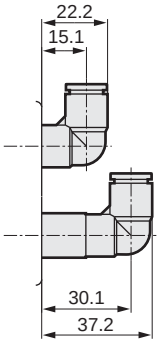


- ø8 (CL8)

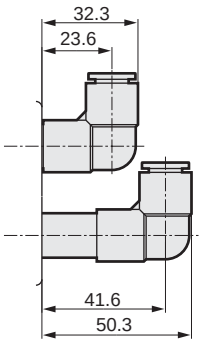


- Push-in joint L type for supply and exhaust block (upward)

- ø8 (CL8)



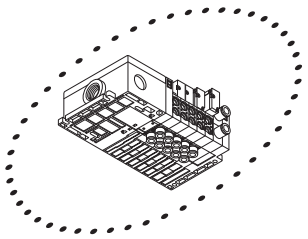
- ø10 (CL10)

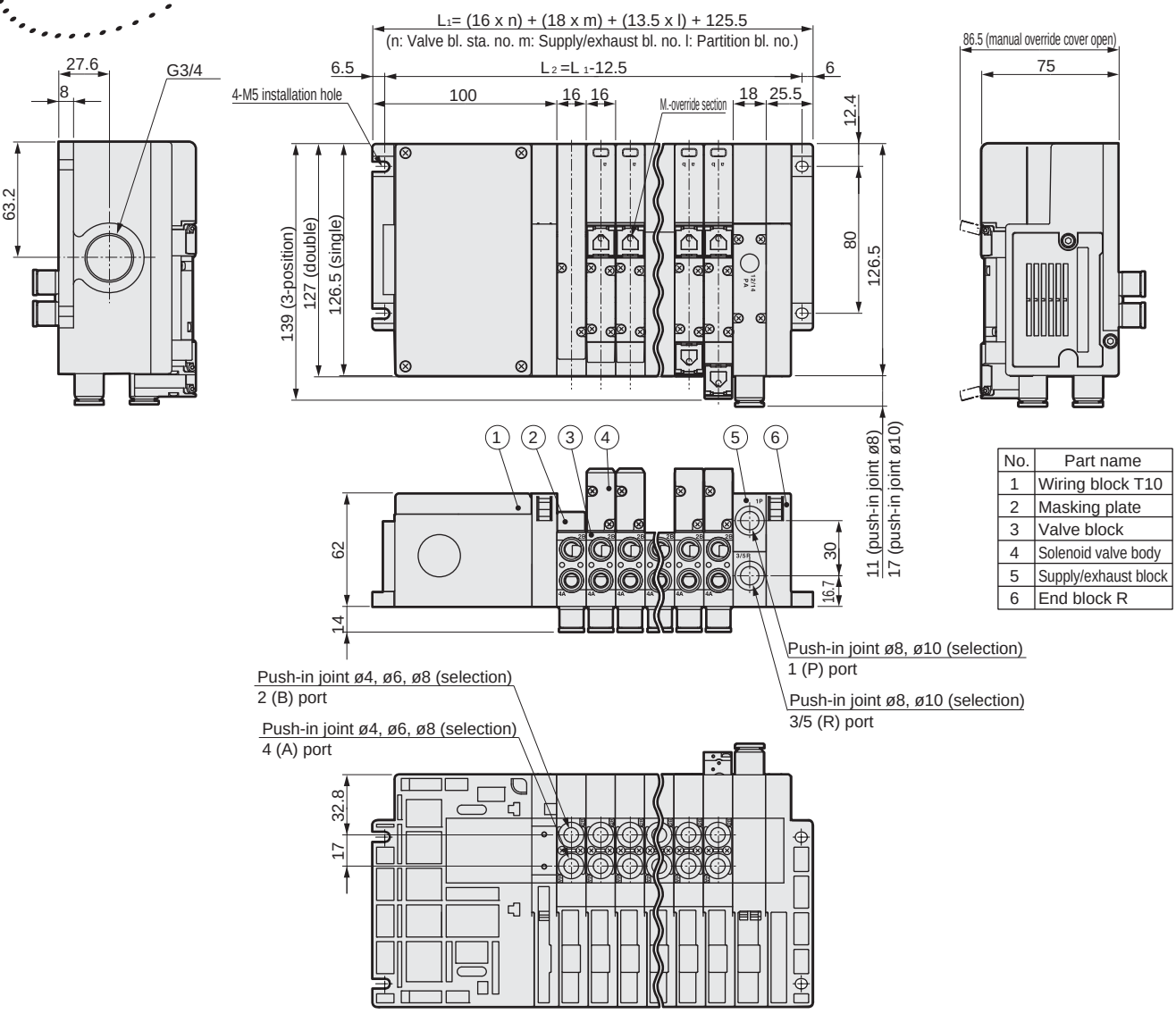


Dimensions CAD

MW4GZ2

● Common gland (T10)

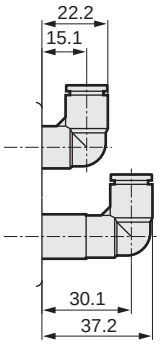




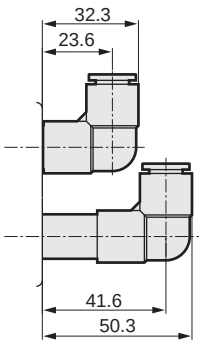
No.	Part name
1	Wiring block T10
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



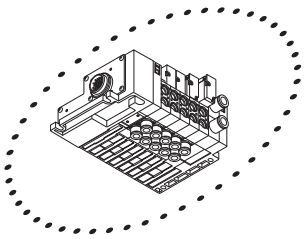
● ø10 (CL10)

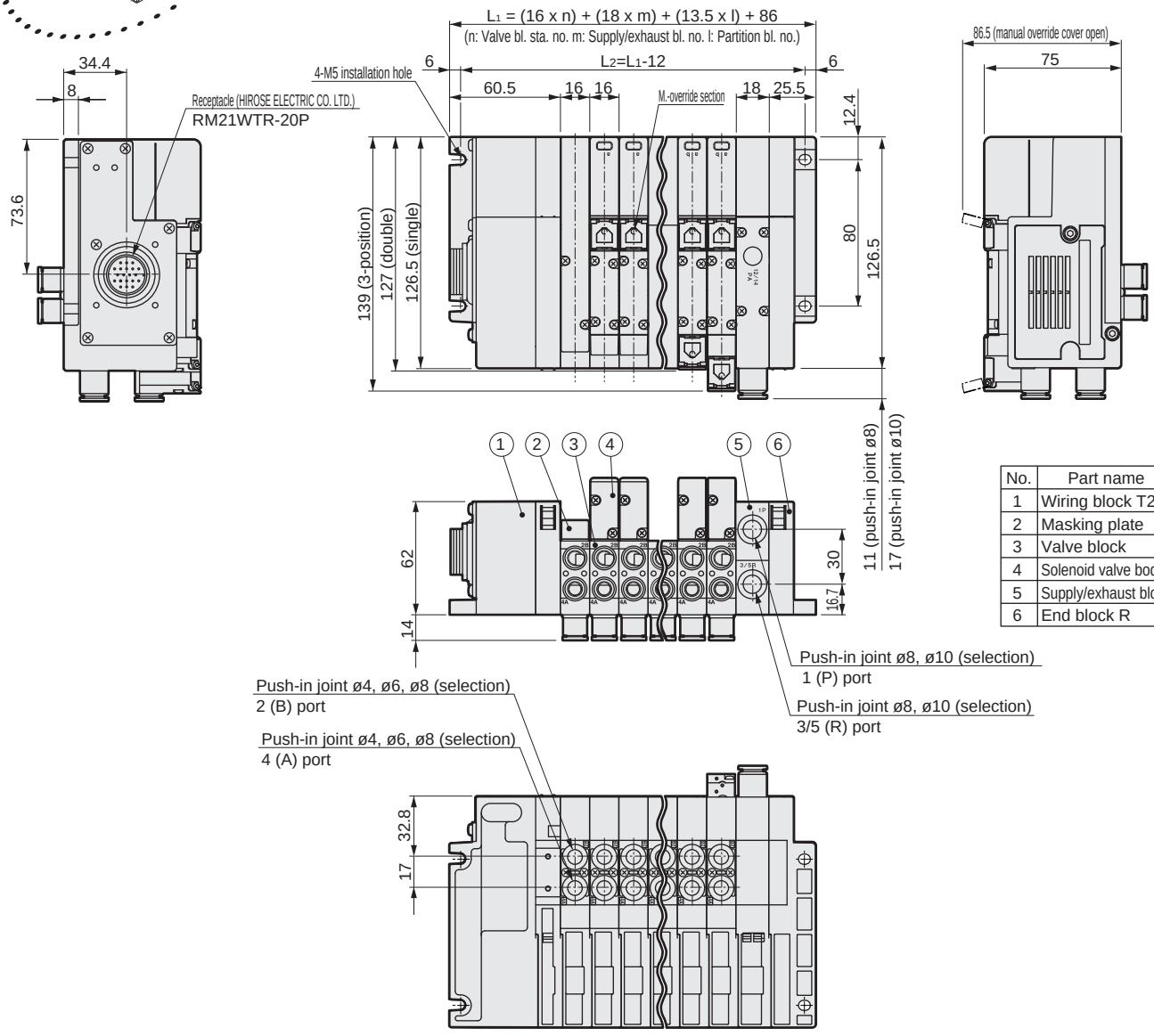


Dimensions CAD

MW4GZ2

● Multi-connector (T20)

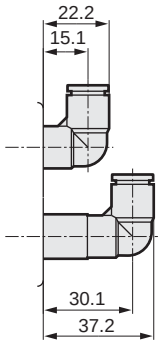




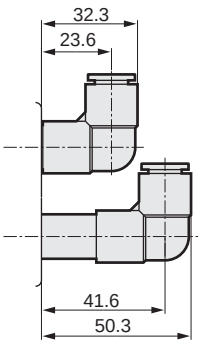
No.	Part name
1	Wiring block T20
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



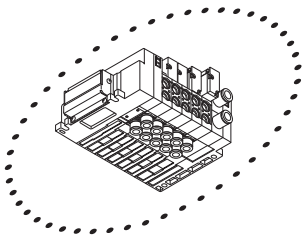
● ø10 (CL10)

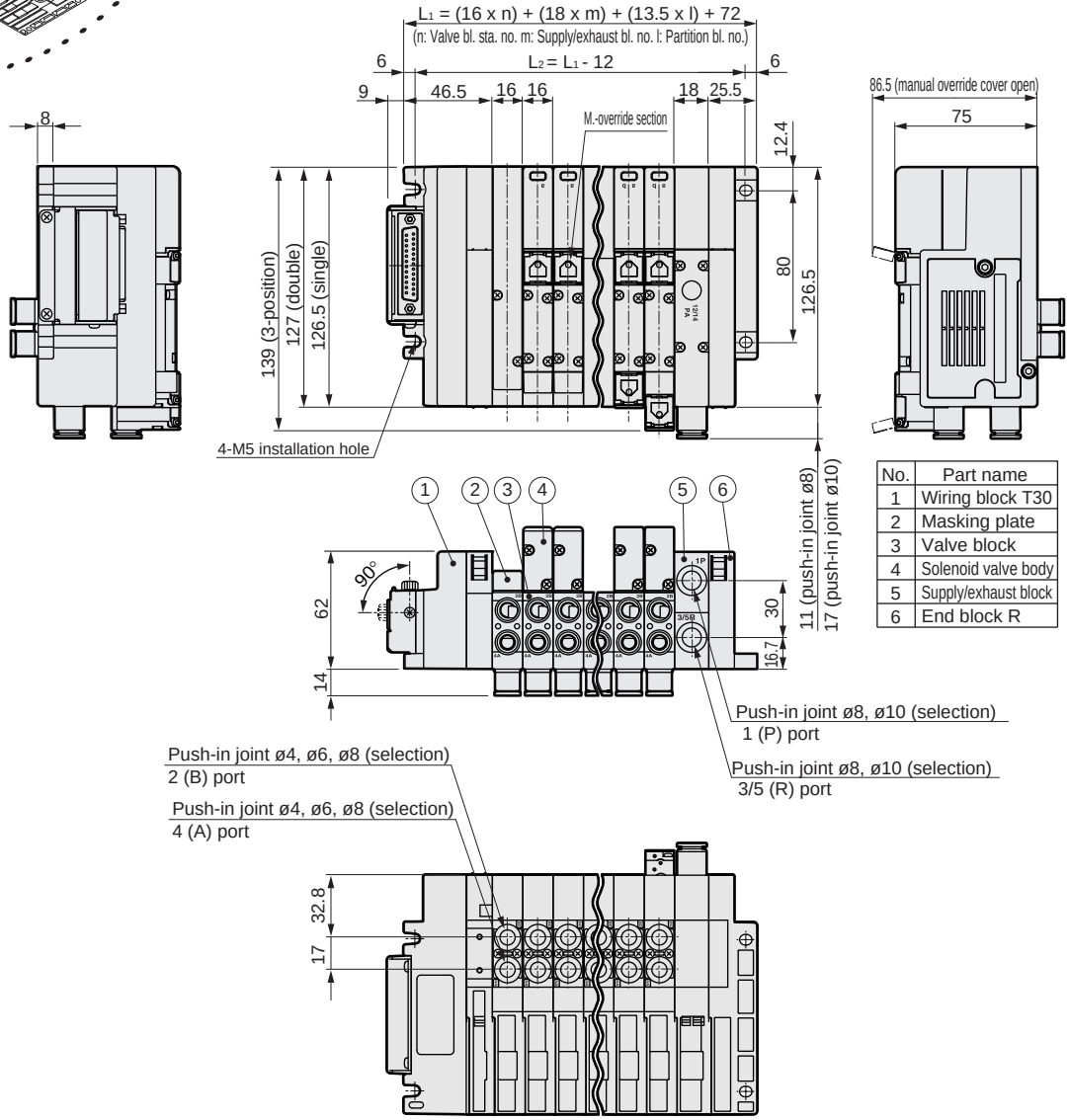


Dimensions CAD

MW4GZ2

● D sub-connector (T30)

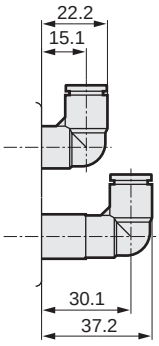




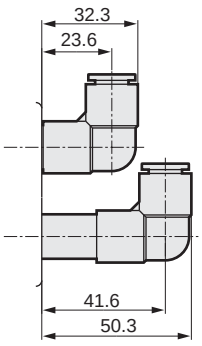
No.	Part name
1	Wiring block T30
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



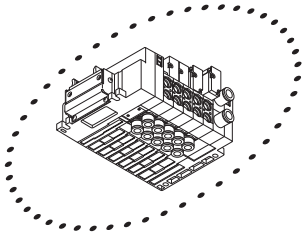
● ø10 (CL10)



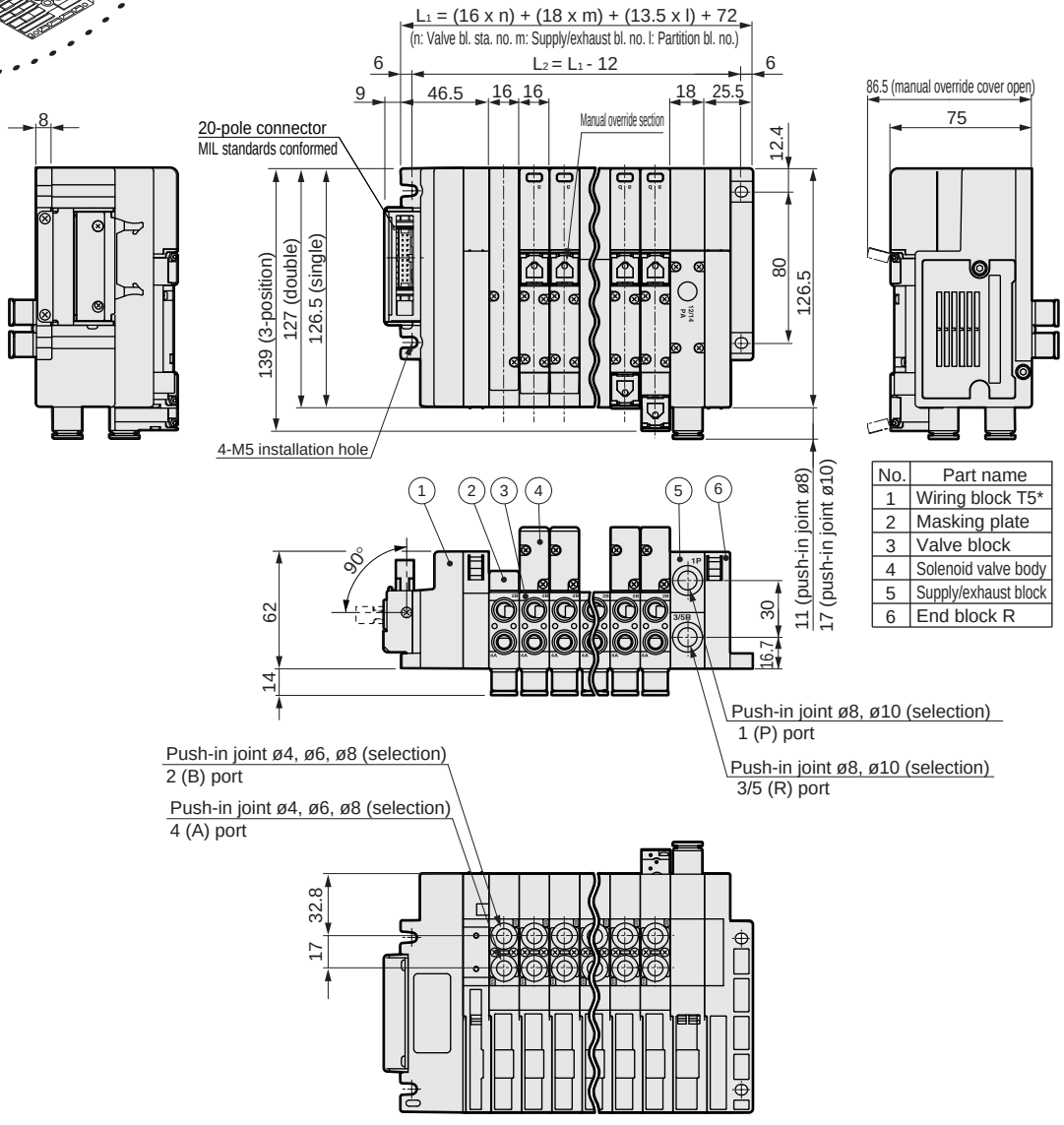
Dimensions CAD

MW4GZ2

● Flat cable connector (T5*)



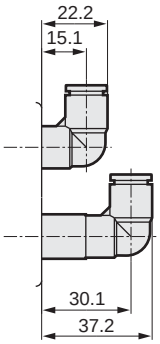
* This drawing indicates T51.
T53 is also available for flat cable connector.
Dimensions are same as T51.



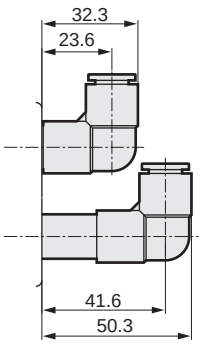
No.	Part name
1	Wiring block T5*
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



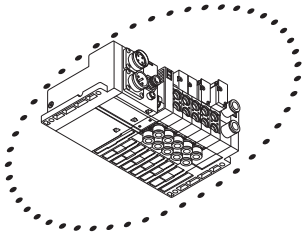
● ø10 (CL10)

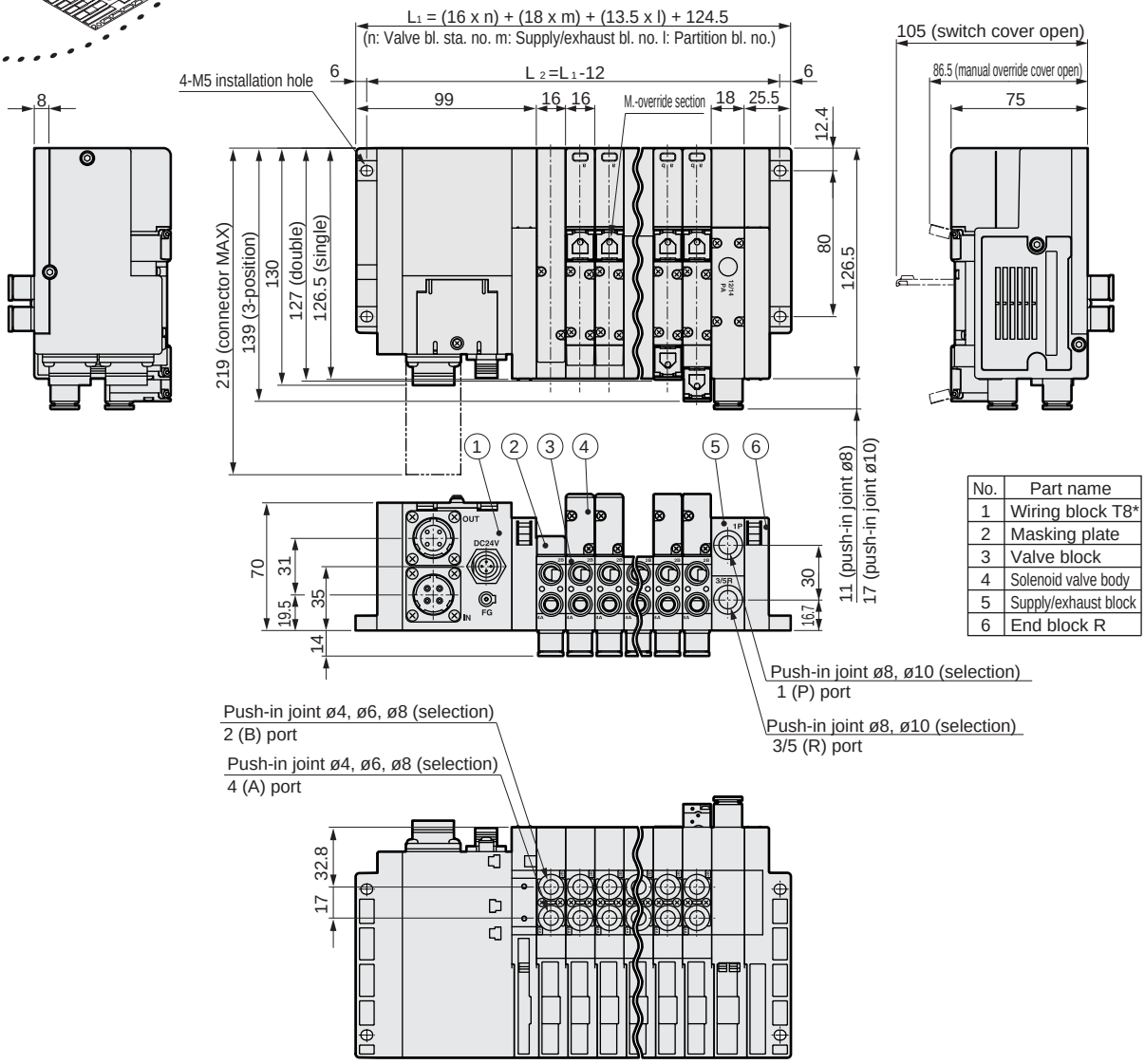


Dimensions CAD

MW4GZ2

● Serial transmission CC-Link (T8G*)

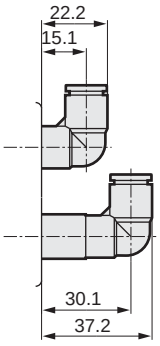




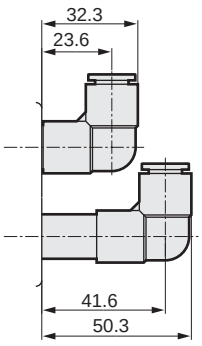
No.	Part name
1	Wiring block T8*
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



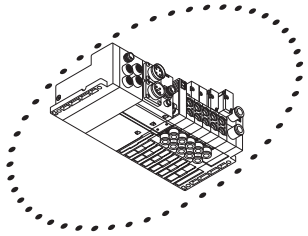
● ø10 (CL10)

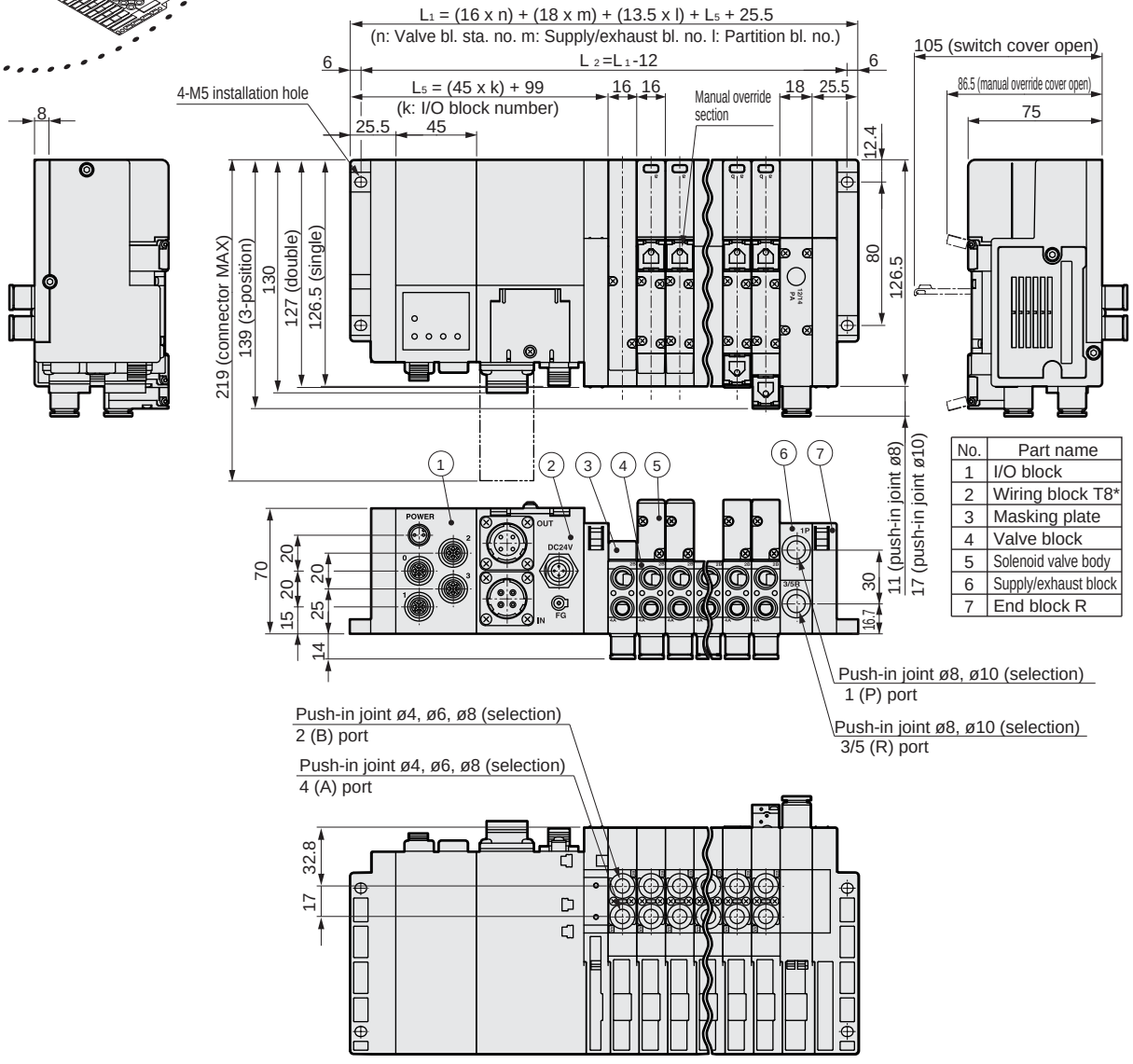


Dimensions CAD

MW4GZ2

● Serial transmission CC-Link (T8G*) + I/O block

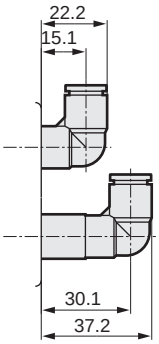




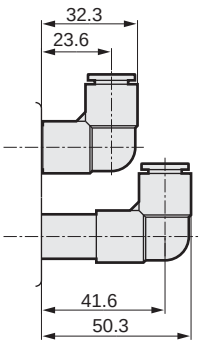
No.	Part name
1	I/O block
2	Wiring block T8*
3	Masking plate
4	Valve block
5	Solenoid valve body
6	Supply/exhaust block
7	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



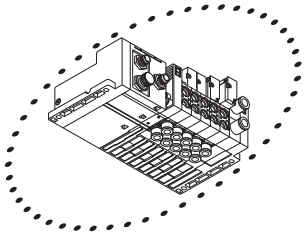
● ø10 (CL10)

