MN4GA/B

4GD/E

M4GD/E

MN4GD/E

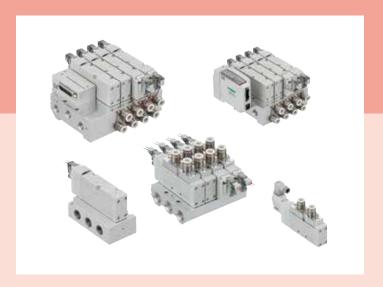
4GA4/B4

# Pilot operated 3, 5-port valve

# 4GA4 / 4GB4

Pilot operated 5-port valve

**Metal base** 



CONTENTS	
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4GA4/B4

Ending

**CKD** 

The 4G1/2/3R Series energy saving coil was mounted on the 4G4 and has been upgraded to 4G4R. Large cylinders up to ø140 can also be driven with a low power

consumption of 0.1 W.

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

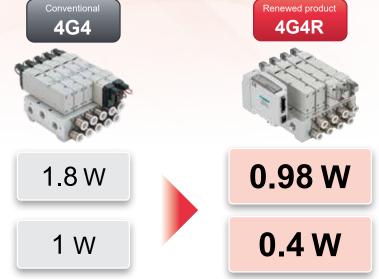
MN4GA/B

4GD/F

M4GD/E

MN4GD/E

4GA4/B4



# **Environmental performance**

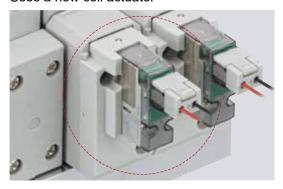
**★**With low exoergic/energy saving circuit can be energized continuously

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

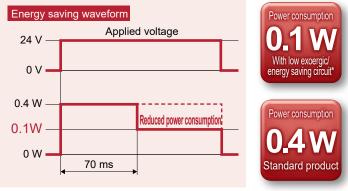
100 VAC

**24 VDC** 

Uses a new coil actuator



#### Reduced power consumption



**★**With low exoergic/energy saving circuit can be energized continuously

# Safety

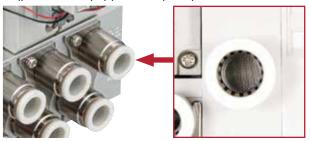
#### Prevents manual misoperation

Manual override has a protective cover



#### Prevents problems with foreign matter

 Air supply filter equipped as standard (ports A/B equipped as option)



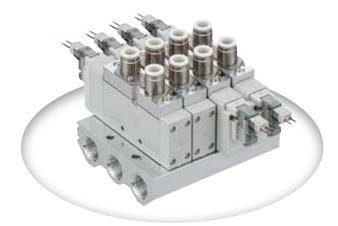
# A diverse lineup (Discrete / manifold / reduced wiring)



Single valve / body piping / base piping

4GA Series

Max. C value of 15 with a compact body



M4GA4 Series

Manifold max. C value of 9.5



M4GA4-T\* Series



Serial transmission

CC-Link

EtherCAT

EtherNet/IP

DeviceNet

CC-Link IE Field Basic

CC-Link IE Field

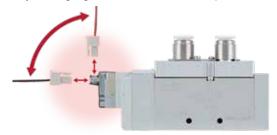
CC-Link IE TSN

PROFINET

IO-Link

# Upward/Lateral common wiring connector

Switch easily between upward and lateral facing, just by changing the connector insert position.



#### Easy to use

**Compatible with global standards** 



Ending

**CKD** 

Ending

983

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

Series

**Variation** 

M4GD/E

MN4GD/E

4GA4/B4

# 4GA4 / 4GB4 Series

							Valve per	formance		Switching	g position	
										2-po	sition	
	Series exte	rnal	арр	earance	Model No.	Position Number of solenoid valves Circuit diagram symbol	Flow Characteristics C [dm³/(s·bar)] (*1)	Cylinder bore size (ø)	Voltage (v)	Single	Double	
Single unit		Body piping		5-port	4GA4		7.5 to 8.7	100 to 140	100 AC 110 AC 200 AC	•	•	
		Base piping		5-port	4GB4	● 5-port valve	12 to 15	125 to 160	24 DC 12 DC	•	•	
Individual wiring manifold (metal base)		Body piping		Direct mount	M4GA4	2-position single  4 2 (A) (B)  5 1 3	8.2 to 9.3	100 to 140	100 AC	•	•	
ing manifold		Base piping		Direct mount	M4GB4 ( <b>*</b> 2)	2-position double  4 2 (A) (B)  b	6.8 to 7.1 8.7 to 9.5 (*3)	100 to 140	110 AC 200 AC 24 DC 12 DC	•	•	
Individual wir		Base		DIN rail Mount (-QD)	M4GB4	5 1 3 (Rt) (P) (R2) 3-positionAll ports closed	6.8 to 7.1	100 to 125	12 00	•	•	
base)		Body piping	Direct mount	Common terminal block (-T1*) D-sub-connector (-T30) Flat cable connector (-T5*)	M4GA4	(A) (B)    3	8.2 to 9.3	100 to 140	24 DC 12 DC	•	•	
Reduced wiring manifold (metal base)		Body	Direct	Serial transmission (-T8□)	IVI4GA4	(A) (B)  3	6.8 to 7.1 8.7 to 9.5 (*3)	100 to 140	24 DC	•	•	
ed wiring ma		piping	mount	Common terminal block (-T1*) D-sub-connector (-T30) Flat cable connector (-T5*)	M4GB4	4 2 (A) (B) 5 1 3 (R <sub>1</sub> ) (P) (R <sub>2</sub> )	8.2 to 9.3	100 to 140	24 DC 12 DC	•	•	
Reduce		Base	Direct mount	Serial transmission (-T8⊡)	(*2)		6.8 to 7.1 8.7 to 9.5 (*3)	100 to 140	24 DC	•	•	

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

<sup>★2:</sup> Two types of bases are available. Dimensions differ by bore size of port P/R1/R2.

<sup>\*3:</sup> Values apply when the port size (ports A/B) is Rc1/2, G1/2, or NPT1/2.

# 4GA4 / 4GB4 Series

Series Variation

Swit	ching	g pos	sition				4/B p	oipin	g co	nne	ction	por	t					Ele	ectric	cal c	onne	ectio	ns			
	osit				h-in fi						ale th													Flat c		
All ports closed	A/B/R connection	P/A/B connection	Mix	ø8	ø10	ø12	Rc 1/4	Rc 3/8	Rc 1/2	G 1/4	G 3/8	G 1/2	NPT 1/4	NPT 3/8	NPT 1/2	Grommet lead	E-connector	EJ- connector	A-connector	DIN terminal box	Common terminal block	D-sub-connector	Flat cable with power supply terminal	Flat cable without power supply terminal	Serial transmission	page
				C8	C10	C12	08	10	15	08G	10G	15G	08 N	10N	15N	Blank	E	E∏J	A2N	В	T1[]	T30	T50	T5_	T8_	
•	•	•		•	•	•		•			•			•		•	•	•		•						998
•	•	•						•	•		•	•		•	•	•	•	•		•						998
•	•	•	•	•	•	•		•			•			•		•	•	•		•						1008
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•						1016
•	•	•	•	•	•	•	•	•		•	•		•	•		•	•	•		•						1010
•	•	•	•	•	•	•		•			•			•					Built- in valve		•	•	•	•		1030
•	•	•	•	•	•	•		•			•			•					Built- in valve						•	1040
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				Built- in valve		•	•	•	•		1046
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				Built- in valve						•	1056

Pilot operated 3, 5-port valve

4GA/B

MN4GA/B

M4GA/B

4GD/E

M4GD/E MN4GD/E

4GA4/B4



4GA4 /	<b>4004</b> s	<u>eries</u>						
	Electrical c	onnections			Other	ontions		
Discrete valve/indivi	dual wiring manifold	Reduced wire	ing manifolds	Manual	Other options			
Grommet Lead wire ®	E-connector with socket/terminal ® ©	T10 Common terminal block (left side) M3 thread specifications/ clamping specifications	T51 Flat cable without T52 power supply terminal T53 (left side)	override	K External pilot	Z1 Air supply spacer		
Lead wire length 300 mm				Non-locking     Locking common (standard)				
E-connector	B DIN terminal box (BN: Without terminal box)	T10R Common terminal block (right- side) M3 thread specifications/ clamping specifications	T51R Flat cable without T52R power supply terminal T53R (right side)		A Coolant proof	Z3 Exhaust spacer		
● Lead wire length 300 mm 500 mm 1000 mm 3000 mm					Select for coolant inflow and ozone measures.			
E-connector without socket	EJ-connector	T30 D-sub-connector (left)	T8 Serial transmission (32 points)	①For non-locking, Push to turn ON Release to turn OFF	F Port A/B filter integrated	DIN rail Mount		
	Lead wire length 1000 mm 2000 mm 3000 mm			②For locking, PUSH and turn 90° clockwise to hold the on state. Turn counterclockwise to unlock OFF	Filter Filter			
E-connector with socket/terminal	EJ-connector (A (B) (C)	T30R D-sub-connector (right)						
	Lead wire length 1000 mm 2000 mm 3000 mm							
E-connector		T50 Flat cable with power supply terminal (left side)						
Lead wire length 300 mm 500 mm 1000 mm 2000 mm			(A): With lead wire     (B): With indicator					

(A): With lead wire(B): With indicator lamp(C): With surge suppressor

Flat cable with power supply terminal (right

E-connector without socket

# 4GA4 / 4GB4 Series

#### Electrical connection circuit diagram

trical c	ical connection circuit diagram											
Electric	cal connections	Without lead wire	With lead wire	With indicator lamp	With surge suppressor	Without socket	Circuit diagram					
Blank	Grommet lead wire		•				(±) O					
E0	E-connector		•				(±) O					
E0 <b>*</b> J	EJ-connector		•				DC					
E0N	E-connector					•	100 (~) (~) (~) (~) (~)					
E1	E-connector	•					VAC (~) VAC (~) VAC					
E2	E-connector		•	•	•		DC + + + + + + + + + + + + + + + + + + +					
E2 <b>*</b> J	EJ-connector		•	•	•		(±) (>					
E2N	E-connector			•	•	•	100 \$ 200 \$ 200					
E3	E-connector	•		•	•		VAC VAC (~) OF THE NAME OF THE					
A2N	A-connector			•	•	•						
В	DIN terminal box	•		•	•		DC (±) O					
BN	DIN terminal box (without terminal box)	•			•		100 (~) O					
							200 (~) O					
E2	E-connector		•	•	•		(±) O					
E2 <b>*</b> J	EJ-connector		•	•	•		DC \$\frac{1}{2} \frac{1}{2} \frac{1}{2}					
E2N	E-connector			•	•	•	(Ŧ) O					
E2	E-connector		•	•	•		(±) • • • • • • • • • • • • • • • • • • •					
E2 <b>*</b> J	EJ-connector		•	•	•		DC System Circuit					
E2N	E-connector			•	•	•	(Ŧ) O					

Ending



Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E





Discrete valve **Body piping** 

# 4GA4 Series

Cylinder bore size: ø100 to ø140



Refer to the CKD website for detailed compatible model Nos

#### How to Order

●Pilot operated 5-port valve

●5-port valve for integrated base

**4GA4** 4GA4

0R - (10) - (E2)

Model No.

Solenoid valve operation classification 3 Electrical connections 5 Voltage

1 Solenoid position

2 Port size 4 Option

#### 1 Solenoid position

Code	Description						
1	2-position single						
2 2-position double							
3 3-position all ports closed							
4	3-position A/B/R connection						
5	3-position P/A/B connection						

#### 3 Electrical connections

★For details, see circuit diagram with surge suppressor/lamp page 987

Туре	Lead wire (mm)	Surge suppressor	Lamp	Code		
Grommet lead wire	300			Blank		<b>*</b> 1
DIN terminal		•	•	В		<b>*</b> 2 <b>*</b> 3
box (Pg7)		•		BN		<b>*</b> 2 <b>*</b> 3
	300 500 1000 2000 3000			E0 E00 E01 E02 E03		
E-connector (Lead wire upward/lateral	300 500 1000 2000 3000	•	•	E2 E20 E21 E22 E23		
common)		•	•	E0N E2N	Socket None	
		•	•	E1	Socket / With terminal	
EJ-connector (With cover Socket, upward/lateral common)	1000 2000 3000 1000 2000 3000	•	•	E01J E02J E03J E21J E22J E23J		

- **★**1: The grommet lead wire specifications are compatible with DC voltage only.
- **★**2: A lamp comes with the terminal box.
- ★3: The terminal box conforms to EN175301-8037TypeC (former DIN43650-C). See CKD components product website (https://www.ckd.co.jp/kiki/jp/en/)  $\rightarrow$  "Model No.→ Instruction manual for details.

#### 2 Port size

Type	Port A/B	P/R Port	Code	l
D	ø8		C8	l
Push-in Fitting	ø10		C10	l
Fitting	ø12	Rc1/4	C12	l
Famolo	Rc3/8	KC 1/4	10	l
Female thread	G3/8		10G	k
uneau	NPT3/8		10N	ŀ

- \*1: Port P/R is G1/4.
- \*2: Port P/R is NPT1/4.

#### 4 Option

	Code	Desc	ription					
	Blank	No option						
	Α	Coolant proof						
<b>*</b> 1	S	Surgeless						
<b>*</b> 2	Е	Low exoergic/energy saving circuit						
	F	Port A/B Filter integrated	Filter					

- \*1: **3**Only the electrical connections of E2\*, E2\*J, **5** voltage "3" 24 VDC, and "4" 12 VDC are supported. In addition, surgeless "S" and low exoergic/energy saving circuit "E" cannot be selected together.
- \*2: Surgeless specifications.

#### 5 Voltage

Code	Description
1	100 VAC
2	200 VAC
3	24 VDC
4	12 VDC
5	110 VAC

CE marking specifications

Refer to the CKD website for detailed compatible model Nos.

\*\* - Voltage- ST

 Standard 24 VDC below the voltage are CE markingcompatible even if "ST" is not indicated in the model No.

Specifications for rechargeable battery (Catalog No.CC-1226A)

• For use in the rechargeable battery manufacturing process, materials used for air path and sliding section are limited

\* \* - Voltage - (



Discrete valve; body piping

#### Common specifications

<u> </u>										
Item	Description									
Valve and operation	Pilot operated soft spool valve									
Working fluid	Compressed air									
Max. working pressure MPa	0.7									
Min. working pressure MPa	0.2									
Proof pressure MPa	1.05									
Ambient temperature°C	-5 to 55 (no freezing)									
Fluid temperature °C	5 to 55									
Manual override	Non-locking/locking common									
Lubrication (*1)	Not required									
Degree of Protection (*2)	Dust-proof [IP40 equivalent (DIN terminal box: IP65)]									
Vibration resistance m/s <sup>2</sup>	50 or less									
Shock resistance m/s <sup>2</sup>	300 or less									
Atmosphere	Cannot be used in corrosive gas environments									
44 11 1 11 11 11 11	4 100 (000 ( 11 : 1;									

<sup>\*1:</sup> Use turbine oil Class 1 ISOVG32 for lubrication. Excessive or

#### **Electrical Specifications**

lte	em			De	scripti	ion				
Rated volta	age V	24 DC	12 DC	5 DC	3 DC	100 AC	110 AC	200 AC		
Voltage fluct	uation range		±10%							
Holding	Standard	0.015 (0.017)	0.030 (0.034)	0.072   0.120   (0.082)   (0.136)		0.009 (0.009)		0.006 (0.006)		
current (A) (*3)	With low exoergic/ energy saving circuit	0.005	0.010		-		-			
Power	Standard	0.35 (	(0.40)	0.35 (	(0.40)		-			
consumption W (*3)	With low exoergic/ energy saving circuit	0.	.1		-		-			
Apparent power VA (*3)	Standard		-		-		93 98)	1.20 (1.40)		
Heat Resis	tant Class	В								
Surge supp	pressor				Option					
Indicator				Lar	np (opti	on)				

<sup>★3:</sup> Values in ( ) apply when lamp is included. In addition, the type with low exoergic/energy saving circuit is only available with lamp.

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/F

MN4GD/E

4GA4/B4

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

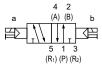
#### Individual specifications 2-position single

ltem		4GA4
Port size	D A/D	Push-in fitting ø8, ø10, ø12
	Port A/B	Rc3/8, G3/8, NPT3/8
	Port P/R1/R2	Rc1/4, G1/4, NPT1/4

#### 2-position double

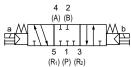
● 5-port valve

Circuit diagram symbol

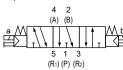


3-position

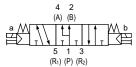
All ports closed



#### 3-position A/B/R connection



3-position P/A/B connection



#### Performance/characteristics by model

	léana		4G	A4		
ltem -			at ON	at OFF		
Response	2-position	Single	40 (45)	60 (60)		
time		Double	50 (55)	50 (55)		
ms	3-position	A/B/R connection	30 (35)	80 (80)		

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

#### Weight

Item					4GA4
			Single	Grommet lead wire	284 (293)
		L		E-connector	286 (295)
		sition		DIN terminal box	314 (323)
	о́ф	Double	Grommet lead wire	318 (327)	
	Ÿ	E-connector	322 (331)		
			DIN terminal box	378 (387)	
		ion	All ports	Grommet lead wire	349 (358)
		-position	closed E-connector		353 (362)
	g d-c			DIN terminal box	409 (418)

Values in ( ) include the mounting screw and gasket. Values for the E-connector include the socket assembly (with 300 mm lead wire). For the EJ-connector, add 16 g/connector to the E-connector weight.

#### Flow Characteristics

Model	Model No. Solenoid position			$P \rightarrow A/B$			A/B→R1/R2		
No.			C[dm³/(s·bar)]	b	Q [L/min(ANR)]	C[dm³/(s·bar)]	b	Q [L/min(ANR)]	
	2-posi	tion	8.1	0.40	2203	8.0	0.31	2047	
4GA4		All ports closed	6.9	0.37	1838	7.5	0.42	2070	
4GA4	IGA4   i	A/B/R connection	6.8	0.40	1850	8.7	0.37	2317	
	3-p	P/A/B connection	8.9	0.37	2370	7.6	0.27	1897	

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

MN4GA/B

4GA/B

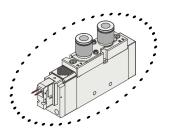
#### **Dimensions**

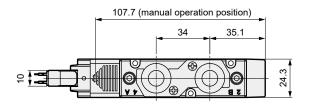
4GA4 Series

Discrete valve; body piping

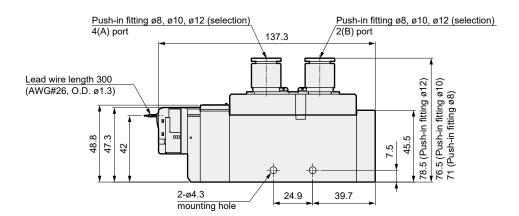
#### 4GA410

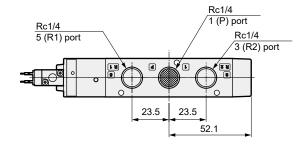
2-position single grommet lead wire (blank)



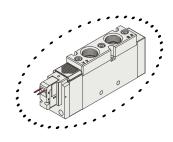


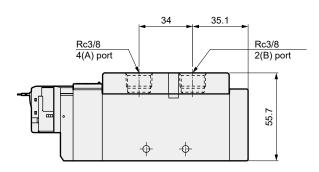






#### ■ Rc3/8 female thread (10)





M4GA/B

MN4GA/B

4GD/E

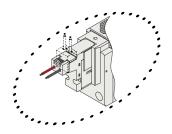
M4GD/E

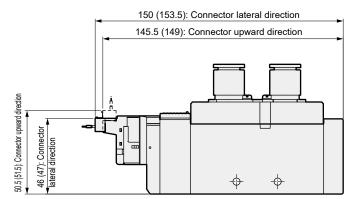
MN4GD/E

4GA4/B4

#### **Dimensions**

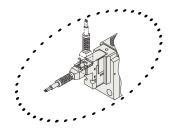
#### ● E-connector (E)

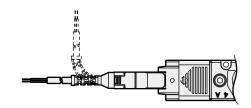


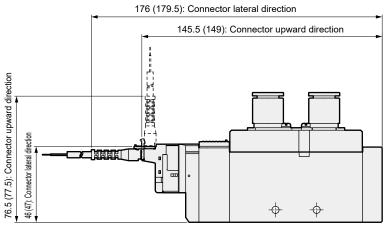


Note: Values in ( ) are for AC voltage.

#### ● EJ-connector (E**\*\***J)

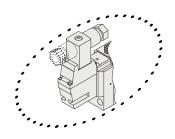


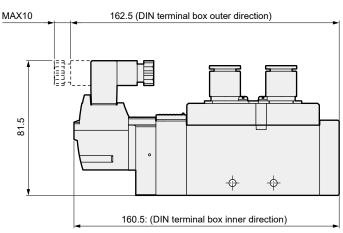




Note: Values in ( ) are for AC voltage.

#### DIN terminal box (B)





Note: DIN terminal box assembly is shipped facing inward.



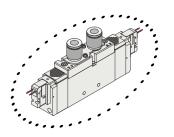
M4GA/B

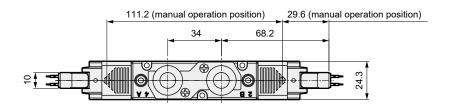
#### Discrete valve; body piping Dimensions

4GA4 Series

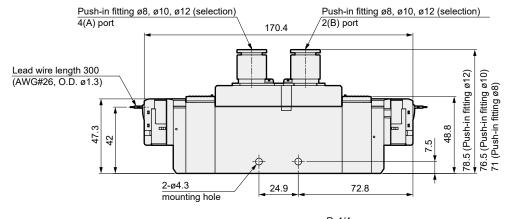
### 4GA420

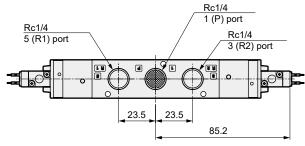
● 2-position double grommet lead wire (blank)



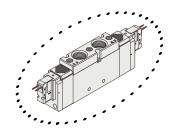


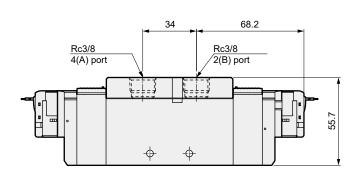






Rc3/8 female thread (10)

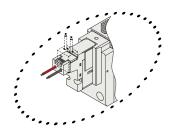


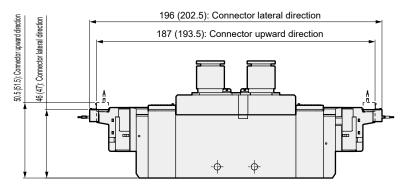


Discrete valve; body piping

#### **Dimensions**

#### ● E-connector (E)





Note: Values in ( ) are for AC voltage.

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

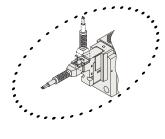
4GD/E

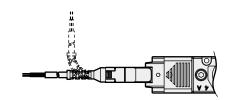
M4GD/E

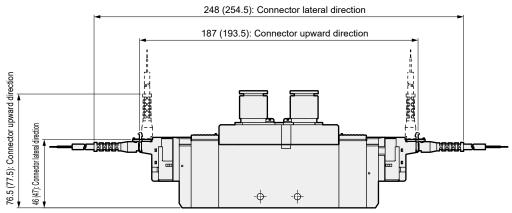
MN4GD/E

4GA4/B4

#### ● EJ-connector (E**\*\***J)

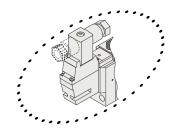


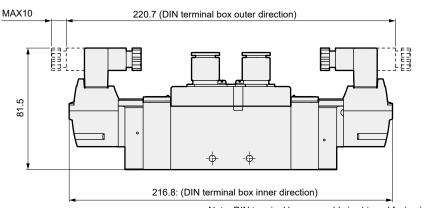




Note: Values in ( ) are for AC voltage.

#### DIN terminal box (B)





Note: DIN terminal box assembly is shipped facing inward.



