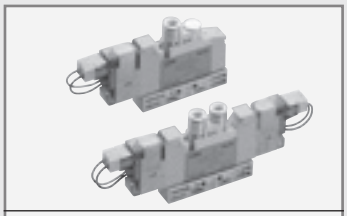


Pneumatic Valves
Catalog No. CB-023SA

Discrete valve
Body piping

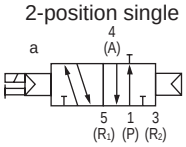
3GA1, 2, 3 /4GA1, 2, 3 Series

● Applicable cylinder bore size: ø20 to ø100

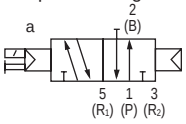
JIS symbol

● 3-port valve

2-position single NC

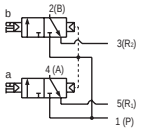


2-position single NO

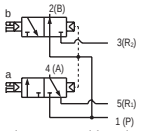


● Two 3-port valves integrated

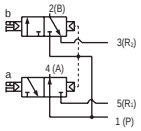
(A side valve: NC, B side valve: NC)



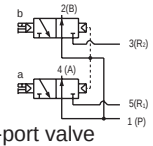
(A side valve:NC, B side valve:NO)



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

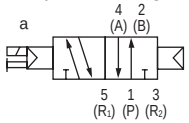


(A side valve: NO, B side valve: NO)

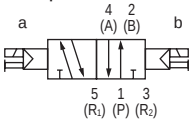


● 5-port valve

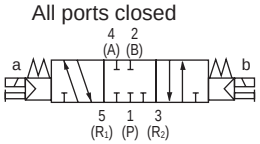
2-position single



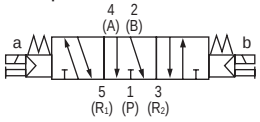
2-position double



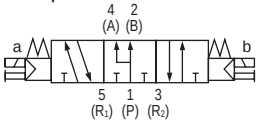
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Common specifications

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

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

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

Electrical specifications

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

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

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

Individual specifications

Port size		3GA1, 4GA1	3GA2, 4GA2	3GA3, 4GA3
Rc thread,	Port A/B	Push-in fitting ø4, ø6 M5	Push-in fitting ø4, ø6, ø8 Rc1/8	Push-in fitting ø8 Rc1/4
M5	Port P/R1/R2	M5	Rc1/8	Rc1/4
NPT thread,	Port A/B	-	NPT1/8	NPT1/4 (*5)
M5	Port P/R1/R2	-	NPT1/8	NPT1/4 (*5)
G thread	Port A/B	-	Push-in fitting ø4, ø6, ø8 G1/8	Push-in fitting ø8 G1/4
	Port P/R1/R2	-	G1/8	G1/4

*5: Available as made to order.

Performance/characteristics by model

Item			3GA1		3GA2		3GA3		4GA1		4GA2		4GA3	
			ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
Response time ms	Two 3-port valves integrated		9	12	12	29	-	-	-	-	-	-	-	-
	2-position	Single	12	12	19	19	25	28	12	12	19	19	25	28
		Double	-	-	-	-	-	-	9	-	18	-	24	-
	3-position	A/B/R connection	-	-	-	-	-	-	8	15	17	30	23	45

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

Weight

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

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

Flow characteristics

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

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

Ozone-proof specifications • Coolant proof specifications

Can be selected with "How to order" Item Ⓔ option "A" on page 150.

CE marking specifications

** - Voltage - **ST**

- Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".

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

Discrete valve; Body piping

How to order

4GA1 1 0 R - C6 - E2 [ ] - 1 - P4

3GA1 1 0 R - C6 - E2 [ ] - 1 - P4

Discrete valve for integrated base

4GA1 1 9 R - C6 - E2 H - 3 - P4

Discrete 3-port valve for base mounting

3GA1 1 9 R - C6 - E2 H - 3 - P4

Ⓐ Model No.

Ⓑ Solenoid position

Ⓒ Port size

Ⓓ Electrical connections
The circuit diagram with surge suppressor/lamp is "Pneumatic Valves No.CB-023SA details.

Ⓔ Option

Ⓕ Voltage

*3
The port size of "●" is a standard product and equivalent to P4 specifications. It is not necessary to add "-P4" to the model No.

Code	Description		Ⓐ Model No. 3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Ⓑ Solenoid position								
1	2-position single					●	●	●
2	2-position double					●	●	●
3	3-position all ports closed					●	●	●
4	3-position ABR connection					●	●	●
5	3-position PAB connection					●	●	●
1	2-position single Normally Closed (*1)		●	●	●			
11	2-position single Normally Open (*1)		●	●	●			
66	Two 3-port valves integrated (*2)	A side valve: Normally Closed	●	●				
		B side valve: Normally Closed						
67	Two 3-port valves integrated (*2)	A side valve: Normally Closed	●	●				
		B side valve: Normally Open						
76	Two 3-port valves integrated (*2)	A side valve: Normally Open	●	●				
		B side valve: Normally Closed						
77	Two 3-port valves integrated (*2)	A side valve: Normally Open	●	●				
		B side valve: Normally Open						

Ⓒ Port size								
Port	4(A)/2(B)Port	*3	Port P/R1/R2 (1) = M5, (2) = Rc1/8, (3) = Rc1/4					
C4	ø4 push-in fitting	○	(1)	(2)		(1)	(2)	
C6	ø6 push-in fitting	○	(1)	(2)		(1)	(2)	
C8	ø8 push-in fitting	○		(2)	(3)		(2)	(3)
M5	M5	●	(1)			(1)		
06	Rc1/8	○		(2)			(2)	
08	Rc1/4	○			(3)			(3)
Port	4(A)/2(B)Port	*3	Port P/R1/R2 (1) = M5, (5) = 1/8NPT, (6) = 1/4NPT					
06 N	NPT1/8	●		(5)			(5)	
08 N	NPT1/4 (*4)	●			(6)			(6)
Port	4(A)/2(B)Port	*3	Port P/R1/R2 (8) = G1/8 (9)=G1/4					
C4G	ø4 push-in fitting	○		(8)			(8)	
C6G	ø6 push-in fitting	○		(8)			(8)	
C8G	ø8 push-in fitting	○		(8)	(9)		(8)	(9)
06G	G1/8	●		(8)			(8)	
08G	G1/4	●			(9)			(9)

Ⓓ Electrical connections

Refer to the electrical connection list on next page.

Ⓔ Option								
Blank	Non-locking/Locking common manual override		●	●	●	●	●	●
M	Non-locking manual override		●	●	●	●	●	●
H	With exhaust check valve (*5)		●	●	●	●	●	●
P	With mounting plate		●	●	●	●	●	●
A	Ozone/coolant proof		●	●	●	●	●	●
S	Surgeless (*6)		●	●	●	●	●	●
E	Low exoergic/energy saving circuit (*6), (*7)		●	●	●	●	●	●
F	Port A/B filter integrated (*8)		●	●	●	●	●	●

Ⓕ Voltage								
1	100 VAC (rectifier integrated)		●	●	●	●	●	●
2	200 VAC (rectifier integrated) (*9)			●	●		●	●
3	24 VDC		●	●	●	●	●	●
4	12 VDC		●	●	●	●	●	●

Precautions for model No. selection

*1: For the 3GA Normally Closed, the piping connection 2 (B) and 3 (R2) ports are plugged.For 3GA Normally Open type, avoid plugging the 5 (R1) port. This may cause malfunction.
*2: Dimensions are the same as the respective 2-position double solenoid.
*4: 4G3 is made to order.
***5 3-position all ports closed and PAB connection are not provided with the exhaust check valve. Refer to the exhaust check valve "Pneumatic Valves No.CB-023SA" details.**
6: E2 and E2*J connectors and 12/24 VDC only are supported. In addition, surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.
*7: Surgeless specifications.
*8: A filter is built into port P as standard.
*9: Only the DIN terminal box is supported.

is not available.
○ indicates made to order.

[Electrical connections list]

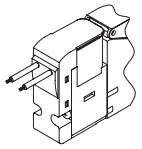
Ⓓ Electrical connections		Ⓐ Model No. 3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Blank	Grommet Lead wire (300mm) (*10)	●	●	●	●	●	●
B	DIN terminal box (Pg7) With surge suppressor and indicator lamp(*11)(*13)		●	●		●	●
BN	DIN terminal box (Pg7) (without terminal box) With surge suppressor(*11)(*13)		●	●		●	●
E type connector (Upward/lateral common)							
E0	Lead wire (300 mm) (*12)	●	●	●	●	●	●
E00	Lead wire (500 mm) (*12)	●	●	●	●	●	●
E01	Lead wire (1000 mm) (*12)	●	●	●	●	●	●
E02	Lead wire (2000 mm) (*12)	●	●	●	●	●	●
E03	Lead wire (3000 mm) (*12)	●	●	●	●	●	●
E0N	Without lead wire(Without socket)	●	●	●	●	●	●
E1	Without lead wire(socket/terminal attached) (*12)	●	●	●	●	●	●
E2	Lead wire (300 mm) with surge suppressor/lamp	●	●	●	●	●	●
E20	Lead wire (500 mm) with surge suppressor/lamp	●	●	●	●	●	●
E21	Lead wire (1000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E22	Lead wire (2000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E23	Lead wire (3000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E2N	Without lead wire (without socket) with surge suppressor/lamp	●	●	●	●	●	●
E3	Without lead wire (socket/terminal attached) with surge suppressor/lamp	●	●	●	●	●	●
EJ type connector (Socket with cover, upward/lateral common)							
E01J	Lead wire (1000 mm) (*12)	●	●	●	●	●	●
E02J	Lead wire (2000 mm) (*12)	●	●	●	●	●	●
E03J	Lead wire (3000 mm) (*12)	●	●	●	●	●	●
E21J	Lead wire (1000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E22J	Lead wire (2000 mm) with surge suppressor/lamp	●	●	●	●	●	●
E23J	Lead wire (3000 mm) with surge suppressor/lamp	●	●	●	●	●	●

*10: The grommet lead wire specifications are compatible with DC voltage only.
*11: AC voltages and 12/24 VDC are supported. In addition, a lamp comes with the terminal box.
*12: AC voltage is with a rectifier circuit.
*13 The terminal box conforms to EN175301-803Type C (former DIN 43650-C). For details, "Pneumatic Valves No.CB-023SA" details.

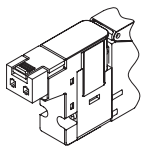
Electrical connections

Blank Grommet lead wire

● **Lead wire length**
300 mm

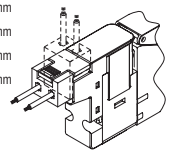


E1 E3 E-connector with socket/terminal

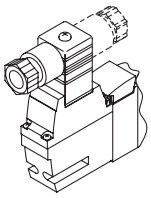


E0 E2 E-connector

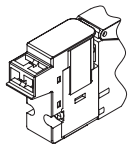
● **Lead wire length**
300 mm
500 mm
1000 mm
2000 mm
3000 mm



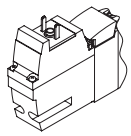
B DIN terminal box



E0N E2N E-connector without socket

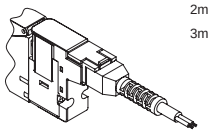


BN DIN terminal box Without terminal box



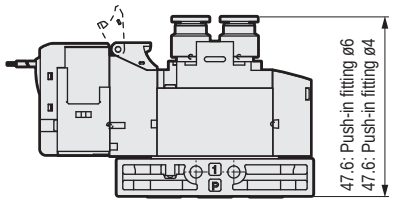
E0*J E2*J EJ type connector

● **Lead wire length**
1m
2m
3m

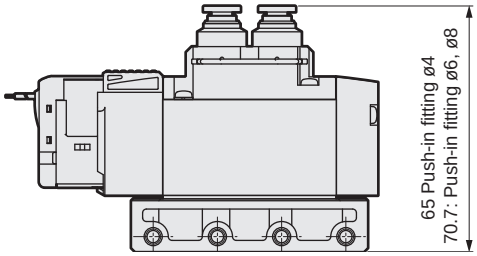


Dimensions

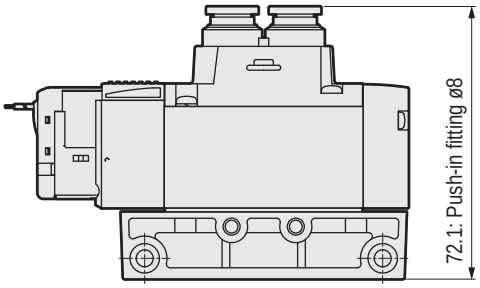
● 4GA1-P4



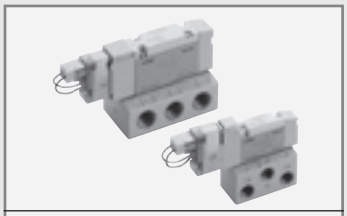
● 4GA2-P4



● 4GA3-P4



*Fitting dimensions of P4 Series are different from the standard when mounted. For other dimensions, refer to the 4GA1 to 3 Series in "Pneumatic Valves (No. CB-023SA)".



Pneumatic Valves
Catalog No. CB-023SA

Discrete valve
Base piping

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

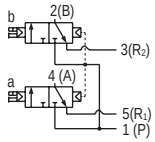
● Applicable cylinder bore size: ø20 to ø100

P4 specifications as standard

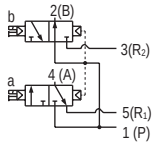
JIS symbol

● Two 3-port valves integrated

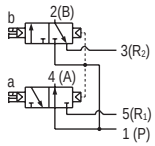
(A side valve: NC, B side valve: NC)



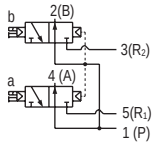
(A side valve: NC, B side valve: NO)



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

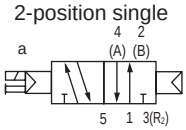


(A side valve: NO, B side valve: NO)

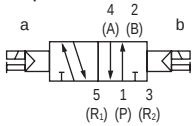


● 5-port valve

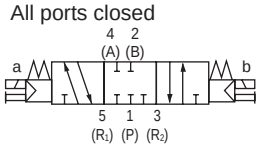
2-position single



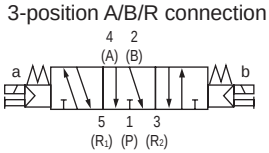
2-position double



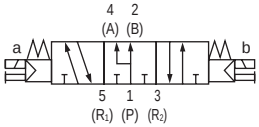
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Common specifications

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

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

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

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

Electrical specifications

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

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

*5: 200 VAC is the value of DIN terminal box with lamp.

Individual specifications

Port size		3GB1, 4GB1	3GB2, 4GB2	4GB3
Rc thread	Port A/B	Rc1/8	Rc1/4	Rc1/4, Rc3/8
	Port P/R1/R2	Rc1/8	Rc1/4	Rc1/4, Rc3/8
NPT thread (*5)	Port A/B	NPT1/8	NPT1/4	NPT1/4, NPT3/8
	Port P/R1/R2	NPT1/8	NPT1/4	NPT1/4, NPT3/8
G thread (*5)	Port A/B	G1/8	G1/4	G1/4, G3/8
	Port P/R1/R2	G1/8	G1/4	G1/4, G3/8

*5: Available as made to order.

Performance/characteristics by model

Item			3GB1/4GB1		3GB2/4GB2		4GB3	
			ON	OFF	ON	OFF	ON	OFF
Response time ms	Two 3-port valves integrated		9	12	12	29	-	-
	2-position	Single	12	12	19	19	25	28
		Double	9	-	18	-	24	-
	3-position	A/B/R connection	8	15	17	30	23	45

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

Weight

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

• Values in ( ) do not include 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.
• The weight of the two 3-port valves integrated type is the same as that of 2-position double.

Flow characteristics

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

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

Ozone-proof specifications • Coolant proof specifications

Can be selected with "How to order" Item Ⓔ option "A" on page 154.

CE marking specifications

** - Voltage - **ST**

• Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".

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

Discrete valve; Base piping

How to order

4GB1 1 0 R - 06 - E2 - 3

3GB1 66 0 R - 06 - E2 - 3

Discrete valve for integrated base

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

3-port discrete valve for integrated base

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

Ⓑ Solenoid position

Ⓐ Model No.

Ⓒ Port size

Ⓓ Electrical connections
Circuit diagram with surge suppressor/lampis"Pneumatic Valves No.CB-023S"details.

Ⓔ Option

Ⓕ Voltage

P4 as standard Specifications

Code	Description		Ⓐ Model No. 3GB1	3GB2	4GB1	4GB2	4GB3
Ⓑ Solenoid position							
1	2-position single				●	●	●
2	2-position double				●	●	●
3	3-position all ports closed				●	●	●
4	3-position ABR connection				●	●	●
5	3-position PAB connection				●	●	●
66	Two 3-port valves integrated (*1)	A side valve:Normally Closed B side valve:Normally Closed	●	●			
67	Two 3-port valves integrated (*1)	A side valve:Normally Closed B side valve:Normally Open	●	●			
76	Two 3-port valves integrated (*1)	A side valve:Normally Open B side valve:Normally Closed	●	●			
77	Two 3-port valves integrated (*1)	A side valve:Normally Open B side valve:Normally Open	●	●			
Ⓒ Port size							
Port	4(A)/2(B) port	P/R1 /Port R2 (2) = Rc1/8 (3) = Rc1/4 (4) =Rc3/8					
06	Rc1/8		(2)		(2)		
08	Rc1/4			(3)		(3)	(3)
10	Rc3/8						(4)
Port	4(A)/2(B) port	P/R1 /Port R2 (5) = 1/8NPT, (6) = 1/4NPT, (7) = 3/8NPT					
06 N	NPT1/8 (*2)		(5)		(5)		
08 N	NPT1/4 (*2)			(6)		(6)	(6)
10 N	NPT3/8 (*2)						(7)
Port	4(A)/2(B) port	P/R1 /Port R2 (8) = G1/8, (9) = G1/4 (10)=G3/8					
06G	G1/8 (*2)		(8)		(8)		
08G	G1/4 (*2)			(9)		(9)	(9)
10G	G3/8 (*2)						(10)
00	Discrete valve for integrated base		●	●	●	●	●
Ⓓ Electrical connections							
Blank	Grommet lead wire (300 mm) (*8)		●	●	●	●	●
B	DIN terminal box (Pg 7) With surge suppressor/lamp (*9) (*11)			●		●	●
BN	DIN terminal box (Pg7) (without terminal box) With surge suppressor (*9) (*11)			●		●	●
E-connector (upward/lateral common)							
E0	Lead wire (300 mm) (*10)		●	●	●	●	●
E00	Lead wire (500 mm) (*10)		●	●	●	●	●
E01	Lead wire (1000 mm) (*10)		●	●	●	●	●
E02	Lead wire (2000 mm) (*10)		●	●	●	●	●
E03	Lead wire (3000 mm) (*10)		●	●	●	●	●
E0N	Without lead wire (without socket)(*10)		●	●	●	●	●
E1	Without lead wire (socket/terminal attached)(*10)		●	●	●	●	●
E2	Lead wire (300 mm) With surge suppressor and indicator lamp		●	●	●	●	●
E20	Lead wire (500 mm) With surge suppressor and indicator lamp		●	●	●	●	●
E21	Lead wire (1000 mm)With surge suppressor and indicator lamp		●	●	●	●	●
E22	Lead wire (2000 mm)With surge suppressor and indicator lamp		●	●	●	●	●
E23	Lead wire (3000 mm)With surge suppressor and indicator lamp		●	●	●	●	●
E2N	Without lead wire (without socket)With surge suppressor and indicator lamp		●	●	●	●	●
E3	Without lead wire (socket/terminal attached) With surge suppressor and indicator lamp		●	●	●	●	●
EJ-connector (socket with cover, upward/lateral common)							
E01J	Lead wire (1000 mm) (*10)		●	●	●	●	●
E02J	Lead wire (2000 mm) (*10)		●	●	●	●	●
E03J	Lead wire (3000 mm) (*10)		●	●	●	●	●
E21J	Lead wire (1000 mm)With surge suppressor and indicator lamp		●	●	●	●	●
E22J	Lead wire (2000 mm)With surge suppressor and indicator lamp		●	●	●	●	●
E23J	Lead wire (3000 mm)With surge suppressor and indicator lamp		●	●	●	●	●
Ⓔ Option							
Blank	Manual override of non-locking/locking common		●	●	●	●	●
M	Non-locking manual override		●	●	●	●	●
H	With exhaust check valve (*3)		●	●	●	●	●
K	External pilot				●	●	●
A	Ozone/coolant proof		●	●	●	●	●
S	Surgeless (*4)		●	●	●	●	●
E	Low exoergic/energy saving circuit(*4), (*5)		●	●	●	●	●
F	Port A/B filter built in (*6)		●	●	●	●	●
X	Non-locking residual pressure exhaust structure (*12)				●	●	
X1	Locking residual pressure exhaust structure (*12)				●	●	
Ⓕ Voltage							
1	100 VAC (rectifier integrated)		●	●	●	●	●
2	200 VAC (rectifier integrated) (*7)			●		●	●
3	24 VDC		●	●	●	●	●
4	12 VDC		●	●	●	●	●
7	3 VDC		○	○	○	○	○
8	5 VDC		○	○	○	○	○

Precautions for model No. selection

*1: Not compatible when combined with external pilot (K). Dimensions are the same as those of the respective 2-position double solenoid.
*2: Made to order.
***3 3-position all ports closed and PAB connection are not provided with the exhaust check valve. Refer to the exhaust check valve"Pneumatic Valves No.CB-023SA"details.**
4: E2 type and E2:J type connectors are only compatible with 12/24 VDC. In addition, surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.
*5: Surgeless specifications.
*6: A filter is built into port P as standard.
*7: Only the DIN terminal box is supported.
*8: The grommet lead wire specifications are compatible with DC voltage only.
*9: AC voltage and 12/24 VDC are supported. In addition, a lamp comes with the terminal box.
*10: AC voltage is with a rectifier circuit.
*11: The terminal box conforms to EN175301-803Type C (former DIN 43650-C). Refer to "Pneumatic Valves No.CB-023SA" for details.
*12: Only 4GB1 and 4GB2 Ⓡ solenoid position "3" or "4" are supported.

is not available.
○ indicates made to order.