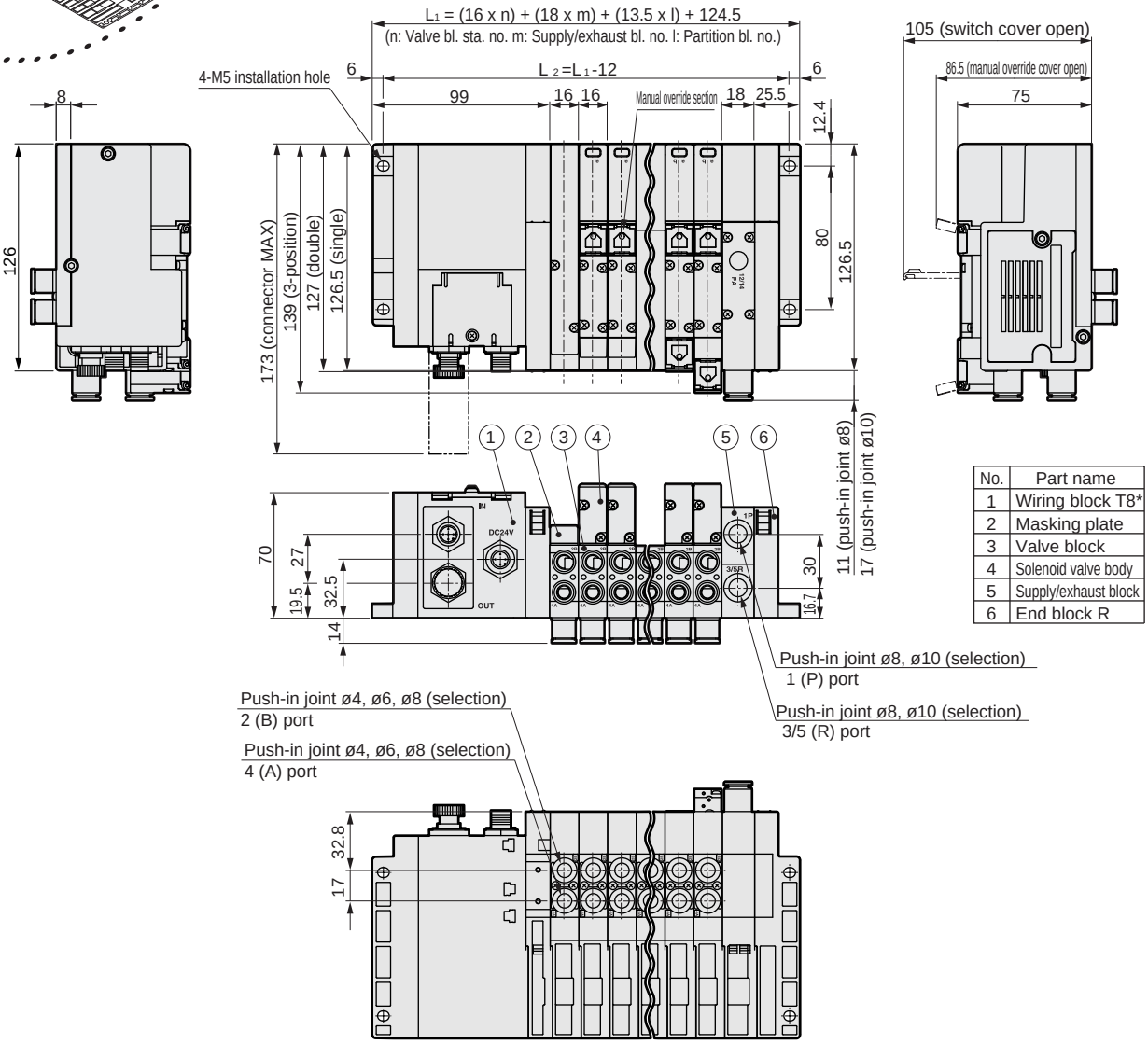


Dimensions

MW4GZ2

● Serial transmission DeviceNet (T8D*)

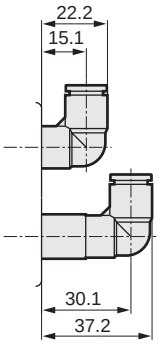




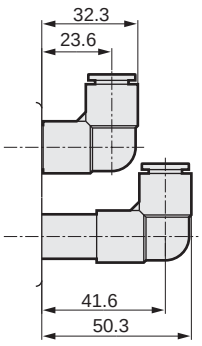
No.	Part name
1	Wiring block T8*
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



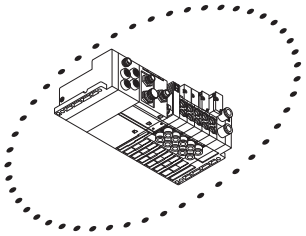
● ø10 (CL10)

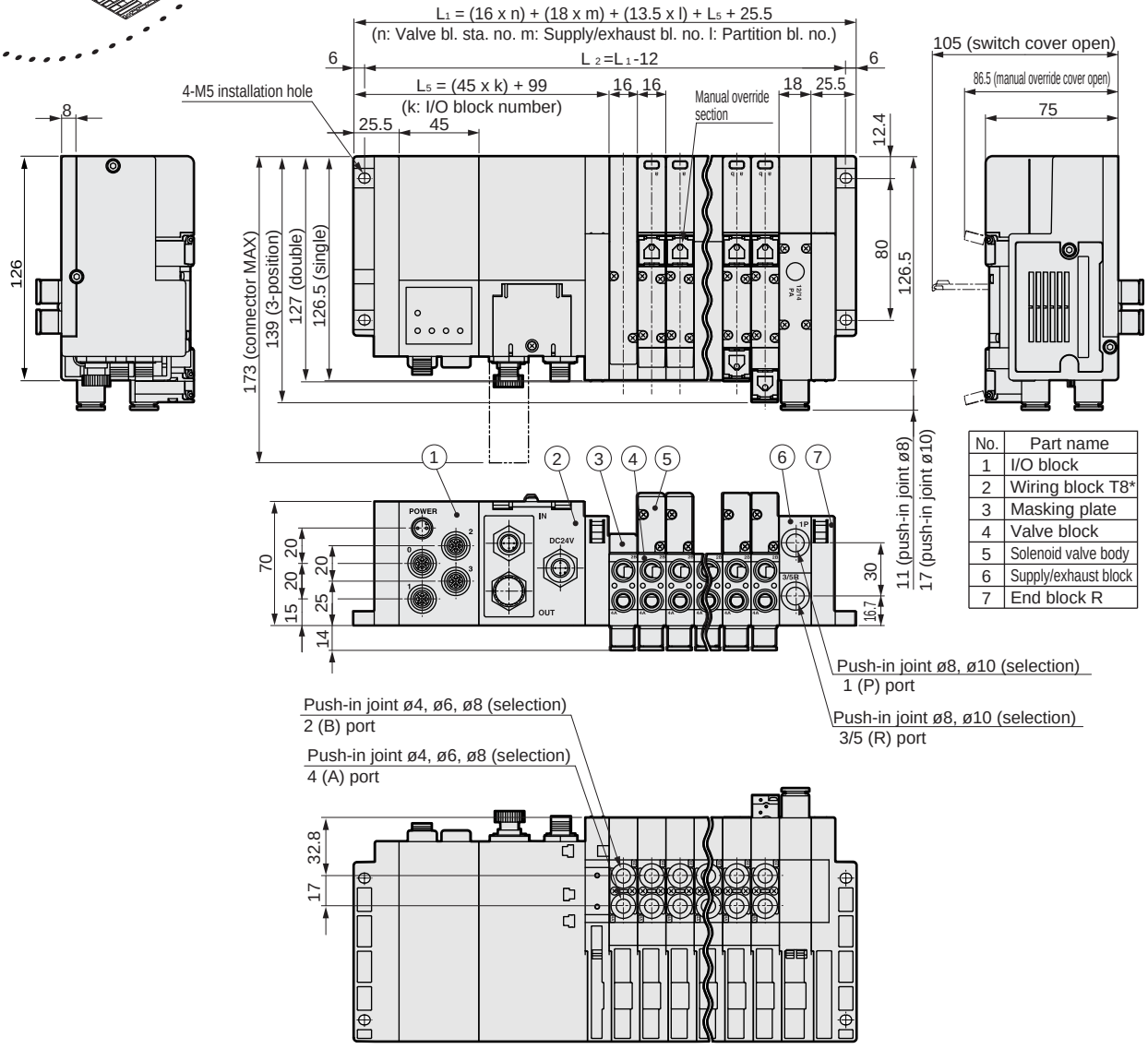


Dimensions CAD

MW4GZ2

● Serial transmission DeviceNet (T8D*) + I/O block

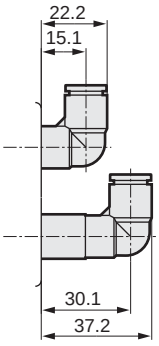




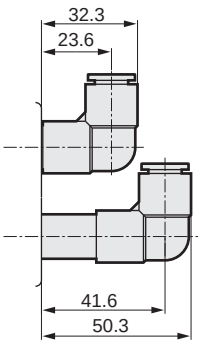
No.	Part name
1	I/O block
2	Wiring block T8*
3	Masking plate
4	Valve block
5	Solenoid valve body
6	Supply/exhaust block
7	End block R

● Push-in joint L type for supply and exhaust block (upward)

● ø8 (CL8)



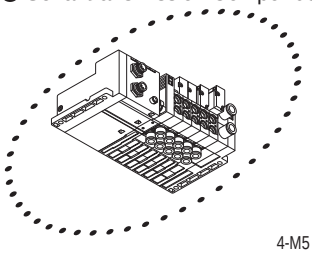
● ø10 (CL10)

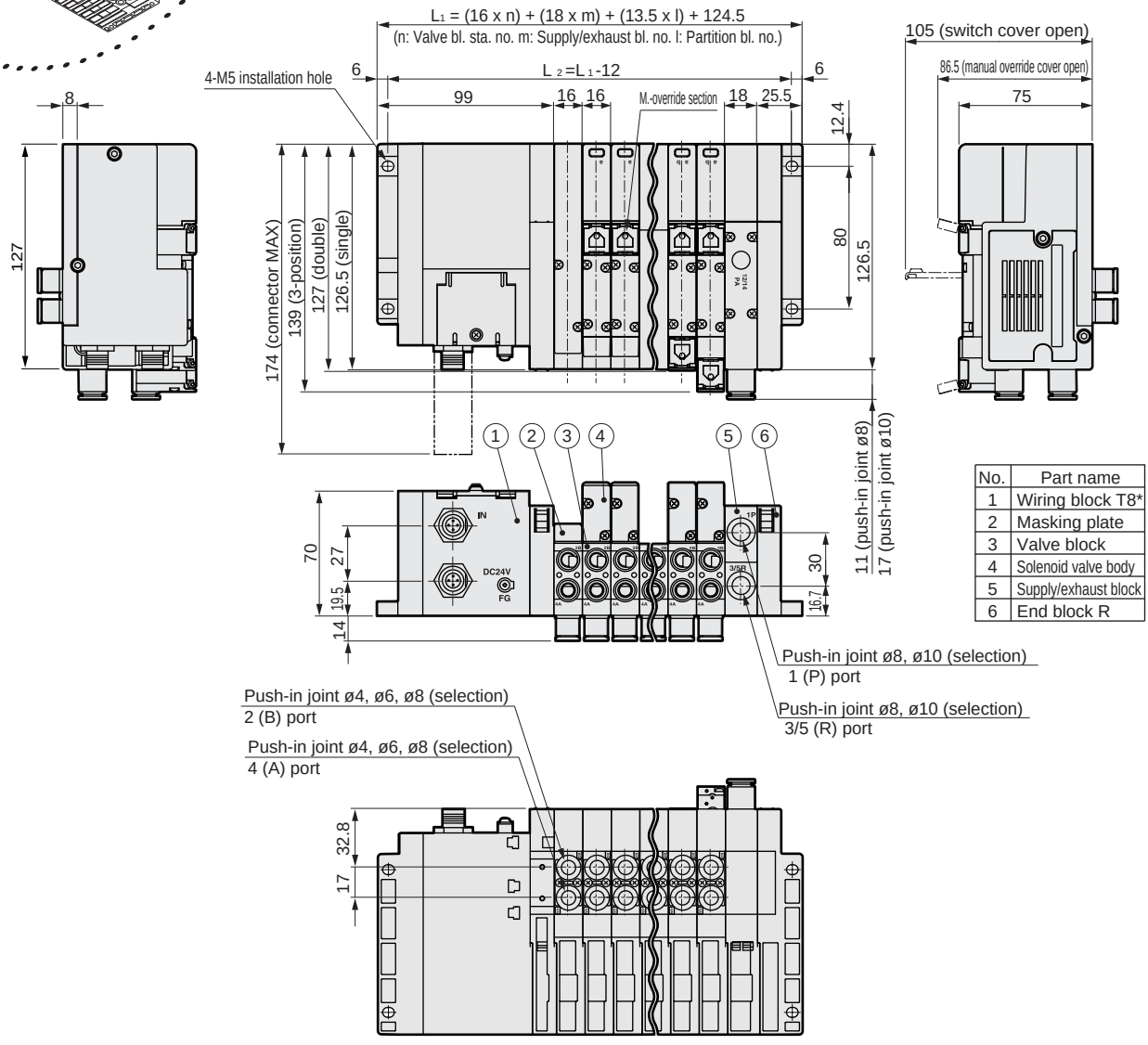


Dimensions

MW4GZ2

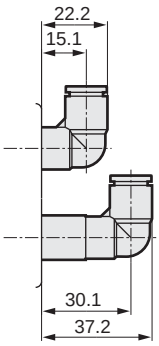
- Serial transmission AS-i (T8M*)
- Serial transmission CompoBus/S (T8C*)

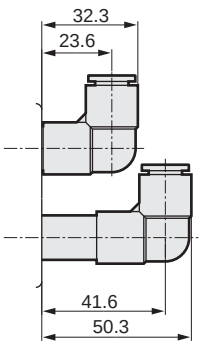




No.	Part name
1	Wiring block T8*
2	Masking plate
3	Valve block
4	Solenoid valve body
5	Supply/exhaust block
6	End block R

- Push-in joint L type for supply and exhaust block (upward)
- ø8 (CL8)
- ø10 (CL10)

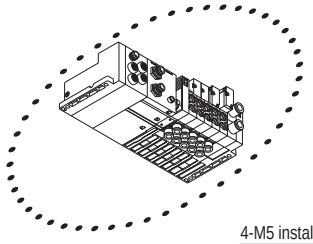


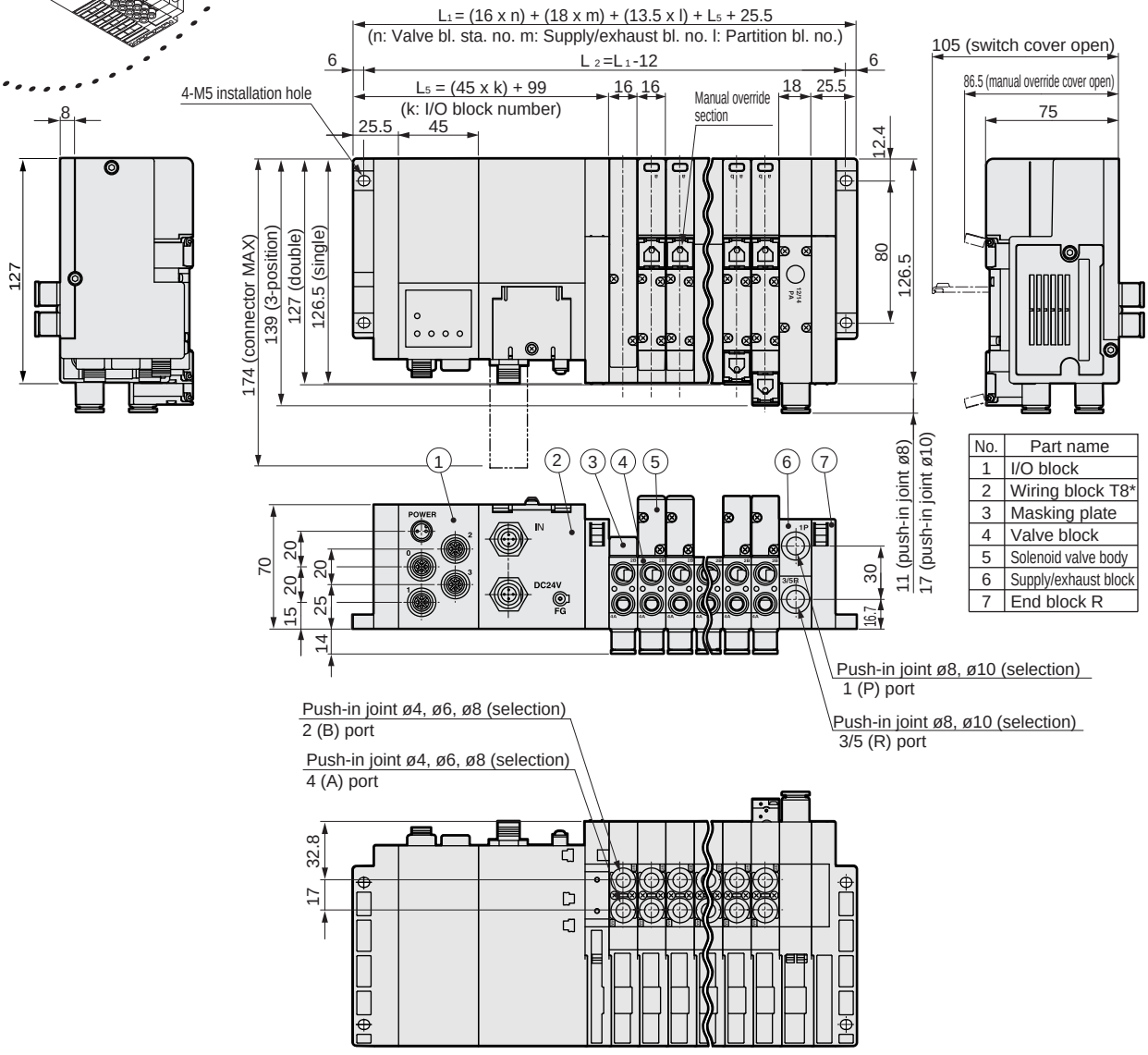


Dimensions CAD

MW4GZ2

- Serial transmission AS-i (T8M*) + I/O block
- Serial transmission CompoBus/S (T8C*) + I/O block

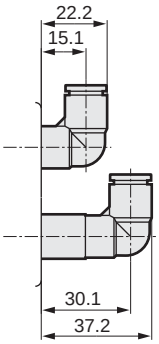




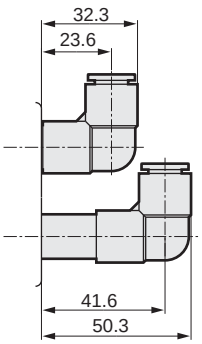
No.	Part name
1	I/O block
2	Wiring block T8*
3	Masking plate
4	Valve block
5	Solenoid valve body
6	Supply/exhaust block
7	End block R

- Push-in joint L type for supply and exhaust block (upward)

- ø8 (CL8)



- ø10 (CL10)



Block manifold: Block configurations

Easily increase or decrease the number of stations and complete maintenance, etc., with simple and free combinations.

● Valve block with solenoid valve

(1) The required types of solenoid valves for the required number of stations can be arranged.
Note that the number of stations is determined based on the wiring method. (Refer to pages 408, 412, 418, 438.)
(2) Solenoid valve numbers are assigned in order of 1, 2, 3, etc., from left facing joints.

● Supply/exhaust block

(1) The required number of blocks can be arranged freely at each block's coupling.
(2) Select an internal or external pilot based on the type of solenoid valve used.
(3) When using various pressure supplies, check the partition section and install.

● End block

(1) Install only on the side opposite the wiring block.

● Partition block

(1) Install with the supply/exhaust block when using different pressure specifications.

● Manifold base

(1) Orders for only the manifold base are also accepted, but the specifications may be limited.
(The manifold specifications are not needed when only the manifold base is ordered.)

● I/O block

(1) Input/output blocks can be laid out for required number of stations.
Note that the number of stations is determined by the number of setting points for the serial transmission slave unit.
(2) The input/output blocks are counted in order as 1, 2, and 3 from the serial transmission slave unit.
(3) When installing both an input block and output block, the output block is arranged on the left side. (With the joint facing forward.)

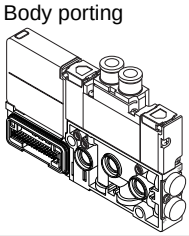
Block manifold configuration

Piping section

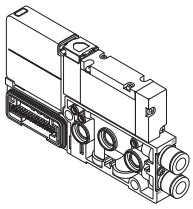
Piping block

Ⓐ Discrete valve block with solenoid valve

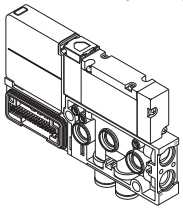
● Body porting



● Sub-base side porting

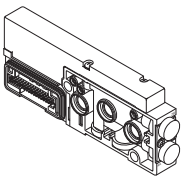


● Sub-base back porting

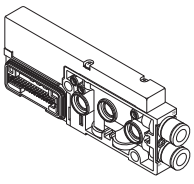


Ⓑ Discrete valve block with masking plate

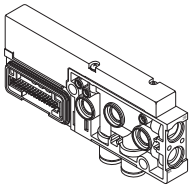
● Body porting



● Sub-base side porting

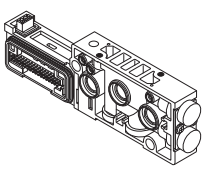


● Sub-base back porting

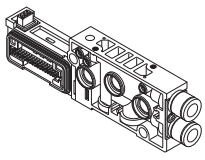


Ⓒ Discrete valve block

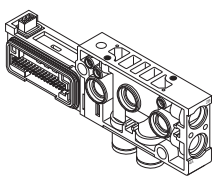
● Body porting



● Sub-base side porting



● Sub-base back porting

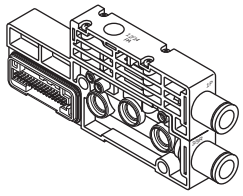
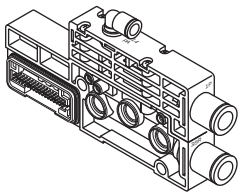
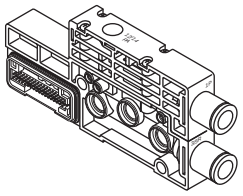


Block manifold configuration

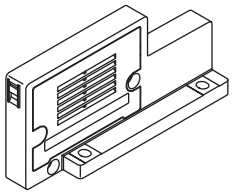
- Piping section
- Wiring section
- Related products

Piping block

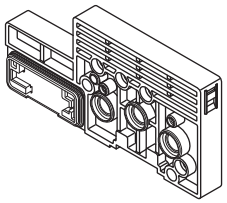
D Supply/exhaust block
- Internal pilot (Q)
- External pilot (QK)
- Multi-pressure (QZ)

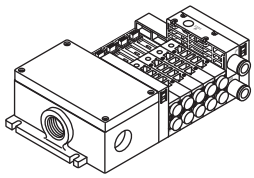
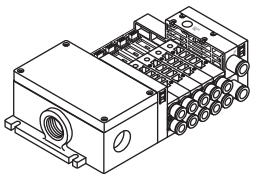
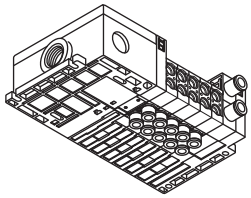
E End block
- Right



F Partition block

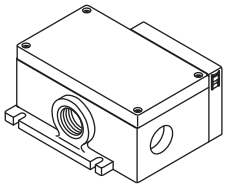


G Manifold base
- Body porting
- Sub-base side porting
- Sub-base back porting

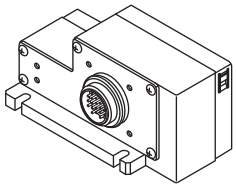




Wiring block

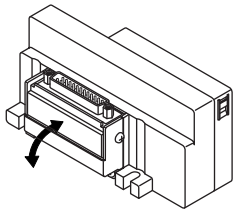
H Common gland block



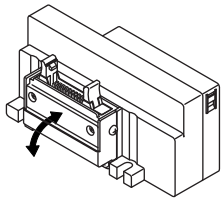
I Multi connector block



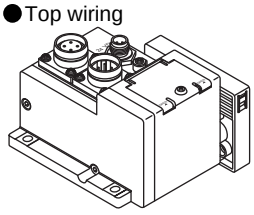
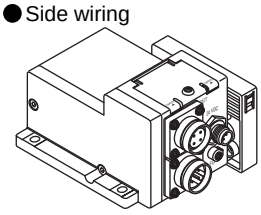
J D sub-connector



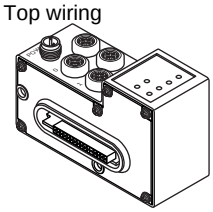
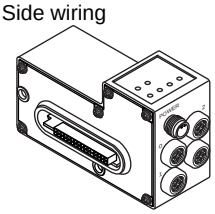
K Flat cable connector



L Serial transmission block
- Top wiring
- Side wiring

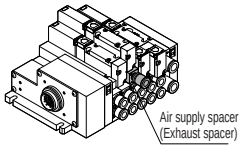
M I/O block
- Top wiring
- Side wiring

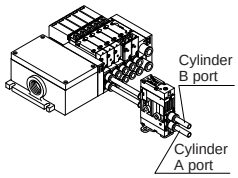



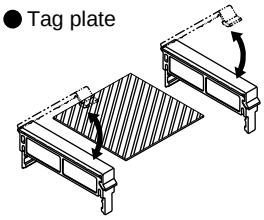
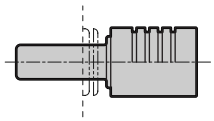
* When preparing the manifold, the end block is mounted on the left side as a standard.

Related products

N Related products
- Air supply spacer / exhaust spacer
- Pilot check valve
- Tag plate
- Silencer

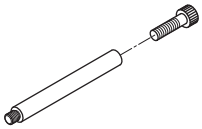
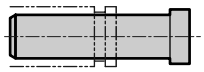
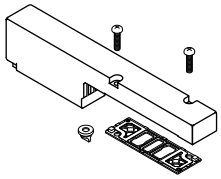
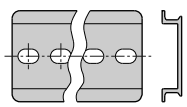




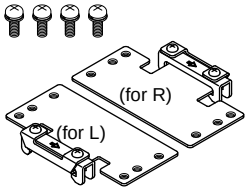



* Refer to page 237 for details.

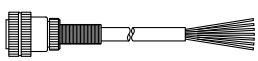
- Tie rod
- Blanking plug
- Masking plate kit
- DIN rail

- DIN rail bracket kit
- Water proof cap
- Water proof plug
- Cable with connector (Wiring method T20)
- Cable with D sub-connector (Wiring method T30)








Piping section

A. Discrete valve block with solenoid valve * Two tie-rods are enclosed when the station expanding type is ordered.

This block is assembled with solenoid valve and valve block (separated resin base).
Refer to pages 409, 413, 422 to 425, 442 to 445 for selection guide.

B. Discrete valve block with masking plate * Two tie-rods are enclosed when the station expanding type is ordered.

NW4GA2 - MP ——— R1
NW4GB2 - MPS - C4 - F
NW4GZ2 - MPD - C4 - F

Model no. Ⓐ Type Ⓑ Port size Ⓒ Electric connection Ⓓ Option

Ⓐ Type (Note 1)	
MP	Individual wiring
MPS	For standard wiring (single)
MPD	For double wiring (single)/ double, 3-position

Note 1: When using an AC voltage, select MPD as the socket assembly uses double solenoid wiring.

Ⓑ Port size (Note 2)	
C4	ø4 push-in joint
C6	ø6 push-in joint
C8	ø8 push-in joint
C4NC	A port / ø4 push-in joint, B port / plug
C4NO	A port / plug, B port / ø4 push-in joint
C6NC	A port / ø6 push-in joint, B port / plug
C6NO	A port / plug, B port / ø6 push-in joint
C8NC	A port / ø8 push-in joint, B port / plug
C8NO	A port / plug, B port / ø8 push-in joint
CL6	ø6 push-in joint upward
CL8	ø8 push-in joint upward
CL6NC	A port / ø6 push-in joint upward, B port / plug
CL6NO	A port / plug, B port / ø6 push-in joint upward
CL8NC	A port / ø8 push-in joint upward, B port / plug
CL8NO	A port / plug, B port / ø8 push-in joint upward

Note 2: The port size refers to the A/B port size.
The A or B port plug specifications (*NC/NO) are available only for the 2-position single type.
The CL* push-in joint L type (upward) is available only for the 2-position single and double types.
The A port is a long elbow joint, and the B port is a short elbow joint.
A short elbow joint is used when CL*NC/NO is designated.

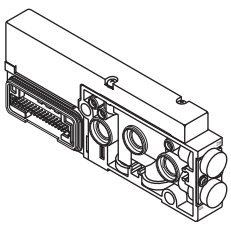
Ⓒ Electric connection (Note 3)	
Blank	Connector relay circuit board specifications for DC
R1	I/O connector (M12) (500 mm)
2 to 8	Select the AC cable length from page 471.

Note 3: Designate Blank when selecting a DC voltage, and the length of the socket assembly cable when selecting AC.
When ordering the part with the manifold specifications, the cable length does not need to be filled in.
Double-solenoid wiring is used for the AC socket assembly.

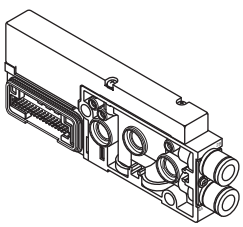
Ⓓ Option	
Blank	No option
F	A/B port filter integrated

<DC>

NW4GA2-MPS

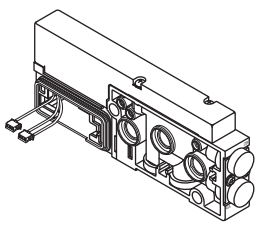


NW4GB2-MPS-C8

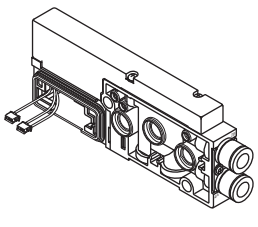


<AC>

NW4GA2-MPD-2



NW4GB2-MPD-C8-2



Piping section

C. Discrete valve block (discrete only) * Two tie-rods are enclosed when the station expanding type is ordered.

NW4GA2 - V ——— R1
NW4GB2 - V1 - C4 - F
NW4GZ2 - V2 - C4 - F

Model no. Ⓐ Type Ⓑ Port size Ⓒ Electric connection Ⓓ Option

Ⓐ Type (Note 1)	
V	Individual wiring
V1	For standard wiring (single)
V2	For double wiring (single)/ double, 3-position

Note 1: When using an AC voltage, select V2 as the socket assembly uses double solenoid wiring.