M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

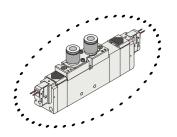
# 4GA4 Series

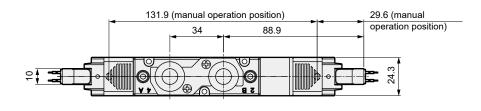
Discrete valve; body piping

#### **Dimensions**

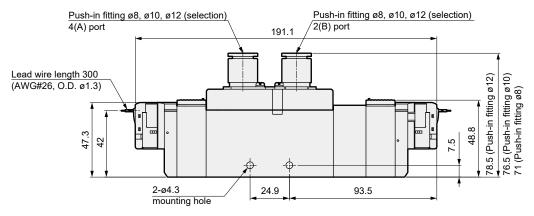
#### 4GA440

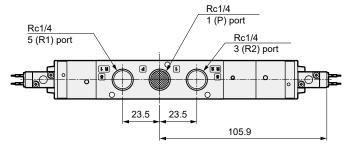
● 3-position grommet lead wire (blank)



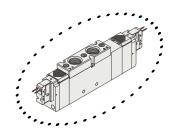


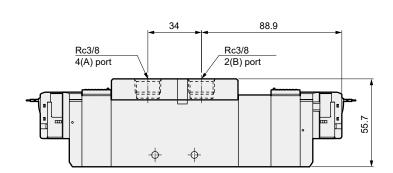






#### Rc3/8 female thread (10)

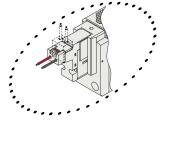


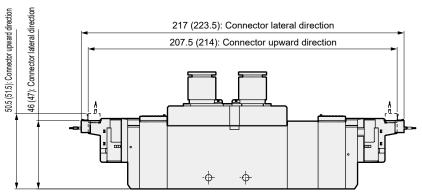


Discrete valve; body piping

#### **Dimensions**

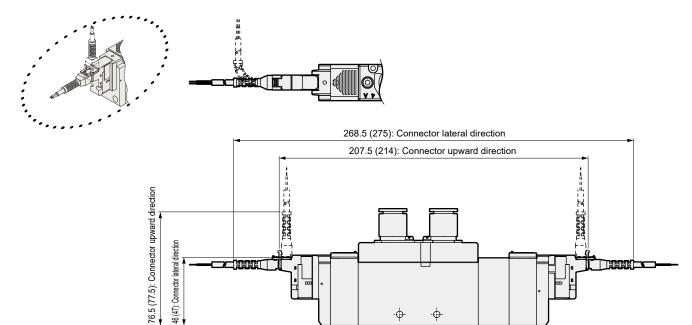
#### ● E-connector (E)





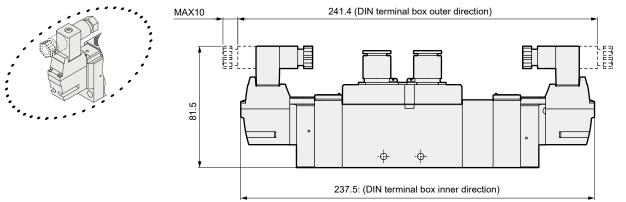
Note: Values in ( ) are for AC voltage.

#### ● EJ-connector (E**\*\***J)



Note: Values in ( ) are for AC voltage.

#### DIN terminal box (B)



Note: DIN terminal box assembly is shipped facing inward.

Ending



Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B 4GD/E

M4GD/E

MN4GD/E

4GA4/B4

M4GA/B

MN4GA/B

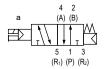
# 4GA4 Series

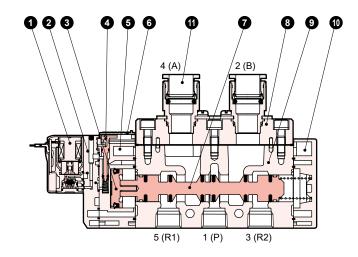
Discrete valve; body piping

#### Internal Structure Diagram / Material

#### 4GA410

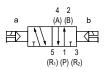
2-position single Grommet lead wire (blank)

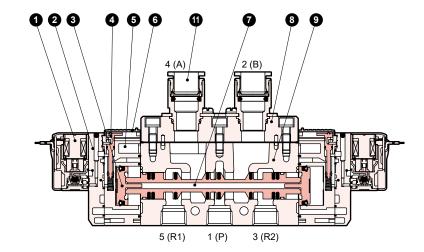




#### 4GA420

2-position double Grommet lead wire (blank)





#### 4GD/E

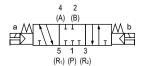
M4GD/E

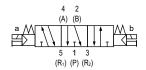
MN4GD/E

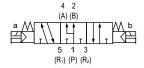
4GA4/B4

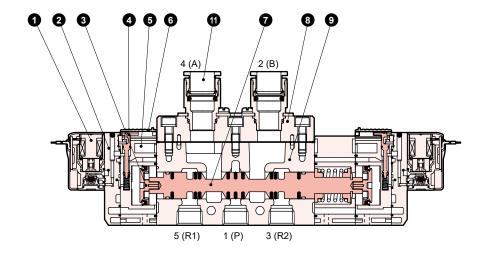
#### 4GA440

3-positionGrommet lead wire (blank)









#### Main parts list

	•				
Part No.	Part name	Material	Part No.	Part name	Material
1	Coil assembly	-	7	Spool assembly	-
2	Connection adaptor	PA	8	Fitting adapter	Aluminum
3	Piston assembly	-	9	Body	Aluminum
4	Manual override	-	10	Сар	PA
5	Piston chamber	PBT	11	Cartridge push-in fitting	-
6	Manual protection cover	PBT			

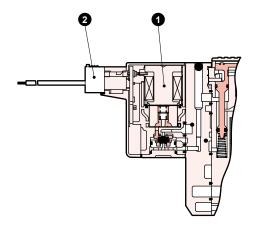


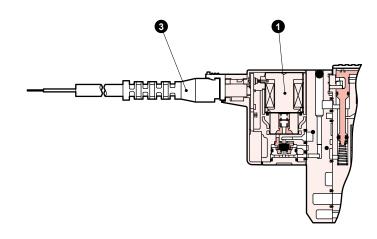
Discrete valve; body piping

#### Internal structure/material (electrical connections section)

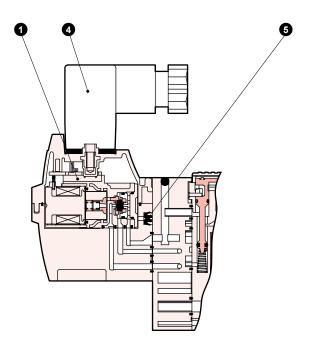
● E-connector E□□

● EJ-connector E□□J





#### DIN terminal box B



#### Main parts list

Part No.	Part name	Material	Part No.	Part name	Material
1	Coil assembly	-	4	DIN terminal box assembly	-
2	E-connector socket assembly	-	5	Check valve	NBR
3	Socket assembly with cover	-			

For maintenance parts, refer to CKD components product website (https://www.ckd. co.jp/kiki/jp/en/) → "Model No."→ Maintenance parts for details.

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4



M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E



Discrete valve Base piping

# 4GB4 Series

Cylinder bore size: ø125 to ø160



Refer to the CKD website for detailed compatible model Nos

#### How to Order

Code

2

3

4

5

●Pilot operated 5-port valve

1 Solenoid position

●5-port valve for integrated base

0R - (10) - (E2) 4GB4) 9R - 00 - E2 A **4GB4** 

Model No.

Solenoid valve operation classification 3 Electrical connections

2 Port size 4 Option

5 Voltage

1 Solenoid

position

## 2 Port size

Type	Port A/B	P/R Port	Code			
	Rc3/8	Rc3/8	10			
	Rc1/2	Rc1/2	15			
Female	G3/8	Rc3/8	10G	<b>*</b> 1		
thread	G1/2	Rc1/2	15G	<b>*</b> 1		
	NPT3/8	Rc3/8	10N	<b>*</b> 2		
	NPT1/2	Rc1/2	15G	<b>*</b> 2		

- \*1: Port P/R is G thread.
- \*2: Port P/R is NPT thread.

# 3 Electrical connections

2-position single

2-position double

3-position all ports closed 3-position A/B/R connection

3-position P/A/B connection

\*For details, see circuit diagram with surge suppressor/lamp page 987

Description

Туре	Lead wire (mm)	Surge suppressor	Lamp	Code		
Grommet lead wire	300			Blank		<b>*</b> 1
DIN terminal		•	•	В		*2 *3
box (Pg7)		•		BN		*2 *3
	300 500 1000 2000 3000			E0 E00 E01 E02 E03		
E-connector (Lead wire upward/lateral common)	300 500 1000 2000 3000	•	•	E2 E20 E21 E22 E23		
upward/lateral common)		•	•	E0N E2N	Socket None	
		•	•	E1	Socket / With terminal	
EJ-connector (With cover Socket, upward/lateral common)	1000 2000 3000 1000 2000 3000	•	•	E01J E02J E03J E21J E22J E23J		

- \*1: The grommet lead wire specifications are compatible with DC voltage only.
- \*2: A lamp comes with the terminal box.
- \*3: The terminal box conforms to EN175301-8037TypeC (former DIN43650-C). See CKD components product website (https://www.ckd.co.jp/kiki/en/) → "Model No. → Instruction manual for details.

#### 4 Option

	Code	Description		
	Blank	No option		
	К	External pilot	1	
	Α	Coolant proof		
<b>*</b> 1	S	Surgeless		
<b>*</b> 1, <b>*</b> 2	Е	Low exoergic/energ	gy saving circuit	
	F	Port A/B Filter integrated	00	

- \*1: **③**Only the electrical connections of E2\*, E2\*J, **⑤** voltage "3" 24 VDC, and "4" 12 VDC are supported. In addition, surgeless "S" and low excergic/energy saving circuit "E" cannot be selected together.
- \*2: Surgeless specifications.

#### **5** Voltage

Code	Description
1	100 VAC
2	200 VAC
3	24 VDC
4	12 VDC
5	110 VAC

CE marking specifications

Refer to the CKD website for detailed compatible model Nos.

\* \* - Voltage -



· Standard 24 VDC below the voltage are CE markingcompatible even if "ST" is not indicated in the model No.

Discrete valve; base piping

#### Common specifications

• • • • • • • • • • • • • • • • • • • •			
ľ	tem	Description	
Valve and operation		Pilot operated soft spool valve	
Working	fluid	Compressed air	
Max. workir	g pressure MPa	0.7	
Min. workin	g pressure MPa	0.2 (*3)	
Proof pre	ssure MPa	1.05	
Ambient to	emperature°C	-5 to 55 (no freezing)	
Fluid tem	perature °C	5 to 55	
Manual c	verride	Non-locking/locking common	
Pilot Exhaust	Internal pilot	Main valve/pilot valve common exhaust	
method	External pilot	Main valve/pilot valve individual exhaust	
Lubrication	on ( <b>*</b> 1)	Not required	
Degree of Protection (*2)		Dust-proof [IP40 equivalent (DIN terminal box: IP65)]	
Vibration re	esistance m/s <sup>2</sup>	50 or less	
Shock res	istance m/s²	300 or less	
Atmosph	ere	Cannot be used in corrosive gas environments	
		-	

- \*1: Use turbine oil Class 1 ISO VG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
- \*2: Avoid water drops or oil, etc., during use. IP65 (water jet proof) or equivalent applies for DIN terminal box specifications. However, the specified outer
- is selected. Also, set the external pilot pressure between 0.2 and 0.7 MPa.

#### **Electrical Specifications**

Ite	Item			Description						
Rated volta	Rated voltage V		12 DC	5 DC	3 DC	100 AC	110 AC	200 AC		
Voltage fluct	uation range		±10%							
Holding	Standard	0.015 (0.017)	0.030 (0.034)	0.072   0.120 (0.082)   (0.136)			)09 )09)	0.006 (0.006)		
current (A) (*4)	With low exoergic/ energy saving circuit	0.005	0.010	-		-				
Power	Standard	0.35 (0.40)		0.35 (0.40)		-				
consumption W (*4)	With low exoergic/ energy saving circuit	0.	0.1		-		-			
Apparent power VA Standard (*4)		-		-			93 98)	1.20 (1.40)		
Heat Resis	В									
Surge supp	Option									
Indicator		Lamp (option)								

\*4: Values in ( ) apply when lamp is included. In addition, the type with low exoergic/energy saving circuit is only available with lamp.

# Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

diameter of the cord and tightening torque must be used for fixing in place.

**★3**: The working pressure range is 0 to 0.7 MPa when the external pilot (option code: K)

#### Individual specifications

Item		4GB4		
Port size	Port A/B	Rc3/8, Rc1/2, G3/8, G1/2, NPT3/8, NPT1/2		
	Port P/R1/R2	Rc3/8, Rc1/2, G3/8, G1/2, NPT3/8, NPT1/2		

#### Performance/characteristics by model

	14.		4GB4				
	Itt	em	at ON	at OFF			
Response	2-position	Single	40 (45)	60 (60)			
time		Double	50 (55)	50 (55)			
ms	3-position	A/B/R connection	30 (35)	80 (80)			

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

#### Weight

		Item		4GB4
	Single		Grommet lead wire	537 (230)
	sition		E-connector	539 (232)
			DIN terminal box	661 (354)
±	ᅵ&	Double	Grommet lead wire	567 (260)
Weight	Ö	E-connector	571 (264)	
>			DIN terminal box	627 (320)
	ion	All ports	Grommet lead wire	602 (295)
	3-position	Block	E-connector	606 (299)
g	3-p		DIN terminal box	662 (355)

Values in ( ) do not include the single sub-plate. Values for the E-connector include the socket assembly (with 300 mm lead wire). For the EJ-connector, add 16 g/connector to the E-connector weight.

#### 3-position P/A/B connection 4 2

(R<sub>1</sub>) (P) (R<sub>2</sub>)

Circuit diagram symbol

(A) (B)

(R<sub>1</sub>) (P) (R<sub>2</sub>)

(A) (B)

 $(R_1) (P) (R_2)$ 

(A)(B)

(R<sub>1</sub>) (P) (R<sub>2</sub>) 3-position A/B/R connection

2-position double

3-position

All ports closed 4 2

● 5-port valve 2-position single

(A) (B) (R<sub>1</sub>) (P) (R<sub>2</sub>)

#### Flow Characteristics

Model	Solenoid position			$P \rightarrow A/B$			A/B→R1/R2	2
No.			C[dm³/(s·bar)]	b	Q[L/min(ANR)]	C[dm³/(s·bar)]	b	Q[L/min(ANR)]
	2-posi	tion	11	0.19	2620	13	0.19	3096
4GB4	ition	All ports closed	9.1	0.11	2077	12	0.27	2995
4GD4	So	A/B/R connection	9.2	0.11	2100	15	0.22	3634
	3-р	P/A/B connection	10	0.06	2226	12	0.24	2941

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

M4GA/B

MN4GA/B

4GD/E

M4GD/E

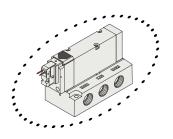
# 4GB4 Series

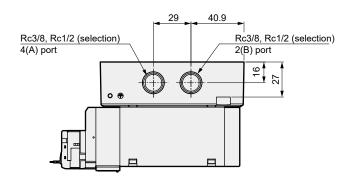
Discrete valve; base piping

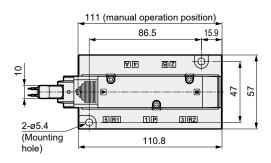
#### **Dimensions**

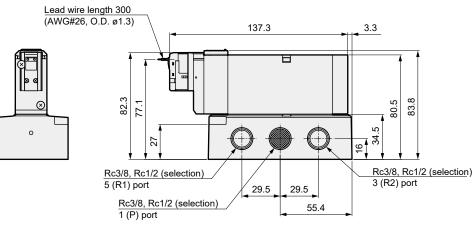
#### 4GB410

2-position single grommet lead wire (blank)

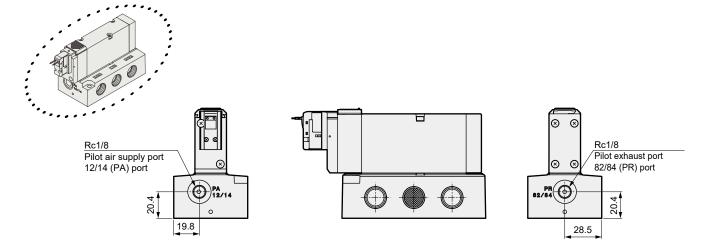








#### External pilot (K)



M4GA/B

MN4GA/B

4GD/E

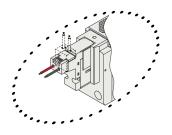
M4GD/E

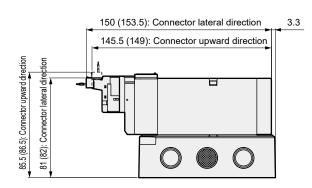
MN4GD/E

4GA4/B4

#### **Dimensions**

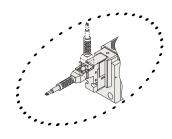
#### ● E-connector (E)

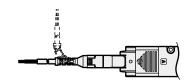


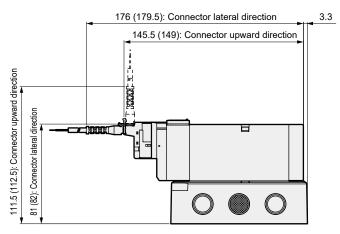


Note: Values in ( ) are for AC voltage.

● EJ-connector (E\*\*J)

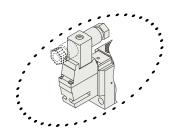


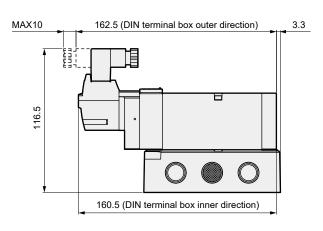




Note: Values in ( ) are for AC voltage.

DIN terminal box (B)





Note: DIN terminal box assembly is shipped facing inward.



M4GA/B

MN4GA/B

4GD/E

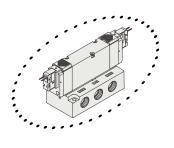
# 4GB4 Series

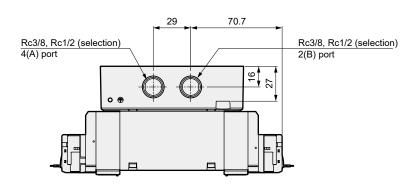
Discrete valve; base piping

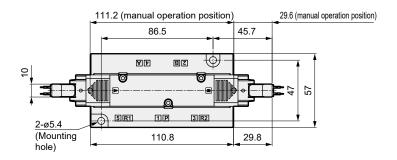
#### **Dimensions**

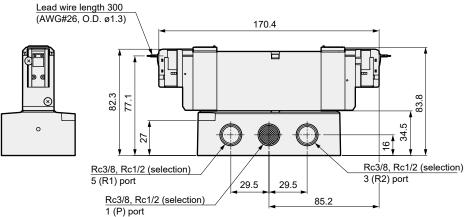
#### 4GB420

• 2-position double Grommet lead wire (blank)

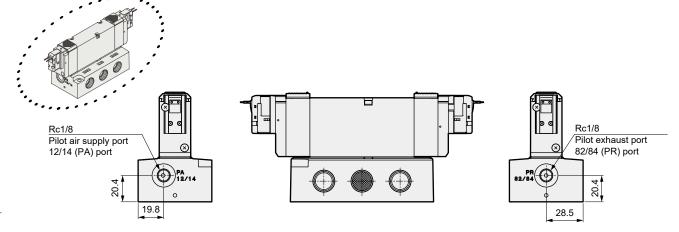






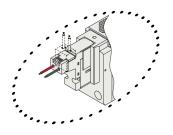


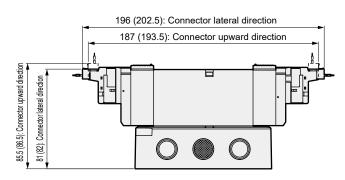
External pilot (K)



#### **Dimensions**

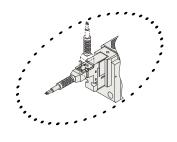
#### ● E-connector (E)

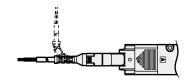


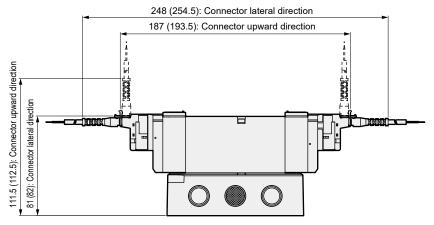


Note: Values in ( ) are for AC voltage.

● EJ-connector (E\*\*J)

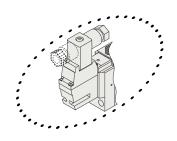


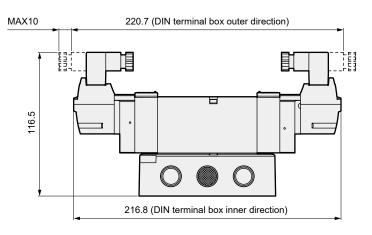




Note: Values in ( ) are for AC voltage.

DIN terminal box (B)





Note: DIN terminal box assembly is shipped facing inward.



M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

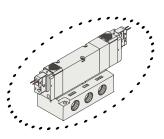
# 4GB4 Series

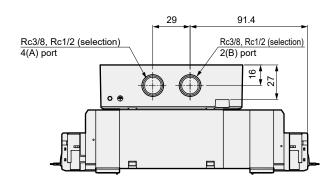
Discrete valve; base piping

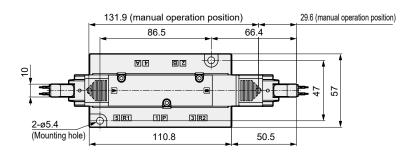
#### **Dimensions**

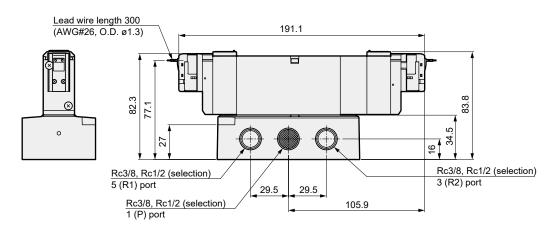
#### 4GB4 \( \frac{3}{4} \) 0

● 3-position Grommet lead wire (blank)

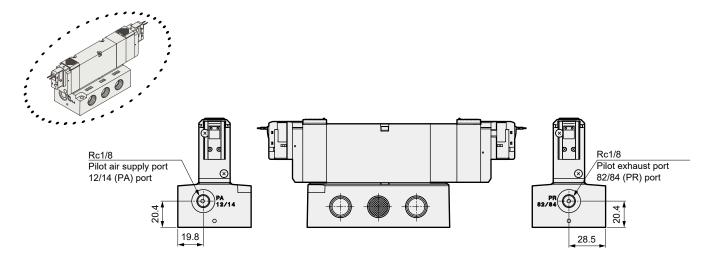








#### External pilot (K)



M4GA/B

MN4GA/B

4GD/E

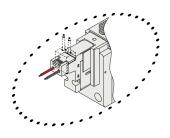
M4GD/E

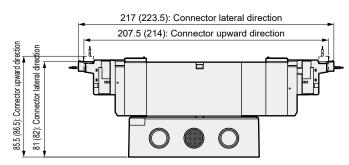
MN4GD/E

4GA4/B4

#### **Dimensions**

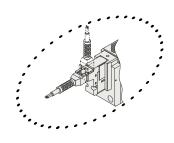
#### ● E-connector (E)

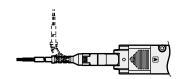


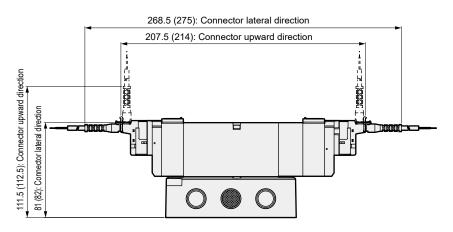


Note: Values in ( ) are for AC voltage.

● EJ-connector (E\*\*J)

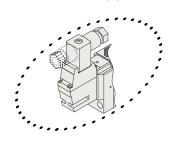


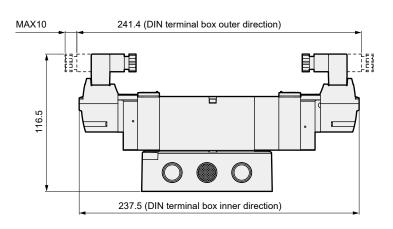




Note: Values in ( ) are for AC voltage.

DIN terminal box (B)





Note: DIN terminal box assembly is shipped facing inward.



