

# W4G4

## 5 port pilot operated valve plug-in manifold

### Overview

The W4G4 Series plug-in manifold has been upgraded in all performance areas, including installation, workability area, life, and power consumption.

### Features

**40% lower power consumption**  
Major energy conservation is realized using a 1 W coil. (DC specifications)

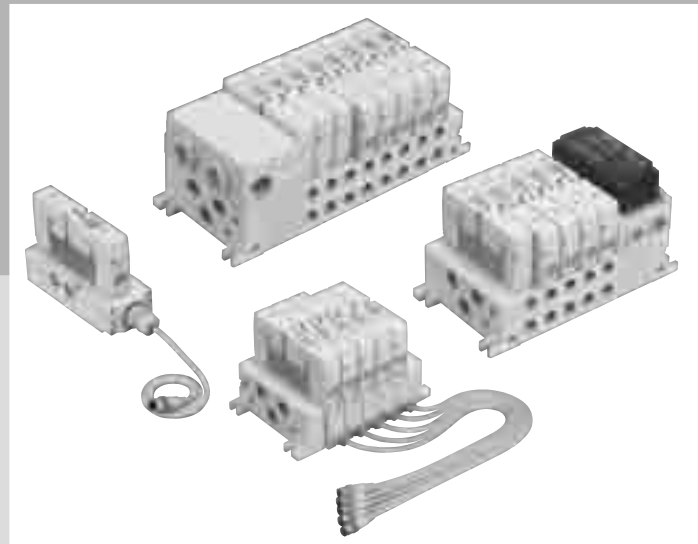
**30% smaller installation area**  
The valve width and length have been decreased to make the manifold more compact, 30% smaller than conventional.

**Improved safety and reliability**  
A rubber cover on the manual button prevents dirt, etc., from getting caught, eliminating malfunction.

**Protective structure equivalent to IP65**  
A dust-resistant jet-proof structure equivalent to IP65 is used to enable operation in harsh environments.

**Easily expanded stations**  
Connection between the manifold blocks enables valve blocks to be expanded easily without extra work.

**Unrestricted layout of wiring blocks**  
The wiring block can be selected from the right (right specifications) or left (left specifications) of the manifold.



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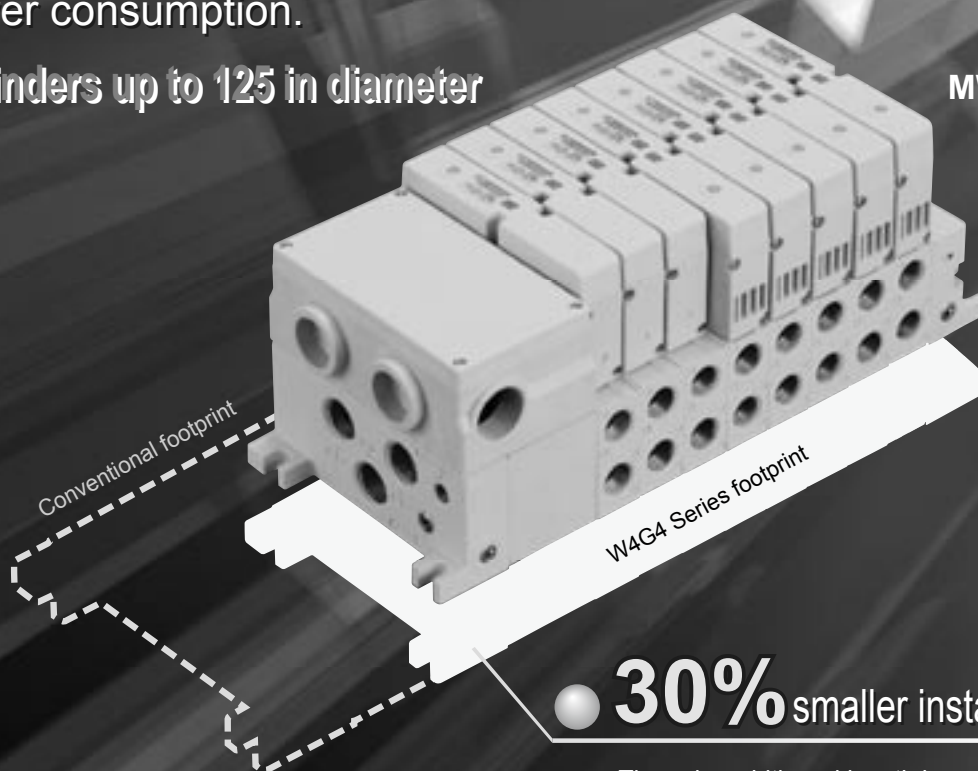
# Slim profile

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

The W4G4 Series plug-in manifold has been upgraded in all performance areas, including installation area, workability, life, and power consumption.

Drive cylinders up to 125 in diameter

MW4GB4-T10



● **40%** lower power consumption

Major energy conservation is realized using a 1 W coil.  
(DC specifications)

● **30%** smaller installation area

The valve width and length have been decreased to make the manifold more compact, 30% smaller than conventional.

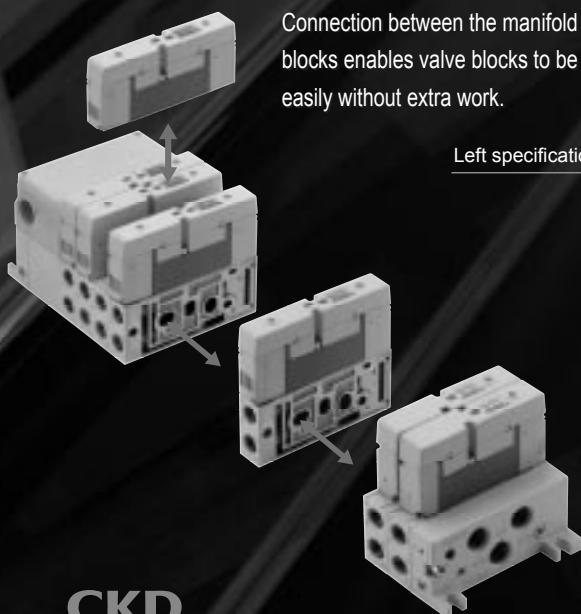
● **Unrestricted layout of wiring blocks**

The wiring block can be selected from the right (right specifications) or left (left specifications) of the manifold.

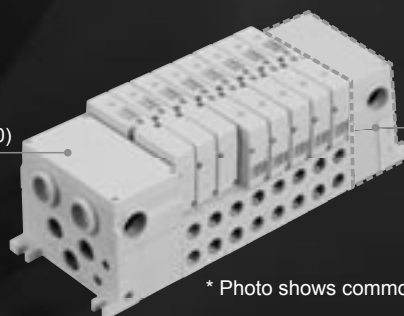
● **Easily expanded stations**

Connection between the manifold blocks enables valve blocks to be expanded easily without extra work.

Connection between the manifold and blocks enables valve blocks to be expanded easily without extra work.



Left specifications (model no.: T10)



Right specifications (model no.: T10R)

\* Photo shows common gland.

# W4G4 Series



CKD  
Green  
Technology

- Upgraded: Operability
- Upgraded: Safety
- Upgraded: Reliability
- Upgraded: Durability

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

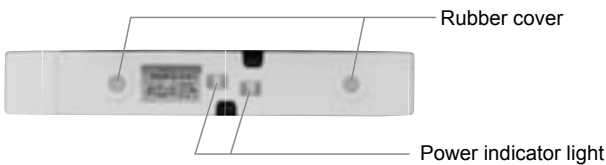
PCD/  
FS/FD

Ending

Plug-in manifold  
5 port pilot operated valve

## Improved safety and reliability

A rubber cover on the manual button prevents dirt, etc., from getting caught, eliminating malfunction.

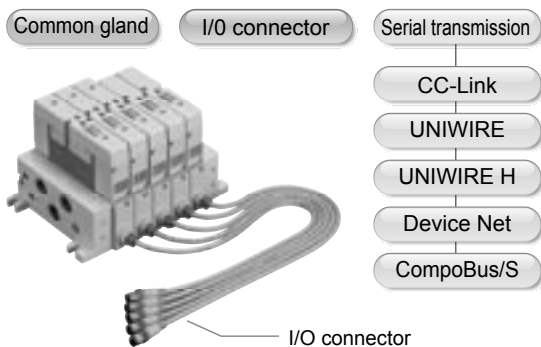


## 2-color indicator

Orange (solenoid a) and green (solenoid b) are used for the power lamp.

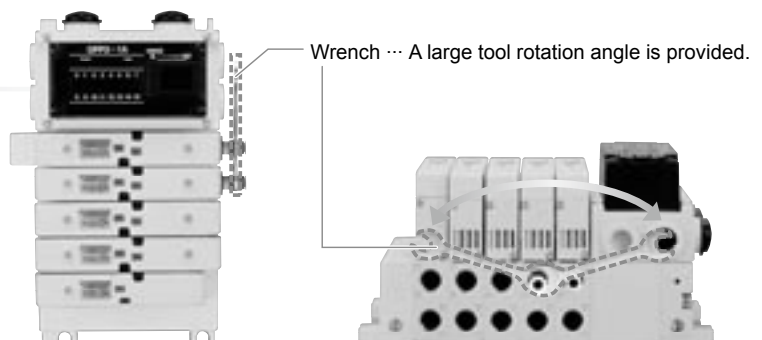
## Ample wire connections

CC-Link, DeviceNet, UNIWIRED, UNIWIRED H, a common gland, and an I/O cable connector (separate wiring) have been prepared for serial transmission.



## Easy, smooth piping

The pipe coupling is flush with no protruding valves, so rotating tools such as wrenches are used easily, improving piping work efficiency.



## Improved maintenance

The new pilot air OFF function makes it easy to service and inspect the device. (M7 option)



## Greatly extended life

Life is now even longer with the improved sliding section and packing, etc.

## Protective structure equivalent to IP65

A dust-resistant jet-proof structure equivalent to IP65 is used to enable operation in harsh environments.

## RoHS Directive compliant

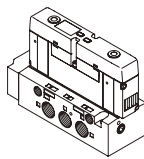
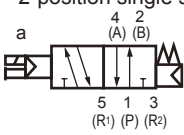
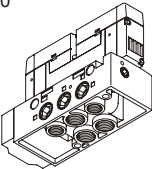
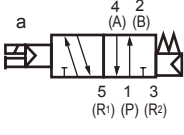
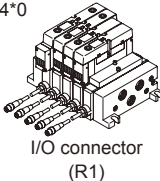
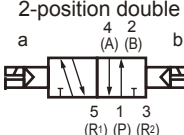
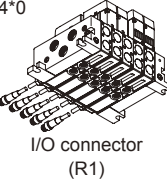
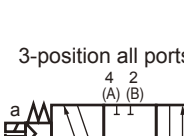
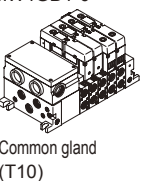
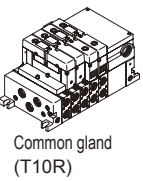
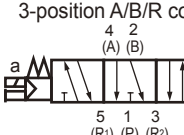
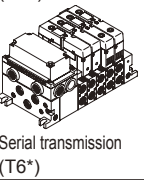
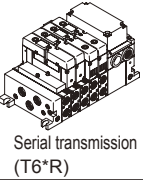
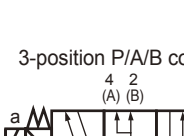
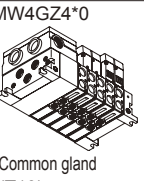
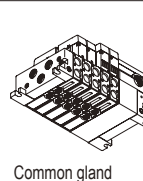
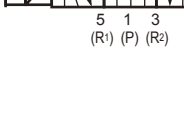
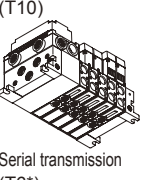
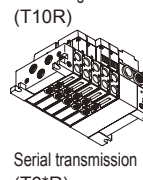

This eco-friendly design complies with RoHS Directives.

# RoHS

## Improved design

The new white color provides a refreshing touch.

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
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

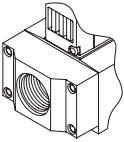
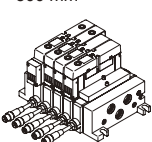
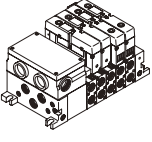
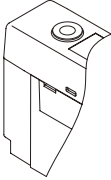
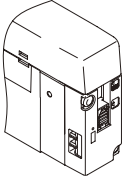
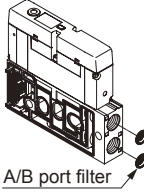
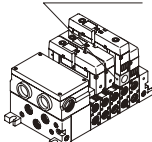
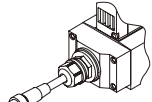
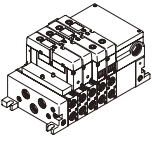
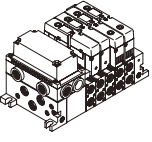
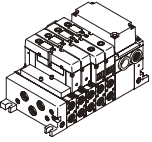
Series variation / appearance	Model no.	Position No. of solenoid JIS symbol	Valve performance		Voltage			
			Flow characteristics C (dm <sup>3</sup> /s-bar) Note 1	Applicable cylinder bore size	100 VAC	24 VDC	12 VDC	110 VAC
					1	3	4	5
<b>Discrete</b> Sub-base side porting  W4GB4*0 <b>W4GB4</b>	<b>W4GB4</b>	● 5 port valve 2-position single solenoid 	To 7.3	To ø125	●	●	●	●
					Sub-base back porting  W4GZ4*0 <b>W4GZ4</b>	<b>W4GZ4</b>	● 5 port valve 2-position single solenoid 	●
<b>Individual wiring manifold</b> Sub-base side porting  I/O connector (R1) MW4GB4*0 <b>MW4GB4 (NW4GB4)</b>	Individual wiring (-R1) <b>MW4GB4 (NW4GB4)</b>	2-position double solenoid 	To 8.3	To ø125	●	●		
					Sub-base back porting  I/O connector (R1) MW4GZ4*0 <b>MW4GZ4 (NW4GZ4)</b>	<b>MW4GZ4 (NW4GZ4)</b>	3-position all ports closed 	●
<b>Reduced wiring manifold</b> Sub-base side porting  Common gland (T10)  Common gland (T10R) MW4GB4*0 <b>MW4GB4 (NW4GB4)</b>	Common gland Left (-T10) Right (-T10R) Serial transmission Left (-T6*) Right (-T6*R) <b>MW4GB4 (NW4GB4)</b>	3-position A/B/R connection 	To 8.3	To ø125	●	●	●	●
					Sub-base back porting  Common gland (T10)  Common gland (T10R) MW4GZ4*0 <b>MW4GZ4 (NW4GZ4)</b>	Common gland Left (-T10) Right (-T10R) Serial transmission Left (-T6*) Right (-T6*R) <b>MW4GZ4 (NW4GZ4)</b>	3-position P/A/B connection 	●
Sub-base back porting  Common gland (T10)  Common gland (T10R) MW4GZ4*0 <b>MW4GZ4 (NW4GZ4)</b>	Common gland Left (-T10) Right (-T10R) Serial transmission Left (-T6*) Right (-T6*R) <b>MW4GZ4 (NW4GZ4)</b>	3-position P/A/B connection 	To 8.3	To ø125	●	●	●	●
Sub-base back porting  Common gland (T10)  Common gland (T10R) MW4GZ4*0 <b>MW4GZ4 (NW4GZ4)</b>	Common gland Left (-T10) Right (-T10R) Serial transmission Left (-T6*) Right (-T6*R) <b>MW4GZ4 (NW4GZ4)</b>	3-position P/A/B connection 	To 8.3	To ø125	●	●	●	●

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

	Protective structure	Solenoid position						A/B piping port								Electric connection				Page	
		2-position		3-position			Push-in joint			Female thread					Gland	I/O connector	Common gland	Serial transmission			
		Single solenoid	Double solenoid	All ports closed	A/B/R connection	P/A/B connection	Mix	ø8	ø10	ø12	Rc 1/4	Rc 3/8	G 1/4	G 3/8					NPT 1/4		NPT 3/8
															C8	C10	C12	08			
	IP65	●	●	●	●	●					●	●	●	●	●	●	●	●	●	●	532
	IP65	●	●	●	●	●					●	●	●	●	●	●	●	●	●	●	532
	IP65	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	538
	IP65	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	538
	IP65	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	542
	IP65	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	542
	IP65	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	542

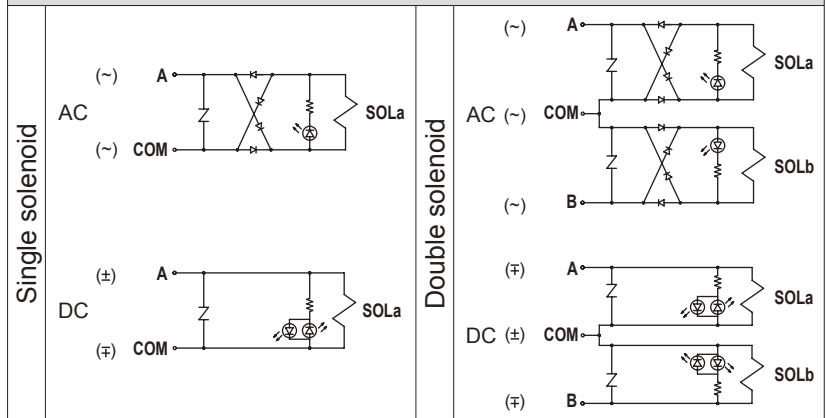
MN3E0  
 MN4E0  
 4GA/B  
 M4GA/B  
 MN4GA/B  
 4GA/B (Master)  
 W4GA/B2  
**W4GB4**  
 MN3S0  
 MN4S0  
 4TB  
 4L2-4/LMF0  
 4SA/B0  
 4SA/B1  
 4KA/B  
 4F  
 PV5G/CMF  
 PV5/CMF  
 3MA/B0  
 3PA/B  
 P/M/B  
 NP/NAP/NVP  
 4F\*0E  
 HMV  
 HSV  
 2QV  
 3QV  
 SKH  
 PCD/FS/FD  
 Ending  
 Plug-in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

# W4G4 Series

	Electric connection			Manual override (Provided as standard)	Other options				
	Discrete	Individual wiring manifold	Reduced wiring manifold		M	M7	K	F	Z1
MN3E0 MN4E0									
4GA/B									
M4GA/B	Blank	R1	T10	M	M7	K	F	Z1	
MN4GA/B									
4GA/B (Master)		● Lead wire length 500 mm 				Individual circuit specifications of main pressure and pilot pressure.			
W4GA/B2									
W4GB4									
MN3S0 MN4S0	R1		T10R						
4TB	● Lead wire length 500 mm								
4L2-4/ LMF0						● Locking Pilot air OFF when slide upwards. Original position during normal use.	A Coolant proof	Z3 Exhaust spacer	
4SA/B0									
4SA/B1									
4KA/B			T6*						
4F									
PV5G/ CMF									
PV5/ CMF									
3MA/B0									
3PA/B			T6*R						
P/M/B									
NP/NAP/ NVP									
4F*0E									
HMV HSV									
2QV 3QV									
SKH									
PCD/ FS/FD									
Ending									

## Electric connection circuit diagram (Inside solenoid valve)

With light and surge suppressor (provided as standard)





## Pneumatic components

# Safety precautions

Always read this section before starting use.  
Refer to Intro 63 for precautions of general valves.

### 5 port pilot operated valve W4G4 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 followings.

■ IEC (International Electrotechnical Commission) standards (IEC60529 (IEC529: 1989-11))

IP-\*\*

Protection property symbols (International Protection)

1st characteristic number (protection grade for foreign solid)

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 <sup>2</sup> of test sample (exterior) surface area from all directions, for a total of 3 minutes or more. 2.5 to 3 m 12.5 L/min Spray nozzle I.D. : ø6.3 mm

### 2. Alternating current voltage specifications

#### CAUTION

■ AC voltage specifications are built into all wave rectification circuits.

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. Surge suppressor

#### CAUTION

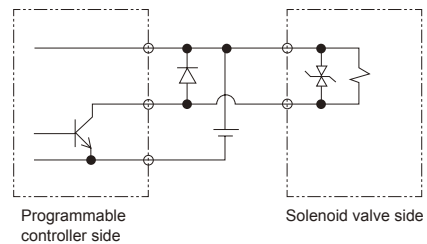
■ "The surge suppressor enclosed with the solenoid valve is to protect the output contact for that solenoid valve's drive. There is no significant protection for other devices in the area, and the surge may cause damage or malfunctions. Surge generated by other devices could be absorbed and cause damage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

- 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.

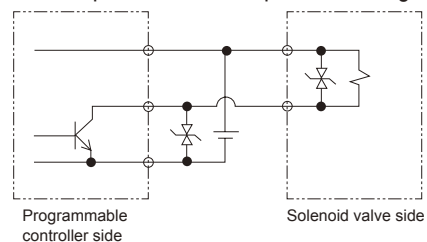
Rated voltage	Reverse voltage value when OFF
12 VDC	27 V
24 VDC	47 V

- 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.

(Output transistor protection circuit parallel setting example 1)



(Output transistor protection circuit parallel setting example 2)



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

Plug-in manifold  
5 port pilot operated valve

## Design & Selection

- If another device or solenoid valve is connected in parallel to the solenoid valve, reverse voltage surge generated when 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 reverse 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.

- The surge suppressor incorporated in the solenoid valve often short-circuits if damaged by overvoltage or overcurrent from a source other than the solenoid valve. 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.

### 4. Partition plug

- When using partition plug, consult with CKD sales office.

## Installation & Adjustment

### 1. Common

#### ⚠ CAUTION

##### ■ Port indication

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

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
Pilot air supplying port	12/14	PA
Pilot exhaust port	82/84	PR

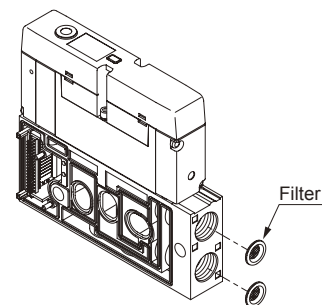
- Any valve mounting attitude is permissible. Check the port symbol to pipe as a reverse action such as cylinder, etc., is not created.