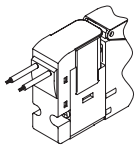
Electrical connections

Discrete valve/individual wiring manifold

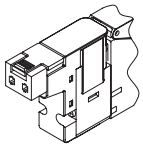
Blank Grommet lead wire

● **Lead wire length**

300 mm



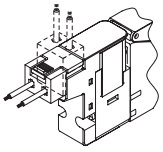
E1 E3 E-connector with socket/terminal



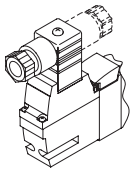
E0 E2 E-connector

● **Lead wire length**

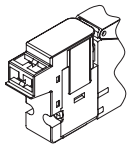
300 mm
500 mm
1000 mm
2000 mm
3000 mm



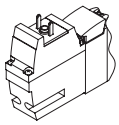
B DIN terminal box



E0N E2N E-connector without socket



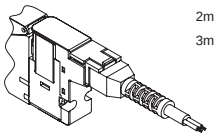
BN DIN terminal box Without terminal box

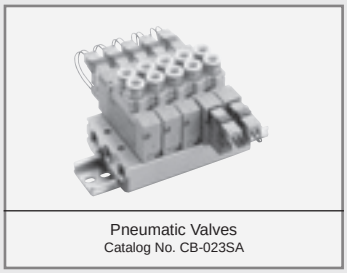


E0*J E2*J EJ type connector

● **Lead wire length**

1m
2m
3m





Pneumatic Valves
Catalog No. CB-023SA

Individual wiring manifold
Body piping
Direct mount/DIN rail mount

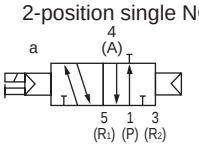
M3GA1, 2, 3 -(D) /M4GA1, 2, 3 -(D) Series

● Applicable cylinder bore size: ø20 to ø100

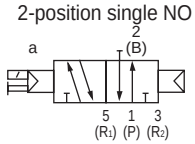
JIS symbol

● 3-port valve

2-position single NC

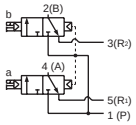


2-position single NO

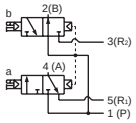


● Two 3-port valves integrated

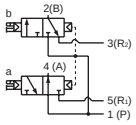
(A side valve: NC, B side valve: NC)



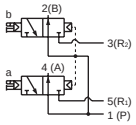
(A side valve: NC, B side valve: NO)



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

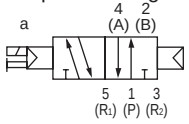


(A side valve: NO, B side valve: NO)

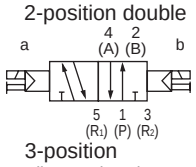


● 5-port valve

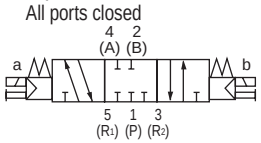
2-position single



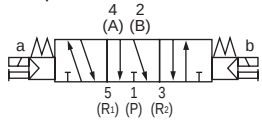
2-position double



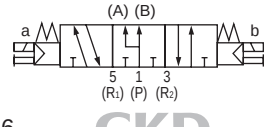
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Item		Description
Manifold		Integrated base
Mounting method		Direct mount/DIN rail mount
Air supply and exhaust method		Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Internal pilot	Main valve/pilot valve common exhaust (Pilot exhaust check valve built-in)
	External pilot	Main valve/pilot valve individual exhaust
Piping direction		Valve top direction
Valve and operation		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure MPa		0.7
Min. working pressure MPa		0.2(*3)
Proof pressure MPa		1.05
Ambient temperature °C		-5 to 55 (no freezing)
Fluid temperature °C		5 to 55
Manual override		Non-locking/locking common (standard)
Lubrication (*1)		Not required
Degree of protection (*2)		Dust-proof
ResistanceVibration m/s^2		50 or less
ResistanceImpact m/s^2		300 or less
Atmosphere		Cannot be used in corrosive gas environments

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

Electrical specifications

Item		Description					
No.status Voltage V		24 DC	12 DC	5 DC	3 DC	100 AC	200 AC
Voltage fluctuation range		±10%					
Holding current A (*4)	Standard	0.015 (0.017)	0.030 (0.034)	0.072 (0.082)	0.120 (0.136)	0.009 (0.009)	0.006 (0.006)
	Low exoergic/energy circuit	0.005	0.010	-		-	
Power consumptionr W (*4)	Standard	0.35 (0.40)		0.35 (0.40)		-	
	Low exoergic/energy circuit	0.1		-		-	
Apparent power VA (*4)(*5)	Standard	-		-		0.93 (0.98)	1.40
Resistancethermal class		B					
Surge suppressor		Option					
Indicator		Lamp (option)					

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

Individual specifications

Item			M3GA1/M4GA1		M3GA2/M4GA2		M3GA3/M4GA3	
			Direct mount	DIN rail mount	Direct mount	DIN rail mount	Direct mount	DIN rail mount
Max. station No.		Standard (Internal pilot)	20 stations	16 stations	20 stations	16 stations	20 stations	16 stations
		External pilot	12 stations	12 stations				
Port size	Rc thread, M5	Port A/B	Push-in fitting ø4, ø6 M5		Push-in fitting ø4, ø6, ø8 Rc1/8		Push-in fitting ø8 Rc1/4	
		Port P/R1/R2	Rc1/8		Rc1/4		Rc3/8	
	NPT thread, M5	Port A/B	M5		NPT1/8		NPT1/4 (*6)	
		Port P/R1/R2	NPT1/8		NPT1/4		NPT3/8 (*6)	
	G thread, M5	Port A/B	Push-in fitting ø4, ø6 M5		Push-in fitting ø4, ø6, ø8 G1/8		Push-in fitting ø8 G1/4	
		Port P/R1/R2	G1/8		G1/4		G3/8	
Manifold base Weight calculation formula (n: station No.) g		Standard	23n+52	25n+60	47n+64	49n+92	74n+88	76n+117
		External pilot	36n+105	38n+113	88n+135	90n+163	136n+194	138n+223

*6: Available as made to order.

Cautions for mounting the DIN rail "Pneumatic Valves No.CB-023SA" before selection.
For 10 or more manifold station No. (5 stations for 4G3), use ports on both sides for air supply and exhaust. The manifold base weight is the value for screw specifications.

Performance/characteristics by model

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

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

Flow characteristics

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

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

Ozone-proof specifications • Coolant proof specifications

Can be selected with "How to order" Item Ⓔ option "A" on page 154.

CE marking specifications

** - Voltage - **ST**

• Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".

M4GA1/2/3 Series

Individual wiring manifold; Body piping

How to order

Manifold model No.

M 4GA1 1 0R - C6 - E2 H D - ○ - 3 - P4

3-port manifold model No.

M 3GA1 1 0R - C6 - E2 H D - ○ - 3 - P4

● Single valve for mounting base

4GA1 1 9R - C6 - E2 H — 3 - P4

● 3-port discrete valve for mounting base

3GA1 1 9R - C6 - E2 H — 3 - P4

Ⓑ Solenoid position

Ⓐ Model No.

Ⓒ Port size

*3
The port size of "●" is a standard product and equivalent to P4 specifications. It is not necessary to add "-P4" to the model No.

Ⓓ Electrical connections

Ⓔ Option

Ⓕ Mount type

Ⓖ Station No.

Ⓗ Voltage

* Be sure to fill in the "Manifold specifications sheet" (pages 190 to 192).

Code	Description		Ⓐ Model No. 3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Ⓑ Solenoid position								
1	2-position single					●	●	●
2	2-position double					●	●	●
3	3-position all ports closed					●	●	●
4	3-position ABR connection					●	●	●
5	3-position PAB connection					●	●	●
1	2-position single Normally Closed	(*1)	●	●	●			
11	2-position single Normally Open	(*1)	●	●	●			
66	3-port valve Two valves integrated (*1) (*2)	A valve side: Normally Closed B valve side: Normally Closed	●	●				
67		A valve side: Normally Closed B valve side: Normally Open	●	●				
76		A valve side: Normally Open B valve side: Normally Closed	●	●				
77		A valve side: Normally Open B valve side: Normally Open	●	●				
8	Mix manifold (when there are multiple solenoid positions)		●	●	●	●	●	●

Ⓒ Port size								
Port	4(A)/2(B)Port	*3	Port P/R1/R2 (2) = Rc1/8 (3) = Rc1/4 (4) =Rc3/8					
C4	ø4 push-in fitting	○	②	③		②	③	
C6	ø6 push-in fitting	○	②	③		②	③	
C8	ø8 push-in fitting	○		③	④		③	④
CX	Push-in fitting mix (*4)	○	②	③	④	②	③	④
M5	M5	●	②			②		
06	Rc1/8	○		③			③	
08	Rc1/4	○			④			④
Port	4(A)/2(B)Port	*3	Port P/R1/R2 (5) = 1/8NPT, (6) = 1/4NPT, (7) = 3/8NPT					
M5N	M5	●	⑤			⑤		
06 N	NPT1/8	●		⑥			⑥	
08 N	NPT1/4 (*5)	●			⑦			⑦
Port	4(A)/2(B)Port	*3	Port P/R1/R2 (8) = G1/8, (9) = G1/4 (10)=G3/8					
C4G	ø4 push-in fitting	○	⑧	⑨		⑧	⑨	
C6G	ø6 push-in fitting	○	⑧	⑨		⑧	⑨	
C8G	ø8 push-in fitting	○		⑨	⑩		⑨	⑩
CXG	Push-in fitting mix (*4)	○	⑧	⑨	⑩	⑧	⑨	⑩
M5G	M5	●	⑧			⑧		
06G	G1/8	●		⑨			⑨	
08G	G1/4	●			⑩			⑩

Precautions for model No. selection

*1: M4GA*80R when using a mixture of 3, 5-port valves. Furthermore, select M3GA*80R when mixing with masking plate.
*2: Not compatible with combination with external pilot (K). Dimensions are the same as those of the respective 2-position double solenoid.
*4: The push-in fitting cannot be mixed with the single valve's 4(A) or 2(B) port.
*5: Made to order.

		Ⓐ Model No.					
		3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Ⓓ Electrical connections							
Blank	Grommet Lead wire (300mm) (*13)	●	●	●	●	●	●
B	DIN terminalBox(Pg7) With surge suppressor/lamp (*14)(*16)		●	●		●	●
BN	DIN terminalBox(Pg7)(without terminal box)With surge suppressor (*14)(*16)		●	●		●	●
E type connector (Upward/lateral common)							
E0	Lead wire (300mm) (*15)	●	●	●	●	●	●
E00	Lead wire (500mm) (*15)	●	●	●	●	●	●
E01	Lead wire (1000mm) (*15)	●	●	●	●	●	●
E02	Lead wire (2000mm) (*15)	●	●	●	●	●	●
E03	Lead wire (3000mm) (*15)	●	●	●	●	●	●
E0N	Lead wireand (without socket) (*15)	●	●	●	●	●	●
E1	Lead wireand (socket/terminal attached) (*15)	●	●	●	●	●	●
E2	Lead wire (300 mm) With surge suppressor and indicator lamp	●	●	●	●	●	●
E20	Lead wire (500 mm) With surge suppressor and indicator lamp	●	●	●	●	●	●
E21	Lead wire (1000 mm)With surge suppressor and indicator lamp	●	●	●	●	●	●
E22	Lead wire (2000 mm)With surge suppressor and indicator lamp	●	●	●	●	●	●
E23	Lead wire (3000 mm)With surge suppressor and indicator lamp	●	●	●	●	●	●
E2N	Lead wireand (Without socket)With surge suppressor and indicator lamp	●	●	●	●	●	●
E3	Lead wireand (socket/terminal attached)With surge suppressor and indicator lamp	●	●	●	●	●	●
EJ type connector (Socket with cover, upward/lateral common)							
E01J	Lead wire (1000mm) (*15)	●	●	●	●	●	●
E02J	Lead wire (2000mm) (*15)	●	●	●	●	●	●
E03J	Lead wire (3000mm) (*15)	●	●	●	●	●	●
E21J	Lead wire (1000 mm)With surge suppressor and indicator lamp	●	●	●	●	●	●
E22J	Lead wire (2000 mm)With surge suppressor and indicator lamp	●	●	●	●	●	●
E23J	Lead wire (3000 mm)With surge suppressor and indicator lamp	●	●	●	●	●	●
Ⓔ Option							
Blank	Manual override of non-locking/locking common	●	●	●	●	●	●
M	Non-locking manual override	●	●	●	●	●	●
H	With exhaust check valve (*6)	●	●	●	●	●	●
K	External pilot (*7)	●	●	●	●	●	●
A	Ozone/coolant proof	●	●	●	●	●	●
S	Surgeless (*8)	●	●	●	●	●	●
E	Low exoergic/energy circuit (*8) (*9)	●	●	●	●	●	●
F	Port A/B filter built in (*10)	●	●	●	●	●	●
Z1	Air supply spacer (*11)	●	●	●	●	●	●
Z3	Exhaust spacer (*11)	●	●	●	●	●	●
Ⓕ Mount type							
Blank	Direct mount	●	●	●	●	●	●
D	DIN rail mount	●	●	●	●	●	●
Ⓖ Station No.							
2	2 stations	●	●	●	●	●	●
to	to						
20	Refer to page 156 for the max. station number per model.						
Ⓗ Voltage							
1	100 VAC (rectifier integrated)	●	●	●	●	●	●
2	200 VAC (Rectifier circuit integrated) (*12)		●	●		●	●
3	24 VDC	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●
7	3 VDC	○	○	○	○	○	○
8	5 VDC	○	○	○	○	○	○

is not available.

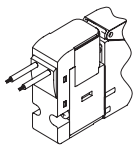
○ indicates made to order.

Electrical connections

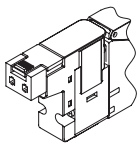
Discrete valve/individual wiring manifold

Blank Grommet lead wire

● **Lead wire length**
300 mm

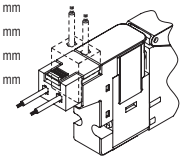


E1 E3 E-connector with socket/terminal

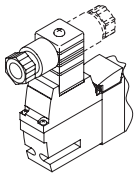


E0 E2 E-connector

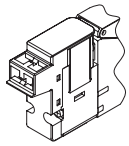
● **Lead wire length**
300 mm
500 mm
1000 mm
2000 mm
3000 mm



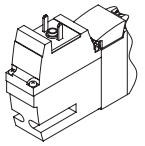
B DIN terminal box



E0N E2N E-connector without socket

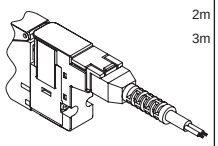


BN DIN terminal box (without terminal box)



E0*J E2*J EJ type connector

● **Lead wire length**
1m
2m
3m



*6 **The 3-position all ports closed and PAB connection are not provided with the exhaust check valve specifications (H). Refer to "Pneumatic Valves No.CB-023SA" for details on the exhaust check valve.**

*7 Consult with CKD when using a vacuum with the external pilot (K).

8 E2 type and E2*J type connectors support 12/24 VDC only. In addition, surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.

*9 Surgeless specifications.

*10 A filter is built into port P as standard.

*11 **Specify the spacer mounting position/quantity in the manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Refer to pages 176 to 177 for details.**

*12 DIN terminal box only is supported.

*13 The grommet lead wire specifications are compatible with DC voltage only.

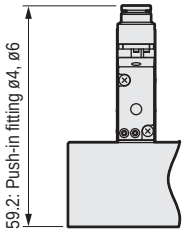
*14 AC voltages and 12/24 VDC are supported. In addition, a lamp comes with the terminal box.

*15 AC voltage is with a rectifier circuit.

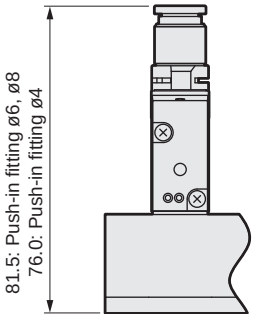
*16 The terminal box conforms to EN175301-803Type C (former DIN 43650-C). Refer to "Pneumatic Valves No.CB-023SA" for details.

Dimensions

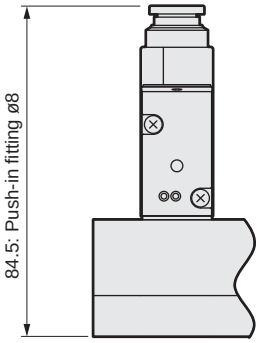
● M4GA1-P4



● M4GA2-P4

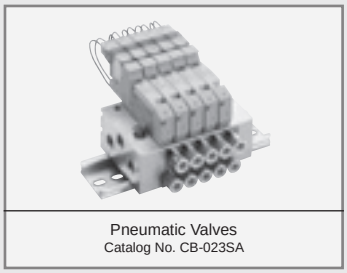


● M4GA3-P4



*Fitting dimensions of P4 Series are different from the standard when mounted. For other dimensions, refer to the M4GA1 to 3 Series in "Pneumatic Valves (No. CB-023SA)".

MEMO



Pneumatic Valves
Catalog No. CB-023SA

Individual wiring manifold
Base piping
Direct mount/DIN rail mount

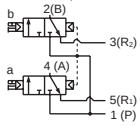
M3GB1, 2/M4GB1, 2, 3-(D) Series

● Applicable cylinder bore size: ø20 to ø100

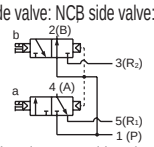
JIS symbol

● Two 3-port valves integrated

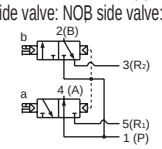
(A side valve: NCB side valve: NC)



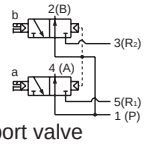
(A side valve: NCB side valve: NO)



(A side valve: NOB side valve: NC)

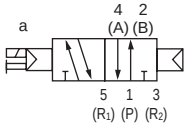


(A side valve: NOB side valve: NO)

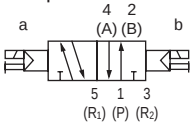


● 5-port valve

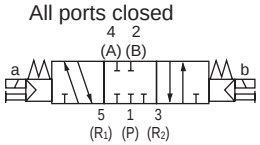
2-position single



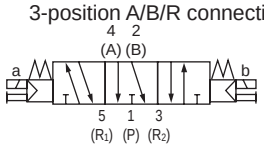
2-position double



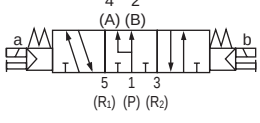
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Item		Description
Manifold		Integrated base
Mounting method		Direct mount/DIN rail mount
Air supply and exhaust method		Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Internal pilot	Main valve/pilot valve common exhaust (Pilot exhaust check valve built-in)
	External pilot	Main valve/pilot valve individual exhaust
Piping direction		Side direction of base
Valve and operation		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure MPa		0.7
Min. working pressure MPa		0.2 (*3)
Proof pressure MPa		1.05
Ambient temperature °C		−5 to 55 (no freezing)
Fluid temperature °C		5 to 55
Manual override		Non-locking/locking common (standard)
Lubrication (*1)		Not required
Degree of protection (*2)		Dust-proof
Vibration resistance m/s^2		50 or less
Shock resistance m/s^2		300 or less
Atmosphere		Cannot be used in corrosive gas environments

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

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

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

Electrical specifications

Item		Description					
No.status Voltage V		24 DC	12 DC	5 DC	3 DC	100 AC	200 AC
Voltage fluctuation range		±10%					
Holding current A (*4)	Standard	0.015 (0.017)	0.030 (0.034)	0.072 (0.082)	0.120 (0.136)	0.009 (0.009)	0.006 (0.006)
	With low exoergic/energy circuit	0.005	0.010	-		-	
Power consumption W (*4)	Standard	0.35 (0.40)		0.35 (0.40)		-	
	With low exoergic/energy circuit	0.1		-		-	
Apparent power VA (*4)(*5)	Standard	-		-		0.93 (0.98)	1.40
Resistancethermal class		B					
Surge suppressor		Option					
Indicator		Lamp (option)					

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

Individual specifications

Item			M3GB1/M4GB1		M3GB2/M4GB2		M4GB3	
			Direct mount	DIN rail mount	Direct mount	DIN rail mount	Direct mount	DIN railLe Mount
Max. station No.		Standard (Internal pilot)	20 stations	16 stations	20 stations	16 stations	20 stations	16 stations
		External pilot	12 stations	12 stations				
Port size	Rc thread, M5	Port A/B	Push-in fitting ø4,ø6 M5		Push-in fitting ø4,ø6,ø8 Rc1/8		Push-in fitting ø8,ø10 Rc1/4	
		Port P/R1/R2	Rc1/8		Rc1/4		Rc3/8	
	NPT thread, M5	Port A/B	M5		NPT1/8		NPT1/4 (*6)	
		Port P/R1/R2	NPT1/8		NPT1/4		NPT3/8 (*6)	
	G thread, M5	Port A/B	Push-in fitting ø4,ø6 M5		Push-in fitting ø4,ø6,ø8 G1/8		Push-in fitting ø8,ø10 G1/4	
		Port P/R1/R2	G1/8		G1/4		G3/8	
Manifold base Weight calculation formula (n: station No.)		Standard	35n+61	36n+115	71n+106	73n+134	113n+170	115n+119
		External pilot	35n+106	36n+114	76n+135	78n+166	118n+194	120n+223

"Cautions for mounting the DIN rail" Check and select "Pneumatic Valves No.CB-023SA".
For 10 or more manifold station No. (5 stations for 4G3), use ports on both sides for air supply and exhaust. The manifold base weight is the value for screw specifications.
*6: Available as made to order.

Performance/characteristics by model

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

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

Flow characteristics

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

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

Ozone-proof specifications ・ Coolant proof specifications

Can be selected with "How to order" Item Ⓔ option "A" on page 165.

CE marking specifications

** - Voltage - **ST**

・Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".

M4GB1/2/3 Series

Individual wiring manifold; Base piping

How to order

Manifold model No.

M 4GB1 1 0R - C6 - E2 H D - ○ - 3 - P4

3-port manifold model No.

M 3GB1 66 0R - C6 - E2 H D - ○ - 3 - P4

● Single valve for mounting base

4GB1 1 9R - 00 - E2 H —— 3 - P4

● 3-port discrete valve for mounting base

3GB1 66 9R - 00 - E2 H —— 3 - P4

- 66 → B Solenoid position
- 3GB1 66 → A Model No.
- 00 → C Port size
- E2 → D Electrical connections
- H → E Option
- D → F Mount type
- ○ → G Station No.
- 3 → H Voltage

*3
The port size of "●" is a standard product and equivalent to P4 specifications. It is not necessary to add "-P4" to the model No.

* Be sure to fill in the "Manifold specifications sheet" (pages 190 to 192).

Code	Description		Ⓐ Model No. 3GB1	3GB2	4GB1	4GB2	4GB3
Ⓑ Solenoid position							
1	2-position single				●	●	●
2	2-position double				●	●	●
3	3-position all ports closed				●	●	●
4	3-position ABR connection				●	●	●
5	3-position PAB connection				●	●	●
66	3-port valve Two valves integrated (*1)(*2)	A valve side: Normally Closed B valve side: Normally Closed	●	●			
67		A valve side: Normally Closed B valve side: Normally Open	●	●			
76		A valve side: Normally Open B valve side: Normally Closed	●	●			
77		A valve side: Normally Open B valve side: Normally Open	●	●			
8	Mix manifold (when there are multiple solenoid positions)		●	●	●	●	●

Ⓒ Port size

Port	4(A)/2(B)Port	*3	Port P/R1/R2 (2) = Rc1/8 (3) = Rc1/4 (4) =Rc3/8				
C4	ø4 push-in fitting	○	②	③	②	③	
C6	ø6 push-in fitting	○	②	③	②	③	
C8	ø8 push-in fitting (*4) (*5)	○		③		③	④
C10	ø10 push-in fitting (*4)(*5)	○					④
CX	Push-in fitting mix	○	②	③	②	③	④
M5	M5	●	②		②		
06	Rc1/8	●		③		③	
08	Rc1/4	●					④
Port	4(A)/2(B)Port	*3	Port P/R1/R2 (5) = 1/8NPT, (6) = 1/4NPT, (7) = 3/8NPT				
M5N	M5	●	⑤		⑤		
06 N	NPT1/8	●		⑥		⑥	
08 N	NPT1/4 (*5)	●					⑦
Port	4(A)/2(B)Port	*3	Port P/R1/R2 (8) = G1/8, (9) = G1/4 (10)=G3/8				
C4G	ø4 push-in fitting	○	⑧	⑨	⑧	⑨	
C6G	ø6 push-in fitting	○	⑧	⑨	⑧	⑨	
C8G	ø8 push-in fitting	○		⑨		⑨	⑩
C10G	ø10 push-in fitting	○					⑩
CXG	Push-in fitting mix	○	⑧	⑨	⑧	⑨	⑩
M5G	M5	●	⑧		⑧		
06G	G1/8	●		⑨		⑨	
08G	G1/4	●					⑩
00	Discrete valve for integrated base	●	●	●	●	●	●

Precautions for model No. selection

*1: Select M4GB*80R when mixing with 3, 5-port valves. When using a mixture with the masking plate, M3GB*80R.
*2: Not compatible when combined with external pilot (K). Dimensions are the same as those of the respective 2-position double solenoid.
*4: 4G1 C8 and 4G2 C10 do not support push-in fitting mixing.
*5: Made to order.