M4GA/B

MN4GA/B

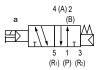
4GD/E

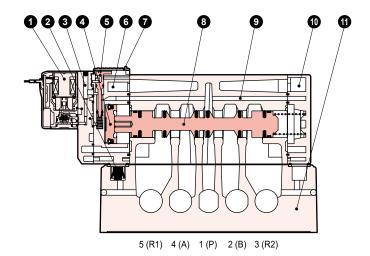
M4GD/E

#### Internal Structure Diagram / Material

#### 4GB410

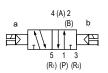
2-position single Grommet lead wire (blank)

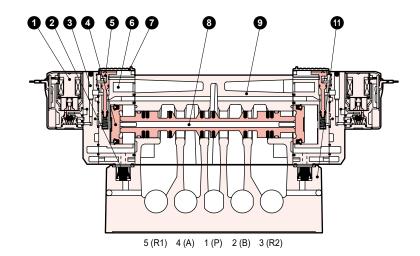




#### 4GB420

2-position double Grommet lead wire (blank)



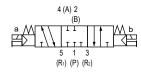


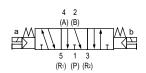
#### MN4GD/E

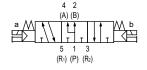
#### 4GB4<sup>3</sup><sub>5</sub> 0

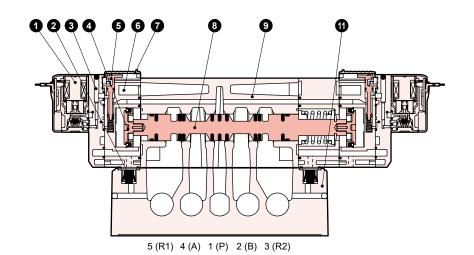
3-position

Grommet lead wire (blank)









#### Main parts list

iviaii	Main parts list					
Part No.	Part name	Material	Part No.	Part name	Material	
1	Coil assembly	-	7	Manual protection cover	PBT	
2	Check valve	H-NBR	8	Spool assembly	-	
3	Connection adaptor	PA	9	Body	Aluminum	
4	Piston assembly	-	10	Сар	PA	
5	Manual override	-	11	Discrete sub-plate	Aluminum	
	Pieton chamber	DRT				

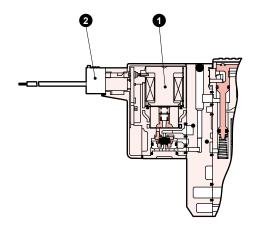


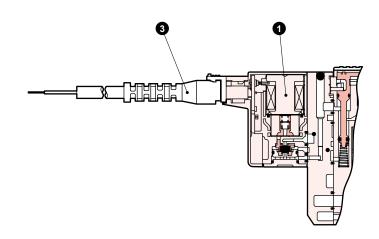
Discrete valve; base piping

#### Internal structure/material (electrical connections)

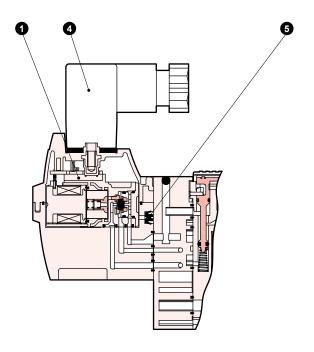
● E-connector E□□

● EJ-connector E□□J





#### DIN terminal box B



#### Main parts list

Part No.	Part name	Material	Part No.	Part name	Material
1	Coil assembly	-	4	DIN terminal box assembly	-
2	E-connector socket assembly	-	5	Check valve	NBR
3	Socket assembly with cover	-			

For maintenance parts, refer to CKD components product website (https://www.ckd. co.jp/kiki/en/)  $\rightarrow$  "Model No."  $\rightarrow$  Maintenance parts for details.

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4



M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E



# M4GA4 Series

Cylinder bore size: ø100 to ø140



Refer to the CKD website for detailed compatible model Nos.

#### How to Order

Manifold

Single solenoid valve for manifold

4GA4 1 0R - 10 - E2 A - 3 - 3

4GA4 1 9R - 10 - E2 A — 3

Model No. Operation Solenoid valve connections No.

1 Solenoid 2 Port size 4 Option 6 Voltage

1 Solenoid position

2 Port size

G I OIL SIZE					
Type	Port A/B	Port P/R1/R2	Code	l	
	ø8		C8	1	
Push-in Fitting Female thread	ø10		C10	1	
	ø12	Rc1/2	C12	1	
	Mix		СХ	<b> </b> *1	
	Rc3/8		10	1	
	G3/8	G1/2	10G	1	
	NPT3/8	NPT1/2	10N	1	

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

# 1 Solenoid position

ions)

#### 3 Electrical connections

**★**For details, see circuit diagram with surge suppressor/lamp page 987

Туре	Lead wire (mm)	Surge Absorber	Lamp	Code	
Grommet lead wire	300			Blank	
DIN terminal		•	•	В	
box (Pg7)		•		BN	
	300 500 1000 2000 3000			E0 E00 E01 E02 E03	
E-connector (Lead wire upward/lateral	300 500 1000 2000 3000	•	•	E2 E20 E21 E22 E23	
common)		•	•	E0N E2N	Socket None
		•	•	E1	Socket / With terminal
EJ-type connector (With cover Socket,	1000 2000 3000 1000	•	•	E01J E02J E03J E21J E22J	
upward/lateral common)	2000 3000			E23J	

4 Option

**\***2

Code	Description						
Blank	No option						
Α							
S							
E	Low exoergic/energy saving	g circuit					
F	Port A/B filter built in	Filter					
Z1	Air supply spacer						
Z3	Exhaust spacer						
	Blank A S E	Blank No option A Coolant proof S Surgeless E Low exoergic/energy saving F Port A/B filter built in  Z1 Air supply spacer					

- \*1: Only the electrical connections of E2\*, E2\*J, Ovoltage "3" 24 VDC, and "4" 12 VDC are supported. In addition, surgeless "S" and low exoergic/energy saving circuit "E" cannot be selected together.
- ★2: Surgeless specifications.
- \*3: Specify the spacer mounting position/quantity in the manifold specifications sheet. For details, see pages 1064, 1065.
- **★**1: The grommet lead wire specifications are compatible with DC voltage only.
- \*2: A lamp comes with the terminal box.
- \*3: The terminal box conforms to EN175301-8037TypeC (former DIN43650-C).
  For details CKD Components Product Website (https://www.ckd.co.jp/kiki/en/)

  →[Model No.] → Instruction manual for details.



**★**Be sure to fill-in the Manifold Specifications sheet (pages 1078 to 1081).

#### **5** Station No.

Code	Description
2	2 stations
to	to
15	15 stations

#### 6 Voltage

Code	Description
1	100 VAC
2	200 VAC
3	24 VDC
4	12 VDC
5	110 VAC

Pilot operated 3, 5-port valve

Refer to the CKD website for detailed compatible model Nos.

\*\* - Voltage - ST

- •ST can be selected for the model No. only of the 100 VAC
- Standard 24 VDC below the voltage are CE marking-compatible even if "ST" is not indicated in the model No.

Specifications for rechargeable battery (Catalog No.CC-1226A)

• For use in the rechargeable battery manufacturing process, materials used for air path and sliding section are limited

#### Manifold common specifications

Individual wiring manifold; body piping

M4GA4 Series

Marinola comin	viaimola common opecimeations										
Item	Description										
Manifold	Integrated base										
Mounting method	Direct mount										
Air supply and exhaust method	Common supply/common exhaust										
Pilot exhaust method	Main valve/pilot valve common exhaust										
Pilot exhaust method	(Pilot exhaust check valve built-in)										
Piping direction	Valve top direction										
Valve and operation	Pilot operated soft spool valve										
Working fluid	Compressed air										
Max. working pressure MPa	0.7										
Min. working pressure MPa	0.2										
Proof pressure MPa	1.05										
Ambient temperature°C	-5 to 55 (no freezing)										
Fluid temperature °C	5 to 55										
Manual override	Non-locking/locking common										
Lubrication (*1)	Not required										
Degree of Protection (★2)	Dust-proof [IP40 equivalent (DIN terminal box: IP65)]										
Vibration resistance m/s <sup>2</sup>	50 or less										
Shock resistance m/s <sup>2</sup>	300 or less										
Atmosphere	Cannot be used in corrosive gas environments										
	4.10.00.4000.6 . 1.1.1										

- \*1: Use turbine oil Class 1 ISOVG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
- \*2: Avoid water drops or oil, etc., during use. IP65 (water jet proof) or equivalent applies for DIN terminal box specifications. However, the specified outer diameter of the cord and tightening torque must be used for fixing in place.

#### **Electrical Specifications**

lte	Description									
Rated volta	age V	24 DC	12 DC	5 DC	3 DC	100 AC	110 AC	200 AC		
Voltage fluct	±10%									
Holding current (A) (*3)	Standard	0.015 (0.017)	0.030 (0.034)	0.072 (0.082)	0.120 (0.136)	0.009 (0.009)		0.006 (0.006)		
	With low exoergic/ energy saving circuit	0.005 0.010		-		-				
Power	Standard	0.35 (0.40)		0.35 (0.40)		-				
consumption W $(*3)$	With low exoergic/ energy saving circuit	0.	.1		-		-			
Apparent power VA (*3)		-		-		0.0 9.0)		1.20 (1.40)		
Heat Resis	В									
Surge supp	oressor				Option					
Indicator		Lamp (option)								

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

#### Individual specifications

	lá a un		M4GA4				
	Item		Direct mount				
Max. station No.			15 stations				
Port size	Port A/B		Push-in fitting ø8, ø10, ø12				
			Rc3/8, G3/8, NPT3/8				
	Port P/R1/R2		Rc1/2, G1/2, NPT1/2				
Manifold base		Standard	150n+199				
Weight calculation formula (n: station No.) g		External pilot	379n+617				

If air supply/exhaust flow rate is insufficient due to simultaneous operation of multiple stations, use ports on both sides for air supply and exhaust, or consider the use of an air supply/exhaust spacer. The manifold base weight is the value for screw specifications.

# Circuit diagram symbol

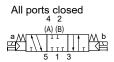
● 5-port valve 2-position single



2-position double



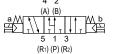
3-position



 $\begin{array}{c} \text{(R1) (P) (R2)} \\ \textbf{3-position A/B/R connection} \\ \textbf{4 2} \end{array}$ 



3-position P/A/B connection



#### Performance/characteristics by model

	· ••,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,											
	lánus		M4	GA4								
	Item		at ON	at OFF								
Response	2-position	Single	40 (45)	60 (60)								
time ms 3-position		Double	50 (55)	50 (55)								
		A/B/R connection	30 (35)	80 (80)								

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

# M4GA4 Series

Individual wiring manifold; body piping

#### Flow Characteristics

Model	Sole	lenoid position P → A/B				A/B→R1/R2				
No.	3016	εποια ροδιαστι	C[dm³/(s·bar)] b		Q[L/min(ANR)]	C[dm³/(s·bar)]	b	Q[L/min(ANR)]		
	2-position		7.3	0.12	1675	9.0	0.17	2120		
M4GA4	ition	All ports closed	6.4	0.15	1492	8.2	0.22	1987		
W4GA4	osit	A/B/R connection	6.4	0.16	1500	9.3	0.19	2215		
	3-р	P/A/B connection	8.0	0.08	1798	8.3	0.22	2011		

**<sup>★</sup>**1: Effective cross-sectional area S and sonic conductance C are converted as  $S \approx 5.0 \times C$ .

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

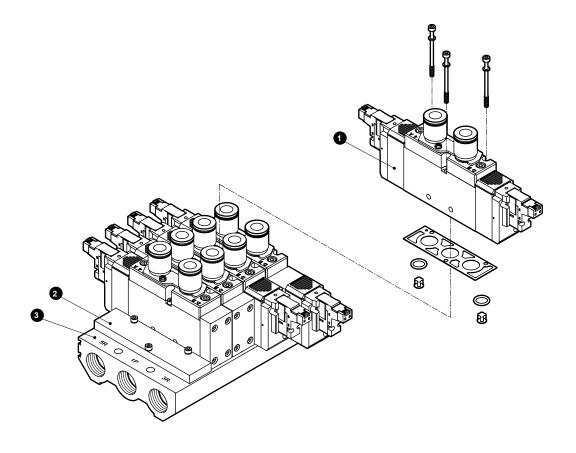
4GD/E

M4GD/E

MN4GD/E

# M4GA4 Series

Individual wiring manifold; body piping Manifold configuration parts



#### Main configuration parts list

Part No.	Configuration parts name	Model No.	Description	Remark	Remarks				
1	Discrete valve for integrated base	4GA4 9R - Port size - Electrical Option - Voltage  Solenoid position	Discrete valve Gasket Mounting screw 3 O-ring 2 Check valve 2 (1)	4GA4	Size M3	Tightening torque (N·m) 1.7			
2	Masking plate	4GA4-MP	Masking plate Gasket Mounting screw 3 O-ring 2 Check valve 2						
3	Manifold base assembly	M4GA4 - Port size - Option - Station No.	Manifold base	Port 00 00G 00 N	ze s P, R1, R2 Rc1/2 G1/2 NPT1/2				

() applies when 4GA419R is selected.

For maintenance parts, refer to the CKD Components Product site (https://www.ckd. co.jp/kiki/jp/en/)→"Model No."→ Maintenance parts for details.

#### **Dimensions**

#### M4GA4

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

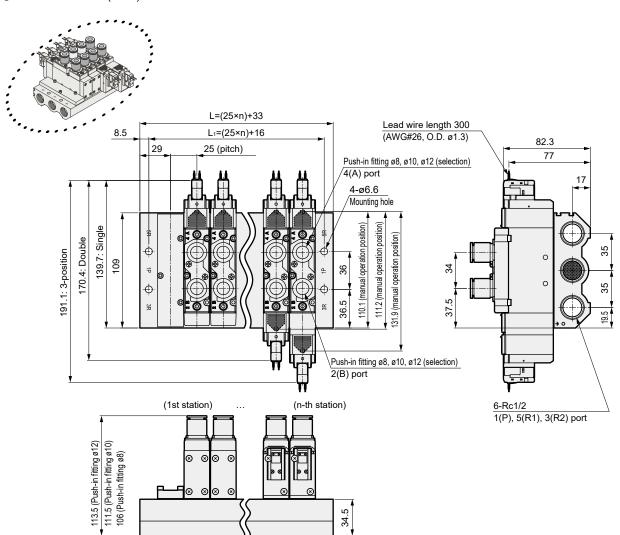
4GD/E

M4GD/E

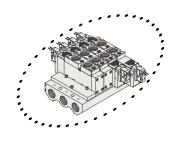
MN4GD/E

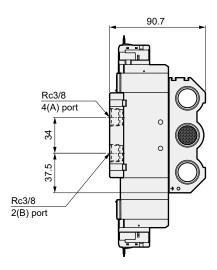
4GA4/B4

Grommet lead wire (blank)



Rc3/8 female thread (10)



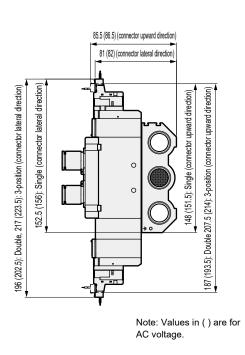


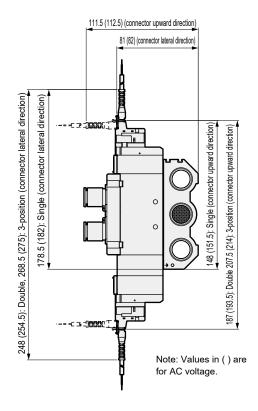
Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15
L	83	108	133	158	183	208	233	258	283	308	333	358	383	408
L <sub>1</sub>	66	91	116	141	166	191	216	241	266	291	316	341	366	391

#### **Dimensions**

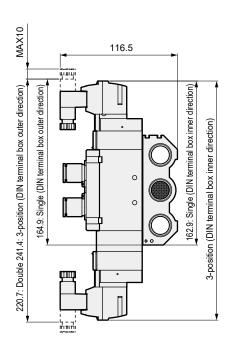
● E-connector (E)

● EJ-connector (E**\*\***J)





DIN terminal box (B)



Note: DIN terminal box assembly is shipped facing inward.

Ending

1015



Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E



## M4GB4-(D) Series

Cylinder bore size: ø100 to ø140



Refer to the CKD website for detailed compatible model Nos

#### How to Order

- ■Manifold 5-port valve
- 4GB4 ●5-port valve for Discrete base mounting
- - 0R (10) (E2)

- 9R 00 -(E2)

Solenoid valve

operation class

- 3 Electrical connections
- Mount type
- Voltage

Solenoid

position

Model No.

**4GB4** 

- 2 Port size 4 Option
- 6 Station No.

#### Solenoid position

Code	Description			
1	2-position single			
2	2-position double			
3	3-positionAll ports closed			
4	3-position A/B/R connection			
5	3-position P/A/B connection			
8	Mix manifold (when there are multiple			
	solenoid positions)			

#### 2 Port size

	A/B	Port P/R1/R2 *1		
Type	Port	40ption Other than "K"	40ption "K"	Code
	ø8			C8
Push-in fitting	ø10	Rc3/8	Rc1/2	C10
	ø12			C12
	Mix			СХ

**★**1: Two types of bases are available. Dimensions differ by bore size of port P/R1/R2.

Time	A/B	Port P	Code	
Type	Port	4Option Other than "K"	4Option "K"	Code
	Rc1/4	Rc3/8		08
	Rc3/8	KC3/6	Rc1/2	10
	Rc1/2	Rc1/2		15
  Female	G1/4	G3/8	G1/2	08G
thread	G3/8	G3/6		10G
uneau	G1/2	G1/2		15G
	NPT1/4	NPT3/8		08N
	NPT3/8	INF 13/0	NPT1/2	10N
	NPT1/2	NPT1/2		15N

#### 3 Electrical connections

\*For details, see circuit diagram with surge suppressor/lamp page 987

Туре	Lead wire (mm)	Surge Absorber	Lamp	Code		
Grommet lead wire	300			Blank		<b>*</b> 1
DIN terminal		•	•	В		*2 *3
box (Pg7)		•		BN		*2 *3
	300			E0	4	1
	500			E00		
	1000			E01		
	2000			E02	59	
	3000			E03	9)	
	300	•	•	E2	. 📣	
	500	•	•	E20		
E-connector	1000	•	•	E21		
(Lead wire	2000	•	•	E22		
upward/lateral	3000		•	E23		ļ
common)				E0N	Socket	
		•	•	E2N	None	
				E1	Socket /	
		•	•	E3	With terminal	
EJ-type	1000			E01J	Ž.	]
connector	2000			E02J		
(With cover	3000			E03J		
Socket,	1000			E21J		*
upward/lateral	2000	•		E22J		*   *
common)	3000			E23J		↑

4 Option

	Code	Description			
	Blank	No option			
<b>*</b> 1	К	External pilot			
	Α	Coolant proof			
<b>*</b> 2	S	Surgeless			
<b>*</b> 2, <b>*</b> 3	E	Low exoergic/energy saving circuit			
	F	Port A/B Filter integrated	Filter		
<b>*</b> 4 <b>*</b> 5	<b>Z</b> 1	Air supply spacer			
<b>*</b> 4 <b>*</b> 5	<b>Z</b> 3	Exhaust spacer	600000000000000000000000000000000000000		

- ★1: Consult with CKD for vacuum specifications.
- \*2: **3**Only the electrical connections of E2\*, E2\*J, **6**voltage "3" 24 VDC, and "4" 12 VDC are supported. In addition, surgeless "S" and low exoergic/energy saving circuit "E" cannot be selected together.
- ★3: Surgeless specifications.
- \*4: Specify the spacer mounting position/quantity in the manifold specifications sheet. For details, see pages 1064,
- **★**5: Cannot be selected with discrete valve for integrated base.
- ★1: The grommet lead wire specifications are compatible with DC voltage only.
- ★2: A lamp comes with the terminal box.
- **★**3: The terminal box conforms to EN175301-8037TypeC (former DIN43650-C). See CKD components product website (https://www.ckd.  $\text{co.jp/kiki/jp/en/)} \rightarrow \text{"Model No.} \rightarrow \boxed{\text{Instruction manual}} \ \, \text{for details.}$

**★**Be sure to fill-in the Manifold Specifications sheet (pages 1078 to 1081).

#### A Mount type

	Code	Descripti	Description		
	Blank	Direct mount			
<b>*</b> 1, <b>*</b> 2	QD	DIN rail mount			

**★**1: DIN rail mounting is only for the port P/R Rc3/8 base. **④**Option "K" external pilot is not available.

**★**2: Cannot be selected with discrete valve for integrated base.

### 6 Station No.

Code	Description	
2	2 stations	
to	to	
15	15 stations	

\*1: Refer to page 1018 for the max. station number per port size.

#### Voltage

Code	Description	
1	100 VAC	
2	200 VAC	
3	24 VDC	
4	12 VDC	
5	110 VAC	

CE marking specifications

Refer to the CKD website for detailed compatible model Nos.

\*\* - Voltage - ST

- •ST can be selected for the model No. only of the 100 VAC
- ·Standard 24 VDC below the voltage are CE markingcompatible even if "ST" is not indicated in the model No.

Specifications for rechargeable battery (Catalog No.CC-1226A)

• For use in the rechargeable battery manufacturing process, materials used for air path and sliding section are limited



Ending

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

#### Manifold common specifications

Individual wiring manifold; base piping

M4GB4 Series

marmera cermineri epecinicatione					
Item		Description			
Manifold		Integrated base			
Mounting	method	Direct mount			
Air supply an	d exhaust method	Common supply/common exhaust			
Pilot	Internal nilet	Main valve/pilot valve common exhaust			
Exhaust	Internal pilot	(Pilot exhaust check valve built-in)			
method	External pilot	Main valve/pilot valve individual exhaust			
Piping di	rection	Side direction of base			
Valve and	d operation	Pilot operated soft spool valve			
Working	fluid	Compressed air			
Max. workin	ig pressure MPa	0.7			
Min. workin	g pressure MPa	0.2 (*3)			
Proof pre	ssure MPa	1.05			
Ambient to	emperature°C	-5 to 55 (no freezing)			
Fluid tem	perature °C	5 to 55			
Manual c	verride	Non-locking/locking common			
Lubrication	on ( <b>*</b> 1)	Not required			
Degree of Protection (*2)		Dust-proof [IP40 equivalent (DIN terminal box: IP65)]			
Vibration resistance m/s <sup>2</sup>		50 or less			
Shock resistance m/s <sup>2</sup>		300 or less			
Atmosphere		Cannot be used in corrosive gas environment			

- \*1: Use turbine oil Class 1 ISOVG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
- \*2: Avoid water drops or oil, etc., during use. IP65 (water jet proof) or equivalent applies for DIN terminal box specifications. However, the specified outer diameter of the cord and tightening torque must be used for fixing in place.
- \*3: The working pressure range is 0 to 0.7 MPa when the external pilot (option code: K) is selected. Also, set the external pilot pressure between 0.2 and 0.7 MPa.

#### **Electrical Specifications**

200 AC					
T 0.006					
0.000					
0.006 (0.006)					
-					
1.20 (1.40)					
В					
Option					
Lamp (option)					

\*4: Values in ( ) apply when lamp is included. In addition, the type with low exoergic/energy saving circuit is only available with lamp.

#### Vibration/impact

For DIN rail mount, use with vibration of 30 m/s<sup>2</sup> or less and impact of 150 m/s<sup>2</sup> or less.

#### Circuit diagram symbol Individual specifications

•
● 5-port valve
2-position single
a (A) (B)
5 1 3
(R <sub>1</sub> ) (P) (R <sub>2</sub> )
2-position double
a (A)(B) b
5 1 3
(R <sub>1</sub> ) (P) (R <sub>2</sub> )
3-position
All ports closed
(A) (B)
5 1 3
(R <sub>1</sub> ) (P) (R <sub>2</sub> )
3-position A/B/R connection

ltem -		M4GB4			
	item	Direct mount			DIN rail mount (*4)
Pi	lot operated	Standard (Internal pilot) External pilot (*3)		Standard (Internal pilot)	
Ма	x. station No.	15 stations	12 stations		5 stations
Port size Port A/B		Push-in fitting ø8, ø10, ø12		Push-in fitting ø8, ø10, ø12	Push-in fitting ø8, ø10, ø12
		Rc1/4, Rc3/8	De4/2 C4/2 NDT4/2	Rc1/4, Rc3/8, Rc1/2	Rc1/4, Rc3/8
		G1/4, G3/8	Rc1/2, G1/2, NPT1/2	G1/4, G3/8, G1/2	G1/4, G3/8
		NPT1/4, NPT3/8		NPT1/4, NPT3/8, NPT1/2	NPT1/4, NPT3/8
Port P/R1/R2		Rc3/8, G3/8, NPT3/8 (*1)	Rc1/2, G1/2,	NPT1/2( <b>*</b> 2)	Rc3/8, G3/8, NPT3/8
Manifold base Weight calculation formula (n: station No.) g		273n+329	391n+560	392n+555	278n+1082

Refer to (CKD components Products website (https://www.ckd.co.jp/kiki/jp/)→ "Model No." →

Instruction manual for details on "Cautions for mounting the DIN rail", before selecting the manifold.

If air supply/exhaust flow rate is insufficient due to simultaneous operation of multiple stations, use ports on both sides for air supply and exhaust, or consider the use of an air supply/exhaust spacer. The manifold base weight is the value for screw specifications.

Dimensions of port sizes (port P/R1/R2) of Rc3/8 and Rc1/2 are different.