### 2. Port filter

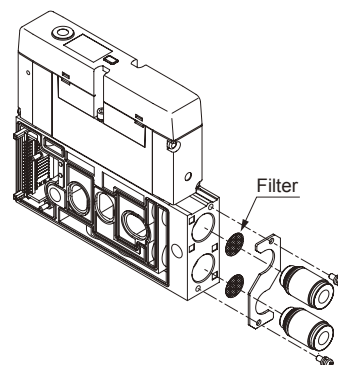
#### ⚠ CAUTION

- Port filter is used to prevent foreign materials from entering, and problems in a valve. This is not for improving quality of compressed air, so read the warning and the cautions in the Introduction very well, then implement installation and adjustment. 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 A/B port filter



For female thread type



For cartridge joint



## During Use & Maintenance

### 1. Valve replacement

**⚠ CAUTION**

■ Check that the gasket does not fall off when replacing and installing the valve.

Mounting bolt	Thread size	Hexagonal wrench size	Proper tightening torque (N·m)
Hexagon socket head bolt	M4	Nominal 3	2.4 to 2.6

### 2. Pilot air OFF function (M7)

**⚠ CAUTION**

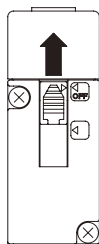
■ The supply of pilot air is forcibly stopped when power is on, so the main valve can be switched even when power is on.  
 When using the OFF function, caution is required because the cylinder moves immediately when using the 2-position single and 3-position A/B/R connection or P/A/B connection.

### Output port destination list

Solenoid position		OFF function (energized side M7 switch)		De-energized side manual
		No operation	Operation (OFF)	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)
3-position	All ports	b side sol. energizing 2 (B)	2 (B)	4 (A)
	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)	

■ How to operate M7 switch

- ① When using OFF function  
 Slide the M7 switch in the direction of the arrow until it stops.  
 This is a lock switch, so the OFF function is not reset even if the switch is released.



- ② During normal use  
 Return the M7 switch to the original position.

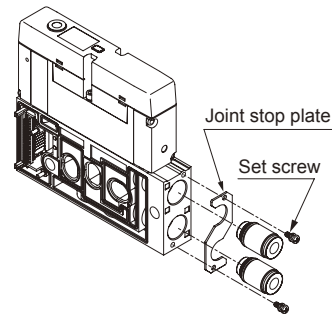
**WARNING**

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

### 3. How to replace cartridge joint

**⚠ CAUTION**

Check procedures before changing the push-in joint size. Problems such as air leakage could occur if the joint is not installed properly or if mounting threads are not tightened sufficiently.



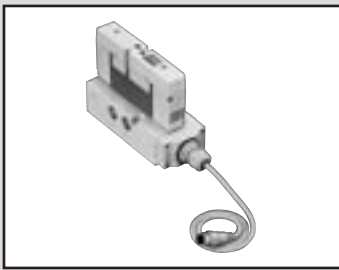
- ① Remove the set screw.
- ② Pull out the joint stopper plate and joint together.
- ③ Align the stopper plate with the groove on the replacement joint, and assemble temporarily.
- ④ Assemble the stopper plate and joint together, and tighten the set screw. Pull on the joint to confirm that it is properly installed.  
 (Tightening torque: 0.55 to 0.65 N·m)

### Cartridge type push-in joint model no.

Model	Part name	Model no.
W4G4	ø8 straight	4G4-JOINT-C8
	ø10 straight	4G4-JOINT-C10
	ø12 straight	4G4-JOINT-C12

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

Plug-in manifold  
5 port pilot operated valve



Discrete  
sub-base side porting and back porting

# W4GB4/W4GZ4 Series

● Applicable cylinder bore size:  $\varnothing 63$  to  $\varnothing 125$



Refer to Intro 17 for  
(Subject: DC voltage) details.

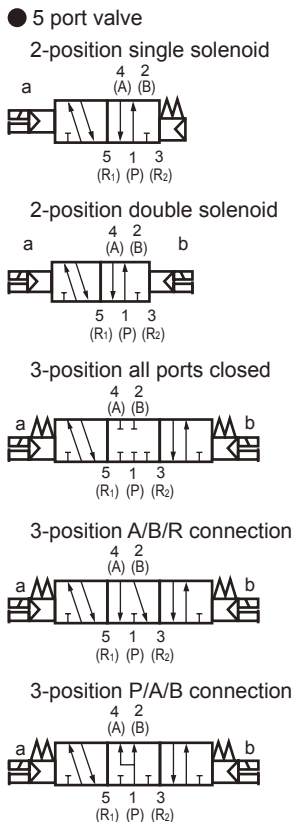


## Common specifications

Descriptions	W4GB4/W4GZ4
Type of valve / operation method	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	1.0
Min. working pressure MPa	0.2
Withstanding pressure MPa	1.50
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking type (standard)
Lubrication Note 1	Not required
Protective structure Note 2	Dust proof / jet-proof (IP65 or equivalent)
Vibration / impact m/s <sup>2</sup>	49 or less / 294 or less
Working environment	Containing corrosive gas is impermissible.

Note 1: Use the turbine oil Class 1 ISO VG32 if lubricated.  
Excessive lubrication results in instable operation.  
Note 2: IP65 (IEC60529 (IEC529: 1989-11)) standards are applied to the test.  
Refer to page 529 for details.  
Note 3: The working pressure range is 0 to 1.0 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 to 1.0 MPa.

## JIS symbol



## Electric specifications

Descriptions	W4GB4/W4GZ4	
Rated voltage	DC	12, 24
	V AC	100 (50/60Hz)
		110 (50/60Hz)
Rated voltage fluctuation range	±10%	
Holding current	12 VDC	0.100
	A 24 VDC	0.050
		100 VAC
	110 VAC	0.024
Power consumption	12 VDC	1.2
Note 4 W	24 VDC	1.2
Apparent power	100 VAC	2.4
	VA 110 VAC	2.6
Heat proof class	B (molded coil)	

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

## Individual specifications

Descriptions	W4GB4	W4GZ4
Port size	Rc1/4, Rc3/8, G1/4, G3/8, NPT1/4, NPT3/8	
	R port	Rc1/4, Rc3/8, G1/4, G3/8, NPT1/4, NPT3/8
	PA/PR port	Rc1/8, G1/8, NPT1/8

Descriptions	W4GB4/W4GZ4		
	When ON		When OFF
Response time	2-position	Single solenoid	30
		Double solenoid	30
	3-position	A/B/R connection	50
			38
			-
			58

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

Descriptions	Gland	I/O connector
Weight g	2-position	701
	Double solenoid	745
	3-position	777
	755	799
	831	

## Flow characteristics

Model no.	Solenoid position	P → A/B		A/B → R		
		C (dm <sup>3</sup> /s·bar)	b	C (dm <sup>3</sup> /s·bar)	b	
W4GB4	2-position	7.7	0.31	7.3	0.16	
	3-position	All ports closed	6.6	0.19	6.4	0.21
		A/B/R connection	6.5	0.15	7.3	0.04
		P/A/B connection	7.4	0.21	7.1	0.16

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

Note 2: Flow characteristics are values for port size Rc3/8.

## Coolant proof specifications

Can be selected with "E" option "A" in How to Order on Page 533.

# W4GB4/W4GZ4 Series

Discrete valve: Sub-base side porting and back porting

## How to order

● Discrete

**W4GB4** (3) (0) — (10) - (R1) (MF) - (3)

**W4GZ4** (3) (0) — (10) - (R1) (M7) - (3)

● Only discrete sub-plate

**W4GB4** — (SP) - (10) - (R1) (K)

**W4GZ4** — (SP) - (10) - (R1) (K)

Ⓐ Model no.

Sub-plate

Ⓑ Solenoid position

Ⓒ Port size

Ⓓ Electric connection

Ⓔ Option

Ⓕ Voltage

## ⚠ Note on selection guide

Note 1: 3(R2) and 5(R1) ports are Rc1/4 for back porting.

Note 2: 3(R2) and 5(R1) ports are G1/4 for back porting.

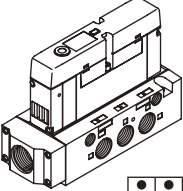
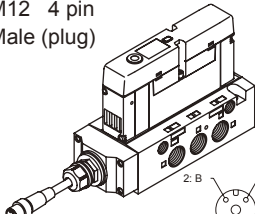

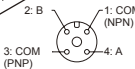
Note 3: 3(R2) and 5(R1) ports are NPT1/4 for back porting.

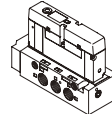
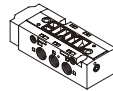
Note 4: Voltage is only DC specifications for an I/O connector.

Note 5: Select either "M" or "M7".

Note 6: Both lock equipment with non-locking manual override and pilot air OFF function are provided.

## Electric connection

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

Ⓐ Model no.			
Discrete	Only discrete sub-plate		
			
W4GB4	W4GZ4	W4GB4	W4GZ4

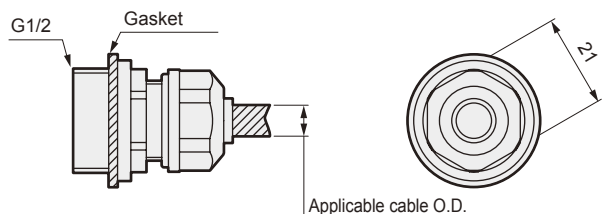
Symbol	Descriptions	W4GB4	W4GZ4	W4GB4	W4GZ4
<b>Ⓑ Solenoid position</b>					
1	2-position single solenoid	●	●		
2	2-position double solenoid	●	●		
3	3-position all ports closed	●	●		
4	3-position A/B/R connection	●	●		
5	3-position P/A/B connection	●	●		
<b>Ⓒ Port size {1(P), 2(B), 4(A) port}</b>					
08	Rc1/4	●	● Note 1	●	● Note 1
10	Rc3/8	●	● Note 1	●	● Note 1
08G	G1/4	●	● Note 2	●	● Note 2
10G	G3/8	●	● Note 2	●	● Note 2
08N	NPT1/4	●	● Note 3	●	● Note 3
10N	NPT3/8	●	● Note 3	●	● Note 3
<b>Ⓓ Electric connection (light and surge suppressor provided as standard)</b>					
Blank	Gland	●	●	●	●
R1	I/O connector (500 mm for DC) Note 4	●	●	●	●
<b>Ⓔ Option</b>					
M	Non-locking (standard) Note 5	●	●		
M7	Lock with pilot air OFF Note 5, Note 6	●	●		
K	External pilot	●	●	●	●
A	Coolant proof	●	●		
F	A/B port filter	●	●	●	●
<b>Ⓕ Voltage</b>					
1	100 VAC	●	●		
3	24 VDC	●	●		
4	12 VDC	●	●		
5	110 VAC	●	●		

is not available.

## Kit model no. for gland type

● Cable clamp (with gasket)

Model no.	Descriptions
W4G-OA-W1608C1	This is used to protect a cable from dust and jet.



Applicable cable outer diameter :  $\phi 6$  to  $\phi 8$   
(Reference value)

Cable clamp body tightening torque: 2.0 to 2.4 N·m

Tightening cap tightening torque : 0.5 to 0.7 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

Plug-in manifold  
5 port pilot operated valve

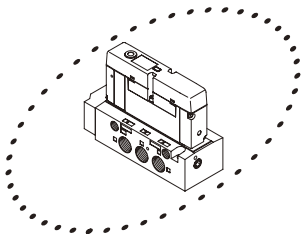
# W4GB4/W4GZ4 Series

Discrete valve: Sub-base side porting and back porting

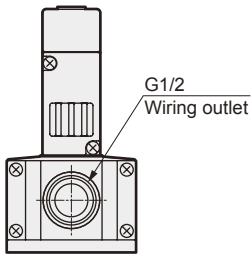
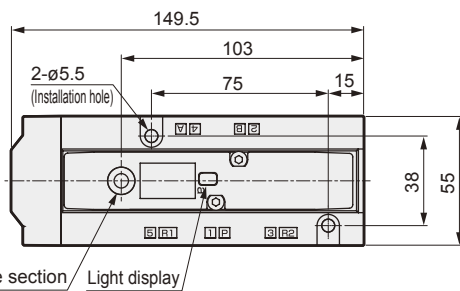
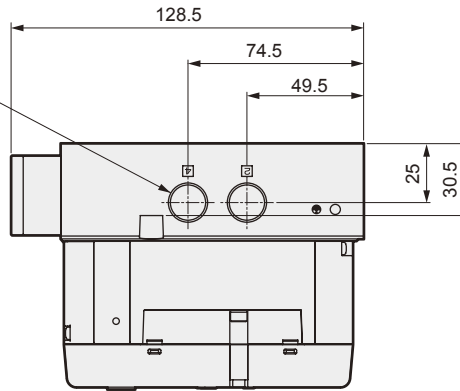
## Dimensions

### W4GB410 Side porting

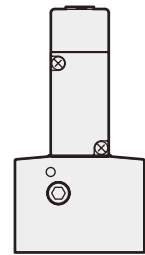
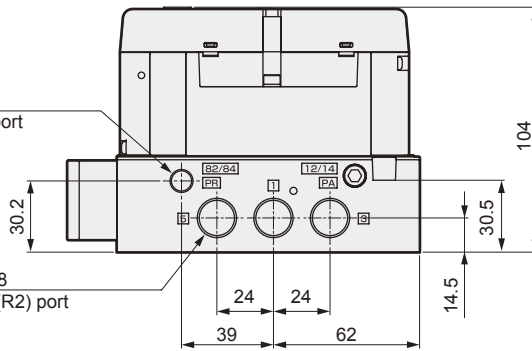
● Gland (blank)



2-Rc1/4 or Rc3/8  
4 (A), 2 (B) port



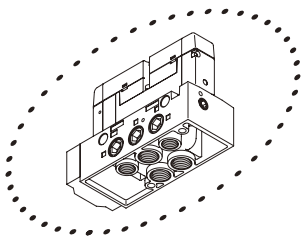
Rc1/8  
82/84 (PR) port



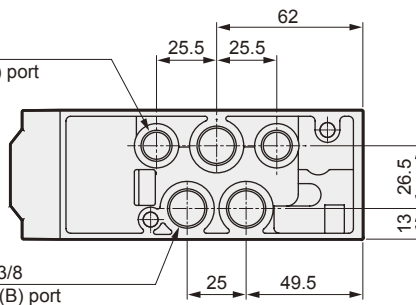
3-Rc1/4 or Rc3/8  
5 (R1), 1 (P), 3 (R2) port

### W4GZ410 Back porting

● Gland (blank)



2-Rc1/4  
5 (R1), 3 (R2) port



3-Rc1/4 or Rc3/8  
1 (P), 4 (A), 2 (B) port

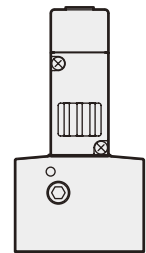
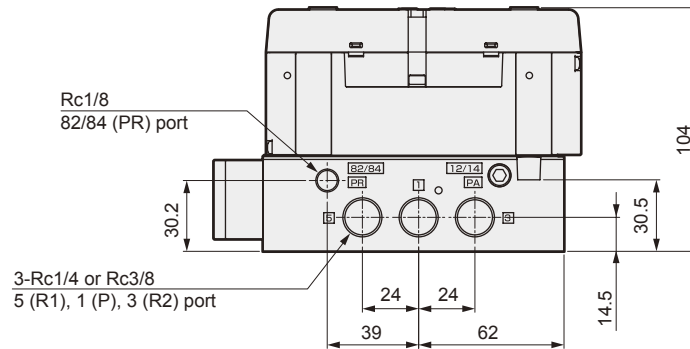
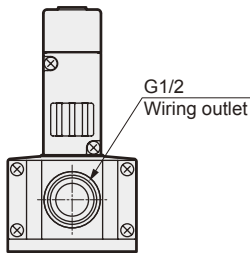
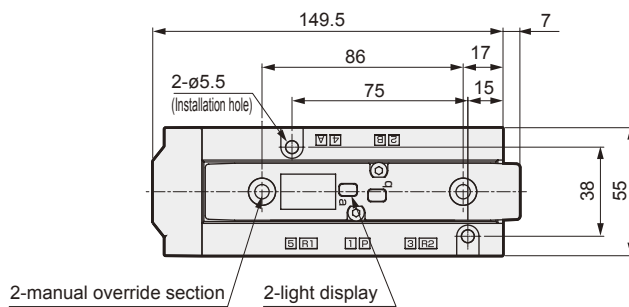
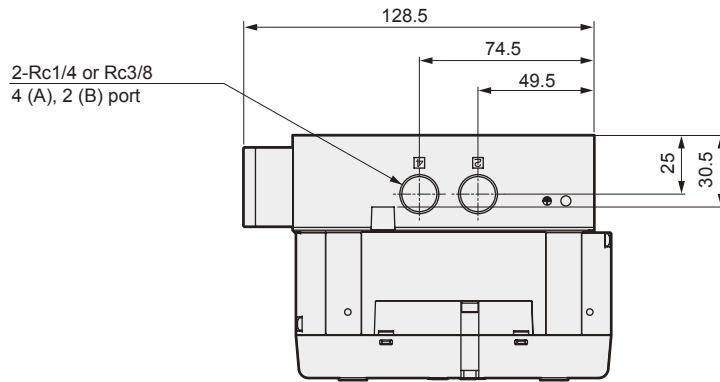
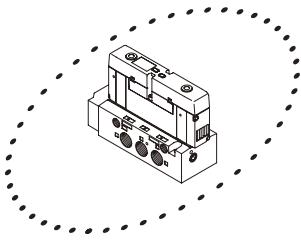
# W4GB4/W4GZ4 Series

Discrete valve: Sub-base side porting and back porting

## Dimensions

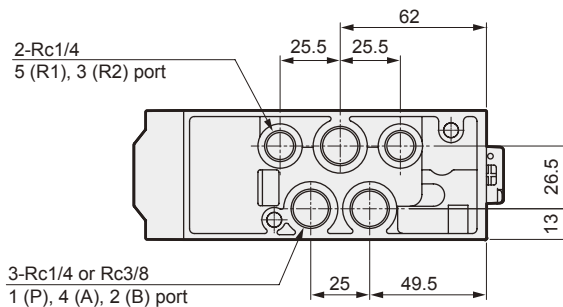
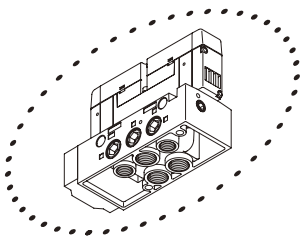
### W4GB420 Side porting

● Gland (blank)



### W4GZ420 Back porting

● Gland (blank)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
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

Plug-in manifold  
5 port pilot operated valve

# W4GB4/W4GZ4 Series

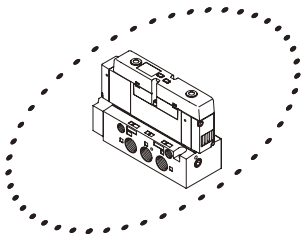
Discrete valve: Sub-base side porting and back porting

## Dimensions

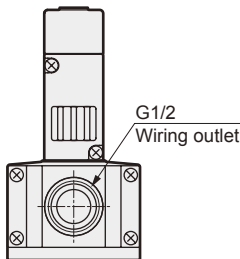
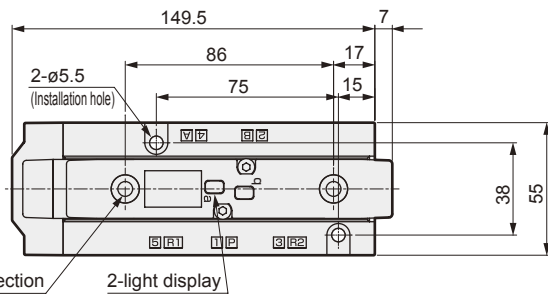
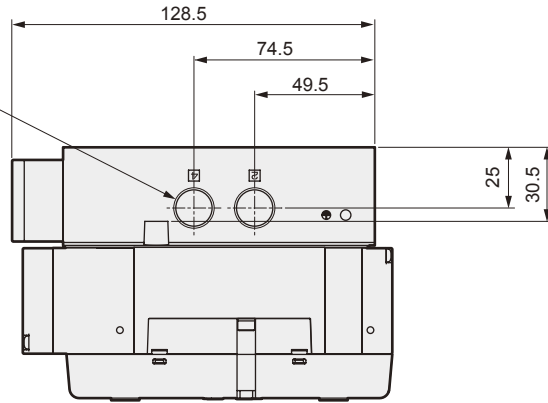
MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV/HSV
2QV/3QV
SKH
PCD/FS/FD
Ending

### W4GB<sup>3</sup>/<sub>4</sub>0 Side porting

● Gland (blank)

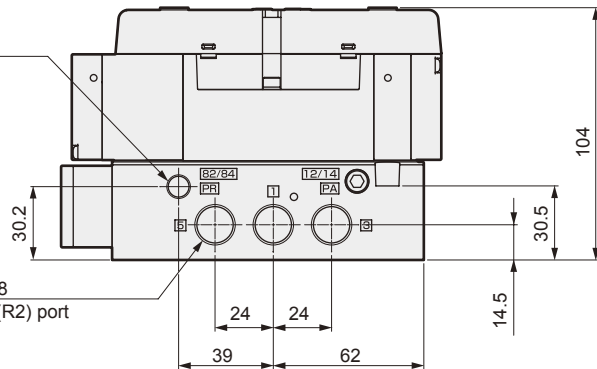


2-Rc1/4 or Rc3/8  
4 (A), (B) port



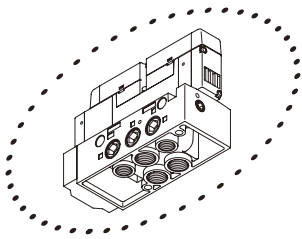
Rc1/8  
82/84 (PR) port

3-Rc1/4 or Rc3/8  
5 (R1), 1 (P), 3 (R2) port



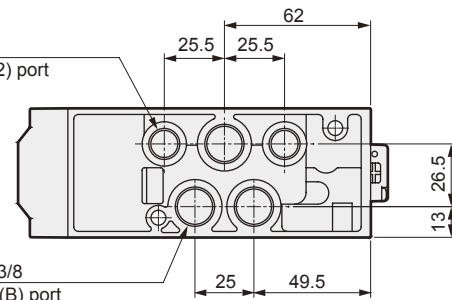
### W4GZ<sup>3</sup>/<sub>4</sub>0 Back porting