		Ⓐ Model No.				
		3GB1	3GB2	4GB1	4GB2	4GB3
Ⓓ Electrical connections						
Blank	Grommet Lead wire (300 mm) (*14)	●	●	●	●	●
B	DIN terminal box(Pg7) With surge suppressor and indicator lamp(*15)(*17)		●		●	●
BN	DIN terminal box(Pg7)(without terminal box) With surge suppressor(*15)(*17)		●		●	●
E type connector (Upward/lateral common)						
E0	Lead wire (300 mm) (*16)	●	●	●	●	●
E00	Lead wire (500 mm) (*16)	●	●	●	●	●
E01	Lead wire (1000 mm) (*16)	●	●	●	●	●
E02	Lead wire (2000 mm) (*16)	●	●	●	●	●
E03	Lead wire (3000 mm) (*16)	●	●	●	●	●
E0N	Without lead wire (without socket) (*16)	●	●	●	●	●
E1	Without lead wire (socket/terminal attached) (*16)	●	●	●	●	●
E2	Lead wire (300 mm) With surge suppressor and indicator lamp	●	●	●	●	●
E20	Lead wire (500 mm) With surge suppressor and indicator lamp	●	●	●	●	●
E21	Lead wire (1000 mm) With surge suppressor and indicator lamp	●	●	●	●	●
E22	Lead wire (2000 mm) With surge suppressor and indicator lamp	●	●	●	●	●
E23	Lead wire (3000 mm) With surge suppressor and indicator lamp	●	●	●	●	●
E2N	Without lead wire (without socket)With surge suppressor and indicator lamp	●	●	●	●	●
E3	Without lead wire (socket/terminal attached) With surge suppressor and indicator lamp	●	●	●	●	●
EJ-connector (socket with cover, upward/lateral common)						
E01J	Lead wire (1000 mm) (*16)	●	●	●	●	●
E02J	Lead wire (2000 mm) (*16)	●	●	●	●	●
E03J	Lead wire (3000 mm) (*16)	●	●	●	●	●
E21J	Lead wire (1000 mm) With surge suppressor and indicator lamp	●	●	●	●	●
E22J	Lead wire (2000 mm) With surge suppressor and indicator lamp	●	●	●	●	●
E23J	Lead wire (3000 mm) With surge suppressor and indicator lamp	●	●	●	●	●
Ⓔ Option						
Blank	Manual override of non-locking/locking common	●	●	●	●	●
M	Non-locking manual override	●	●	●	●	●
H	With exhaust check valve (*6)	●	●	●	●	●
K	External pilot (*7)	●	●	●	●	●
A	Ozone/coolant proof	●	●	●	●	●
S	Surgeless (*8)	●	●	●	●	●
E	Low exoergic/energy circuit (*8)(*9)	●	●	●	●	●
F	Port A/B filter built in (*10)	●	●	●	●	●
X	Non-locking exhaust structure (*18)			●	●	
X1	Locking exhaust structure (*18)			●	●	
Z1	Air supply spacer (*11)	●	●	●	●	●
Z3	Exhaust spacer (*11)	●	●	●	●	●
Z6	Spacer pilot check valve (*11)			●		
Ⓕ Mount type						
Blank	Direct mount (*12)	●	●	●	●	●
D	DIN rail mount	●	●	●	●	●
Ⓖ Station No.						
2	2 stations	●	●	●	●	●
to	to					
20	Refer to page 162 for the max. station number per model.					
Ⓗ Voltage						
1	100 VAC (rectifier integrated)	●	●	●	●	●
2	200 VAC (rectifier integrated) (*13)		●		●	●
3	24 VDC	●	●	●	●	●
4	12 VDC	●	●	●	●	●

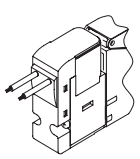
is not available.

Electrical connections

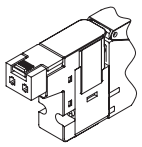
Discrete valve/individual wiring manifold

Blank Grommet lead wire

● **Lead wire length**
300 mm

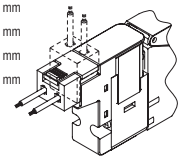


E1 E3 E-connector with socket/terminal

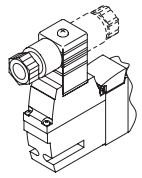


E0 E2 E-connector

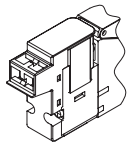
● **Lead wire length**
300 mm
500 mm
1000 mm
2000 mm
3000 mm



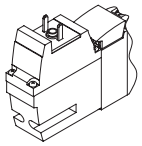
B DIN terminal box



E0N E2N E-connector without socket

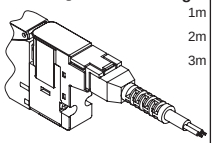


BN DIN terminal box (without terminal box)



E0*J E2*J EJ type connector

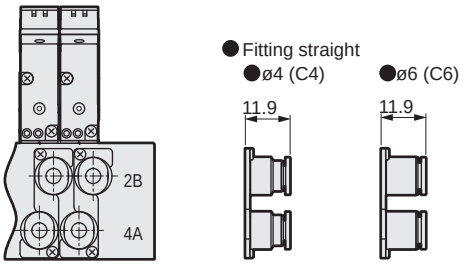
● **Lead wire length**
1m
2m
3m



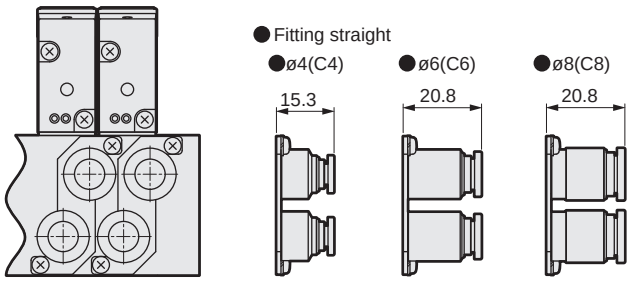
***6 The 3-position all ports closed and PAB connection are not provided with the exhaust check valve specifications (H). For the exhaust check valve,"Pneumatic Valves No.CB-023SA"details.**
*7: Consult with CKD when using a vacuum with the external pilot (K).
8: E2 and E2*J connectors and 12/24 VDC only are supported.In addition, surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.
*9: Surgeless specifications.
*10: A filter is built into port P as standard.
***11: Specify the spacer mounting position/quantity in manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Refer to pages 176 to 177 for details.**
*12: The direct mount type of M4GB1 cannot be changed to the DIN rail mount type after purchasing.
*13: DIN terminal box only is supported.
*14: The grommet lead wire specifications are compatible with DC voltage only.
*15: AC voltages and 12/24 VDC are supported. In addition, a lamp comes with the terminal box.
*16: AC voltage is with a rectifier circuit.
*17: The terminal box conforms to EN175301-803Type C (former DIN 43650-C). Refer to "Pneumatic Valves No.CB-023SA" for details.
*18: Only compatible with M4GB1 and M4GB2 solenoid positions 3 and 4.

Dimensions

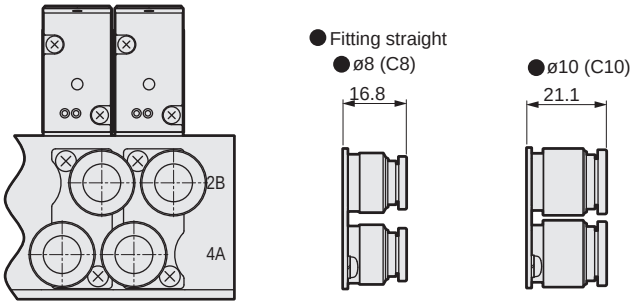
● M4GB1-P4



● M4GB2-P4

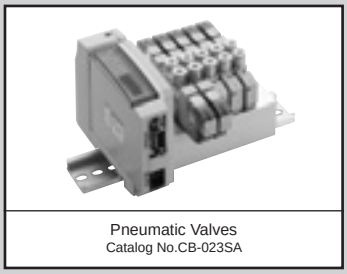


● M4GB3-P4



*Fitting dimensions of P4 Series are different from the standard when mounted. For other dimensions, refer to the M4GB1 to 3 Series in "Pneumatic Valves (No. CB-023SA)".

MEMO



Pneumatic Valves
Catalog No.CB-023SA

Reduced wiring manifolds
Body piping
Direct mount/DIN Rail mount

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

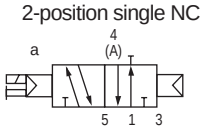
● Cylinder bore size:ø20 to ø100

RoHS CAD

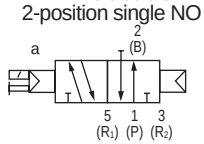
JIS symbol

● 3 Port valve

2-position single NC

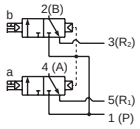


2-position single NO

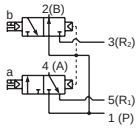


● Two 3-port valves integrated

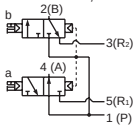
(A side valve: NC, B side valve: NC)



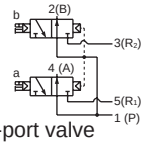
(A side valve: NC, B side valve: NO)



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

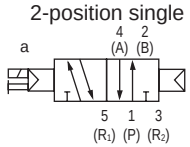


(A side valve: NO, B side valve: NO)

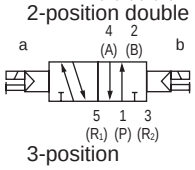


● 5-port valve

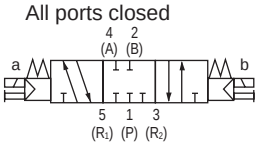
2-position single



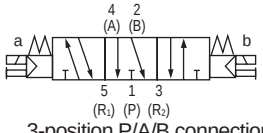
2-position double



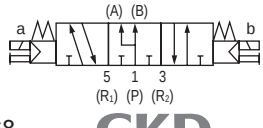
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Item		Description
Manifold		Reduced wiring integrated base
Mounting method		Direct mount/DIN Rail mount
Air supply and exhaust method		Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Internal pilot	Main valve/pilot valve common exhaust (Pilot exhaust check valve built-in)
	External pilot	Main valve/pilot valve individual exhaust
Piping direction		Valve top direction
Valve and operation		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressureMPa		0.7
Min. working pressureMPa		0.2(Note3)
Proof pressure MPa		1.05
Ambient temperature °C		-5 to 55(no freezing)
Fluid temperature °C		5 to 55
Manual override		Non-locking/locking common (standard)
Lubrication (Note1)		Not required
Degree of protection (*2)		Dust-proof
Vibration resistance m/s^2		50 or less
Shock resistance m/s^2		300 or less
Atmosphere		Cannot be used in corrosive gas environments

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

Electrical specifications

Item		Description		
		T1□, T30□, T5□		T6G1, T8□
No.status Voltage V		24 DC	12 DC	24 DC
Voltage fluctuation range (*4)		±10%		+10%, -5%
Holding current A	Standard	0.017	0.034	0.017
	With low exoergic/energy circuit	0.005	0.010	0.005
Power consumption W	Standard	0.4		
	With low exoergic/energy circuit	0.1		
Resistancethermal class		B		
Surge suppressorLA- (*5)		Zener diode		
Indicator		LED		

*4:Be careful of the voltage fluctuation range of T6G1,T8□ and (serial transmission) as there is a voltage drop due to the internal circuit.
*5:If low exoergic/energy circuit or surgeless types are selected then there will be a diode.

Common specifications

Item		M3GA1/M4GA1	M3GA2/M4GA2	M3GA3/M4GA3
Port size	A/B Port	Push-in fitting ø4,ø6 M5	Push-in fitting ø4,ø6,ø8 Rc1/8	Push-in fitting ø8 Rc1/4
	P/R1/R2 Port	Rc1/8	Rc1/4	Rc3/8

T1□, T30□, T5□

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

T6G1

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

T8□

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

The manifold base weight is the value for screw connection specifications with DIN rail, wiring block or slave unit. 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.

Flow characteristics

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

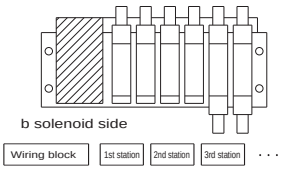
*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.
*2: Values in ( ) are with the exhaust check valve.

Wiring specifications

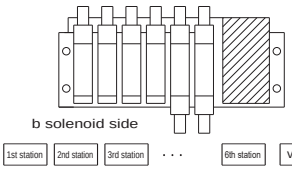
Item	T10□ Common terminal block	T11□ Common terminal block	T30□ DSub-connector	T50□ Flat cable 20-pin	T51□ Flat cable 20-pin	T52□ Flat cable 10-pin	T53□ Flat cable 26-pin
Connector and terminal block specifications	M3 thread tightening Terminal count 18	Clamping type Terminal count 26	D-sub-connector25Pin	MIL-C-83503 standard compliant Pressure welding socket 20-pin	MIL-C-83503 standard compliant Pressure welding socket 20-pin	MIL-C-83503 standard compliant Pressure welding socket 10-pin	MIL-C-83503 standard compliant Pressure welding socket 26-pin
Max. number of solenoids	16 points	24 points	24 points	16 points	18 points	8Point	24 points
Manifold internal wiring	Refer to "Pneumatic Valves No.CB-023SA" for details.						

Wiring block position
Blank: Left side
R :Right

Left side: T□ a solenoid side



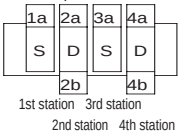
Right side: T□R a solenoid side



Array method
Blank: Standard sequential
W :Double wiring

(Ex.) In the case of T50□

Manifold specifications



Standard wiring (sequential) Blank

Connector pinNo.	1	2	3	4	5	6
Valve solenoidNo.	1a	2a	2b	3a	4a	4b

Double wiring: W

Connector pinNo.	1	2	3	4	5	6	7	8
Valve solenoidNo.	1a	Blank	2a	2b	3a	Blank	4a	4b

Serial transmission slave unit specifications

Refer to the CKD website (https://www.ckd.co.jp/en/).

Item		T6G1
Network name		CC-Link ver. 1.10
Power supply voltage	Unit side	24 VDC ±10%
	Valve side	24 VDC +10% -5%
Current consumption	Unit side	100 mA or less (when all output points are ON)
	Valve side	15 mA or less (when all output points are OFF)
No. of output points		16 points
Occupied number		1 station
Operation display		LED (power supply and communication status)

Item		T8G1 T8G2	T8GP1 T8GP2	T8P1 T8P2	T8PP1 T8PP2	T8EC1 T8EC2	T8ECP1 T8ECP2	T8EN1 T8EN2	T8ENP1 T8ENP2	T8D1 T8D2	T8DP1 T8DP2	T8EB1 T8EB2	T8EBP1 T8EBP2	T8EP1 T8EP2	T8EPP1 T8EPP2
Communication protocol		CC-Link ver. 1.10		PROFIBUS-DP(V0)		EtherCAT		EtherNet/IP		DeviceNet		CC-Link IEF Basic		PROFINET	
Power supply voltage	Unit side	24 VDC ±10%								11 to 25 VDC		24 VDC ±10%			
	Valve side	24 VDC+10%, -5%													
Current consumption	Unit side	60mA or less (when all output points are ON)		60mA or less (when all output points are ON)		110mA or less (when all output points are ON)		120mA or less (when all output points are ON)		70mA or less (when all output points are ON)		130mA or less (when all output points are ON)		130mA or less (when all output points are ON)	
	Valve side	T8□ 1:15mA or less T8□ 2:20mA or less (When all output points are ON) Load current is not included								15mA or less (When all output points are ON) Load current is not included					
No. of output points		T8□1:16 points T8□2:32 points													
Occupied number		1 station													
Operation display		LED (Power supply and communication status)													
Output		NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output

M 3/4 GA1/2/3-T*(D) Series

Reduced wiring manifolds; Body piping

How to order

Manifold model No.

M 4GA1 1 0R - C6 - T30 W H D - ○ - 3 - P4

3 Port manifold model No.

M 3GA1 1 0R - C6 - T30 W H D - ○ - 3 - P4

●Discrete valve for integrated base

4GA1 1 9R - C6 - A2N ○ H —— 3 - P4

●For base mounting3 Single port valve

3GA1 1 9R - C6 - A2N ○ H —— 3 - P4

"A2N"AType (downward) Indicates connector, with lamp/ surge suppressor and no lead wire.

Ⓑ Solenoid position

Ⓐ Model No.

Ⓒ Port size

*3
The port size of "●" is a standard product and equivalent to P4 specifications. It is not necessary to add "-P4" to the model No.

●Refer to "Pneumatic Valves No.CB-023SA" for the model No. of cables with D-sub-connector.
●Refer to "Pneumatic Valves No.CB-023SA" for the model No. of cables with D-sub-connector.

Ⓓ Reduced wiring connection
Zener diode is used as a surge suppressor.

Ⓔ Terminal/connector pin array method

Ⓕ Option

Ⓖ Mount type

Ⓗ Station No.

Ⓘ Voltage

Precautions for model No. selection

*1: M4GA*80R when using a mixture of 3, 5-port valves. When using a mixture with the masking plate, M3GA*80R.
*2: Not compatible with combination with external pilot (K). Dimensions are the same as those of the respective 2-position double solenoid.
*4: The push-in fitting cannot be mixed with the discrete valve's 4(A) or 2(B) port.
*5: Blank... The wiring will be based on the type of valve mounted.
W* ... All wired as double solenoid regardless of the type of valve used.s of the type of valve used.
***6 Spare wiring (A type socket assembly) is included on the cap side for single types. A holder for retaining the socket assembly is included for single unit valves (A2N). Refer to page 180 for details.**

* Be sure to fill in the "Manifold specifications sheet" (pages 193 to 204).

Code	Description		Ⓐ Model No. 3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Ⓑ Solenoid position								
1	2-position single					●	●	●
2	2-position double					●	●	●
3	3-position all ports closed					●	●	●
4	3-position ABR connection					●	●	●
5	3-position PAB connection					●	●	●
1	2-position single Normally Closed	(*1)	●	●	●			
11	2-position single Normally Open	(*1)	●	●	●			
66	3-port valve Two valves integrated (*1)(*2)	A valve side: Normally Closed B valve side: Normally Closed	●	●				
67		A valve side: Normally Closed B valve side: Normally Open	●	●				
76		A valve side: Normally Open B valve side: Normally Closed	●	●				
77		A valve side: Normally Open B valve side: Normally Open	●	●				
8	Mix manifold (when there are multiple solenoid positions)		●	●	●	●	●	●

Ⓒ Port size Port	4(A)/2(B)Port	*3	P/R1/R 2Port (2)= Rc1/8	(3)=Rc1/4	(4)=Rc3/8			
C4	ø4 push-in fitting	○	②	③		②	③	
C6	ø6 push-in fitting	○	②	③		②	③	
C8	ø8 push-in fitting	○		③	④		③	④
CX	Push-in fitting mix	(*4) ○	②	③	④	②	③	④
M5	M5	●	②			②		
06	Rc1/8	○		③			③	
08	Rc1/4	○			④			④
Port	4(A)/2(B)Port	*3	P/R1/R 2Port (5)=1/8NPT	(6)=1/4NPT	(7)=3/8NPT			
M5N	M5	●	⑤			⑤		
06 N	NPT1/8	●		⑥			⑥	
08 N	NPT1/4	(*5) ●			⑦			⑦
Port	4(A)/2(B)Port	*3	P/R1/R 2Port (8)=G1/8	(9)=G1/4	(10)=G3/8			
C4G	ø4Push-in fitting	○	⑧	⑨		⑧	⑨	
C6G	ø6Push-in fitting	○	⑧	⑨		⑧	⑨	
C8G	ø8Push-in fitting	○		⑨	⑩		⑨	⑩
CXG	Push-in fitting mix	(*4) ○	⑧	⑨	⑩	⑧	⑨	⑩
M5G	M5	●	⑧			⑧		
06G	G1/8	●		⑨			⑨	
08G	G1/4	●			⑩			⑩

Ⓓ Reduced wiring (lamp and surge suppressor provided as standard)
Refer to the next page for electrical connections.

Ⓔ Terminal/connector pin array								
Blank	Standard wiring	(*5)	●	●	●	●	●	●
W	Double wiring	(*5)	●	●	●	●	●	●
W1	Double wiring (With single spare wiring)	(*5)(*6)	●	●	●	●	●	●

Ⓕ Option
Refer to the following page for options.

Ⓖ Mount type								
Blank	Direct mount		●	●	●	●	●	●
D	DIN Rail mount		●	●	●	●	●	●

Ⓗ Station No.								
2	2 stations							
to	to		●	●	●	●	●	●
20	Refer to page 168 for the max. station number per model.							

Ⓘ Voltage								
3	24 VDC		●	●	●	●	●	●
4	12 VDC		●	●	●	●	●	●

is not available.

			Ⓐ Model No.					
			3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Ⓓ Reduced wiring (lamp and surge suppressor provided as standard) 12/24 VDC								
T10	Common terminal block (M3 thread)	Left-sided specifications	●	●	●	●	●	●
T10R		Right-sided specifications	●	●	●	●	●	●
T11	Common terminal block (clamping)	Left-sided specifications	●	●	●	●	●	●
T11R		Right-sided specifications	●	●	●	●	●	●
T30	DSub-connector	Left-sided specifications	●	●	●	●	●	●
T30R		Right-sided specifications	●	●	●	●	●	●
T50	20-pin flat cable connector (with power supply terminal)	Left-sided specifications	●	●	●	●	●	●
T50R		Right-sided specifications	●	●	●	●	●	●
T51	20-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●	●	●
T51R		Right-sided specifications	●	●	●	●	●	●
T52	10-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●	●	●
T52R		Right-sided specifications	●	●	●	●	●	●
T53	26-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●	●	●
T53R		Right-sided specifications	●	●	●	●	●	●
Ⓓ Serial transmission (lamp/surge suppressor provided as standard) 24 VDC								
T6G1	CC-Link	NPN 16 points	●	●	●	●	●	●
T8G1	CC-Link	NPN 16 points	●	●	●	●	●	●
T8G2		NPN 32 points	●	●	●	●	●	●
T8GP1		PNP 16 points	●	●	●	●	●	●
T8GP2		PNP 32 points	●	●	●	●	●	●
T8P1	PROFIBUS-DP	NPN 16 points	●	●	●	●	●	●
T8P2		NPN 32 points	●	●	●	●	●	●
T8PP1		PNP 16 points	●	●	●	●	●	●
T8PP2		PNP 32 points	●	●	●	●	●	●
T8EC1	EtherCAT	NPN 16 points	●	●	●	●	●	●
T8EC2		NPN 32 points	●	●	●	●	●	●
T8ECP1		PNP 16 points	●	●	●	●	●	●
T8ECP2		PNP 32 points	●	●	●	●	●	●
T8EN1	EtherNet/IP	NPN 16 points	●	●	●	●	●	●
T8EN2		NPN 32 points	●	●	●	●	●	●
T8ENP1		PNP 16 points	●	●	●	●	●	●
T8ENP2		PNP 32 points	●	●	●	●	●	●
T8D1	DeviceNet	NPN 16 points	●	●	●	●	●	●
T8D2		NPN 32 points	●	●	●	●	●	●
T8DP1		PNP 16 points	●	●	●	●	●	●
T8DP2		PNP 32 points	●	●	●	●	●	●
T8EB1	CC-Link IEF Basic	NPN 16 points	●	●	●	●	●	●
T8EB2		NPN 32 points	●	●	●	●	●	●
T8EBP1		PNP 16 points	●	●	●	●	●	●
T8EBP2		PNP 32 points	●	●	●	●	●	●
T8EP1	PROFINET	NPN 16 points	●	●	●	●	●	●
T8EP2		NPN 32 points	●	●	●	●	●	●
T8EPP1		PNP 16 points	●	●	●	●	●	●
T8EPP2		PNP 32 points	●	●	●	●	●	●
A2N	Without lead wire(Without socket)	With surge suppressor and indicator lamp	●	●	●	●	●	●
Ⓕ Option								
Blank	Manual override of non-locking/locking common		●	●	●	●	●	●
M	Non-locking manual override		●	●	●	●	●	●
H	With exhaust check valve	(*7)	●	●	●	●	●	●
K	External pilot	(*8)	●	●	●	●	●	●
A	Ozone/coolant proof		●	●	●	●	●	●
S	Surgeless	(*9)	●	●	●	●	●	●
E	Low exoergic/energy circuit	(*9)(*10)	●	●	●	●	●	●
F	Port A/B filter built in	(*11)	●	●	●	●	●	●
Z1	Air supply spacer	(*12)	●	●	●	●	●	●
Z3	Exhaust spacer	(*12)	●	●	●	●	●	●

Ozone-proof specifications • Coolant proof specifications

How to order Item Ⓕ
Option"A"can be selected.

CE marking specifications

** - Voltage - **ST**

- Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".

Precautions for model No. selection

***7 The 3-position all ports closed and PAB connection are not provided with the exhaust check valve specifications (H). Refer to "Pneumatic Valves No.CB-023SA" for details on the exhaust check valve.**

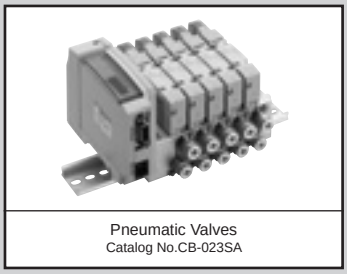
*8 Consult with CKD when using a vacuum with the external pilot (K).

*9 Surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.