Ⓑ Port size (Note 2)	
C4	ø4 push-in joint
C6	ø6 push-in joint
C8	ø8 push-in joint
C4NC	A port / ø4 push-in joint, B port / plug
C4NO	A port / plug, B port / ø4 push-in joint
C6NC	A port / ø6 push-in joint, B port / plug
C6NO	A port / plug, B port / ø6 push-in joint
C8NC	A port / ø8 push-in joint, B port / plug
C8NO	A port / plug, B port / ø8 push-in joint
CL6	ø6 push-in joint upward
CL8	ø8 push-in joint upward
CL6NC	A port / ø6 push-in joint upward, B port / plug
CL6NO	A port / plug, B port / ø6 push-in joint upward
CL8NC	A port / ø8 push-in joint upward, B port / plug
CL8NO	A port / plug, B port / ø8 push-in joint upward

Ⓒ Electric connection (Note 3)	
Blank	Connector relay circuit board specifications for DC
R1	I/O connector (M12) (500 mm)
2 to 8	Select the AC cable length from the table below.

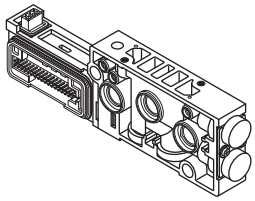
Note 3: Designate Blank when selecting a DC voltage, and the length of the socket assembly cable when selecting AC.
Double-solenoid wiring is used for the AC socket assembly.

Ⓓ Option	
Blank	No option
F	A/B port filter integrated

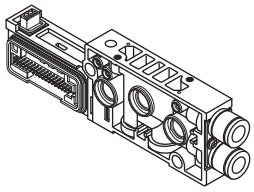
Note 2: The port size refers to the A/B port size.
The A or B port plug specifications (*NC/NO) are available only for the 2-position single type.
The CL* push-in joint L type (upward) is available only for the 2-position single and double types.
The A port is a long elbow joint, and the B port is a short elbow joint.
A short elbow joint is used when CL*NC/NO is designated.

<DC>

NW4GA2-V1

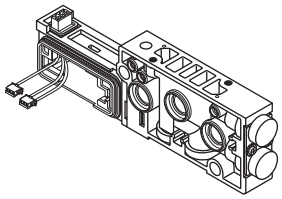


NW4GB2-V1-C8

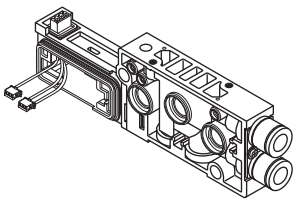


<AC>

NW4GA2-V2-2



NW4GB2-V2-C8-2



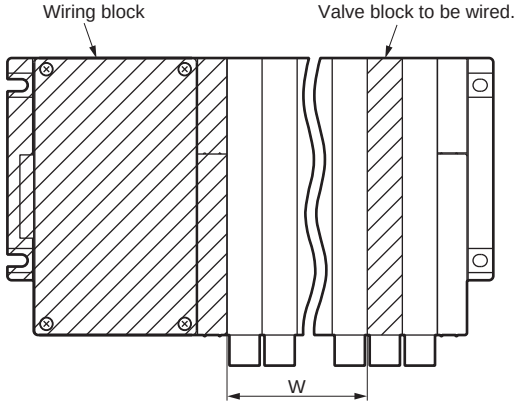
Valve block cable length for AC

If the total length between the supply/exhaust block and partition block between the wired valve block and wiring block is 63 mm or more (example: two supply/exhaust block stations + two partition block stations), calculate the length W, and designate the longer lead wire closest to the calculated value.
W = (23.5 x n) + (18 x m) + (13.5 x l) + 230
n: Valve block no. m: Supply/exhaust block no. l: Partition block no.

Consult with CKD if W is longer than 610 mm.

Selection no.	Cable length
2	For socket assembly 1 to 2 stations (cable length 290 mm), AC
3	For socket assembly 3 to 4 stations (cable length 330 mm), AC
4	For socket assembly 5 to 6 stations (cable length 380 mm), AC
5	For socket assembly 7 to 8 stations (cable length 430 mm), AC
6	For socket assembly 9 to 10 stations (cable length 480 mm), AC
7	For socket assembly 11 to 14 stations (cable length 530 mm), AC
8	For socket assembly 15 to 18 stations (cable length 610 mm), AC

Fig.1



Piping section

Problems could arise depending on the structure, so the function of each block should be studied in detail before making a selection.

D. Supply/exhaust block * Two tie-rods are enclosed when the station expanding type is ordered.

The supply/exhaust block can be installed at any location next to the valve block.
The number of units is not limited. Install two or more units if combination with a partition block is required, or when the supply/exhaust rate must be increased.
A filter is incorporated in port P to prevent the entry of foreign matter.

NW4G2 - Q - 8 X - SA - ○

Model no. Ⓐ Type Ⓑ Port size Ⓒ Exhaust method Ⓓ Option (Partition type) Ⓔ Voltage

Ⓐ Type (Note 1)		Ⓑ Port size (P/R port) (Note 2)		Ⓒ Exhaust method (Note 3)		Ⓓ Option (partition type) (Note 4)		Ⓔ Voltage	
Q	Internal pilot	**8**	ø8 push-in joint	**Blank**	Common exhaust	**Blank**	Without partition	**Blank**	DC connector relay PCB specifications
QK	External pilot	**8L**	ø8 push-in joint upward	**X**	Atmospheric release	**SA**	P/R/PA/PR stop	**AC**	Without AC connector relay circuit board
QZ	Multi-pressure circuit	**10**	ø10 push-in joint			**S**	P/R stop, PA/PR through		
QKZ	External pilot (PA/PR separate)	**10L**	ø10 push-in joint upward						

Note 1: QZ cannot be used as an independent part.
Use together with another type (Q, QK, QKZ).

Note 2: A filter for preventing entry of foreign matter is used in the P port.

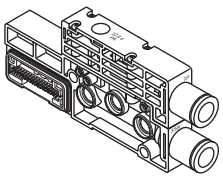
Note 3: The atmosphere release type (X) is exhausted from the end block.
When designating X, set the atmosphere release type (EX) for the end block.

Note 4: Indicate this when setting a partition for the supply/exhaust port.
When using a mixed manifold for various pressure supplies, etc., space can be saved in the station direction.
Designate the set position in the manifold specifications so that the left side of the supply/exhaust block comes to the partition side, and the right side comes to the supply/exhaust side.

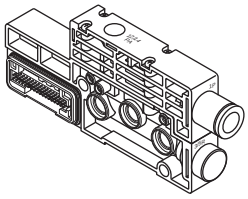
Note 5: Select "AC" when using the individual wiring manifold because the DC connector relay PCB is not required.
Use is also possible with "Blank".

<DC>

NW4G2-Q-10

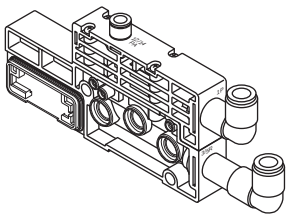


NW4G2-Q-10X

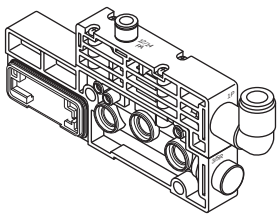


<AC>

NW4G2-QK-10L-AC



NW4G2-QK-10LX-AC



* Refer to page 473 for circuit diagram

E. End block

The atmospheric release type has a built-in exhaust muffler.

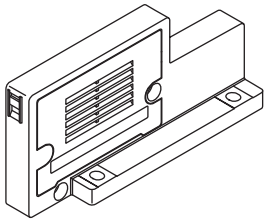
NW4G2 - ER

Model no. Ⓐ Type

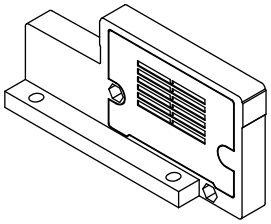
Ⓐ Type (Note 1)	
EL	Common exhaust Left
ER	Common exhaust Right
EXL	Atmospheric release Left
EXR	Atmospheric release Right

Note 1: The atmospheric release type (EX) has a built-in exhaust muffler.

NW4G2-ER



NW4G2-EL



F. Partition block * Two tie-rods are enclosed when the station expanding type is ordered.

NW4G2 - SA - ○

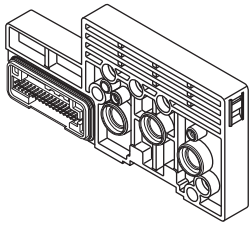
Model no. Ⓐ Type Ⓑ Voltage

Ⓐ Type (Note 1)		Ⓑ Voltage	
SA	P/R/PA/PR stop	**Blank**	DC connector relay PCB specifications
S	P/R stop, PA/PR through	**AC**	Without AC connector relay circuit board

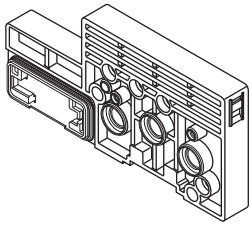
Note 1: With blocks other than SA, the pilot pressure PA, PR passage is not sealed.
Pay attention to this when configuring the system.

Note 2: Select "AC" when using the individual wiring manifold because the DC connecter relay PCB is not required.
Use is also possible with "Blank".

(For DC)
NW4G2-S

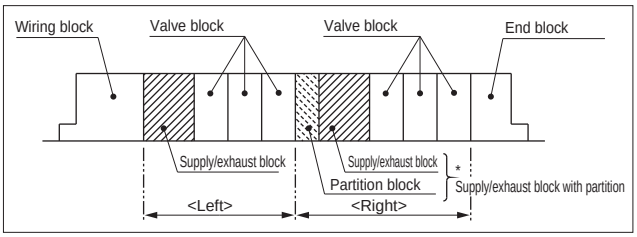


(For AC)
NW4G2-S-AC



Piping section

● Precautions for configuring manifold



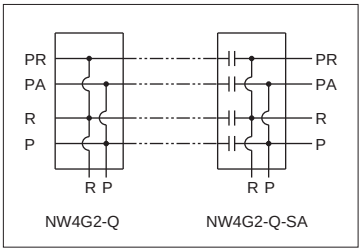
· The difference in internal pilot or external pilot type is determined by the supply/exhaust block selection. The valve block is the same.
· Various supply pressures, etc., can be mixed by combining the partition block and supply/exhaust block.
· Space in the MF station direction can be reduced by using a supply/exhaust block with partitions which congregate the partition and supply/exhaust functions in the same block.
· The supply/exhaust block with partition must be installed so that the left side comes to the partition side and the right side comes to the supply/exhaust side with the piping port facing forward.

● System configuration with block combination

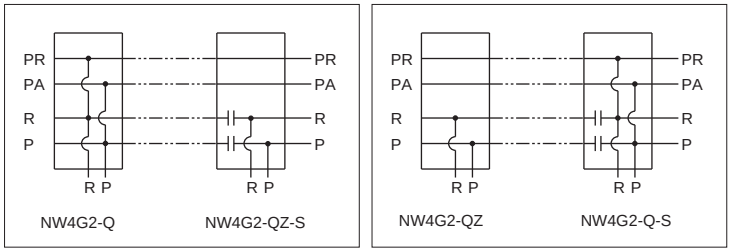
· Various pneumatic systems can be configured by selecting and combining the partition block and supply/exhaust block or supply/exhaust block with partition.
Faults may occur depending on the configuration, so sufficiently understand the function of each block before selecting.
· A configuration example is shown below for reference. (This configuration example uses a supply/exhaust block with partition.)

Example of configuration for internal pilot (circuit symbol)

(1) When there are two types of supply pressure within the working pressure range (0.2 to 0.7 MPa)



(2) When supply pressure is within working pressure range (0.2 to 0.7 MPa) and low pressure (0.2 MPa or less) or low vacuum

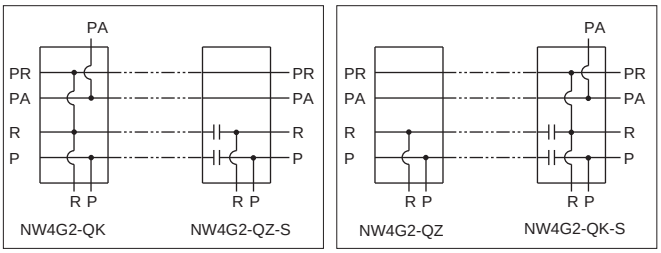


* QZ side is low pressure or low vacuum circuit side.
* When using the low vacuum circuit, the R port is the vacuum side and the P port is atmospheric or pressurized.

Example of configuration for external pilot (circuit symbol)

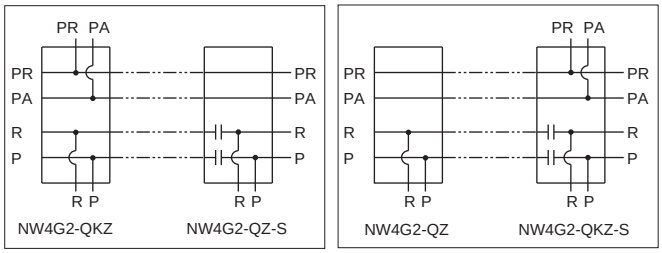
* 0.2 to 0.7 MPa supply pressure must be applied on pilot air supply port (PA).

(3) When supply pressure is low pressure (0.2 MPa or less) and low vacuum



* QK side is low pressure circuit side and QZ side is low vacuum circuit side.
* When using the low vacuum circuit, the R port is the vacuum side and the P port is atmospheric or pressurized.

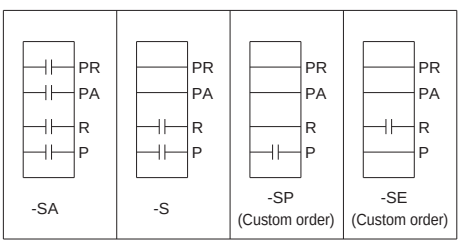
(4) When supply pressure is two types of low vacuum



* When using the low vacuum circuit, the R port is the vacuum side and the P port is atmospheric or pressurized.

● Partition specifications (partition block, supply/exhaust block with partition)

* Contact CKD for non-standard specifications (Such as -SP, -SE).



Piping section

G. Manifold base

Orders for only the manifold base are also accepted. But the specifications may be limited.
(The manifold specifications are not needed when only the manifold base is ordered.)

Body porting: **MW4GA2** —— **10 ○ U - R1 ○ ○ - 5 - 3**

Sub-base side porting: **MW4GB2 - C8 - 10 ○ U - T10 W ○ - 5 - 3**

Sub-base back porting: **MW4GZ2 - C8 - 10 ○ U - T10 W ○ - 5 - 3**

Model no. Ⓐ A/B port size; Ⓒ Exhaust method; Ⓑ P/R port size; Ⓓ P/R port supply/exhaust position; Ⓔ Wiring method; Ⓕ Terminal connector pin array; Ⓖ Option; Ⓗ Station number; Ⓘ Voltage

Ⓐ A/B port size		Ⓑ P/R port size		Ⓒ Exhaust method		Ⓓ P/R port supply/exhaust position	
C4	ø4 push-in joint	**8**	ø8 push-in joint	**Blank**	Common exhaust	**D**	Left
C6	ø6 push-in joint	**8L**	ø8 push-in joint L type (upward)	**X**	Atmospheric release	**U**	Right
C8	ø8 push-in joint	**10**	ø10 push-in joint				
		10L	ø10 push-in joint L type (upward)				

Ⓔ Wiring method (Light and surge suppressor standard)			Ⓕ Terminal connector pin array	
R1	Individual wiring I/O cable outlet		**W**	Double wiring Note 2, 3
T10	Common gland (M3 screw) Left			
T20	Multi-connector Left Note 1			
T30	D sub-connector Left Note 1			
T51	20 pins flat cable connector (Without power supply terminal) Left Note 1			
T53	26 pins flat cable connector (Without power supply terminal) Left Note 1			
T8G1	Serial transmission CC-Link	16 points output		
T8G2		32 points output		
T8G7		16 points input / 16 points output		
T8C1	Serial transmission CompoBus/S	16 points output		
T8C6		8 points input / 8 points output		
T8D1	Serial transmission DeviceNet	16 points output		
T8D2		32 points output		
T8D7		16 points input / 16 points output		
T8MA	Serial transmission AS-i	4 points input / 4 points output		
T8M6		8 points input / 8 points output		

Note 2: All double solenoid wiring. Note that only double wiring specifications are available for T20 (multi-connector) so W does not need to be designated.

Note 3: Double wiring specifications are used for the individual wiring (R1), so W does not need to be designated.

Note 1: 100VAC setting is not available for multi-connector connection specifications.
100 VAC and 12 VDC settings are not available for the serial transmission connection specifications.

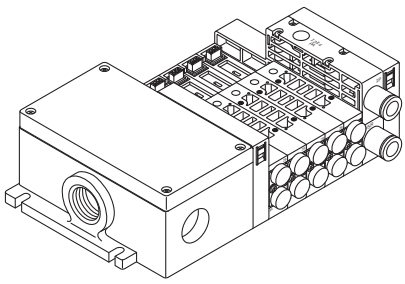
Ⓖ Option Note 4		Ⓗ Station number Note 6		Ⓘ Voltage	
Blank	No option	**2**	2 stations	**1**	100 VAC (rectified bridge integrated)
K	External pilot	**to**	to	**3**	24 VDC
F	A/B port filter integrated Note 5	**9**	9 stations	**4**	12 VDC

Note 4: The input/output block setting is not available.

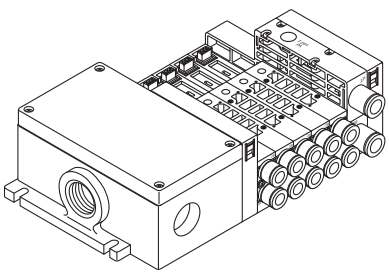
Note 5: A filter is used in the P port.

Note 6: Differs with the reduced wiring connection specifications. Refer to pages 408, 412, 418, 438.

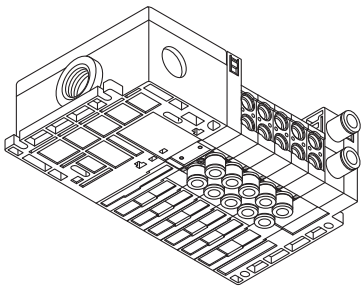
MW4GA2 (body porting)



MW4GB2 (sub-base side porting)



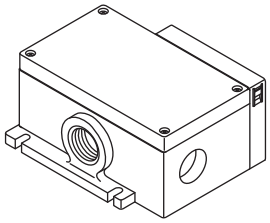
MW4GZ2 (sub-base back porting)



Wiring section (Wiring block) * Discrete wiring block can not be ordered.

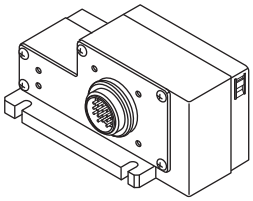
H. Common gland block (T10)

NW4G2-T10



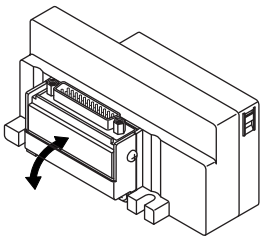
I. Multi connector block (T20)

NW4G2-T20



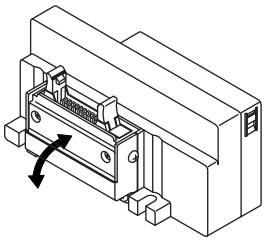
J. D sub-connector (T30)

NW4G2-T30



K. Flat cable connector (T5*)

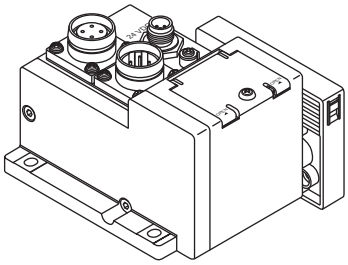
NW4G2-T5*



L. Serial transmission block (When ordering a manifold and combining it with an input/output block, the end block is equipped on the left side of the input/output block as a standard.)

● CC-Link (T8G*)

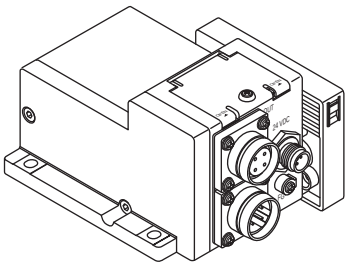
NW4GA2-T8G*



NW4GA2 - T8G1
Ⓐ Type

Ⓐ Type	
T8G1	16 points output
T8G2	32 points output
T8G7	16 points input / 16 points output

NW4GB2-T8G*

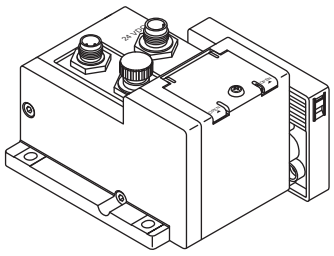


NW4GB2 - T8G1
Ⓐ Type

Ⓐ Type	
T8G1	16 points output
T8G2	32 points output
T8G7	16 points input / 16 points output

● Device Net (T8D*)

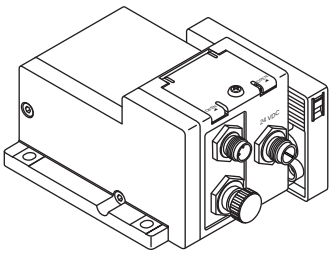
NW4GA2-T8D*



NW4GA2 - T8D1
Ⓐ Type

Ⓐ Type	
T8D1	16 points output
T8D2	32 points output
T8D7	16 points input / 16 points output

NW4GB2-T8D*

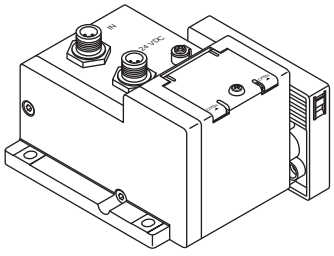


NW4GB2 - T8D1
Ⓐ Type

Ⓐ Type	
T8D1	16 points output
T8D2	32 points output
T8D7	16 points input / 16 points output

● AS-i (T8M*)
● CompoBus/S (T8C*)

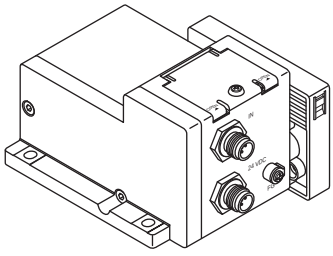
NW4GA2-T8M*
NW4GA2-T8C*



NW4GA2 - T8M6
Ⓐ Type

Ⓐ Type	
T8MA	4 points input / 4 points output
T8M6	8 points input / 8 points output
T8C1	0 point input / 16 points output
T8C6	8 points input / 8 points output

NW4GB2-T8M*
NW4GB2-T8C*



NW4GB2 - T8M6
Ⓐ Type

Ⓐ Type	
T8MA	4 points input / 4 points output
T8M6	8 points input / 8 points output
T8C1	0 point input / 16 points output
T8C6	8 points input / 8 points output

M. I/O block * Two tie-rods are enclosed when the station expanding type is ordered.

Top wiring: **NW4GA2- IN - N - K**

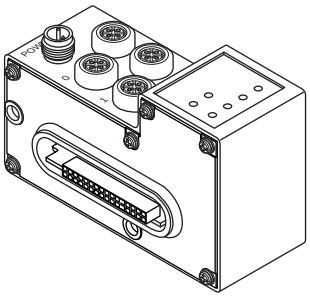
Side wiring: **NW4GB2- OUT - N - B**

Ⓐ I/O code
Ⓑ I/O type
Ⓒ Type of power supply

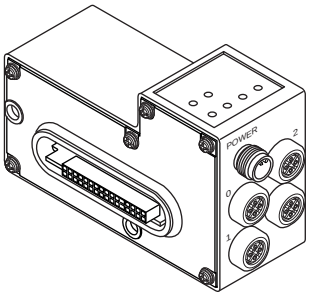
Ⓐ I/O code		Ⓑ I/O type		Ⓒ Type of power supply	
IN	Input	**N**	Sink	**K**	Common with serial transmission slave unit *1, *2
OUT	Output	**P**	Sauce	**B**	External power

*1. Only the external power supply (B) is available for the output block.
*2. A waterproof cap is attached on the power connector as a standard when the (K) Common with serial transmission slave unit is selected.

NW4GA2-$^{IN}_{OUT}$-$^{N}_{P}$-$^{K}_{B}$

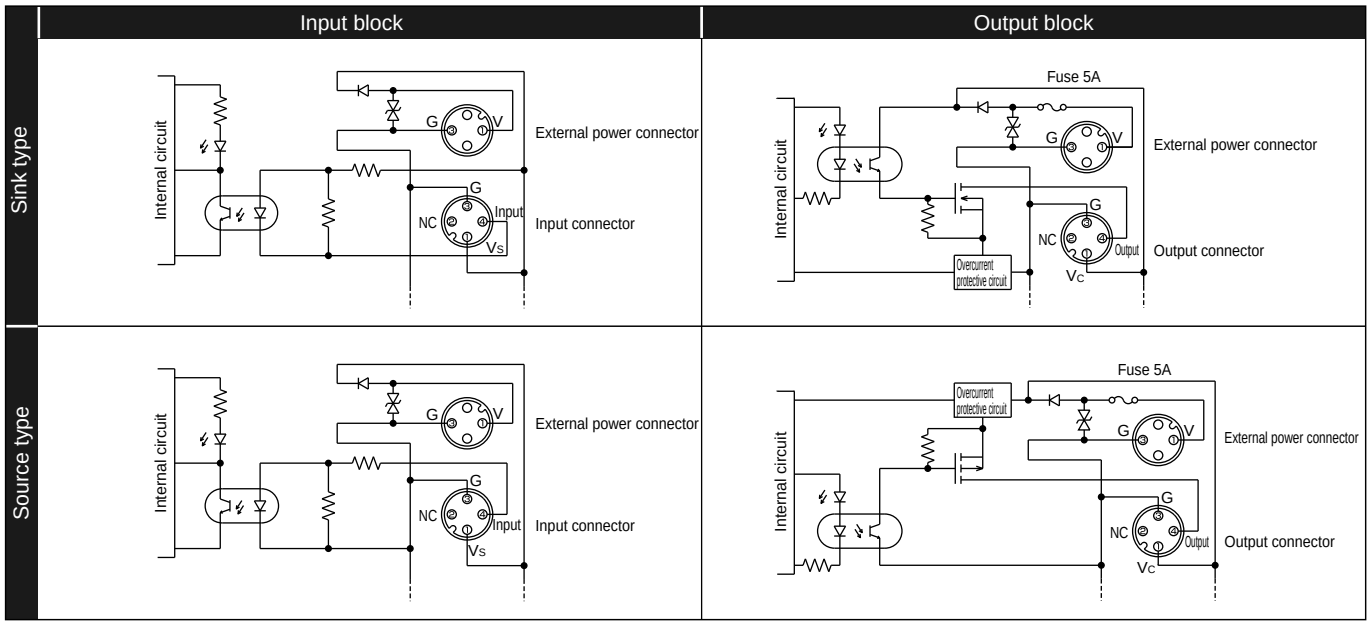


NW4GB2-$^{IN}_{OUT}$-$^{N}_{P}$-$^{K}_{B}$



When ordering a manifold and combining it with an input/output block, the end block is equipped on the left side as a standard.

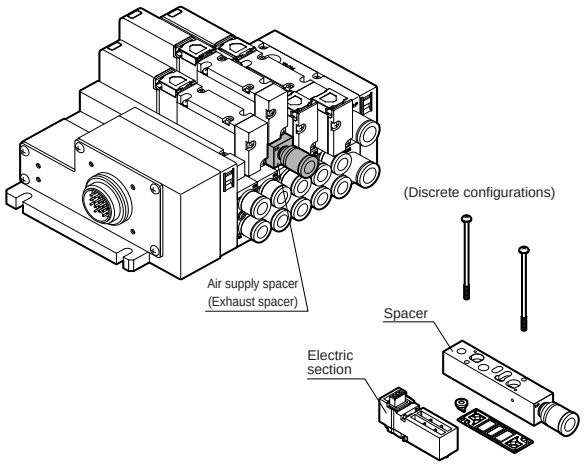
I/O type (simple circuit diagram)



* Refer to page 503 for wiring method.

Related products

● Air supply spacer / Exhaust spacer



Specifications

● Air supply spacer

Model no.	P ⟶ A/B		A/B ⟶ R		Weight g
	C (dm³/ (s·bar))	b	C (dm³/ (s·bar))	b	
W4G2-P-*-*	1.8	0.20	1.6	0.15	60

Note: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.

● Exhaust spacer

Model no.	P ⟶ A/B		A/B ⟶ R		Weight g
	C (dm³/ (s·bar))	b	C (dm³/ (s·bar))	b	
W4G2-R-*-*	1.9	0.20	1.5	0.21	60

Note: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.

● Discrete air supply spacer model no.

W4G2 - P ○ - GWS6

Ⓐ Type
Note 2

Ⓑ Port size

Symbol	Descriptions
Ⓐ Type	
Blank	Internal pilot
K	External pilot

Ⓑ Port size		
	Port size	Descriptions
Blank	Rc1/8	
GWS6	ø6	With GWS6-6-S
GWS8	ø8	With GWS8-6-S

● Discrete exhaust spacer model no.