● Gland (blank)



2-Rc1/4  
5 (R1), 3 (R2) port

3-Rc1/4 or Rc3/8  
1 (P), 4 (A), 2 (B) port

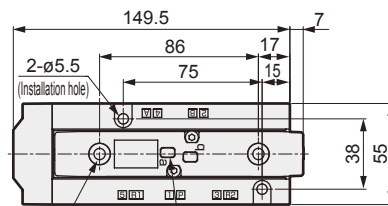
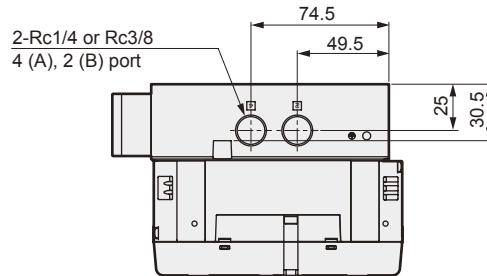
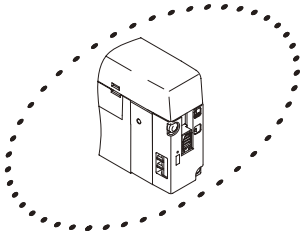


# W4GB4/W4GZ4 Series

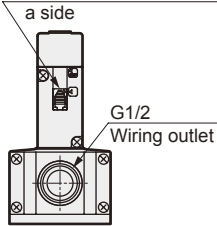
Discrete valve: Sub-base side porting and back porting

## Dimensions

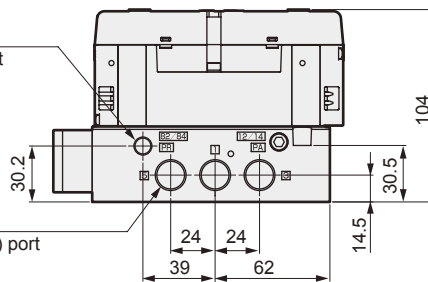
- With pilot air OFF function (M7)



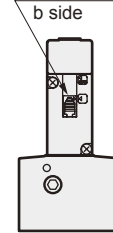
Pilot air OFF function switch (locking)



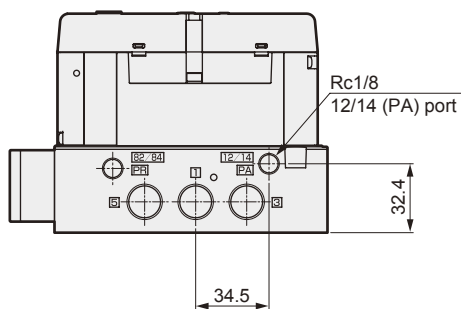
Rc1/8  
82/84 (PR) port



Pilot air OFF function switch (locking)

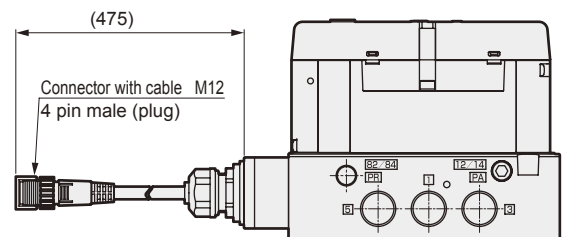


- External pilot (K)



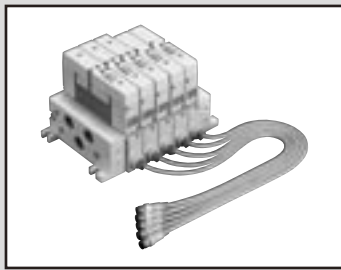
- I/O connector (R1)

Cable: VA-4DBXO5KUG3-CKD276-PG7 (CORRENS)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
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

Plug-in manifold  
5 port pilot operated valve



Individual wiring manifold  
Sub-base side porting and back porting

# MW4G<sup>B</sup><sub>2</sub> 4-R1 Series

● Applicable cylinder bore size:  $\varnothing 63$  to  $\varnothing 125$



(Subject: DC voltage) details.

Refer to Intro 17 for



## Common specifications

Descriptions	MW4GB4	MW4GZ4
Manifold type	Block manifold	
Air supply and exhaust method	Common supply and common exhaust	
Pilot exhaust method	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	1.0	
Min. working pressure MPa	0.2	
Withstanding pressure MPa	1.5	
Ambient temperature °C	-5 to 55 (no freezing)	
Fluid temperature °C	5 to 55	
Manual override	Non-locking	
Lubrication Note 1	Not required	
Protective structure Note 2	Dust proof / jet-proof (IP65 or equivalent)	
Vibration / impact m/s <sup>2</sup>	49 or less / 294 or less	
Working environment	Containing corrosive gas is impermissible.	

Note 1: Use the turbine oil Class 1 ISO VG32 if lubricated.

Excessive lubrication results in instable operation.

Note 2: IP65 (IEC60529 (IEC529: 1989-11)) standards are applied to the test.

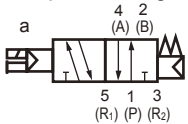
Refer to page 529 for details.

Note 3: The working pressure range is 0 to 1.0 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 to 1.0 MPa.

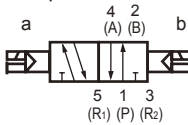
## JIS symbol

● 5 port valve

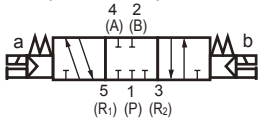
2-position single solenoid



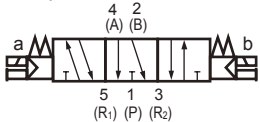
2-position double solenoid



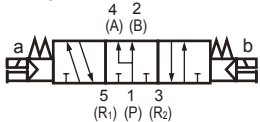
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



## Individual specifications

Descriptions	MW4GB4	MW4GZ4
Maximum station number	16	
Port size	P port	Rc1/2, G1/2, NPT1/2
	A/B port	Rc1/4, Rc3/8, G1/4, G3/8, NPT1/4, NPT3/8, Push-in joint $\varnothing 8$ , $\varnothing 10$ , $\varnothing 12$
	R port	Rc1/2, G1/2, NPT1/2
	PA/PR port	Rc1/8, G1/8, NPT1/8

Descriptions	MW4GB4/MW4GZ4			
	When ON	When OFF		
Response time ms	2-position	Single solenoid	30	38
		Double solenoid	30	-
	3-position	A/B/R connection	50	58

Response time is the value at supply pressure 0.5 MPa, 20°C and oilless. 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 <sup>3</sup> / (sbar))	b	C (dm <sup>3</sup> / (sbar))	b	
W4GB4	2-position	7.4	0.24	7.9	0.30	
	3-position	All ports closed	6.4	0.22	7.1	0.32
		A/B/R connection	6.4	0.17	8.3	0.28
		P/A/B connection	7.1	0.16	7.4	0.28

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

Note 2: Flow characteristics are values for port size Rc3/8.

## Coolant proof specifications

Can be selected with "E" option "A" in How to Order on page 539.

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



# MW4G<sup>B</sup>Z4-R1 Series

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

## How to order

## Individual wiring I/O connector

● Manifold model no.

**MW4GB4** (8) 0 - 10 - R1 M - 6 - 3

**MW4GZ4** (8) 0 - 08 - R1 M - 6 - 3

● Discrete valve block with solenoid valve

**NW4GB4** (1) 0 - 10 - R1 M7 — 3

**NW4GZ4** (1) 0 - 08N - R1 M7 — 4

● Discrete solenoid valve

**W4GB4** (1) 9 - 00 — M — 3

Ⓐ Model no.

Ⓑ Solenoid position

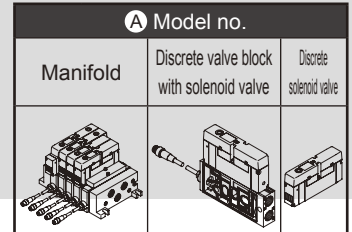
Ⓒ Port size

Ⓓ Electric connection

Ⓔ Option

Ⓕ Station number

Ⓖ Voltage



Ⓐ Model no.				
Manifold		Discrete valve block with solenoid valve		Discrete solenoid valve
M	W	N	N	W
4	4	4	4	4
G	G	G	G	G
B	Z	B	Z	B
4	4	4	4	4

Symbol	Descriptions	M	W	N	N	W
--------	--------------	---	---	---	---	---

Ⓑ Solenoid position						
1	2-position single solenoid	●	●	●	●	●
2	2-position double solenoid	●	●	●	●	●
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 {2 (B), 4 (A) port }						
08	Rc1/4	●	●	●	●	
10	Rc3/8	●		●		
08G	G1/4	●	●	●	●	
10G	G3/8	●		●		
08N	NPT1/4	●	●	●	●	
10N	NPT3/8	●		●		
C8	ø8 push-in	●		●		
C10	ø10 push-in	●		●		
C12	ø12 push-in	●		●		

Ⓓ Electric connection (light and surge suppressor provided as standard)						
R1	I/O connector (500 mm)	●	●	●	●	

Ⓔ Option						
M	Non-locking (standard) Note 1	●	●	●	●	●
M7	Lock with pilot air OFF Note 1, Note 2	●	●	●	●	●
Z1	Air supply spacer Note 3	●	●			
Z3	Exhaust spacer Note 3	●	●			
K	External pilot	●	●	Note 4	Note 4	Note 4
A	Coolant proof	●	●	●	●	●
F	A/B port filter Note 5	●	●	●	●	

Ⓕ Station number						
1	1 station					
to	to	●	●			
16	16 stations					

Ⓖ Voltage						
3	24 VDC	●	●	●	●	●
4	12 VDC	●	●	●	●	●

■ is not available.

- 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

Plug-in manifold  
5 port pilot operated valve

## ⚠ Note on selection guide

Fill out "manifold specifications".

Note 1: Select either "M" or "M7".

Note 2: Both lock equipment with non-locking manual override and pilot air OFF function are provided.

Note 3: Instruct spacer installation position and quantity with the manifold specifications. Refer to page 559 for the details.

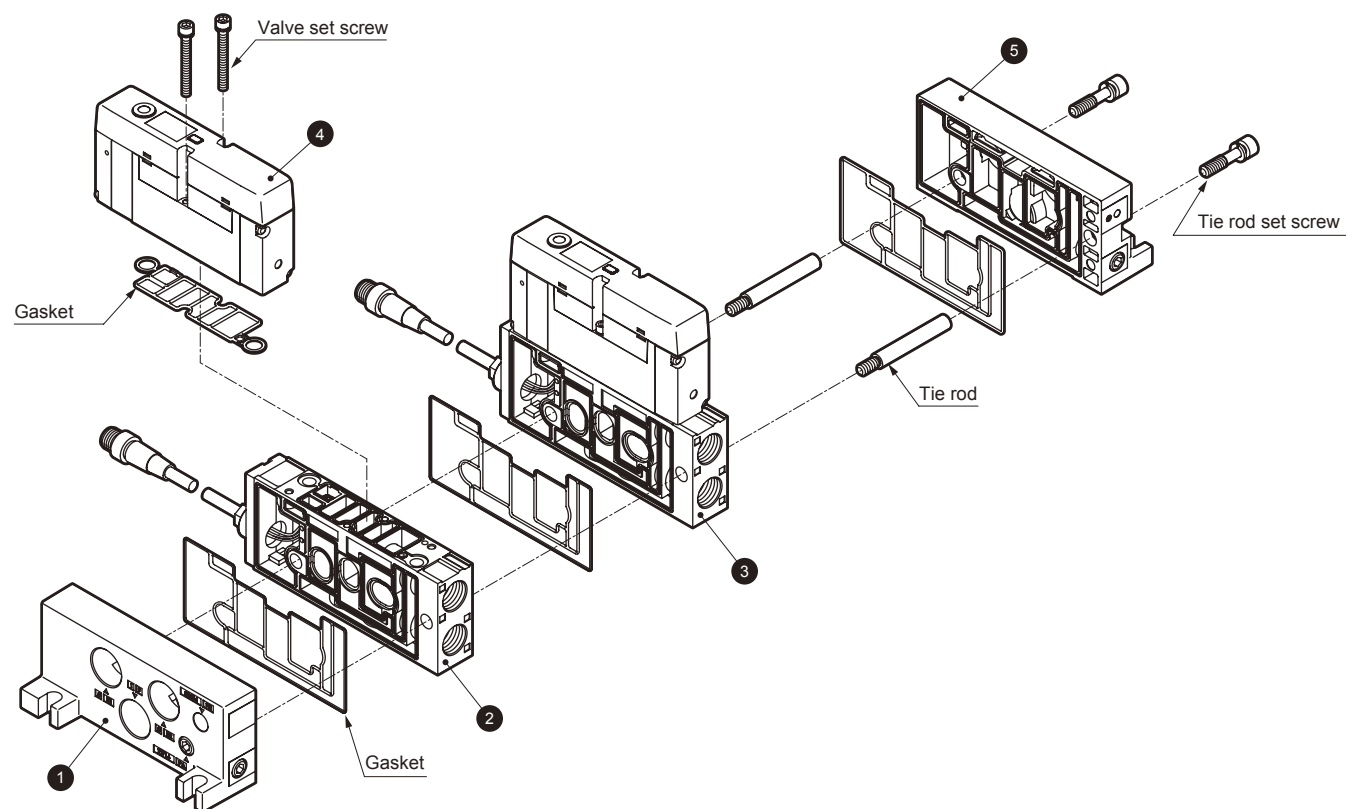
Note 4: This is common for internal and external pilot.

Note 5: A filter to prevent entry of foreign matter is incorporated in end block 1 (P) port as standard.

# MW4G<sup>B</sup>Z4-R1 Series

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

## Manifold components explanation and parts list



Main parts list (refer to pages 552 to 559 for details.)

No.	Component name	Model no. (example)	No.	Component name	Model no. (example)
1	End block L	NW4G4-EL	4	Discrete solenoid valve	W4GB419-00-M-3
2	Discrete valve block	NW4GB4-V-10-R1	5	End block R	NW4G4-ER
3	Discrete valve block with solenoid valve	NW4GB410-10-R1M-3			

### Component weight (DC specifications)

Component	Weight	Component	Weight
End block	NW4G4-EL	Discrete valve block with masking plate	NW4GB4-MP-10-R1
	NW4G4-ER		NW4GZ4-MP-08-R1
Discrete valve block with solenoid valve	NW4GB410-10-R1M-3	Tie rod	W4G4-TR-V1 (2 pcs. set)
	NW4GB420-10-R1M-3		W4G4-TR-V2 (2 pcs. set)
	NW4GB430-10-R1M-3		Tie rod set screw (2 pcs.)
	NW4GZ410-08-R1M-3		16
	NW4GZ420-08-R1M-3		16
NW4GZ430-08-R1M-3			

### Repair parts and related parts list

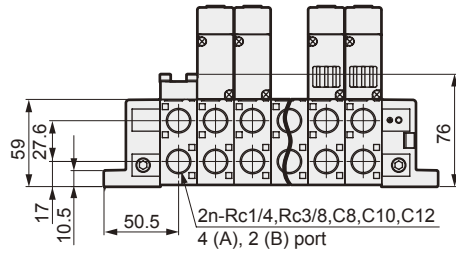
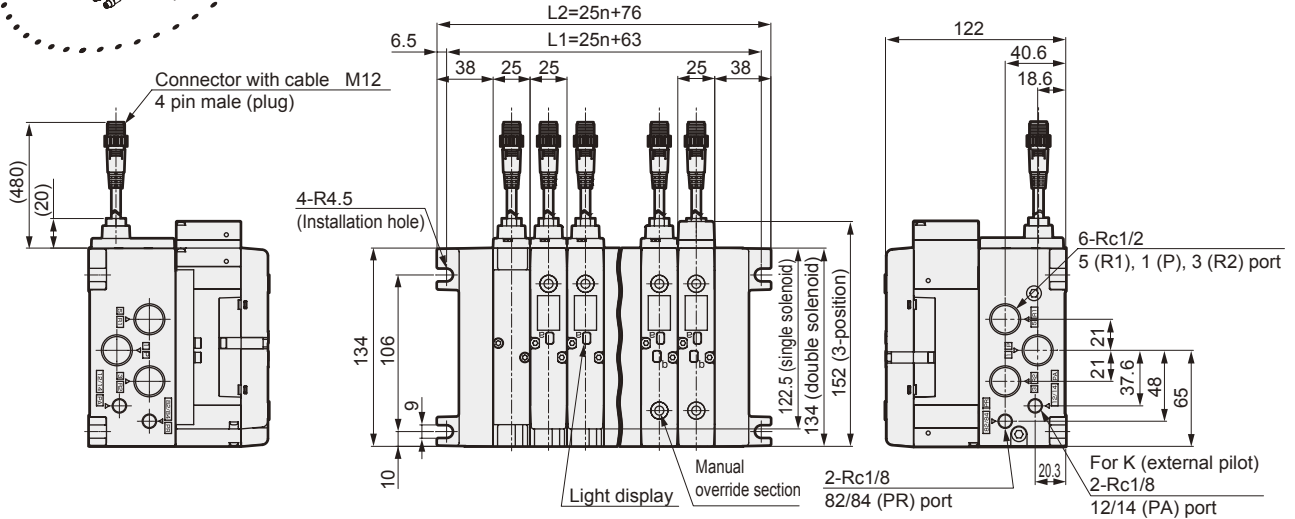
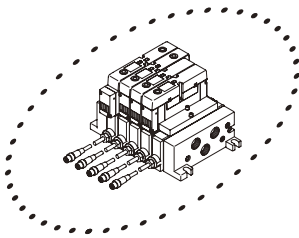
No.	Parts name	Model no.
-	Cartridge type push-in joint and related parts	ø8 straight
		ø10 straight
		ø12 straight
		Blanking plug
		For ø8: GWP8-B, for ø10: GWP10-B, for ø12: GWP12-B

### Dimensions

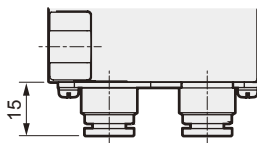
#### MW4GB4 Side porting

● I/O connector (R1)

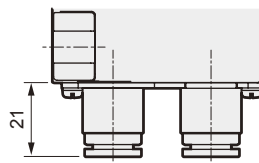
Cable: VA-4DBXO5KUG3-CKD276-PG7 (CORRENS)



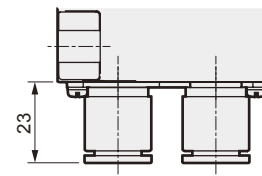
● Push-in joint for valve block  
●  $\varnothing 8$  (C8)



●  $\varnothing 10$  (C10)

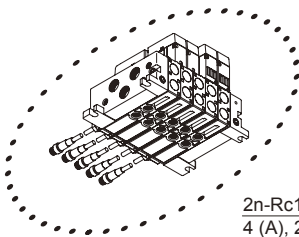


●  $\varnothing 12$  (C12)

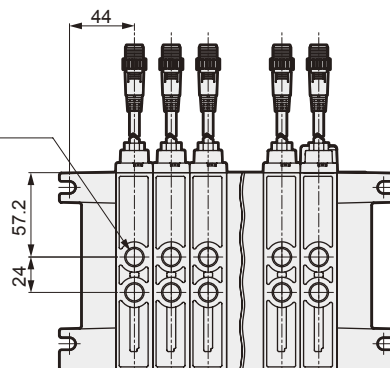


#### MW4GZ4 Back porting

● I/O connector (R1)

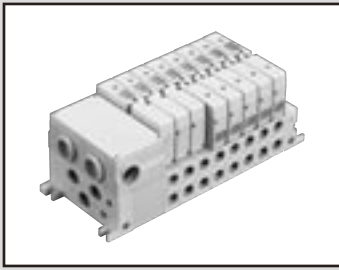


2n-Rc1/4  
4 (A), 2 (B) port



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
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*OE
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Plug-in manifold  
5 port pilot operated valve



Reduced wiring manifold  
sub-base side porting and back porting

# MW4G<sup>B</sup> 1/2 4-T1/6 Series

● Applicable cylinder bore size:  $\varnothing 63$  to  $\varnothing 125$



(Subject: DC voltage) details.

Refer to Intro 17 for



## Common specifications

Descriptions	MW4GB4	MW4GZ4
Manifold type	Block manifold	
Air supply and exhaust method	Common supply and common exhaust	
Pilot exhaust method	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	1.0	
Min. working pressure MPa	0.2	
Withstanding pressure MPa	1.5	
Ambient temperature °C	-5 to 55 (no freezing)	
Fluid temperature °C	5 to 55	
Manual override	Non-locking	
Lubrication Note 1	Not required	
Protective structure Note 2	Dust proof / jet-proof (IP65 or equivalent)	
Vibration / impact m/s <sup>2</sup>	49 or less / 294 or less	
Working environment	Containing corrosive gas is impermissible.	

Note 1: Use the turbine oil Class 1 ISO VG32 if lubricated. Excessive lubrication results in instable operation.

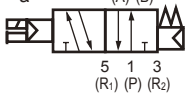
Note 2: IP65 (IEC60529 (IEC529: 1989-11)) standards are applied to the test. Refer to page 529 for details.

Note 3: The working pressure range □

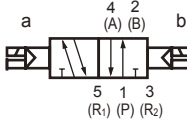
## JIS symbol

● 5 port valve

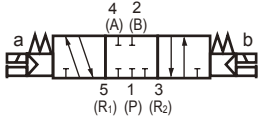
2-position single solenoid



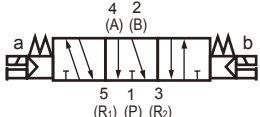
2-position double solenoid



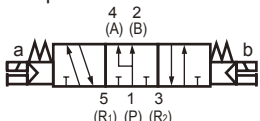
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



## Electric specifications

Descriptions	MW4GB4/MW4GZ4	
Rated voltage	DC	12, 24
	V AC	100 (50/60Hz)
Note 4		110 (50/60Hz)
Rated voltage fluctuation range	±10%	
Holding current	12 VDC	0.100
	24 VDC	0.050
	100 VAC	0.024
	110 VAC	0.024
Power consumption W	12 VDC	1.2
	Note 5	24 VDC
Apparent power VA	100 VAC	2.4
	110 VAC	2.6
Heat proof class	B (molded coil)	

Note 4: Serial transmission connection is used only with 24 VDC .