- \*1: Refer to dimensions diagram of port size Rc3/8 pages 1022, 1023, 1028, 1029 for details.
- \*2: Refer to dimensions diagram of port size Rc1/2 pages 1024, 1025 for details.
- \*3: Refer to dimensions diagram of the external pilot (option code: K) pages 1026, 1027 for details.
- \*4: Refer to dimensions diagram for the DIN rail mount (option code: QD) pages 1028, 1029 for details.

(R<sub>1</sub>) (P) (R<sub>2</sub>)

(A) (B)

(R<sub>1</sub>) (P) (R<sub>2</sub>)

3-position P/A/B connection

# Pilot operated 3, 5-port valve

#### Performance/characteristics by model

	14		M4GB4			
	IU	em	at ON	at OFF		
Response	2-position	Single	40 (45)	60 (60)		
time		Double	50 (55)	50 (55)		
ms	3-position	A/B/R connection	30 (35)	80 (80)		

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

#### Flow Characteristics

Model	Port size	Colo	noid nocition		$P \rightarrow A/B$		A/B→R1/R2		
Model No.	P, R1, R2	Solenoid position		C[dm³/(s·bar)]	b	Q [L/min(ANR)]	C[dm³/(s·bar)]	b	Q [L/min(ANR)]
	( <b>*</b> 1) D <sub>2</sub> 2/0	2-pos	ition	6.4	0.42	1767	6.9	0.12	1583
	( <b>*</b> 1) Rc3/8 G3/8	on	All ports closed	6.0	0.37	1598	6.8	0.12	1560
	NPT3/8	3-position	A/B/R connection	6.1	0.38	1636	7.1	0.15	1655
M4GB4	INF 13/0		P/A/B connection	6.0	0.37	1598	6.8	0.13	1568
W4GB4	( <b>*</b> 2) Rc1/2	2-position		8.3	0.23	2023	9.0	0.21	2168
	(*2) KC1/2 G1/2	on	All ports closed	7.4	0.15	1725	8.8	0.19	2096
	NPT1/2	position	A/B/R connection	7.5	0.15	1748	9.5	0.21	2288
			P/A/B connection	7.7	0.21	1855	8.7	0.18	2061

Dimensions of port sizes (port P/R1/R2) of Rc3/8 and Rc1/2 are different.

\*1: Refer to dimensions diagram of port size Rc3/8 pages 1022, 1023, 1028, 1029 for details.
\*2: Refer to dimensions diagram of port size Rc1/2 pages 1024, 1025 for details.
\*3: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.

4GA/B

M4GA/B

MN4GA/B

4GD/E

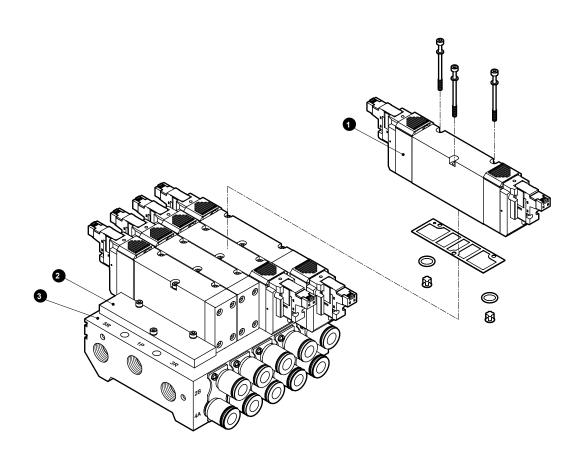
M4GD/E

MN4GD/E

M4GD/E

MN4GD/E

4GA4/B4



#### Main configuration parts list

M4GB4 Series

Individual wiring manifold; base piping Manifold configuration explanation

Part No.	Configuration parts name	Model No.	Description	Remarks
	Discrete valve for integrated	4GB4_9R-00- Electrical Option Voltage	Discrete valve Gasket	Size Tightening torque (N·m)
	base		Mounting screw 3 O-ring 2	4GB4 M3 1.7
			Check valve 2 (1)  Masking plate	
			Gasket	
2	Masking plate	4GB4-MP	Mounting screw 3	
			O-ring 2	
			Check valve 2	
3	Manifold base assembly	M4GB4- Port size - Option QD - Station No.		If "QD" is selected, shipment is made with a DIN rail mounted.

() applies when 4GB419R is selected.

For maintenance parts, refer to CKD components product website (https://www.ckd. co.jp/kiki/en/)  $\rightarrow$  "Model No." $\rightarrow$  Maintenance parts for details.



#### M4GB4

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

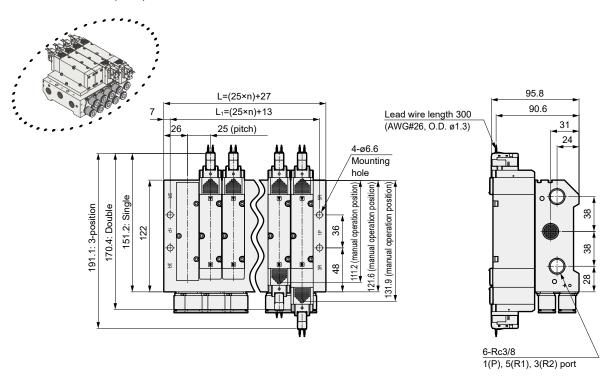
4GD/E

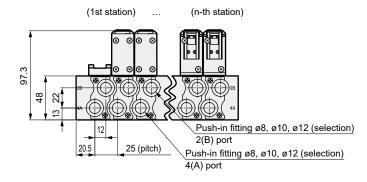
M4GD/E

MN4GD/E

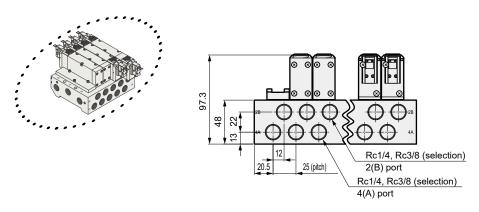
4GA4/B4

Grommet lead wire (blank)





■ Rc1/4, Rc3/8 female thread (08,10)

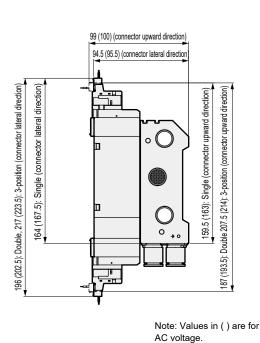


Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15
L	77	102	127	152	177	202	227	252	277	302	327	352	377	402
L <sub>1</sub>	63	88	113	138	163	188	213	238	263	288	313	338	363	388

125 (126) (connector upward direction) 94.5 (95.5) (connector lateral direction)

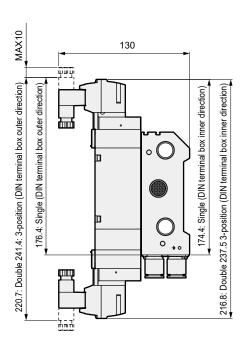
E-connector (E)

#### ● EJ-connector (E\*\*J)



248 (254.5): Double, 268.5 (275): 3-position (connector lateral direction) 190 (193.5): Single (connector lateral direction) 59.5 (163): Single (connector upward direction) 187 (193.5): Double 207.5 (214): 3-position (connector upward direction) Note: Values in ( ) are for AC voltage.

DIN terminal box (B)



Note: DIN terminal box assembly is shipped facing inward.

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

#### M4GB4

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

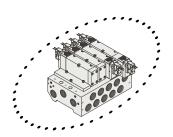
4GD/E

M4GD/E

MN4GD/E

4GA4/B4

Rc1/2 female thread (15)
 Grommet lead wire (blank)



Lead wire length 300 (AWG#26, O.D. ø1.3) L=(29×n)+37 108.8 L<sub>1</sub>=(29×n)+17 10 103.6 33 29 (pitch) 4-ø9 Mounting hole 111.2 (manual operation position 121.6 (manual operation position 151.2: Single 170.4: Double 191.1: 3-position **∳** 122 Ф 49.5

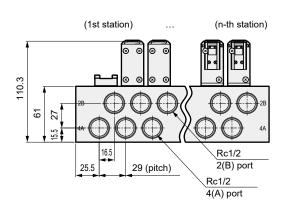
39.1

6-Rc1/2

1(P), 5(R1), 3(R2) port

35.3

36.6



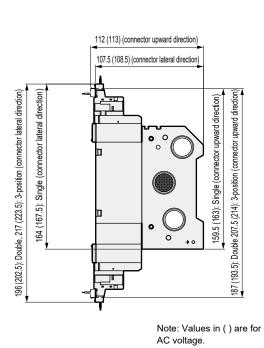
Station No.	2	3	4	5	6	7	8	9	10	11	12
L	95	124	153	182	211	240	269	298	327	356	385
L <sub>1</sub>	75	104	133	162	191	220	249	278	307	336	365

Individual wiring manifold; base piping

#### **Dimensions**

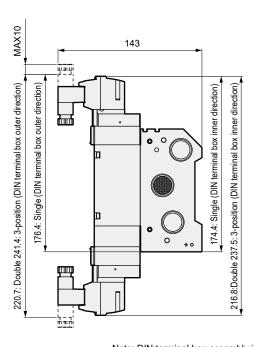
Rc1/2 female thread (15) E-connector (E)

● Rc1/2 female thread (15) EJ-connector (E\*\*J)



138 (139) (connector upward direction) 107.5 (108.5) (connector lateral direction) 190 (193.5): Single (connector lateral direction) 248 (254.5): Double, 268.5 (275): 3-position (connector lateral direction) 159.5 (163): Single (connector upward direction) (193.5): Double 207.5 (214): 3-position (connector upward direction ---c3:**::::::::::**[ Note: Values in ( ) are for AC voltage.

Rc1/2 female thread (15) DIN terminal box (B)



Note: DIN terminal box assembly is shipped facing inward.

Ending

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

#### **Dimensions**

#### M4GB4

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

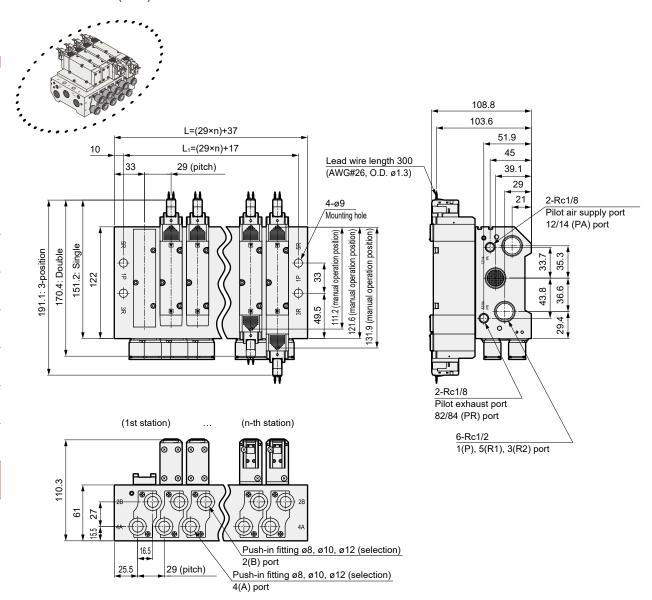
4GD/E

M4GD/E

MN4GD/E

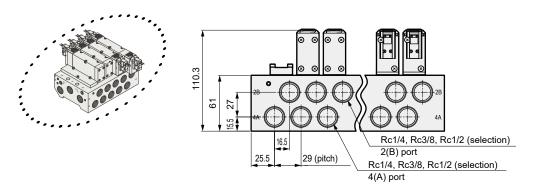
4GA4/B4

External pilot (K)Grommet lead wire (blank)



● External pilot (K)

Rc1/4, Rc3/8, Rc1/2 female thread (08, 10,15)

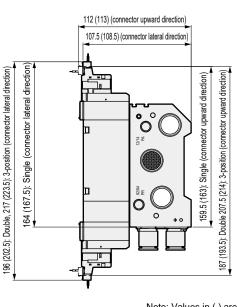


Station No.	2	3	4	5	6	7	8	9	10	11	12
L	95	124	153	182	211	240	269	298	327	356	385
L <sub>1</sub>	75	104	133	162	191	220	249	278	307	336	365

#### **Dimensions**

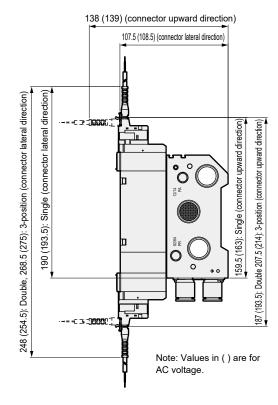
External pilot (K)E-connector (E)

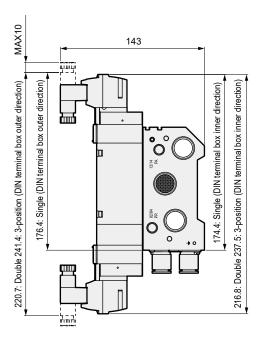
■ External pilot (K) EJ-connector (E\*\*J)



Note: Values in ( ) are for AC voltage.

External pilot (K)DIN terminal box (B)





Note: DIN terminal box assembly is shipped facing inward.

Ending



Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

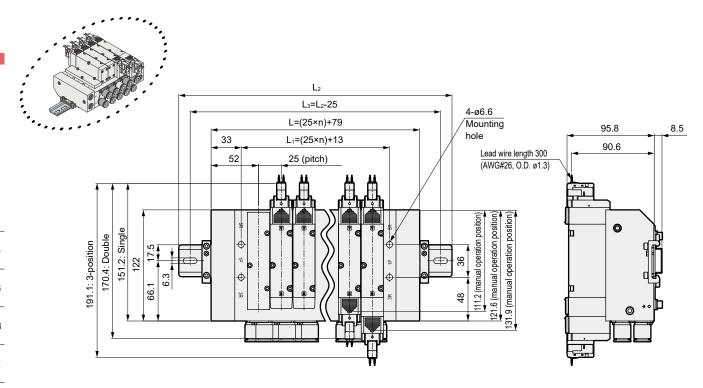
4GD/E

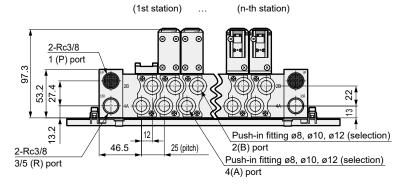
M4GD/E

MN4GD/E

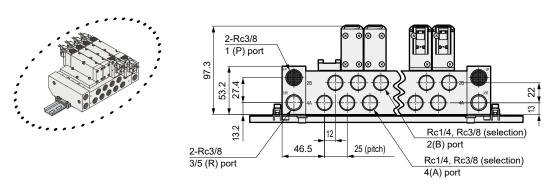
#### M4GB4

DIN rail mount (QD)Grommet lead wire (blank)





● DIN rail mount (QD) Rc1/4, Rc3/8 female thread (08,10)



Station No.	2	3	4	5
L	129	154	179	204
L <sub>1</sub>	63	88	113	138
L <sub>2</sub>	200	225	250	275
L <sub>3</sub>	175	200	225	250

Ending

1028

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

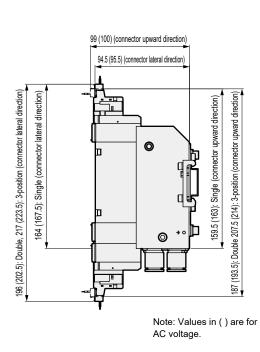
M4GD/E

MN4GD/E

#### **Dimensions**

DIN rail mount (QD)E-connector (E)

DIN rail mount (QD)EJ-connector (E\*\*J)



125 (126) (connector lateral direction)

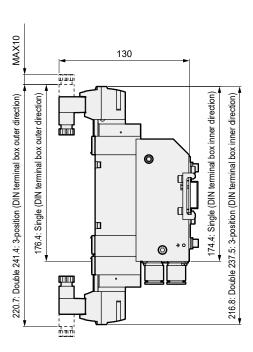
345 (852) (connector lateral direction)

345 (852) (connector lateral direction)

420 (193.5): Single (connector lateral direction)

Note: Values in ( ) are for AC voltage.

DIN rail mount (QD)DIN terminal box (B)



Note: DIN terminal box assembly is shipped facing inward.

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E



Reduced wiring manifold (Common terminal block/D-sub-connector/flat cable connector) Body piping

Direct mount

## M4GA4-T\* Series

Cylinder bore size: ø100 to ø140

**★**Refer to page 1040 for serial transmission.



Refer to the CKD website for detailed compatible model Nos.

#### How to Order (Common terminal block/D-sub-connector/flat cable connector)

●Manifold 5-port valve

●5-port valve for Discrete base mounting

M	4GA4	0R - 1	0 - T10 V	VA-	3 - 3
	4GA4	9R - 1	0 -A2N	<b>A</b> -	3
	Model No.	Solenoid valve operation class	3 Reduced wiring connection	5 Option	7 Voltage
	1 Solend positio	_	rt size <b>4</b> Termi Conne	nal/ <b>6</b> ector pin	Station No.

★1: "A2N" indicates the A-connector (downward), with lamp/surge suppressor and no lead wire.

#### 1 Solenoid position

Code	Description				
1	2-position single				
2	2-position double				
3	3-position all ports closed				
4	3-position A/B/R connection				
5	3-position P/A/B connection				
	Mix manifold				
8	(when there are multiple				
	solenoid positions)				

#### 2 Port size

• • • • • • • • • • • • • • • • • • • •							
Type	Port A/B	Port P/R1/R2	Code	l			
	ø8		C8	l			
Push-in	ø10		C10	l			
Fitting	ø12	Rc1/2	C12	l			
	Mix	]	СХ	ŀ			
	Rc3/8	]	10	l			
Female thread	G3/8	G1/2	10G	l			
uneau	NPT3/8	NPT1/2	10N	ĺ			

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

#### 3 Reduced wiring connection

\*Refer to page 1087 for the model No. of cables with D-sub-connector.

Reduced wiring type	Installation position	Code	
Common terminal block (M3	Left	T10	
thread)	Right	T10R	
Common terminal block	Left	T11	
(clamping)	Right	T11R	
D-sub-connector	Left	Т30	
D-sub-connector	Right	T30R	R. C.
20-pin flat cable connector	Left	T50	
(with power supply terminal)	Right	T50R	The state of the s
20-pin flat cable connector	Left	T51	
(without power supply terminal)	Right	T51R	
10-pin flat cable connector	Left	T52	
(without power supply terminal)	Right	T52R	\$ C
26-pin flat cable connector (without power supply	Left	T53	_
terminal)	Right	T53R	

#### 4 Terminal/Connector pin array

	Code	Description
<b>*</b> 1	Blank	Standard wiring
<b>*</b> 1, <b>*</b> 2	W	Double wiring

- \*1: Blank...The wiring will be based on the type of valve mounted.
  W...All wired as double solenoid regardless of the type of valve used.
- \*2: When changing from a single valve for W wiring specifications to a double or 3-position valve, the A-connector socket assembly needs to be purchased separately.



Reduced wiring manifold; body piping

\*Be sure to fill-in the Manifold Specifications sheet (pages 1078 to 1081).

#### Option

•	Option							
	Code	Descripti	ion					
	Blank	No option						
	Α	Coolant proof						
<b>*</b> 1	S	Surgeless						
<b>*</b> 1, <b>*</b> 2	Е	_ow exoergic/energy saving circuit						
	F	Port A/B filter built in	Filter					
<b>*</b> 3 <b>*</b> 4	Z1	Air supply spacer						
<b>*</b> 3 <b>*</b> 4	<b>Z</b> 3	Exhaust spacer						

- **★**1: In addition, surgeless "S" and low exoergic/energy saving circuit cannot be selected together.
- \*2: Surgeless specifications.
- ★3: Specify the spacer mounting position/quantity in the manifold specifications sheet. For details, see pages 1064,1065.
- **★**4: Cannot be selected with discrete valve for integrated base.

#### 6 Station No.

Code	Description			
2	2 stations			
to	to			
11	11 stations			

MN4GA/B

M4GA/B

4GA/B

Pilot operated 3, 5-port valve

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

#### Voltage

Code	Description
3	24 VDC
4	12 VDC

Specifications for rechargeable battery

(Catalog No.CC-1226A)

• For use in the rechargeable battery manufacturing process, materials used for air path and sliding section are limited



M4GA4-T\* Series

Reduced wiring manifold; body piping

Manifold common specifications

Item	Description
	•
Manifold	Reduced wiring integrated base
Mounting method	Direct mount
Air supply and exhaust method	Common supply/common exhaust
Pilot exhaust method	Main valve/pilot valve common exhaust
Filot exhaust method	(Pilot exhaust check valve built-in)
Piping direction	Valve top direction
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2 (*3)
Proof pressure MPa	1.05
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking/locking common
Lubrication (*1)	Not required
Degree of Protection (★2)	Dust-proof (IP40 equivalent)
Vibration resistance m/s <sup>2</sup>	50 or less
Shock resistance m/s <sup>2</sup>	300 or less
Atmosphere	Cannot be used in corrosive gas environments

- ★1: Use turbine oil Class 1 ISOVG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
- ★2: Avoid water drops or oil, etc., during use.
- ★3: The working pressure range is 0 to 0.7 MPa when the external pilot (option code: K) is selected. Also, set the external pilot pressure between 0.2 and 0.7 MPa.

#### **Electrical Specifications**

	Item	Description			
		T1□, T30	0□, T5□		
Rated vol	tage V	24 DC	12 DC		
Voltage flu	uctuation range	±10	0%		
Holding	Standard	0.017	0.034		
current A	With low heat generation and power saving circuit	0.005	0.010		
Power	Standard	0.	.4		
	With low heat generation and power saving circuit	0.1			
Heat Resi	stant Class	В			
Surge sup	pressor ( <b>*</b> 4)	Zener diode			
Indicator		LED			

**★**4: When low heat/power saving circuit or surge-less is selected, it becomes a diode.

#### Individual specifications

	lt a ma		M4GA4				
	Item		Direct mount				
Max. station No.			11 stations				
Port size	Port A/B		Push-in fitting ø8, ø10, ø12				
			Rc3/8, G3/8, NPT3/8				
	Port P/R1/R2		Rc1/2, G1/2, NPT1/2				
Manifold ba	ıse	Standard	150n+530				
Weight calculation formula (n: station No.) g		External pilot	379n+1122				

If air supply/exhaust flow rate is insufficient due to simultaneous operation of multiple stations, use ports on both sides for air supply and exhaust, or consider the use of an air supply/exhaust spacer. The manifold base weight is the value for screw specifications. Note that the maximum number of stations in the manifold is also limited by the maximum number of solenoid points per wiring specification as shown on the right.

#### Circuit diagram symbol

## ● 5-port valve 2-position single (A) (B) $(R_1)(P)(R_2)$



 $(R_1)(P)(R_2)$ 3-position

All ports closed

(A) (B)  $(R_1)(P)(R_2)$ 

3-position A/B/R connection



3-position P/A/B connection



#### Performance/characteristics by model

	ltono		M4GA4				
ltem			at ON	at OFF			
Response time	2-position	Single	40	60			
ms		Double	50	50			
	3-position	A/B/R connection	30	80			

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



# Pilot operated 3, 5-port valve

## 4GA/B

## M4GA/B

## MN4GA/B 4GD/E

#### M4GD/E

#### MN4GD/E

#### Flow Characteristics

Model	Cal	oneid meeitien		$P \rightarrow A/B$		A/B→R1/R2			
No.	Solenoid position		C[dm3/(s·bar)]	b	Q [L/min(ANR)]	C[dm3/(s·bar)]	b	Q [L/min(ANR)]	
M4GA4	2-position		7.3	0.12	1675	9.0	0.17	2120	
	ition	All ports closed	6.4	0.15	1492	8.2	0.22	1987	
	800	A/B/R connection	6.4	0.16	1500	9.3	0.19	2215	
		P/A/B connection	8.0	0.08	1798	8.3	0.22	2011	

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

#### Wiring specifications

Item	T10□	T11□	T30□	T50□	T51□	T52□	T53□
item	Common terminal block	Common terminal block	D-sub-connector	Flat cable 20-pin	Flat cable 20-pin	Flat cable 10-pir	Flat cable 26-pin
Connector and terminal	M3 thread tightening Terminal count	Clamping Terminal count	D-sub- connectors 25	MIL-C-83503 standard compliant	MIL-C-83503 standard compliant	MIL-C-83503 standard compliant	MIL-C-83503 standard compliant
block specifications	18	26	terminals	Pressure welding socket 20-pin			
Max. number of solenoids	16 points	24 points	24 points	16 points	18 points	8 points	24 points
Manifold internal wiring			For details,	see page 1084 to	page 1091		
	Left side: T			Right s	ide: T⊟R		
	as	solenoid side			a solenoid side		
Wiring block position Blank: Left side R: Right side	Left side						olok
	(Ex.) In the c  Manifold specification  1a 2a 3a 4a	ations Standard v	wiring (sequential): Blar	ık	Double wiring: W	,	
Array method		Connec	tor pin No. 1	2 3 4 5 6	Connector pin No	o. 1 2 3 4	1 5 6 7 8
Blank: Standard sequential	SDSD	)	·	a 2b 3a 4a 4b	Valve solenoid No.		b 3a Blank 4a 4b
W: Double wiring	2b 4b 1st station 3rd station 2nd station 4th s						

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

#### Main configuration parts list

M4GA4-T\* Series

Reduced wiring manifold; body piping Manifold configuration explanation

Part No.	Configuration parts name	Model No.	Description		Remarks			
1 1	Discrete valve for integrated base	4GA4_9R-Port size -A2N Option - Voltage Solenoid position	Discrete valve Gasket Mounting screw 3 O-ring 2 Check valve 2 (1)	4GA4	Size M3	Tightening torque (N·m)		
2	Masking plate	4GA4-MPC	Masking plate for reduced wiring Gasket Mounting screw 3 O-ring 2 Check valve 2					
3	Manifold base assembly	M4GA4- Port size - Reduced wiring Option Option No.	Manifold base Wiring block	Port size Port Ports P, R1, R 00 Rc1/2 00G G1/2 00 N NPT1/2		Ports P, R1, R2  Rc1/2  G1/2		

() applies when 4GA419R is selected.