W4G2 - R - GWS6

Ⓐ Port size

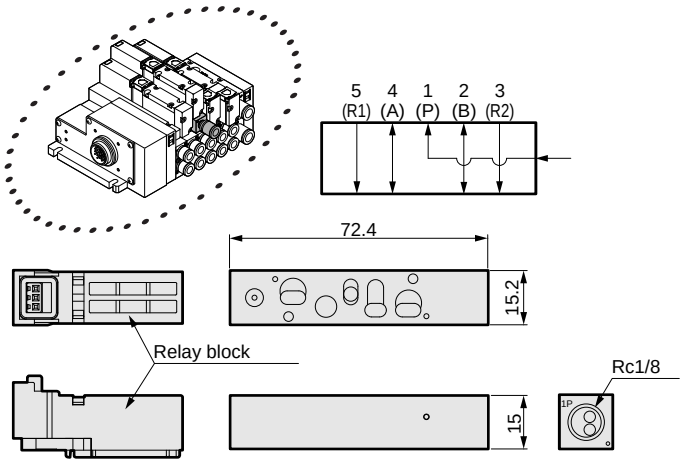
Ⓐ Port size		
	Port size	Descriptions
Blank	Rc1/8	
GWS6	ø6	With GWS6-6-S
GWS8	ø8	With GWS8-6-S
SLW	With silencer (SLW-6S)	

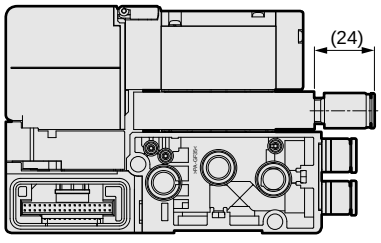
⚠ Note on model no. selection

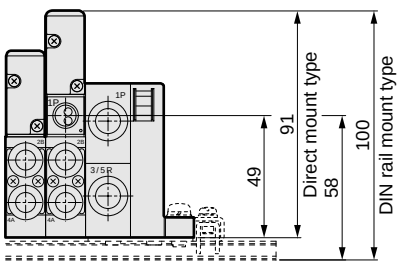
Note 1: When selecting the manifold, indicate the supply spacer mounting location and quantity in manifold specifications (pages 516 to 519).
Note 2: When ordering the external pilot specification (K) manifold, use the external pilot exhaust spacer (W4G2-PK).
Note 3: The supply spacer and exhaust spacer cannot be mounted on the same valve block station in the manifold.

Dimensions

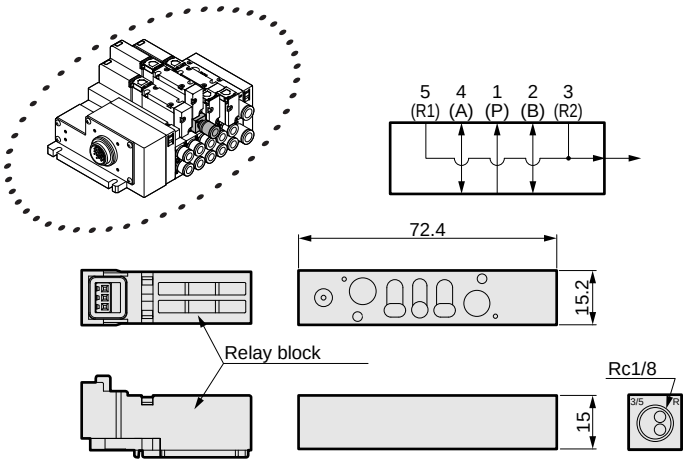
● Air supply spacer

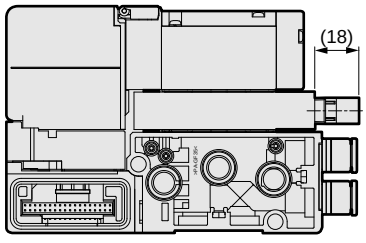


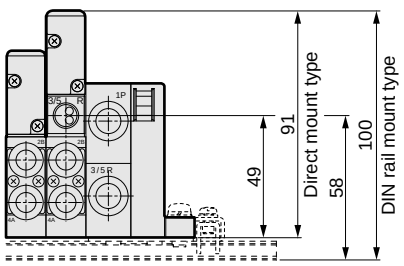




● Exhaust spacer

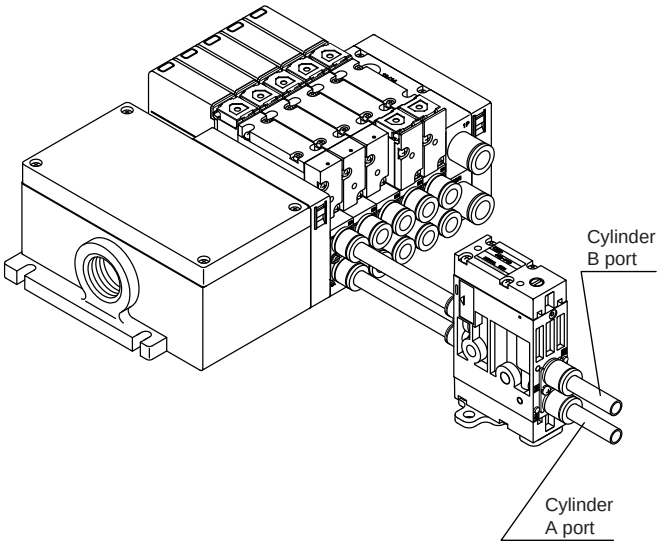






Related products
Pilot check valve, tag plate

● Pilot check valve



* Refer to page 237 "4G series pilot check valve" for details.

Related products

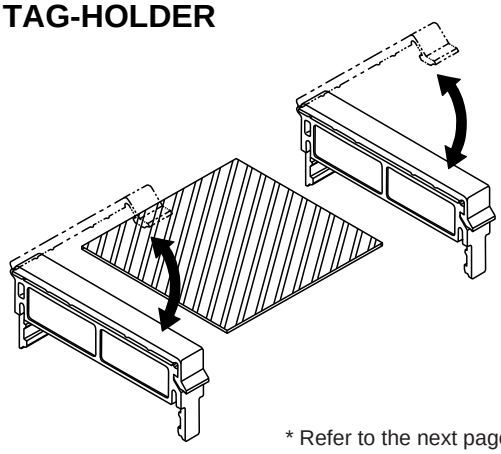
● Tag plate
Attached to manifold body.
If necessary, circle the tag plate column of manifold specifications on pages 516 to 519.

(Tag holder)

N4G2 - TAG-HOLDER

Ⓐ Model no.
N4G2

(2 pcs. set.)



(Tag plate)

N4G2 - TAG-PLATE - Ⓐ - 200

Ⓐ Model no.	Ⓑ Type Note 1		Ⓒ Length (mm) Note 2
N4G2	A	For 4GA2	200
	B	For 4G$^{B}_{Z}$2	300
			400

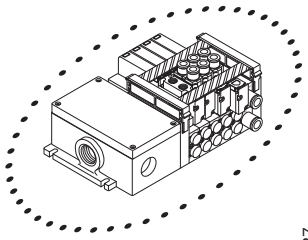
Note 1: Select B for MW4GZ2.
Note 2: Three lengths, 200, 300 and 400 are available for <Length>. Cut the plate to match the product length.
Note 3: The tag plate cannot be attached when the supply (exhaust) spacer is inserted.

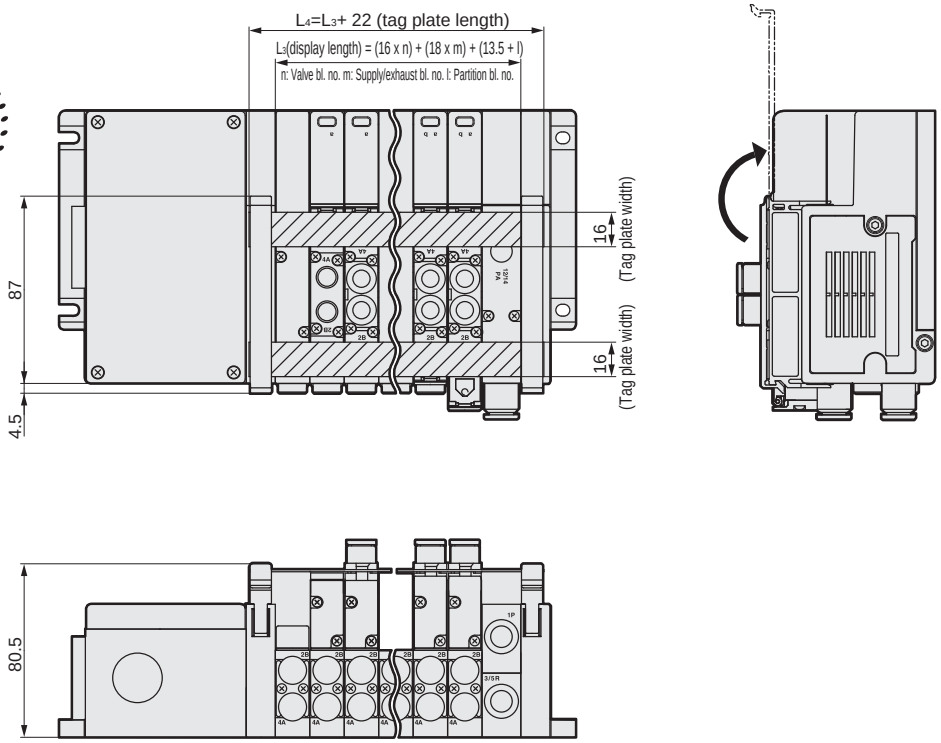
* Refer to the next page for dimensions.

● Tag plate

MW4GA2

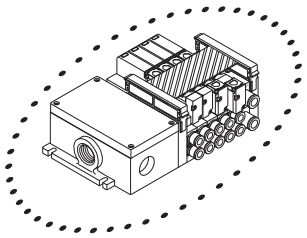
● Tag plate (TAG)

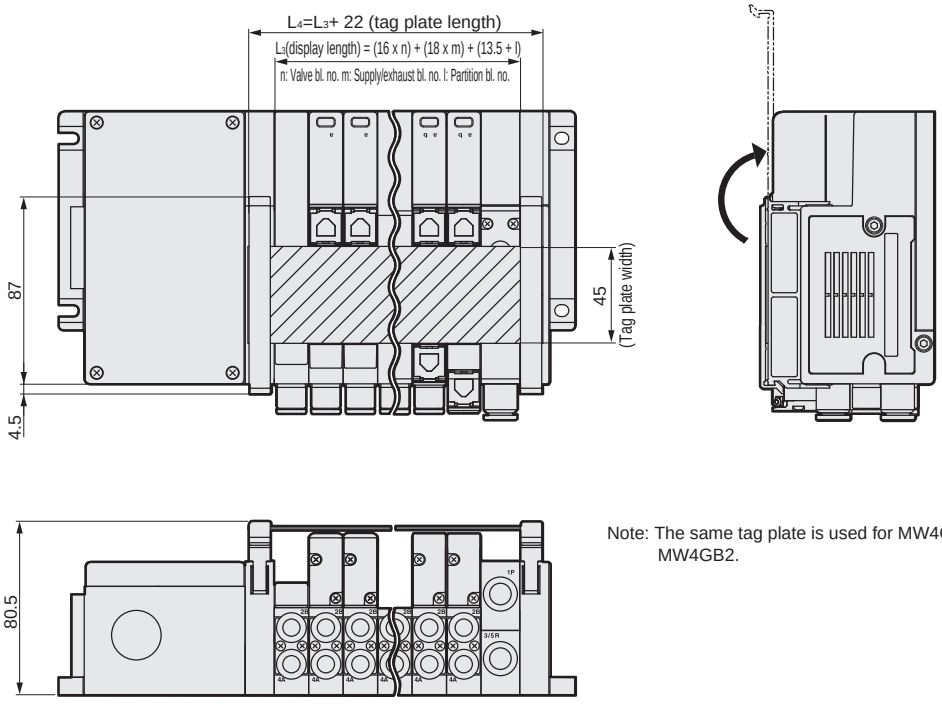




MW4G$^{B}_{Z}$2

● Tag plate (TAG)





Note: The same tag plate is used for MW4GZ2 and MW4GB2.

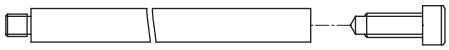
Table 1: Formula of L_3 (length of display section)

L_3 = (16 x n) + (18 x m) + (13.5 x l)
n : Valve block no.
m : Supply and exhaust block no.
l : Partition block no.

Related products

Tie rod, silencer, blanking plug, masking plate kit, DIN rail, DIN rail installation kit

● Tie rod

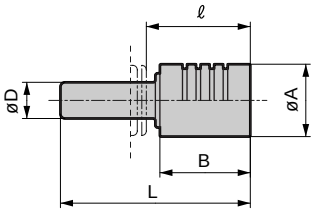


W4G2 - TR - V1

Model no. — Ⓐ Type

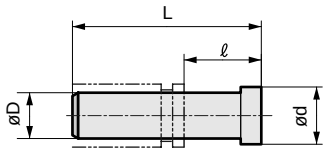
Ⓐ Type	
V1	For 1 station valve block (2 pcs.)
Q	For supply/exhaust block (2 pcs.)
S	For partition block (2 pcs.)
M	For I/O block (2 pcs.)

● Silencer



Model no.	D	B	L	ℓ	A
SLW-H8	ø8	20	42	23	16
SLW-H10	ø10	27	53	34	20

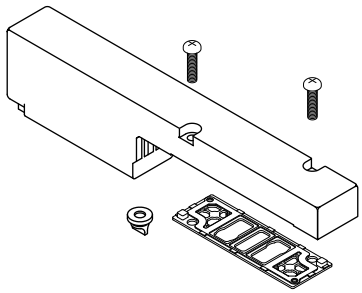
● Blanking plug



Model no.	D	L	ℓ	d
GWP4-B	ø4	27	11	6
GWP6-B	ø6	29	11.5	8
GWP8-B	ø8	33	14	10
GWP10-B	ø10	40	18.5	12

● Masking plate kit

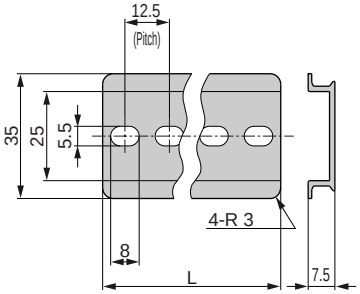
W4G2-MP



* Kit contents: Masking plate, gasket, PR check valve, 2 set screws

● DIN rail

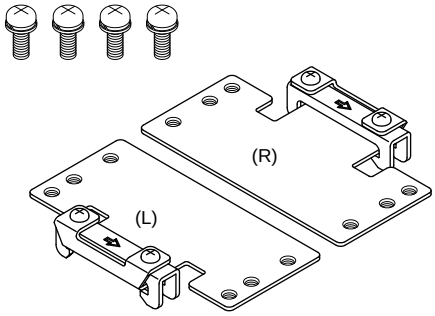
N4G-BAA (length)



* Refer to the calculation equation (Appendix Table) on page 514 and select the DIN rail length.

● DIN rail bracket kit

W4G2-D



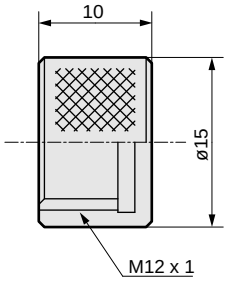
* The DIN rail mounting bracket set contains parts for one manifold set. (Kit contents: Two mounting brackets, four set screws)

Part for I/O block

● Water proof cap

Model no.	Descriptions
W4G-XSZ-11	Use to provide jet-proof protection for the power connector when the power supply is common with the serial transmission slave unit.

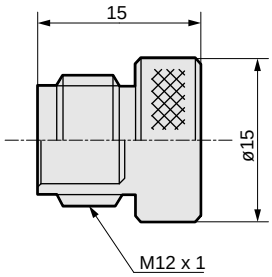
(Reference value)
Tightening torque 0.4 to 0.5 N·m



● Water proof plug

Model no.	Descriptions
W4G-XSZ-12	Use to provide jet-proof protection for idle signal connectors.

(Reference value)
Tightening torque 0.4 to 0.5 N·m



● Multi-connector cable

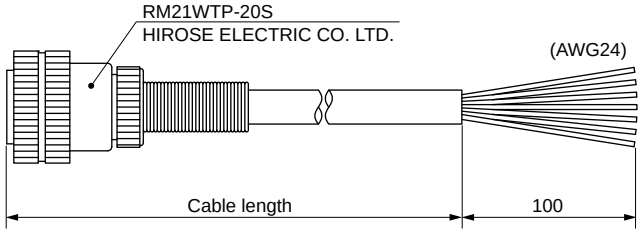
● Cable for multi-connector type (wiring method T20)

(Cable with connector)

W4G - RMC - 3

Model no. Ⓐ Cable length

Ⓐ Cable length	
1	1 m
3	3 m
5	5 m



Relations between terminal No. and conductor

Terminal No.		1	2	3	4	5	6	7	8	9	10
Conductor I.D.	Wire color	White	Brown	Green	Yellow	Gray	Pink	Blue	Red	Black	Purple
	Mark tube No.	1	2	3	4	5	6	7	8	9	10
Terminal No.		11	12	13	14	15	16	17	18	19	20
Conductor I.D.	Wire color	Gray/pink	Red/blue	White/green	Brown/green	White/yellow	Yellow/brown	White/gray	Gray/brown	(None)	(None)
	Mark tube No.	11	12	13	14	15	16	17	18	(None)	(None)

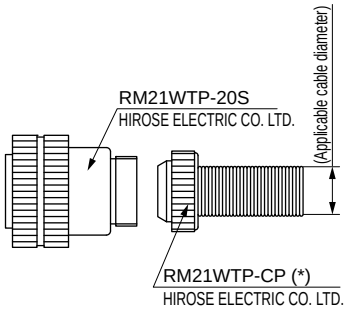
(Only connector)

W4G - RM21WTP - 10

Model no. Ⓐ Applicable cable diameter

Ⓐ Applicable cable diameter	
8	ø8
10	ø10
12	ø12

Note: Depending on the cable type, the applicable cable diameter can affect the clamp force and waterproof properties. Confirm the properties when selecting.

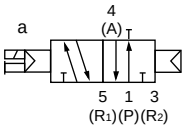


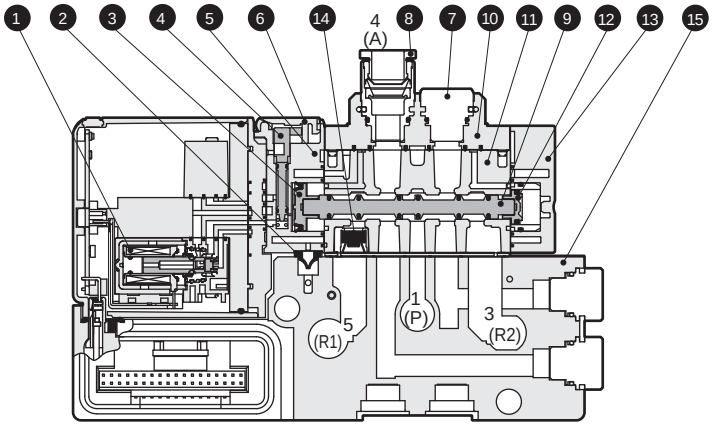
* Refer to pages 504 to 508 for details on the serial transmission slave unit and input/output block connector.

Internal structure and parts list

NW3GA210 (body porting)

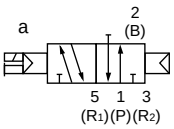
● 2-position single solenoid: Normally closed

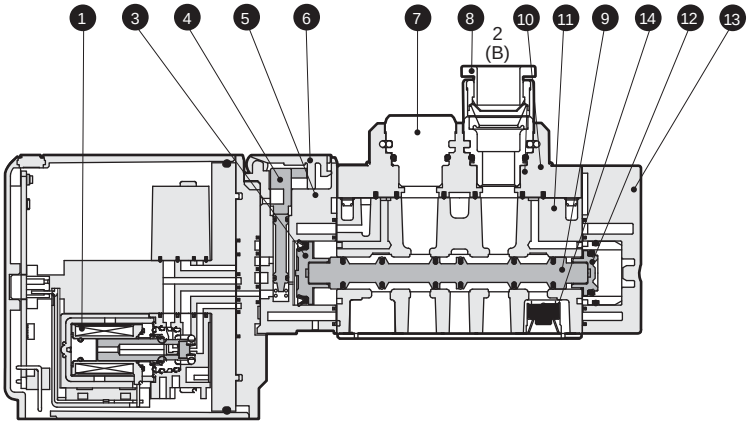




NW3GA2110

● 2-position single solenoid: Normally open





Main parts list

No.	Parts name	Material
1	Coil assembly	-
2	Pilot exhaust check valve	Nitrile rubber
3	Piston D assembly	-
4	Manual override	Resin
5	Piston room	Resin
6	Protective cover of manual override	Resin
7	Plug cartridge	Aluminum
8	Cartridge type push-in joint	-
9	Spool assembly	-
10	Joint adaptor	Resin
11	Body	Aluminum alloy die-casting
12	Piston S assembly	-
13	Cap	Resin
14	Check valve	-
15	Valve block	Resin

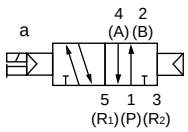
Repair parts list

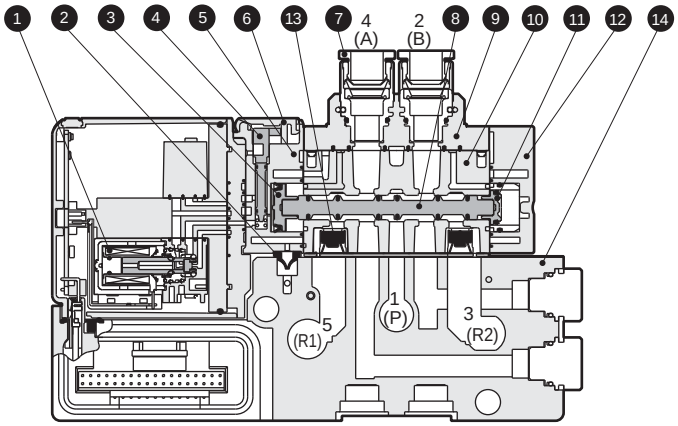
No.	Parts name		Model no.
8	Cartridge type push-in joint and related parts	ø4 axial	4G2-JOINT-C4
		ø6 axial	4G2-JOINT-C6
		ø8 axial	4G2-JOINT-C8
		Plug cartridge	4G2-JOINT-CPG

Internal structure and parts list

NW4GA210 (body porting)

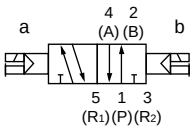
● 2-position single solenoid

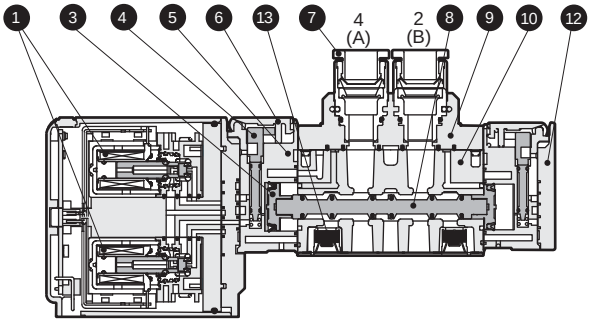




NW4GA220

● 2-position double solenoid

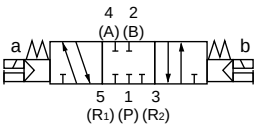




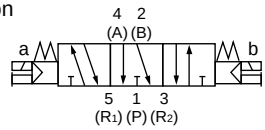
NW4GA2$^{3}_{5}$40

● 3-position

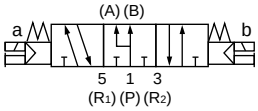
All ports closed

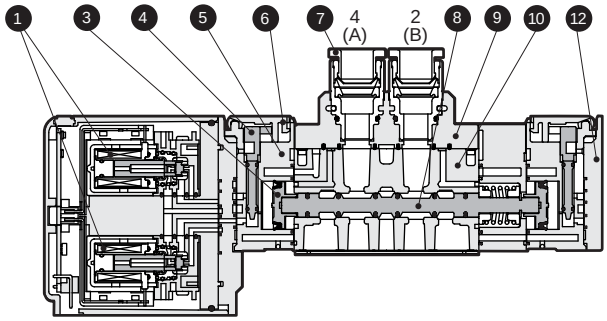


A/B/R connection



P/A/B connection





Main parts list

No.	Parts name	Material
1	Coil assembly	-
2	Pilot exhaust check valve	Nitrile rubber
3	Piston D assembly	-
4	Manual override	Resin
5	Piston room	Resin
6	Protective cover of manual override	Resin
7	Cartridge type push-in joint	-
8	Spool assembly	-
9	Joint adaptor	Resin
10	Body	Aluminum alloy die-casting
11	Piston S assembly	-
12	Cap	Resin
13	Check valve	-
14	Valve block	Resin

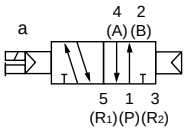
Repair parts list

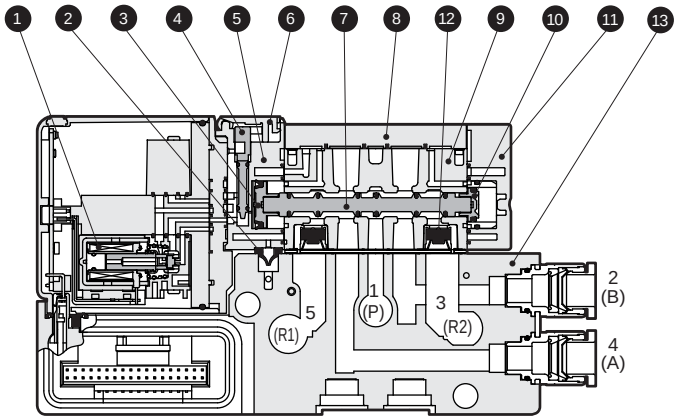
No.	Parts name		Model no.
7	Cartridge type push-in joint and related parts	ø4 axial	4G2-JOINT-C4
		ø6 axial	4G2-JOINT-C6
		ø8 axial	4G2-JOINT-C8
		Plug cartridge	4G2-JOINT-CPG

Internal structure and parts list

NW4GB210 (sub-base side porting)

● 2-position single solenoid

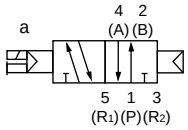


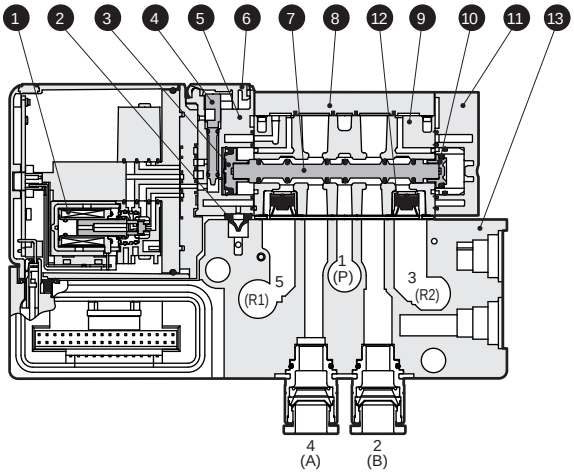


NW4GZ210 (sub-base back porting)

* The solenoid valve is the same as NW4GB210.

● 2-position single solenoid

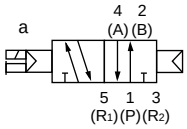


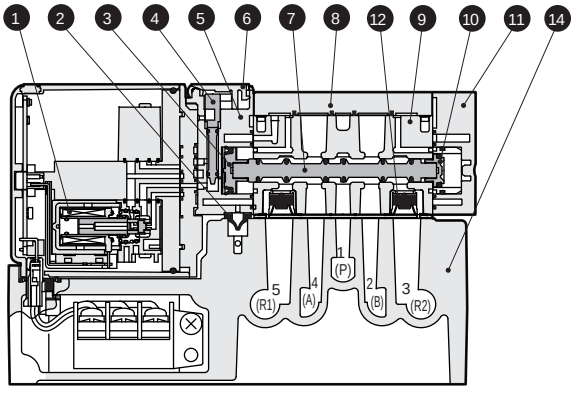


W4GB210 (discrete sub-base porting)

* The solenoid valve is the same as NW4GB210.