Note 5: Surge suppressor and indicator are provided as standard.

## Individual specifications

Descriptions	MW4GB4		MW4GZ4	
	T10 (R) Common gland	T6*1 (R) Serial transmission	T10 (R) Common gland	T6*1 (R) Serial transmission
Maximum station number	Standard wiring			
	Double wiring			
Maximum solenoid number	16			
Port size	P port			
	Rc1/2, G1/2, NPT1/2			
	A/B port		Rc1/4, Rc3/8, G1/4, G3/8, NPT1/4, NPT3/8, Push-in joint $\varnothing 8$ , $\varnothing 10$ , $\varnothing 12$	
	R port		Rc1/2, G1/2, NPT1/2	
PA/PR port		Rc1/8, G1/8, NPT1/8		

Descriptions	MW4GB4/MW4GZ4		
	When ON		When OFF
Response time ms	2-position	Single solenoid	30
		Double solenoid	30
	3-position	A/B/R connection	50
			38
			-
			58

Response time is the value at supply pressure 0.5 MPa, 20°C and oilless. 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 <sup>3</sup> / (sbar))	b	C (dm <sup>3</sup> / (sbar))	b	
W4GB4	2-position	7.4	0.24	7.9	0.30	
	3-position	All ports closed	6.4	0.22	7.1	0.32
		A/B/R connection	6.4	0.17	8.3	0.28
		P/A/B connection	7.1	0.16	7.4	0.28

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

Note 2: Flow characteristics are values for port size Rc3/8.

# MW4G<sup>B</sup>4-T1/6 Series

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

Serial transmission slave unit specifications (refer to page 569 for the applicable PLC table.)

Descriptions		T6D1 (R) Note 1	T6G1 (R)	T6A1 (R)	T6J1 (R)	T6C1 (R)
Network name		DeviceNet	CC-Link ver1.10	UNIWIRESYSTEM	UNIWIRESYSTEM H	CompoBus/S
Power voltage	Unit side	24 VDC ±10%		24 VDC		24 VDC ±10%
	Valve side	24 VDC +10%, -5%		+10%, -5% (power supply terminal common)		24 VDC +10%, -5%
Current consumption	Unit side	100 mA or less (Output when all points ON)		200 mA or less Output when all points ON (Current consumption of body not included)	150 mA or less Output when all points ON (Current consumption of body not included)	60 mA or less (Output when all points ON)
	Valve side	15 mA or less (when all points OFF)				15 mA or less (when all points OFF)
Output no.		16 points	16 points	16 points	16 points	16 points

Note 1: Consult with CKD for EDS file. (EDS file: Text file of parameters for communicating with each company's master.)

## Coolant proof specifications

Can be selected with "G", "F" option "A" in How to Order on pages 544 and 545.

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

Plug-in manifold  
5 port pilot operated valve

# MW4GZ4-T1 Series

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

## How to order

● Manifold model no.

**MW4GB4** (8) 0 - 10 — T10 W M - 6 - 3

**MW4GZ4** (8) 0 - 08 — T10R W M - 6 - 3

● Discrete valve block with solenoid valve

**NW4GB4** (1) 0 - 10 - 1 (M7) — 1

**NW4GZ4** (1) 0 - 08N - 1 (M7) — 4

● Discrete solenoid valve

**W4GB4** (1) 9 - 00 — M — 3

A Model no. B Solenoid position

C Port size

D Electric connection

E Wiring method

F Terminal and connector pin array

G Option

H Station number

I Voltage

A Model no.				
Manifold	Discrete valve block with solenoid valve		Discrete solenoid valve	
MW4GB4	MW4GZ4	NW4GB4	NW4GZ4	W4GB4

Symbol	Descriptions	MW4GB4	MW4GZ4	NW4GB4	NW4GZ4	W4GB4
<b>B Solenoid position</b>						
1	2-position single solenoid	●	●	●	●	●
2	2-position double solenoid	●	●	●	●	●
3	3-position all ports closed	●	●	●	●	●
4	3-position A/B/R connection	●	●	●	●	●
5	3-position P/A/B connection	●	●	●	●	●
8	Mix manifold	●	●			

C Port size {2 (B), 4 (A) port }						
08	Rc1/4	●	●	●	●	
10	Rc3/8	●		●		
08G	G1/4	●	●	●	●	
10G	G3/8	●		●		
08N	NPT1/4	●	●	●	●	
10N	NPT3/8	●		●		
C8	ø8 push-in	●		●		
C10	ø10 push-in	●		●		
C12	ø12 push-in	●		●		

D Electric connection						
Blank	Reduced wiring DC specifications			●	●	
1	Common gland AC spec. 1 to 6th sta.			●	●	
2	Common gland AC spec. 7 to 12th sta.			●	●	
3	Common gland AC spec. 13 to 16th sta.			●	●	

E Wiring method (light and surge suppressor provided as standard)						
Blank	Discrete	Note 1			●	●
T10	Common gland	Left	●	●		
T10R		Right	●	●		

F Terminal and connector pin array						
Blank	Standard wiring	Note 2	●	●	●	●
W	Double wiring	Note 2	●	●	●	●

G Option						
M	Non-locking (standard)	Note 3	●	●	●	●
M7	Lock with pilot air OFF	Note 3, Note 4	●	●	●	●
Z1	Air supply spacer	Note 5	●	●		
Z3	Exhaust spacer	Note 5	●	●		
K	External pilot		●	●	Note 6	Note 6
A	Coolant proof		●	●	●	●
F	A/B port filter	Note 7	●	●	●	●

H Station number						
1	1 station		●	●		
to	to		Note 8	Note 8		
16	16 stations					

I Voltage						
1	100 VAC		●	●	●	●
3	24 VDC		●	●	●	●
4	12 VDC		●	●	●	●
5	110 VAC		●	●	●	●

is not available.

## Note on selection guide

Fill out "manifold specifications".

Note 1: W4GB4\*9: Plug-in connector  
NW4G\*4\*0: Electric wire for relay (AC)  
Connector for relay (DC)

Note 2: Standard wiring ... Wired based on the installed valve.

Double wiring ... Double-solenoid wiring used regardless of installed valve.

Note 3: Select either "M" or "M7".

Note 4: Both lock devices with non-locking manual override and pilot air OFF function are provided.

Note 5: Instruct spacer installation position and quantity with the manifold specifications.  
Refer to page 559 for the details.

Note 6: This is common for internal and external pilot.

Note 7: A filter to prevent entry of foreign matter is incorporated in end block 1 (P) port as standard.

Note 8: The maximum number of MF stations is 16 with standard wiring and 8 with double wiring.

# MW4G<sup>B</sup>Z4-T6 Series

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

## How to order

● Manifold model no.

**MW4GB4** (8) 0 - 10 - T6G1 W M - 6 - 3

**MW4GZ4** (8) 0 - 08 - T6D1R W M - 6 - 3

● Discrete valve block with solenoid valve

**NW4GB4** (1) 0 - 10 ——— M7 ——— 3

**NW4GZ4** (1) 0 - 08N ——— M7 ——— 3

● Discrete solenoid valve

**W4GB4** (1) 9 - 00 ——— M ——— 3

A Model no. B Solenoid position H Voltage

C Port size

D Wiring method

E Terminal and connector pin array

F Option

G Station number

## ⚠ Note on selection guide

Fill out "manifold specifications".

Note 1: W4GB4\*9: Plug-in connector  
NW4G\*4\*0: Electric wire for relay (AC)  
Connector for relay (DC)

Note 2: Standard wiring ... Wired based on the installed valve.  
Double wiring ... Double-solenoid wiring used regardless of installed valve.

Note 3: Select either "M" or "M7".

Note 4: Both lock devices with non-locking manual override and pilot air OFF function are provided.

Note 5: Instruct spacer installation position and quantity with the manifold specifications.  
Refer to page 559 for the details.

Note 6: This is common for internal and external pilot.

Note 7: For slave unit (OPP2), standard specifications are different from coolant proof specifications.

Option	Slave unit cover material	Specifications
Standard	Polycarbonate	Spatter proof
A	Nylon	Coolant proof

Note 8: A filter to prevent entry of foreign matter is incorporated in end block 1 (P) port as standard.

Note 9: The maximum number of MF stations is 16 with standard wiring and 8 with double wiring.

Note 10: 100/110 VAC and 12 VDC settings are not used for serial transmission connection specifications.

A Model no.		
Manifold	Discrete valve block with solenoid valve	Discrete solenoid valve
MW4GB4	MW4GZ4	NW4GB4, NW4GZ4, W4GB4

Symbol	Descriptions	MW4GB4	MW4GZ4	NW4GB4	NW4GZ4	W4GB4
<b>B Solenoid position</b>						
1	2-position single solenoid	●	●	●	●	●
2	2-position double solenoid	●	●	●	●	●
3	3-position all ports closed	●	●	●	●	●
4	3-position A/B/R connection	●	●	●	●	●
5	3-position P/A/B connection	●	●	●	●	●
8	Mix manifold	●	●			

<b>C Port size { 2 (B), 4 (A) port }</b>						
08	Rc1/4	●	●	●	●	
10	Rc3/8	●		●		
08G	G1/4	●	●	●	●	
10G	G3/8	●		●		
08N	NPT1/4	●	●	●	●	
10N	NPT3/8	●		●		
C8	ø8 push-in	●		●		
C10	ø10 push-in	●		●		
C12	ø12 push-in	●		●		

<b>D Wiring method (light and surge suppressor provided as standard)</b>						
Blank	Discrete	Note 1			●	●
T6G1	Serial transmission	Left	●	●		
T6G1R	CC-Link 16 points	Right	●	●		
T6J1	Serial transmission	Left	●	●		
T6J1R	UNIWIRES H 16 points	Right	●	●		
T6A1	Serial transmission	Left	●	●		
T6A1R	UNIWIRES 16 points	Right	●	●		
T6D1	Serial transmission	Left	●	●		
T6D1R	DeviceNet 16 points	Right	●	●		
T6C1	Serial transmission	Left	●	●		
T6C1R	CompoBus/S 16 points	Right	●	●		

<b>E Terminal and connector pin array</b>						
Blank	Standard wiring	Note 2	●	●	●	●
W	Double wiring	Note 2	●	●	●	●

<b>F Option</b>						
M	Non-locking (standard)	Note 3	●	●	●	●
M7	Lock with pilot air OFF	Note 3, Note 4	●	●	●	●
Z1	Air supply spacer	Note 5	●	●		
Z3	Exhaust spacer	Note 5	●	●		
K	External pilot		●	●	Note 6	Note 6
A	Coolant proof	Note 7	●	●	●	●
F	A/B port filter	Note 8	●	●	●	●

<b>G Station number</b>						
1	1 station		●	●		
to	to	Note 9	●	●		
16	16 stations					

<b>H Voltage</b>						
3	24 VDC	Note 10	●	●	●	●

is not available.

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\*OE

HMV  
HSV

2QV  
3QV

SKH

PCD/  
FS/FD

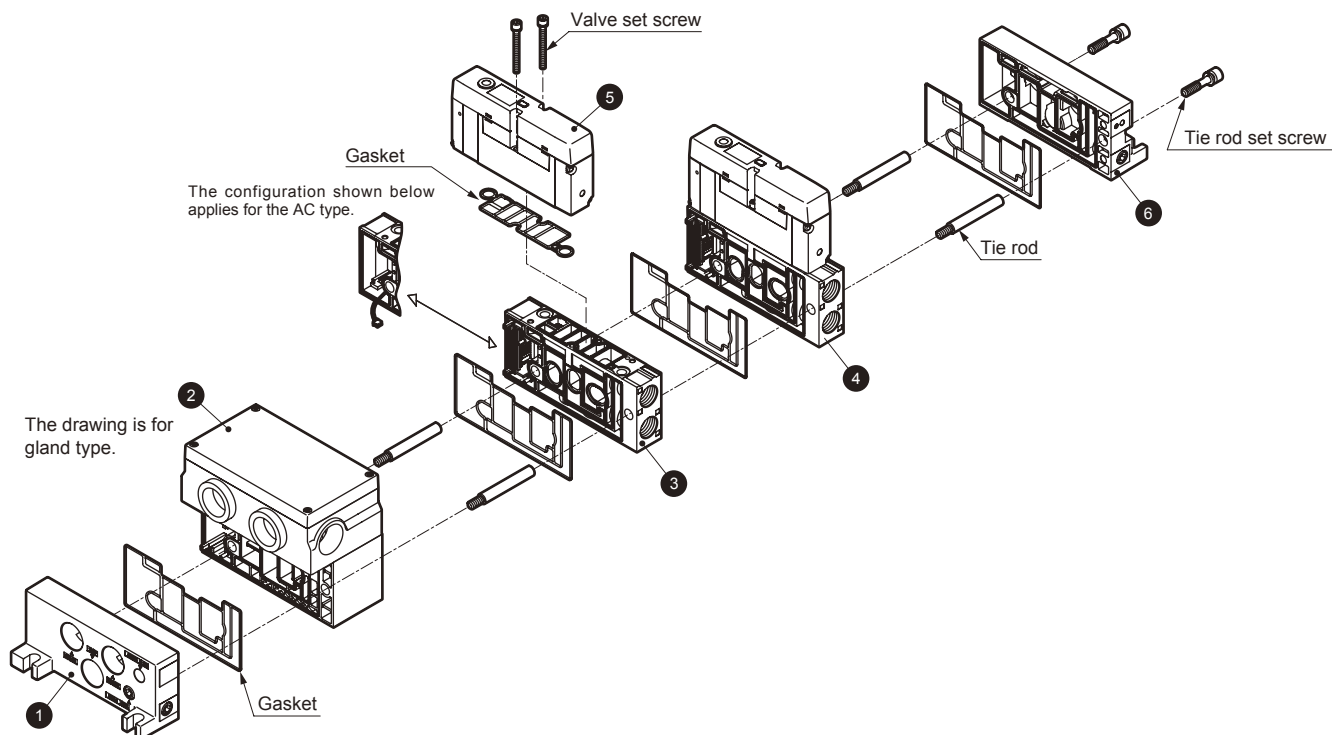
Ending

Plug-in manifold  
5 port pilot operated valve

# MW4G<sup>B</sup>Z4-T1/6 Series

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

## Manifold components explanation and parts list



### Main parts list (refer to pages 552 to 559 for details.)

No.	Component name	Model no. (example)	No.	Component name	Model no. (example)
1	End block L	NW4G4-EL	4	Discrete valve block with solenoid valve	NW4GB410-10-M-3
2	Wiring block	NW4G4-T10	5	Discrete solenoid valve	W4GB419-00-M-3
3	Discrete valve block	NW4GB4-V1-10	6	End block R	NW4G4-ER

### Component weight (DC specifications)

Block type		Weight	Block type		Weight
End block	NW4G4-EL	316	Discrete valve block with masking plate	NW4GB4-MPD-10	360
	NW4G4-ER	308		NW4GZ4-MPD-08	393
Discrete valve block with solenoid valve	NW4GB410-10-M-3	527	Wiring block	NW4G4-T10	550
	NW4GB420-10-M-3	573		NW4G4-T6G1	710
	NW4GB430-10-M-3	605	Tie rod	W4G4-TR-V1 (2 pcs. set)	16
	NW4GZ410-08-M-3	560		W4G4-TR-V2 (2 pcs. set)	36
	NW4GZ420-08-M-3	606		Tie rod set screw (2 pcs.)	16
NW4GZ430-08-M-3	638				



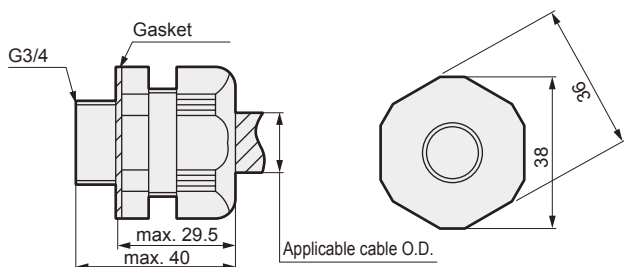
### Repair parts and related parts list

No.	Parts name	Model no.	
-	Cartridge type push-in joint and related parts	ø8 straight	4G4-JOINT-C8
		ø10 straight	4G4-JOINT-C10
		ø12 straight	4G4-JOINT-C12
		Blanking plug	For ø8: GWP8-B, for ø10: GWP10-B, for ø12: GWP12-B

### Kit for wiring block T10

● Cable clamp

Model no.	Applicable cable O.D.	Descriptions
W4G-SCL-18A	ø14.5 to 16.5	This is used to protect a cable from dust and jet.
W4G-SCL-18B	ø16.5 to 18.5	This is used to protect a cable from dust and jet.

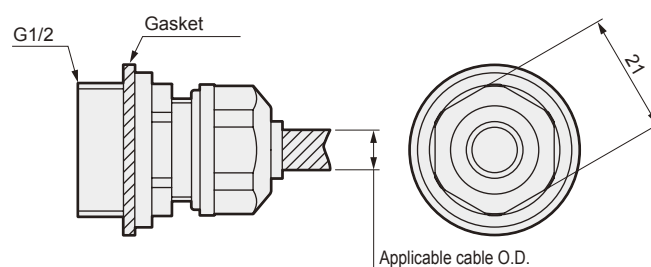


(Reference value)  
 Body tightening torque : 4.0 to 4.5 N·m  
 Cable clamp tightening torque : 3.0 to 3.5 N·m

### Kit for wiring block T6\*

● Cable clamp

Model no.	Applicable cable O.D.	Descriptions
W4G-OA-W1608C1	ø6 to 8	This is used to protect a cable from dust and jet.



Applicable cable outer diameter : ø6 to ø8  
 (Reference value)  
 Body tightening torque : 2.0 to 2.4 N·m  
 Cable clamp tightening torque : 0.5 to 0.7 N·m

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
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

Plug-in manifold  
 5 port pilot operated valve

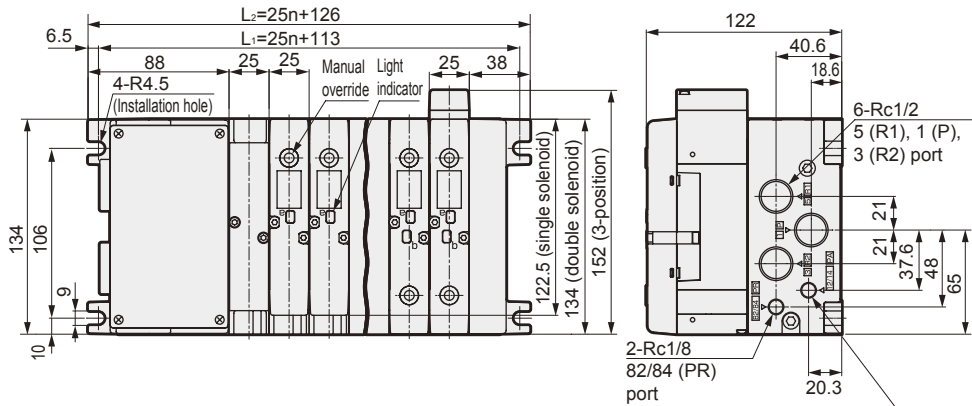
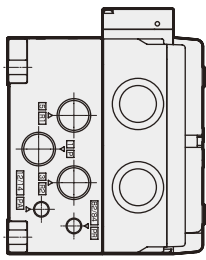
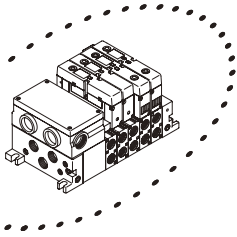
# MW4G<sup>B</sup>Z4-T1/6 Series

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

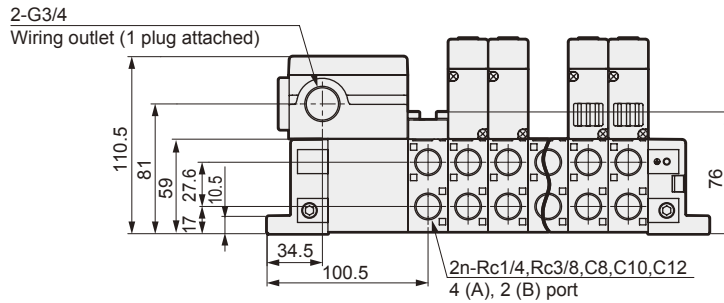
## Dimensions

### MW4GB4 Side porting

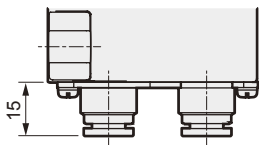
● Common gland (T10) Left



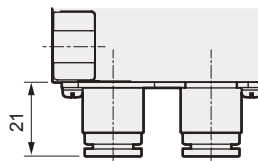
For K (external pilot)  
2-Rc1/8  
12/14 (PA) port



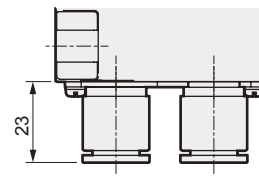
● Push-in joint for valve block  
●  $\varnothing 8$  (C8)



●  $\varnothing 10$  (C10)

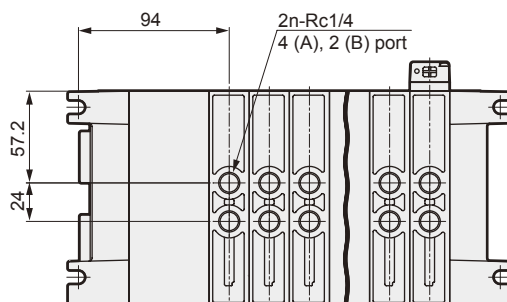
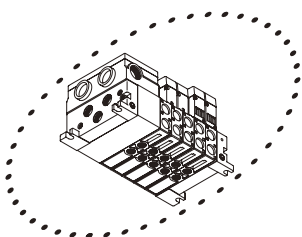


●  $\varnothing 12$  (C12)