*10 Surgeless specifications.

*11 PA filter is built into the port as standard.

***12 Specify the spacer mounting position/quantity in the manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Refer to pages 176 to 177 for details.**



Pneumatic Valves
Catalog No.CB-023SA

Reduced wiring manifolds
Base piping
Direct mount/DIN rail mount

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

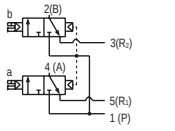
● Cylinder bore size:ø20 to ø100

RoHS CAD

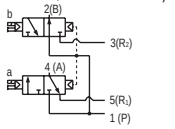
JIS symbol

● Two 3-port valves integrated

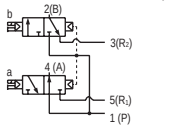
(A side valve:NC, B side valve:NC)



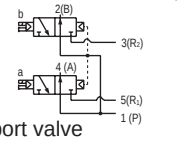
(A side valve:NC, B side valve:NO)



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

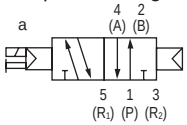


(A side valve:NO, B side valve:NO)

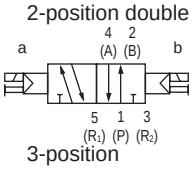


● 5-port valve

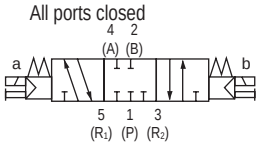
2-position single



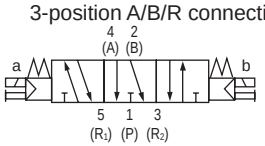
2-position double



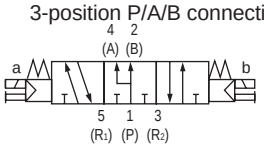
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Item		Description
Manifold		Reduced wiring integrated base
Mounting method		Direct mount/DIN Rail mount
Air supply and exhaust method		Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Internal pilot	Main valve/pilot valve common exhaust (Pilot exhaust check valve built-in)
	External pilot	Main valve/pilot valve individual exhaust
Piping direction		Side direction of base
Valve and operation		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure MPa		0.7
Min. working pressure MPa		0.2 (*3)
Proof pressure MPa		1.05
Ambient temperature °C		−5 to 55 (no freezing)
Fluid temperature °C		5 to 55
Manual override		Non-locking/locking common (standard)
Lubrication (*1)		Not required
Degree of protection (*2)		Dust-proof
Vibration resistance m/s²		50 or less
Shock resistance m/s²		300or less
Atmosphere		Cannot be used in corrosive gas environments

Electrical specifications

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

*1: Use turbine oil Class 1 ISO VG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
*2 Avoid water drops or oil, etc., during use.
*3: The working pressure range is 0 to 0.7MPa when the external pilot (option code: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.
*4: Since voltage drops for T6G1, T8 and (serial transmission type) due to the internal circuit, pay attention to the voltage fluctuation range.
*5: If low exoergic/energy circuit or surgeless types are selected then there will be a diode.

Common specifications

Item		M3GB1/M4GB1	M3GB2/M4GB2	M3GB3/M4GB3
Port size	Port A/B	Push-in fitting ø4,ø6 M5	Push-in fitting ø4,ø6,ø8 Rc1/8	Push-in fitting ø8,ø10 Rc1/4
	2-port P/R1/R	Rc1/8	Rc1/4	Rc3/8

*6 Available as made to order.

T1□, T30□, T5□

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

T6G1

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

T8□

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

The manifold base weight is the value for screw connection specifications with DIN rail, wiring block or slave unit. 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.

Flow characteristics

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

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

Wiring specifications

Item	T10□ Common terminal block	T11□ Common terminal block	T30□ DSub-connector	T50□ Flat cable 20-pin	T51□ Flat cable 20-pin	T52□ Flat cable 10-pin	T53□ Flat cable 26-pin
Connector and terminal block specifications	M3 thread tightening Terminal count 18	Clamping Terminal count 26	Sub-connector 25-pin	MIL-C-83503 standard compliant Pressure welding socket 20-pin	MIL-C-83503 standard compliant Pressure welding socket 20-pin	MIL-C-83503 standard compliant Pressure welding socket 10-pin	MIL-C-83503 standard compliant Pressure welding socket 26-pin
Max. number of solenoids	16 points	24 points	24 points	16 points	18 points	8Point	24 points
Manifold internal wiring	Refer to "Pneumatic Valves No.CB-023SA" for details.						
Wiring block position Blank: Left side R :Right	**Left side: T□** a solenoid side, b solenoid side, Wiring block, 1st station, 2nd station, 3rd station, ···, 6th station			**Right side: T□R** a solenoid side, b solenoid side, 1st station, 2nd station, 3rd station, ···, 6th station, Wiring block			
Array method Blank: Standard sequential W :Double wiring	**(Ex.) In the case of T50□** Manifold specifications: 1a 2a 3a 4a / S D S D / 2b 4b; 1st station 3rd station; 2nd station 4th station						

Standard wiring (sequential) :Blank

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

Double wiring: W

Connector pinNo.	1	2	3	4	5	6	7	8
Valve solenoidNo.	1a	Blank	2a	2b	3a	Blank	4a	4b

Serial transmission slave unit specifications

Refer to the CKD website (https://www.ckd.co.jp/en/).

Item		T6G1
Network name		CC-Link ver1.10
Power supply voltage	Unit side	24 VDC ±10%
	Valve side	24 VDC +10% -5%
Current consumption	Unit side	100 mA or less (when all output points are ON)
	Valve side	15 mA or less (when all output points are off)
No. of output points		16 points
Occupied number		1Station
Operation display		LED (power supply and communication status)

Item		T8G1 T8G2	T8GP1 T8GP2	T8P1 T8P2	T8PP1 T8PP2	T8EC1 T8EC2	T8ECP1 T8ECP2	T8EN1 T8EN2	T8ENP1 T8ENP2	T8D1 T8D2	T8DP1 T8DP2	T8EB1 T8EB2	T8EBP1 T8EBP2	T8EP1 T8EP2	T8EPP1 T8EPP2
Communication protocol		CC-Link ver. 1.10		PROFIBUS-DP (V0)		EtherCAT		EtherNet/IP		DeviceNet		CC-Link IEF Basic		PROFINET	
Power supply voltage	Unit side	24 VDC ±10%								11 DCto25V		24 VDC ±10%			
	Valve side	24 VDC+10%, -5%													
Current consumption	Unit side	60 mA or less (when all output points are ON)		60 mA or less (when all output points are ON)		110 mA or less (when all output points are ON)		120 mA or less (when all output points are ON)		70 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)	
	Valve side	T8□1:15 mA or less T8□2:20 mA or less (when all output points are ON) Load current is not included								15 mA or less (when all output points are ON) Load current is not included					
No. of output points		T8□1:16 points T8□2:32 points													
Occupied number		1 station													
Operation display		LED (Power supply and communication status)													
Output		NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output

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

Reduced wiring manifolds; Base piping

How to order

Manifold model No.

M 4GB1 1 0R - C6 - T30 W H D - ○ - 3 - P4

3 Port manifold model No.

M 3GB1 66 0R - C6 - T30 W H D - ○ - 3 - P4

●Discrete valve for integrated base

4GB1 1 9R - 00 - A2N ○ H —— 3 - P4

●For base mounting3 Single port valve

3GB1 66 9R - 00 - A2N ○ H —— 3 - P4

Ⓑ Solenoid position

Ⓐ Model No.

Ⓒ Port size

*3
The port size of "●" is a standard product and equivalent to P4 specifications. It is not necessary to add "-P4" to the model No.

Ⓓ Reduced wiring connection

Ⓔ Terminal/connector pin array

●DSCable with connector model No. is "Pneumatic Valves No.CB-023SA" details.
●Select the model No. of cables for flat cable connector "Pneumatic Valves No.CB-023SA" details.

Ⓕ Option

Ⓖ Mount type

Ⓗ Station No.

Ⓘ Voltage

* Be sure to fill in the "Manifold specifications sheet" (pages 193 to 204).

Ⓑ Solenoid position			Ⓐ Model No. 3GB1	3GB2	4GB1	4GB2	4GB3
1	2-position single				●	●	●
2	2-position double				●	●	●
3	3-position all ports closed				●	●	●
4	3-positionABRConnection				●	●	●
5	3-positionPABConnection				●	●	●
66	3-port valve Two valves integrated (*1) (*2)	A side valve: Normally Closed	●	●			
		B side valve: Normally Closed					
67		A side valve: Normally Closed	●	●			
		B side valve: Normally Open					
76		A side valve: Normally Open	●	●			
		B side valve: Normally Closed					
77		A side valve: Normally Open	●	●			
		B side valve: Normally Open					
8	Mix manifold (when there are multiple solenoid positions)		●	●	●	●	●

Ⓒ Port size			*3	P/R1/R 2Port (2)=Rc1/8 (3)=Rc1/4 (4)=Rc3/8				
Port	4(A)/2(B)Port		*3					
C4	ø4 push-in fitting		○	②	③	②	③	
C6	ø6 push-in fitting		○	②	③	②	③	
C8	ø8 push-in fitting	(*4)	○		③		③	④
C10	ø10 push-in fitting	(*4)	○					④
CX	Push-in fitting mix		○	②	③	②	③	④
M5	M5		●	②		②		
06	Rc1/8		●		③		③	
08	Rc1/4		●					④
Port	4(A)/2(B)Port		*3	P/R1/R 2Port (5)=1/8NPT (6)=1/4NPT (7)=3/8NPT				
M5N	M5		●	⑤		⑤		
06N	NPT1/8		●		⑥		⑥	
08N	NPT1/4	(*4)	●					⑦
Port	4(A)/2(B)Port		*3	P/R1/R 2Port (8)=G1/8 (9)=G1/4 (10)=G3/8				
C4G	ø4 push-in fitting		○	⑧	⑨	⑧	⑨	
C6G	ø6 push-in fitting		○	⑧	⑨	⑧	⑨	
C8G	ø8 push-in fitting		○		⑨		⑨	⑩
C10G	ø10 push-in fitting		○					⑩
CXG	Push-in fitting mix		○	⑧	⑨	⑧	⑨	⑩
M5G	M5		●	⑧		⑧		
06G	G1/8		●		⑨		⑨	
08G	G1/4		●					⑩
00	Discrete valve for integrated base		●	●	●	●	●	●

Ⓓ Reduced wiring connection

Refer to the next page for electrical connections.

is not available.

⚠ Precautions for model No. selection

*1: M4GB*80R when mixed with 3, 5-port valves. M3GB*80R when mixed with masking plate.
*2: Not compatible with combination with external pilot (K). Dimensions are the same as those of the respective 2-position double solenoid.
*4: Made-to-order product

			Ⓐ Model No.				
			3GB1	3GB2	4GB1	4GB2	4GB3
Ⓓ Reduced wiring (lamp and surge suppressor provided as standard) 12/24 VDC							
T10	Common terminal block(M3 thread)	Left-sided specifications	●	●	●	●	●
T10R		Right-sided specifications	●	●	●	●	●
T11	Common terminal block (clamping)	Left-sided specifications	●	●	●	●	●
T11R		Right-sided specifications	●	●	●	●	●
T30	DSub-connector	Left-sided specifications	●	●	●	●	●
T30R		Right-sided specifications	●	●	●	●	●
T50	20-pin flat cable connector (with power supply terminal)	Left-sided specifications	●	●	●	●	●
T50R		Right-sided specifications	●	●	●	●	●
T51	20-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●	●
T51R		Right-sided specifications	●	●	●	●	●
T52	10-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●	●
T52R		Right-sided specifications	●	●	●	●	●
T53	26-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●	●
T53R		Right-sided specifications	●	●	●	●	●
Ⓓ Serial transmission (lamp/surge suppressor provided as standard) 24 VDC							
T6G1	CC-Link	NPN 16 points	●	●	●	●	●
T8G1	CC-Link	NPN 16 points	●	●	●	●	●
T8G2		NPN 32 points	●	●	●	●	●
T8GP1		PNP 16 points	●	●	●	●	●
T8GP2		PNP 32 points	●	●	●	●	●
T8P1	PROFIBUS-DP	NPN 16 points	●	●	●	●	●
T8P2		NPN 32 points	●	●	●	●	●
T8PP1		PNP 16 points	●	●	●	●	●
T8PP2		PNP 32 points	●	●	●	●	●
T8EC1	EtherCAT	NPN 16 points	●	●	●	●	●
T8EC2		NPN 32 points	●	●	●	●	●
T8ECP1		PNP 16 points	●	●	●	●	●
T8ECP2		PNP 32 points	●	●	●	●	●
T8EN1	EtherNet/IP	NPN 16 points	●	●	●	●	●
T8EN2		NPN 32 points	●	●	●	●	●
T8ENP1		PNP 16 points	●	●	●	●	●
T8ENP2		PNP 32 points	●	●	●	●	●
T8D1	DeviceNet	NPN 16 points	●	●	●	●	●
T8D2		NPN 32 points	●	●	●	●	●
T8DP1		PNP 16 points	●	●	●	●	●
T8DP2		PNP 32 points	●	●	●	●	●
T8EB1	CC-Link IEF Basic	NPN 16 points	●	●	●	●	●
T8EB2		NPN 32 points	●	●	●	●	●
T8EBP1		PNP 16 points	●	●	●	●	●
T8EBP2		PNP 32 points	●	●	●	●	●
T8EP1	PROFINET	NPN 16 points	●	●	●	●	●
T8EP2		NPN 32 points	●	●	●	●	●
T8EPP1		PNP 16 points	●	●	●	●	●
T8EPP2		PNP 32 points	●	●	●	●	●
A2N	Without lead wire (without socket)	With surge suppressor and indicator lamp	●	●	●	●	●
Ⓔ Terminal/connector pin array							
Blank	Standard wiring (*5)		●	●	●	●	●
W	Double wiring (*5)		●	●	●	●	●
W 1	Double wiring (with single spare wiring) (*5) (*6)		●	●	●	●	●
Ⓕ Option							
Blank	Manual override of non-locking/locking common		●	●	●	●	●
M	Non-locking manual override		●	●	●	●	●
H	With exhaust check valve (*7)		●	●	●	●	●
K	External pilot (*8)		●	●	●	●	●
A	Ozone/coolant proof		●	●	●	●	●
S	Surgeless (*9)		●	●	●	●	●
E	Low exoergic/energy circuit (*9) (*10)		●	●	●	●	●
F	Port A/B filter built in (*11)		●	●	●	●	●
Z1	Air supply spacer (*12)		●	●	●	●	●
Z3	Exhaust spacer (*12)		●	●	●	●	●
Z6	Spacer pilot check valve (*12)				●		
Ⓖ Mount type							
Blank	Direct mount		●	●	●	●	●
D	DIN rail mount		●	●	●	●	●
Ⓗ Station No.							
2	2 stations		●	●	●	●	●
to	to						
20	Refer to page 172 for the max. station number per model.						
Ⓘ Voltage							
3	24 VDC		●	●	●	●	●
4	12 VDC		●	●	●	●	●

Ozone-proof specifications • Coolant proof specifications

How to order Item Ⓕ
Option"A"can be selected.

CE marking specifications

** - Voltage - **ST**

・Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".

⚠ Precautions for model No. selection

*5 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.

***6 Spare wiring (A type socket assembly) is included on the cap side for single types. A holder for retaining the socket assembly is included for single unit valves (A2N). Refer to page 180 for details.**

***7 The 3-position all ports closed and PAB connection are not provided with the exhaust check valve specifications (H). Refer to "Pneumatic Valves No.CB-023SA" for details on the exhaust check valve.**

*8 Consult with CKD when using a vacuum with the external pilot (K).

*9 Surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.

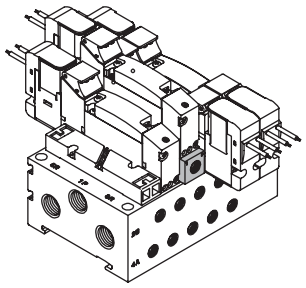
*10 Surgeless specifications.

*11 PA filter is built into the port as standard.

***12 Specify the spacer mounting position/quantity in manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Refer to pages 176 to 177 for details.**

Related products

● Air supply spacer



Specifications

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

*1: Values are when a valve is mounted.
*2: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 x C.

How to order discrete units

● Air supply spacer

Air supply spacer model No.

4G (3) R-P- (GWS10) (A) -P4

(A) Air supply spacer model No.

(B) Port size

*1
The port size of "●" is a standard product and equivalent to P4 specifications. It is not necessary to add "-P4" to the model No.

(C) Mounting screw

Code	Description	Valve model No. 4GA1	4GB1	4GA2	4GB2	4GA3	4GB3
(A) Air supply spacer model No.							
1	For 4G1	●					
2	For 4G2			●			
3	For 4G3					●	
(B) Port size							
Blank	M5(4G1), Rc1/8(4G2), Rc1/4(4G3)	●		●		●	
GWS4	ø4 push-in fitting	○					
GWS6	ø6 push-in fitting			○			
GWS8	ø8 push-in fitting					○	
06 N	NPT1/8			●			
08 N	NPT1/4					●	
06G	G1/8			●			
08G	G1/4					●	
(C) Mounting screw							
Blank		●		●		●	
A	4GA3 A/B port: Rc1/4 thread					● (*2)	

■ is not available.

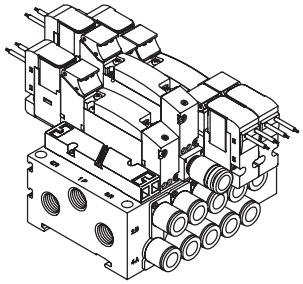
Attachment: Mounting screw 2 (*2), PRCheck valve 2, Body gasket 1

⚠ Precautions for model No. selection

*2 Specify "A" only when using with 4GA3 * 9R-08 for base mounting. (The valve mounting screw length differs.)
*3 Specify the air supply spacer mounting position and quantity in manifold specifications sheets of each catalog.
*4 Combination with the masking plate is not supported.

Related products

● Exhaust spacer



Specifications

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

Note1: Values are when a valve is mounted.
Note2: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 x C.

How to order discrete units

● Exhaust spacer

Exhaust spacer model No.

4G 3 R - R - GWS10 A - P4

- 3 → Ⓐ Air supply spacer model No.
- R → Ⓑ Port size
- GWS10 → Ⓒ Mounting screw
- A → Ⓒ Mounting screw

*1
The port size of "●" is a standard product and equivalent to P4 specifications. It is not necessary to add "-P4" to the model No.

Code	Description	Valve model No. 4GA1	4GB1	4GA2	4GB2	4GA3	4GB3
Ⓐ Exhaust spacer model No.							
1	For 4G1	●					
2	For 4G2			●			
3	For 4G3					●	
Ⓑ Port size							
Blank	M5(4G1), Rc1/8(4G2), Rc1/4(4G3)	●		●		●	
GWS4	ø4 push-in fitting	○					
GWS6	ø6 push-in fitting			○			
GWS8	ø8 push-in fitting					○	
06 N	NPT1/8			●			
06G	G1/8			●			
08G	G1/4					●	
Ⓒ Mounting screw							
Blank		●		●		●	
A	4GA3 A/B port: Rc1/4 thread					● (*2)	

is not available.

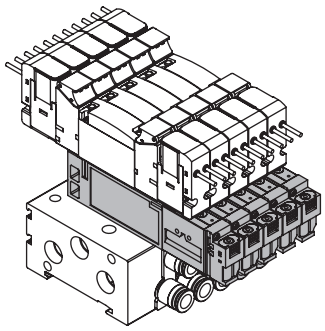
Attachment: 2 mounting screws (*2), 2 PR check valves, 1 body gasket

⚠ Precautions for model No. selection

*2 Specify "A" only when using with 4GA3*9R-08 for base mounting. (The valve mounting screw length differs.)
*3 Specify the exhaust spacer mounting position and quantity in manifold specifications sheets of each catalog.
*4 Combination with the masking plate is not supported.

Related products

● Spacer pilot check valve

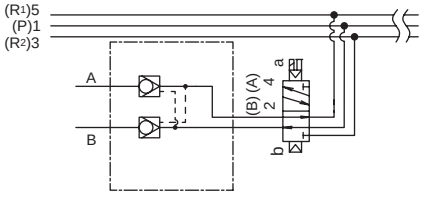


Specifications

Item		4G1R-PC
Working fluid		Compressed air
Max. working pressure	MPa	0.7
Min. working pressure	MPa	0.2
Proof pressure	MPa	1.05
Effective cross-sectional area	mm^2	1.6(With solenoid valve)
Ambient temperature	°C	−5 to 55(no freezing)
Working fluid temperature	°C	5 to 55
Lubrication	(Note1)	Not required
Atmosphere		Cannot be used in corrosive gas environment.
Weight	g	22

*1: Use turbine oil Class 1 ISO VG32 for lubrication. Note that excessive lubricant may cause unstable operation.

JIS symbol



Note: Using a cylinder with a large bore size (more than ø50 as a guide) with little exhaust restriction (eg, no speed controller, no silencer) may lead to a decrease in intermediate stop accuracy and stopping error. Please be careful.

Discrete model No.

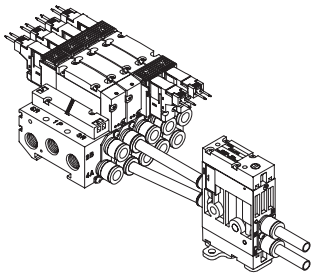
4G1R-PC

⚠ Precautions for model No. selection

*1: Specify the spacer positions in the manifold specifications sheet.
*2: Stacking of spacers is not possible.
*3: A spacer cannot be combined with a masking plate.
*4: The spacer pilot check valve can be mounted only when the piping method is base piping.

Related products

● Pilot check valve

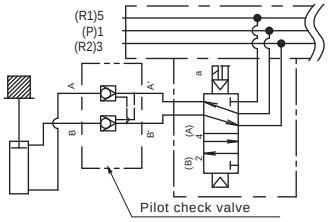


Specifications

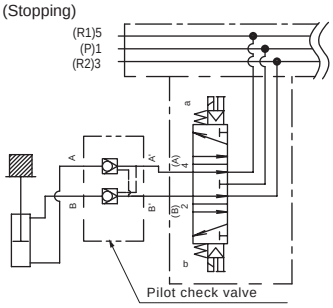
Item		4G2R-PCS-*-*
Effective cross-sectional area	mm^2	11
Weight	g	200

JIS symbol

(Position locking)



(Stopping)



Example of leak comparison
All ports closed (solenoid) valve
10 cm^3/min or less
Pilot check valve (4G2R-PCS)
0 to 0.3cm^3/min

How to order

● Discrete model No.

4G2R − PCS − C4 − ○ ——— P4

● Manifold model No.

M4G2R − PCS − C4 − ○ − 5 − P4

Model No.

Pilot check valve

Ⓐ Port size (*1)

Ⓑ Option (*2)

Ⓒ Station No.

Code	Description	
Ⓐ Port size		
	Valve side port	Cylinder side port
C4	ø4 push-in fitting	ø4 push-in fitting
C6	ø6 push-in fitting	ø6 push-in fitting
C8	ø8 push-in fitting	ø8 push-in fitting
Ⓑ Option		
Blank	No	
F	Port A/B filter built in	
D	DIN rail mount	
Ⓒ Station No.		
2	2 stations	
to	to	
10	10 stations	

⚠ Depending on use conditions, the pilot check valve body may emit resonance noise due to the air flow when the cylinder operates, but this is not an abnormality. Adjust the pipe length and bore size in that case.

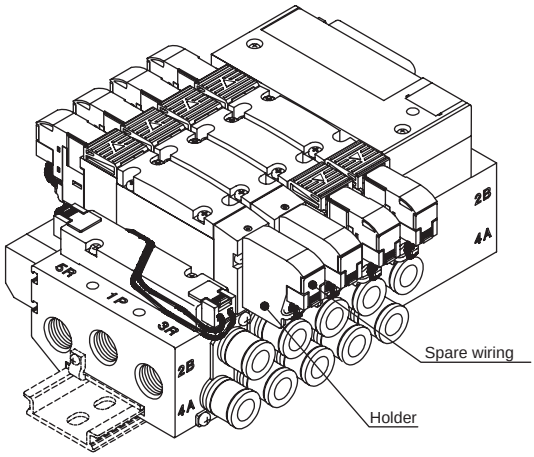
⚠ Precautions for model No. selection

*1: Contact CKD for information on mixing port sizes.
*2: The following applies when blank is selected as an option. Manual override: Non-locking/locking common Mounting method: Direct mounting

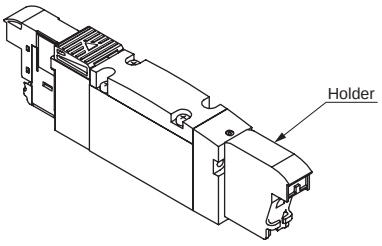
Related products

● Double wiring (single spare wiring)

For manifolds



Discrete valve (2-position single)



A holder for retaining the socket assembly is included.
(Not included for A type sockets.)
This can be used to hold the socket assembly no longer required when changing the valve from a double solenoid to a single solenoid.