● 2-position single solenoid





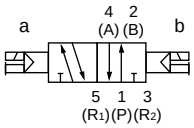
Main parts list

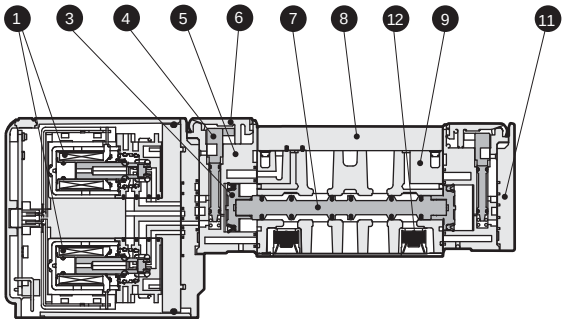
No.	Parts name	Material	No.	Parts name	Material
1	Coil assembly	-	11	Cap	Resin
2	Pilot exhaust check valve	Nitrile rubber	12	Check valve	-
3	Piston D assembly	-	13	Valve block	Resin
4	Manual override	Resin	14	Sub-plate	Aluminum alloy die-casting
5	Piston room	Resin			
6	Protective cover of manual override	Resin			
7	Spool assembly	-			
8	Plate	Resin			
9	Body	Aluminum alloy die-casting			
10	Piston S assembly	-			

Internal structure and parts list

NW4G$^{B}_{Z}$220/W4GB220

● 2-position double solenoid

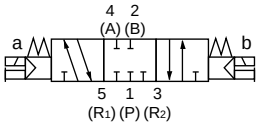




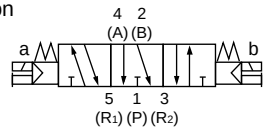
NW4G$^{B}_{Z}$2$^{4}_{5}$^{3}0/W4GB2$^{4}_{5}$^{3}0

● 3-position

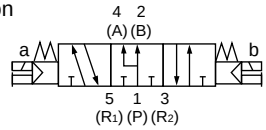
All ports closed

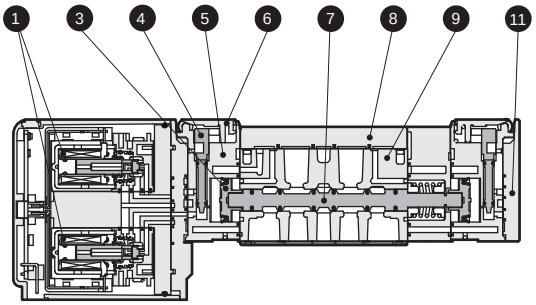


A/B/R connection



P/A/B connection





Main parts list

No.	Parts name	Material	No.	Parts name	Material
1	Coil assembly	-	11	Cap	Resin
2	Pilot exhaust check valve	Nitrile rubber	12	Check valve	-
3	Piston D assembly	-			
4	Manual override	Resin			
5	Piston room	Resin			
6	Protective cover of manual override	Resin			
7	Spool assembly	-			
8	Plate	Resin			
9	Body	Aluminum alloy die-casting			
10	Piston S assembly	-			

Technical data (1) Pneumatic system selection guide

(1) The cylinder's average speed is obtained from combining the 4G Series and piping system. This speed is expressed as the cylinder's piston speed obtained by installing the cylinder's rod facing upward, and dividing the time from when the piston starts moving the stroke by the time that the rod moved. When the load rate is 50%, the average speed should be the approximate cylinder speed multiplied by 0.5.
(2) The average cylinder speed indicated in the pneumatic device selection catalog is the value when one cylinder is operated discretely.
(3) The effective sectional area of the solenoid valve used for the calculation below is the 2-position value.
(4) This selection guide is reference. Check selection with actual conditions using the CKD sizing program.
(5) Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.

Standard system table (check valve integrated)

1. Common exhaust

Valve port size	System No.	Flow control valve	Cylinder piping pipe length 1m	Common exhaust piping	Composite effective sectional area (mm^2)
C4	A1	SC3W-6-4	ø4 x ø2.5	ø8 x ø5.7 x 3 m	1.5
C6	B1	SC3W-6-6	ø6 x ø4	ø8 x ø5.7 x 3 m	2.8
C6	B2	SC1-6	ø6 x ø4	ø8 x ø5.7 x 3 m	4.0
C8	B3	SC1-8	ø8 x ø5.7	ø8 x ø5.7 x 3 m	5.5

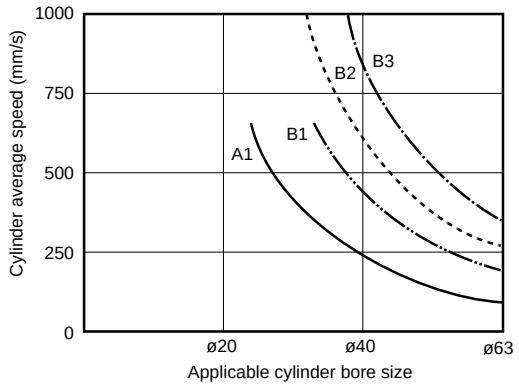
2. Atmospheric release exhaust (integrated muffler)

Valve port size	System No.	Flow control valve	Cylinder piping pipe length 1m	Common exhaust piping	Composite effective sectional area (mm^2)
C4	A2	SC3W-6-4	ø4 x ø2.5	NW4G2-EX	1.6
C6	B4	SC3W-6-6	ø6 x ø4	NW4G2-EX	3.0
C6	B5	SC1-6	ø6 x ø4	NW4G2-EX	4.3
C8	B6	SC1-8	ø8 x ø5.7	NW4G2-EX	6.6

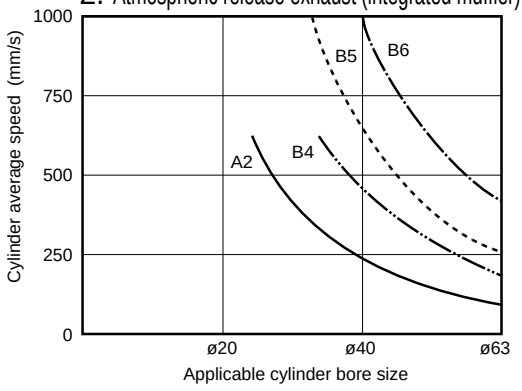
3. Silencer assembly exhaust

Valve port size	System No.	Flow control valve	Cylinder piping pipe length 1m	Common exhaust piping	Composite effective sectional area (mm^2)
C4	A3	SC3W-6-4	ø4 x ø2.5	SLW-H8	1.5
C6	B7	SC3W-6-6	ø6 x ø4	SLW-H8	2.8
C6	B8	SC1-6	ø6 x ø4	SLW-H8	3.8
C8	B9	SC1-8	ø8 x ø5.7	SLW-H10	6.4

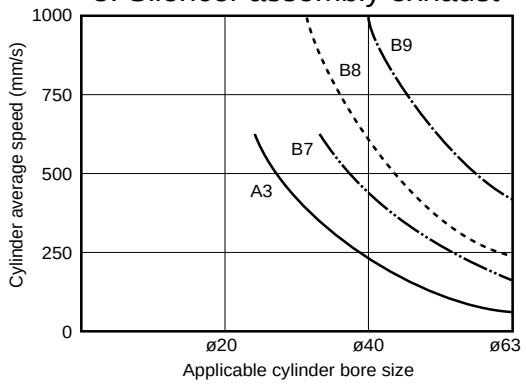
1. Common exhaust



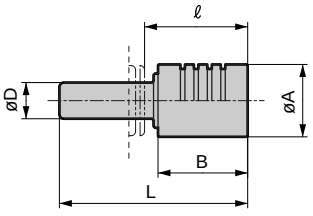
2. Atmospheric release exhaust (integrated muffler)



3. Silencer assembly exhaust



● Silencer



Model no.	D	B	L	ℓ	A
SLW-H8	ø8	20	42	23	16
SLW-H10	ø10	27	53	34	20

How to use guide

The device selection guide is used to select the optimum model.

● Fluid control components selection

Whether the cylinder tube bore size and cylinder being used are moved with relative high or low speed is determined as a condition.
Select the cylinder's theoretical reference speed using the table below as a reference.

Degree of cylinder speed	Theoretical reference speed (mm/s)
Low speed	250
Medium speed	500
High speed	750
Ultra high speed	1,000

Select the standard system No. suitable for the corresponding cylinder tube bore size and theoretical reference speed from the device selection guide 1 table (next page).

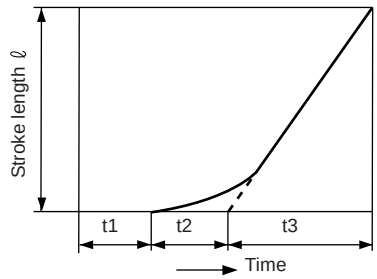
Explanation of technical terms

● Theoretical reference speed: Speed expressed with the following equation below to indicate the cylinder's approximate speed. (This value is approximately the same as the no-load value. When a load is applied, speed drops considerably.)

$$Vo = 1920 \times \frac{S}{A} = 2445 \times \frac{S}{D^2} \quad \text{(1)}$$

Vo: Theoretical reference speed (mm/s)
A: Cylinder cross-section areas (cm^2)
S: The circuit's composite effective sectional area (exhaust side) (mm^2)
D: Cylinder bore size (cm)

When expressed as a graph, the theoretical reference speed is a speed in the range where the cylinder moves at a uniform speed, and



$$Vo = \frac{\ell}{t3} \text{(A/s)}$$

t1: Time until movement starts
t2: Time of primary delay
t3: Time during constant movement
ℓ: Stroke length

● Note: t1 and t2 vary with the load.
It can be neglected when there is no load.

● Required flow rate: Momentary flow rate that passes when the cylinder operates at vo speed, is expressed by the equation below. In the table, this is the value when P equals 0.5 MPa. The required flow rate is the value required for selecting the clean air system.

$$Q = \frac{A\ vo\ (P + 0.101) \times 60}{0.101 \times 10^4} = \left\{\frac{A\ vo\ (P + 1.03) \times 60}{1.03 \times 10^4}\right\} \quad \text{(2)}$$

Q: required flow (RX) (ANR)
P: Supply pressure (MPa)

● Required effective sectional area: Composite effective sectional area for the exhaust circuit required for moving the cylinder at vo speed. (Composite effective sectional area of valve, speed controller, silencer and piping.)

● Applicable standard system: A combination of the optimum solenoid valve, speed controller, silencer, and pipe diameter required to operate the cylinder at vo speed. The combination in the table is for a piping length of approx. 1 m.

How to calculate flow

Shown as followings depending on the practical unit

Chalk flow when $\frac{P_2 + 0.1}{P_1 + 0.1} \leqq b$

$$Q = 600 \times C\ (P_1 + 0.1) \sqrt{\frac{293}{273 + t}} \quad \text{(1)}$$

Subsonic flow when $\frac{P_2 + 0.1}{P_1 + 0.1} > b$

$$Q = 600 \times C\ (P_1 + 0.1) \sqrt{1 - \left[\frac{\frac{P_2 + 0.1}{P_1 + 0.1} - b}{1 - b}\right]^2} \sqrt{\frac{293}{273 + t}} \quad \text{(2)}$$

Q : Air flow rate [dm^3/min. (ANR)], SI unit dm^3 (cubic decimeter) can be expressed with ℓ (liter)1dm^3 = 1 ℓ
C : Sonic conductance (dm^3/ (s·bar))
b : Critical pressure percent (-)
P_1 : Primary side pressure (MPa)
P_2 : Secondary side pressure (MPa)
t : Temperature (°C)

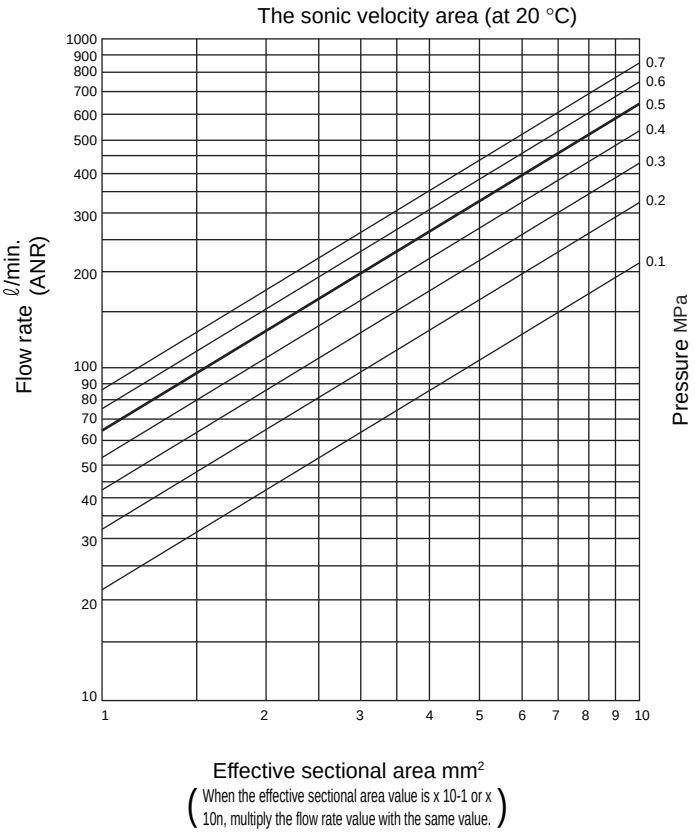
To calculate effective sectional area S, substitute value C obtained with C = S / 5 in the above formula.
For the subsonic flow, substitute b = 0.5 in equation (2).

<Component selection guide - 1>

Cylinder inner diameter (mm)	Theoretical criteria speed (mm/s)	Required flow (lmin.) (ANR)	Required effective sectional area (mm^2)	Proper standard system No.		
				1. Common exhaust	2. Atmospheric release exhaust	3. Silencer assembly exhaust
ø6	(500)	-	(0.1)	A1	A2	A3
ø10	(500)	-	(0.2)	A1	A2	A3
ø16	(500)	-	(0.5)	A1	A2	A3
ø20	250	29	0.5	A1	A2	A3
	400	46	1.6	B1	A2	B7
ø25	250	44	0.8	A1	A2	A3
	400	70	1.9	B1	B4	B7
ø30	250	64	1.1	A1	A2	A3
	400	100	2.8	B2	B4	B7
ø32	250	73	1.3	A1	A2	A3
	400	120	3.1	B2	B5	B8
ø40	250	110	1.7	B1	B4	B7
	500	230	3.3	B2	B5	B8
	750	340	5.0	B3	B6	B9
	1000	450	6.6	-	B6	-
ø50	250	280	2.6	B1	B4	B7
	500	560	5.2	B3	B6	B9
	750	840	7.7	-	-	-
	1000	1100	10.4	-	-	-
ø63	250	450	4.1	B3	B5	B9
	500	910	8.2	-	-	-
	750	1400	12.3	-	-	-
	1000	1800	16.4	-	-	-

* Refer to page 486 for system No.

<Effective sectional area>



<Clean air system components>

Clean air system components

Part name	Model no.	Port size	Maximum flow rate (ℓ /min. atmospheric pressure conversion)
F/R/L kit	**C1000-6**	Rc1/8	450
	C1000-8	Rc1/4	630
	C3000-8	Rc1/4	1280
	C3000-10	Rc3/8	1750
	C4000-8	Rc1/4	1430
	C4000-10	Rc3/8	2400
	C4000-15	Rc1/2	3000
F/R unit	**W1000-6**	Rc1/8	830
	W1000-8	Rc1/4	1150
	W3000-8	Rc1/4	2150
	W3000-10	Rc3/8	2430
	W4000-8	Rc1/4	2500
	W4000-10	Rc3/8	4350
	W4000-15	Rc1/2	4750
Air filter (F)	**F1000-6**	Rc1/8	460
	F1000-8	Rc1/4	610
	F3000-8	Rc1/4	1230
	F3000-10	Rc3/8	1500
	F4000-8	Rc1/4	1320
	F4000-10	Rc3/8	2140
	F4000-15	Rc1/2	3000
Regulator (R)	**R1000-6**	Rc1/8	770
	R1000-8	Rc1/4	1350
	R3000-8	Rc1/4	2000
	R3000-10	Rc3/8	2600
	R4000-8	Rc1/4	2500
	R4000-10	Rc3/8	4400
	R4000-15	Rc1/2	5000
Lubricator (L)	**L1000-6**	Rc1/8	550
	L1000-8	Rc1/4	700
	L3000-8	Rc1/4	1100
	L3000-10	Rc3/8	2250
	L4000-8	Rc1/4	1000
	L4000-10	Rc3/8	1700
	L4000-15	Rc1/2	2700

Note: Max. flow rate: For FRL, FR and R this is the flow rate at primary pressure 0.7 MPa , setting pressure 0.5 MPa and pressure drop 0.1 MPa. For air filter, this is the flow rate at the primary pressure 0.7 MPa, pressure drop 0.02 MPa, and for the lubricator, this is the flow rate at the primary pressure 0.5 MPa and pressure 0.03 MPa.

MEMO

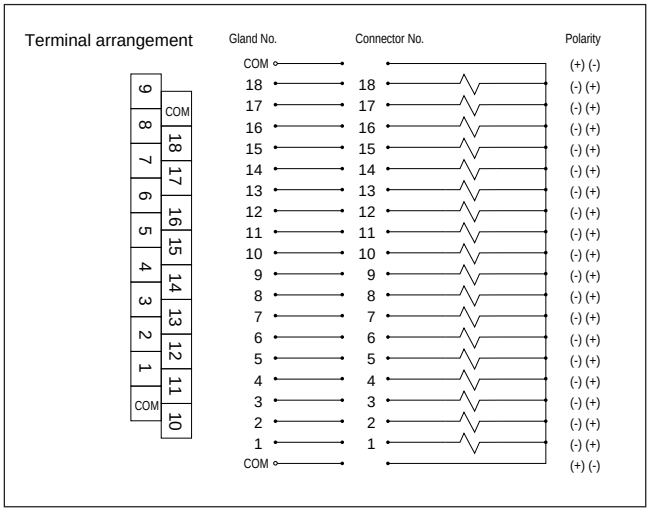
Common gland type (wiring method T10)

Notes when wiring

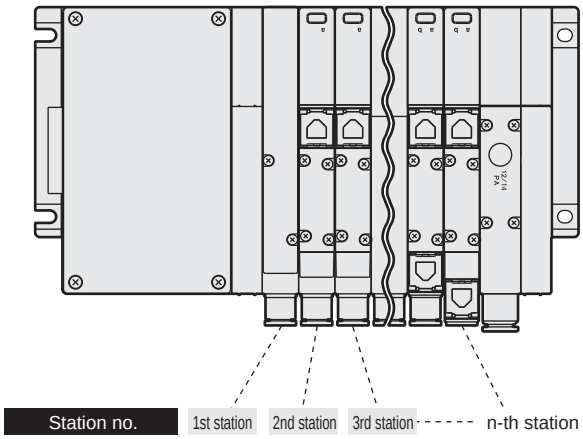
Precautions for common gland type (T10)

(1) With the common gland, common wires are treated inside beforehand. When using the independent contact PLC output unit, wire common wires at the contact.
(2) Check the correspondence of the number of stations and solenoid positions to prevent incorrect wiring. (Refer to the table below.)
(3) This cannot be used if the number of solenoid points exceeds 18.
(4) Manifold station numbers are set in order from the left facing the piping port.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

Internal wiring of wiring method T10 (up to 18 stations)



T10 (left specifications)



Terminal array of wiring method T10 (example)

*: The numbers in the valve No. 1a, 1b, 2a, 2b and so forth indicate the first station and 2nd station. The alphabetic characters a and b indicate the a side solenoid and the b side solenoid.
The max. no. of manifold stations differs based on the model.
Check the individual specifications.

Terminal No.

COM	18	17	16	15	14	13	12	11	10
9	8	7	6	5	4	3	2	1	COM

● For single solenoid valve

<Standard wiring>

(MF station number; up to 18 stations)

Gland No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	18a	17a	16a	15a	14a	13a	12a	11a	10a
Gland No.	9	8	7	6	5	4	3	2	1	COM
Valve No.	9a	8a	7a	6a	5a	4a	3a	2a	1a	COM

<Double wiring>

(MF station number; up to 9 stations)

Gland No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	9a	(Void)	8a	(Void)	7a	(Void)	6a	(Void)
Gland No.	9	8	7	6	5	4	3	2	1	COM
Valve No.	5a	(Void)	4a	(Void)	3a	(Void)	2a	(Void)	1a	COM

● For double solenoid valve

(MF station number; up to 9 stations)

Gland No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	9b	9a	8b	8a	7b	7a	6b	6a	5b
Gland No.	9	8	7	6	5	4	3	2	1	COM
Valve No.	5a	4b	4a	3b	3a	2b	2a	1b	1a	COM

(MF station number; up to 9 stations)

Gland No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	9b	9a	8b	8a	7b	7a	6b	6a	5b
Gland No.	9	8	7	6	5	4	3	2	1	COM
Valve No.	5a	4b	4a	3b	3a	2b	2a	1b	1a	COM

● For mixed use (Single/double mixture)

(Up to 18 solenoids)

Gland No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	(Void)	(Void)	(Void)	9b	9a	8b	8a	7b
Gland No.	9	8	7	6	5	4	3	2	1	COM
Valve No.	7a	6a	5b	5a	4b	4a	3a	2a	1a	COM

(Up to 18 solenoids)

Gland No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	9b	9a	8b	8a	7b	7a	(Void)	6a	5b
Gland No.	9	8	7	6	5	4	3	2	1	COM
Valve No.	5a	4b	4a	(Void)	3a	(Void)	2a	(Void)	1a	COM

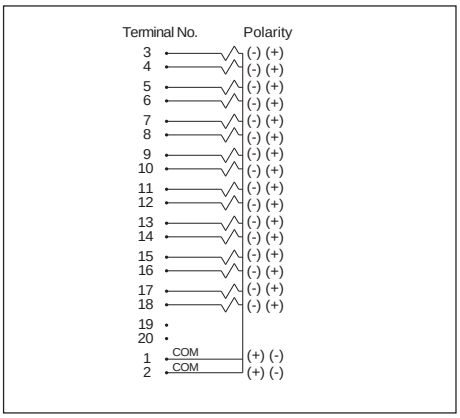
Multi-connector type (wiring method T20)

Notes when wiring

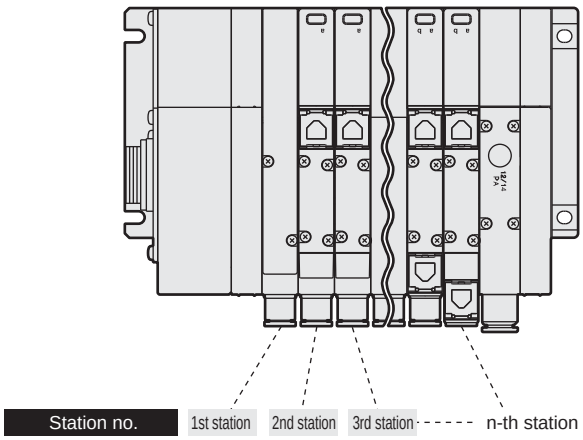
Precautions for multi-connector type (T20)

(1) With the common gland, common wires are treated inside beforehand.
When using the independent contact PLC output unit, wire common wires at the contact.
(2) Check the correspondence of the number of stations and solenoid positions to prevent incorrect wiring. (Refer to the table below.)
(3) This cannot be used if the number of solenoid points exceeds 16.
(4) Manifold station numbers are set in order from the left facing the piping port.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

Internal wiring of wiring method T20 (up to 16 solenoids)



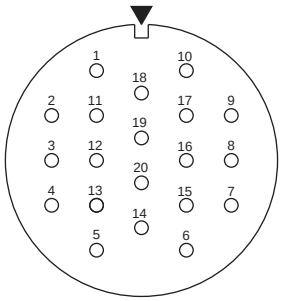
T20 (left specifications)



Terminal array of wiring method T20 (example)

*: The numbers in the valve No. 1a, 1b, 2a, 2b and so forth indicate the first station and 2nd station. The alphabetic characters a and b indicate the a side solenoid and the b side solenoid.
The max. no. of manifold stations differs based on the model.
Check the individual specifications.
T20 is only double wiring.

Terminal No.



<Double wiring>

● For single solenoid valve

(MF station number; up to 8 stations)

Terminal No.	20	19	18	17	16	15	14	13	12	11
Valve No.	(No)	(No)	(Void)	8a	(Void)	7a	(Void)	6a	(Void)	5a
Terminal No.	10	9	8	7	6	5	4	3	2	1
Valve No.	(Void)	4a	(Void)	3a	(Void)	2a	(Void)	1a	COM	COM

● For double solenoid valve

(MF station number; up to 8 stations)

Terminal No.	20	19	18	17	16	15	14	13	12	11
Valve No.	(No)	(No)	8b	8a	7b	7a	6b	6a	5b	5a
Terminal No.	10	9	8	7	6	5	4	3	2	1
Valve No.	4b	4a	3b	3a	2b	2a	1b	1a	COM	COM

● For mixed use (Single/double mixture)

(MF station number; up to 8 stations)

Terminal No.	20	19	18	17	16	15	14	13	12	11
Valve No.	(No)	(No)	8b	8a	(Void)	7a	6b	6a	5b	5a
Terminal No.	10	9	8	7	6	5	4	3	2	1
Valve No.	4b	4a	(Void)	3a	2b	2a	(Void)	1a	COM	COM

D sub-connector type (wiring method T30)

Notes when wiring

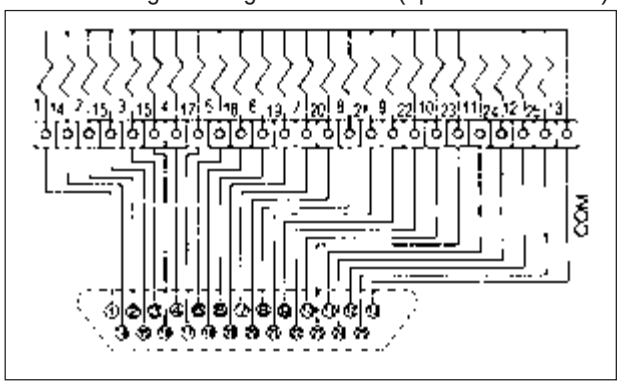
T30 connector

Connectors used for T30 wiring method are generally called D-sub connectors. These are commonly used for FA and OA devices. The 25P type is the connector designated in RS-232-C Standards that apply to personal computer communication functions. Station manifolds are set in order from the left with the piping port facing forward.

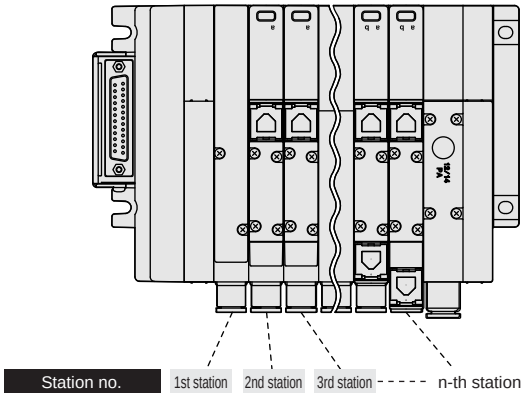
Precautions for connector type (T30)

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

Internal wiring of wiring method T30 (up to 24 solenoids)



T30 (left specifications)



Connector pin array of wiring method T30 (example)

*: The numbers in the valve No. 1a, 1b, 2a, 2b and so forth indicate the first station and 2nd station. The alphabetic characters a and b indicate the a side solenoid and the b side solenoid.
Maximum station number differs deppending on the model. Check the individual specifications.

Connector pin No.

<Standard wiring>

● For single solenoid valve

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	3a	5a	7a	9a	11a	13a	15a	17a	19a	21a	23a	COM
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Valve No.	2a	4a	6a	8a	10a	12a	14a	16a	18a	20a	22a	24a	

<Double wiring>

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a	COM
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Valve No.	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	

● For double solenoid valve

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a	COM
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Valve No.	1b	2b	3b	4b	5b	6b	7b	8b	9b	10b	11b	12b	

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a	COM
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Valve No.	1b	2b	3b	4b	5b	6b	7b	8b	9b	10b	11b	12b	

● 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.	(Void)	(Void)	3b	4b	(Void)	(Void)	7b	(Void)	(Void)	(Void)	11b	12b	

How to order

Cable with D-sub connector model no.

N4T - CABLE - D 0 0 - 1

* Pneumatic valves model
Compatible with D-sub connector T30

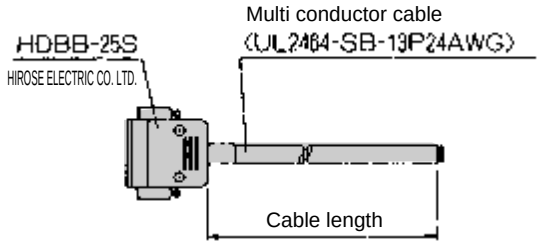
Symbol	Descriptions	Model no. N4T
Ⓐ User interface		
0	Cut only	●
1	With round terminal for M3.5 screw	●
Ⓑ Cable length		
1	1 m	●
3	3 m	●
5	5 m	●

Ⓐ User interface

Ⓑ Cable length

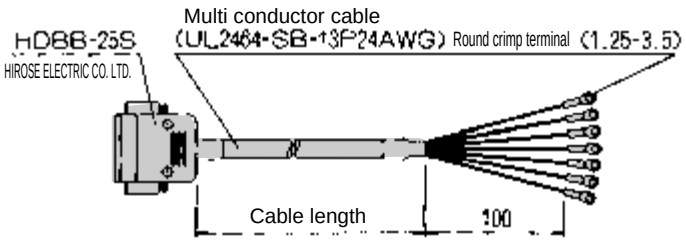
Correspondence of D-sub connector terminal No. and conductor

● N4T-CABLE-D00- Ⓑ



D sub-connector terminal No.		1	2	3	4	5	6	7	8	9	10	11	12	13
Conductor I.D.	Isolator color	Orange	Orange	Yellow	Yellow	Green	Green	Gray	Gray	White	White	Orange	Orange	Yellow
	Type of mark	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	2 points	2 points	2 points
	Mark color	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black
D sub-connector terminal No.		14	15	16	17	18	19	20	21	22	23	24	25	
Conductor I.D.	Isolator color	Yellow	Green	Green	Gray	Gray	White	White	Orange	Orange	Yellow	Yellow	Green	
	Type of mark	2 points	2 points	2 points	2 points	2 points	2 points	2 points	3 points	3 points	3 points	3 points	3 points	
	Mark color	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	

● N4T-CABLE-D01- Ⓑ



D sub-connector terminal No.		1	2	3	4	5	6	7	8	9	10	11	12	13
Conductor I.D.	Isolator color	Orange	Orange	Yellow	Yellow	Green	Green	Gray	Gray	White	White	Orange	Orange	Yellow
	Type of mark	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	2 points	2 points	2 points
	Mark color	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black
Mark tube No.		1	2	3	4	5	6	7	8	9	10	11	12	13
D sub-connector terminal No.		14	15	16	17	18	19	20	21	22	23	24	25	
Conductor I.D.	Isolator color	Yellow	Green	Green	Gray	Gray	White	White	Orange	Orange	Yellow	Yellow	Green	
	Type of mark	2 points	2 points	2 points	2 points	2 points	2 points	2 points	3 points	3 points	3 points	3 points	3 points	
	Mark color	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	
Mark tube No.		14	15	16	17	18	19	20	21	22	23	24	25	

* Up to 24 points can be used. Cut off any excessive points and use.