### MW4GZ4 Back porting

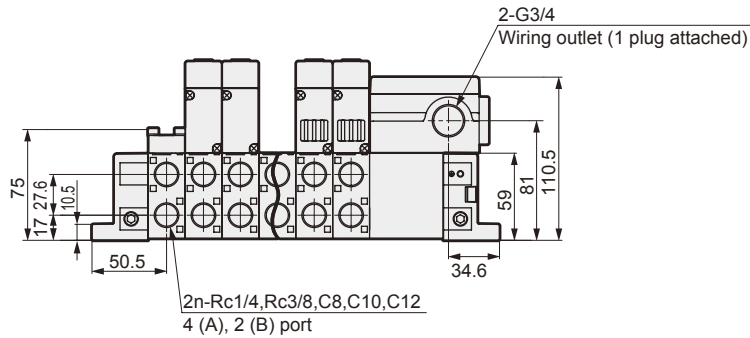
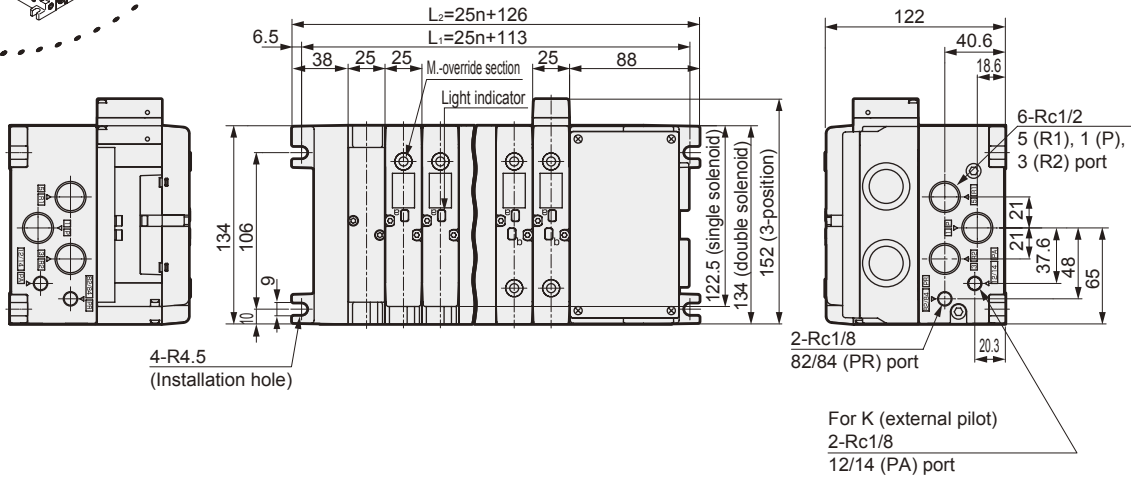
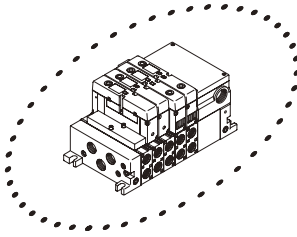
● Common gland (T10) Left



### Dimensions

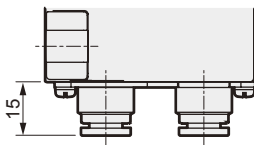
#### MW4GB4 Side porting

- Common gland (T10R) Right

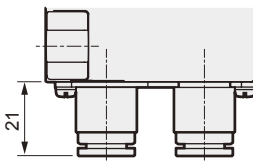


- Push-in joint for valve block

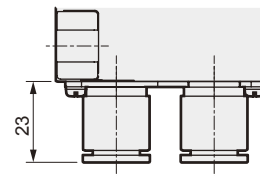
- $\varnothing 8$  (C8)



- $\varnothing 10$  (C10)

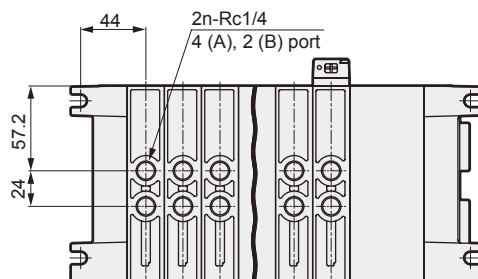
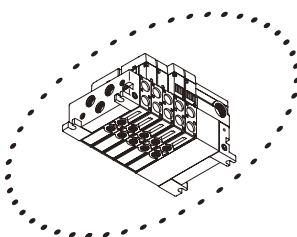


- $\varnothing 12$  (C12)



#### MW4GZ4 Back porting

- Common gland (T10R) Right



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
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*OE
HMV
HSV
2QV
3QV
SKH
PCD/ FS/FD
Ending

Plug-in manifold  
5 port pilot operated valve

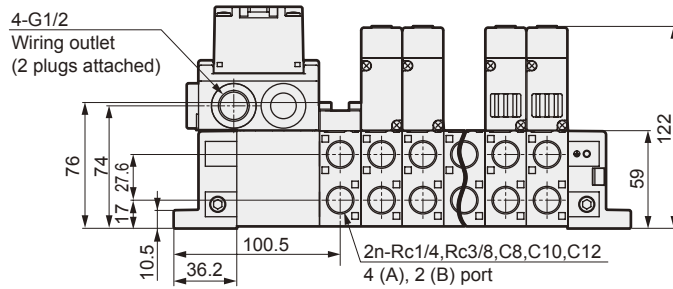
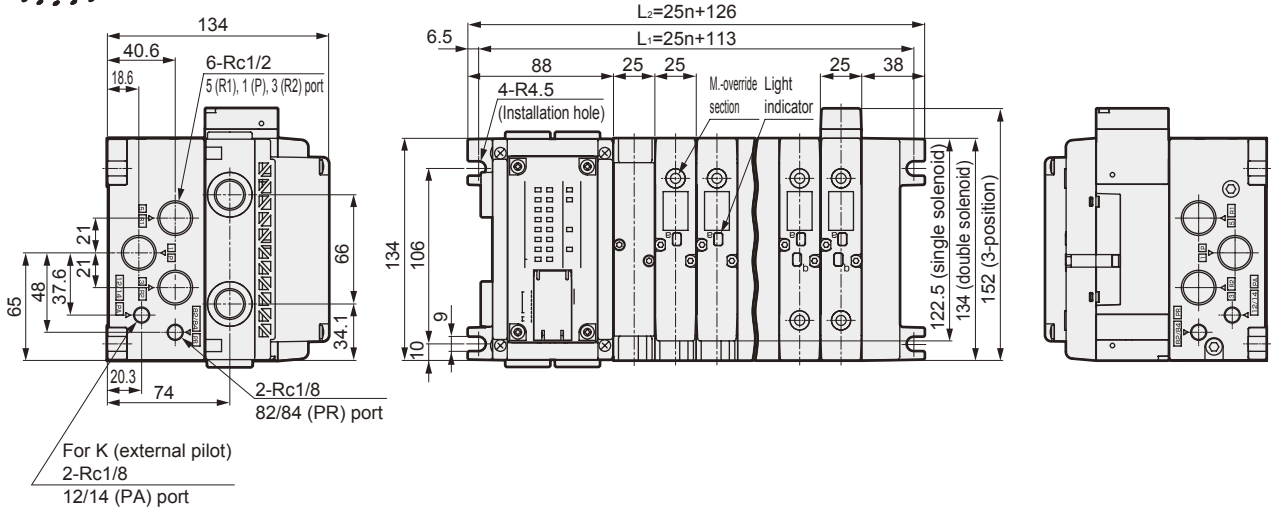
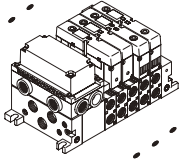
# MW4G<sup>B</sup><sub>Z</sub>4-T1/6 Series

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

## Dimensions

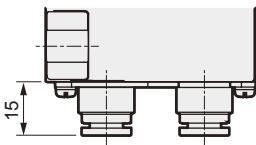
### MW4GB4 Side porting

● Serial transmission (T6\*1) Left

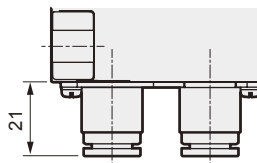


● Push-in joint for valve block

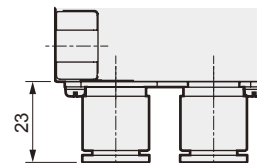
● ø8 (C8)



● ø10 (C10)

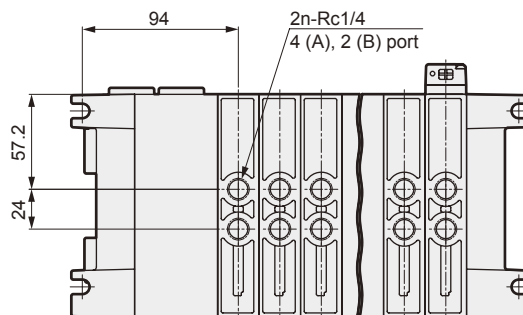
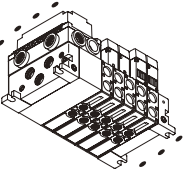


● ø12 (C12)



### MW4GZ4 Back porting

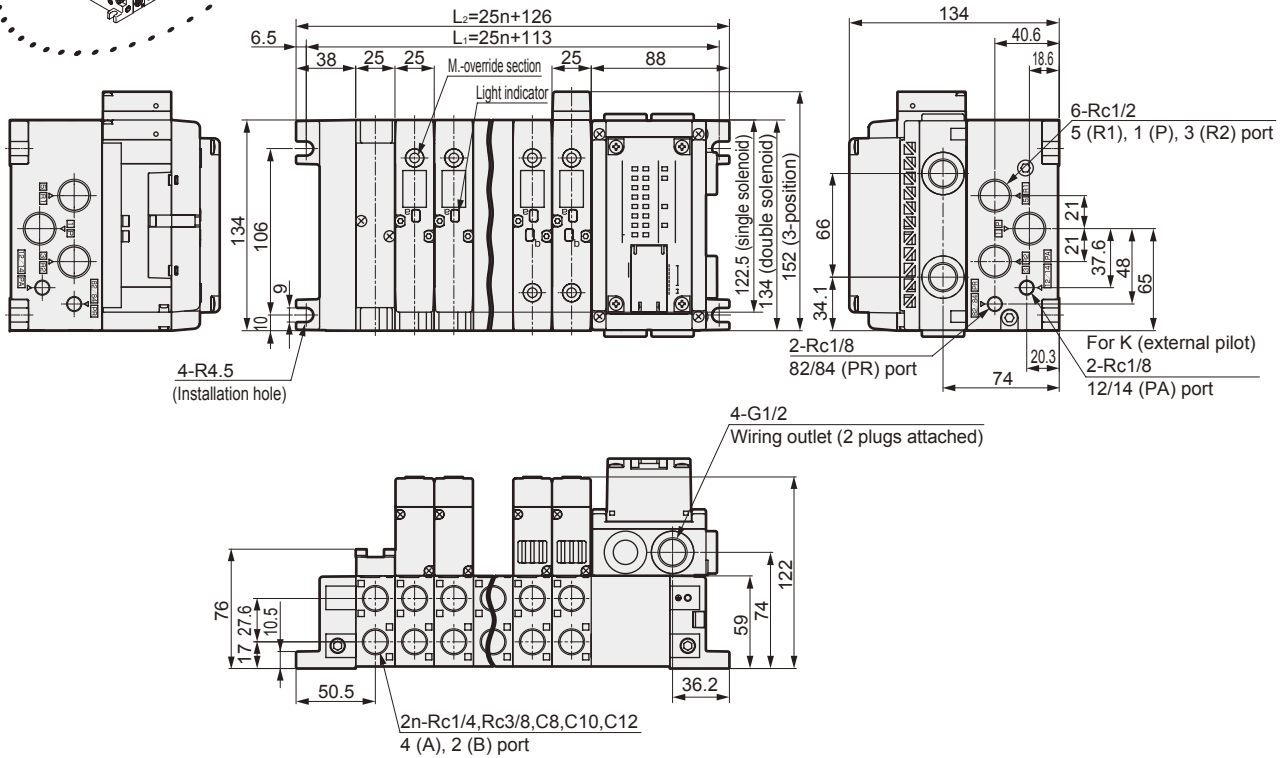
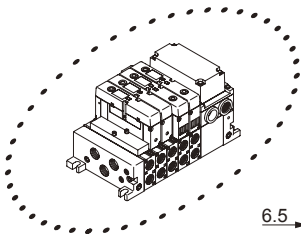
● Serial transmission (T6\*1) Left



### Dimensions

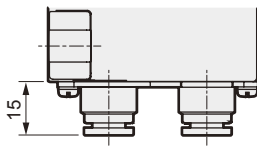
#### MW4GB4 Side porting

- Serial transmission (T6\*1R) Right

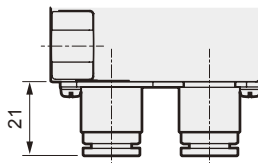


- Push-in joint for valve block

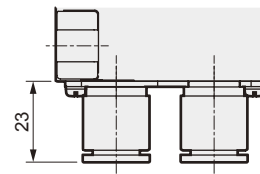
- $\varnothing 8$  (C8)



- $\varnothing 10$  (C10)

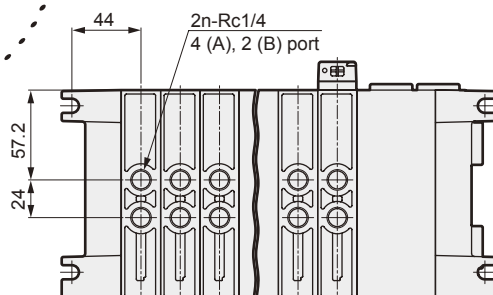
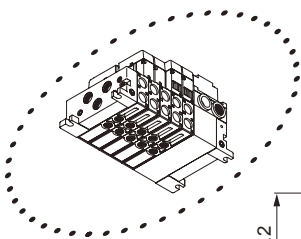


- $\varnothing 12$  (C12)



#### MW4GZ4 Back porting

- Serial transmission (T6\*1R) Right



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
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*OE
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Plug-in manifold  
5 port pilot operated valve

## Block manifold: Block configurations

Simple, unrestricted assembly makes it easy to increase stations and conduct maintenance.

### ● Valve block with solenoid valve

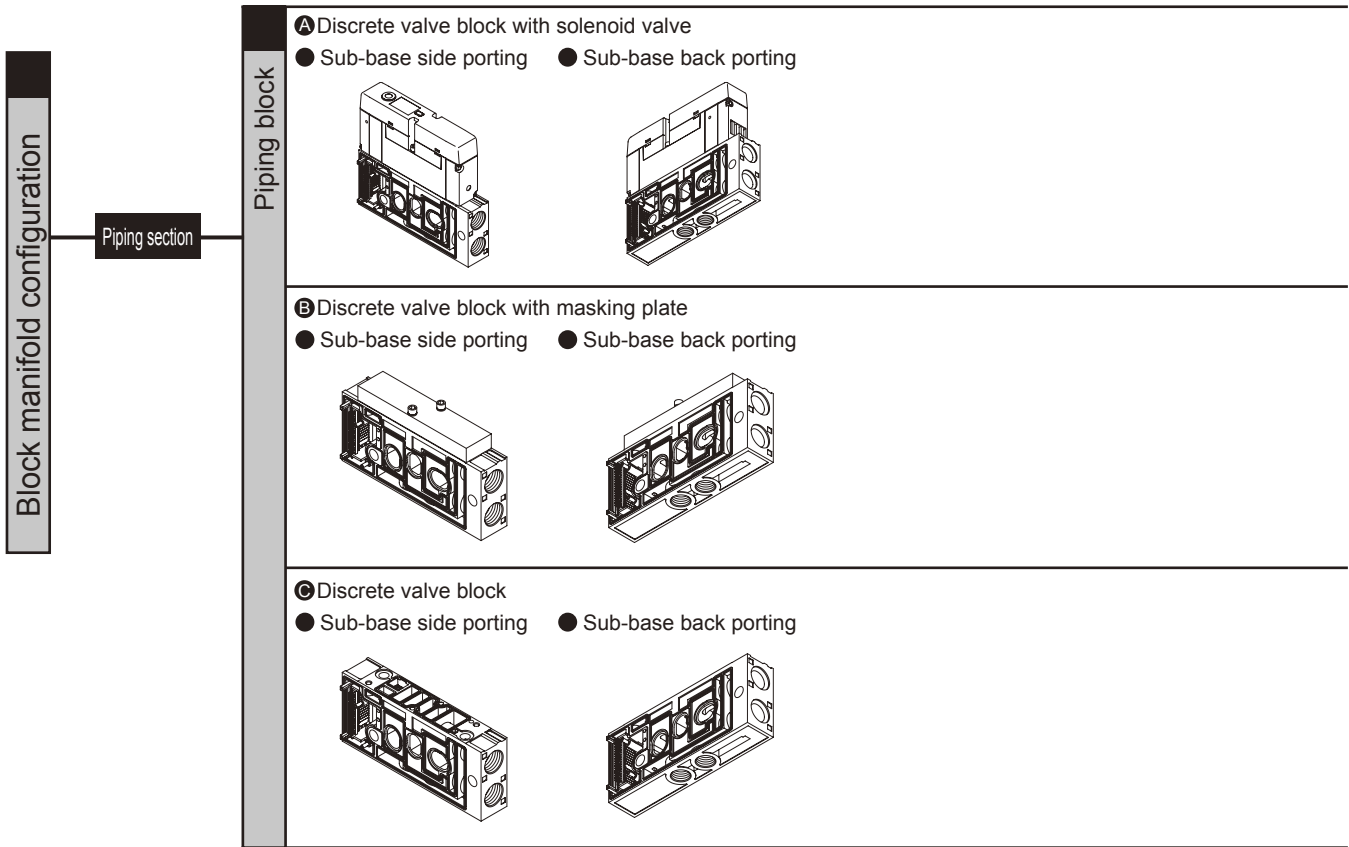
- ① Arrange required solenoid valves for required stations.  
Note that the maximum number of stations is determined by wiring. (Refer to pages 538, 542.)
- ② Solenoid valve numbers are counted as stations 1st, 2nd, or 3rd etc. from left side.

### ● End block

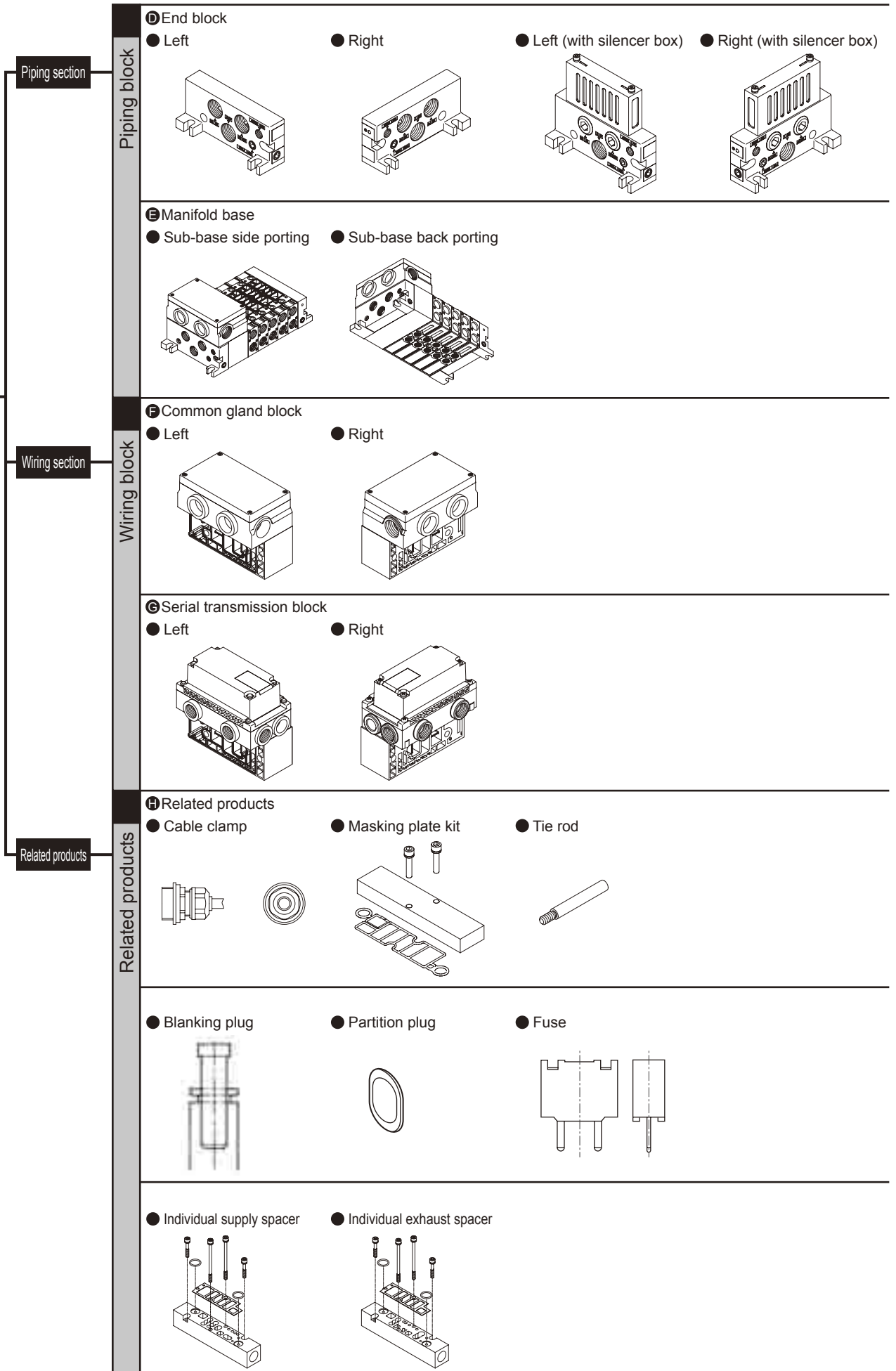
- ① End blocks are installed on both ends of the manifold.

### ● 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.)



Block manifold configuration



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
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

Plug-in manifold  
5 port pilot operated valve

# NW4G Series

## Block manifold: Piping section

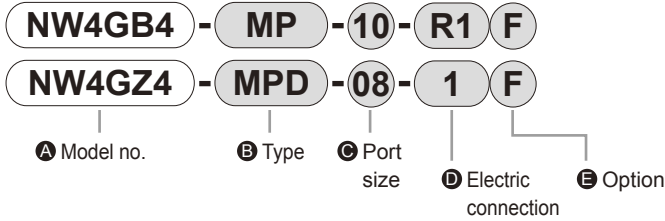
### Piping section

A. Discrete valve block with solenoid valve \* The tie rod (2 pcs.) is included.

This block is assembled with solenoid valve and valve block (separated resin base).