For maintenance parts, refer to CKD components product website (https://www.ckd. co.jp/kiki/jp/en/) → "Model No."→ Maintenance parts for details.

4GA/B

M4GA/B

MN4GA/B

4GD/E

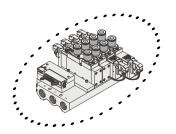
### Reduced wiring manifold; body piping

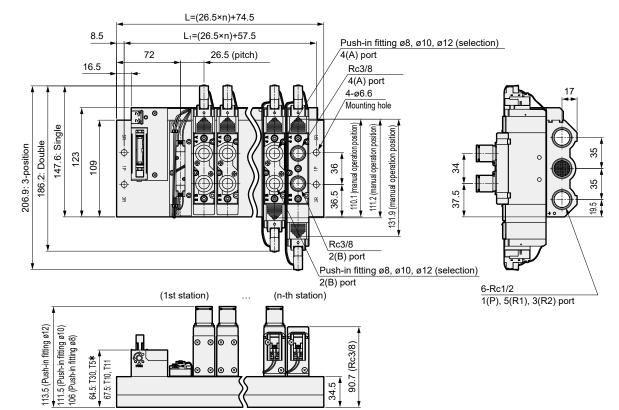
## Dimensions

#### M4GA4

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

\*Figure shows T50. For detailed wiring block dimensions, see pages 1038, 1039 for details.



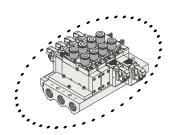


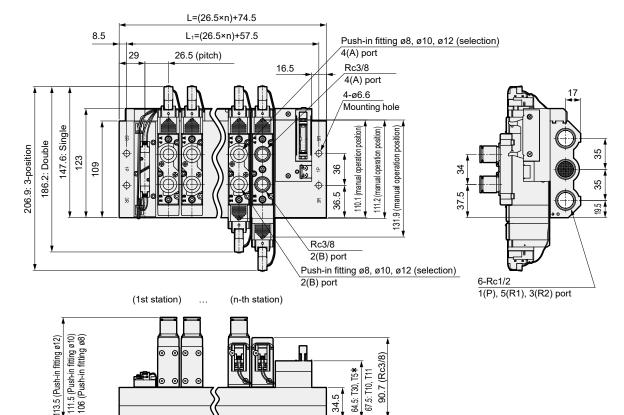
Station No.	2	3	4	5	6	7	8	9	10	11
L	127.5	154	180.5	207	233.5	260	286.5	313	339.5	366
L <sub>1</sub>	110.5	137	163.5	190	216.5	243	269.5	296	322.5	349

#### **Dimensions**

#### M4GA4

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





90.7 (Rc3/8) 64.5: T30, T5**\*** 67.5: T10, T11 34.5

Station No.	2	3	4	5	6	7	8	9	10	11
L	127.5	154	180.5	207	233.5	260	286.5	313	339.5	366
L <sub>1</sub>	110.5	137	163.5	190	216.5	243	269.5	296	322.5	349

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

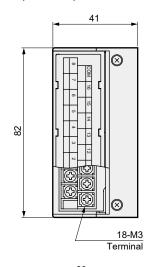
MN4GD/E

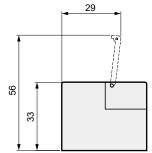
4GA4/B4

# M4GA4-T \* Series Reduced wiring manifold; body piping

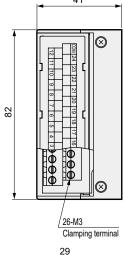
#### Wiring block part: Dimensions

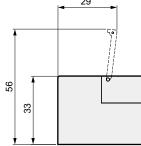
Common terminal block (M3 thread) T10





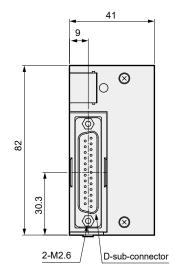
Common terminal block (clamping) T11

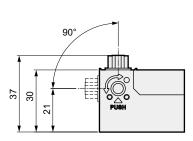


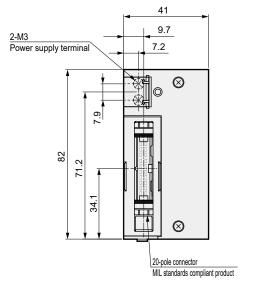


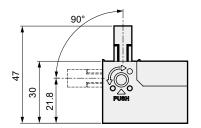
• D-sub-connector T30

• 20-pin flat cable connector (with power supply terminal)







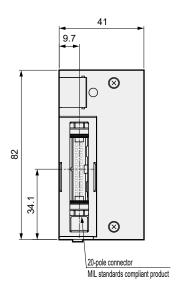


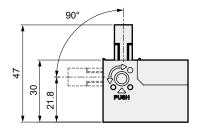
## M4GA4-T\* Series

### Reduced wiring manifold; body piping

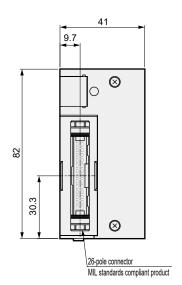
#### Wiring block part: Dimensions

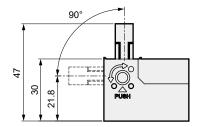
20-pin flat cable connector (without power supply terminal)
 T51



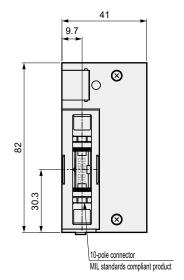


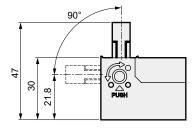
26-pin flat cable connector (without power supply terminal)
 T53





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





4GA/B

Pilot operated 3, 5-port valve

M4GA/B

MN4GA/B

4GD/E

M4GD/E

-

MN4GD/E

4GA4/B4

M4GA/B

4GA/B

# M4GA4-T8 \* Series

Cylinder bore size: ø100 to ø140

position



Refer to the CKD website for detailed compatible model Nos.

#### How to Order (serial transmission)

■Manifold 5-port valve

●5-port valve for Discrete base mounting

4GA4 1 0R - 10 - T8G2 W A - 3 - 3

4GA4 1 9R - 10 - A2N A 3

Model No. Solenoid valve operation classification transmission vDC

1 Solenoid 2 Port size 4 Terminal/Connector 5 Station No.

\*1: "A2N" indicates the A-connector (downward), with lamp/surge suppressor and no lead wire.

#### 1 Solenoid position

Code	Description
1	2-position single
2	2-position double
3	3-position all ports closed
4	3-position A/B/R connection
5	3-position P/A/B connection
	Mix manifold
8	(when there are multiple
	solenoid positions)

#### 2 Port size

Туре	Port A/B	Port P/R1/R2	Code	
	ø8		C8	l
Push-in	ø10		C10	
Fitting	ø12	Rc1/2	C12	l
	Mix		СХ	
F	Rc3/8	7	10	l
Female thread	G3/8	G1/2	10G	l
lilleau	NPT3/8	NPT1/2	10N	l

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

pin array

#### 3 Serial transmission (lamp/surge suppressor provided as standard)

Communication protocol	Output	No. of output points	Code	
OC LINIK	NPN		T8G2	
CC-LINK	PNP	1	T8GP2	
PROFIBUS-DP	NPN	1	T8P2	
PROFIBUS-DF	PNP		T8PP2	
EtherCAT	NPN		T8EC2	
Lineroat	PNP		T8ECP2	
EtherNet/IP	NPN		T8EN2	
Emernevia	PNP	32	T8ENP2	
DeviceNet	NPN		T8D2	
Devicemen	PNP		T8DP2	
CC-Link IEF Basic	NPN		T8EB2	
CC-LITIK IEF Basic	PNP		T8EBP2	
CC-Link IE Field	NPN		T8EF2	
CC-LINK IE FIEID	PNP		T8EFP2	
DDOCINET	NPN		T8EP2	
PROFINET	PNP	]	T8EPP2	
	NPN	1	T8KC2	
IO-Link	PNP	1	T8KCP2	
	NPN	1	T8TG2	
CC-Link IE TSN	PNP	1	T8TGP2	

#### 4 Terminal/Connector pin array

	Code	Description				
<b>*</b> 1	Blank	Standard wiring				
<b>*</b> 1, <b>*</b> 2	W	Double wiring				

- \*1: Blank...The wiring will be based on the type of valve mounted.
  - W...All wired as double solenoid regardless of the type of valve used.
- \*2: When changing from a single valve for W wiring specifications to a double or 3-position valve, the A-type connector socket assembly needs to be purchased separately.

**★**Be sure to fill-in the Manifold Specifications sheet (page 1078 to page 1081).

#### Option

	Option						
	Code	Descripti	ion				
	Blank	No option					
	Α	Coolant proof					
<b>*</b> 1	S	Surgeless					
<b>*</b> 1, <b>*</b> 2	E	Low exoergic/energy saving	g circuit				
	F	Port A/B filter built in	Filter				
<b>*</b> 3 <b>*</b> 4	Z1	Air supply spacer					
<b>*</b> 3 <b>*</b> 4	<b>Z</b> 3	Exhaust spacer					

- **★**1: In addition, surgeless "S" and low exoergic/energy saving circuit "E" cannot be selected together.
- \*2: Surgeless specifications.
- ★3: Specify the spacer mounting position/quantity in the manifold specifications sheet. For details, see page 1064, page 1065.
- **★**4: Cannot be selected with discrete valve for integrated base.

#### 6 Station No.

Code	Description		
2	2 stations		
to	to		
15	15 stations		

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

Specifications for rechargeable battery (Catalog No.CC-1226A)

• For use in the rechargeable battery manufacturing process, materials used for air path and sliding section are limited

\* \* - Voltage - P4



4GA/B

Reduced wiring manifold; body piping; serial transmission

M4GA4-T8 \* Series

Manifold common specifications

viaimoia commich opcomeatione					
Item	Description				
Manifold	Serial transmission integrated base				
Mounting method	Direct mount				
Air supply and exhaust method	Common supply/common exhaust				
Pilot exhaust method	Main valve/pilot valve common exhaust				
Pilot exnaust method	(Pilot exhaust check valve built-in)				
Piping direction	Valve top direction				
Valve and operation	Pilot operated soft spool valve				
Working fluid	Compressed air				
Max. working pressure MPa	0.7				
Min. working pressure MPa	0.2 (*3)				
Proof pressure MPa	1.05				
Ambient temperature °C	-5 to 55 (no freezing)				
Fluid temperature °C	5 to 55				
Manual override	Non-locking/locking common				
Lubrication ( <b>*</b> 1)	Not required				
Degree of Protection (*2)	Dust-proof (IP40 equivalent)				
Vibration resistance m/s²	50 or less				
Shock resistance m/s²	300 or less				
Atmosphere	Cannot be used in corrosive gas environments				

#### **★**1: Use turbine oil Class 1 ISOVG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.

- **★**2: Avoid water drops or oil, etc., during use.
- ★3: The working pressure range is 0 to 0.7 MPa when the external pilot (option code: K) is selected. Also, set the external pilot pressure between 0.2 to 0.7 MPa.

#### **Electrical Specifications**

	Item	Description		
		T8□		
Rated vol	tage V	24 DC		
Voltage flu	uctuation range ( <b>*</b> 4)	+10%, -5%		
Holding	Standard	0.017		
current A	With low heat generation and power saving circuit	0.005		
Power	Standard	0.4		
consumption W	With low heat generation and power saving circuit	0.1		
Heat Resistant Class		В		
Surge suppressor (*5)		Zener diode		
Indicator		LED		

<sup>\*4:</sup> T8 (serial transmission type) has a voltage drop due to internal circuitry, so pay attention to the voltage fluctuation range.

#### Individual specifications

	lt		M4GA4		
ltem -			Direct mount		
Max. station No.			15 stations		
Port size Port A/B			Push-in fitting ø8, ø10, ø12		
			Rc3/8, G3/8, NPT3/8		
	Port P/R1/R2		Rc1/2, G1/2, NPT1/2		
Manifold ba	ase	Standard	150n+1016		
Weight calculation formula (n: station No.) g		External pilot	379n+2391		
For E or mor	a manifold station	No uso porto e	on both sides for air supply and exhaust. The manifold base weight is the		

For 5 or more manifold station No., use ports on both sides for air supply and exhaust. The manifold base weight is the value for screw specifications.

#### Circuit diagram symbol

<ul><li>5-port valve</li></ul>
2-position single
a (A) (B)
(R <sub>1</sub> ) (P) (R <sub>2</sub> )
2-position double
4 2 a (A) (B) b
5 1 3
(R <sub>1</sub> ) (P) (R <sub>2</sub> )
3-position
All ports closed
(A) (B)
a M 111 M b 5 1 3
(R <sub>1</sub> ) (P) (R <sub>2</sub> )
3-position A/B/R connection
(A) (B)

(R<sub>1</sub>) (P) (R<sub>2</sub>) 3-position P/A/B connection

(R<sub>1</sub>) (P) (R<sub>2</sub>)

#### Performance/characteristics by model

	l4 a va		M4GA4			
ltem		at ON	at OFF			
Response time	2-position	Single	40	60		
ms		Double	50	50		
	3-position	A/B/R connection	30	80		

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

<sup>★5:</sup> When low heat/power saving circuit or surge-less is selected, it becomes a diode.

# Pilot operated 3, 5-port valve

#### Flow Characteristics

Model	Solenoid position		$ extsf{P}  ightarrow  extsf{A}/ extsf{B}$			A/B→R1/R2		
No.			C[dm3/(s·bar)]	b	Q[L/min(ANR)]	C[dm3/(s·bar)]	b	Q[L/min(ANR)]
M4GA4	2-position		7.3	0.12	1675	9.0	0.17	2120
	ion	All ports closed	6.4	0.15	1492	8.2	0.22	1987
		A/B/R connection	6.4	0.16	1500	9.3	0.19	2215
	P/A/B connection		8.0	0.08	1798	8.3	0.22	2011

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

#### Serial transmission device unit specifications

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

	Item	T8G2	T8GP2	T8P2	T8PP2	T8EC2	T8ECP2	T8EN2	T8ENP2	T8D2	T8DP2
Com	nmunication protocol	CC-Link ver. 1.10 PROFIBUS-DP		Ethe	rCAT	AT EtherNet/IP		DeviceNet			
Power Supply Voltage	Unit side				24 VDC ±1	0% (11 to 2	5 VDC for T	8D <b>≭</b> only)			
	Valve side					24 VDC +	10%, -5%				
Consumption Current	Unit side (when all output points are ON)	60 mA	or less	60 mA	or less	110 mA	or less	90 mA	or less	70 mA	or less
Consu	Valve side (when all output points are ON)		20 mA or	less Load o	urrent is no	t included		15 mA or	less Load c	urrent is no	t included
No.	of output points					32 p	oints				
Occ	upied number					1 sta	ation				
Оре	ration display				LED (power	supply and	communic	ation status	)		
Outp	out	NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP
		TOFFO	TOFFE	T0550	TOFFDO	TOFFO	TOEDDO	T01/00	TOLODO	T0T00	TOTORO
	Item	T8EB2	T8EBP2	T8EF2	T8EFP2	T8EP2	T8EPP2	T8KC2	T8KCP2	T8TG2	T8TGP2
	nmunication protocol	CC-Link IEF Basic		FINET	IO-Link CC-Link IE TSN			(IE TSN			
Power Supply Voltage	Unit side					24 VD0	C ±10%				
Power Volt	Valve side		24 VDC +10%, -5%								
Consumption Current	Unit side (when all output points are ON)	130 mA	or less	140 m <i>A</i>	or less	130 mA	or less	50 mA	or less	140 m <i>A</i>	or less
Valve side (when all output points are ON)  15 mA or less Load current is not included											
No. of output points 32 points											
Occ	upied number		1 station								
Оре	ration display				LED (power	supply and	l communic	ation status	)		
Outp	out	NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP

4GA/B M4GA/B MN4GA/B

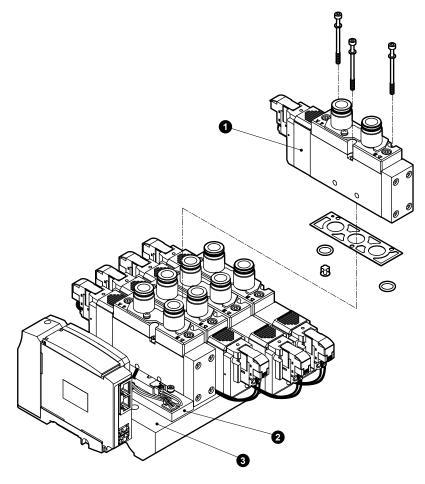
4GD/E

M4GD/E

MN4GD/E

## M4GA4-T8 \* Series

Reduced wiring manifold; body piping; serial transmission Manifold configuration explanation



### Main configuration parts list

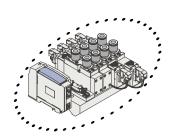
Part No.	Configuration parts name	Model No.	Description		Ren	narks
1	Discrete valve for integrated base	4GA4_9R-Port size -A2N Option - Voltage Solenoid position	Discrete valve Gasket Mounting screw 3 O-ring 2 Check valve 2 (1)	4GA4	Size M3	Tightening torque (N·m) 1.7
2	Masking plate	4GA4-MPC	Masking plate for reduced wiring Gasket Mounting screw 3 O-ring 2 Check valve 2			
3	Manifold base assembly	M4GA4- Port size -T8 Option - Station No.	Manifold base Wiring block	Port size Port Ports P, R1, R2  00 Rc1/2  00G G1/2  00 N NPT1/2		orts P, R1, R2  Rc1/2  G1/2

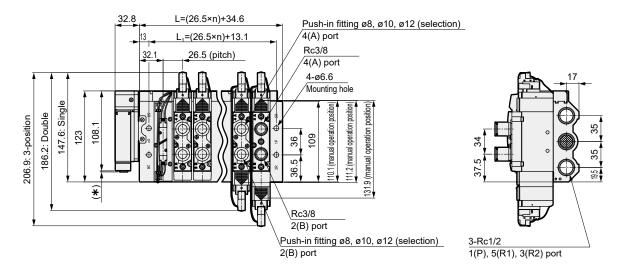
() applies when 4GA419R is selected.

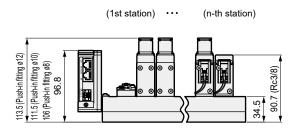
For maintenance parts, refer to CKD components product website (https://www.ckd. co.jp/kiki/jp/en/) → "Model No."→ Maintenance parts for details.

#### M4GA4

● Serial transmission (T8□)







Serial transmission	(*) Dimensions
T8G□	1.0
T8P□	4.9
T8E_	1.5
T8D□	1.0
Т8К□	1.0
Т8Т	1.5

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15
L	87.6	114.1	140.6	167.1	193.6	220.1	246.6	273.1	299.6	326.1	352.6	379.1	405.6	432.1
L <sub>1</sub>	66.1	92.6	119.1	145.6	172.1	198.6	225.1	251.6	278.1	304.6	331.1	357.6	384.1	410.6

Ending





4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA/B

M4GA/B

MN4GA/B

4GD/E





4GA4/B4



Reduced wiring manifold (Common terminal block/D-sub-connector/flat cable connector)

Base piping Direct mount

## 14GB4-T\* Series

\*Refer to page 1056 for serial transmission

Voltage



Cylinder bore size: ø100 to ø140

Refer to the CKD website for detailed compatible model Nos

#### How to Order (Common terminal block/D-sub-connector/flat cable connector)

■Manifold 5-port valve

●5-port valve for Discrete base mounting

4GB4

1 Solenoid

position

**4GB4** 

Model

No.

Solenoid valve

operation class

9R - 00 -A2N

connection

3 Reduced wiring | 5 Option

Pin array method

2 Port size 4 Terminal/connector 6 Station No.

Port P/R1/R2

**★**1: "A2N" indicates the A-connector (downward), with lamp/surge suppressor and no lead wire.

#### Solenoid position

Code	Description	
1	2-position single	
2 2-position double		
3 3-positionAll ports closed		
4	3-position A/B/R	
4	connection	
5	3-position P/A/B	
<u> </u>	connection	
	Mix manifold	
8	(when there are multiple	
	solenoid positions)	

#### 2 Port size

	A/B	Port P			
Type	Port	40ption Other than "K"	<b>₫</b> Option "K"	Code	
	ø8			C8	
Push-in	ø10	Rc3/8	Rc1/2	C10	
fitting	ø12			C12	
	Mix			СХ	

★1: Two types of bases are available. Dimensions diffe by bore size of port P/R1/R2.

		A/B	*	:1	
•	Туре	Port	40ption Other than "K"	40ption "K"	Code
		Rc1/4	Rc3/8		08
		Rc3/8	13/6	Rc1/2	10
		Rc1/2	Rc1/2		15
	  Female	G1/4	G3/8		08G
er	thread	G3/8	G3/6	G1/2	10G
	illead	G1/2	G1/2		15G
		NPT1/4	NPT3/8		08N
		NPT3/8	INF 13/0	NPT1/2	10N
		NPT1/2	NPT1/2		15N

#### 3 Reduced wiring connection

\*Refer to page 1087 for the model No. of cables with D-sub-connector.

Reduced wiring type	Installation position	Code		
Common terminal block (M3	Left	T10		
thread)	Right	T10R		
Common terminal block	Left	T11		
(clamping)	Right	T11R		
D-sub-connector	Left	T30		
D-sub-connector	Right	T30R	R. C.	
20-pin flat cable	Left	T50		
Connector (with power supply terminal)	Right	T50R		
20-pin flat cable connector	Left	T51		
(without power supply terminal)	Right	T51R		
10-pin flat cable connector	Left	T52		
(without power supply terminal)	J	T52R		
26-pin flat cable connector	Left	T53		
(without power supply terminal)	Right	T53R		

#### 4 Terminal / Connector pin array

	_	
	Code	Description
<b>*</b> 1	Blank	Standard wiring
<b>*</b> 1, <b>*</b> 2	W	Double wiring

- **★**1: Blank...The wiring will be based on the type of valve mounted
  - W...All wired as double solenoid regardless of the type of valve used.
- **★**2: When changing from a single valve for W wiring specifications to a double or 3-position valve, the A-type connector socket assembly needs to be purchased separately.

Reduced wiring manifold; base piping

**★**Be sure to fill-in the Manifold Specifications sheet (pages 1078 to 1081).

#### Option

	Opt					
	Code	Description				
	Blank	No option				
<b>*</b> 1	К	External pilot				
	Α	Coolant proof				
<b>*</b> 2	S	Surgeless				
<b>*</b> 2, <b>*</b> 3	E	Low exoergic/energy saving	g circuit			
	F	Port A/B filter built in	Filter			
<b>*</b> 4 <b>*</b> 5	Z1	Air supply spacer				
*4 *5	<b>Z</b> 3	Exhaust spacer				

- **★**1: Consult with CKD for vacuum specifications.
- ★2: In addition, surgeless "S" and low exoergic/energy saving circuit "E" cannot be selected together.
- \*3: Surgeless specifications.
- **★**4: Specify the spacer mounting position/quantity in the manifold specifications sheet. For details, see pages 1064, 1065.
- **★**5: Cannot be selected with discrete valve for integrated base.