Flat cable connector type (wiring method T51)

Notes when wiring

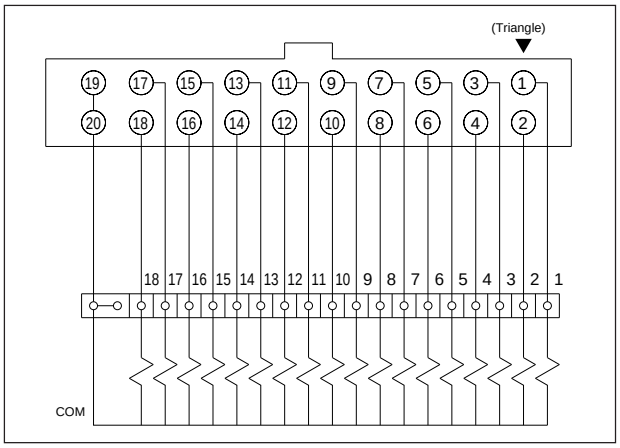
T51 connector

The connector used for T51 wiring method complies with MIL Standards (MIL-C-83503).
The flat cable pressure welding makes wiring work easy.
Pin no. is assigned differently based on the PLC maker, but the function assignment is the same. Layout using connectors and the triangular mark (▼) shown below as a reference. The (▼) mark is the reference for both the plug and socket.
The manifold stations are set in order from the left with the b side solenoid (cap side for single) facing forward.

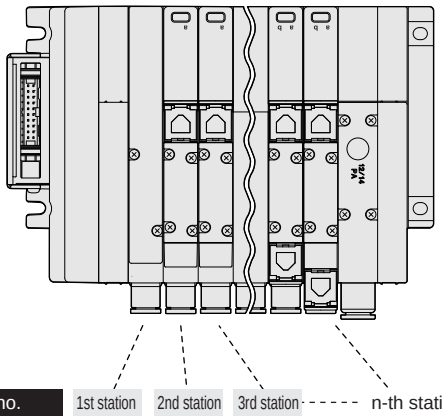
Precautions for connector type (T51)

(1) The PLC output unit's signal array and valve signal array must match.
(2) The working power is 12/24 VDC dedicated.
(3) The T51 type is driven with a general output unit.
(4) Do not connect this manifold to the input unit as major faults could occur in this device and in peripherals. Connect this manifold to the output unit.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

Internal wiring of wiring method T51 (up to 18 solenoids)



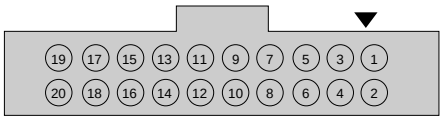
T51 (left specifications)



T51 connector pin array (example)

*: The numbers in the valve No. 1a, 1b, 2a, 2b and so forth indicate the first station and 2nd station. The alphabetic characters a and b indicate the a side solenoid and the b side solenoid. Maximum station number differs deppending on the model. Check the individual specifications.

Connector pin No.



● For single solenoid valve

<Standard wiring>

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	17a	15a	13a	11a	9a	7a	5a	3a	1a
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	18a	16a	14a	12a	10a	8a	6a	4a	2a

<Double wiring>

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)

● For double solenoid valve

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	9b	8b	7b	6b	5b	4b	3b	2b	1b

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	9b	8b	7b	6b	5b	4b	3b	2b	1b

● For mixed use (Single/double mixture)

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	12a	11a	10a	8a	7a	5a	4a	3a	1a
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	13a	11b	10b	9a	7b	6a	4b	3b	2a

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	(Void)	(Void)	7b	(Void)	(Void)	4b	3b	(Void)	(Void)

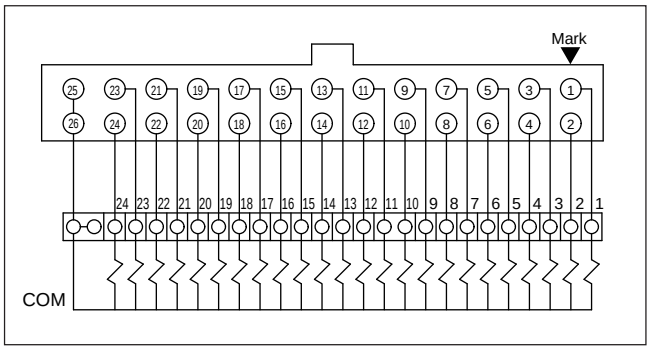
Flat cable connector type (wiring method T53)

Notes when wiring

T53 connector

The connector used for T53 wiring method complies with MIL Standards (MIL-C-83503).
The flat cable pressure welding makes wiring work easy.
Pin no. is assigned differently based on the PLC maker, but the function assignment is the same. Layout using connectors and the triangular mark (▼) shown below as a reference. The (▼) mark is the reference for both the plug and socket.
The manifold stations are set in order from the left with the b side solenoid (cap side for single) facing forward.

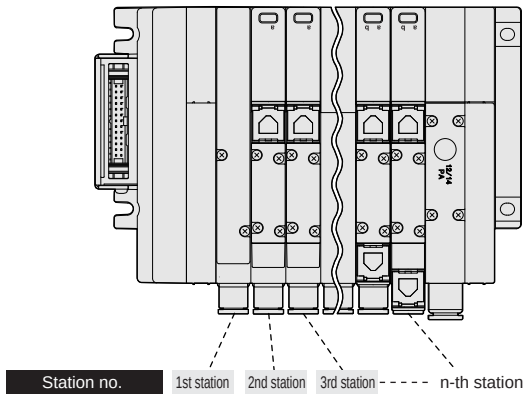
Internal wiring of wiring method T53 (up to 24 solenoids)



Precautions for connector type (T53)

(1) The PLC output unit's signal array and valve signal array must match.
(2) The working power is 12/24 VDC dedicated.
(3) The T53 type is driven with a general output unit.
(4) Do not connect this manifold to the input unit as major faults could occur in this device and in peripherals. Connect this manifold to the output unit.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

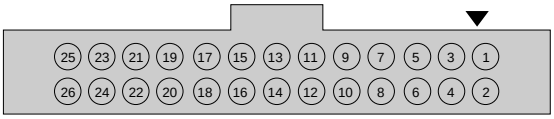
T53 (left specifications)



T53 connector pin array (example)

*: The numbers in the valve No. 1a, 1b, 2a, 2b and so forth indicate the first station and 2nd station. The alphabetic characters a and b indicate the a side solenoid and the b side solenoid.
The max. no. of manifold stations differs based on the model. Check the individual specifications.

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

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

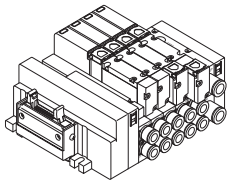
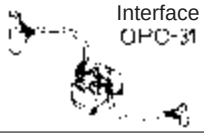
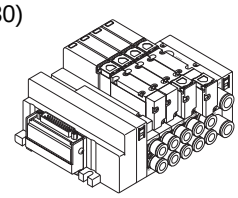
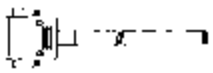
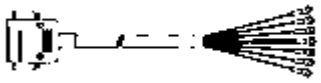
<Double wiring>

Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	26	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)

Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	26	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	12b	11b	10b	9b	8b	7b	6b	5b	4b	3b	2b	1b

Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	26	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	COM	(Void)	(Void)	(Void)	9b	8b	7b	(Void)	5b	4b	(Void)	(Void)	(Void)

Examples of wiring (recommended combination) ● Use with the following combinations.

Wiring methods	Example of connection cable	PC and PC related products		
		Maker	PC	Connection cable
Flat cable connector (T51) 		OMRON	Type C200H-OD215 Type C500-OD415CN	Type G79-*C
			Type C500-OD213	Type 79-0*DC-*
		MITSUBISHI	AY42 Use within the range of power voltage 0 to +10%.	Connect by 40P flat cable connector and interface OPC-31 (CKD) or 20P flatcable connector.
		MATSUSHITA ELECTRIC WORKS	AFP33484	AY15133 to 7
			AFP53487	AY15223 to 7
D sub-connector (T30) 				Cable with D sub-connector (Refer to page 493 for cable model no. and details.)
				

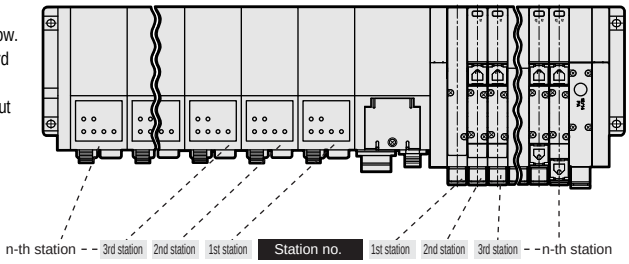
*: Consider the PLC and flat cable voltage drop when selecting the valve drive power voltage.

MEMO

Serial transmission type: Wiring method

T8* serial transmission type

- The slave unit's output number differs with the manufacturer. Refer to table below.
- The slave unit input/output numbers, manifold solenoid and input/output block correspondence is shown below.
- The solenoid valve manifold station number is set in order from the left side with the piping port facing forward regardless of the wiring block position.
- The input/output block station numbers are set in order from the serial transmission slave unit side. If the input block and output block are mixed, arrange the input blocks first in order from the slave unit side.
- If there is an input setting, a sensor device can be connected using the input block.
- If there are fewer solenoid points than output points, an external device can be connected using the output block.
- The working power is 24 VDC dedicated.
- A slave unit corresponding to each communication system is used. Contact CKD for information on the compatible PLC types, master unit model and communication system specifications. (Refer to page 502.)
- Securely tighten each connector (for power/communication). When finished setting the addresses, etc., close the switch cover, and securely tighten the screws. (Recommended tightening torque 0.3 N·m)



Serial transmission slave unit I/O numbers corresponding to PLC address numbers

(1) For hexadecimal notation

Serial transmission slave unit I/O No.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Output dedicated type	CC-Link DeviceNet	Y00	Y01	Y02	Y03	Y04	Y05	Y06	Y07	Y08	Y09	Y0A	Y0B	Y0C	Y0D	Y0E	Y0F	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y1A	Y1B	Y1C	Y1D	Y1E	Y1F
	CompoBus/S	Y00	Y01	Y02	Y03	Y04	Y05	Y06	Y07	Y08	Y09	Y0A	Y0B	Y0C	Y0D	Y0E	Y0F																
I/O mixture type	CC-Link DeviceNet	X00	X01	X02	X03	X04	X05	X06	X07	X08	X09	X0A	X0B	X0C	X0D	X0E	X0F	Y00	Y01	Y02	Y03	Y04	Y05	Y06	Y07	Y08	Y09	Y0A	Y0B	Y0C	Y0D	Y0E	Y0F
	CompoBus/S	X00	X01	X02	X03	X04	X05	X06	X07	Y00	Y01	Y02	Y03	Y04	Y05	Y06	Y07																
	AS-i	ASI 1								ASI 2																							
		X00	X01	X02	X03	Y00	Y01	Y02	Y03	X00	X01	X02	X03	Y00	Y01	Y02	Y03																

(2) For decimal notation

Serial transmission slave unit I/O No.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Output dedicated type	CC-Link DeviceNet	Y0																Y1															
		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
	CompoBus/S	Y0																															
		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15																
I/O mixture type	CC-Link DeviceNet	X0																Y0															
		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
	CompoBus/S	X0								Y0																							
		00	01	02	03	04	05	06	07	00	01	02	03	04	05	06	07																
	AS-i	ASI 1								ASI 2																							
		00	01	02	03	00	01	02	03	00	01	02	03	00	01	02	03																

X** indicates input, and Y** indicates output.

Input/output point numbers corresponding to wiring method T8* I/O numbers

Type of slave unit	Max. input no.	Max. output no.		Serial transmission slave unit I/O No																													
	Input block quantity	Output block quantity	Solenoid point	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
· T8G1 (CC-Link) · T8D1 (DeviceNet) · T8C1 (CompoBus/S) (0 point input/16 points output)	-	-	16 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16														
		1 unit (4 points)	12 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	1-0	1-1	1-2	1-3														
		2 unit (8 points)	8 points	s1	s2	s3	s4	s5	s6	s7	s8	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3														
· T8G2 (CC-Link) · T8D2 (DeviceNet) (0 point input/32 points output)	-	-	32 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32
		1 unit (4 points)	28 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	1-0	1-1	1-2	1-3
		2 unit (8 points)	24 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3
		3 unit (12 points)	20 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3
		4 unit (16 points)	16 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3	4-0	4-1	4-2	4-3
· T8G7 (CC-Link) · T8D7 (DeviceNet) (16 points input/16 points output)	1 unit (4 points)	-	16 points	1-0	1-1	1-2	1-3															s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16
		1 unit (4 points)	12 points	1-0	1-1	1-2	1-3															s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	2-0	2-1	2-2	2-3
		2 unit (8 points)	8 points	1-0	1-1	1-2	1-3															s1	s2	s3	s4	s5	s6	s7	s8	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3
	2 unit (8 points)	-	16 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3											s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16
		1 unit (4 points)	12 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3											s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	3-0	3-1	3-2	3-3
		2 unit (8 points)	8 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3											s1	s2	s3	s4	s5	s6	s7	s8	3-0	3-1	3-2	3-3	4-0	4-1	4-2	4-3
	3 unit (12 points)	-	16 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3							s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16
		1 unit (4 points)	12 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3							s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	4-0	4-1	4-2	4-3
		2 unit (8 points)	8 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3							s1	s2	s3	s4	s5	s6	s7	s8	4-0	4-1	4-2	4-3	5-0	5-1	5-2	5-3
	4 unit (16 points)	-	16 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3	4-0	4-1	4-2	4-3	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16
		1 unit (4 points)	12 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3	4-0	4-1	4-2	4-3	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	5-0	5-1	5-2	5-3
		2 unit (8 points)	8 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3	4-0	4-1	4-2	4-3	s1	s2	s3	s4	s5	s6	s7	s8	5-0	5-1	5-2	5-3	6-0	6-1	6-2	6-3
· T8C6 (CompoBus/S) (8 points input/8 points output)	1 unit	-	-	1-0	1-1	1-2	1-3					s1	s2	s3	s4	s5	s6	s7	s8														
		1 unit	1 unit													2-0	2-1	2-2	2-3														
	2 unit	-	-	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	s1	s2	s3	s4	s5	s6	s7	s8														
		1 unit	1 unit													3-0	3-1	3-2	3-3														
· T8MA (AS-i) (4 points input/4 points output)	-	-	4 points					s1	s2	s3	s4																						
	1 unit (4 points)	-	4 points	1-0	1-1	1-2	1-3	s1	s2	s3	s4																						
· T8M6 (AS-i) (8 points input/8 points output)	-	-	8 points					s1	s2	s3	s4					s5	s6	s7	s8														
		1 unit (4 points)	4 points					s1	s2	s3	s4					1-0	1-1	1-2	1-3														
	1 unit (4 points)	-	8 points	1-0	1-1	1-2	1-3	s1	s2	s3	s4					s5	s6	s7	s8														
		1 unit (4 points)	4 points	1-0	1-1	1-2	1-3	s1	s2	s3	s4					2-0	2-1	2-2	2-3														
	2 unit (8 points)	-	8 points	1-0	1-1	1-2	1-3	s1	s2	s3	s4	2-0	2-1	2-2	2-3	s5	s6	s7	s8														
		1 unit (4 points)	4 points	1-0	1-1	1-2	1-3	s1	s2	s3	s4	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3														

: Input block

: Output block

: Solenoid output

* The numbers in the input/output block area indicate the "station number counting from the serial transmission slave unit side - connector number".

Valve number layout corresponding to wiring method T8* solenoid output number (example)

* The numbers in the valve No. 1a, 1b, 2a, 2b and so forth indicate the first station and 2nd station. The alphabetic characters a and b indicate the a side solenoid and the b side solenoid.
The max. no. of manifold stations differs based on the model.
Check the individual specifications.

<Standard wiring> ● For single solenoid valve (up to 16 stations)

Solenoid output No.	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a	13a	14a	15a	16a																

● For double solenoid valve

Solenoid output No.	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12b	13a	13b	14a	14b	15a	15b	16a	16b

● For mix (single and double mixture) (up to 16 station)

Solenoid output No.	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32
Valve No.	1a	2a	3a	3b	4a	4b	5a	6a	7a	7b	8a	9a	10a	10b	11a	11b	12a	13a	14a	14b	15a	15b	16a									

<Double wiring> ● For single solenoid valve

Solenoid output No.	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32
Valve No.	1a	(Void)	2a	(Void)	3a	(Void)	4a	(Void)	5a	(Void)	6a	(Void)	7a	(Void)	8a	(Void)	9a	(Void)	10a	(Void)	11a	(Void)	12a	(Void)	13a	(Void)	14a	(Void)	15a	(Void)	16a	(Void)

● For double solenoid valve

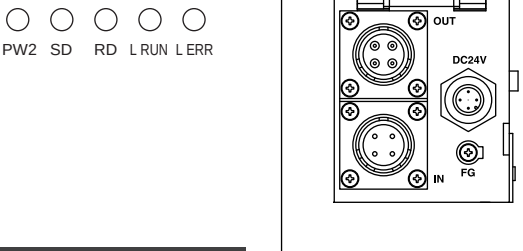
Solenoid output No.	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12b	13a	13b	14a	14b	15a	15b	16a	16b

● For mix (single and double mixture)

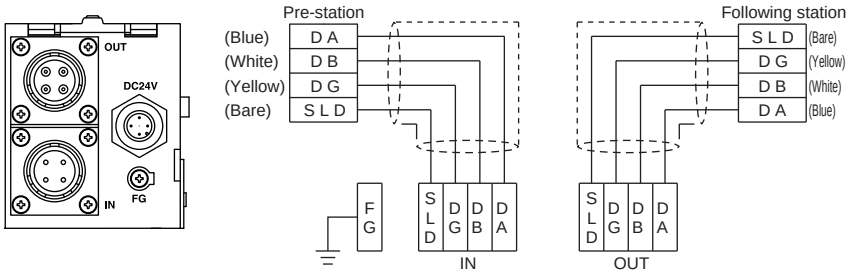
Solenoid output No.	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32
Valve No.	1a	(Void)	2a	(Void)	3a	3b	4a	4b	5a	(Void)	6a	(Void)	7a	7b	8a	(Void)	9a	(Void)	10a	(Void)	11a	11b	12a	12b	13a	(Void)	14a	(Void)	15a	15b	16a	(Void)

Model no.	LED display	Wiring method

T8G*

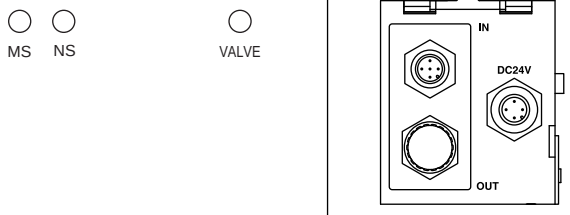


LED name	Display description
PW1	Lights when unit power is ON.
PW2	Lights when valve power is ON.
SD	Lights when transmitting data.
RD	Lights when receiving data.
L RUN	Lights when receiving normal data. Turns OFF when time over occurs.
L ERR	Lights when transmission error occurs. Lights when time over. Lights when station No. or transmission speed setting fails. Blinks when station No. or transmission speed in setting changes.

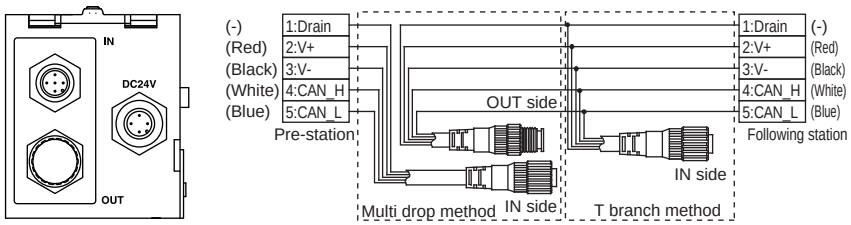


· The unit power and valve power are separate power supplies.
Supply from the power connector. (Use M12 connector.)
· Connect a CC-Link cable to the communication connector. (Use a CC-Link dedicated waterproof connector.)
· The wiring side connector must be prepared by the user.
· Refer to page 504 for details on the connector pin layout. Note that the left and right directions are reversed.

T8D*



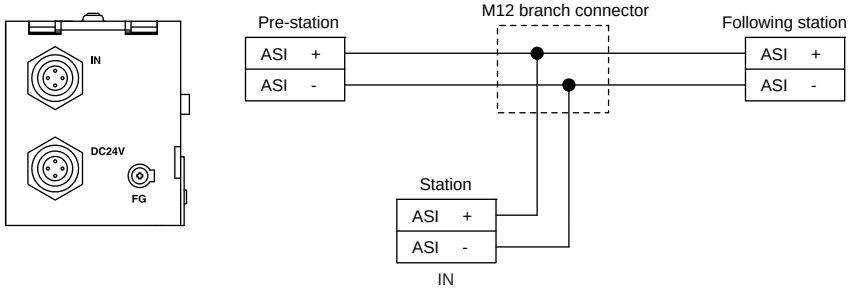
LED name	Display description
MS	Indicates the slave unit status.
NS	Indicates the network status.
VALVE	Lights when valve power is ON.



· The unit power and valve power are separate power supplies.
Supply from the power connector. (Use M12 connector.)
· Connect a DeviceNet cable to the communication connector. (Use a connector with DeviceNet dedicating cable.)
· The wiring side connector must be prepared by the user.
· Refer to page 506 for details on the connector pin layout. Note that the left and right directions are reversed.

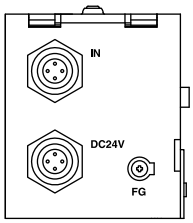
T8M*

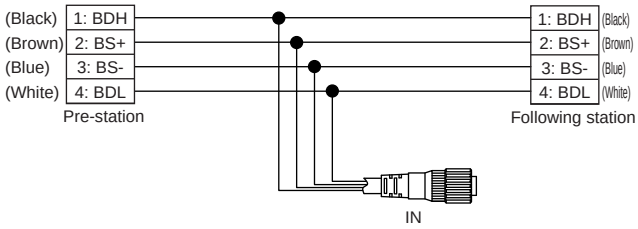
LED name	Display description
AUX	Lights when the auxiliary power (valve power) is ON.
ASI1/ASI2	Lights during normal communication. Turns OFF when AS-i power is OFF. Turns OFF when communication is stopped. Flickers when address is "0".
FAULT1/FAULT2	Lights when communication is stopped. Turns OFF during normal communication. Flickers when sensor power is overloaded.



· AS-i power and auxiliary power (valve power) are required.
· Supply each power from the AS-i communication cable and auxiliary power cable.
Connection methods using M12 branch connector are shown on page 499.
· Refer to page 507 for details on the connector pin layout.

Model no.	LED display	Wiring method
T8C*	PWR VALVE COMM ERR	· The unit power (communication power) and valve power are separate power supplies. Supply from the power connector (24 VDC). (Use M12 connector.) · Connect a CompoBus/S cable to the communication connector (IN). (Use M12 connector.) · The wiring side connector must be prepared by the user. · Refer to page 505 for details on the connector pin layout.

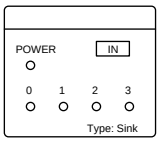
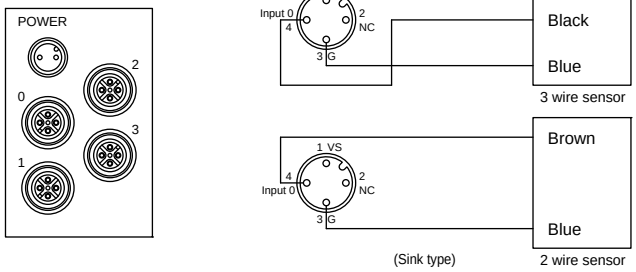
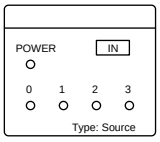
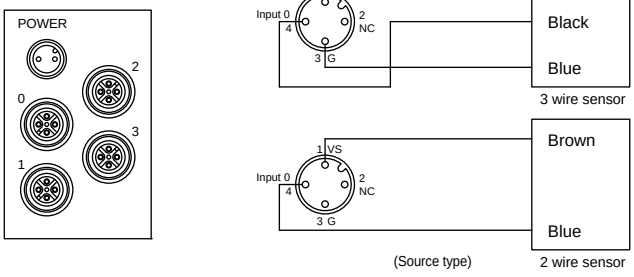
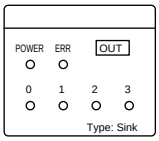
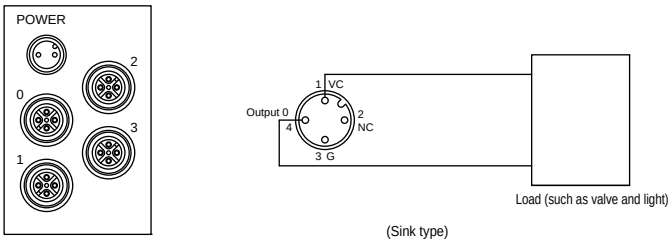
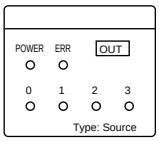
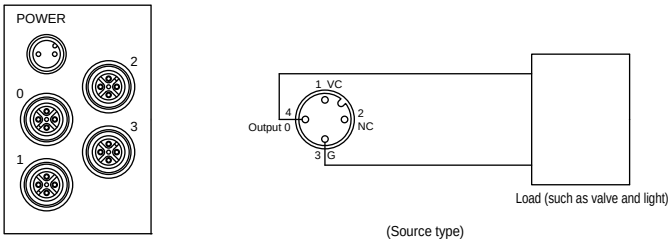




LED name	Display description
PWR (green)	Lights when unit (communication) power is ON.
VALVE (green)	Lights when valve power is ON.
COMM (orange)	Lights during normal communication. OFF when communication is abnormal or standing by.
ERR (red)	Lights when communication error occurs. OFF when communication is normal or standing by.

Compatible PLC table

Model no.	Maker name (recommended bodies)	Series	Communication system name	Host station model no.
T8G*	MITSUBISHI	MELSEC A Series MELSEC QnA Series MELSEC Q Series	CC-Link	AJ61BT11 AJ61QBT11 A1SJ61BT11 A1SJ61QBT11 QJ61BT11 (N)
	CC-Link institution (CLPA)	PLC, personal computer compatible with each CC-Link brand		Connect to each maker's CC-Link master
T8C*	OMRON	SYSMAC α/CS1 Series C200HS/CQM1 (H) Series	CompoBus/S	Type C200HW-SRM21-V1 Type CQM1-SRM21-V1 Type SRM1-C01/C02-V2
T8D*	OMRON	SYSMAC CS Series SYSMAC CJ Series SYSMAC CV Series SYSMAC α Series SYSMAC C200HS Series Other	DeviceNet	Type CS1W-DRM21 Type CJ1W-DRM21 Type CVM1-DRM21-V1 Type C200HW-DRM21-V1 Type ITNC-EI*01-DRM (master integrated PLC) Type 3G8B3-DRM21 (VME board)
	TOYODA	PC3J/2J Series PC3JD PC2F/PC2FS		THK-5398 TIC-5642 (master integrated PLC) TFU-5359
	ODVA	PLC, personal computer, SBC compatible with each DeviceNet brand		Connect to each maker's DeviceNet master
T8M*	MITSUBISHI	AnS/A2US Series	AS-i	A1SJ71AS92
		Q2AS Series		
	FUJI ELECTRIC	MICREX-SX Series		NP1L-AS1
		FLEX-PC NJ Series		NJ-ASL
		FLEX-PC NB6 Series		(included in CPU unit)
	Other	Other		AS-i master unit

Model no., I/O type		LED display	Wiring method
Input block NW4G*2-IN-$^{N}_{P}$-$^{K}_{B}$	Sink type		
	Source type		
Output block NW4G*2-OUT-$^{N}_{P}$-B	Sink type		
	Source type		

Input block NW4G*2-IN-$^{N}_{P}$-$^{K}_{B}$ — Sink type

LED name	Display description
POWER	Lights when sensor power is supplied
0 to 3	Lights when each sensor output is ON

- Sensor power common with the unit power or sensor power supplied from an external power through the POWER connector can be selected for the sensor power specifications.
- Either the sink or source input can be selected.
- The cable side connector must be prepared by the user.

Input block NW4G*2-IN-$^{N}_{P}$-$^{K}_{B}$ — Source type

LED name	Display description
POWER	Lights when sensor power is supplied
0 to 3	Lights when each sensor output is ON

- Sensor power common with the unit power or sensor power supplied from an external power through the POWER connector can be selected for the sensor power specifications.
- Either the sink or source input can be selected.
- The cable side connector must be prepared by the user.