Spare wiring (holder and A type socket assembly) is included on the cap side for single solenoid valves. When changing the valve from a single solenoid to a double solenoid, A type socket assembly is not required separately, so changing the valve is easy.

Example of model No.

● Manifold model No.(Example)

M 4GA1 1 0 R - C6 - T30 W1 H - 10 - 3 - P4

- A Model No.
- B Solenoid position
- C Port size
- D Reduced wiring Connection
- E Terminal/connector pin array
- F Option
- G Station No.
- H Voltage

Code	Description
E Terminal/connector pin array	
W1	Double wiring (With single spare wiring)

* Refer to How to order for each series for details about model numbers.

Related parts

Fitting adapter kit

4G1 R-JNT-ADAPTOR-KIT-C4 NC-F-P4

Ⓐ Model No.

Ⓑ Port size

Ⓒ NC/NO

Ⓓ Option

Ⓐ Model No.	3G1	3G2	3G3	4G1	4G2	4G3
Ⓑ Port size						
C4 ø4 straight	●	●			●	
C6 ø6 straight	●	●			●	
C8 ø8 straight		●	●		●	●
Ⓒ NC/NO						
NC For 3GA□10	●	●	●			
N0 For 3GA□110	●	●	●			
Blank 3GA□10, 3GA□110 or less	●	●		●	●	●
Ⓓ Option						
Blank	●	●	●	●	●	●
F Port A/B filter built in	●	●	●	●	●	●

Note: Fitting adaptor (with fitting), gasket, mounting screw (2I) is in a set.

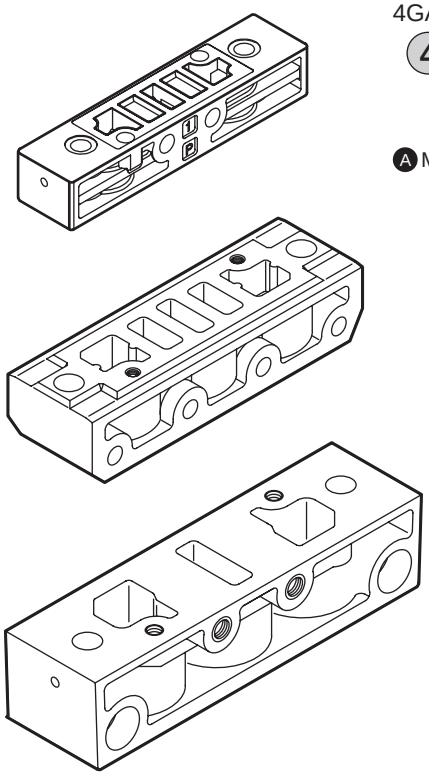
Female thread adapter kit

Model	Kit model No.	Set parts
3GA1/4GA1	4G1R-FML-ADAPTOR-KIT-[Bore size]-[Option]-P4	Female thread adaptor, gasket, mounting screw 2
3GA2/4GA2	4G2R-FML-ADAPTOR-KIT-[Bore size]-[Option]-P4	Female thread adaptor, gasket, mounting screw 2
3GA3/4GA3	4G3R-FML-ADAPTOR-KIT-[Bore size]-[Option]-P4	Female thread adaptor, gasket, mounting screw 2, Body mounting screw 2

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

Related parts

(5) Sub-plate



4GA Pipe adaptor

4G1 R - ADAPTOR - M5 - ☐

Ⓐ Model No.

Ⓑ Port size

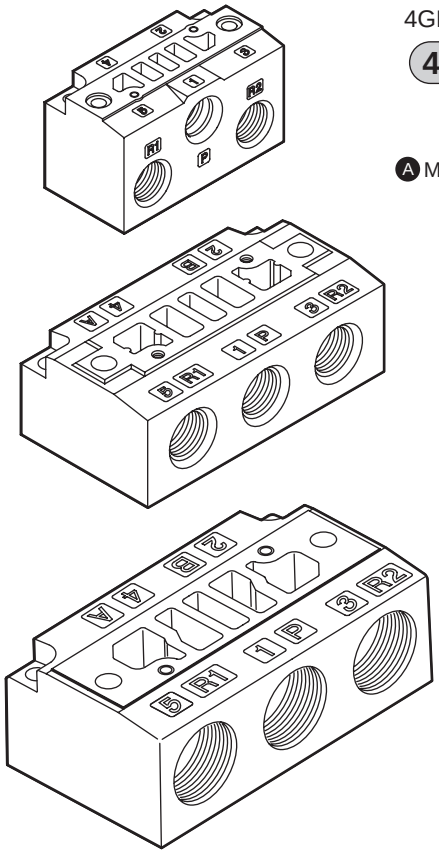
Ⓒ Option

P4 as standard Specifications

Ⓐ Model No.		4G1	4G2	4G3
Ⓑ Port size (P/R1/R2 port)				
M5	M5	●		
06	Rc1/8		●	
08	Rc1/4			●
06 N	NPT1/8		●	
08 N	NPT1/4			○
06G	G1/8		●	
Ⓒ Option				
P	Mounting plate with (Included)	●	●	●

is not available.

○ indicates made to order.



4GB Discrete sub-plate

4G1 R - SUB - BASE - 06 - ☐

Ⓐ Model No.

Ⓑ Port size

Ⓒ Option

P4 as standard Specifications

Ⓐ Model No.		4G1	4G2	4G3
Ⓑ Port size(A/B/P/R1/R2 port)				
06	Rc1/8	●		
08	Rc1/4		●	●
10	Rc3/8			●
06 N	NPT1/8	○		
08 N	NPT1/4		○	○
10 N	NPT3/8			○
06G	G1/8	○		
08G	G1/4		○	
Ⓒ Option				
K	External pilot	●	●	●
F	Port A/B filter built in *1	●	●	●

*1: PA filter is built into the port as standard.

is not available.

○ indicates made to order.

Related parts

(6) Manifold sub-plate kit individual wiring

● M4GA Sub-plate

M4GA1R-00-□-2

Ⓐ Model No.
Ⓑ Port size (Note1)
Ⓒ Option
Ⓓ Station No.

P4 as standard Specifications

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

*1: Port size of P/R1/R2 port.

● M4GB1 Sub-plate

M4GB1R-C4-□-D-2-P4

Ⓐ Port size
Ⓑ Option
Ⓒ Mount type
Ⓓ Station No.

*1
The port size of "●" is a standard product and equivalent to P4 specifications. It is not necessary to add "-P4" to the model No.

Code	Description		
Ⓐ Port size			
Port	**4(A), 2(B) port**	***1**	**Port P/R1/R2**
C4	ø4 push-in fitting	○	
C6	ø6 push-in fitting	○	Rc1/8
M5	M5	●	
Port	**4(A), 2(B) port**	***1**	**Port P/R1/R2**
M5N	M5	●	NPT1/8
Port	**4(A), 2(B) port**	***1**	**Port P/R1/R2**
C4G	ø4 push-in fitting	○	
C6G	ø6 push-in fitting	○	G1/8
M5G	M5	●	
Ⓑ Option			
Blank			
K	External pilot		
F	Port A/B filter built in		(*2)
Ⓒ Mount type			
Blank	Direct mount		
D	DIN rail mount		(*3)
Ⓓ Station No.			
2	2 stations		
to	to		
20	Refer to the specifications page for the max. station number.		

*2: PA filter is built into the port as standard.
*3: The DIN rail kit needs to be prepared separately.

Related parts

(6) Manifold sub-plate kit individual wiring

● M4GB2/M4GB3 Sub-plate

M4GB2 R - CL4 - ( ) - 2 - P4

Ⓑ Port size

*1
The port size of "●" is a standard product and equivalent to P4 specifications. It is not necessary to add "-P4" to the model No.

Ⓒ Option

Ⓓ Station No.

Code	Description		Ⓐ Model No. M4GB2	Ⓐ Model No. M4GB3
Ⓑ Port size				
Port	**4(A), 2(B) port**	***1**	**Port P/R1/R2 (1) = Rc1/4 (2) = Rc3/8**	
C4	ø4 push-in fitting	○	①	
C6	ø6 push-in fitting	○	①	
C8	ø8 push-in fitting	○	①	②
C10	ø10 push-in fitting (*2)	○		②
06	Rc1/8	●	①	
08	Rc1/4	●		②
Port	**4(A), 2(B) port**	***1**	**Port P/R1/R2 (3)=NPT1/4 (4)=NPT3/8**	
06 N	NPT1/8	●	③	
08 N	NPT1/4 (*2)	●		④
Port	**4(A), 2(B) port**	***1**	**Port P/R1/R2 (5) = G1/4**	
C4G	ø4 push-in fitting	○	⑤	
C6G	ø6 push-in fitting	○	⑤	
C8G	ø8 push-in fitting	○	⑤	
06G	G1/8	●	⑤	

Ⓒ Option	
Blank	
K	External pilot
F	Port A/B filter built in (*3)

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

*2: Available as made to order.
*3: PA filter is built into the port as standard.
*4: Direct mount and DIN rail mount are common.
*5: The DIN rail kit needs to be prepared separately.

Related parts

(7) Manifold sub-plate kit reduced wiring

● M4GA Sub-plate

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

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

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

1: In the case of T8 select either mount type. Blank only for items other than T8*.
*2: The DIN rail kit needs to be prepared separately.

Related parts

(7) Manifold sub-plate kit reduced wiring

● M4GB-sub-plate

M4GB1 R - C4 - T10 - ○○ - 2 -P4

Ⓐ Model No. Ⓑ Port size

*1
The port size of "●" is a standard product and equivalent to P4 specifications. It is not necessary to add "-P4" to the model No.

Ⓒ Reduced wiring connection

Ⓓ Option

Ⓔ Mount type

Ⓕ Station No.

*2: A filter is built into port P as standard.
3: For T8, select either mount type. Blank only for items other than T8*.
*4: The DIN rail kit needs to be prepared separately.

Code	Description	Ⓐ Model No. M4GB1	M4GB2	M4GB3
Ⓐ Model No.				
M4GB1	Metal base 4G1 Size Base piping			
M4GB2	Metal base 4G2 Size Base piping			
M4GB3	Metal base 4G3 Size Base piping			

Ⓑ Port size		*1	Port P/R1/R2 ①=Rc1/8 ②=Rc1/4 ③=Rc3/8		
Port	**4(A), 2(B) port**				
C4	ø4 push-in fitting	○	①	②	
C6	ø6 push-in fitting	○	①	②	
C8	ø8 push-in fitting	○		②	③
C10	ø10 push-in fitting	○			③
M5	M5	●	①		
06	Rc1/8	●		②	
08	Rc1/4	●			③
Port	**4(A), 2(B) port**	*1	Port P/R1/R2 ④NPT=1/8 ⑤NPT=1/4 ⑥NPT=3/8		
M5N	M5	●	④		
06 N	NPT1/8	●		⑤	
08 N	NPT1/4	●			⑥
Port	**4(A), 2(B) port**	*1	Port P/R1/R2 ⑦=G1/8 ⑧=G1/4		
C4G	ø4 push-in fitting	○	⑦	⑧	
C6G	ø6 push-in fitting	○	⑦	⑧	
C8G	ø8 push-in fitting	○		⑧	
CXG	Push-in fitting mix	○	⑦	⑧	
M5G	M5	●	⑦		
06G	G1/8	●		⑧	
00	Discrete valve for integrated base	●	●	●	●

Ⓒ Reduced wiring connection		
T10	Common terminal block (M3 thread)	Left-sided specs.
T10R		Right-sided specs.
T11	Common terminal block (clamping)	Left-sided specs.
T11R		Right-sided specs.
T30	DSub-connector	Left-sided specs.
T30R		Right-sided specs.
T50	20-pin flat cable connector (with power supply terminal)	Left-sided specs.
T50R		Right-sided specs.
T51	20-pin flat cable connector (without power supply terminal)	Left-sided specs.
T51R		Right-sided specs.
T52	10-pin flat cable connector (without power supply terminal)	Left-sided specs.
T52R		Right-sided specs.
T53	26-pin flat cable connector (without power supply terminal)	Left-sided specs.
T53R		Right-sided specs.
T56	20-pin flat cable connector (without power supply terminal) Serial transmission slave unit OPP3 connection	Left-sided specs.
T81	For serial transmission slave (adapter) station OPP7 connection(16 points output)	Left-sided specs.
T82	For serial transmission slave (adapter) station OPP7 connection (32 points output)	Left-sided specs.

Ⓓ Option	
Blank	No option
K	External pilot
F	Port A/B filter built in *2

Ⓔ Mount type *3	
Blank	Direct mount
D	DIN rail mount *4

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

MEMO

How to fill out metal base M4G Series manifold specifications sheet

● Manifold model No. (example)

M 4 G(A/B) 1 8 0R- CX - T30 [ ] - 9 - 3 - P4

Solenoid valves | Solenoid position | Port size | Electrical connections | Terminal connector pin array method | Station No. | Voltage

Precautions for fitting mix CX

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

Selectable cartridge fittings	
4G1	C4, C6, x (plug)
4G2	C4, C6, C8, × (plug)
4G3	C8, C10, × (plug)

*Port A/B fitting mix is not available for body piping.

Base piping M4GB*10 How to use as a 3-port valve

This can be used as NO/NC by attaching a plug cartridge on one side of port A/B. Indicate “X” in the fitting CX column.

Switching method	Plug mounting port
NC (Normally Closed)	B
NO (Normally Open)	A

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

Solenoid valve model No.	Fitting CX A	Fitting CX B	Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Quantity
4GB11 9R-CX	C6	X	○	○																							2
4GB11 9R-C6					○	○																					2
4GB12 9R-C6							○	○																			2
4GB15 9R-CX	C6	C4							○	○																	2
4G 1 9R-																											
3GA1 9R-																											
3GA1 9R-																											
Masking plate 4G1R-MP(S)																											
Masking plate 4G1R-MP(D)											○																1

Indicate X for a plug

Fill in "CX" when changing the fitting combination

Mounting rail	Included partss	Blanking plug		Threaded plug	
L2= [ ] *Write an integer multiple of 12.5.		GWP 4-B	GWP 6-B	4G1R-M5P	
		Cable with D-sub-connector	4GR-CABLE-D0□-□		Push-in fitting tube remover (attached as standard) ☑ Not required (check)

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

M4GB1*OR-C8 does not have a removal tool attached.

* A reference circuit diagram for the above manifold (example) is shown on the next page.

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

● Individual wiring…M4G(A/B)1 (Page 190), M4G(A/B)2 (Page 191), M4G(A/B)3 (Page 192)

● Reduced wiring

- Common terminal block (T1*), D-sub-connector (T30) : M4G(A/B)1 (Page 193), M4G(A/B)2(Page 194), M4G(A/B)3(Page 195)
- Flat cable connector (T5*) : M4G(A/B)1 (Page 196), M4G(A/B)2(Page 197), M4G(A/B)3(Page 198)
- Serial transmission (T6G1) : M4G(A/B)1 (Page 199), M4G(A/B)2(Page 200), M4G(A/B)3(Page 201)
- Serial transmission (T8*) : M4G(A/B)1 (Page 202), M4G(A/B)2(Page 203), M4G(A/B)3(Page 204)

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.

Connector pinNO.		Installation position															
T30/T30R	T50/T50R/T6*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	1	a																
14	2		a															
2	3			a														
15	4																	
3	5				a													
16	6																	
4	7					a												
17	8					b												
5	9 -Power supply						a											
18	10 +(COM)Power supply						b											
6	11							a										
19	12							b										
7	13								a									
20	14								b									
8	15									(a)								
21	16									(b)								
9	17																	
22	18																	
10	19 -Power supply																	
23	20 +(COM)Power supply																	
11																		
24																		
12																		
25																		
13 (COM)																		

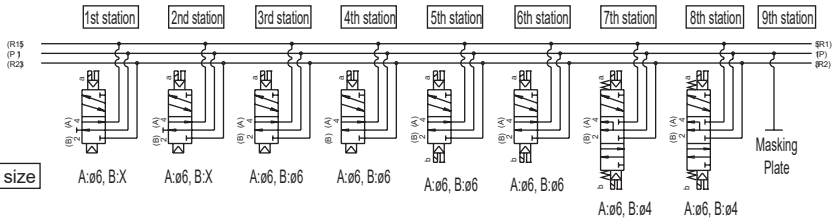
Spare cable wiring Precautions①

* Note that when T50 wiring is used, the COM polarity is + (plus).
* When T50 wiring is used, connector pin numbers 9, 10, 19, and 20 cannot be specified, because they are used for the external input power supply.
* Wiring is sequential from connector pin No. 1 in standard wiring. Contact CKD for special wiring order.

Precautions regarding spare wiring

① Spare wires are provided on the masking plate for the reduced wiring manifold...(Refer to page 180)
The number of wires for spare wiring can be specified by selecting the masking plate within the specifications.
4G *R -MP(S)...1 pc.
4G *R -MP(D)...2 pcs.
Spare wiring for the masking plate is provided in the manifold specifications sheet (a), (b).

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



Port size A:ø6, B:X | A:ø6, B:X | A:ø6, B:ø6 | A:ø6, B:ø6 | A:ø6, B:ø6 | A:ø6, B:ø6 | A:ø6, B:ø4 | A:ø6, B:ø4

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

M4G$^{A}_{B}$1 Manifold specifications sheet

Date issued / /

Company

Contact

Order No.

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

Slip No.	Order No.

● Manifold model No.

M □ G $^{A}_{B}$1 □ 0R- □ - □ □ □ - □ - □ -P4

Solenoid valves / Solenoid position / Port size / Electrical connections / Other options / Mount type / Station No. / Voltage

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Quantity
4G □ 1 □ 9R- □ - □																											
4G □ 1 □ 9R- □ - □																											
4G □ 1 □ 9R- □ - □																											
4G □ 1 □ 9R- □ - □																											
4G □ 1 □ 9R- □ - □																											
3G □ 1 □ 9R- □ - □																											
3G □ 1 □ 9R- □ - □																											
Masking plate 4G1R-MP- □																											
Air supply spacer 4 G1R-P- □																											
Exhaust spacer 4G1R-R- □																											
Pilot check valve spacer 4G1R-PC																											

Mounting rail	Included parts	Blanking plug				Threaded plug	
L_2= □ *Write an integer multiple of 12.5.		GWP 4-B		GWP 6-B		4G1R-M5P	
		Push-in fitting tube remover (attached as standard) Not required (check the box) □					

M4G$^{A}_{B}$2Manifold specifications sheet

Date issued / /

Company

Contact

Order No.

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

Slip No.	Order No.

● Manifold model No.

M □ G$^{A}_{B}$ 2 □ 0R- □ - □ □ □ - □ - □ -P4

Solenoid valves / Solenoid position / Port size / Electrical connections / Other options / Mount type / Station No. / Voltage

Solenoid valve model No.	Fitting CX		Valve installation position																							Adjustable Qty.
	A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
4G □ 2 □ 9R- □ - □																											
4G □ 2 □ 9R- □ - □																											
4G □ 2 □ 9R- □ - □																											
4G □ 2 □ 9R- □ - □																											
4G □ 2 □ 9R- □ - □																											
3G □ 2 □ 9R- □ - □																											
3G □ 2 □ 9R- □ - □																											
Masking plate **4G2R-MP-** □																											
Air supply spacer **4G2R-P-** □																											
Exhaust spacer **4G2R-R**																											

Mounting rail	L_2= □ *Write an integer multiple of 12.5.	Included parts	Blanking plug						Threaded plug	
			GWP 4-B		GWP 6-B		GWP 8-B		4G2R-06P	

* Can only be selected for B types.

M4G$^{A}_{B}$3Manifold specifications sheet

Date issued / /
Company
Contact
Order No.

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

Slip No.	Order No.

● Manifold model No.

M □ G$^{A}_{B}$3 □ 0R- □ - □ □ □ - □ - □ -P4

Solenoid valves / Solenoid position / Port size / Electrical connections / Other options / Mount type / Station No. / Voltage

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Quantity
4G □ 3 □ 9R- □																											
4G □ 3 □ 9R- □																											
4G □ 3 □ 9R- □																											
4G □ 3 □ 9R- □																											
4G □ 3 □ 9R- □																											
3GA3 □ 9R- □																											
3GA3 □ 9R- □																											
Masking plate 4G3R-MP- □																											
Air supply spacer 4G3R-P- □																											
Exhaust spacer 4G3R-R- □																											

Mounting rail	L_2= □ *Write an integer multiple of 12.5.	Included parts	Blanking plug				Threaded plug	
			GWP 8-B		GWP 10-B		4G3R-08P	

M4G A/B 1-T1, 3 Manifold specifications sheet

Date issued / /

Company

Contact

Order No.

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

Slip No.	Order No.

● Manifold model No.

M □ G A/B 1 □ 0R- □ - □ □ □ □ - □ - □ - P4

Solenoid valves | Solenoid position | Port size | Reduced wiring connection | Terminal/connector pin Array method | Option | Mount type | Station No. | Voltage

Solenoid valve model No.	Fitting CX A	Fitting CX B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Quantity
4G □ 1 □ 9R- □ - □																											
4G □ 1 □ 9R- □ - □																											
4G □ 1 □ 9R- □ - □																											
4G □ 1 □ 9R- □ - □																											
4G □ 1 □ 9R- □ - □																											
3G □ 1 □ 9R- □ - □																											
3G □ 1 □ 9R- □ - □																											
Masking plate **4G1R-MP(S)-** □																											
Masking plate **4G1R-MP(D)-** □																											
Air supply spacer **4 G1R-P-** □																											
Exhaust spacer **4G1R-R-** □																											
Pilot check valve spacer **4G1R-PC**																											

Mounting rail	Included partss	Blanking plug				Threaded plug	
L2= □ *Write an integer multiple of 12.5.		**GWP 4-B**		**GWP 6-B**		**4G1R-M5P**	
		Cable with D-sub-connector		4GR-CABLE-D0□-□		Push-in fitting tube remover (attached as standard) Not required (check the box) □	

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

Connector pin No. T10/T10R	T11/T11R	T30/T30R	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	**1**	1																								
2	**2**	14																								
3	**3**	2																								
4	**4**	15																								
5	**5**	3																								
6	**6**	16																								
7	**7**	4																								
8	**8**	17																								
9	**9**	5																								
10	**10**	18																								
11	**11**	6																								
12	**12**	19																								
13	**13**	7																								
14	**14**	20																								
15	**15**	8																								
16	**16**	21																								
COM	**17**	9																								
COM	**18**	22																								
	19	10																								
	20	23																								
	21	11																								
	22	24																								
	23	12																								
	24	25																								
	COM	13 (COM)																								
	COM																									

M4G$^{A}_{B}$2-T1, 3 Manifold specifications sheet

Date issued / /

Company

Contact

Order No.

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

Slip No.	Order No.

● Manifold model No.

M□G$^{A}_{B}$2□0R-□-□□□□-□-□-P4

Solenoid valves | Solenoid position | Port size | Reduced wiring connection | Terminal/connector pin Array method | Option | Mount type | Station No. | Voltage

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Quantity
4G□2□9R-□-□																											
4G□2□9R-□-□																											
4G□2□9R-□-□																											
4G□2□9R-□-□																											
4G□2□9R-□-□																											
3G□2□9R-□-□																											
3G□2□9R-□-□																											
Masking plate 4G2R-MP(S)-□																											
Masking plate 4G2R-MP(D)-□																											
Air supply spacer 4G2R-P-□																											
Exhaust spacer 4G2R-R-□																											

Mounting rail: L_2= □ *Write an integer multiple of 12.5.

Included partss:

Blanking plug						Threaded plug	
GWP 4-B		GWP 6-B		GWP 8-B		4G2R-06P	
Cable with D-sub-connector		4GR-CABLE-D0□-□					

* Can only be selected for B types.