Refer to pages 539, 544, 545 for selection guide.

B. Discrete valve block with masking plate \* The tie rod (2 pcs.) is included.



A Model no.	B Type	C Port size {2 (B), 4 (A) port }	D Electric connection	E Option
NW4GB4	Sub-base side porting <b>MP</b> Individual wiring	<b>08</b> Rc1/4	<b>Blank</b> Reduced wiring DC specifications	<b>Blank</b> No option
NW4GZ4	Sub-base back porting <b>MPS</b> Reduced wiring single standard wiring	<b>10</b> Rc3/8 Note 1	<b>R1</b> I/O connector (500 mm for DC)	<b>F</b> A/B port filter
		<b>08G</b> G1/4	<b>1</b> Common gland AC spec. 1 to 6th sta.	
	<b>MPD</b> Reduced wiring single/double wiring, reduced wiring double, 3-position	<b>10G</b> G3/8 Note 1	<b>2</b> Common gland AC spec. 7 to 12th sta.	
		<b>08N</b> NPT1/4	<b>3</b> Common gland AC spec. 13 to 16th sta.	
		<b>10N</b> NPT3/8 Note 1		
		<b>C8</b> ø8 push-in Note 1		
	<b>C10</b> ø10 push-in Note 1			
	<b>C12</b> ø12 push-in Note 1			

Note 1: Sub-base back porting is not available.

<For DC>

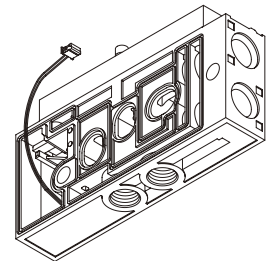
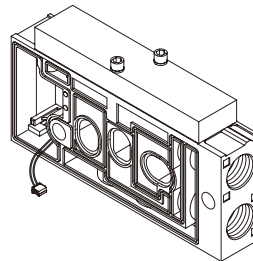
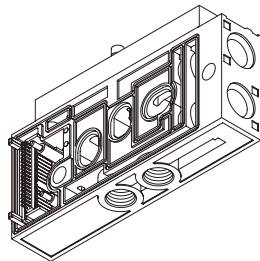
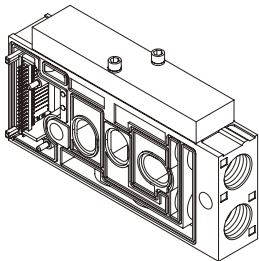
NW4GB

NW4GZ

<For AC>

NW4GB

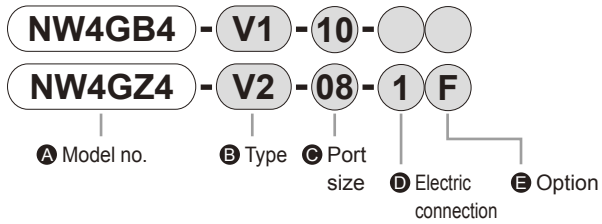
NW4GZ





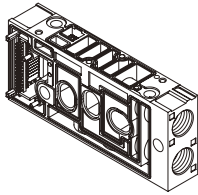
### Piping section

C. Discrete valve block (discrete only) \* The tie rod (2 pcs.) is included.

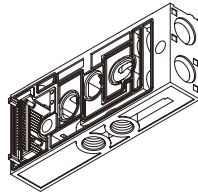


A Model no.	B Type	C Port size {2 (B), 4 (A) port }	D Electric connection	E Option
NW4GB4	Sub-base side porting <b>V</b> Individual wiring	<b>08</b> Rc1/4	<b>Blank</b> Reduced wiring DC specifications	<b>Blank</b> No option
NW4GZ4	Sub-base back porting <b>V1</b> Reduced wiring single standard wiring	<b>10</b> Rc3/8 (only NW4GB4)	<b>R1</b> I/O connector (500 mm for DC)	<b>F</b> A/B port filter
		<b>08G</b> G1/4	<b>1</b> Common gland AC spec. 1 to 6th sta.	
	<b>10G</b> G3/8 (only NW4GB4)	<b>2</b> Common gland AC spec. 7 to 12th sta.		
	<b>08N</b> NPT1/4	<b>3</b> Common gland AC spec. 13 to 16th sta.		
	<b>10N</b> NPT3/8 (only NW4GB4)			
	<b>C8</b> ø8 push-in (only NW4GB4)			
	<b>C10</b> ø10 push-in (only NW4GB4)			
	<b>V2</b> Reduced wiring single/double wiring, reduced wiring double, 3-position			

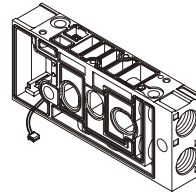
<For DC>  
NW4GB



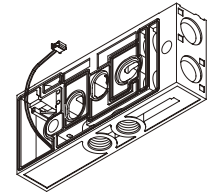
NW4GZ



<For AC>  
NW4GB



NW4GZ

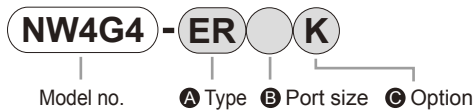


### Piping section

Probl □

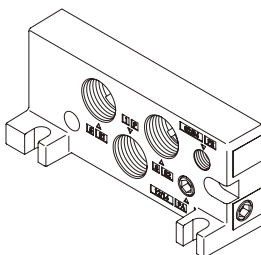
D. End block

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

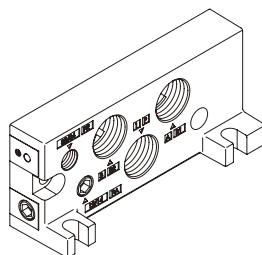


A Type	B Port size {1 (P), 3 (R2), 5 (R1) port }	C Option
<b>EL</b> Common exhaust Left	<b>Blank</b> Rc1/2	<b>Blank</b> No option
<b>ER</b> Common exhaust Right	<b>G</b> G1/2	<b>K</b> External pilot Note 1
<b>EXL</b> Atmospheric release L with silencer box	<b>N</b> NPT1/2	Note 1: "K" and "EXL" or "EXR" cannot be used together.
<b>EXR</b> Atmospheric release R with silencer box		

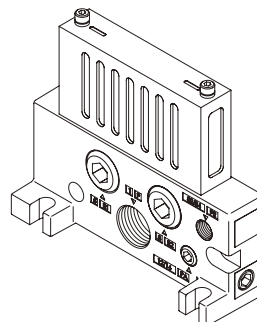
NW4G4-EL



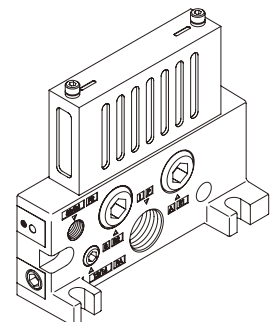
NW4G4-ER



NW4G4-EXL



NW4G4-EXR



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

Plug-in manifold  
5 port pilot operated valve

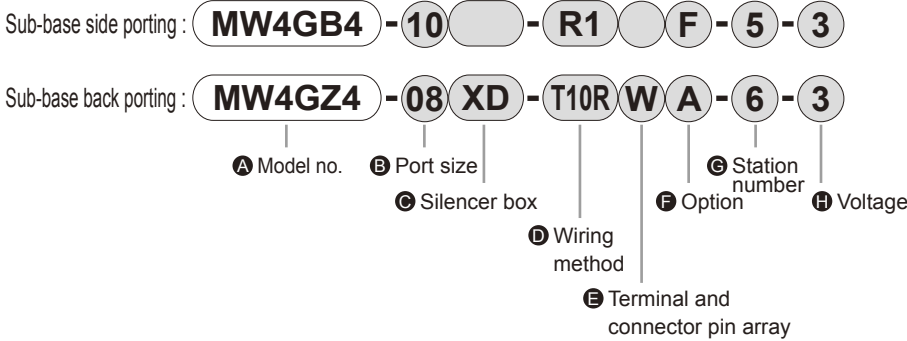
# NW4G Series

## Block manifold: Piping section

### Piping section

#### E. 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.)



A Model no.		B Port size {2 (B), 4 (A) port }		C Silencer box		D Wiring method	
NW4GB4	Sub-base side porting	08	Rc1/4	Blank	w/o silencer box	R1	Individual wiring I/O cable outlet Note 4
NW4GZ4	Sub-base back porting	10	Rc3/8 Note 1	XU	Atmospheric release silencer box R Note 2, 3	T10	Common gland Note 2
		08G	G1/4	XD	Atmospheric release silencer box L Note 2, 3	T10R	Common gland (right) Note 2
		10G	G3/8 Note 1	Note 2: "XD" cannot be selected when the left wire connection is selected. "XU" can not be selected for right. Note 3: "K" and "XU" or "XD" cannot be used together.		T6G1	CC-Link 16 points Note 2, 5
		08N	NPT1/4			T6G1R	CC-Link 16 points (right) Note 2, 5
		10N	NPT3/8 Note 1			T6J1	UNIWIRED H 16 points Note 2, 5
		C8	ø8 push-in Note 1			T6J1R	UNIWIRED H 16 points (right) Note 2, 5
		C10	ø10 push-in Note 1			T6A1	UNIWIRED 16 points Note 2, 5
		C12	ø12 push-in Note 1	T6A1R	UNIWIRED 16 points (right) Note 2, 5		
				T6D1	DeviceNet 16 points Note 2, 5		
				T6D1R	DeviceNet 16 points (right) Note 2, 5		
				T6C1	CompoBus/S 16 points Note 2, 5		
				T6C1R	CompoBus/S 16 points (right) Note 2, 5		

Note 1: Sub-base back porting is not available.

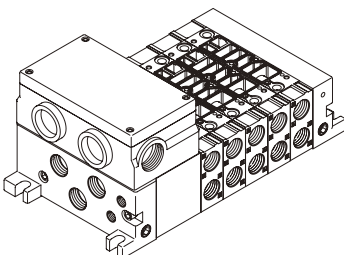
Note 4: Only DC voltage is used for R1.  
Note 5: Only 24 VDC voltage is used for T6\*.

E Terminal and connector pin array			F Option		G Station number		H Voltage	
W	Double wiring Note 6		Blank	No option	1	1 station	1	100 VAC
			K	External pilot Note 3	to	to	3	24 VDC
			A	Coolant proof Note 7	8	8 stations	4	12 VDC
			F	A/B port filter Note 8			5	110 VAC

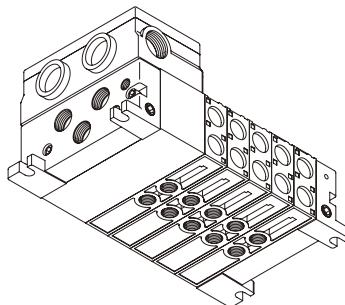
Note 6: Double wiring specifications are used for the individual wiring (R1), so W does not need to be designated.

Note 7: For T6\*, the slave station (OPP2) differs for standard specifications and coolant proof specifications.  
Note 8: A filter to prevent entry of foreign matter is incorporated in end block 1 (P) port as standard.

MW4GB4 (sub-base side porting)



MW4GZ4 (sub-base back porting)



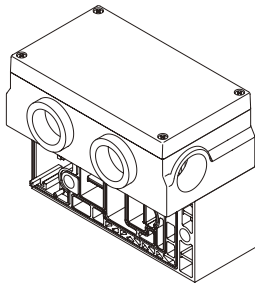
### Wiring section (Wiring block)

\* Discrete order of wiring block is only DC specifications.

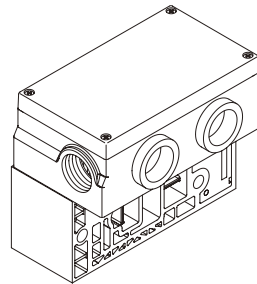
#### F. Common gland block (T10)

\* The tie rod (2 pcs.) is included.

● Left  
NW4G4-T10



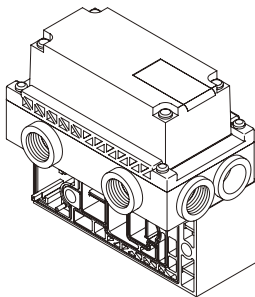
● Right  
NW4G4-T10R



#### G. Serial transmission block

\* The tie rod (2 pcs.) is included.

● Left  
NW4G4-T6\*1

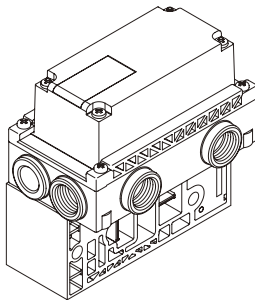


**NW4G4 - T6G1 - A**

● A Type ● B Option

A Type		B Option	
<b>T6G1</b>	CC-Link 16 points	<b>Blank</b>	Standard (spatter proof)
<b>T6J1</b>	UNIWIRED H 16 points	<b>A</b>	Coolant proof Note 1
<b>T6A1</b>	UNIWIRED 16 points		
<b>T6D1</b>	DeviceNet 16 points		
<b>T6C1</b>	CompoBus/S 16 points		

● Right  
NW4G4-T6\*1R



**NW4G4 - T6G1R - A**

● A Type ● B Option

A Type		B Option	
<b>T6G1R</b>	CC-Link 16 points	<b>Blank</b>	Standard (spatter proof)
<b>T6J1R</b>	UNIWIRED H 16 points	<b>A</b>	Coolant proof Note 1
<b>T6A1R</b>	UNIWIRED 16 points		
<b>T6D1R</b>	DeviceNet 16 points		
<b>T6C1R</b>	CompoBus/S 16 points		

#### Discrete serial transmission slave unit model no.

**W4G - OPP2 - 1G - A**

● A Wiring method ● B Option

A Wiring method		B Option	
<b>1G</b>	T6G1 CC-Link 16 points	<b>Blank</b>	Standard (spatter proof)
<b>1J</b>	T6J1 UNIWIRED H 16 points	<b>A</b>	Coolant proof Note 1
<b>1A</b>	T6A1 UNIWIRED 16 points		
<b>1D</b>	T6D1 DeviceNet 16 points		

#### ⚠ Note when selecting model no.

For slave unit (OPP2), standard specifications are different from coolant proof specifications.

Option	Slave unit cover material	Specifications
<b>Standard</b>	Polycarbonate	Spatter proof
<b>A</b>	Nylon	Coolant proof

### Coolant proof specifications

Can be selected with "B" option "A" in How to Order.

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
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

Plug-in manifold  
5 port pilot operated valve

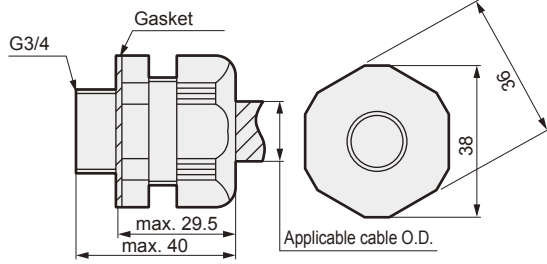
# NW4G Series

## Block manifold: Related products

### Related products

#### ● Cable clamp

For T10



(Reference value)  
Cable clamp body tightening torque : 4.0 to 4.5 N·m  
Tightening cap tightening torque : 3.0 to 3.5 N·m

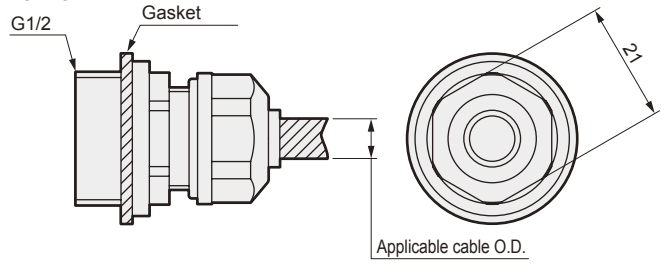
**W4G - SCL-18A**

A Type

A Type

Symbol	Thread size and applicable cable outer diameter
<b>SCL-18A</b>	G3/4, $\phi$ 14.5 to 16.5
<b>SCL-18B</b>	G3/4, $\phi$ 16.5 to 18.5

For T6\*



Applicable cable outer diameter :  $\phi$ 6 to  $\phi$ 8  
(Reference value)  
Cable clamp body tightening torque : 2.0 to 2.4 N·m  
Tightening cap tightening torque : 0.5 to 0.7 N·m

**W4G - OA-W1608C1**

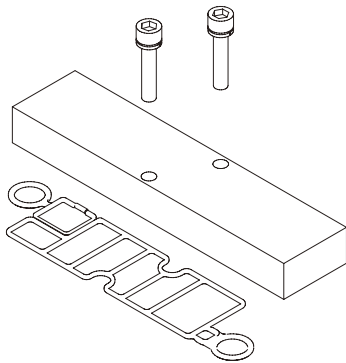
A Type

A Type

Symbol	Thread size and applicable cable outer diameter
<b>OA-W1608C1</b>	G1/2, $\phi$ 6 to 8

#### ● Masking plate kit

W4G4-MP



\* Kit descriptions: Masking plate, gasket, 2 set screws

#### ● Tie rod

**W4G4 - TR - V1**

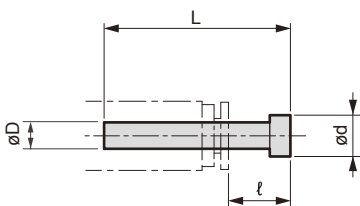
A Type

A Type

<b>V1</b>	Valve block for 1 station
<b>V2</b>	Valve block for 2 stations

\* 2 pcs. set

#### ● Blanking plug



Model no.	D	L	l	d
<b>GWP8-B</b>	$\phi$ 8	33	14	10
<b>GWP10-B</b>	$\phi$ 10	40	18.5	12
<b>GWP12-B</b>	$\phi$ 12	43	20	14

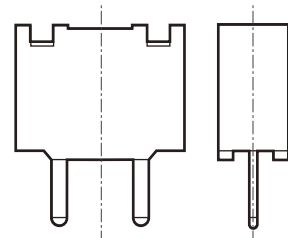
#### ● Partition plug

M4TB3-NC



#### ● Fuse

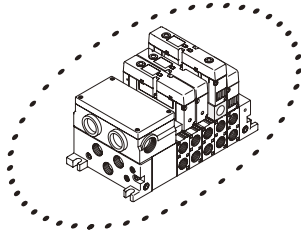
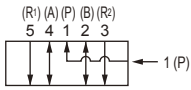
4T9-LM20



When using partition plug,  
consult with CKD sales office.

### Related products

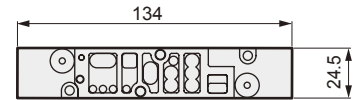
#### ● Individual supply spacer



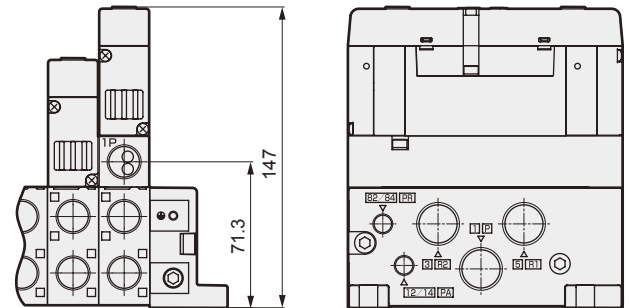
**W4G4 - P - 08**

Ⓐ Port size

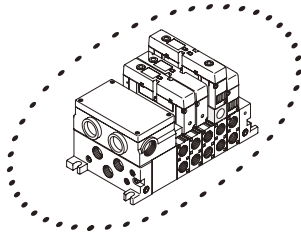
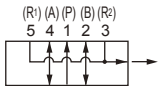
Ⓐ Port size {1 (P) port }	
<b>08</b>	Rc1/4
<b>10</b>	Rc3/8
<b>08G</b>	G1/4
<b>10G</b>	G3/8
<b>08N</b>	NPT1/4
<b>10N</b>	NPT3/8



Dimensions when installed



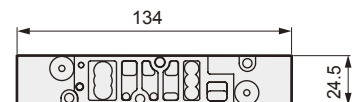
#### ● Individual exhaust spacer



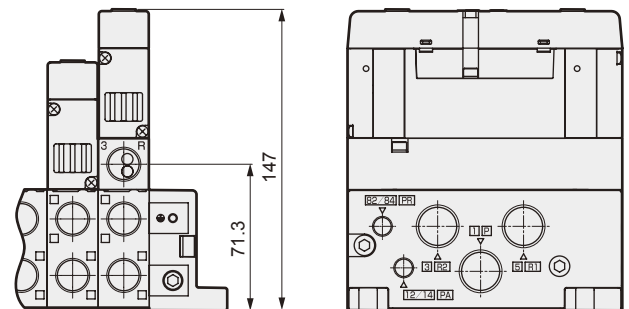
**W4G4 - R - 08**

Ⓐ Port size

Ⓐ Port size {3/5 (R) port }	
<b>08</b>	Rc1/4
<b>10</b>	Rc3/8
<b>08G</b>	G1/4
<b>10G</b>	G3/8
<b>08N</b>	NPT1/4
<b>10N</b>	NPT3/8



Dimensions when installed



Note 1: When placing the exhaust spacers adjacently, make sure that the silencer does not interfere.