Output block NW4G*2-OUT-$^{N}_{P}$-B — Sink type

LED name	Display description
POWER	Lights when power for external load is supplied
ERR	Lights when protection circuit has functioned
0 to 3	Lights when each external load is on

- Supply the external load power from the POWER connector (24 VDC dedicated)
- Confirm that the total of the load current is 3 A or less (1 A/1 point or less).
- Either sink or source output can be selected.
- The cable side connector must be prepared by the user.

Output block NW4G*2-OUT-$^{N}_{P}$-B — Source type

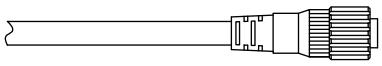
LED name	Display description
POWER	Lights when power for external load is supplied
ERR	Lights when protection circuit has functioned
0 to 3	Lights when each external load is on

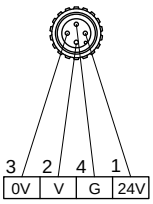
- Supply the external load power from the POWER connector (24 VDC dedicated)
- Confirm that the total of the load current is 3 A or less (1 A/1 point or less).
- Either sink or source output can be selected.
- The cable side connector must be prepared by the user.

Water proof connector

CC-Link

● Power supply connector (female pin)





Pin No.	Signal name	Remarks
1	24V	Unit power supply + side
2	V	Valve power supply + side
3	0V	Unit power supply - side
4	G	Valve power supply - side

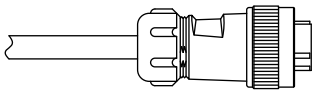
Recommended connector
Connector with cable
· Type XS2F-D421-* (single connector socket)

Assembly type connector
· Type XS2C-D4C* (crimping type)
· Type XS2C-D42* (solder type)
· Type XS2C-D4S* (screw wiring type)

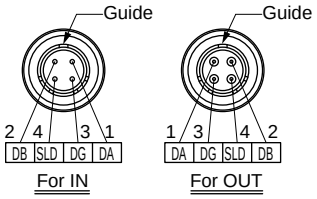
OMRON

* Do not use an L connector.

● Communication connector



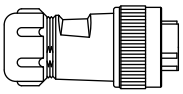
Pin No.	Signal name	Conductor color
1	DA	Blue
2	DB	White
3	DG	Yellow
4	SLD	Shielded twist wire



Recommended connector: FA-204-PF8 for IN (Female pin)
FA-204-PM8 for OUT (Male pin)

Mitsubishi Electric Engineering
* The above model is compatible with a ø7.0 to ø8.5 cable diameter. Contact Mitsubishi Electric Engineering if the cable diameter differs.
* Contact Mitsubishi Electric Engineering for a waterproof connector with cable.

● Communication cable
Recommended cable (example)
CC-Link dedicating cable FANC-SB
Ver. 1.10 dedicated cable FANC-110SBH
KURAMO ELECTRIC CO., LTD.

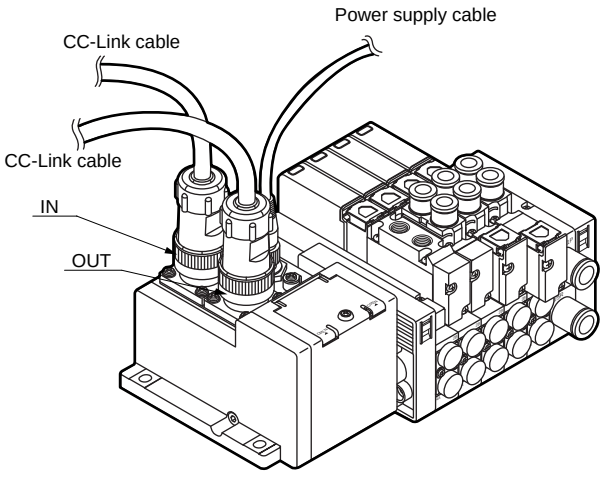


This slave unit is CC-Link Ver. 1.10 products.
Name: Terminal connector
Type: FA-CONW4P110E
Maker name: Mitsubishi Electric Engineering
If this slave unit is connected at a position farthest from the master unit, the terminal must be treated.
Connect the above terminator to the OUT side.
When using a dedicated high-performance cable or T-branch connection, exchange the resistor in the terminator.

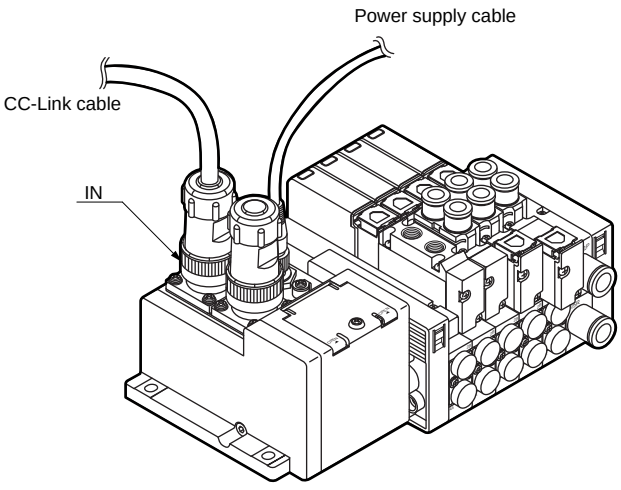
	Dedicated cable and Ver. 1.10 compatible dedicated cable	Dedicated high performance	T branch connection	
			Main line wiring	Branch line wiring
Terminating resistance	110 Ω (standard integrated)	130 Ω	110 Ω x 2 pcs.	No terminating resistance

Connection method

● For intermediate station



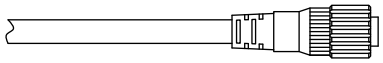
● For terminal station



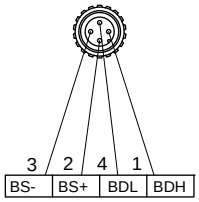
Water proof connector

CompoBus/s

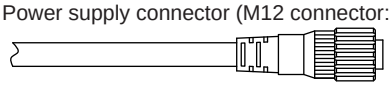
IN side
● Communication connector (M12 connector: female pin)



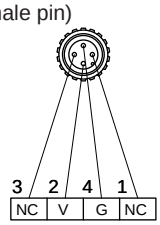
Pin No.	Signal name	Remarks
1	BDH	Signal + side
2	BS+	Communication power supply + side
3	BS-	Communication power supply - side
4	BDL	Signal - side



24 VDC side
● Power supply connector (M12 connector: female pin)



Pin No.	Signal name	Remarks
1	NC	Not connected
2	V	Valve power supply + side
3	NC	Not connected
4	G	Valve power supply - side



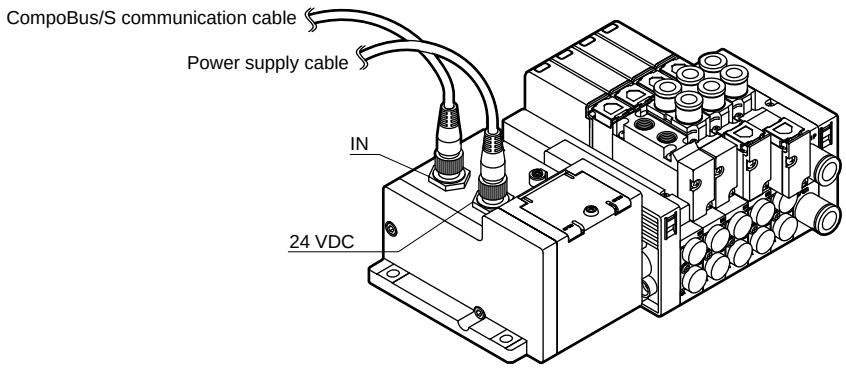
Recommended connector
Connector with cable
· Type XS2W-D421-* (both sides connector socket/plug)
· Type XS2F-D421-* (single connector socket)

Assembly type connector
· Type XS2C-D4C* (crimping type)
· Type XS2C-D42* (solder type)
· Type XS2C-D4S* (screw wiring type)

OMRON

* Do not use an L connector.

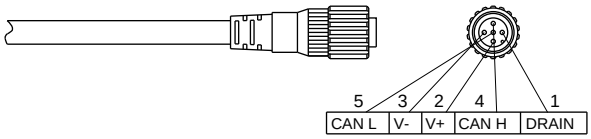
Connection method



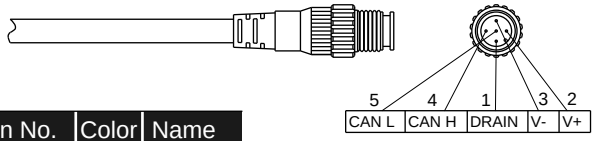
Water proof connector

DeviceNet

● Connector with cable for DeviceNet (female pin: for IN)

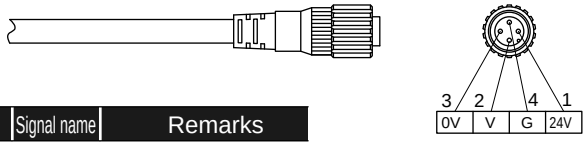


● Connector with cable for DeviceNet (male pin: for OUT)



Pin No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

● Connector for power supply (female pin)



Pin No.	Signal name	Remarks
1	24V	Unit power supply + side
2	V	Valve power supply + side
3	0V	Unit power supply - side
4	G	Valve power supply - side

Connector with recommended cable

· Type DCA1-5CN**W1 (both sides connector with cable socket/plug)

For IN

· Type DCA1-5CN**F1 (single connector with cable socket)

For OUT

· Type DCA1-5CN**H1 (single connector with cable plug)

OMRON

* Do not use an L connector.

Recommended connector

Connector with cable

· Type XS2W-D421-* (both sides connector socket/plug)

· Type XS2F-D421-* (single connector socket)

Assembly type connector

· Type XS2C-D4C* (crimping type)

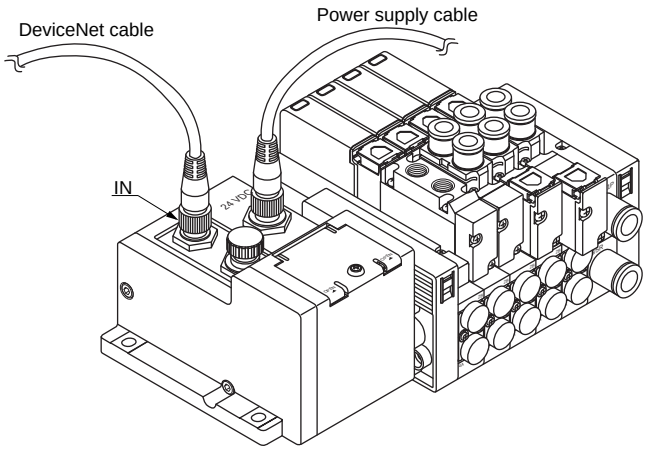
· Type XS2C-D42* (solder type)

· Type XS2C-D4S* (screw wiring type)

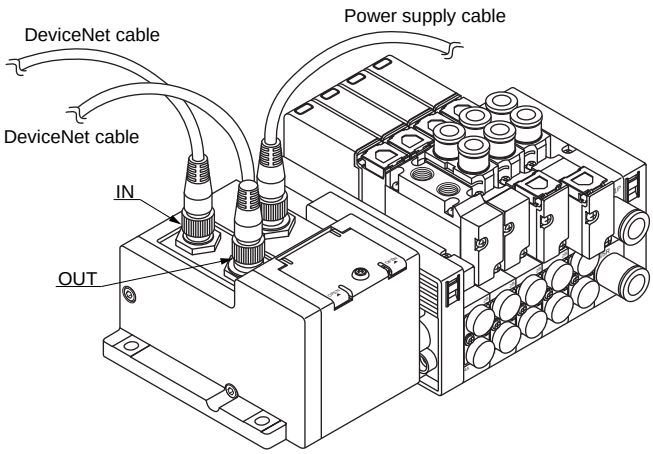
OMRON

Connection method

● For T-branch connection



● For multi-drop connection

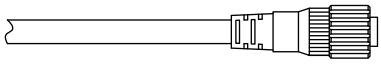


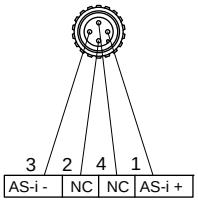
* When connecting the DeviceNet communication cable with multi-drop wiring, the rating of the communication power current passing through this slave unit must be 2 A or less.

Water proof connector

AS-i

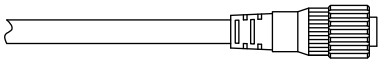
●AS-i connector (female pin)

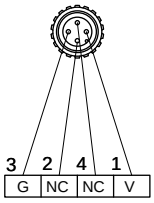




Pin No.	Signal name	Remarks
1	AS-i +	AS-i + side
2	NC	Not connected
3	AS-i -	AS-i - side
4	NC	Not connected

●Connector for valve (female pin)





Pin No.	Signal name	Remarks
1	V	Valve power supply + side
2	NC	Not connected
3	G	Valve power supply - side
4	NC	Not connected

Recommended connector

Connector with cable

· Type XS2W-D421-* (both sides connector socket/plug)

· Type XS2F-D421-* (single connector socket)

Assembly type connector

· Type XS2C-D4C* (crimping type)

· Type XS2C-D42* (solder type)

· Type XS2C-D4S* (screw wiring type)

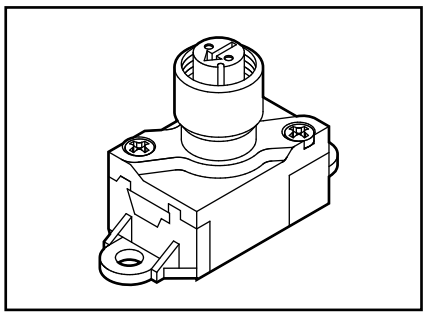
OMRON

* Do not use an L connector.

* Connection to an AS-i cable is possible by using a dedicated M12 branch connector. (See below for connection examples.)
(Typical example: FUJI ELECTRIC 3RX9801-0AA00)

Connection method

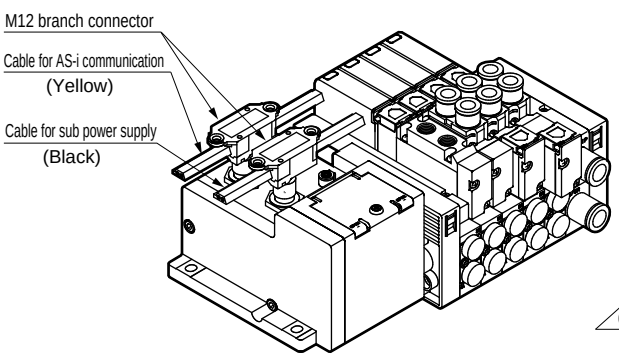
The AS-i communication cable and auxiliary power cable used with the AS-i system is connected to the slave unit using an M12 branch connector as shown below.



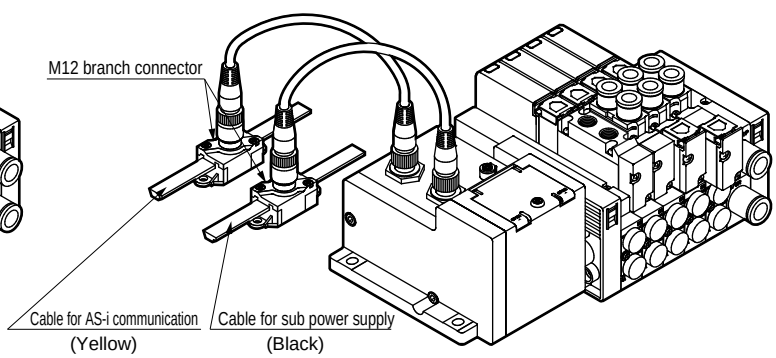
Branch connector from AS-i communication cable to M12

M12 branch connector
(Typical example: FUJI ELECTRIC 3RX9801-0AA00)

●To directly connect M12 branch connector to AS-i slave unit



●To connect M12 branch connector to AS-i slave unit using a waterproof connector

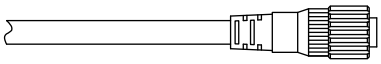


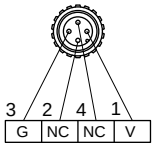
Water proof connector

I/O

❶Input block

●External power connector (female pin)





Pin No.	Signal name	Remarks
1	V	External power + side
2	NC	Not connected
3	G	External power - side
4	NC	Not connected

Recommended connector

Connector with cable

· Type XS2F-D421-* (single connector socket)

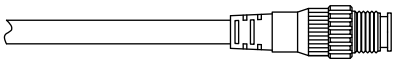
Assembly type connector

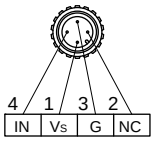
· Type XS2C-D4C* (crimping type)
· Type XS2C-D42* (solder type)
· Type XS2C-D4S* (screw wiring type)

OMRON

* Do not use an L connector.

●Sensor side connector (male pin)





2 wire sensor

Pin No.	Signal name	Sink type	Source type
1	V_S	Not connected	Sensor power supply + side
2	NC	Not connected	Not connected
3	G	Sensor power supply - side	Not connected
4	IN	Input signal	Input signal

3 wire sensor

Pin No.	Signal name	Sink/source type
1	V_S	Sensor power supply + side
2	NC	Not connected
3	G	Sensor power supply - side
4	IN	Input signal

Recommended connector

Connector with cable

· Type XS2H-D421-* (single connector plug)

Assembly type connector

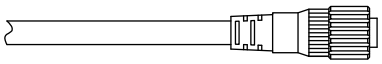
· Type XS2G-D4C* (crimping type)
· Type XS2G-D42* (solder type)
· Type XS2G-D4S* (screw wiring type)

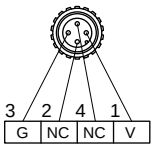
OMRON

* Do not use an L connector.

❷Output block

●External power connector (female pin)





Pin No.	Signal name	Remarks
1	V	External power + side
2	NC	Not connected
3	G	External power - side
4	NC	Not connected

Recommended connector

Connector with cable

· Type XS2F-D421-* (single connector socket)

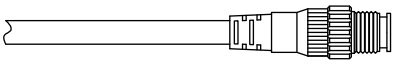
Assembly type connector

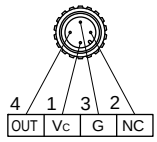
· Type XS2C-D4C* (crimping type)
· Type XS2C-D42* (solder type)
· Type XS2C-D4S* (screw wiring type)

OMRON

* Do not use an L connector.

●External load side connector (male pin)





Pin No.	Signal name	Sink type	Source type
1	V_C	Power supply for load + side	Not connected
2	NC	Not connected	Not connected
3	G	Not connected	Power supply for load - side
4	OUT	Output signal	Output signal

Recommended connector

Connector with cable

· Type XS2H-D421-* (single connector plug)

Assembly type connector

· Type XS2G-D4C* (crimping type)
· Type XS2G-D42* (solder type)
· Type XS2G-D4S* (screw wiring type)

OMRON

* Do not use an L connector.

Wiring between wiring block and valve block (DC specification)

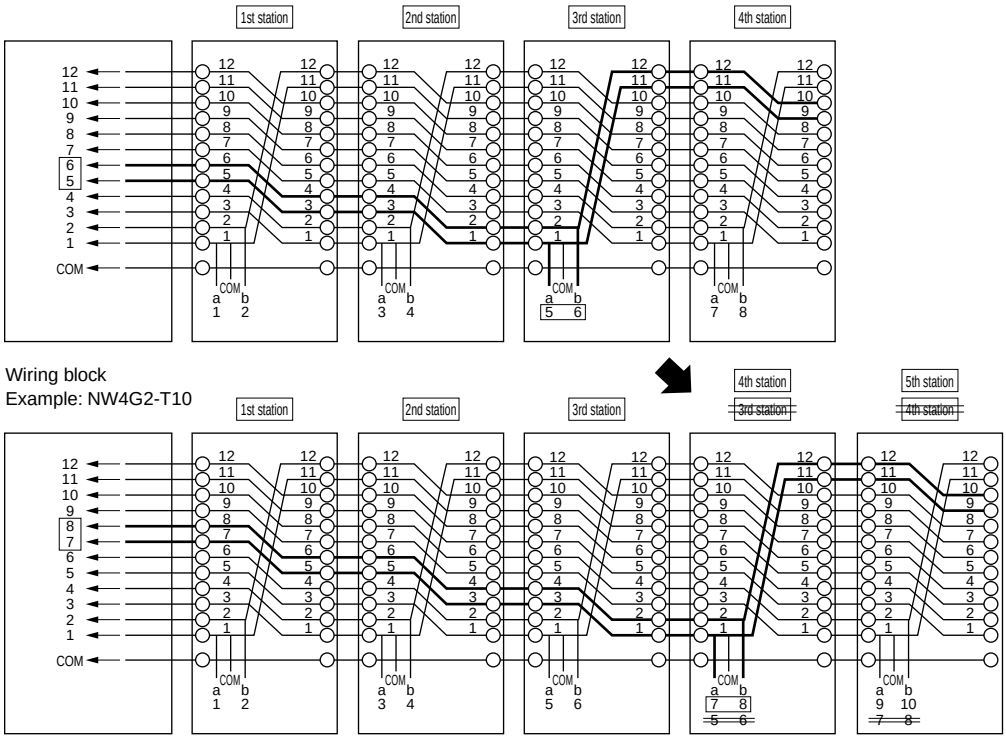
A part called a dedicated wiring connector is used in the valve block and supply/exhaust block, etc. This enables the wiring to be completed simultaneously with the disassembly and assembly of the block manifold. Special wiring work is not required during disassembly and assembly. There is regularity in the wiring block connector pin numbers and arranged valves. Refer to methods for wiring each wiring block, then connect the wires between the valves and control device. Take special care when expanding or reducing the valve blocks. An example of the wiring circuit for expanding valve blocks is shown below.

Wiring circuit example

The following diagram shows the MW4G2 wiring circuit, and may differ from the actual specifications.

Double wiring

If the blocks are expanded by inserting one valve block between the second and third station, the outputs originally at the wiring block's terminal block no. 5 and 6 are shifted by two solenoids to the terminal block no. 7 and 8.



Standard wiring

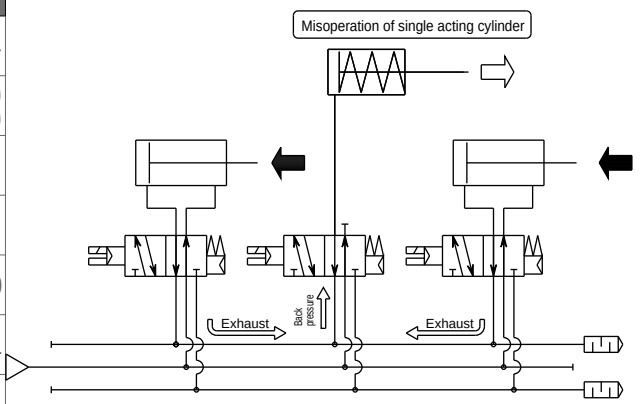
For double wiring, the terminal block No. is shifted and assigned in the same manner. However, the shifting method differs with the type of solenoid valve.

If there is one solenoid valve (2-position single), the terminal block No. is shifted by one. If there are two solenoids (2-position double, 3-position), the terminal block No. is shifted by two.

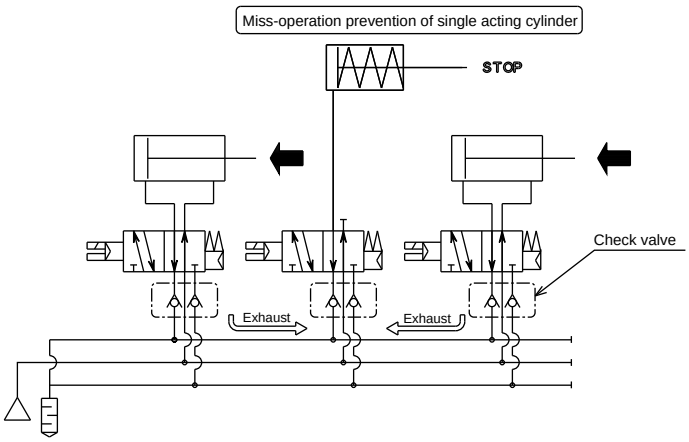
Check valve

Generally, when using the manifold, the single acting cylinder or the double acting cylinder connected to the A/B/R connection valve could misoperate because of the exhaust pressure led in by the other cylinder's drive. "Check valve integrated type" to prevent this misoperation can be selected except for the all port block valve or P/A/B connection valve with which exhaust pressure is not led in.

Example of pneumatics system leading to malfunction.

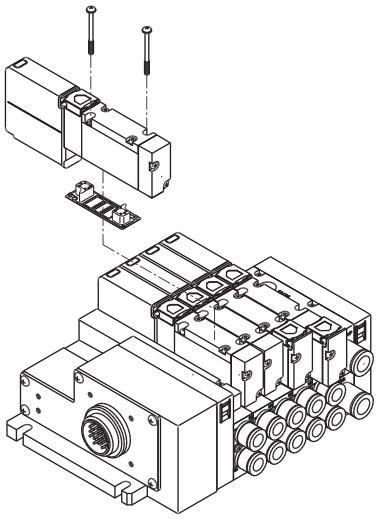


4G series pneumatics system



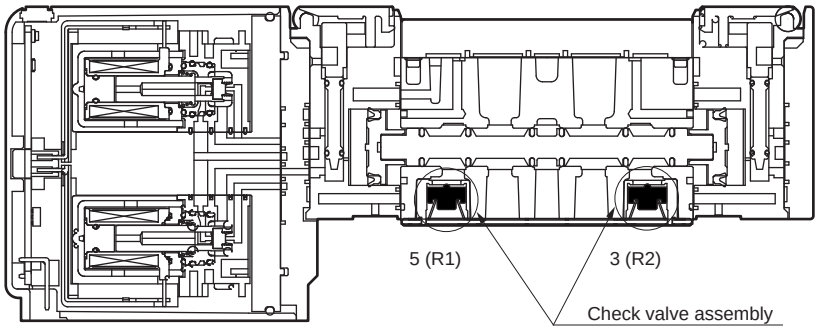
* Note that the cylinder cannot be operated manually even when no pressure is applied.

Internal structure drawing



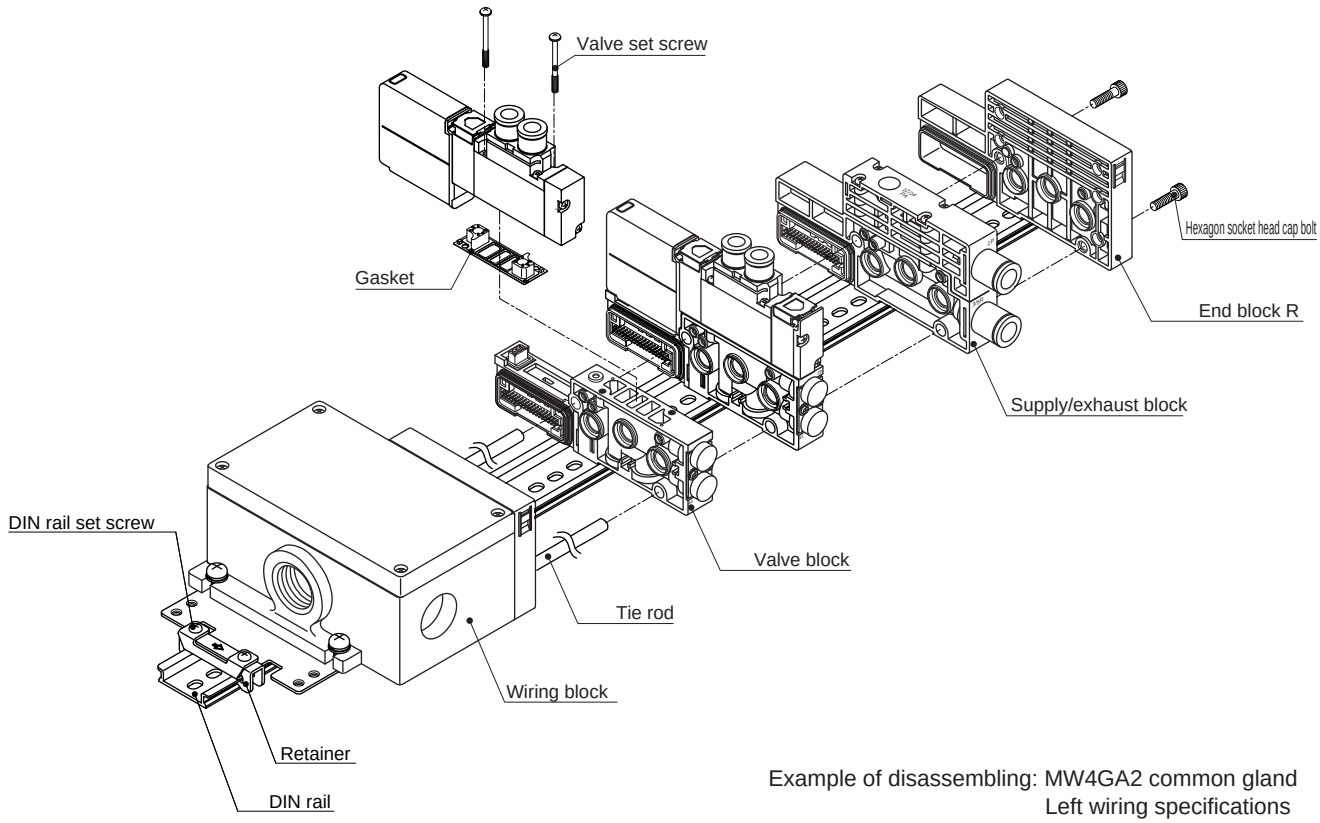
Check valve equipment standard specifications

Model no.	Flow path switchover	5 (R1)	3 (R2)
NW3GA210	N.C.	Selected	-
NW3GA2110	N.O.	-	Selected
NW4G⇕210	2-position single solenoid	Selected	Selected
NW4G⇕220	2-position double solenoid	Selected	Selected
NW4G⇕230	All ports closed	None	None
NW4G⇕240	A/B/R connection	Selected	Selected
NW4G⇕250	P/A/B connection	None	None



Deal drawing of block manifold

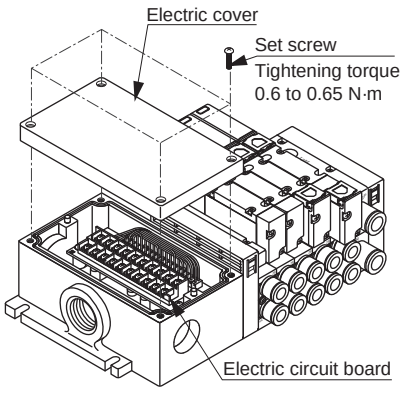
* Refer to the next page for the deal drawing of the serial transmission slave unit and input/output block.