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

Connector pin No. T10/T10R	T11/T11R	T30/T30R	Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1																								
2	2	14																								
3	3	2																								
4	4	15																								
5	5	3																								
6	6	16																								
7	7	4																								
8	8	17																								
9	9	5																								
10	10	18																								
11	11	6																								
12	12	19																								
13	13	7																								
14	14	20																								
15	15	8																								
16	16	21																								
COM	17	9																								
COM	18	22																								
	19	10																								
	20	23																								
	21	11																								
	22	24																								
	23	12																								
	24	25																								
	COM	13 (COM)																								
	COM																									

M4G $^{A}_{B}$3-T1, 3 Manifold specifications sheet

Date issued / /

Company

Contact

Order No.

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

Slip No.	Order No.

● Manifold model No.

M □ G$^{A}_{B}$3 □ 0R- □ - □ □ □ □ - □ - □ -P4

Solenoid valves | Solenoid position | Port size | Reduced wiring connection | Terminal/connector pin Array method | Option | Mount type | Station No. | Voltage

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Quantity
4G □ 3 □ 9R- □																											
4G □ 3 □ 9R- □																											
4G □ 3 □ 9R- □																											
4G □ 3 □ 9R- □																											
4G □ 3 □ 9R- □																											
3GA3 □ 9R- □																											
3GA3 □ 9R- □																											
Masking plate **4G3R-MP(S)-**																											
Masking plate **4G3R-MP(D)-**																											
Air supply spacer **4G3R-P-**																											
Exhaust spacer **4G3R-R-**																											

Mounting rail: L_2= □ *Write an integer multiple of 12.5.

Included partss:

Blanking plug				Threaded plug	
GWP 8-B		**GWP 10-B**		**4G3R-08P**	
Cable with D-sub-connector		4GR-CABLE-D0□-□			

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

Connector pin No. T10/T10R	T11/T11R	T30/T30R	Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1																								
2	2	14																								
3	3	2																								
4	4	15																								
5	5	3																								
6	6	16																								
7	7	4																								
8	8	17																								
9	9	5																								
10	10	18																								
11	11	6																								
12	12	19																								
13	13	7																								
14	14	20																								
15	15	8																								
16	16	21																								
COM	17	9																								
COM	18	22																								
	19	10																								
	20	23																								
	21	11																								
	22	24																								
	23	12																								
	24	25																								
	COM	13 (COM)																								
	COM																									

M4G1 reduced wiring

M4G$^{A}_{B}$1-T5 Manifold specifications sheet

Date issued / /

Company

Contact

Order No.

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

Slip No.	Order No.

● Manifold model No.

M G$^{A}_{B}$1 0R- - -P4

Solenoid valves | Solenoid position | Port size | Reduced wiring connection | Terminal/connector pin Array method | Option | Mount type | Station No. | Voltage

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Quantity
4G 1 9R- -																											
4G 1 9R- -																											
4G 1 9R- -																											
4G 1 9R- -																											
4G 1 9R- -																											
3G 1 9R- -																											
3G 1 9R- -																											
Masking plate **4G1R-MP(S)-**																											
Masking plate **4G1R-MP(D)-**																											
Air supply spacer **4 G1R-P-**																											
Exhaust spacer **4G1R-R-**																											
Pilot check valve spacer **4G1R-PC**																											

Mounting rail: L_2 = *Write an integer multiple of 12.5.

Included parts:

Blanking plug				Threaded plug	
GWP 4-B		**GWP 6-B**		**4G1R-M5P**	

Push-in fitting tube remover (attached as standard) Not required (check the box) □

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

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

* Note that when T50 wiring is used, the COM polarity is + (plus).
* When T50 wiring is used, connector pin numbers 9, 10, 19, and 20 cannot be specified, because they are used for the external input power supply.

M4G A/B 2-T5 Manifold specifications sheet

Date issued / /

Company

Contact

Order No.

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

Slip No.	Order No.

● Manifold model No.

M □ G A/B 2 □ 0R- □ - □ □ □ □ - □ - □ -P4

Solenoid valves | Solenoid position | Port size | Reduced wiring connection | Terminal/connector pin Array method | Option | Mount type | Station No. | Voltage

Solenoid valve model No.	Fitting CX		Valve installation position																								Quantity
	A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
4G□2□9R-□-□																											
4G□2□9R-□-□																											
4G□2□9R-□-□																											
4G□2□9R-□-□																											
4G□2□9R-□-□																											
3G□2□9R-□-□																											
3G□2□9R-□-□																											
Masking plate 4G2R-MP(S)-□																											
Masking plate 4G2R-MP(D)-□																											
Air supply spacer 4G2R-P-□																											
Exhaust spacer 4G2R-R-□																											

Mounting rail	L2= □ *Write an integer multiple of 12.5.	Included parts	Blanking plug						Threaded plug	
			GWP 4-B		GWP 6-B		GWP 8-B		4G2R-06P	

* Can only be selected for B types.

● Wiring specifications sheet (Not required for standard wiring/double wiring...Wiring order, Complete these specifications when specifying the expansion cables)

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

* Note that when T50 wiring is used, the COM polarity is + (plus).
* When T50 wiring is used, connector pin numbers 9, 10, 19, and 20 cannot be specified, because they are used for the external input power supply.

M4G3 reduced wiring

M4G$^{A}_{B}$3-T5 Manifold specifications sheet

Date issued / /

Company

Contact

Order No.

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

Slip No.	Order No.

● Manifold model No.

M ☐ G$^{A}_{B}$3 ☐ 0R- ☐ - ☐ ☐ ☐ ☐ - ☐ - ☐ -P4

Solenoid valves | Solenoid position | Port size | Reduced wiring connection | Terminal/connector pin Array method | Option | Mount type | Station No. | Voltage

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Quantity
4G ☐ 3 ☐ 9R- ☐																											
4G ☐ 3 ☐ 9R- ☐																											
4G ☐ 3 ☐ 9R- ☐																											
4G ☐ 3 ☐ 9R- ☐																											
4G ☐ 3 ☐ 9R- ☐																											
3GA3 ☐ 9R- ☐																											
3GA3 ☐ 9R- ☐																											
Masking plate 4G3R-MP(S)- ☐																											
Masking plate 4G3R-MP(D)- ☐																											
Air supply spacer 4G3R-P- ☐																											
Exhaust spacer 4G3R-R- ☐																											

Mounting rail	L_2= ☐ *Write an integer multiple of 12.5.	Included parts	Blanking plug		Threaded plug	
			GWP 8-B	GWP 10-B	4G3R-08P	

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

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

* When T50 wiring is used, the COM polarity is + (positive).
* When T50 wiring is used, connector pin numbers 9, 10, 19, and 20 cannot be specified, because they are used for the external input power supply.

M4G$^{A}_{B}$1-T6G1 Manifold specifications sheet

Date issued / /

Company

Contact

Order No.

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

Slip No.	Order No.

● Manifold model No.

M G $^{A}_{B}$1 0R- - T6G1 D - - 3 - P4

Solenoid valves | Solenoid position | Port size | Serial transmission | Terminal/connector pin array | Option | Station No. | Voltage

Solenoid valve model No.	Fitting CX		Valve installation position																Quantity
	A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
4G 1 9R- -																			
4G 1 9R- -																			
4G 1 9R- -																			
4G 1 9R- -																			
4G 1 9R- -																			
3G 1 9R- -																			
3G 1 9R- -																			
Masking plate **4G1R-MP(S)-**																			
Masking plate **4G1R-MP(D)-**																			
Air supply spacer **4 G1R-P-**																			
Exhaust spacer **4G1R-R-**																			
Pilot check valve spacer **4G1R-PC**																			

Mounting rail	L_2= *Write an integer multiple of 12.5.	Included parts	Blanking plug				Threaded plug	
			GWP 4-B		GWP 6-B		4G1R-M5P	
			Push-in fitting tube remover (attached as standard) Not required (check the box) ☐					

*Tube remover is not included with C8 of M4GB.

● 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															
T6G1		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
T6G1:CC-Link 16 points	1																
	2																
	3																
	4																
	5																
	6																
	7																
	8																
	9																
	10 COM																
	11																
	12																
	13																
	14																
	15																
	16																
	17																
	18																
	19																
	20 COM																

M4G$^{A}_{B}$2-T6G1 Manifold specifications sheet

Date issued / /
Company
Contact
Order No.

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

Slip No.	Order No.

● Manifold model No.

M G $^{A}_{B}$2 0R- - T6G1 D - - 3 -P4

Solenoid valves / Solenoid position / Port size / Serial transmission / Terminal/connector pin array / Option / Station No. / Voltage

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Quantity
4G 2 9R- -																			
4G 2 9R- -																			
4G 2 9R- -																			
4G 2 9R- -																			
4G 2 9R- -																			
3G 2 9R- -																			
3G 2 9R- -																			
Masking plate 4G2R-MP(S)-																			
Masking plate 4G2R-MP(D)-																			
Air supply spacer 4G2R-P-																			
Exhaust spacer 4G2R-R-																			

Mounting rail	L_2= *Write an integer multiple of 12.5.	Included parts	Blanking plug						Threaded plug	
			GWP 4-B		GWP 6-B		GWP 8-B		4G2R-06P	

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

Connector pin No.		Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
T6G1																	
T6G1:CC-Link 16 points	1																
	2																
	3																
	4																
	5																
	6																
	7																
	8																
	9																
	10 COM																
	11																
	12																
	13																
	14																
	15																
	16																
	17																
	18																
	19																
	20 COM																

M4G$^{A}_{B}$3-T6G1 Manifold specifications sheet

Date issued / /

Company

Contact

Order No.

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

Slip No.	Order No.

● Manifold model No.

M □ G$^{A}_{B}$ 3 □ 0R- □ - T6G1 □ □ D - □ - 3 - P4

Solenoid valves | Solenoid position | Port size | Serial transmission | Terminal/connector pin array | Option | Station No. | Voltage

Solenoid valve model No.	Fitting CX		Valve installation position																Q'ty
	A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
4G □ 3 □ 9R- □																			
4G □ 3 □ 9R- □																			
4G □ 3 □ 9R- □																			
4G □ 3 □ 9R- □																			
4G □ 3 □ 9R- □																			
3GA3 □ 9R- □																			
3GA3 □ 9R- □																			
Masking plate 4G3R-MP(S)- □																			
Masking plate 4G3R-MP(D)- □																			
Air supply spacer 4G3R-P- □																			
Exhaust spacer 4G3R-R- □																			

Mounting rail	Included parts	Blanking plug				Threaded plug	
L_2= □ *Write an integer multiple of 12.5.		GWP 8-B		GWP 10-B		4G3R-08P	

● 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															
T6G1		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
T6G1:CC-Link 16 points	1																
	2																
	3																
	4																
	5																
	6																
	7																
	8																
	9																
	10 COM																
	11																
	12																
	13																
	14																
	15																
	16																
	17																
	18																
	19																
	20 COM																

M4G$^{A}_{B}$1-T8 Manifold specifications sheet

Date issued / /
Company
Contact
Order No.

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

Slip No.	Order No.

● Manifold model No.

M G $^{A}_{B}$1 [ ] 0R- [ ] - [ ] [ ] [ ] [ ] - [ ] - 3 - P4

Solenoid valves | Solenoid position | Port size | Serial transmission | Terminal/connector pin array | Option | Mount type | Station No. | Voltage

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Quantity
4G [ ] 1 [ ] 9R- [ ] [ ]																							
4G [ ] 1 [ ] 9R- [ ] [ ]																							
4G [ ] 1 [ ] 9R- [ ] [ ]																							
4G [ ] 1 [ ] 9R- [ ] [ ]																							
4G [ ] 1 [ ] 9R- [ ] [ ]																							
3G [ ] 1 [ ] 9R- [ ] [ ]																							
3G [ ] 1 [ ] 9R- [ ] [ ]																							
Masking plate 4G1R-MP(S)- [ ]																							
Masking plate 4G1R-MP(D)- [ ]																							
Air supply spacer 4 G1R-P- [ ]																							
Exhaust spacer 4G1R-R- [ ]																							
Pilot check valve spacer 4G1R-PC																							

Mounting rail: L_2= [ ] *Write an integer multiple of 12.5.

Included parts:

Blanking plug				Threaded plug	
GWP 4-B		GWP 6-B		4G1R-M5P	

Push-in fitting tube remover (attached as standard) Not required (check the box) ☐

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

Connector pin No. T8*				Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
T8G1	CC-Link	NPN	16 points	1																			
T8G2			32 points	2																			
T8GP1		PNP	16 points	3																			
T8GP2			32 points	4																			
T8P1	PROFIBUS-DP	NPN	16 points	5																			
T8P2			32 points	6																			
T8PP1		PNP	16 points	7																			
T8PP2			32 points	8																			
T8EC1	EtherCAT	NPN	16 points	9																			
T8EC2			32 points	10																			
T8ECP1		PNP	16 points	11																			
T8ECP2			32 points	12																			
T8EN1	EtherNet/IP	NPN	16 points	13																			
T8EN2			32 points	14																			
T8ENP1		PNP	16 points	15																			
T8ENP2			32 points	16																			
T8D1	DeviceNet	NPN	16 points	17																			
T8D2			32 points	18																			
T8DP1		PNP	16 points	19																			
T8DP2			32 points	20																			
T8EB1	CC-Link IEF Basic	NPN	16 points	21																			
T8EB2			32 points	22																			
T8EBP1		PNP	16 points	23																			
T8EBP2			32 points	24																			
T8EP1	PROFINET	NPN	16 points	25																			
T8EP2			32 points	26																			
T8EPP1		PNP	16 points	27																			
T8EPP2			32 points	28																			
				29																			
				30																			
				31																			
				32																			

M4G$^{A}_{B}$2-T8 Manifold specifications sheet

Date issued / /

Company

Contact

Order No.

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

Slip No.	Order No.

● Manifold model No.

M G $^{A}_{B}$2 0R- - - 3 - P4

Solenoid valves | Solenoid position | Port size | Serial transmission | Terminal/Connector pin Array method | Option | Mount Type | Station No. | Voltage

Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Quantity
4G 2 9R- -																							
4G 2 9R- -																							
4G 2 9R- -																							
4G 2 9R- -																							
4G 2 9R- -																							
3G 2 9R- -																							
3G 2 9R- -																							
Masking plate **4G2R-MP(S)-**																							
Masking plate **4G2R-MP(D)-**																							
Air supply spacer **4G2R-P-**																							
Exhaust spacer **4G2R-R-**																							

Mounting rail	L_2 = *Write an integer multiple of 12.5.	Included parts	Blanking plug						Threaded plug	
			GWP 4-B		GWP 6-B		GWP 8-B		4G2R-06P	

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

Connector pin No. T8*				Installation position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
T8G1	CC-Link	NPN	16 points	1																				
T8G2			32 points	2																				
T8GP1		PNP	16 points	3																				
T8GP2			32 points	4																				
T8P1	PROFIBUS-DP	NPN	16 points	5																				
T8P2			32 points	6																				
T8PP1		PNP	16 points	7																				
T8PP2			32 points	8																				
T8EC1	EtherCAT	NPN	16 points	9																				
T8EC2			32 points	10																				
T8ECP1		PNP	16 points	11																				
T8ECP2			32 points	12																				
T8EN1	EtherNet/IP	NPN	16 points	13																				
T8EN2			32 points	14																				
T8ENP1		PNP	16 points	15																				
T8ENP2			32 points	16																				
T8D1	DeviceNet	NPN	16 points	17																				
T8D2			32 points	18																				
T8DP1		PNP	16 points	19																				
T8DP2			32 points	20																				
T8EB1	CC-Link IEF Basic	NPN	16 points	21																				
T8EB2			32 points	22																				
T8EBP1		PNP	16 points	23																				
T8EBP2			32 points	24																				
T8EP1	PROFINET	NPN	16 points	25																				
T8EP2			32 points	26																				
T8EPP1		PNP	16 points	27																				
T8EPP2			32 points	28																				
				29																				
				30																				
				31																				
				32																				

M4G$^{A}_{B}$3-T8 sManifold specifications sheet

Date issued / /
Company
Contact
Order No.

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

Slip No.	Order No.

● Manifold model No.

M □ G $^{A}_{B}$ 3 □ 0R- □ - □ □ □ □ - □ - 3 - P4

Solenoid valves / Solenoid position / Port size / Serial transmission / Terminal/Connector pin Array method / Option / Mount Type / Station No. / Voltage

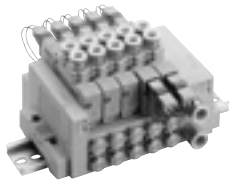
Solenoid valve model No.	Fitting CX A	Fitting CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Quantity
4G □ 3 □ 9R- □																			
4G □ 3 □ 9R- □																			
4G □ 3 □ 9R- □																			
4G □ 3 □ 9R- □																			
4G □ 3 □ 9R- □																			
3GA3 □ 9R- □																			
3GA3 □ 9R- □																			
Masking plate 4G3R-MP(S)-																			
Masking plate 4G3R-MP(D)-																			
Air supply spacer 4G3R-P-																			
Exhaust spacer 4G3R-R-																			

Mounting rail	Included parts	Blanking plug				Threaded plug	
L2= □ *Write an integer multiple of 12.5.		GWP 8-B		GWP 10-B		4G3R-08P	

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

Connector pin No. T8*				Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
T8G1	CC-Link	NPN	16 points	1															
T8G2			32 points	2															
T8GP1		PNP	16 points	3															
T8GP2			32 points	4															
T8P1	PROFIBUS-DP	NPN	16 points	5															
T8P2			32 points	6															
T8PP1		PNP	16 points	7															
T8PP2			32 points	8															
T8EC1	EtherCAT	NPN	16 points	9															
T8EC2			32 points	10															
T8ECP1		PNP	16 points	11															
T8ECP2			32 points	12															
T8EN1	EtherNet/IP	NPN	16 points	13															
T8EN2			32 points	14															
T8ENP1		PNP	16 points	15															
T8ENP2			32 points	16															
T8D1	DeviceNet	NPN	16 points	17															
T8D2			32 points	18															
T8DP1		PNP	16 points	19															
T8DP2			32 points	20															
T8EB1	CC-Link IEF Basic	NPN	16 points	21															
T8EB2			32 points	22															
T8EBP1		PNP	16 points	23															
T8EBP2			32 points	24															
T8EP1	PROFINET	NPN	16 points	25															
T8EP2			32 points	26															
T8EPP1		PNP	16 points	27															
T8EPP2			32 points	28															
				29															
				30															
				31															
				32															

MEMO



Pneumatic Valves
Catalog No. CB-023SA

Individual wiring block manifold
Body piping

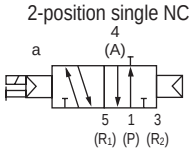
MN4GA1, 2 Series

● Cylinder bore size: ø20 to ø80

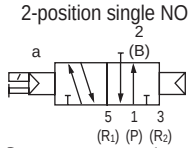
JIS symbol

● 3-port valve

2-position single NC

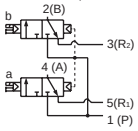


2-position single NO

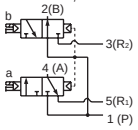


● Two 3-port valves integrated

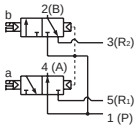
(A side valve: NC, B side valve: NC)



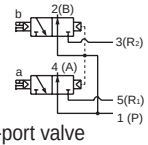
(A side valve: NC, B side valve: NO)



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

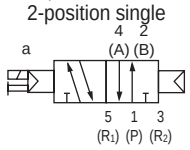


(A side valve: NO, B side valve: NO)

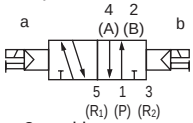


● 5-port valve

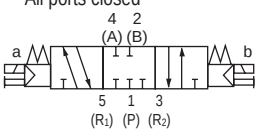
2-position single



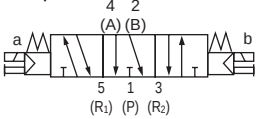
2-position double



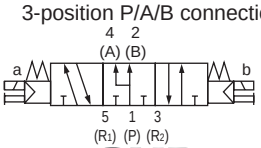
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Item	Description
Manifold	Block manifolds
Mounting method	DIN rail mount
Air supply and exhaust method	Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Main valve/pilot valve common exhaust (Pilot exhaust check valve built-in)
Piping direction	Valve top direction
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2 (*3)
Proof pressure MPa	1.05
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking/locking common (standard)
Lubrication (*1)	Not required
Degree of protection (*2)	Dust-proof
Vibration resistance m/s^2	50 or less
Shock resistance m/s^2	300 or less
Atmosphere	Cannot be used in corrosive gas environments

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

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

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

Electrical specifications

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

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

Individual specifications

Item			MN3GA1/MN4GA1	MN3GA2/MN4GA2
Max. station No.			24 stations	20 stations
Port size	Metric fitting/ M5, Rc thread	Port A/B	Push-in fitting ø4, ø6 M5	Push-in fitting ø4, ø6, ø8 Rc1/8
		P/R Port	Push-in fitting ø6, ø8	Push-in fitting ø8, ø10
	Metric fitting, G thread	Port A/B	-	G1/8
		P/R Port	-	Push-in fitting ø8, ø10

• For DIN rail mounting "Pneumatic Valves No.CB-023SA"of "Mounting orientation" for details.

• Weight "Pneumatic Valves No.CB-023SA".

Performance/characteristics by model

Item			MN3GA1/MN4GA1		MN3GA2/MN4GA2	
			ON	OFF	ON	OFF
Response time ms	Two 3-port valves integrated		9	12	12	29
	2-position	Single	12	12	19	19
		Double	9	-	18	-
	3-position	A/B/R connection	8	15	17	30

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

Flow characteristics

Model No.	Solenoid position		P → A/B		A/B → R1/R2	
			C[dm³/(s·bar)]	b	C[dm³/(s·bar)]	b
MN3GA1 MN4GA1	Two 3-port valves integrated		0.87	0.37	1.0 (0.68)	0.14 (0.22)
	2-position		0.98	0.33	1.2 (0.71)	0.11 (0.27)
	3-position	All ports closed	0.92	0.34	1.0 -	0.16 -
		A/B/R connection	0.92	0.29	1.1 (0.69)	0.13 (0.22)
		P/A/B connection	1.1	0.35	1.1 -	0.17 -
MN3GA2 MN4GA2	Two 3-port valves integrated		1.7	0.37	2.2 (1.6)	0.13 (0.21)
	2-position		2.2	0.21	2.5 (1.7)	0.19 (0.10)
	3-position	All ports closed	2.0	0.25	2.3 -	0.10 -
		ABRConnection	2.0	0.27	2.5 (1.7)	0.18 (0.12)
		P/A/B connection	2.3	0.31	2.3 -	0.16 -

*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 x C.
*2: Values in ( ) are with built-in exhaust check valve.

Ozone-proof specifications • Coolant proof specifications

Can be selected with "How to order" Item Ⓔ option "A" on page 208.

CE marking specifications

** - Voltage - **ST**

• Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".

MN4GA1, 2 Series

Individual wiring block manifold; Body piping

How to order

Manifold model No.

MN4GA1 1 0 R - C6 - E2 H - 10 - 3 - P4

3-port manifold model No.

MN3GA1 1 0 R - C6 - E2 H - 10 - 3 - P4

Discrete valve block with solenoid valve

N4GA1 1 0 R - C6 - E2 H — 3 - P4

Discrete 3-port valve block with solenoid valve

N3GA1 1 0 R - C6 - E2 H — 3 - P4

Discrete solenoid valve

4GA1 1 9 R - C6 - E2 H — 3 - P4

Discrete 3-port solenoid valve

3GA1 1 9 R - C6 - E2 H — 3 - P4

Ⓐ Model No.

Ⓑ Solenoid position

Ⓒ Port size (*1)

*4
The port size of "●" is a standard product and equivalent to P4 specifications. It is not necessary to add "-P4" to the model No.

Ⓓ Electrical connections

Ⓔ Option

Ⓕ Station No.

Ⓖ Voltage

Precautions for model selection

*1 Specify the port P/R bore size with the supply and exhaust block model No. on the manifold specifications sheet.

*2 In the case of a mix with a 4, 5-port valve, it will be MN4GA*80. Further, select MN3GA*80 when mixing with masking plate.

*3 Not compatible with combination with external pilot (K). Dimensions are the same as those of the respective 2-position double solenoid.