#### 6 Station No.

Code	Description
2	2 stations
to	to
11	11 stations

MN4GD/E

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

4GA4/B4

### Voltage

Code	Description
3	24 VDC
4	12 VDC

Specifications for rechargeable battery

(Catalog No.CC-1226A)

• For use in the rechargeable battery manufacturing process, materials used for air path and sliding section are limited

(R<sub>1</sub>) (P) (R<sub>2</sub>) 2-position double (A) (B) (R<sub>1</sub>) (P) (R<sub>2</sub>) 3-position All ports closed

(A) (B)

5 1 3

(R<sub>1</sub>) (P) (R<sub>2</sub>)

(A) (B)

(R<sub>1</sub>) (P) (R<sub>2</sub>) 3-position P/A/B connection (A) (B)

(R<sub>1</sub>) (P) (R<sub>2</sub>)

3-position A/B/R connection

## Manifold common specifications

Reduced wiring manifold; base piping

M4GB4-T\* Series

			1		
I	tem		Description		
Manifold			Reduced wiring integrated base		
Mounting method			Direct mount		
Air supply an	d exhaust r	nethod	Common supply/common exhaust		
Pilot	Internal n	ilot	Main valve/pilot valve common exhaust		
exhaust	Internal p	iiOt	(Pilot exhaust check valve built-in)		
method	External	oilot	Main valve/pilot valve individual exhaust		
Piping dire	ction		Side direction of base		
Valve and	operation	า	Pilot operated soft spool valve		
Working flu	uid		Compressed air		
Max. workin	g pressure	e MPa	0.7		
Min. working	g pressure	MPa	0.2 (*3)		
Proof pres	sure	MPa	1.05		
Ambient te	mperatu	re °C	-5 to 55 (no freezing)		
Fluid temp	erature	°C	5 to 55		
Manual ov	erride		Non-locking/locking common		
Lubrication	1	(*1)	Not required		
Degree of F	Protection	(*2)	Dust-proof (IP40 equivalent)		
Vibration resistance m/s <sup>2</sup>		m/s <sup>2</sup>	50 or less		
Shock resistance m/s <sup>2</sup>			300 or less		
Atmospher	re		Cannot be used in corrosive gas environments		
¥1. Haa +	oine eil Cl	000 1	SOVC22 for lubrication. Evacosive or intermittent		

- ★1: Use turbine oil Class 1 ISOVG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
- ★2: Avoid water drops or oil, etc., during use.
- **★**3: The working pressure range is 0 to 0.7 MPa when the external pilot (option code: K) is selected. Set the external pilot pressure between 0.2 to 0.7

#### **Electrical Specifications**

	Item	Description	
		T8□	
Rated voltage V		24 DC	
Voltage fluctuation range (★4)		+10%, -5%	
Holding	Standard	0.017	
current A	With low heat generation and power saving circuit	0.005	
Power	Standard	0.4	
consumption W	With low heat generation and power saving circuit	0.1	
Heat Resistant Class		В	
Surge suppressor (*5)		Zener diode	
Indicator		LED	

- **★**4: T8☐ (serial transmission type) has a voltage drop due to internal circuitry, so pay attention to the voltage fluctuation range.
- ★5: When low heat/power saving circuit or surge-less is selected, it becomes a

#### Individual specifications

Circuit diagram symbo	ol			M4GB4				
• 5-port valve	Item -		Direct mount					
2-position single	Р	ilot operated	Standard (Ir	External pilot (*3)				
a (A) (B)	Max. station No.		11 stations					
	Port size	Port A/B	Push-in fitting ø8, ø10, ø12		Push-in fitting ø8, ø10, ø12			
(R <sub>1</sub> ) (P) (R <sub>2</sub> )			Rc1/4, Rc3/8	Rc1/2, G1/2, NPT1/2	Rc1/4, Rc3/8, Rc1/2			
2-position double			G1/4, G3/8		G1/4, G3/8, G1/2			
a (A) (B) b			NPT1/4, NPT3/8		NPT1/4, NPT3/8, NPT1/2			
		Port P/R1/R2	Rc3/8, G3/8, NPT3/8 (*1)	Rc1/2, G1/2	2, NPT1/2 ( <b>*</b> 2)			
(R <sub>1</sub> ) (P) (R <sub>2</sub> )	Manifold b	ase	292n+907	391n+1119	392n+1060			
3-position	Weight calcula	tion formula (n: station No.) g	29211+907	39111+1119	39211+1000			

For 5 or more manifold station No., use ports on both sides for air supply and exhaust. The manifold base weight is the value for screw specifications. Note that the maximum number of stations in the manifold is also limited by the maximum number of solenoid points per wiring specification as shown on the right. Dimensions of port sizes (port P/R1/R2) of Rc3/8 and Rc1/2 are different.

- \*1: Refer to page 1051 for dimensions of port size Rc3/8.
- \*2: Refer to page 1052 for dimensions of port size Rc1/2.
- \*3: Refer to page 1053 for dimensions of the external pilot (option code: K).

#### Performance/characteristics by model

	14		M4GB4					
	10	em	at ON	at OFF				
Response	2-position	Single	40	60				
time		Double	50	50				
ms	3-position	A/B/R connection	30	80				

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

4GA/B

MN4GA/B

# Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

#### Flow Characteristics

Model	Port size	Solenoid position -		$P \rightarrow A/B$			A/B→R1/R2			
No.	P, R1, R2			C[dm³/(s·bar)]	b	Q [L/min(ANR)]	C[dm³/(s·bar)]	b	Q [L/min(ANR)]	
	( <b>*</b> 1) Rc3/8	2-position		6.4	0.42	1767	6.9	0.12	1583	
	G3/8	3-position	All ports closed	6.0	0.37	1598	6.8	0.12	1560	
	NPT3/8		A/B/R connection	6.1	0.38	1636	7.1	0.15	1655	
M4GB4			P/A/B connection	6.0	0.37	1598	6.8	0.13	1568	
IVI4GD4	( <b>*</b> 2) Rc1/2	2-position		8.3	0.23	2023	9.0	0.21	2168	
	(*2) RC1/2 G1/2	3-position	All ports closed	7.4	0.15	1725	8.8	0.19	2096	
	NPT1/2		A/B/R connection	7.5	0.15	1748	9.5	0.21	2288	
	NPT1/2		P/A/B connection	7.7	0.21	1855	8.7	0.18	2061	

Dimensions of port sizes (port P/R1/R2) of Rc3/8 and Rc1/2 are different.

\*1: Refer to page 1051 for dimensions of port size Rc3/8.

\*2: Refer to page 1052 for dimensions of port size Rc1/2.

 $\star$ 3: Effective cross-sectional area S and sonic conductance C are converted as S  $\approx$  5.0  $\times$  C.

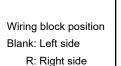
#### Wiring specifications

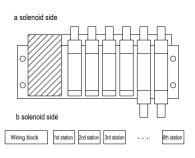
Item	T10□	T11□	T30□	T50□	T51□	T52□	T53□
	Common terminal block	Common terminal block	D-sub-connector	Flat cable 20-pin	Flat cable 20-pin	Flat cable 10-pin	Flat cable 26-pin
Connector and terminal block specifications	M3 thread tightening Terminal count 18	Clamping Terminal count 26	D-sub-connectors 25 terminals	compliant	compliant	MIL-C-83503 standard compliant Pressure welding socket 10-pin	MIL-C-83503 standard compliant Pressure welding socket 26-pin
Max. number of solenoids	16 points	24 points	24 points	16 points	18 points	8 points	24 points
			=	10011	1001		

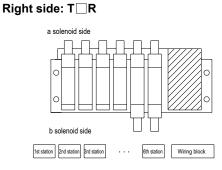
Manifold internal wiring For details, see page 1084 to page 1091

Left side: T

Right side: T







Double wiring: W

(Ex.) In the case of T50□

Array method
Blank: Standard sequential
W: Double wiring

Manifold specifications

1a 2a 3a 4a

S D S D

2b 4b

1st station 3rd station

2nd station 4th station

Standard wiring (sequ	uenti	al): l	Blan	k

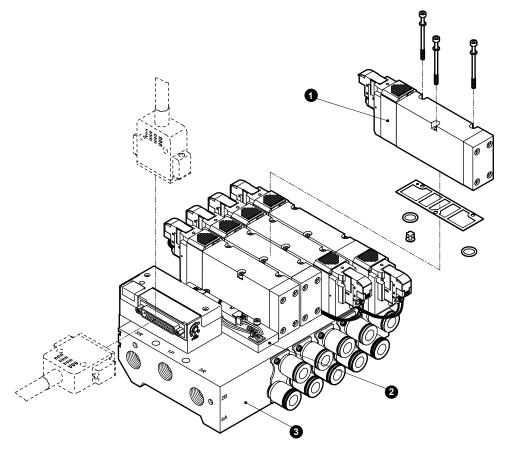
 Connector pin No.
 1
 2
 3
 4
 5
 6

 Valve solenoid No.
 1a
 2a
 2b
 3a
 4a
 4b

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

## M4GB4-T\* Series

Reduced wiring manifold; base piping Manifold configuration explanation



#### Main configuration parts list

Part No.	Configuration parts name	Model No.	Description	Remarks			
1	Discrete valve for integrated base	4GB4_9R-00-A2N Option - Voltage Solenoid position	Discrete valve Gasket Mounting screw 3 O-ring 2 Check valve 2 (1)	4GB4	Size M3	Tightening torque (N·m)	
2	Masking plate	4GB4-MPC	Masking plate for reduced wiring Gasket Mounting screw 3 O-ring 2 Check valve 2				
3	Manifold base assembly	M4GB4- Port size - Reduced wiring Option - Station No.	Manifold base Wiring block				

() applies when 4GB419R is selected.

For maintenance parts, refer to CKD components product website (https://www.ckd. co.jp/kiki/jp/en/) → "Model No."→ Maintenance parts for details.

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

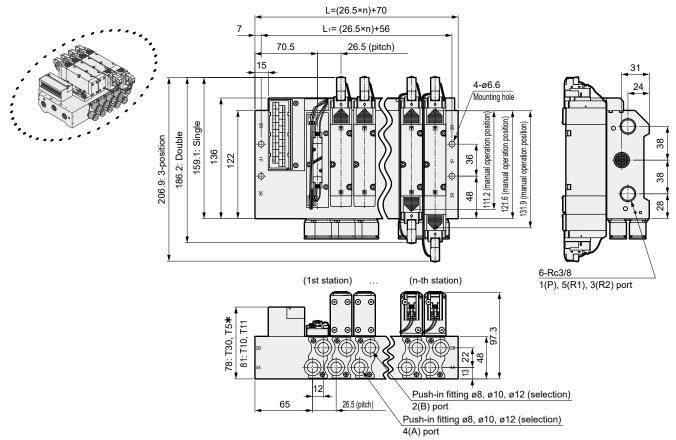
Reduced wiring manifold; base piping

#### **Dimensions**

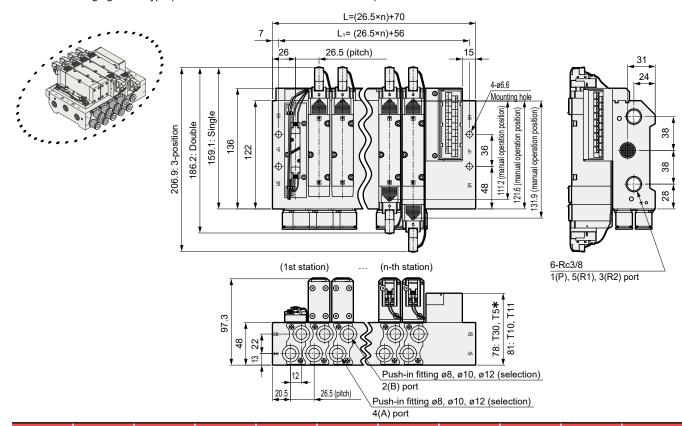
#### M4GB4

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

\*Figure shows T10. For detailed wiring block dimensions, see pages 1054, 1055 for details.



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



Station No. 2 3 6 8 10 11 123 149.5 176 202.5 229 255.5 282 308.5 335 361.5 1 109 135.5 162 188.5 215 241.5 268 294.5 321 347.5  $L_1$ 

M4GA/B

MN4GA/B

4GD/E

M4GD/E

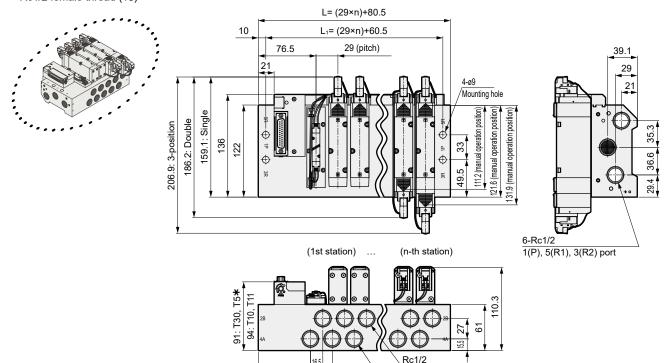
Reduced wiring manifold; base piping

### **Dimensions**

### M4GB4

● Reduced wiring Left side type (T10/T11/T30/T50/T51/T52/T53) Rc1/2 female thread (15)

\*Figure shows T30. For detailed wiring block dimensions, see pages 1054, 1055 for details.



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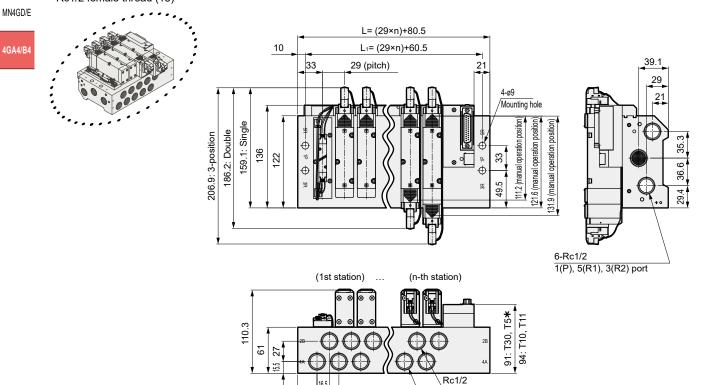
2(B) port

2(B) port

Rc1/2 4(A) port

Rc1/2 4(A) port

Reduced wiring right side type (T10R/T11R/T30R/T50R/T51R/T52R/T53R) Rc1/2 female thread (15)



Station No. 2 5 6 8 9 10 11 138.5 167.5 196.5 225.5 254.5 283.5 312.5 341.5 370.5 399.5 118.5 147.5 176.5 205.5 234.5 263.5 292.5 321.5 350.5 379.5  $L_1$ 

29 (pitch)

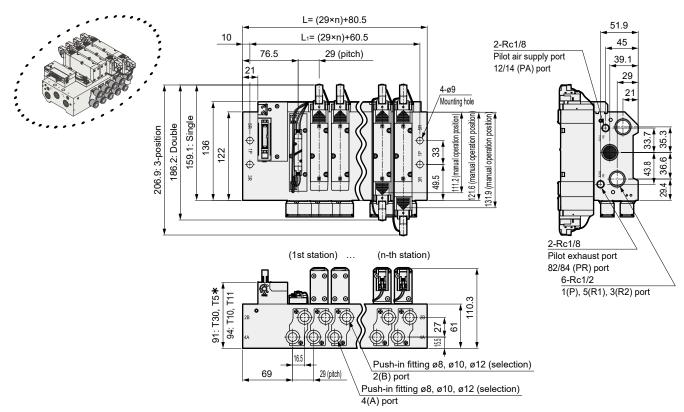
Reduced wiring manifold; base piping

### **Dimensions**

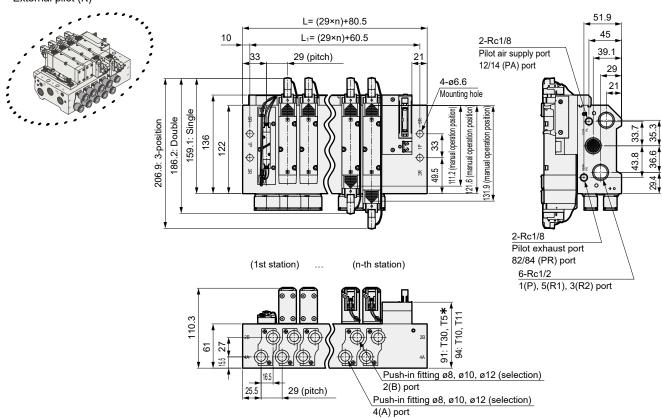
### M4GB4

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

\*Figure shows T50. For detailed wiring block dimensions, see pages 1054, 1055 for details.



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



Station No.	2	3	4	5	6	7	8	9	10	11
L	138.5	167.5	196.5	225.5	254.5	283.5	312.5	341.5	370.5	399.5
L <sub>1</sub>	118.5	147.5	176.5	205.5	234.5	263.5	292.5	321.5	350.5	379.5

Ending

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

M4GA/B

MN4GA/B

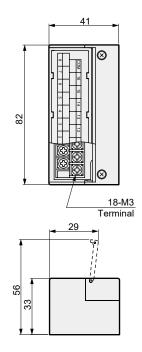
4GD/E

M4GD/E

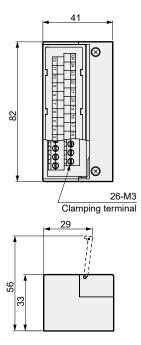
# M4GB4-T\* Series Reduced wiring manifold; base piping

### Reduced wiring part: Dimensions diagram

Common terminal block (M3 thread) T10

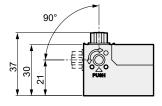


 Common terminal block (clamping) T11

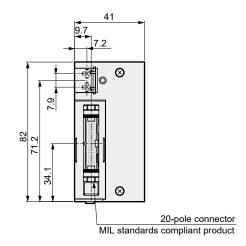


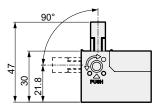
■ D-sub-connector T30

> ⊗ 82 30.3 2-M2.6 D-sub-connector



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





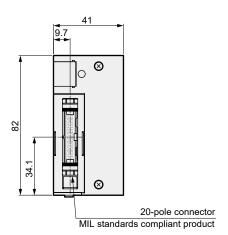
# M4GB4-T\* Series

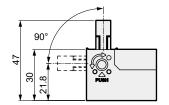
### Reduced wiring manifold; base piping

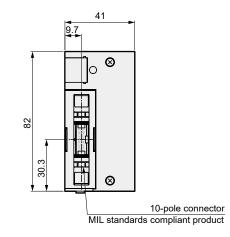
### Reduced wiring part: Dimensions diagram

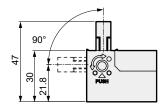
20-pin flat cable connector (without power supply terminal)
 T51

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

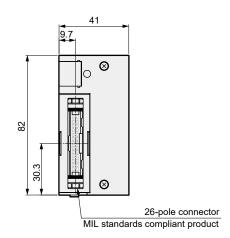


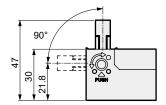






26-pin flat cable connector (without power supply terminal)
 T53





4GA/B

Pilot operated 3, 5-port valve

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

M4GA/B

MN4GA/B

MN4GD/E

4GA4/B4

4GD/E



Reduced wiring manifold (serial transmission) Base piping

Direct mount

# M4GB4-T8\* Series

Cylinder bore size: ø100 to ø140



Refer to the CKD website for detailed compatible model Nos

### How to Order(serial transmission)

●5-port valve for Discrete base mounting

■Manifold 5-port valve

0R - (10) - (T8G2) W

Solenoid valve

operation class

2 Port size

9R - 00 - A2N

3 Serial

transmission

4 Terminal /

**5** Option

Voltage: **24 VDC** 6 Station No.

1 Solenoid position

**4GB4** 

**4GB4** 

Model

No.

Connector pin ★1: "A2N" indicates the A-connector (downward), with lamp/surge suppressor and no lead wire.

### Solenoid position

Code	Description
1	2-position single
2	2-position double
3	3-positionAll ports closed
4	3-position A/B/R
*	connection
5	3-position P/A/B
<u> </u>	connection
	Mix manifold
8	(when there are multiple
	solenoid positions)

### 2 Port size

	A/B	Port P/R1/R2 *1			
Type	Port	40ption Other than "K"	<b>4</b> Option "K"	Code	
	ø8			C8	
Push-in	ø10	Rc3/8	Rc1/2	C10	
fitting	ø12	KC3/6	KC1/2	C12	
	Mix	]		СХ	

★1:Two types of bases are available. Dimensions differ by bore size of port P/R1/R2.

	A/B	Port P			
Type	Port	40ption Other than "K"	40ption "K"	Code	
	Rc1/4	Rc3/8		08	
	Rc3/8	Rc1/2		10	
	Rc1/2	Rc1/2		15	
Female	G1/4	G3/8	G1/2	08G	
thread	G3/8	G3/6		10G	
lilleau	G1/2	G1/2		15G	
	NPT1/4	NIDTO/O		08N	
	NPT3/8	NPT3/8	NPT1/2	10N	
	NPT1/2	NPT1/2		15N	

### 3 Serial transmission (lamp/surge suppressor provided as standard)

Communication protocol	Output	No. of output points	Code	
CC-LINK	NPN		T8G2	
CC-LINK	PNP	]	T8GP2	
DDOCIDUS DD	NPN	]	T8P2	
PROFIBUS-DP	PNP	]	T8PP2	
EtherCAT	NPN		T8EC2	
EtherCAI	PNP		T8ECP2	
C45 N - 4/ID	NPN		T8EN2	
EtherNet/IP	PNP		T8ENP2	1500
DavisaNat	NPN	32	T8D2	
DeviceNet	PNP		T8DP2	
CC-Link IEF Basic	NPN	points	T8EB2	
CC-LINK IEF BASIC	PNP		T8EBP2	
CC-Link IE Field	NPN		T8EF2	
CC-LINK IE FIEID	PNP		T8EFP2	
PROFINET	NPN		T8EP2	
PROFINEI	PNP		T8EPP2	
10.15-1-	NPN		T8KC2	
IO-Link	PNP		T8KCP2	
CO Link IF TON	NPN	]	T8TG2	
CC-Link IE TSN	PNP		T8TGP2	

### 4 Terminal / Connector pin array

	Code	Description		
<b>*</b> 1	Blank	Standard wiring		
*1,*2 W		Double wiring		

- ★1: Blank...The wiring will be based on the type of valve mounted.
  - W...All wired as double solenoid regardless of the type of valve used.
- **★**2: When changing from a single valve for W wiring specifications to a double or 3-position valve, the A-type connector socket assembly needs to be purchased separately.

**★**Be sure to fill-in the Manifold Specifications sheet (pages 1078 to 1071).

### Option

Code					
	Code	Description			
	Blank	No option			
<b>*</b> 1	К	External pilot			
	Α	Coolant proof			
<b>*</b> 2	S	Surgeless			
<b>*</b> 2, <b>*</b> 3	E	Low exoergic/energy saving	g circuit		
	F	Port A/B filter built in	Filter		
<b>*</b> 4 <b>*</b> 5	<b>Z</b> 1	Air supply spacer			
<b>*</b> 4 <b>*</b> 5	<b>Z</b> 3	Exhaust spacer			

- **★**1: Consult with CKD for vacuum specifications.
- ★2: In addition, surgeless "S" and low exoergic/energy saving circuit cannot be selected together.
- \*3: Surgeless specifications.
- **★**4: Specify the spacer mounting position/quantity in the manifold specifications sheet. For details, see pages 1064, 1065.
- **★**5: Cannot be selected with discrete valve for integrated base.

### 6 Station No.

Code	Description
2	2 stations
to	to
15	15 stations

**★**1: Refer to page 1058 for the max. station number per port size.

Specifications for rechargeable battery (Catalog No.CC-1226A)

 For use in the rechargeable battery manufacturing process, materials used for air path and sliding section are limited

\*\* - Voltage -



M4GD/E

4GA4/B4

# M4GB4-T8\* Series

Reduced wiring manifolds: Base piping; serial transmission

### Manifold common specifications

lt lt	tem	Description	
Manifold		Serial transmission integrated base	
Mounting r	nethod	Direct mount	
Air supply and	d exhaust method	Common supply/common exhaust	
Pilot	Internal nilet	Main valve/pilot valve common exhaust	
exhaust	Internal pilot	(Pilot exhaust check valve built-in)	
method	External pilot	Main valve/pilot valve individual exhaust	
Piping dire	ction	Side direction of base	
Valve and	operation	Pilot operated soft spool valve	
Working flu	ıid	Compressed air	
Max. working	g pressure MPa	0.7	
Min. working	pressure MPa	0.2 (*3)	
Proof press	sure MPa	1.05	
Ambient te	mperature °C	-5 to 55 (no freezing)	
Fluid temp	erature °C	5 to 55	
Manual ov	erride	Non-locking/locking common	
Lubrication	( <b>*</b> 1)	Not required	
Degree of Protection (*2)		Dust-proof (IP40 equivalent)	
Vibration re	esistance m/s²	50 or less	
Shock resi	stance m/s²	300 or less	
Atmospher	е	Cannot be used in corrosive gas environments	
<b>*</b> 1. Hea turh	ine oil Class 1 I	SO VG32 for Jubrication. Excessive or intermittent	

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

- ★2: Avoid water drops or oil, etc., during use.
- \*3: The working pressure range is 0 to 0.7 MPa when the external pilot (option code: K) is selected. Also, set the external pilot pressure between 0.2 to 0.7 MPa.