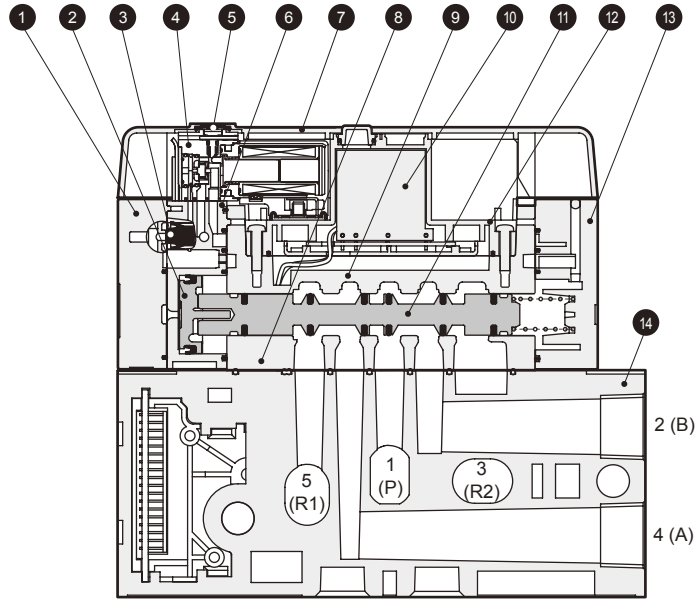
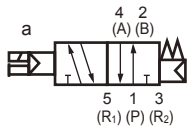
MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Plug-in manifold  
5 port pilot operated valve

## Internal structure and parts list

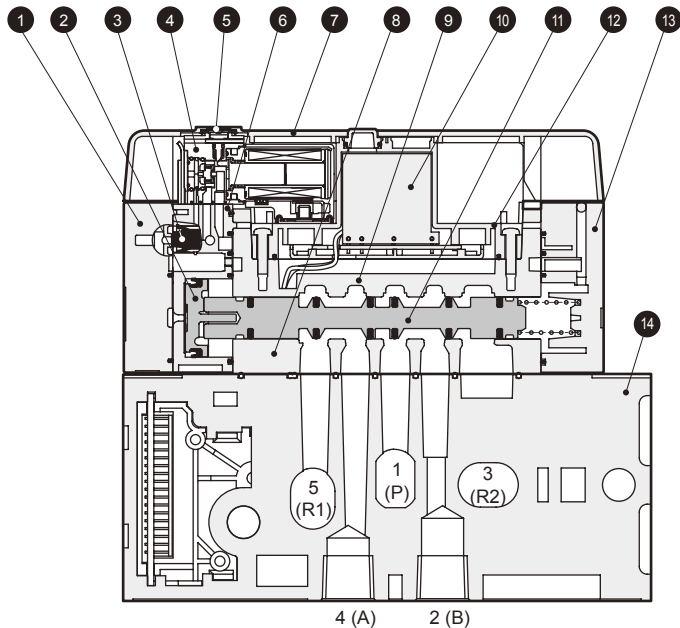
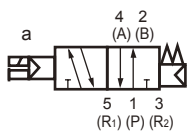
### NW4GB410 Sub-base side porting

● 2-position single solenoid



### NW4GZ410 Sub-base back porting \* The solenoid valve is the same as NW4GB410.

● 2-position single solenoid



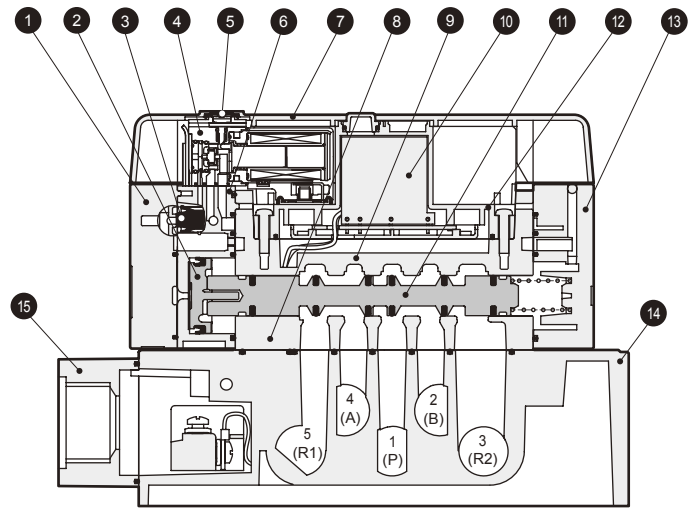
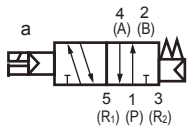
## Main parts list

No.	Parts name	Material	No.	Parts name	Material
1	Cap D3	PA	8	Electric connector	-
2	Piston assembly	-	9	Body	Aluminum
3	Quick exhaust valve	H-NBR	10	Electric circuit board	-
4	Pilot valve	-	11	Spool assembly	-
5	Manual override	PBT	12	Drip proof guard	PBT
6	Pilot valve assembly SD	-	13	Cap S	PA
7	Cover	PBT	14	Valve block	Aluminum

### Internal structure and parts list

#### W4GB410 Discrete Sub-base side porting

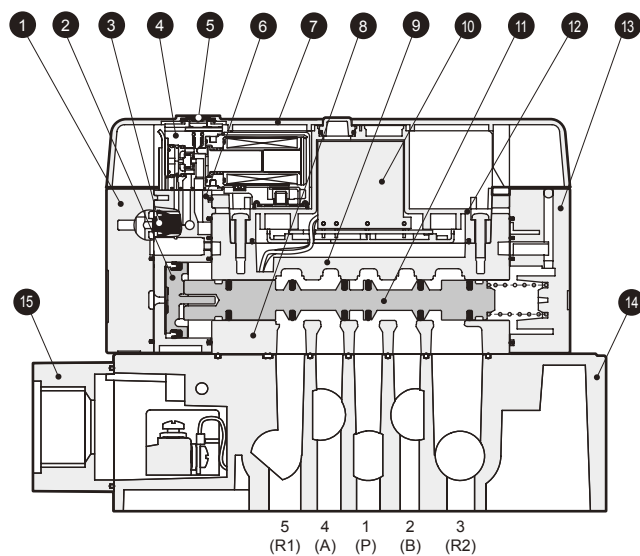
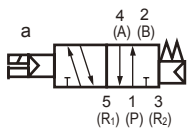
● 2-position single solenoid



#### W4GZ410 Discrete Sub-base back porting

\* The solenoid valve is the same as W4GB410.

● 2-position single solenoid



### Main parts list

No.	Parts name	Material	No.	Parts name	Material
1	Cap D3	PA	9	Body	Aluminum
2	Piston assembly	-	10	Electric circuit board	-
3	Quick exhaust valve	H-NBR	11	Spool assembly	-
4	Pilot valve	-	12	Drip proof guard	PBT
5	Manual override	PBT	13	Cap S	PA
6	Pilot valve assembly SD	-	14	Discrete sub-base	Aluminum
7	Cover	PBT	15	Gland cover	PBT
8	Electric connector	-			

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

Plug-in manifold  
5 port pilot operated valve

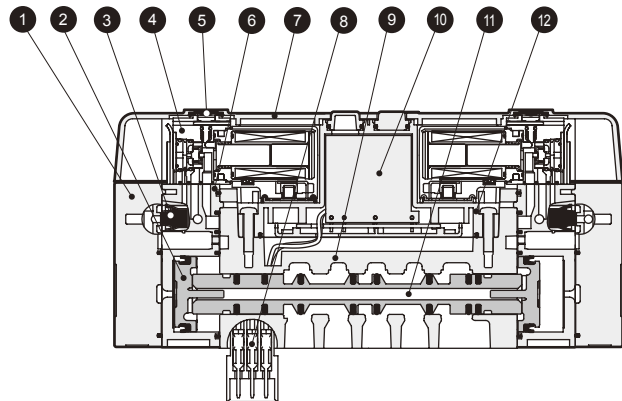
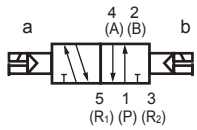
# NW4G<sup>B</sup><sub>Z</sub>4 Series

## Internal structure and parts list

- 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

### NW4G<sup>B</sup><sub>Z</sub>420/W4GB420

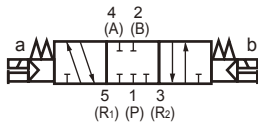
● 2-position double solenoid



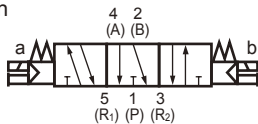
### NW4G<sup>B</sup><sub>Z</sub>4<sup>3</sup><sub>4</sub>0/W4GB4<sup>3</sup><sub>4</sub>0

● 3-position

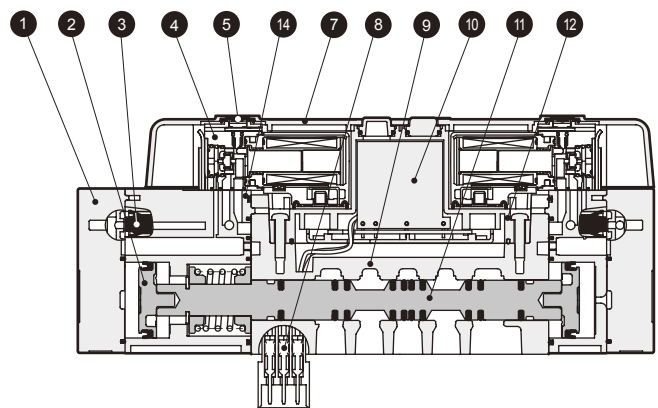
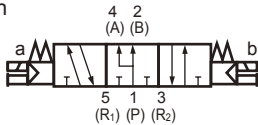
All ports closed



A/B/R connection

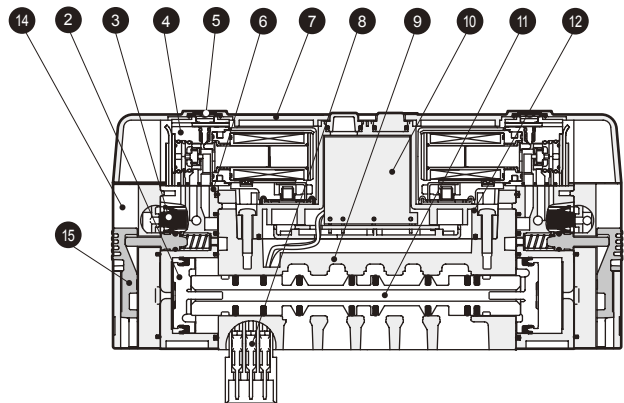


P/A/B connection



● With pilot air OFF function (M7)

\* Fig. shows 2-position double solenoid.



## Main parts list

No.	Parts name	Material	No.	Parts name	Material
1	Cap D3	PA	9	Body	Aluminum
2	Piston assembly	-	10	Electric circuit board	-
3	Quick exhaust valve	H-NBR	11	Spool assembly	-
4	Pilot valve	-	12	Drip proof guard	PBT
5	Manual override	PBT	13	Cap S	PA
6	Pilot valve assembly SD	-	14	M7 cap	PA
7	Cover	PBT	15	M7 switch	PA
8	Electric connector	-			





# W4G4 Series

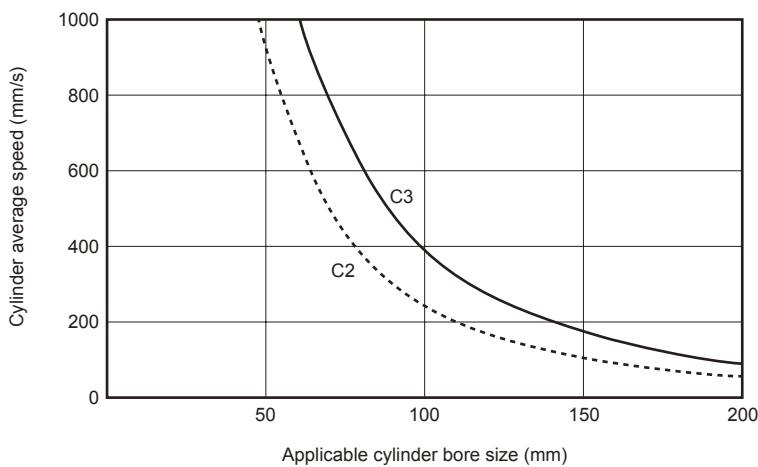
## Technical data (1) Pneumatics system selection guide

### Technical data (1) Pneumatics system selection guide

- ① The cylinder's average speed is based on the W4G4 Series and piping combination. It is expressed by the cylinder's piston speed obtained by dividing the stroke by the time the piston rod moved after starting, when the cylinder rod is installed facing upward. 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 just reference. With the CKD sizing program, confirm conditions to be actually used.
- ⑤ Effective sectional area S and sonic conductance C are converted as  $S \approx 5.0 \times C$ .

### Standard system table

Valve	System No.	Flow control valve	Silencer	Piping	Composite effective sectional area (mm <sup>2</sup> ) Pipe length 1m
W4GB410	C2	SC1-8	SLW-8A	ø10 x ø7.2	9.7
	C3	SC1-10	SLW-10A	ø15 x ø11.5	15.6



### How to use guide

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

- Selection of components to be driven

Wheth □

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. appropriate fo □

### Explanation of technical terms

- Theoretical □

the same as the no-load value. When load is applied, speed drops considerably.)

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

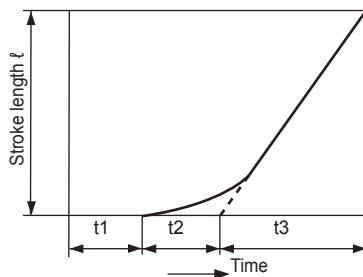
$v_o$ : Theoretical reference speed (mm/s)

A: Cylinder cross-section areas (cm<sup>2</sup>)

S: Composite effective sectional area of circuit (mm<sup>2</sup>)

D: Cylinder bore size (cm)

Whe □



$$v_o = \frac{l}{t_3} \text{ (A/s)}$$

t<sub>1</sub>: Time until movement starts

t<sub>2</sub>: Time of primary delay

t<sub>3</sub>: Time during constant movement

l: Stroke length

- Note: t<sub>1</sub>, t<sub>2</sub> varies depending on the load. It can be neglected when there is no load.

- Required flow rate: Momentary flow rate passed when the cylinder operates at  $v_o$  speed. This is expressed with the equation below.

In the table, this is the value when P = 0.5 MPa. The required flow rate is that required for selecting the clean air system.

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

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  $v_o$  speed. (Composite effective sectional area of valve, speed controller, silencer and piping.)

- Appropriate standard system: A combination of the optimum valve, speed controller, silencer, and pipe diameter required to operate the cylinder at  $v_o$  speed. The combination in the table is for a piping length of 1 m.

### How to calculate flow

Shown as followings depending on the practical unit

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

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

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

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

Q: Air flow rate [dm<sup>3</sup>/min(ANR)], SI unit dm<sup>3</sup> (cubic decimeter) is expressed with l (liter). 1dm<sup>3</sup> = 1 l

C: The sonic conductance (dm<sup>3</sup>/ (sbar))

b: Critical pressure percent (-)

P<sub>1</sub>: Primary side pressure (MPa)

P<sub>2</sub>: Secondary side pressure (MPa)

t: Temperature (°C)

When calculating with effective sectional area S, substitute value C obtained with C = S/5 in the above equation.

For subsonic flow, substitute b = 0.5 in equation (2).

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

Plug-in manifold  
5 port pilot operated valve

# W4G4 Series

## Technical data (1) Pneumatics system selection guide

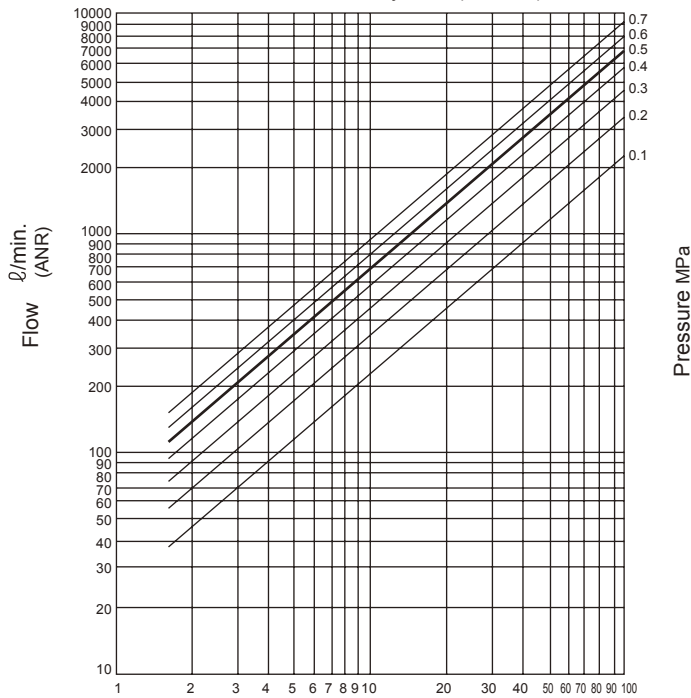
### <Component selection guide-1>

	Cylinder bore size (mm)	Theoretical reference speed (mm/s)	Required flow (ℓ/min.) (ANR)	Required effective sectional area (mm <sup>2</sup> )	Proper standard system No.
					Silencer assembly exhaust
MN3E0 MN4E0	ø40	250	112	1.6	A
4GA/B		500	224	3.3	B
M4GA/B		750	336	4.9	B
MN4GA/B		1000	448	6.5	C1
4GA/B (Master)	ø50	250	175	2.6	A
W4GA/B2		500	350	5.1	B
W4GB4		750	526	7.7	C1
		1000	701	10.2	C2
MN3S0 MN4S0	ø63	250	278	4.1	B
4TB		500	556	8.1	C2
		750	834	12.2	C2
4L2-4/ LMF0		1000	1112	16.2	C3
4SA/B0	ø80	250	448	6.5	C1
4SA/B1		500	897	13.1	C2
		750	1345	19.6	C3
4KA/B		1000	1794	26.2	C4
4F	ø100	250	701	10.2	C2
		500	1401	20.4	C3
		750	2102	30.7	C4
		1000	2803	40.9	D1
PV5/ CMF	ø125	250	1095	16.0	C3
		500	1401	31.9	C4
		750	2102	47.9	D1
		1000	2803	63.9	D2

\* Refer to page 564 for system No.

### <Effective sectional area>

The sonic velocity area (at 20°C)



Effective sectional area mm<sup>2</sup>  
 (When the effective sectional area value is x10<sup>-1</sup> or x10<sup>0</sup>,  
 multiply the flow rate value with the same value.)

### <Clean air system components>

#### Clean air system components

Parts 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
F.R. unit	C4000-15	Rc1/2	3000
	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
Air filter (F)	W4000-10	Rc3/8	4350
	W4000-15	Rc1/2	4750
	F1000-6	Rc1/8	460
	F1000-8	Rc1/4	610
	F3000-8	Rc1/4	1230
	F3000-10	Rc3/8	1500
Regulator (R)	F4000-8	Rc1/4	1320
	F4000-10	Rc3/8	2140
	F4000-15	Rc1/2	3000
	R1000-6	Rc1/8	770
	R1000-8	Rc1/4	1350
	R3000-8	Rc1/4	2000
Lubricator (L)	R3000-10	Rc3/8	2600
	R4000-8	Rc1/4	2500
	R4000-10	Rc3/8	4400
	R4000-15	Rc1/2	5000
	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, primary pressure=0.7 MPa, setting pressure=0.5 MPa and pressure drop=0.1MPa.  
 For air filter, primary pressure=0.7 MPa, pressure drop=0.02 MPa, and for lubricator, primary pressure=0.5 MPa and pressure=0.03 MPa.

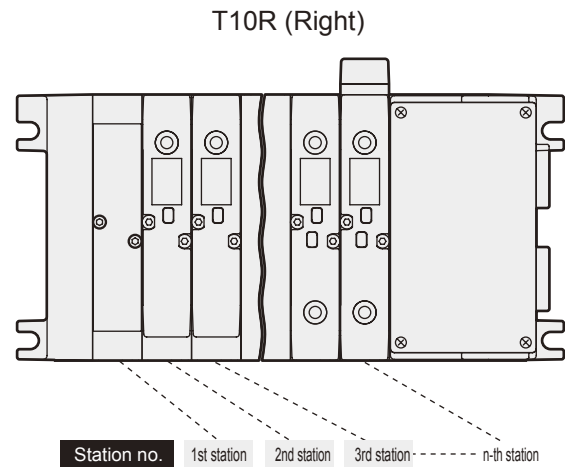
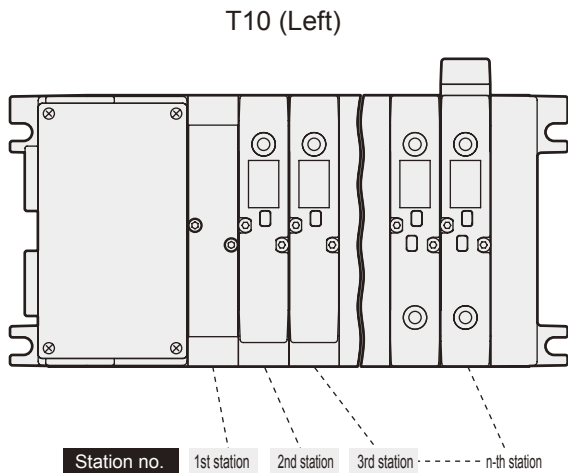
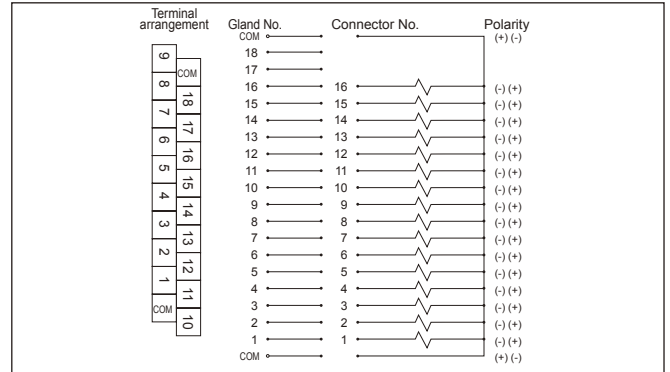
### Common gland type (wiring method T10)

#### Notes when wiring

[Notes 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 the common at the contact section.
- 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 exceed 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 T10 (up to 16 solenoids)



#### 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

#### (Standard wiring)

(MF station number; up to 16 stations)

Gland No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	(Void)	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

(MF station number; up to 8 stations)

Gland No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	(Void)	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

(Up to 16 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

● For single solenoid valve

● For double solenoid valve

● Mix (Single and double mixture)

#### (Double wiring)

(MF station number; up to 16 stations)

Gland No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	(Void)	(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

(MF station number; up to 8 stations)

Gland No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	(Void)	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

(Up to 16 solenoids)

Gland No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	(Void)	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

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
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

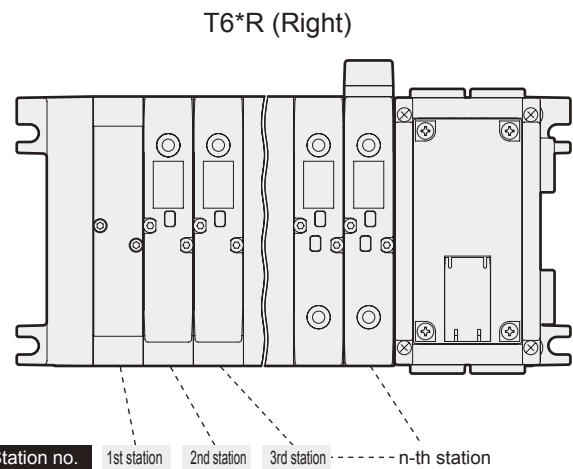
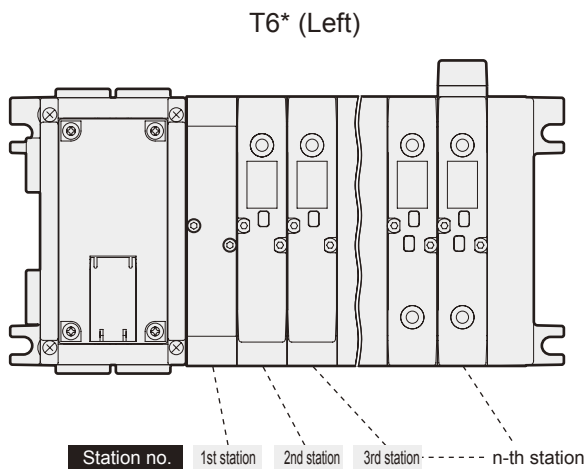
Plug-in manifold 5 port pilot operated valve

### Serial transmission type (wiring method T6\*)

#### Notes when wiring

##### [Notes for serial transmission type (T6\*)]

- ① The slave station output number differs with the manufacturer, but connector pin numbers in the manifold and manifold solenoids correspond as shown below.
  - ② Internal connectors are wired in order, so depending on the number of manifold stations there may be open output numbers. These open outputs are used only for purposes other than driving the solenoid valve manifold being used.
  - ③ The working power is 24 VDC dedicated.
  - ④ Use the slave station for each communication system.
- Refer to technical data on page 569 for the specifications on the usable PLC models, host unit models and communication systems.
- ⑤ Manifold station numbers are set in order from the left facing the piping port regardless of the wiring block position.
  - ⑥ Contact the PLC manufacturer for information on the PLC.