*5 The push-in fitting cannot be mixed with the single valve's 4(A) or 2(B) port.
***The 63-position all ports closed and PAB connection are not provided with the exhaust check valve specifications (H). Refer to "Pneumatic Valves No.CB-023SA" for details on the exhaust check valve.**

*7 Consult with CKD when using a vacuum with the external pilot (K).

8 E2 and E2*J connectors and 12/24 VDC only are supported.In addition, surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.

*9 Surgeless specifications.

*10 A filter is built into port P as standard.

*11 **Specify the spacer mounting position/quantity in the manifold specifications sheet. Stacking of spacers is not possible. Combination with masking plates is not possible. For details, refer to pages 227 to 228.**

*12 DIN terminal box only is supported.

Ⓐ Model No.								
Manifold				Discrete valve block with solenoid valve/Discrete solenoid valve			
3-port valve		5-port valve					
MN3GA1	MN3GA2	MN4GA1	MN4GA2	(N)3GA1	(N)3GA2	(N)4GA1	(N)4GA2

Code	Description									
Ⓑ Solenoid position										
1	2-position single			●	●			●	●	
2	2-position double			●	●			●	●	
3	3-position all ports closed			●	●			●	●	
4	3-position ABR connection			●	●			●	●	
5	3-position PAB connection			●	●			●	●	
1	2-position single Normally Closed (*2)	●	●			●	●			
11	2-position single Normally Open (*2)	●	●			●	●			
66	3-port valve Two valves integrated (*2)(*3) — A side valve: Normally Closed	●	●			●	●			
	B side valve: Normally Closed									
67	A side valve: Normally Closed	●	●			●	●			
	B side valve: Normally Open									
76	A side valve: Normally Open	●	●			●	●			
	B side valve: Normally Closed									
77	A side valve: Normally Open	●	●			●	●			
	B side valve: Normally Open									
8	Mix manifold (when there are multiple solenoid positions)	●	●	●	●	●	●	●	●	
Ⓒ Port size (port A/B)										
Type	Metric fitting/Rc thread	*4								
C4	ø4 push-in fitting	○	○	○	○	○	○	○	○	
C6	ø6 push-in fitting	○	○	○	○	○	○	○	○	
C8	ø8 push-in fitting		○		○		○		○	
CX	Push-in fitting mix (*5)	○	○	○	○					
M5	M5	●		●		●		●		
06	Rc1/8		●		●		●		●	
Type	G thread									
06G	G1/8		●		●		●		●	
Ⓓ Electrical connections										
Refer to the following page for electrical connections										
Ⓔ Option										
Blank	Manual override of non-locking/locking common	●	●	●	●	●	●	●	●	
M	Non-locking manual override	●	●	●	●	●	●	●	●	
H	With exhaust check valve (*6)	●	●	●	●	●	●	●	●	
K	External pilot (*7)	●	●	●	●	●	●	●	●	
A	Ozone/coolant proof product	●	●	●	●	●	●	●	●	
S	Surgeless (*8)	●	●	●	●	●	●	●	●	
E	Low exoergic/energy circuit (*8)(*9)	●	●	●	●	●	●	●	●	
F	Port A/B filter built in (*10)	●	●	●	●	●	●	●	●	
Z1	Air supply spacer (*11)	●	●	●	●					
Z3	Exhaust spacer (*11)	●	●	●	●					
Ⓕ Station No.										
1	1 station	●	●	●	●					
to	to									
24	24 stations (Max. station number for MN3GA2/MN4GA2 is 20.)									
Ⓖ Voltage										
1	100 VAC (rectifier integrated)	●	●	●	●	●	●	●	●	
2	200 VAC (rectifier integrated) (*12)		●		●		●		●	
3	24 VDC	●	●	●	●	●	●	●	●	
4	12 VDC	●	●	●	●	●	●	●	●	

is not available.

[Electrical connection list]

Ⓓ Electrical connections			Ⓐ Model No. MN3GA1	MN3GA2	MN4GA1	MN4GA2	(N)3GA1	(N)3GA2	(N)4GA1	(N)4GA2
			Manifold 3-port valve		Manifold 5-port valve		Discrete valve block with solenoid valve/Discrete solenoid valve			
Blank	Grommet lead wire (300 mm)	(*13)	●	●	●	●	●	●	●	●
B	DIN terminal box (Pg 7)	With surge suppressor/lamp (*14))(*16)		●		●		●		●
BN	DIN terminal box (Pg7) (without terminal box)	With surge suppressor (*14)(*16)		●		●		●		●
E-connector (upward/lateral common)										
E0	Lead wire (300 mm)	(*15)	●	●	●	●	●	●	●	●
E00	Lead wire (500 mm)	(*15)	●	●	●	●	●	●	●	●
E01	Lead wire (1000 mm)	(*15)	●	●	●	●	●	●	●	●
E02	Lead wire (2000 mm)	(*15)	●	●	●	●	●	●	●	●
E03	Lead wire (3000 mm)	(*15)	●	●	●	●	●	●	●	●
E0N	Without lead wire (Without socket)	(*15)	●	●	●	●	●	●	●	●
E1	Without lead wire (socket/terminal attached)	(*15)	●	●	●	●	●	●	●	●
E2	Lead wire (300 mm) With surge suppressor and indicator lamp		●	●	●	●	●	●	●	●
E20	Lead wire (500 mm) With surge suppressor and indicator lamp		●	●	●	●	●	●	●	●
E21	Lead wire (1000 mm) With surge suppressor and indicator lamp		●	●	●	●	●	●	●	●
E22	Lead wire (2000 mm) With surge suppressor and indicator lamp		●	●	●	●	●	●	●	●
E23	Lead wire (3000 mm) With surge suppressor and indicator lamp		●	●	●	●	●	●	●	●
E2N	Without lead wire (without socket) With surge suppressor and indicator lamp		●	●	●	●	●	●	●	●
E3	Without lead wire (with socket/terminal) With surge suppressor and indicator lamp		●	●	●	●	●	●	●	●
EJ-connector (socket with cover, upward/lateral common)										
E01J	Lead wire(1000 mm)	(*15)	●	●	●	●	●	●	●	●
E02J	Lead wire(2000 mm)	(*15)	●	●	●	●	●	●	●	●
E03J	Lead wire(3000 mm)	(*15)	●	●	●	●	●	●	●	●
E21J	Lead wire(1000 mm) with surge suppressor/lamp		●	●	●	●	●	●	●	●
E22J	Lead wire(2000 mm) with surge suppressor/lamp		●	●	●	●	●	●	●	●
E23J	Lead wire(3000 mm) with surge suppressor/lamp		●	●	●	●	●	●	●	●

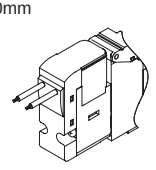
*13 The grommet lead wire specifications are compatible with DC voltage only.
*14 AC voltages and 12/24 VDC are supported. In addition, a lamp comes with the terminal box.
*15 AC voltage is with a rectifier circuit.
*16 The terminal box conforms to EN175301-803 Type C (former DIN 43650-C). Refer to "Pneumatic Valves No.CB-023SA" for details.

Electrical connections

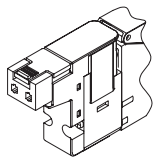
Discrete valve/individual wiring manifold

Blank Grommet lead wire

● **Lead wire length**
300mm

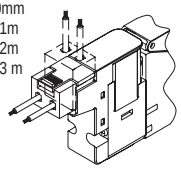


E1 E3 E-connector with socket/terminal

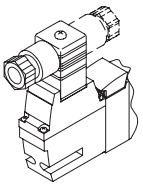


E0 E2 E-connector

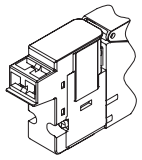
● **Lead wire length**
300mm
500mm
1m
2m
3 m



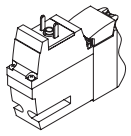
B DIN terminal box



E0N E2N E-connector without socket

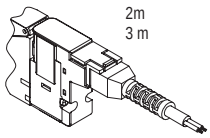


BN DIN terminal box Without terminal box



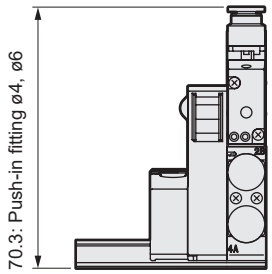
E0*J E2*J EJ type connector

● **Lead wire length**
1m
2m
3 m

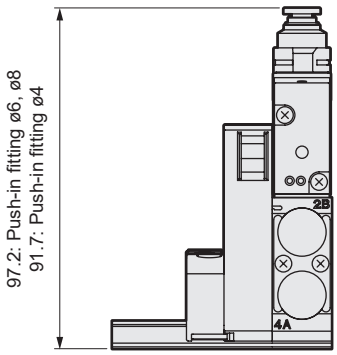


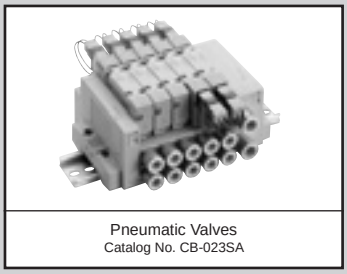
Dimensions

● MN4GA1-P4



● MN4GA2-P4





Pneumatic Valves
Catalog No. CB-023SA

Individual wiring block manifold
Base piping

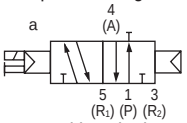
MN4GB1, 2 Series

● Cylinder bore size: ø20 to ø80

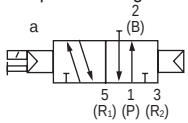
JIS symbol

● 3-port valve

2-position single NC

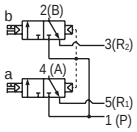


2-position single NO

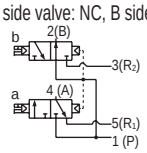


● Two 3-port valves integrated

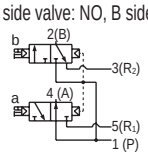
(A side valve: NC, B side valve: NC)



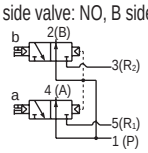
(A side valve: NC, B side valve: NO)



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

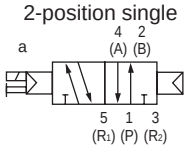


(A side valve: NO, B side valve: NO)

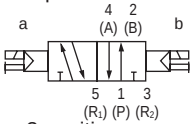


● 5-port valve

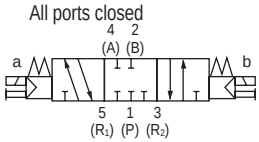
2-position single



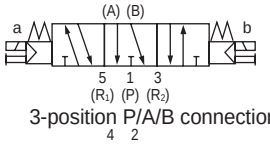
2-position double



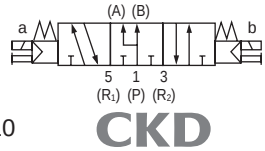
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Item	Description
Manifold	Block manifolds
Mounting method	DIN rail mount
Air supply and exhaust method	Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Main valve/pilot valve common exhaust (Pilot exhaust check valve built-in)
Piping direction	Side direction of base
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2 (*3)
Proof pressure MPa	1.05
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking/locking common (standard)
Lubrication (*1)	Not required
Degree of protection (*2)	Dust-proof
Vibration resistance m/s^2	50 or less
Shock resistance m/s^2	300 or less
Atmosphere	Cannot be used in corrosive gas environments

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

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

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

Electrical specifications

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

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

Individual specifications

Item			MN3GB1/MN4GB1	MN3GB2/MN4GB2
Max. station No.			24 stations	20 stations
Port size	Metric fitting	Port A/B	Push-in fitting ø4,ø6	Push-in fitting ø4,ø6,ø8
		P/R Port	Push-in fitting ø6,ø8	Push-in fitting ø8,ø10

• For DIN rail mounting, refer to "Mounting orientation" in "Pneumatic Valves No.CB-023SA".
• For weight, refer to "Pneumatic Valves No.CB-023SA".

Performance/characteristics by model

Item			MN3GB1/MN4GB1		MN3GB2/MN4GB2	
			ON	OFF	ON	OFF
Response time ms	Two 3-port valves integrated		9	12	12	29
	2-position	Single	12	12	19	19
		Double	9	-	18	-
	3-position	A/B/R connection	8	15	17	30

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

Flow characteristics

Model No.	Solenoid position		P → A/B		A/B→R1/R2	
			C[dm³/(s·bar)]	b	C[dm³/(s·bar)]	b
MN3GB1 MN4GB1	Two 3-port valves integrated		0.86	0.35	1.0 (0.66)	0.15 (0.25)
	2-position		1.0	0.30	1.1 (0.72)	0.11 (0.26)
	3-position	All ports closed	0.96	0.32	1.0 -	0.14 -
		A/B/R connection	0.96	0.29	1.2 (0.71)	0.11 (0.30)
		P/A/B connection	1.1	0.31	1.0 -	0.15 -
MN3GB2 MN4GB2	Two 3-port valves integrated		1.7	0.42	2.2 (1.6)	0.15 (0.19)
	2-position		2.4	0.35	2.5 (1.7)	0.19 (0.19)
	3-position	All ports closed	2.2	0.38	2.3 -	0.17 -
		ABRConnection	2.2	0.38	2.5 (1.7)	0.18 (0.20)
		P/A/B connection	2.3	0.29	2.3 -	0.15 -

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

Ozone-proof specifications • Coolant proof specifications

Can be selected with "How to order" Item Ⓔ option "A" on page 213.

CE marking specifications

** - Voltage - **ST**

• Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".

MN4GB1, 2 Series

Individual wiring block manifold; Base piping

How to order

Manifold model No.

MN4GB1 **1** 0 R - C6 - E2 H - 10 - 3 - P4

3-port manifold model No.

MN3GB1 **66** 0 R - C6 - E2 H - 10 - 3 - P4

Discrete valve block with solenoid valve

N4GB1 **1** 0 R - C6 - E2 H — 3 - P4

Discrete 3-port valve block with solenoid valve

N3GB1 **66** 0 R - C6 - E2 H — 3 - P4

Discrete solenoid valve

4GB1 **1** 9 R - 00 - E2 H — 3 - P4

Discrete 3-port solenoid valve

3GB1 **66** 9 R - 00 - E2 H — 3 - P4

- A Model No.
- B Solenoid position
- C Port size (*1)(*2) (*3)
- D Electrical connections
- E Option
- F Station No.
- G Voltage

Code	Description		A Model No. Manifold: 3-port valve Two valves integrated: MN3GB1	MN3GB2	5-port valve: MN4GB1	MN4GB2	Discrete valve block with solenoid valve/ Discrete solenoid valve: (N)3GB1	(N)3GB2	(N)4GB1	(N)4GB2
B Solenoid position										
1	2-position single				●	●			●	●
2	2-position double				●	●			●	●
3	3-position all ports closed				●	●			●	●
4	3-position ABR connection				●	●			●	●
5	3-position PAB connection				●	●			●	●
66	3-port valve Two valves integrated (*4)(*5)	A side valve: Normally Closed	●	●			●	●		
		B side valve: Normally Closed								
67		A side valve: Normally Closed	●	●			●	●		
		B side valve: Normally Open								
76		A side valve: Normally Open	●	●			●	●		
		B side valve: Normally Closed								
77		A side valve: Normally Open	●	●			●	●		
		B side valve: Normally Open								
8	Mix manifold (when there are multiple solenoid positions)		●	●	●	●	●	●	●	●

C Port size (port A/B) Type	Metric fitting/Rc thread								
C4	ø4 push-in fitting		●	●	●	●	●	●	●	●
C6	ø6 push-in fitting		●	●	●	●	●	●	●	●
C8	ø8 push-in fitting			●		●		●		●
CX	Push-in fitting mix (*6)		●	●	●	●				
Single side plug specifications	Port A	Port B								
C4NC	ø4 push-in fitting	Plug			●	●			●	●
C6NC	ø6 push-in fitting				●	●			●	●
C8NC	ø8 push-in fitting					●				●
C4NO	Plug	ø4 push-in fitting			●	●			●	●
C6NO		ø6 push-in fitting			●	●			●	●
C8NO		ø8 push-in fitting				●				●

is not available.

Precautions for model selection

*1 Ports A and B plug specifications are available for 2-position single only.Specify the port P/R bore size with the supply andexhaust block model No. in the manifold specifications.
*2 For radial push-in fitting mix (CX), A/BNo port size differences.
*3 For a discrete solenoid valve, select "00" for Port size.
*4 This will be MN4GA*80R for a mix with 4, 5-port valves. Further, select MN3GB*80R when mixing with masking plate.
*5 Not compatible with combination with external pilot (K). Dimensions are the same as those of the respective 2-position double solenoid.
*6 The push-in fitting cannot be mixed with the single valve's 4(A) or 2(B) port.

[Options, stations, voltage, electrical connection list]

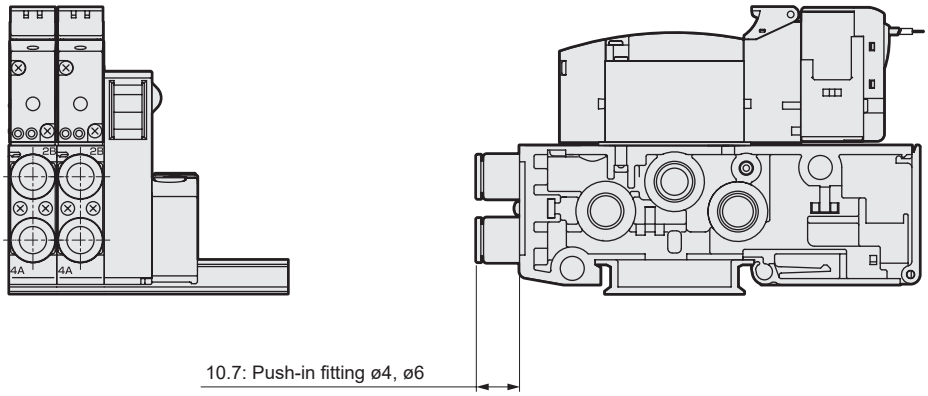
Code	Description	Model No. A: Manifold 3-port valve Two valves integrated MN3GB1	MN3GB2	5-port valve MN4GB1	MN4GB2	Discrete valve block with solenoid valve/ discrete solenoid valve (N)3GB1	(N)3GB2	(N)4GB1	(N)4GB2
D Electrical connections									
Blank	Grommet lead wire (300 mm) (*14)	●	●	●	●	●	●	●	●
B	DIN terminal box (Pg 7) With surge suppressor/lamp (*15)(*16)		●		●		●		●
BN	DIN terminal box (Pg7) (without terminal box) With surge suppressor/lamp (*15) (*16)		●		●		●		●
E-connector (upward/lateral direction common)									
E0	Lead wire (300 mm)	●	●	●	●	●	●	●	●
E00	Lead wire (500 mm)	●	●	●	●	●	●	●	●
E01	Lead wire (1000 mm)	●	●	●	●	●	●	●	●
E02	Lead wire (2000 mm)	●	●	●	●	●	●	●	●
E03	Lead wire (3000 mm)	●	●	●	●	●	●	●	●
E0N	Without lead wire (without socket)	●	●	●	●	●	●	●	●
E1	Without lead wire (with socket/terminal)	●	●	●	●	●	●	●	●
E2	Lead wire (300 mm) With surge suppressor and indicator lamp	●	●	●	●	●	●	●	●
E20	Lead wire (500 mm) With surge suppressor and indicator lamp	●	●	●	●	●	●	●	●
E21	Lead wire (1000 mm) With surge suppressor and indicator lamp	●	●	●	●	●	●	●	●
E22	Lead wire (2000 mm) With surge suppressor and indicator lamp	●	●	●	●	●	●	●	●
E23	Lead wire (3000 mm) With surge suppressor and indicator lamp	●	●	●	●	●	●	●	●
E2N	Without lead wire (without socket) With surge suppressor and indicator lamp	●	●	●	●	●	●	●	●
E3	Without lead wire (with socket/terminal) With surge suppressor and indicator lamp	●	●	●	●	●	●	●	●
EJ-connector (socket with cover, upward/lateral direction common)									
E01J	Lead wire (1000 mm)	●	●	●	●	●	●	●	●
E02J	Lead wire (2000 mm)	●	●	●	●	●	●	●	●
E03J	Lead wire (3000 mm)	●	●	●	●	●	●	●	●
E21J	Lead wire (1000 mm) With surge suppressor and indicator lamp	●	●	●	●	●	●	●	●
E22J	Lead wire (2000 mm) With surge suppressor and indicator lamp	●	●	●	●	●	●	●	●
E23J	Lead wire (3000 mm) With surge suppressor and indicator lamp	●	●	●	●	●	●	●	●
E Option									
Blank	Manual override of non-locking/locking common	●	●	●	●	●	●	●	●
M	Non-locking manual override	●	●	●	●	●	●	●	●
H	With exhaust check valve (*7)	●	●	●	●	●	●	●	●
K	External pilot (*8)			●	●			●	●
A	Ozone/coolant proof	●	●	●	●	●	●	●	●
S	Surgeless (*9)	●	●	●	●	●	●	●	●
E	Low exoergic/energy circuit (*9)(*10)	●	●	●	●	●	●	●	●
L	With pipe adaptor	●	●	●	●	●	●	●	●
F	Port A/B filter built in (*11)	●	●	●	●	●	●	●	●
Z1	Air supply spacer (*12)	●	●	●	●				
Z3	Exhaust spacer (*12)	●	●	●	●				
Z6	Spacer pilot check valve (*12)			●					
F Station No.									
1	1 station	●	●	●	●				
to	to								
24	24 stations (The max. station number for MN4GB2 is 20.)								
G Voltage									
1	100 VAC (rectifier integrated)	●	●	●	●	●	●	●	●
2	200 VAC (rectifier integrated) (*13)		●		●		●		●
3	24 VDC	●	●	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●	●	●

is not available.
○ indicates made to order.

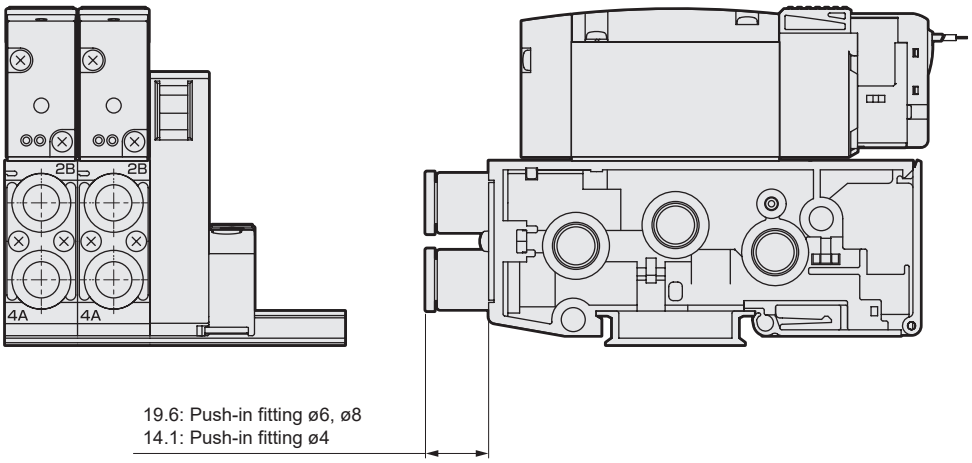
***7 3-position all ports closed and P A B connection are not provided with the exhaust check valve specifications (H). Refer to "Pneumatic Valves No.CB-023SA" for details on the exhaust check valve.**
*8 Consult with CKD when using a vacuum with the external pilot (K).
9 E2 and E2*J connectors and 12/24 VDC only are supported. In addition, surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.
*10 Surgeless specifications.
*11 A filter is built into port P as standard.
***12 Specify the spacer mounting position and quantity in the manifold specifications sheet. Stacking of spacers is not supported. Combination with masking plates is not supported. For details, refer to pages 227 to 228.**
*13 DIN terminal box only is supported.
*14 The grommet lead wire specifications are compatible with DC voltage only.
*15 AC voltages and 12/24 VDC are supported. In addition, a lamp comes with the terminal box.
*16 The terminal box conforms to EN175301-803 Type C (former DIN 43650- C). Refer to "Pneumatic Valves N o.C B-023SA" for details.