### **Electrical Specifications**

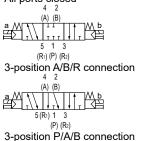
	Item	Description
		T8□
Rated vol	tage V	24 DC
Voltage flu	uctuation range ( <b>*</b> 4)	+10%, -5%
Holding	Standard	0.017
current A	With low heat generation and power saving circuit	0.005
Power	Standard	0.4
consumption W	With low heat generation and power saving circuit	0.1
Heat Resistant Class		В
Surge sup	pressor (*5)	Zener diode
Indicator		LED

- **★**4: T8□ (serial transmission type) has a voltage drop due to internal circuitry, so pay attention to the voltage fluctuation range.
- \*5: When low heat/power saving circuit or surge-less is selected, it becomes a diode.

### Individual specifications

### Circuit diagram symbol

Oncait diagram
● 5-port valve
2-position single
a (A) (B)
5 1 3
(R <sub>1</sub> ) (P) (R <sub>2</sub> )
2-position double
a (A) (B) b
5 1 3
(R <sub>1</sub> ) (P) (R <sub>2</sub> )
3-position
All ports closed
a (A) (B)



ı		Item	M4GB4 Direct mount				
		item					
	Pilot operated  Max. station No.		Standard (Ir	Standard (Internal pilot) External p			
			15 stations	12 stations			
	Port size Port A/B		Push-in fitting ø8, ø10, ø12	D-4/0, C4/0, NDT4/0	Push-in fitting ø8, ø10, ø12		
			Rc1/4, Rc3/8		Rc1/4, Rc3/8, Rc1/2		
			G1/4, G3/8	Rc1/2, G1/2, NPT1/2	G1/4, G3/8, G1/2		
			NPT1/4, NPT3/8		NPT1/4, NPT3/8, NPT1/2		
	Port P/R1/R2		Rc3/8, G3/8, NPT3/8 ( <b>*</b> 1)	Rc1/2, G1/2, NPT1/2 (*2)			
	Manifold base Weight calculation formula (n: station No.) q		292n+1864	391n+2432	392n+2329		

For 5 or more manifold station No., use ports on both sides for air supply and exhaust. The manifold base weight is the value for screw specifications. Dimensions of port sizes (port P/R1/R2) of Rc3/8 and Rc1/2 are different.

- \*1: Refer to the top figure on the page 1062 for Dimensions diagram of port size Rc3/8.
- \*2: Refer to the figure below on the page 1062 for Dimensions diagram of port size Rc1/2.
- \*3: Refer to the page 1063 for the Dimensions diagram of the external pilot (option code: K).

### Performance/characteristics by model

	14		M4GB4					
Item			at ON	at OFF				
Response	2-position	Single	40	60				
time		Double	50	50				
ms	3-position	A/B/R connection	30	80				

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



(R<sub>1</sub>) (P) (R<sub>2</sub>)

# Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

### Flow Characteristics

Model	Port size	Cole	unaid maaitian		$P \rightarrow A/B$		A/B→R1/R2			
Model No.	P, R1, R2	Solenoid position		C[dm³/(s·bar)]	b	Q[L/min (ANR)]	C[dm³/(s·bar)]	b	Q[L/min (ANR)]	
	( <b>*</b> 1) Rc3/8	2-position		6.4	0.42	1767	6.9	0.12	1583	
	(* 1) KC3/8 G3/8	3-position	All ports closed	6.0	0.37	1598	6.8	0.12	1560	
	NPT3/8		A/B/R connection	6.1	0.38	1636	7.1	0.15	1655	
M4GB4			P/A/B connection	6.0	0.37	1598	6.8	0.13	1568	
IVI4GD4	( <b>*</b> 2) Rc1/2	2-position		8.3	0.23	2023	9.0	0.21	2168	
	(*2) KC1/2 G1/2	positic	All ports closed	7.4	0.15	1725	8.8	0.19	2096	
	NPT1/2		A/B/R connection	7.5	0.15	1748	9.5	0.21	2288	
			P/A/B connection	7.7	0.21	1855	8.7	0.18	2061	

Dimensions of port sizes (port P/R1/R2) of Rc3/8 and Rc1/2 are different.

\*1: Refer to the top figure on the page 1062 for Dimensions diagram of port size Rc3/8.
\*2: Refer to the figure below on the page 1062 for Dimensions diagram of port size Rc1/2.

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

### Serial transmission device unit specifications

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

Item	T8G2	T8GP2	T8P2	T8PP2	T8EC2	T8ECP2	T8EN2	T8ENP2	T8D2	T8DP2
Communication protocol	CC-Link	ver. 1.10	PROFIL	BUS-DP	Ethe	rCAT	Ether	erNet/IP DeviceNet		
Unit side Valve side		24 VDC ±10% (11 to 25 VDC for T8D★ only)								
Valve side		24 VDC +10%, -5%								
Unit side (when all output points are ON)	n all output ) 60 mA or less			or less	110 mA	or less	90 mA or less		70 mA or less	
Unit side (when all output points are ON)  Valve side (when all output points are ON)		20 mA or	less Load o	s Load current is not included 15 mA or less Load current is not in					t included	
No. of output points					32 p	oints				
Occupied number					1 sta	ation				
Operation display		LED (power supply and communication status)								
Output	NPN	PNP	NPN PNP		NPN	PNP	NPN	PNP	NPN	PNP

	Item	T8EB2	T8EBP2	T8EF2	T8EFP2	T8EP2	T8EPP2	T8KC2	T8KCP2	T8TG2	T8TGP2	
Con	munication protocol	CC-Link	IEF Basic	CC-Link	IE Field	PROF	INET	IO-Link CC-Link		CC-Link IE TSN		
Supply	Unit side					24 VD0	C ±10%					
Power Supply Voltage	Valve side		24 VDC +10%, -5%									
mption t	Unit side (when all output points are ON)	130 mA	or less	140 mA	or less	130 mA or less 5		50 mA or less		50 mA or less 140 mA or less		
Consur	Unit side (when all output points are ON)  Valve side (when all output points are ON)				15 mA or	less Load o	current is no	t included				
	of output points					32 p	oints					
Осс	upied number	1 station										
Operation display LED (power supply and communication status)												
Outp	out							PNP				

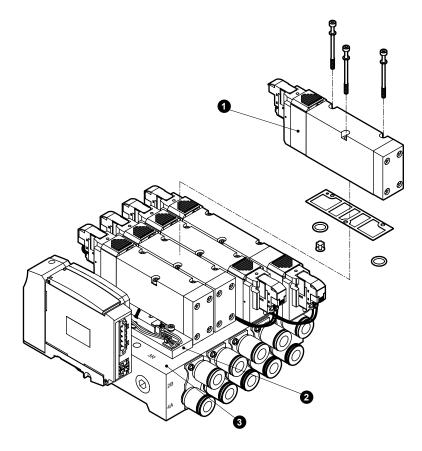
M4GA/B

MN4GA/B

# M4GB4-T8 \* Series

Reduced wiring manifolds: Base piping; serial transmission

### Manifold configuration explanation



### Main configuration parts list

Part No.	Configuration parts name	Model No.	Description		Rem	arks
1	Discrete valve for integrated base	4GB4_9R-00-A2N Option - Voltage Solenoid position	Discrete valve Gasket Mounting screw 3 O-ring 2 Check valve 2 (1)	4GB4	Size M3	Tightening torque (N·m)
2	Masking plate	4GB4-MPC	Masking plate for reduced wiring Gasket Mounting screw 3 O-ring 2 Check valve 2			
3	Manifold base assembly	M4GB4- Port size T8 Option Station No.	Manifold base Wiring block			

() applies when 4GB419R is selected.

For maintenance parts, refer to CKD components product website (https://www.ckd. co.jp/kiki/jp/en/) → "Model No."→ Maintenance parts for details.



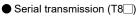
MN4GA/B

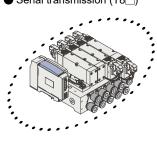
# M4GB4-T8\* Series

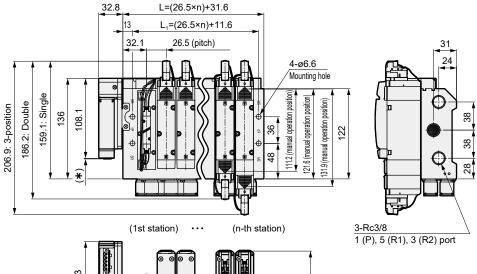
Reduced wiring manifolds: Base piping; serial transmission

### **Dimensions**







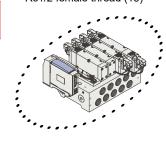


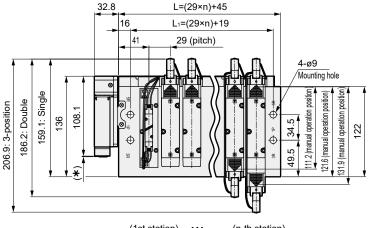
Serial transmission	(*) Dimensions
T8G□	1.0
T8P□	4.9
T8E□	1.5
T8D□	1.0
T8K□	1.0
Т8Т□	1.5

. =	1 (P), 5 (R1), 3
110.3	
	26.5 (pitch)  Push-in fitting Ø8, Ø10, Ø12 (selection) 2 (B) port  Push-in fitting Ø8, Ø10, Ø12 (selection) 4 (A) port

Station No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15
L	84.6	111.1	137.6	164.1	190.6	217.1	243.6	270.1	296.6	323.1	349.6	376.1	402.6	429.1
L <sub>1</sub>	64.6	91.1	117.6	144.1	170.6	197.1	223.6	250.1	276.6	303.1	329.6	356.1	382.6	409.1

● Serial transmission (T8□) Rc1/2 female thread (15)





	29 21	29.4 36.6 35.3
3-Rc1/2 1 (P), 5 (R1), 3 (I	R2) port	<b>.</b>

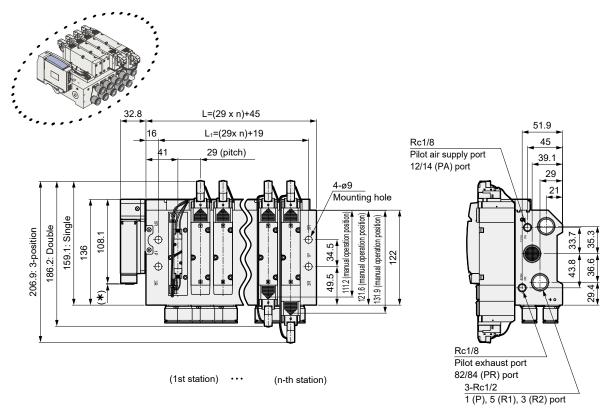
39.1

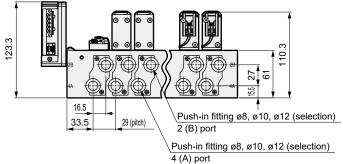
Serial transmission	(*) Dimensions
T8G□	1.0
T8P□	4.9
T8E□	1.5
T8D□	1.0
T8K□	1.0
Т8Т□	1.5

(1st station) · · ·	(n-th station)
123.3	
	10.3 Long Land
16.5	15.5
33.5 29 (pitch)	\_\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
	2 (B) port Rc1/2
	4 (A) port

Station No.	2	3	4	5	6	7	8	9	10	11	12
L	103	132	161	190	219	248	277	306	335	364	393
L <sub>1</sub>	77	106	135	164	193	222	251	280	309	338	367

● Serial transmission (T8□) External pilot (K)





Serial transmission	(*) Dimensions
T8G□	1.0
T8P	4.9
T8E_	1.5
T8D	1.0
T8K□	1.0
T8T	1.5

Station No.	2	3	4	5	6	7	8	9	10	11	12
L	103	132	161	190	219	248	277	306	335	364	393
L <sub>1</sub>	77	106	135	164	193	222	251	280	309	338	367

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4



M4GA/B

MN4GA/B

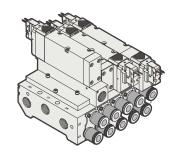
4GD/E

# M4GA4 / M4GB4 Series

### Related products

### Related products

### Air supply spacer

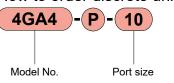


### **Specifications**

Item		4GA4	4GB4
Flow Characteristics	$P \rightarrow A/B$	6.4	5.6 (*2)
C[dm3/(s·bar)] (*1)	A/B→R	8.0	6.6 (*2)
Weight	g	208	198

- f 1: This is the value when a single solenoid is installed.
- **★**2: This is the value when installing to a manifold base port size Rc3/8.
- **★**3: Effective cross-sectional area S and sonic conductance C are converted as S ≈  $5.0 \times C$ .

### How to order discrete units



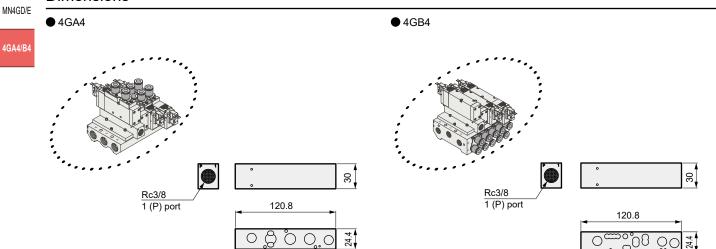
		Mode	l No.
Port size	е	4GA4	4GB4
Code	Description		
10	Rc3/8	•	•
10G	G3/8	•	•
10N	NPT3/8	•	•

Attachments: 3 mounting screws, 2 O-rings, 1 body gasket

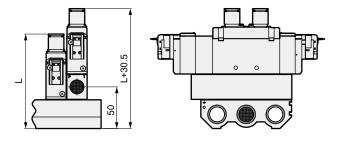
### A Precautions for model No. selection

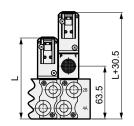
- **★1**: Specify the air supply spacer mounting position and quantity in manifold specifications sheets of each catalog.
- **★**2: Combination with the masking plate is not supported.

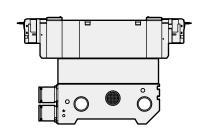
### **Dimensions**



### Dimensions when mounted







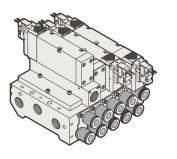
# Pilot operated 3, 5-port valve

# 4GA/B

## M4GA/B MN4GA/B

### Related products

### Exhaust spacer

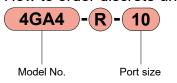


### **Specifications**

Item		4GA4	4GB4
Flow Characteristics P → A/E	3	6.3	5.4 (*2)
$C[dm3/(s\cdot bar)]$ (*1) $A/B \rightarrow R$		6.9	5.7 (*2)
Weight	g	206	197

- **★**1: This is the value when a single solenoid is installed.
- **★**2: This is the value when installing to a manifold base port size Rc3/8.
- **★**3: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.

### How to order discrete units



		Mode	HINO.
Port size	e	4GA4	4GB4
Code	Description		
10	Rc3/8	•	•
10G	G3/8	•	•
10N	NPT3/8	•	•

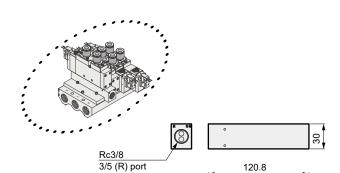
Attachments: 3 mounting screws, 2 O-rings, 1 body gasket

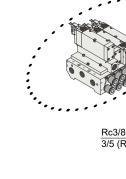
### A Precautions for model No. selection

- \*1: Specify the air supply spacer mounting position and quantity in manifold specifications sheets of each catalog.
- \*2: Combination with the masking plate is not supported.
- \*3: When mounting an exhaust spacer on the type A or type B manifold (port P Rc3/8 specifications), connect a push-in fitting.

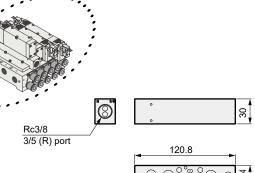
### **Dimensions**

4GA4

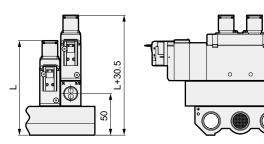


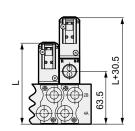


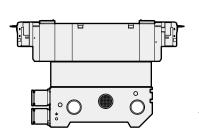
4GB4



### Dimensions when mounted







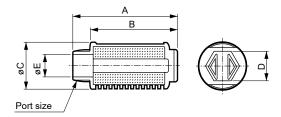
# M4GA4 / M4GB4 Series

### Related products

### Related products

### Silencer

● SLW-□A, □L



Code Model No.	Noise reduction effect dB (A)	Effective cross-sectional area mm²	Port size	A	В	С	D	E
SLW-10A	30 or more	30	R 3/8	58.5	48.5	25.5	17	12
SLW-10L	30 or more	60	R 3/8	68.2	58.4	28	19	12
SLW-15A	30 or more	75	R 1/2	71.4	58.4	28	19	15

4GA/B

M4GA/B

MN4GA/B

Plug type

4GD/E M4GD/E

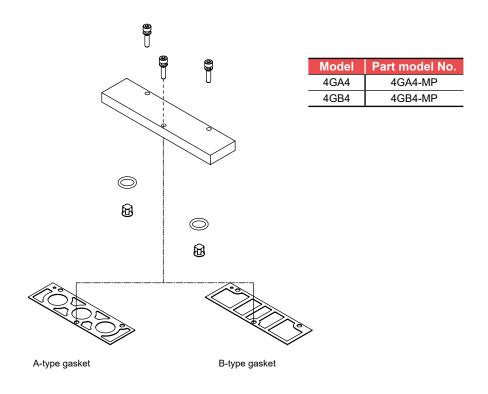
MN4GD/E

4GA4/B4

Part name	Model No.	Compatible bore size	Appearance
	GWP8-B	ø8	
Blank Plug	GWP10-B	ø10	
	GWP12-B	ø12	_
	4G4-8P	Rc1/4	
	4G4-10P	Rc3/8	
	4G4-15P	Rc1/2	
Threaded	4G4-8NP	NPT1/4	
	4G4-10NP	NPT3/8	
plug	4G4-15NP	NPT1/2	
	4G4-8GP	G1/4	
	4G4-10GP	G3/8	Hexagon socket
	4G4-15GP	G1/2	plug

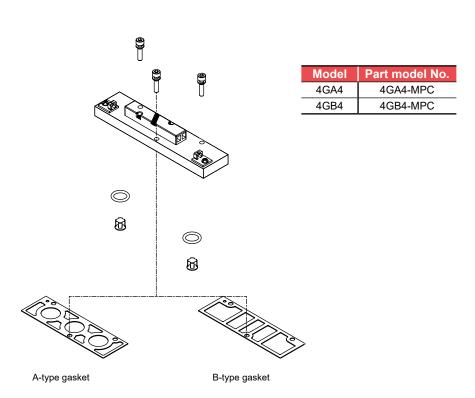
### Related products

### Masking plate kit (individual wiring)



\*Kit contents: Masking plate, gasket (select from A-type and B-type), 3 mounting screws, 2 O-rings, 2 check valves

### Masking plate kit (reduced wiring)



\*Kit contents: Masking plate, gasket (select from A-type and B-type), 3 mounting screws, 2 O-rings, 2 check valves



M4GA/B

MN4GA/B

4GD/E

M4GD/E

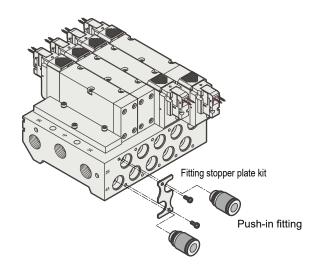
MN4GD/E

4GA4/B4

## Parts list

### (1) Cartridge push-in fitting and related discrete parts (1)

4GA4 / 4GB4 Series



### (2) Adaptor related kit

Fitting adapter kit

Female thread adapter kit

### (1)-1 Push-in fitting model No.

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

### (1)-2 Fitting stopper plate kit

Model	Kit model No.				
4GA4	4GA4 - JNT - STP - PLATE - KIT				
4GB4	4GB4 - JNT - STP - PLATE - KIT - 1 ( <b>*</b> 1)				
	4GB4 - JNT - STP - PLATE - KIT - 2 (★1)				

\*1: When the manifold port P/R is Rc3/8, NPT3/8, or G3/8, select "...-1". When the manifold port P/R is Rc1/2, NPT1/2, or G1/2, select "...-2".

Fitting adapter kit

Model	Part name	Kit model No.	Set parts		
4GA4	ø8 fitting Adaptor kit	4GA4 - JNT - ADAPTOR - KIT - C8 - option	Fitting adapter 2 Push-in fittings		
	ø10 fitting Adaptor kit	4GA4 - JNT - ADAPTOR - KIT - C10 - option	Fitting stopper plate Gasket 2 Mounting screws		
	ø12 fitting Adaptor kit	4GA4 - JNT - ADAPTOR - KIT - C12 - option	3 Adaptor mounting screws		

Specify the option "F" when using the port A/B filter integrated type.

### Female thread adapter kit

	•	
Model	Kit model No.	Set parts
4GA4	4GA4 - FML - ADAPTOR - KIT - Bore size - Option	Female thread adaptor, gasket, 3 adaptor mounting screws

Specify the option "F" when using the port A/B filter integrated type.

● 4GB4 sub-plate



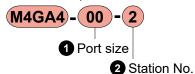
1 Option

Option		
Code	Description	
Blank		
K	External pilot	
F	Port P/A/B filter integrated	

Note: Select from the port size 2 on the page 998.

(4) Manifold sub-plate kit individual wiring

● M4GA4 sub-plate



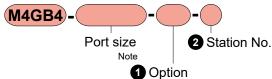
1 Port size

	<b>O</b> 1 111 11=1	
Code Descrip		Description
	00	Rc thread
ı	00 N	NPT thread
I	00G	G thread

2 Station No.

Code	Description
2	2 stations
to	to
15	15 stations

● M4GB4 sub-plate: Direct mount



Note: Select from the port size 3 on the page 1016.

Note that "CX" cannot be selected.

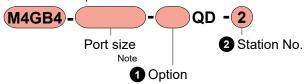
1 Option

Code	Description	
Blank		
K	External pilot	
F	Port A/B filter built in	

2 Station No.

Code	Description	
2	2 stations	
to	to	
15	Refer to the specifications page 1018 for the	
13	max. station number.	

● M4GB4 sub-plate: DIN rail mount



Note: Select from the port size 3 on the page 1016. Note that "CX" cannot be selected.

1 Option

	otion
Code	Description
Blank	
F	Port A/B filter built in

2 Station No.

O GLULIOII IIIGI		
Code	Description	
2	2 stations	
to	to	
5	5 stations	

Ending

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

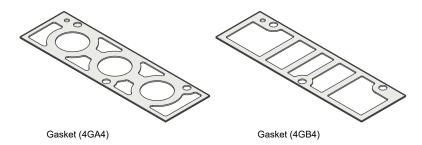
MN4GD/E

4GA4/B4



### Parts list

### (5)Manifold related parts

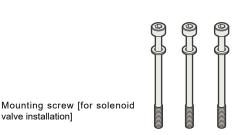






PR check valve kit





### Gasket

Model	Part model No.
4GA4	4GA4-GASKET
4GB4	4GB4-GASKET

PR check valve kit (2 per set)

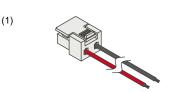
, i	,
	Kit model No.
	4G4-PR

Mounting screw [for solenoid valve installation] (10 per set)

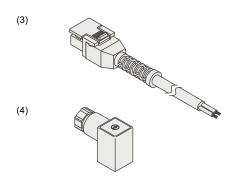
Part model No.	
4G4-SET-SCREW	

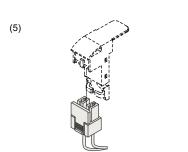
### (6)Lead wire related parts

valve installation]









(1) E-connector socket assembly

(1) E definition desires desertingly		
Part model No.		
4GR-SOCKET-ASSY-[*1]-[*2], lead wire 300 mm		
4GR-SOCKET-ASSY-[*1]-[*2], lead wire 500 mm		
4GR-SOCKET-ASSY-[*1]-[*2], lead wire 1000 mm		
4GR-SOCKET-ASSY-[*1]-[*2], lead wire 2000 mm		
4GR-SOCKET-ASSY-[*1]-[*2], lead wire 3000 mm		

- \*1 electrical connections (E0, E00, E01, E02, E03, E2, E20, E21, E22, E23)
  \*2 Voltage ("3", "4" when specified with 24 VDC/12 VDC, lead wire color is red/black. "1", "5" when specified with 100 VAC/110 VAC, lead wire color is blue.)
- (2) Socket set

### Part model No. 4GR-SOCKET-SET

(3) EJ-connector socket assembly

### Part model No. 4GR-SOCKET-ASSY-[\*1]

- \*1 Electrical connections (E01J, E02J, E03J, E21J, E22J, E23J)
- (4) DIN terminal box

### Basic price model No. 4G-TERMINAL-BOX-[\*2]

\*2 Voltage (1 = 100 VAC, 3 = 24 VDC, 4 = 12 VDC, 5 = 110 VAC)

(5) A-connector socket assembly

Part model No.	
4G4 - SOCKET - ASSY - A** - (row No.)	