Example of disassembling: MW4GA2 common gland
Left wiring specifications

Removing electric cover

T10



Valve block expantion

(1, 7 are when DIN rail mount.)
(1) Loosen the DIN rail fixing screws on the retainer.
(2) Remove hexagon socket head bolt.
(3) Remove the blocks to the position to be expanded.
(4) Mount the tie-rod for expansion.
(5) Install valve blocks to be added.
(6) Eliminate clearance between blocks, and couple with a hexagon socket head bolt. (Tightening torque: 1.1 to 1.3 N·m)
(7)-A. Catch the retainer jaw onto the DIN rail.
-B. Press the retainer in the direction of the arrow.
-C. Tighten the DIN rail fixing screws.
(Tightening torque 1.2 to 1.6 N·m)

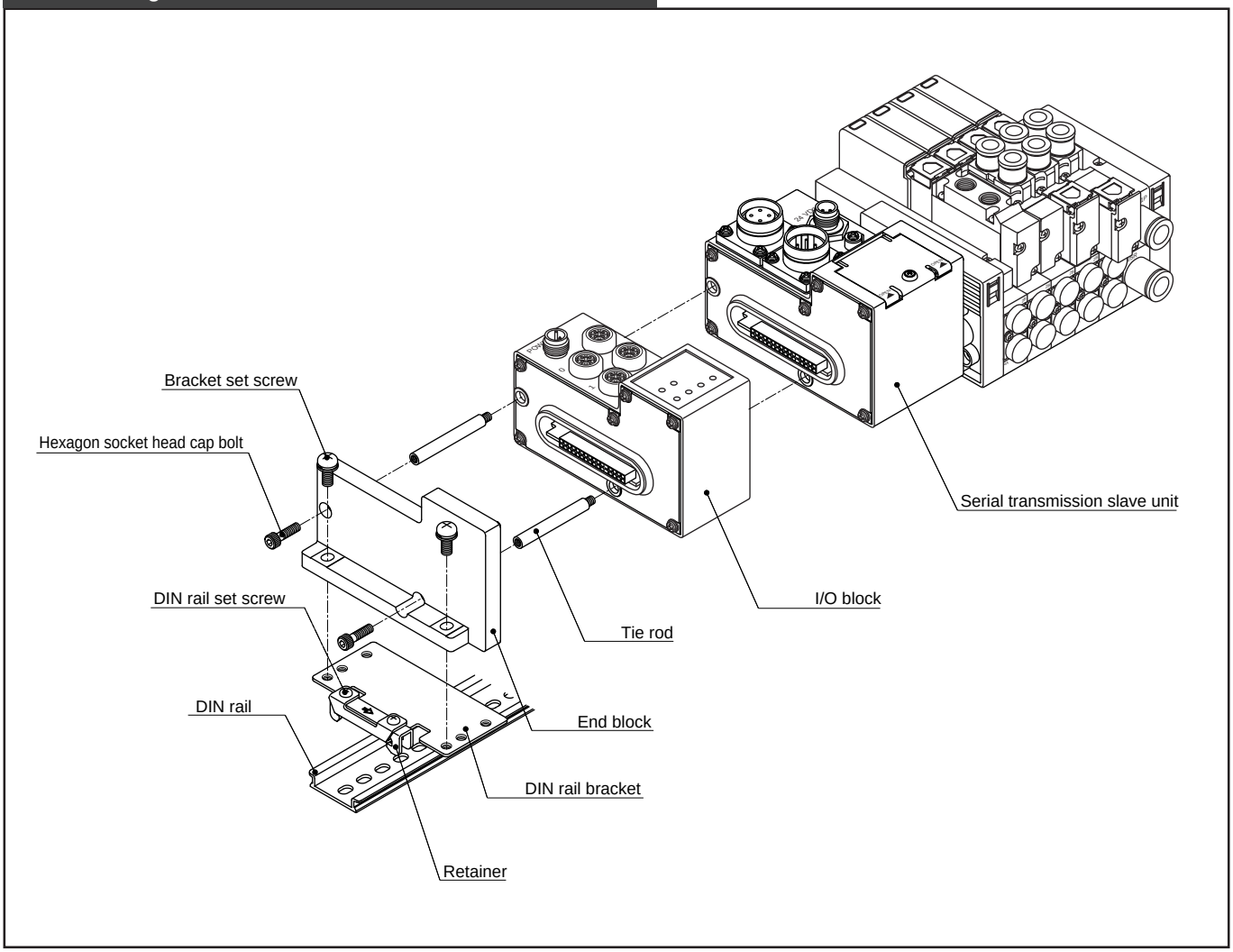
Valve replacement

How to remove
(1) Loosen the two set screws.
(2) Remove the valve from the valve block.
How to install
Install the valve following removal procedures in reverse.
Refer to the table below for the set screw's recommended tightening torque.

Recommended tightening torque of valve set screw

	Size	Recommended tightening torque (N·m)
4G2	M2.5	0.25 to 0.30

Deal drawing of serial transmission slave unit + I/O block



I/O block expansion

(1, 2, 8 and 9 are when DIN rail mount.)

(1) Loosen the DIN rail fixing screws on the retainer.

(2) Remove the mounting bracket, then remove the DIN rail mounting bracket.

(3) Remove hexagon socket head bolt.

(4) Remove the blocks to the position to be expanded.

(5) Mount the tie-rod for expansion.

(6) Install I/O blocks to be added.

(The rotary switch must be set for the output block. Refer to the Precautions for Handling enclosed with the product for details.)

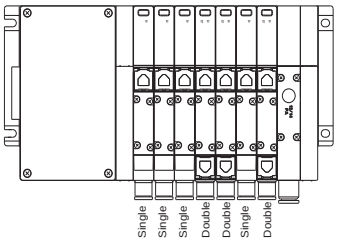
(7) Eliminate clearance between blocks, and couple with a hexagon socket head bolt. (Tightening torque: 1.1 to 1.3 N·m)

(8) Mount the DIN rail mounting bracket with the bracket set screws.
(Tightening torque: 1.8 to 2.3 N·m)

(9)-A. Catch the retainer jaw onto the DIN rail,
-B. Press the retainer in the direction of the arrow.
-C. Tighten the DIN rail fixing screws.
(Tightening torque 1.2 to 1.6 N·m)

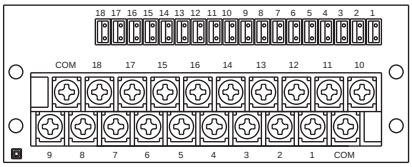
Connection procedure of T10 electric circuit board (standard wiring)

Correspondence rules for connectors installed on the electric circuit board and valve differ with reduced wiring specifications (T10). When wiring the connector, always confirm the connector No. printed on the PCB.
The mixed wiring is shown using the manifold configuration below as an example.

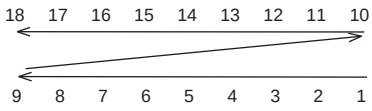


T10

Electric circuit board assembly



Wire in order of arrow



Relations to valves

1) For single SOL
(MF station number; up to 18 stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	18a	17a	16a	15a	14a	13a	12a	11a	10a
Connector No.	9	8	7	6	5	4	3	2	1	COM
Valve No.	9a	8a	7a	6a	5a	4a	3a	2a	1a	COM

2) For double SOL
(MF station number; up to 9 stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	9b	9a	8b	8a	7b	7a	6b	6a	5b
Connector No.	9	8	7	6	5	4	3	2	1	COM
Valve No.	5a	4b	4a	3b	3a	2b	2a	1b	1a	COM

3) For mix manifold
(Up to 18 solenoid stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	7b
Connector No.	9	8	7	6	5	4	3	2	1	COM
Valve No.	7a	6a	5b	5a	4b	4a	3a	2a	1a	COM

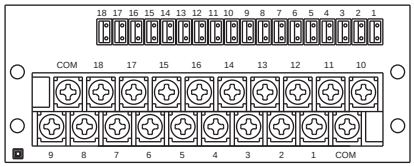
*1: Wiring is required at expansion only when using AC specifications.
*2: Use the valve block with masking plate as a reserved block if specifications will be changed for AC specifications.

Connection procedure of T10 electric circuit board (double wiring)

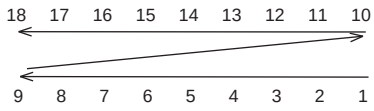
When using double wiring specifications, double solenoid wiring is used regardless of the installed solenoid valve's switching position class. The same wiring is used for the standard wiring and the double SOL with double wiring.

T10

Electric circuit board assembly



Wire in order of arrow



Relations to valves

1) For single SOL
(MF station number; up to 9 stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	9a	(Void)	8a	(Void)	7a	(Void)	6a	(Void)
Connector No.	9	8	7	6	5	4	3	2	1	COM
Valve No.	5a	(Void)	4a	(Void)	3a	(Void)	2a	(Void)	1a	COM

2) For double SOL
(MF station number; up to 9 stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	9b	9a	8b	8a	7b	7a	6b	6a	5b
Connector No.	9	8	7	6	5	4	3	2	1	COM
Valve No.	5a	4b	4a	3b	3a	2b	2a	1b	1a	COM

3) For mix manifold
(Up to 18 solenoid stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	(Void)	(Void)	(Void)	7b	7a	(Void)	6a	5b
Connector No.	9	8	7	6	5	4	3	2	1	COM
Valve No.	5a	4b	4a	(Void)	3a	(Void)	2a	(Void)	1a	COM

How to fill out manifold specifications sheet

● Manifold model no. (example)

Solenoid position 2 type and over

Port size 2 type and over

Serial transmission (CC-Link) (16 points input / 16 points output)

MW 4 GA2 8 0 – CX – T8G7 W HY11 D – 6 – 3

Ⓐ Model no. Ⓑ Solenoid position Ⓒ Port size Ⓔ Reduced wiring Ⓕ Terminal and connector pin array Ⓖ Option Ⓗ Mount type Ⓘ Station number Ⓙ Voltage

Differs from the manifold station No.

Part name	Model no.	Layout (1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30)	Quantity
I/O block (P.476)	NW4GA2-IN- (N)- (K)	○ at 2	1
	NW4GA2-OUT- (N)-B	○ at 1	1
Wiring block (P.475)	NW4GA2-T (8G7)	○ at 3	1
Valve block with solenoid valve (P.422 to 425)	NW4GA2 (1) 0- (C4)	○ at 4	1
	NW4GA2 (2) 0- (C6)	○ at 6	1
	NW4GA2 (3) 0- (C4)	○ at 5	1
	NW4GA2 ( ) 0- ( )		
	NW4GA2 ( ) 0- ( )		
	NW4GA2 ( ) 0- ( )		
	NW3GA2 (1) 0- (C4)	○ at 10	1
	NW3GA2 (11) 0- (C4)	○ at 11	1
Valve block with masking plate (P.470)	NW4G2-MPS		
	NW4G2-MPD	○ at 12	1
Supply/exhaust block (P.472)	NW4G2-Q ( )- (8L)- ( )	○ at 7, 9	2
	NW4G2-Q ( )- ( )- ( )		
	NW4G2-Q ( )- ( )- ( )		
	NW4G2-Q ( )- ( )- ( )		
Partition block (P.472)	NW4G2- (SA)	○ at 8	1
	NW4G2- ( )		
	NW4G2- ( )		
End block R (P.472)	NW4G2- (E) R	○ at 12	1

When installing both the input and output blocks, the output block is on the left side. (With joint facing forward)

Station no. : 1st station

Station no. : 6th station

Indicate at right side.

Use a circle if required.

Use a circle if required when selecting T10 for reduced wiring connection. (Select with the working cable outer diameter.)

DIN rail	Blanking plug	Silencer	Tag plate	Cable clamp	Water proof plug	Accessories
L_7 = ( ) (How to calculate length P.514)	GWP4-B, GWP6-B, GWP8-B, GWP10-B	SLW-H8, SLW-H10	A	W4G-SCL-18A (Applicable cable O.D. ø14.5 to 16.5); W4G-SCL-18B (Applicable cable O.D. ø16.5 to 18.5)	W4G-XSZ-12	

Cable with D sub-connector (refer to page 493.): N4T-CABLE-DO- - Cable with multi connector: W4G-RMC- - Only multi-connector: W4G2-RM21WTP-

If a blank plug and silencer are required, indicate the quantity in the required size field.

For input/output plug. Indicate quantity if required.

Preparing the manifold specifications

- Complete from the left end, with the piping port facing forward.
  (Indicate the block type selected from the block part components (pages 468 to 481) and the layout instructions.)
- Indicate the total number of blocks designated in the required quantity on the right of the table.
- Circle the required accessories.
- Indicate the mounting rail length.(Indicate only when a length other than the standard length is required.)
- Manifold specifications are available for individual series, so fill out corresponding specifications.

MW4GA/B/Z2 (individual wiring, body porting, sub-base side porting, sub-base back porting)··· Page 516
MW4GA2 (reduced wiring body porting) ····· Page 517
MW4GB2 (reduced wiring sub-base side porting) ····· Page 518
MW4GZ2 (reduced wiring sub-base back porting)····· Page 519

* Mounting rail length (L_7)

(1) Calculate the rail length with the following calculation method.
The obtained length is the standard length.
(2) When using the standard length, the length (L_7) need not be indicated in specifications.
Indicate the length when using a non-standard length.

- How to calculate DIN rail length

Manifold length (L_6) = (16 x Valve block Quantity) + (18 x Supply / exhaust block Quantity) + (13.5 x Partition block Quantity) + Wiring block (Including end block) (Select from right table.) + (45 x I/O block Quantity)

DIN rail length (L_7) = L_7' x 12.5

L_7' : $\frac{L_6 + 40}{12.5}$ → round up at the decimal point

Rail mount pitch (L_8) = L_7 - 12.5

Wiring block dimensions table

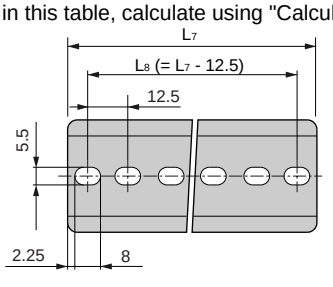
Model no.		Dimension (mm)
Wiring block for reduced wiring	T10	175.5
	T20	110
	T30/5*	106
	T8*	148.5

* End block is included in wiring block.

- DIN rail length quick reference

L_6 ··manifold length	135 or less	135 to 147.5 or less	147.5 to 160	160 to 172.5	172.5 to 185	185 to 197.5	197.5 to 210	210 to 222.5	222.5 to 235	235 to 247.5	247.5 to 260	260 to 272.5	272.5 to 285	285 to 297.5	297.5 to 310	310 to 322.5	322.5 to 335	335 to 347.5	347.5 to 360	360 to 372.5	372.5 to 385	385 to 397.5	397.5 to 410	410 to 422.5	422.5 to 435	435 to 447.5	447.5 to 460	460 to 472.5	472.5 to 485
L_7··rail length	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375	387.5	400	412.5	425	437.5	450	462.5	475	487.5	500	512.5	525
Pitch L_8	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375	387.5	400	412.5	425	437.5	450	462.5	475	487.5	500	512.5

Note 1: If L_6 exceeds the value in this table, calculate using "Calculating the mounting rail length."



How to fill out wiring specifications sheet

Not required for standard wiring and double wiring.

● Wiring specifications (example)

* The following example is filled out according to manifold specifications sheet on page 514.

Connector pin No.	Valve No.																							
T10	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	a																							
2																								
3			a																					
4			b																					
5		a																						
6		b																						
7				a																				
8																								
9					a																			
10																								
11						a																		
12						b																		
13																								
14																								
15																								
16																								
17																								
18																								
COM																								
COM																								

● Notes of wiring specifications

(1) Prepare these specifications for applications other than standard wiring or double wiring, and enclose with manifold specifications.
Please consult with CKD because wiring will be handled as a custom order.

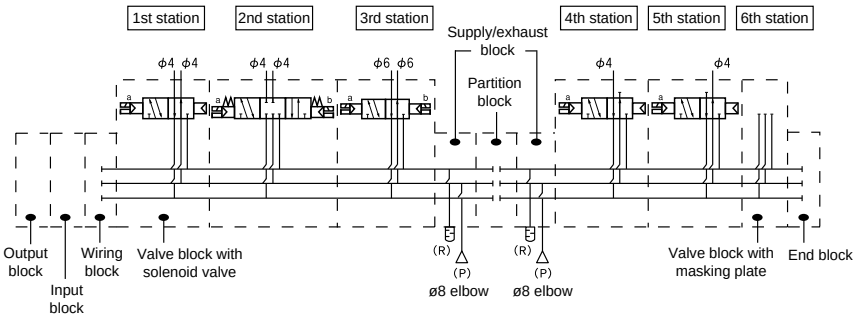
(2) Valve numbers are assigned only to valve blocks from the left facing the port.
Note that numbers differ from installation position numbers.

(3) The valve block with a masking plate is wired beforehand.
Wiring is provided only for the a side when indicated as "-MPS" and on a and b sides when indicated as "-MPD."

(4) The double solenoid or 3-position solenoid valve cannot be assembled onto "-MPS."
Prepare a valve block with a solenoid valve and increase stations for this type of application.
Refer to page 511 for details on expanding.

(5) Reserved wiring for expansion cannot be installed beforehand. Install the valve block with masking plate.

Reference circuit diagram This is the circuit diagram from the manifold (example) on the previous page.



- The rack indicates each block's configuration.
- Manifold station numbers are set in order from the left facing the piping port.
  (* The I/O block, wiring block, supply/exhaust block, partition block and end block are not included in the number of manifold stations.)
- Select the model from the block configuration (pages 468 to 481), individual wiring manifold (pages 409, 413), and reduced wiring manifold (pages 422 to 425, 442 to 445).
- The layout position is set in order from the left facing the piping port.
- When installing both the input and output blocks, the output block is on the left side with piping port facing forward.

MW4GA/B/Z2 (individual wiring) block manifold specifications

● Contact ● Quantity set ● Request date

Slip No.	Order No.

Issue / /

Your company name

Contact

Order No.

● Manifold model no.

MW ☐ G ☐ 2 ☐ 0 – ☐ – R1 ☐ ☐ – ☐ – ☐

Ⓐ Model no. Ⓑ Solenoid position Ⓒ Port size Ⓓ Wiring method Ⓔ Option Ⓕ Mount type Ⓖ Station number Ⓗ Voltage

When completing this form, select the type from the "Block part components" (pages 468 to 481), 409, 413.

Part name	Model no.	Layout 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Quantity
Valve block with solenoid valve (Page 409, 413)	NW4G☐2☐0-☐																															
	NW4G☐2☐1-☐																															
	NW4G☐2☐2-☐																															
	NW4G☐2☐0-☐																															
	NW4G☐2☐0-☐																															
	NW4G☐2☐0-☐																															
	NW3G☐2☐0-☐																															
	NW3G☐2☐0-☐																															
Valve block with masking plate (Page 470)	NW4G☐2-MP-☐-R1																															
	NW4G☐2-MP-☐-R1																															
	NW4G☐2-MP-☐-R1																															
Supply/exhaust block (P.472)	NW4G2-Q☐-☐-☐																															
	NW4G2-Q☐-☐-☐																															
	NW4G2-Q☐-☐-☐																															
	NW4G2-Q☐-☐-☐																															
Partition block (P.472)	NW4G2-S☐																															
	NW4G2-S☐																															
	NW4G2-S☐																															
End block (P.472)	NW4G2-E☐L																															
	NW4G2-E☐R																															

DIN rail	L_7= ☐ (Refer to page 514 on how to calculate length)	Blanking plug								Silencer				Tag plate (attached)		Accessories
		GWP4-B		GWP6-B		GWP8-B		GWP10-B		SLW-H8		SLW-H10		A or B		

MW4GA2 (reduced wiring) block manifold specifications

● Contact ● Quantity set ● Request date

Issue / /

Your company name

Contact

Order No.

Slip No.	Order No.

● Manifold model no.

MW ☐ GA2 ☐ 0 – ☐ – ☐ ☐ ☐ – ☐ – ☐

Ⓐ Model no. Ⓑ Solenoid position Ⓒ Port size Ⓔ Reduced wiring Ⓕ Terminal/connector pin array Ⓖ Option Ⓗ Mount type Ⓘ Station number Ⓙ Voltage

When completing this form, select the type from the "Block part components" (pages 468 to 481), 422 to 425.

Part name (Page)	Model no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Quantity
I/O block (P.476)	NW4GA2-IN-☐-☐																															
	NW4GA2-OUT-☐-B																															
Wiring block (P.475)	NW4G☐2-T☐ (Note 1)																															
Valve block with solenoid valve (Page 422 to 425)	NW4GA2☐ 0-☐																															
	NW4GA2☐ 0-☐																															
	NW4GA2☐ 0-☐																															
	NW4GA2☐ 0-☐																															
	NW4GA2☐ 0-☐																															
	NW4GA2☐ 0-☐																															
	NW3GA2☐ 0-☐																															
	NW3GA2☐ 0-☐																															
Valve block with masking plate (P.470)	NW4GA2-MPS																															
	NW4GA2-MPD																															
Supply/exhaust block (P.472)	NW4G2-Q☐-☐-☐																															
	NW4G2-Q☐-☐-☐																															
	NW4G2-Q☐-☐-☐																															
	NW4G2-Q☐-☐-☐																															
Partition block (P.472)	NW4G2-☐																															
	NW4G2-☐																															
	NW4G2-☐																															
End block (P.472)	NW4G2-☐R																															

DIN rail	Accessories						
L_7 = ☐ (Refer to page 558 on how to calculate length)	Blanking plug: GWP4-B, GWP8-B, GWP6-B, GWP10-B	Silencer: SLW-H8, SLW-H10	Tag plate: A	Cable clamp: W4G-SCL-18A (Applicable cable O.D. ø14.5 to 16.5)	Cable clamp: W4G-SCL-18B (Applicable cable O.D. ø16.5 to 18.5)	Water proof plug: W4G-XSZ-12	
	Cable with D sub-connector (refer to page 493.): N4T-CABLE-DO☐-☐		Cable with multi connector: W4G-RMC-☐		Only multi-connector: W4G2-RM21WTP-☐		

Note 1: Designate the wiring block model no. as shown below.

NW4G☐2-T☐

- First box — Blank: T10, T20, T30, T5*; A : T8*
- Second box — Type of wiring block (Refer to page 475.)

MW4GB2 (reduced wiring) block manifold specifications

Issue / /
Your company name
Contact
Order No.

● Contact ● Quantity set ● Request date

Slip No.	Order No.

● Manifold model no.

MW4GB2 □ **0 –** □ **–** □ □ □ □ **–** □ **–** □

Ⓐ Model no. Ⓑ Solenoid position Ⓒ Port size Ⓔ Reduced wiring Ⓕ Terminal/connector pin array Ⓖ Option Ⓗ Mount type Ⓘ Station number Ⓙ Voltage

When completing this form, select the type from the "Block part components" (pages 468 to 481), 442 to 445.

Part name (Page)	Model no.	Layout 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Quantity
I/O block (P.476)	NW4GB2-IN-□-□																															
	NW4GB2-OUT-□-B																															
Wiring block (P.475)	NW4G□2-T□ (Note 1)																															
Valve block with solenoid valve (Page 442 to 445)	NW4GB2 □ 0- □																															
	NW4GB2 □ 0- □																															
	NW4GB2 □ 0- □																															
	NW4GB2 □ 0- □																															
	NW4GB2 □ 0- □																															
	NW4GB2 □ 0- □																															
	NW4GB2 □ 0- □																															
	NW4GB2 □ 0- □																															
Valve block with masking plate (P.470)	NW4GB2-MPS- □																															
	NW4GB2-MPD- □																															
Supply/exhaust block (P.472)	NW4G2-Q□-□-□																															
	NW4G2-Q□-□-□																															
	NW4G2-Q□-□-□																															
	NW4G2-Q□-□-□																															
Partition block (P.472)	NW4G2-□																															
	NW4G2-□																															
	NW4G2-□																															
End block (P.472)	NW4G2-□ R																															

DIN rail	L7 = □ (Refer to page 558 on how to calculate length)	Blanking plug				Silencer		Tag plate		Cable clamp				Water proof plug		Acces- sories
										W4G-SCL-18A		W4G-SCL-18B				
		GWP4-B		GWP6-B		SLW-H8		B		Applicable cable O.D. ø14.5 to 16.5		Applicable cable O.D. ø16.5 to 18.5		W4G-XSZ-12		
		GWP8-B		GWP10-B		SLW-H10										
		Cable with D sub-connector (refer to page 493.)					Cable with multi connector					Only multi-connector				
		N4T-CABLE-DO□ - □					W4G-RMC-□					W4G2-RM21WTP-□				

Note 1: Designate the wiring block model no. as shown below.

NW4G□2-T□

- □ after NW4G: Blank: T10, T20, T30, T5*; B: T8*
- □ after 2-T: Type of wiring block (Refer to page 475.)

MW4GZ2 (reduced wiring) block manifold specifications

● Contact	● Quantity set
● Request date	
Slip No.	Order No.

Issue / /

Your company name

Contact

Order No.

● Manifold model no.

MW4GZ2 □ 0 – □ – □ □ □ – □ – □

Ⓐ Model no. Ⓑ Solenoid position Ⓒ Port size Ⓔ Reduced wiring Ⓕ Terminal / connector pin array Ⓖ Option Ⓘ Station number Ⓙ Voltage

When completing this form, select the type from the "Block part components" (pages 468 to 481), 442 to 445.

Part name (Page)	Model no.	Layout																													Quantity
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
I/O block (P.476)	**NW4GB2-IN-□-□**																														
	NW4GB2-OUT-□-B																														
Wiring block (P.475)	**NW4G□2-T□** (Note 1)																														
Valve block with solenoid valve (Page 442 to 445)	**NW4GZ2□0-□**																														
	NW4GZ2□0-□																														
	NW4GZ2□0-□																														
	NW4GZ2□0-□																														
	NW4GZ2□0-□																														
	NW4GZ2□0-□																														
	NW4GZ2□0-□																														
	NW4GZ2□0-□																														
Valve block with masking plate (P.470)	**NW4GZ2-MPS-□**																														
	NW4GZ2-MPD-□																														
Supply/exhaust block (P.472)	**NW4G2-Q□-□-□**																														
	NW4G2-Q□-□-□																														
	NW4G2-Q□-□-□																														
	NW4G2-Q□-□-□																														
Partition block (P.472)	**NW4G2-□**																														
	NW4G2-□																														
	NW4G2-□																														
End block (P.472)	**NW4G2-□R**																														

Accessories	Blanking plug				Silencer		Tag plate		Cable clamp				Water proof plug	Accessories
									W4G-SCL-18A		**W4G-SCL-18B**			
	GWP4-B		**GWP6-B**		**SLW-H8**		**B**		Applicable cable O.D. ø14.5 to 16.5		Applicable cable O.D. ø16.5 to 18.5		**W4G-XSZ-12**	
	GWP8-B		**GWP10-B**		**SLW-H10**									
	Cable with D sub-connector (refer to page 493.)				Cable with multi connector					Only multi-connector				
	N4T-CABLE-DO□-□				W4G-RMC-□					W4G2-RM21WTP-□				

Note 1: Designate the wiring block model no. as shown below.

NW4G□2-T□

- First box: Blank: T10, T20, T30, T5*; B : T8*
- Second box: Type of wiring block (Refer to page 475.)

Common gland type (T10) wiring specifications

* Prepare these specifications for applications other than standard wiring or double wiring and enclose with manifold specifications.
* Not required for standard wiring and double wiring.

Connector pin No.	Valve No.																							
T10	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								
16																								
17																								
18																								
COM																								
COM																								

D sub-connector type (T30) wiring specifications

* Prepare these specifications for applications other than standard wiring or double wiring and enclose with manifold specifications.
* Not required for standard wiring and double wiring.

Connector pin No.	Valve No.																							
T30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1																								
14																								
2																								
15																								
3																								
16																								
4																								
17																								
5																								
18																								
6																								
19																								
7																								
20																								
8																								
21																								
9																								
22																								
10																								
23																								
11																								
24																								
12																								
25																								
13 (COM)																								

Flat cable connector type (T51/T53) wiring specifications

* Prepare these specifications for applications other than standard wiring or double wiring and enclose with manifold specifications.
* Not required for standard wiring and double wiring.

Connector pin No.		Valve No.																							
T51	**T53**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1																								
2	2																								
3	3																								
4	4																								
5	5																								
6	6																								
7	7																								
8	8																								
9	9																								
10	10																								
11	11																								
12	12																								
13	13																								
14	14																								
15	15																								
16	16																								
17	17																								
18	18																								
19 COM	19																								
20 COM	20																								
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	23																								
	24																								
	25 COM																								
	26 COM																								