#### Relations between connector pin No. and solenoid valve

- For single solenoid valve  
(Available up to 16 stations)

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

- For double solenoid valve  
(Available up to 8 stations)

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

- For mix (single and double mixture)  
(Available up to 16 solenoids)

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

\*1: 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.

#### Relations between slave unit output number and connector pin No.

- T6A1, T6D1, T6J1, T6G1, T6C1

Output number	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Connector pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

### PLC table

Model no.	Maker name (recommended body)	Series	Communication system name	Host station model no.
T6A1	UNIWIRES	Compatible with each PLC, PC and SBC Consult with CKD for details.	UNIWIRES SYSTEM	Connect to SEND UNIT (UW-SD-120) or various UNIWAIRE interface
T6D1	OMRON	SYSMAC CS Series SYSMAC CJ Series SYSMAC CV Series SYSMAC α Series SYSMAC C2000HS Series Others	DeviceNet	CS1W-DRM21 CJ1W-DRM21 CVM1-DRM21-V1 C200HW-DRM21-V1 ITNC-EI*01-DRM (master integrated PLC) 3G8B3-DRM21 (VME board)
	TOYODA	PC3J/2J Series PC3JD PC2F/PC2FS		THK-5398 TIC-5642 (master integrated PLC) TFU-5359
	ODVA	Each company's DeviceNet compatible PLC, PC and SBC		Connect to each maker's DeviceNet compatible master
T6G1	MITSUBISHI	MELSEC A Series MELSEC QnA Series MELSEC Q Series	CC-Link	AJ61BT11 AJ61QBT11 A1SJ61BT11 A1SJ61QBT11 QJ61BT11 (N)
	CC-Link institution (CLPA)	PLC, PC compatible with each CC-Link brand		Connect to each maker's CC-Link master
T6J1	UNIWIRES H SYSTEM	Compatible with each PLC, PC Consult with CKD for details.	UNIWIRES H SYSTEM	Connect to SEND UNIT (UW-SD-H2) or various H SYSTEM interface
T6C1	OMRON	CPM2C Series SYSMAC CJ Series SYSMAC C200HS SYSMAC α C200HX/HG/HE SYSMAC CS Series SYSMAC CQM1H/CQM1	CompoBus/S	CPM2C-S100C CPM2C-S110C CPM2C-S100C-DRT CPM2C-S110C-DRT CJ1W-SRM21 C200HW-SRM21-V1 CQM1-SRM21-V1

Note: Contact each PLC maker for information on the PLC and for series names or PLC names which are not listed.

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

Plug-in manifold  
5 port pilot operated valve

# W4G4 Series

## Technical data (2) Notes when wiring: Wiring between blocks

### Wiring between wiring block and valve block (DC specifications)

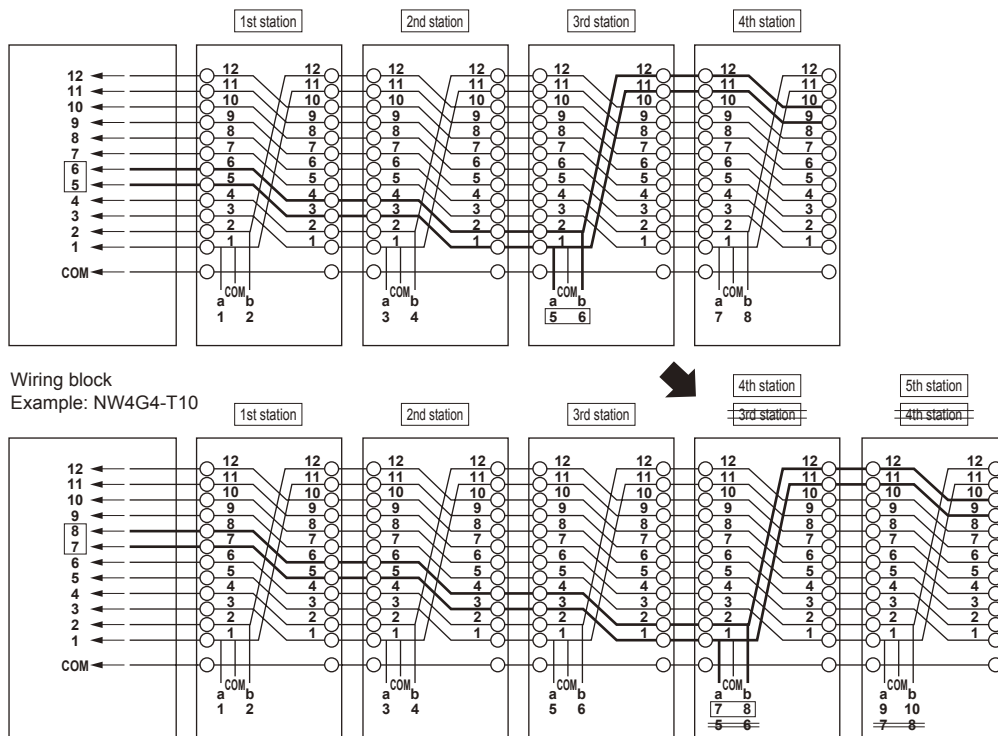
A part called a dedicated wiring connector is incorporated in the valve block and supply and exhaust port, etc. With this structure, the wiring is completed when the block manifold is disassembled or assembled. No special wiring is required during disassembly or assembly. There is a regularity between wiring block connector pin numbers and wired valves, so check wiring for each wiring block, and connect between the valve and control unit. Pay special attention when expanding or reducing the number of valve blocks. An example of the wiring circuit for expansion is shown below.

### Wiring example of circuit

The figure below is an example for the MW4G4 wiring circuit, and differs from actual specifications.

#### Double wiring

If one valve block is added between the second and third stations, the outputs assigned to No. 5 and No. 6 on the wiring block's common gland are automatically shifted to common gland No. 7 and No. 8, two solenoid places away.

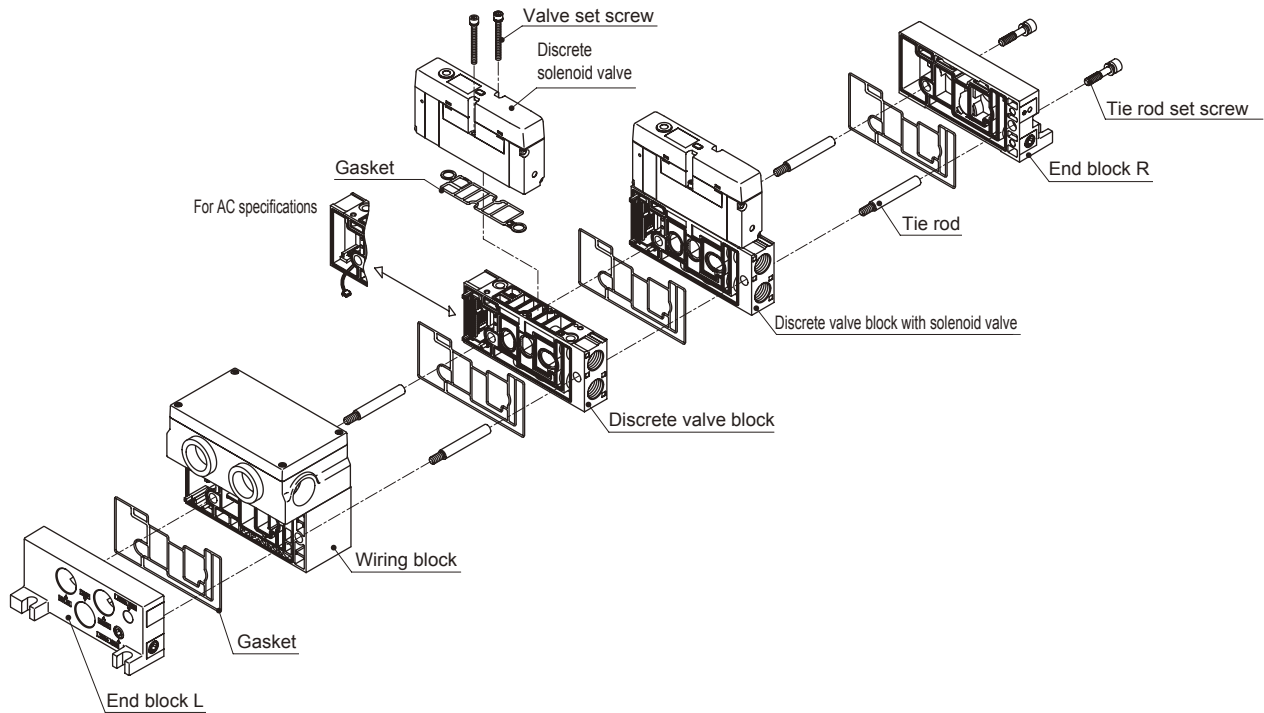


#### Standard wiring

The same as for double wiring, the common gland number is shifted and assigned. Shifting differs with the solenoid valve. When using one solenoid (2-position single), the common gland number shifts by one solenoid space. When using two solenoids (2-position double, 3-position), numbers are shifted by two solenoid spaces.



### Deal drawing of block manifold

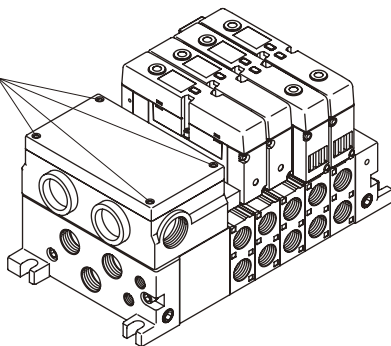


Example of disassembling: For MW4GB4 common gland left wiring specifications

### Removing electric cover

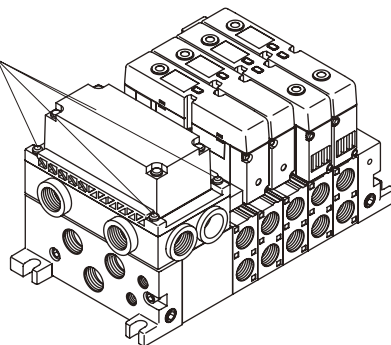
T10/T10R

Set screw  
Tightening torque  
0.6 to 0.65 N·m



T6\*/T6\*R

Set screw  
Tightening torque  
0.6 to 0.65 N·m



### Valve block expansion

- ① Remove tie rod set screw.
- ② Remove the blocks to the position to be expanded.
- ③ Mount the tie-rod for expansion.
- ④ Install valve blocks to be added.
- ⑤ Eliminate clearance between blocks, and couple with a hexagon socket head bolt. (Tightening torque: 7.0 to 8.0 N·m)

### Replace of valve

#### 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)
W4G4	M4	2.4 to 2.6

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
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

Plug-in manifold  
5 port pilot operated valve

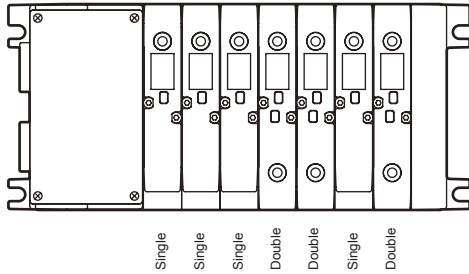
# MW4G4 Series

## Technical data (3) How to expand reduced wiring manifold

### 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 electric circuit board.

Mixed wiring is shown as an example for the manifold configuration below.



### 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 only for standard wiring and double wiring double SOL.

Electric circuit board assembly

Wire solenoids as allow order.

Relations to valves

### T10

(18) (17) 16 15 14 13 12 11 10

9 8 7 6 5 4 3 2 1

1) For single SOL  
(MF station number; up to 16 stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	(Void)	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 8 stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	(Void)	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 16 solenoids)

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

Electric circuit board assembly

Wire solenoids as allow order.

Relations to valves

### T10

(18) (17) 16 15 14 13 12 11 10

9 8 7 6 5 4 3 2 1

1) For single SOL  
(MF station number; up to 8 stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	(Void)	(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 8 stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Void)	(Void)	(Void)	8b	8a	7b	7a	6b	6a
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 16 solenoids)

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

\*1: Wiring is required only when expanding AC specifications.

\*2: Use the valve block with masking plate as a reserved block if specifications will be changed for AC specifications.



# MW4G4 Series

## Manifold specification sheet

### How to fill out manifold specifications

#### ● Manifold model no. (example)

4 **GB4** 8 **0-** 10 - **T10** **W** **M** - 6 - 3

**A** Model no.    **B** Solenoid position    **C** Port size    **D** Wiring method    **E** Terminal and connector pin array    **F** Option    **G** Station number    **H** Voltage

2 solenoid position types and over    Port size Rc3/8    Common gland left specifications

• Select the type from the "Block part configuration" (pages 552 to 559), or pages 539, 544, or 545 when completing this form.

Parts name	Model no.	Installation position																Quantity	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
End block (P.555)	NW4G4-E L	<input type="radio"/>																	1
	NW4G4-E R									<input type="radio"/>									1
Wiring block (P.557)	NW4G4-T 10	<input type="radio"/>																	1
Valve block with solenoid valve (P.539, 544, 545)	NW4GB4 1 0- 10 - M - 3							<input type="radio"/>											1
	NW4GB4 2 0- 10 - M - 3				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>											4
	NW4GB4 3 0- 10 - M - 3									<input type="radio"/>									1
	NW4GB4 0- - - -																		
	NW4GB4 0- - - -																		
Valve block with masking plate (P.554)	NW4GB4-MP - - - -																		
	NW4GB4-MP - - - -																		
Spacers (P.559)	Individual supply spacer W4G4-P-																		
	Individual exhaust spacer W4G4-R-																		
Other	Partition plug (P.558) M4TB3-NCP																		
	M4TB3-NCR																		2 x
Accessories	Silencer (resin) SLW-15A	Indicate the quantity in the Quantity field on the right.																	
	Blanking plug																	GWP8-B	
																		GWP10-B	
																		GWP12-B	
Cable clamp (P.558) W4G-																			

#### 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 552 to 559) 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.
- Manifold specifications are available for individual series, so fill out corresponding specifications.

MW4GB4 (sub-base side porting).....Page 576  
 MW4GZ4 (sub-base back porting).....Page 577

When using partition plug, consult with CKD sales office.

## How to fill out wiring specifications sheet

Not required for standard wiring and double wiring

● Wiring specifications (example)

\* The following example is completed based on the previous page's manifold specifications.

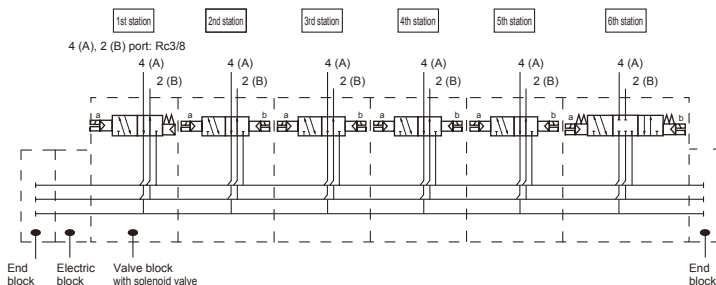
Connector pin or gland No.		Valve No.															
T10	T6*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1		a														
2	2		b														
3	3	a															
4	4																
5	5			a													
6	6			b													
7	7				a												
8	8				b												
9	9					a											
10	10					b											
11	11							a									
12	12							b									
13	13																
14	14																
15	15																
16	16																
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 571 for details on expanding.
- ⑤ Reserved wiring for expansion cannot be installed beforehand. Install the valve block with masking plate.

References circuit diagram

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



- [ ] The dotted box indicates each block's part configuration.
- Manifold station numbers are set in order from the left facing the piping port.  
(\*Wiring and end blocks are not included in manifold stations.)
- Select the model from the block configurations (pages 552 to 559), individual wiring manifold and reduced wiring manifold (pages 539, 544, 545).
- The layout position is set in order from the left facing the piping port.

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
<b>W4GB4</b>
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

Plug-in manifold  
5 port pilot operated valve

# MW4GB4 block manifold specifications

MN3E0  
MN4E0  
4GA/B  
M4GA/B  
M4GB4  
MN4GA/B  
4GA/B (Master)  
W4GB2  
W4GB4  
MN3S0  
MN4S0  
4TB  
4L2-4/LMFO  
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

● Contact                                  ● Quantity                                  Set                                  ● Request date /                                  /                                  Issue                                  /                                  /                                  /

Slip No.                                  Order No.                                  Your company name                                  \_\_\_\_\_  
Contact                                  \_\_\_\_\_  
Order No.                                  \_\_\_\_\_

● Manifold model no.

**MW4GB4** [ ] 0- [ ] - [ ] [ ] - [ ] - [ ]

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

Ⓔ Terminal and connector pin array

• Select the type from the "Block part configuration" (pages 552 to 559), or pages 539, 544, or 545 when completing this form.

Parts name	Model no.	Installation position																Quantity
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
End block (P.555)	NW4G4-E																	
	NW4G4-E																	
Wiring block (P.557)	NW4G4-T																	
Valve block with solenoid valve (P.539, 544, 545)	NW4GB4 0-																	
	NW4GB4 0-																	
	NW4GB4 0-																	
	NW4GB4 0-																	
	NW4GB4 0-																	
Valve block with masking plate (P.554)	NW4GB4-MP																	
	NW4GB4-MP																	
Individual supply spacer (P.559)	W4G4-P																	
	W4G4-R																	
Partition plug (P.558)	M4TB3-NCP																	
	M4TB3-NCR																	2 x
Silencer (resin)	SLW-15A	Indicate the quantity in the Quantity field on the right.																
Blanking plug	GWP8-B																	
	GWP10-B																	
	GWP12-B																	
Cable clamp (P.558)	W4G-																	

● Wiring specifications (Not required for standard wiring and double wiring.)

Connector pin or gland No.		Valve No.															
T10	T6*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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																
COM																	
COM																	

# MW4GZ4 block manifold specifications

● Contact                                      ● Quantity                                      Set                                      ● Request date /                                      /                                      Issue                                      /                                      /                                      /

Slip No. \_\_\_\_\_ Order No. \_\_\_\_\_

Your company name \_\_\_\_\_

● Manifold model no.

**MW4GZ4**  **0-**  -   -  -

Ⓐ Model no. Ⓑ Solenoid position Ⓒ Port size Ⓓ Wiring method Ⓕ Option Ⓖ Station number Ⓗ Voltage  
Ⓔ Terminal and connector pin array

Contact \_\_\_\_\_

Order No. \_\_\_\_\_

• Select the type from the "Block part configuration" (pages 552 to 559), or pages 539, 544, or 545 when completing this form.

Parts name	Model no.	Installation position																Quantity	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
End block (P.555)	NW4G4-E																		
	NW4G4-E																		
Wiring block (P.557)	NW4G4-T																		
Valve block with solenoid valve (P.539, 544, 545)	NW4GZ4	0-	-																
	NW4GZ4	0-	-																
	NW4GZ4	0-	-																
	NW4GZ4	0-	-																
	NW4GZ4	0-	-																
Valve block with masking plate (P.554)	NW4GZ4-MP	-																	
	NW4GZ4-MP	-																	
Spacers (P.559)	Individual supply spacer	W4G4-P-																	
	Individual exhaust spacer	W4G4-R-																	
Other	Partition plug (P.558)	M4TB3-NCP																	
		M4TB3-NCR																	2 x
Accessories	Silencer (resin)	SLW-15A																	
	Blanking plug	GWP8-B																	
		GWP10-B																	
		GWP12-B																	
Cable clamp (P.558)	W4G-																		

● Wiring specifications (Not required for standard wiring and double wiring.)

Connector pin or gland No.		Valve No.															
T10	T6*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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																
COM																	
COM																	

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  
Plug-in manifold  
5 port pilot operated valve

**MEMO**

MN3E0 MN4E0	
4GA/B	
M4GA/B	
MN4GA/B	
4GA/B (Master)	
W4GA/B2	
<b>W4GB4</b>	
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	



MEMO

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

Plug-in manifold  
5 port pilot operated valve