# 4GA4 / 4GB4 Series

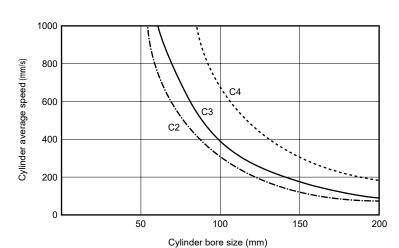
Technical data Pneumatic system selection guide

### Technical data Pneumatic system selection guide

- ①The cylinder average speed is obtained from the combination of 4G4 Series and piping system. It is expressed as the cylinder's piston speed calculated by dividing the stroke by the time that the piston rod takes from start to end of movement with the cylinder rod installed facing upward. When the load factor is 50%, the average speed should be approximately the cylinder's piston speed multiplied by 0.5.
- 2The cylinder average speed described in "Pneumatic System Components Selection Guide" is that when one cylinder is operated independently.
- ③The effective cross-sectional area of the solenoid valve used for the calculation below is the 2-position value.
- (4) This selection guide is for reference. With the CKD sizing program, confirm actual conditions that will be used.
- ⑤Effective cross-sectional area S and sonic conductance C are converted as S  $\approx$  5.0 x C.

### Standard system table

Valve	System No.	Speed controller	Silencer	Piping	Combination Composite effective sectional area (mm²) Pipe length 1 m
4GA410	C2	SC1-10	SLW-8A	ø10 x ø7.2	12.3
4CB440	C3	SC1-10	SLW-10A	Rc3/8 steel pipe	15.9
4GB410	C4	SC1-15	SLW-15A	Rc1/2 steel pipe	24.8



M4GA/B

4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

### How to use the guide

Device selection guide is used to select the optimum model at a glance.

Fluid control components selection

Whether the cylinder bore size and cylinder being used are driven with relative high or low speed is determined as a condition. Using the table shown below as a reference, select the theoretical reference speed of the cylinder.

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

Using the table in the components selection guide-1 (next page), select the equivalent bore size of cylinder tube and the proper standard system No. corresponding to theoretical reference speed.

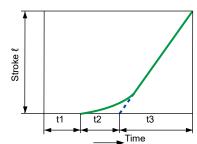
### **Explanation of technical terms**

● Theoretical reference speed: indicates degree of cylinder speed, expressed as the following formula. (This value matches speed with no load. When load is applied, speed drops considerably.)

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

- vo: Theoretical reference speed (mm/s)
- A: Cylinder sectional area (cm²)
- S: Composite effective cross-sectional area of circuit (exhaust air side) (mm²)
- D: Cylinder bore size (cm)

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



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

- t1: Time until movement starts
- t2: Time of primary delay
- t3: Operating time with constant velocity
- ℓ: Stroke
- Note: t1 and t2 differ depending on load.
   Can be effectively ignored with no load.
- Required flow rate: Instantaneous flow rate for operating a cylinder with velocity vo, expressed with the following formula. Values in the table are when P = 0.5 MPa. The required flow rate is a value necessary to select clean air system components.

 $Q = \frac{Avo (P+0.101)\times60}{0.101 \times 10^4} = \left\{ \frac{Avo (P+1.03)\times60}{1.03 \times 10^4} \right\}$  (2)

- Q: Required flow rate (L/min)(ANR)
  - P: Supply pressure (MPa)
- Required effective sectional area: Composite effective cross-sectional area for the exhaust circuit required for moving the cylinder at speed vo. (Composite effective cross-sectional area of valve, speed controller, silencer or piping) Effective cross-sectional area S and sonic conductance C are converted as S≈5.0×C.
- Proper standard system: indicates the most appropriate combination of valve, speed controller, silencer and bore size for operating a cylinder with velocity vo. The combination in the table is for a pipe length of 1 m.

### Calculation method of flow rate

Depending on the actual unit, they are shown as follows.

$$\frac{P_2+0.1}{P_1+0.1}$$
 Choked flow when ≤ b  
Q=600×C (P<sub>1</sub>+0.1)  $\sqrt{\frac{293}{}}$ 

Q : Air flow rate [dm³/min (ANR)], dm³ for SI units (cubic decimeter) can also be expressed with L (liter). 1 dm³= 1 L

C: Sonic conductance [dm³/(s·bar)]

b : Critical pressure ratio [-]

P<sub>1</sub>: Upstream pressure [MPa]

P<sub>2</sub>: Downstream pressure [MPa]

t : Temperature (°C)

 $P_2+0.1$  Subsonic flow when >b  $P_1+0.1$ 

Q=600×C (P<sub>1</sub>+0.1) 
$$\sqrt{1-\left[\frac{P_2+0.1}{P_1+0.1}-b}{1-b}\right]^2}\sqrt{\frac{293}{273+t}}$$
 (2)

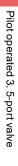
When calculating with effective cross-sectional area S, substitute value C obtained with C = S/5 in the above formula. For subsonic flow, substitute b = 0.5 in formula (2).

The flow rate values of each model are calculated under the following conditions.

- Primary pressure 0.6 MPa, secondary pressure 0.5 MPa
- · Standard temperature 20°C [293K] (subsonic velocity)

CKD

Ending



4GA/B

M4GA/B

MN4GA/B

4GD/E

# 4GA4 / 4GB4 Series

Technical data Pneumatic system selection guide

### [Device selection guide 1]

Cylinder bore size	Theoretical reference speed	Required flow rate	Required effective sectional area	System No.
(mm)	(mm/s)	(L/min)(ANR)	(mm²)	<b>Exhaust with silencer</b>
	250	175	2.6	Α
ø50	500	350	5.1	В
Ø30	750	526	7.7	C1
	1000	701	10.2	C2
	250	278	4.1	В
ø63	500	556	8.1	C2
003	750	834	12.2	C2
	1000	1112	16.2	C3
	250	448	6.5	C1
ø80	500	897	13.1	C2
Ø0U	750	1345	19.6	C3
	1000	1794	26.2	C4
	250	701	10.2	C2
ø100	500	1401	20.4	C3
Ø 100	750	2102	30.7	C4
	1000	2803	40.9	D1
	250	1095	16.0	C3
-405	500	1401	31.9	C4
ø125	750	2102	47.9	D1
	1000	2803	63.9	D2
	250	1373	20.0	C3
-110	500	2747	40.1	D1
ø140	750	4120	60.1	D1
	1000	5493	80.1	D3
	250	1794	26.2	C4
-100	500	3587	52.3	D1
ø160	750	5381	78.5	D3
	1000	7175	104.7	D3

**★**Refer to page 1072 for the system No.

### [Effective cross-sectional area]

# Acoustic velocity range (at 20°C) 10000 9000 8000 7000 6000 5000 4000 3000 2000 Flow rate L/min (ANR) 1000 900 800 700 600 500 Pressure MPa 40

### Effective cross-sectional areamm² $\left(\begin{array}{c} \text{When the value of effective cross-sectional area is } \times 10^{\text{-1}} \\ \text{or } \times 10^{\text{n}}, \text{ multiply the value of flow rate by the same value} \end{array}\right)$

### [Clean Air System Components]

Clean Air System Components

		,		- 1				
	Part name	Model No.	Port size	Max. flow rate (L/min atmospheric pressure conversion)	Part name	Model No.	Port size	Max. flow r (L/min atmos) pressure convi
ı		C1000-6-W	Rc1/8	450		R1000-6-W	Rc1/8	77
		C1000-8-W	Rc1/4	630	ll	R1000-8-W	Rc1/4	1350
		C3000-8-W	Rc1/4	1280	ll	R3000-8-W	Rc1/4	2000
	L	C3000-10-W	Rc3/8	1750	<u>R</u>	R3000-10-W	Rc3/8	2600
	Κï	C4000-8-W	Rc1/4	1430	<u>`</u>	R4000-8-W	Rc1/4	2500
	F.R.L.	C4000-10-W	Rc3/8	2400	Regulator	R4000-10-W	Rc3/8	4400
	Α.	C4000-15-W	Rc1/2	3000	ll g	R4000-15-W	Rc1/2	5000
	ш.	C6500-20-W	Rc3/4	4500	&	R6000-20-W	Rc3/4	7000
		C6500-25-W	Rc1	5000	ll	R6000-25-W	Rc1	7700
		C8000-20-W	Rc3/4	7000	ll	R8000-20-W	Rc3/4	1400
		C8000-25-W	Rc1	7500	ll	R8000-25-W	Rc1	11000
		W1000-6-W	Rc1/8	800		L1000-6-W	Rc1/8	55
		W1000-8-W	Rc1/4	1150	ll	L1000-8-W	Rc1/4	70
		W3000-8-W	Rc1/4	2150	<del>[</del> ]	L3000-8-W	Rc1/4	1100
	Unit	W3000-10-W	Rc3/8	2430	ll 5	L3000-10-W	Rc3/8	2250
	: -	W4000-8-W	Rc1/4	2500	gt	L4000-8-W	Rc1/4	1000
	F.R.	W4000-10-W	Rc3/8	4350	ubricator	L4000-10-W	Rc3/8	1700
	_	W4000-15-W	Rc1/2	4750	ΞII	L4000-15-W	Rc1/2	2700
		W8000-20-W	Rc3/4	10000	ll	L8000-20-W	Rc3/4	6300
		W8000-25-W	Rc1	10000		L8000-25-W	Rc1	1000
		F1000-6-W	Rc1/8	460	*) M	ax. flow rate: Fl	ow rates f	or F.R.L.,
		F1000-8-W	Rc1/4	610	and F	R when the prim	ary press	ure is 0.7
		F3000-8-W	Rc1/4	1230	MPa,	set pressure is	0.5 MPa,	and pres
	(F)	F3000-10-W	Rc3/8	1500	drop	is 0.1 MPa. For	air filter, f	low rate a
	ß	F4000-8-W	Rc1/4	1320	0.7 N	1Pa primary pre	ssure, 0.0	2 MPa
	Filters	F4000-10-W	Rc3/8	2140	press	sure drop. For lu	ıbricator, f	low rate a
	Ŧ	F4000-15-W	Rc1/2	3000	0.5 N	1Pa primary pre	ssure, 0.0	3 MPa
	Air	F6000-20-W	Rc3/4	5600	press	sure drop.		
		F6000-25-W	Rc1	6200				
		F8000-20-W	Rc3/4	6400				
		F8000-25-W	Rc1	6800				

M4GA/B

MN4GA/B

4GD/E

MN4GD/E

### How to fill out metal base M4G4 Series manifold specifications sheet

Manifold model No. (example)

M4G<sup>A</sup><sub>B</sub> 4 8 0R- CX - T30 Solenoid position Reduced Terminal / Connector Option Station No. pin array

Precautions for fitting mix CX

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

(Note) The M4GA4 type is not supported.

### Selectable cartridge fittings

4G4: C8, C10, C12

For female thread specifications, indicate the required number of plugs in the "Thread plug" area at the end. Female threads and cartridge fitting cannot be used together in one manifold set.

						CC	nne																												
0.1			1				NI.	Fit	ting									١	/alve	e ins	stall	atior	n po:	sitio	n										
Sole	Golenoid valve model N  G B 4 1 9R- Ci  G B 4 2 9R- Ci  G B 4 3 9R- Ci				NO.	Α	В	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty	<b>/</b> .		
4G	В	4	ı[	1	9F	₹-	C8			0	0																							2	
4G	В	4		2	9F	₹-	C8					0	0																					2	
4G	В	4		3	9F	₹-	C8							0	0																			2	
4G	В	4		5	9F	₹-	СХ	C8	C10							0	0																	2	
4G		4	1		9F	₹-																													
Mas 4G	kin <b>B</b>	g p	lat -N	e <b>1P</b>	(S	)		7	Fill in "	CX" v	/hen							0																1	
Mas <b>4G</b>	kin	g p	lat	е <b>/IP</b>	(D	)			changi fitting o		X* when g the mbination																								
Air s 4G	up	рļу _ <b>. 4</b>	sp -F	ac	er		]																												
Exha 4G																																			
															Blar	nking	g Plu	ıg										s	ilen						
	ncluded							Part	G	WP	8-E	3		GW	P10	-В		GW	/P1	2-B			SL	<b>W</b> -1	0 [				S	LW-	-15		$\perp$		
								luc	Д				_	_			d plu	ug	_			_	Ca			n D-:		- 4	GR-	CAB	LE-D	) [	-:	,	
										40	4-8		P		4G4-	10[_	P		4G4	-15	]P			CC	nne	ector									_

From the manifold specifications for each model, select and fill out the appropriate form.

- Individual wiring...page 1078
- Reduced wiring
  - Common terminal block (T1★), D-sub-connector (T30) : page 1079
  - Flat cable connector (\*T5) : page 1080
  - Serial transmission (T8★) : page 1081

### How to fill out wiring specifications sheet

Not required for standard wiring and double wiring.

### Wiring specifications sheet (example)

Complete these specifications when specifying the wiring order and additional cables.

																				,\—
		tor pin No.	NR/T6*   1   2   3   4   5   6   7   8   9   10   11   12   13   14   15   16   17   18   9   10   11   12   13   14   15   16   17   18   19   10   11   12   13   14   15   16   17   18   18   18   18   18   18   18																	
T30	/T30R	T50/T50R/T6*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	77/
1		1	а																	Ш
	14	2		а				l	l	l	l	l	l							<i>DI</i>
2		3			а															<i>y</i> /
	15	4			(b)		1	Pre	ca	utio	ns	(1)							1/	/
3		5				а			١	ı	1	ļ	ſ						7/	
	16	6				<b>6</b>													7/	
4		7					а												11	
	17	8					b												$\mathbb{N}$	
5		9 -Power Supply						а											$\prod$	\
	18	10+(COM) Power supply						b				Ι.		I	I	I	I	Ι.	$\Gamma$	//
6		11							а				Spa	ire (	cab	le v	virir	ıq.		J//
	19	12							b			П	Pr	eca	auti	ons	(2)	ĭΪ		
7		13								а				١	1	ı	ı	1.		177
	20	14								b		<b>.</b>	1							7/
8		15									а								17	/
	21	16									b								7/	
9		17																	7/	
	22	18																	$\mathbb{I}$	
10		19 -Power Supply																	$\mathbb{N}$	
	23	20+(COM) Power supply																	$\prod \setminus$	\
11																			$\Box$	//
	24																			<b>T</b> \\
12																				$\prod$
	25																			7)
13	(COM)																			7/

\*:Note that when the wiring method is T50 type, the COM polarity will be + (positive).

\*:When T50 wiring is used, the connector pin NO.9, 10, 19, 20 cannot be specified, because it is for the external input power supply.

### Precautions regarding spare wiring

①With the T30/T50/T51 types, as it is possible for the unit to be equipped with spare wiring in advance to permit modification from a single Sol to a double Sol, consult CKD. Specify the position for expansion (modification area from single to double Sol). Mark a circle in the wiring specification column as an indication of spare wiring, while also filling in the a sol side/b sol side categories.

2)Spare wiring will be installed on the masking plate. (Reference page 1104.)

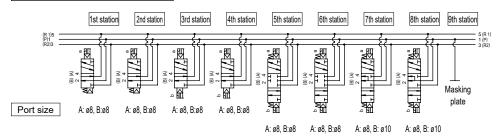
The number of wires for spare wiring can be specified by selecting the masking plate within the specifications.

(\*When not specified, the spare wiring will be 2 wires (MPD).)

4G\*4-MP (S)...1 pc.

4G\*4-MP (D)...2 pcs.

Reference circuit diagram | The simplified circuit diagram of the manifold model No. (example) on the previous page is shown below.



**★**The manifold station numbers are set in order from the left with the piping port facing forward.

Pilot operated 3, 5-port valve

4GA/B

M4GA/B

MN4GA/B

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

4GA4/D4



5-port valve
က်
Pilot operated

M4GA/B

MN4GA/B

4GD/E	
M4GD/E	

4GA4/B4	

Mounting Rail Included Part

4G4-8

Р

MN4GD/E

Ind	ivi	dua	al '	wi	rir	ng
/4G	A 4	Re	SII	re	to	fill

M4G $^{\circ}_{ m B}$ 4 Be sure to	o fill-	·ın t	he	M	anı	itol	d S	Spe	ecit	ica	itio	ns	sh	ee	t						Da	ate is	ssue	d	/	1	
● Contact		● Q	uant	tity/			Set	(s)			• [	Deliv	ery (	date	!	1				_	C	omp	any				
Slip No.									(	Orde	er No	ο.										onta					
Manifold model No.																					0	rder	No.				
M4G A Solenoid position		Poi			Е	lectri			Option	][ n	Mour	nt type	] •	Sta	tion	No.	- (	oltaç	ge								
	Fittin	g CX										V	alve i	nstalla	ation	positio	on .										
Solenoid valve model No.	Α	В	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G 4 9R-																											
4G 4 9R-																											
4G 4 9R-																											
4G 4 9R-																											
4G 4 9R-																											
Masking plate 4G 4-MP																											
Air supply spacer 4G 4-P-																											
Exhaust spacer 4G 4-R-																											
						1		Bla	nking	Plug		1	1									Silenc	er				
	.,		G	WP	8-B			GW	P10	-В		G۱	NP1	2-B			SL	N-10	)				s	LW-	15		

Threaded plug

4G4-10

Р

4G4-15

Redu	uced v	wirin	ıg																										
M4G A	4-T1/3	Be s	sure t	o fi	II-ir	า th	e N	1an	ifo	ld S	Spe	ecit	fica	atio	ns	sh	iee	t											
● Contact			_	Qua	ntit	,		/Set	(c)			<b>-</b> D	olive	ery d	oto		/					D —	ate is	ssue	d ——	1	1		
Slip No				Qua	aritity	/		/Set	(5)		) Ordei			ery u	ale						]	<u>C</u>	omp	any	•				
Manifold										_	ruci	140	•									_	onta						
_									. ,		, ,-			-,	,		.,			,		<u>C</u>	rder	No	•				
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	Solenoid	d positio	n	Port	size		Reduce conne			al / Conn oin array	ector	Opt	ion		Stat	ion I	No.	V	olta	ge									
			Fitting (	сх									Va	alve in	stalla	tion p	ositic	n											
Solenoi	id valve mode	l No.	А	В	1 :	2 3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qt	ty.
4G 4	9R-																												
4G 4	9R																												
4G 4	9R-																												
4G 4	9R-																												
4G 4	9R-																												
Masking plat																													
Masking plat				+			+																						
1 1	MP (D)																												
Air supply sp	i i																												
4G 4-F	ii						_																						_
4G 4-F																													
11	<u> </u>																												
			Include	-d	GW	/P8-E				nking P10-	<del>-</del>		GV	VP12	-В			SL	W-1	0	7		Silend		SLW	-15	1		
			Part		404	• (	_				l plug		404	45(**			W	/ith D	-sub-	conn	ector	4	IGR-				1-[		
<ul><li>Wiring sr</li></ul>	pecifications	sheet (N	lot reaui		<b>4G4</b> - or sta		P wirin		<b>1G4-</b> 1 uble \		] <b>P</b>		4G4- te th		P	ificat	ions	whe			ing t								oles)
T10/T10R	Connect	or pin No			1		3	4	5	6	7	8	9		Inst	allati	ion p	ositio	on .	5   1							22		
1 2	1 2	1		14	Ë	-	3	-	J	J	Ľ	0	9	10	11	12	. 13	, 14				.,	10	19	20	£ I	LL	20	24
3 4	3 4	2		15	+										F														
5 6	5 6	3		16																									
7 8	7 8	4		17	Е															I									
9	9	5		18																									
11 12	11 12	6		19																									
13 14	13 14	7		20																									
COM	15 16 17	8		21																									
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	20	11		23	+																								
	22 23	12		24																									
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4GA/B	
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1GD/E	

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4GA4/B4	40	Α4	/B4

M4GD/E

MN4GD/E

■ Contact		● Q	uan	tity			/Set	(s)			• D	eliv	ery o	date		/					_	omp			-	1	
Slip No.							-		(	Orde												onta					
Manifold model No.																				J		rder					
M4G & 4 Solenoid positio					Re	duced	l wiring	g Termir	nal / Conr	nector	Ор	tion			tion		. [	olta	ge		<u> </u>	1401	110.	•			
	Fittir	itting CX Valve installation position																									
Solenoid valve model No.	Α	В	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G 4 9R-																											
4G 4 9R-																											
4G 4 9R-																											
4G 4 9R-																											
4G 4 9R-																											
Masking plate 4G 4-MP (S)																											
Masking plate 4G 4-MP (D)																											
Air supply spacer 4G 4-P-																											
Exhaust spacer 4G 4-R-																											

Threaded plug 4G4-8 P 4G4-15 P Wiring specifications sheet (Not required for standard wiring/double wiring. Complete these specifications when specifying the wiring order and additional cables)

GWP12-B

Silencer

SLW-15

SLW-10

Blanking Plug

GWP10-B

	Connecto	or pin No.												Inst	allatio	n pos	ition										
T50/T50R	T51/T51R	T52/T52R	T53/T53R	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1	1																								
2	2	2	2																								
3	3	3	3																								
4	4	4	4																								
5			5																								
6	6	6	6																								
7	7	7	7																								
			8																								
9-Power Supply	9	9 COM																									
10+(COM) Power supply		10 COM																									
11	11		11																								
12	12		12																								
13	13		13																								
14	14		14																								
15	15		15																								
16	16		16																								
17	17		17																								
18	18		18																								
19-Power Supply	19 COM		19																								
20+(COM) Power supply	20 COM		20																								
			21																								
			22																								
			23																								
			24																								
			25 COM																								
			26 COM																								

Ending

Included Part

GWP8-B

<sup>\*:</sup> Note that when the wiring method is T50 type, the COM polarity will be + (positive).

\*: When T50 wiring is used, the connector pin NO.9, 10, 19, 20 cannot be specified, because it is for the external input power supply.

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Date issued

Company

Contact

Manifold model No.																					0	rder	No					
M4G 🖁 4	0R	<b>!</b> -			• [								_]	-		] -	• [											
Solenoid position								n Termi		nector						No.												
	Fittir	ng CX										V	alve i	nstalla	ation	positi	on											
Solenoid valve model No.	А	В	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.	
4G 4 9R-																												
4G 4 9R-																												
4G 4 9R-																												
4G 4 9R-																												
4G 4 9R-																												
Masking plate 4G 4-MP (S)																												
Masking plate 4G 4-MP (D)																												
Air supply spacer 4G 4-P-																												
Exhaust spacer 4G 4-R-																												
		Blanking Plug													Silencer													
		uded art	F-6	<b>SWP</b>	8-B				P10-	_		GV	VP1	2-B		+	SL	.W-1	0 [	_!			;	SLW	-15	!		
	'		40	4-8	F	<b>&gt;</b>	٦,		10 [			4G4	-15	P		-												

Serial transmission

Contact

Slip No.

M4G<sup>A</sup><sub>B</sub>4-T8 Be sure to fill-in the Manifold Specifications sheet

/Set (s)

Delivery date

Order No.

Quantity

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

	Connector pin No.			Installation position															
	T8*			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
T8G2	CC-Link ver. 1.10	NPN	32 points																
T8GP2	CC-LITIK VEI. 1.10	PNP	32 points																
T8P2	PROFIBUS-DP	NPN	32 points																
T8PP2	PROFIBUS-DP	PNP	32 points																
T8EC2	- EtherCAT	NPN	32 points																
T8ECP2	EtnerCAI	PNP	32 points																
T8EN2	Ett. Al-MD	NPN	32 points																
T8ENP2	EtherNet/IP	PNP	32 points																
T8D2	D N	NPN	32 points																
T8DP2	DeviceNet	PNP	32 points																
T8EB2	00 Link IEE David	NPN	32 points																
T8EBP2	CC-Link IEF Basic	PNP	32 points																
T8EF2	00 15-1-15 55-14	NPN	32 points																
T8EFP2	CC-Link IE Field	PNP	32 points																
T8EP2	PROFINET	NPN	32 points																
T8EPP2	PROFINET	PNP	32 points																
T8KC2	- IO-Link	NPN	32 points																
T8KCP2	IO-LINK	PNP	32 points																
T8TG2	OO LINE TON	NPN	32 points																
T8TGP2	CC-Link IE TSN	PNP	32 points																