Dimensions

● MN4GB1-P4

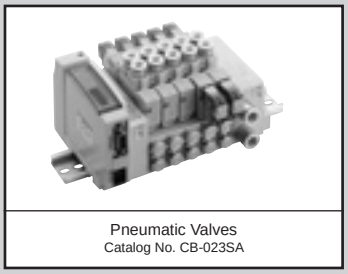


● MN4GB2-P4



*Fitting dimensions of P4 Series are different from the standard when mounted.
For other dimensions, refer to MN4GB1, 2 Series in "Pneumatic Valves (No. CB-023SA)".

MEMO



Pneumatic Valves
Catalog No. CB-023SA

Reduced wiring block manifold
Body piping

MN4GA1, 2-T* Series

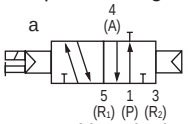
● Cylinder bore size:ø20 to ø80

RoHS CAD

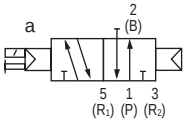
JIS symbol

● 3-port valve

2-position single NC

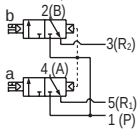


2-position single NO

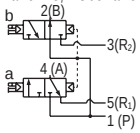


● Two 3-port valves integrated

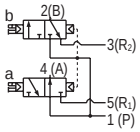
(A side valve: NC, B side valve: NC)



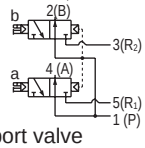
(A side valve: NC, B side valve: NO)



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

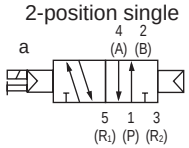


(A side valve: NO, B side valve: NO)

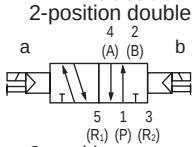


● 5-port valve

2-position single

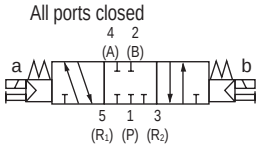


2-position double

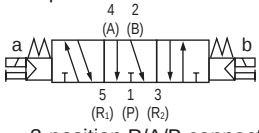


3-position

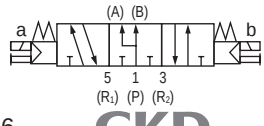
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Item	Description
Manifold	Block manifolds
Mounting method	DIN rail mount
Air supply and exhaust method	Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Main valve/pilot valve common exhaust (Pilot exhaust check valve built-in)
Piping direction	Valve top direction
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2 (*3)
Proof pressure MPa	1.05
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking/locking common (standard)
Lubrication (*1)	Not required
Degree of protection (*2)	Dust-proof
Vibration resistance m/s²	50 or less
Shock resistance m/s²	300 or less
Atmosphere	Cannot be used in corrosive gas environments

Electrical specifications

Item		Description		
Rated voltage V		T1□, T30□, T5□		T6G1, T7□, T8□
		24 DC	12 DC	24 DC
Voltage fluctuation range (*4)		±10%		+10%, -5%
Holding current A	Standard	0.017	0.034	0.017
	With low exoergic/ energy saving circuit	0.005	0.010	0.005
Power consumption W	Standard	0.4		
	With low exoergic/energy saving circuit	0.1		
Thermal class		B		
Surge suppressor (*5)		Zener diode		
Indicator		LED		

*4 Since voltage drops due to the internal circuit of T6G1, T7, T8 and (serial transmission), pay attention to the voltage fluctuation range.

*5 If low exoergic/energy circuit or surgeless types are selected then there will be a diode.

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

*2 Dust-proof degree of protection. Not drip-proof. Avoid dripping water or oil, etc., during use.

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

Individual specifications

Item			MN3GA1/MN4GA1								
			T10	T11	T30	T50	T51	T52	T53	T6G1	T7*1	T8*1/2
Max. station No.	Standard wiring		16 stations	24 stations	24 stations	16 stations	18 stations	8 stations	24 stations	16 stations	8/16 stations	16/24 stations
	Double wiring		8 stations	12 stations	12 stations	8 stations	9 stations	4 stations	12 stations	8 stations	4/8 stations	8/16 stations
Max. number of solenoids			16 points	24 points	24 points	16 points	18 points	8 points	24 points	16 points	8/16 points	16/32 points
Port size	Metric fitting/M5, Rc thread	Port A/B	Push-in fitting ø4, ø6 M5									
		P/R Port	Push-in fitting ø6,ø8									

Item			MN3GA2/MN4GA2								
			T10	T11	T30	T50	T51	T52	T53	T6G1	T7*1	T8*1/2
Max. station No.	Standard wiring		16 stations	20 stations	20 stations	16 stations	18 stations	8 stations	20 stations	16 stations	8/16 stations	16/20 stations
	Double wiring		8 stations	12 stations	12 stations	8 stations	9 stations	4 stations	12 stations	8 stations	4/8 stations	8/16 stations
Max. number of solenoids			16 points	24 points	24 points	16 points	18 points	8 points	24 points	16 points	8/16 points	16/32 points
Port size	Metric fitting/M5, Rc thread	Port A/B	Push-in fitting ø4,ø6,ø8 Rc1/8									
		P/R Port	Push-in fitting ø8, ø10									
	Metric fitting, G thread	Port A/B	G1/8									
		P/R Port	Push-in fitting ø8, ø10									

• **Weight is "Pneumatic Valves No.CB-023SA".**

Flow characteristics

Model No.	Solenoid position		P → A/B		A/B→R1/R2	
			C[dm³/(s·bar)]	b	C[dm³ (s·bar)]	b
MN3GA1 MN4GA1	Two 3-port valves integrated		0.87	0.37	1.0 (0.68)	0.14 (0.22)
	2-position		0.98	0.33	1.2 (0.71)	0.11 (0.27)
	3-position	All ports closed	0.92	0.34	1.0 -	0.16 -
		A/B/R connection	0.92	0.29	1.1 (0.69)	0.13 (0.22)
		P/A/B connection	1.1	0.35	1.1 -	0.17 -
MN3GA2 MN4GA2	Two 3-port valves integrated		1.7	0.37	2.2 (1.6)	0.13 (0.21)
	2-position		2.2	0.21	2.5 (1.7)	0.19 (0.10)
	3-position	All ports closed	2.0	0.25	2.3 -	0.10 -
		ABRConnection	2.0	0.27	2.5 (1.7)	0.18 (0.12)
		P/A/B connection	2.3	0.31	2.3 -	0.16 -

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

*2: Values in ( ) are with the exhaust check valve.

Reduced wiring specifications

Item	T10	T11	T30	T50	T51	T52	T53
Type	Common terminal block M3 thread	Common terminal block Clamping method	D-sub-connector	20P flat cable connector With power supply terminal	20P flat cable connector Without power supply terminal	10P flat cable connector Without power supply terminal	26P flat cable connector Without power supply terminal
Connector	—	—	D-sub-connector 25-pin	MIL-C-83503 standard compliant Pressure welding socket 20-pin	MIL-C-83503 standard compliant Pressure welding socket 20-pin	MIL-C-83503 standard compliant Pressure welding socket 10-pin	MIL-C-83503 standard compliant Pressure welding socket 26-pin

Serial transmission slave unit specifications

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

Item		T6G1
Network name		CC-Link ver. 1.10
Power supply voltage	Unit side	24 VDC ±10%
	Valve side	24 VDC +10%, -5%
Current consumption	Unit side	100 mA or less (when all output points are ON)
	Valve side	15 mA or less (when all output points are OFF)
No. of output points		16 points
Occupied number		1 station
Operation display		LED (power supply and communication status)
Output		NPN

Item		T7G1	T7L1*1	T7D1	T7S1	T7SP1
Network name		CC-Link ver. 1.10	SAVE NET	DeviceNet*2	CompoNet	
Power supply voltage	Unit side	24 VDC +10%, -5% Common power supply terminal				
	Valve side					
	Communication side	—	—	11 to 25 VDC *3	14.0 to 26.4 VDC	
Current consumption	Unit side	110 mA or less (when all output points are ON) Load current is not included			40 mA or less (when all output points are ON) Load current is not included	
	Valve side					
	Communication side	—	—	50 mA or less	65mA or less (all points ON: 24 VDC) 95 mA or less (all points ON: 14 VDC)	
No. of output points		16 points	16 points	16 points	16 points	
Occupied number		1 station	1 station	2 bytes	Word slave 1 node (16 points)	
Operation display		LED (power supply and communication status)				
Output		NPN			NPN	PNP

Item		T8G1 / T8G2	T8GP1 / T8GP2	T8P1 / T8P2	T8PP1 / T8PP2	T8EC1 / T8EC2	T8ECP1 / T8ECP2	T8EN1 / T8EN2	T8ENP1 / T8ENP2	T8D1 / T8D2	T8DP1 / T8DP2	T8EB1 / T8EB2	T8EBP1 / T8EBP2	T8EP1 / T8EP2	T8EPP1 / T8EPP2
Communication protocol		CC-Link ver. 1.10		PROFIBUS-DP (V0)		EtherCAT		EtherNet/IP		DeviceNet		CC-Link IEF Basic		PROFINET	
Power supply voltage	Unit side	24 VDC ±10%								11 to 25 VDC		24 VDC ±10%			
	Valve side	24 VDC+10%, -5%													
Current consumption	Unit side	60 mA or less (when all output points are ON)		60 mA or less (when all output points are ON)		110 mA or less (when all output points are ON)		120 mA or less (when all output points are ON)		70 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)	
	Valve side	T8□1: 15 mA or less T8□2: 20 mA or less (When all output points are ON) Load current is not included								15 mA or less (When all output points are ON) Load current is not included					
No. of output points		T8□1: 16 points T8□2: 32 points													
Occupied number		1 station													
Operation display		LED (power supply and communication status)													
Output		NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output

*1 Transmission bit rate of 128 bits and half-duplex transmission method are supported. Contact CKD for other specifications.
*2 Also compatible with DeviceNet compliant networks (DLNK, etc.)
*3 Communication power supply (V+, V- of DeviceNet cable) Power supply terminal (Unit power supply/valve power supply) is insulated from .

MN4GA1, 2-T* Series

Reduced wiring block manifold; Body piping

How to order

Manifold model No.

MN4GA1 1 0 R - C6 - T30 W H - 10 - 3 - P4

3-port manifold model No.

MN3GA1 1 0 R - C6 - T30 W H - 10 - 3 - P4

Discrete valve block with solenoid valve

N4GA1 1 0 R - C6 - A2N *1 H — 3 - P4

Discrete 3-port valve block with solenoid valve

N3GA1 1 0 R - C6 - A2N *1 H — 3 - P4

* If a cable is required, refer to page 226 and specify the cable length of *1. When not required, leave the space blank.

Discrete solenoid valve

4GA1 1 9 R - C6 - A2N H — 3 - P4

Discrete 3-port solenoid valve

3GA1 1 9 R - C6 - A2N H — 3 - P4

Ⓐ Model No.
Ⓑ Solenoid position
Ⓒ Port size(*1)
Ⓓ Reduced wiring connection, serial transmission
Ⓔ Terminal/connector pin array
Ⓕ Option
Ⓖ Station No.
Ⓗ Voltage

*4
Port size of "●" is equivalent to P4 specifications on standard products. It is not necessary to add "-P4" to the model No.

Precautions for model selection

*1 Specify the port P/R bore size with the supply and exhaust block model No. in the manifold specifications sheet.
*2 MN4GA*80R when using a mixture of 4, 5-port valves. MN3GA*80R when used with a masking plate.
*3 Not compatible with combination with external pilot (K). Dimensions are the same as those of the respective 2-position double solenoid.
*5 The push-in fitting cannot be mixed with the single valve's 4(A) or 2(B) port.
6 Blank...The wiring will be based on the type of valve used. W...All wired for double solenoid valves regardless of the type of valve used.
***7 Spare wiring (A type socket assembly) is included on the cap side for single types. A holder for retaining the socket assembly is included for single unit valves (A2N). Refer to page 230 for details.**
***8 The 3-position all ports closed and PAB connection are not provided with the exhaust check valve specifications (H). Refer to "Pneumatic Valves No.CB-023SA" for details on the exhaust check valve.**
*9 Consult with CKD when using a vacuum with the external pilot (K).
*10 Surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.
*11 Surgeless specifications.
*12 A filter is built into port P as standard.
***13 Specify the spacer mounting position/quantity in the manifold specifications sheet. Stacking of spacers is not possible. Combination with masking plates is not possible. For details, refer to pages 227 to 228.**

Code	Description		Ⓐ Model No. Manifold 3-port valve MN3GA1	MN3GA2	Manifold 5-port valve MN4GA1	MN4GA2	Valve block with solenoid valve discrete/single solenoid valve (N)3GA1	(N)3GA2	(N)4GA1	(N)4GA2
Ⓑ Solenoid position										
1	2-position single				●	●			●	●
2	2-position double				●	●			●	●
3	3-position all ports closed				●	●			●	●
4	3-position ABR connection				●	●			●	●
5	3-position PAB connection				●	●			●	●
1	2-position single Normally Closed	(*2)	●	●			●	●		
11	2-position single Normally Open	(*2)	●	●			●	●		
66	3-port valve Two valves integrated (*2)(*3)	A side valve: Normally Closed	●	●			●	●		
		B side valve: Normally Closed								
67		A side valve: Normally Closed	●	●			●	●		
		B side valve: Normally Open								
76		A side valve: Normally Open	●	●			●	●		
		B side valve: Normally Closed								
77		A side valve: Normally Open	●	●			●	●		
		B side valve: Normally Open								
8	Mix manifold (when there are multiple solenoid positions)		●	●	●	●	●	●	●	●
Ⓒ Port size (port A/B)										
Type	Metric fitting/Rc thread		*4							
C4	ø4 push-in fitting		○	○	○	○	○	○	○	○
C6	ø6 push-in fitting		○	○	○	○	○	○	○	○
C8	ø8 push-in fitting			○		○		○		○
CX	Push-in fitting mix	(*5)	○	○	○	○				
M5	M5		●		●		●		●	
06	Rc1/8			●		●		●		●
Type	G thread									
06G	G1/8			●		●		●		●
Ⓓ Reduced wiring connection, serial transmission										
Refer to the next page for reduced wiring and serial transmission.										
Ⓔ Terminal/connector pin array										
Blank	Standard wiring	(*6)	●	●	●	●	●	●	●	●
W	Double wiring	(*6)	●	●	●	●	●	●	●	●
W 1	Double wiring (with single spare wiring)	(*6)(*7)	●	●	●	●	●	●	●	●
Ⓕ Option										
Blank	Manual override of non-locking/locking common		●	●	●	●	●	●	●	●
M	Non-locking manual override		●	●	●	●	●	●	●	●
H	With exhaust check valve	(*8)	●	●	●	●	●	●	●	●
K	External pilot	(*9)	●	●	●	●	●	●	●	●
A	Ozone/coolant proof		●	●	●	●	●	●	●	●
S	Surgeless	(*10)	●	●	●	●	●	●	●	●
E	Low exoergic/energy circuit	(*10)(*11)	●	●	●	●	●	●	●	●
Q	Reduced wiring duct		●	●	●	●	●	●	●	●
F	Port A/B filter built in	(*12)	●	●	●	●	●	●	●	●
Z1	Air supply spacer	(*13)	●	●	●	●				
Z3	Exhaust spacer	(*13)	●	●	●	●				
Ⓖ Station No.										
1	1 station		●	●	●	●				
to	to									
24	24 stations (Refer to page 216 for the max. station number per model)									
Ⓗ Voltage										
3	24 VDC		●	●	●	●	●	●	●	●
4	12 VDC		●	●	●	●	●	●	●	●

is not available.

			Ⓐ Model No.							
			Manifold				Valve block with solenoid valve discrete/ single solenoid valve			
			3-port valve		5-port valve					
			MN3GA1	MN3GA2	MN4GA1	MN4GA2	(N)3GA1	(N)3GA2	(N)4GA1	(N)4GA2
Ⓓ Reduced wiring (lamp and surge suppressor provided as standard) 12/24 VDC										
T10	Common terminal block (M3 thread)	Left-sided specifications	●	●	●	●				
T10R		Right-sided specifications	●	●	●	●				
T11	Common terminal block (clamping)	Left-sided specifications	●	●	●	●				
T11R		Right-sided specifications	●	●	●	●				
T30	D-sub-connector	Left-sided specifications	●	●	●	●				
T30R		Right-sided specifications	●	●	●	●				
T50	20-pin flat cable connector (with power supply terminal)	Left-sided specifications	●	●	●	●				
T50R		Right-sided specifications	●	●	●	●				
T51	20-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●				
T51R		Right-sided specifications	●	●	●	●				
T52	10-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●				
T52R		Right-sided specifications	●	●	●	●				
T53	26-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●				
T53R		Right-sided specifications	●	●	●	●				
Ⓓ Serial transmission (lamp/surge suppressor provided as standard) 24 VDC										
T6G1	CC-Link	NPN 16 points	●	●	●	●				
T7D1	DeviceNet	NPN 16 points	●	●	●	●				
T7G1	CC-Link	NPN 16 points	●	●	●	●				
T7L1	SAVE NET	NPN 16 points	●	●	●	●				
T7S1	CompoNet	NPN 16 points	●	●	●	●				
T7SP1		PNP 16 points	●	●	●	●				
T8G1	CC-Link	NPN 16 points	●	●	●	●				
T8G2		NPN 32 points	●	●	●	●				
T8GP1		PNP 16 points	●	●	●	●				
T8GP2		PNP 32 points	●	●	●	●				
T8P1	PROFIBUS-DP	NPN 16 points	●	●	●	●				
T8P2		NPN 32 points	●	●	●	●				
T8PP1		PNP 16 points	●	●	●	●				
T8PP2		PNP 32 points	●	●	●	●				
T8EC1	EtherCAT	NPN 16 points	●	●	●	●				
T8EC2		NPN 32 points	●	●	●	●				
T8ECP1		PNP 16 points	●	●	●	●				
T8ECP2		PNP 32 points	●	●	●	●				
T8EN1	EtherNet/IP	NPN 16 points	●	●	●	●				
T8EN2		NPN 32 points	●	●	●	●				
T8ENP1		PNP 16 points	●	●	●	●				
T8ENP2		PNP 32 points	●	●	●	●				
T8D1	DeviceNet	NPN 16 points	●	●	●	●				
T8D2		NPN 32 points	●	●	●	●				
T8DP1		PNP 16 points	●	●	●	●				
T8DP2		PNP 32 points	●	●	●	●				
T8EB1	CC-Link IEF Basic	NPN 16 points	●	●	●	●				
T8EB2		NPN 32 points	●	●	●	●				
T8EBP1		PNP 16 points	●	●	●	●				
T8EBP2		PNP 32 points	●	●	●	●				
T8EP1	PROFINET	NPN 16 points	●	●	●	●				
T8EP2		NPN 32 points	●	●	●	●				
T8EPP1		PNP 16 points	●	●	●	●				
T8EPP2		PNP 32 points	●	●	●	●				
A2N	Without lead wire (without socket)	With surge suppressor and indicator lamp					●	●	●	●

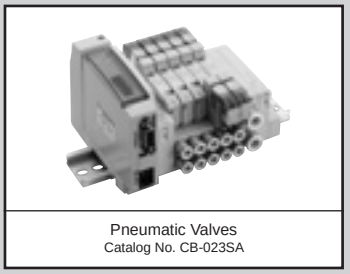
Ozone-proof specifications ・
Coolant proof specifications

Can be selected with "How to order" Item Ⓕ option "A" on page 218.

CE marking specifications

** - Voltage - **ST**

・Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".



Pneumatic Valves
Catalog No. CB-023SA

Reduced wiring block manifold
Base piping

MN4GB1, 2-T* Series

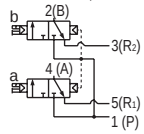
● Cylinder bore size:ø20 to ø80

RoHS CAD

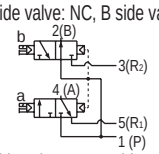
JIS symbol

● Two 3-port valves integrated

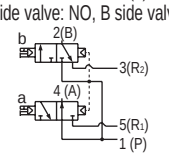
(A side valve: NC, B side valve: NC)



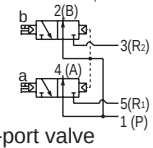
(A side valve: NC, B side valve: NO)



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

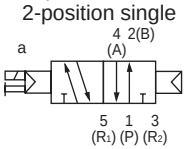


(A side valve: NO, B side valve: NO)

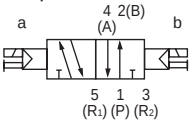


● 5-port valve

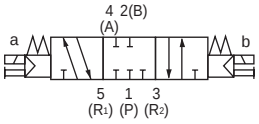
2-position single



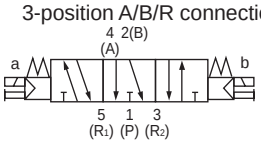
2-position double



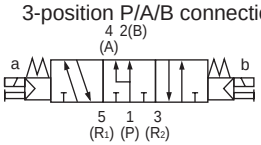
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Item	Description
Manifold	Block manifolds
Mounting method	DIN rail mount
Air supply and exhaust method	Common supply/common exhaust (With internal exhaust check valve)
Pilot exhaust method	Main valve/pilot valve common exhaust (Pilot exhaust check valve built-in)
Piping direction	Side direction of base
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2 (*3)
Proof pressure MPa	1.05
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking/locking common (standard)
Lubrication (*1)	Not required
Degree of protection (*2)	Dust-proof
Vibration resistance m/s^2	50 or less
Shock resistance m/s^2	300 or less
Atmosphere	Cannot be used in corrosive gas environments

Electrical specifications

Item		Description		
Rated voltage V		T1□, T30□, T5□ 24 DC	T1□, T30□, T5□ 12 DC	T6G1, T7□, T8□ 24 DC
Voltage fluctuation range (*4)		±10%		+10%, -5%
Holding current A	Standard	0.017	0.034	0.017
	With low exoergic/ energy saving circuit	0.005	0.010	0.005
Power consumption W	Standard	0.4		
	With low exoergic/ energy saving circuit	0.1		
Thermal class		B		
Surge suppressor (*5)		Zener diode		
Indicator		LED		

*1 Use turbine oil Class 1 ISO VG32 for lubrication. Excessive or intermittent lubrication results in unstable operation.
*2 Dust-proof degree of protection. Not drip-proof. Avoid dripping water or oil, etc., during use.
*3 The working pressure range is 0 to 0.7 MPa when the external pilot (option code: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.
*4 Since voltage drops due to the internal circuit of T6G1, T7, T8 and (serial transmission), pay attention to the voltage fluctuation range.
*5 If low exoergic/energy circuit or surgeless types are selected then there will be a diode.

Individual specifications

Item			MN3GB1/MN4GB1									
			T10	T11	T30	T50	T51	T52	T53	T6G1	T7*1	T8*1/2
Max. station No.		Standard wiring	16 stations	24 stations	24 stations	16 stations	18 stations	8 stations	24 stations	16 stations	8/16 stations	16/24 stations
		Double wiring	8 stations	12 stations	12 stations	8 stations	9 stations	4 stations	12 stations	8 stations	4/8 stations	8/16 stations
Max. number of solenoids			16 points	24 points	24 points	16 points	18 points	8 points	24 points	16 points	8/16 points	16/32 points
Port size	Metric fitting	Port A/B	Push-in fitting ø4,ø6									
		P/R Port	Push-in fitting ø6,ø8									

• For weight, refer to "Pneumatic Valves No.CB-023SA".

Item			MN3GB2/MN4GB2									
			T10	T11	T30	T50	T51	T52	T53	T6G1	T7*1	T8*1/2
Max. station No.		Standard wiring	16 stations	20 stations	20 stations	16 stations	18 stations	8 stations	20 stations	16 stations	8/16 stations	16/20 stations
		Double wiring	8 stations	12 stations	12 stations	8 stations	9 stations	4 stations	12 stations	8 stations	4/8 stations	8/16 stations
Max. number of solenoids			16 points	24 points	24 points	16 points	18 points	8 points	24 points	16 points	8/16 points	16/32 points
Port size	Metric fitting	Port A/B	Push-in fitting ø4,ø6,ø8									
		P/R Port	Push-in fitting ø8,ø10									

• For weight, refer to "Pneumatic Valves No.CB-023SA".

Flow characteristics

Model No.	Solenoid position		P → A/B C[dm^3/(s·bar)]	P → A/B b	A/B → R1/R2 C[dm^3/(s·bar)]	A/B → R1/R2 b
MN3GB1 MN4GB1	Two 3-port valves integrated		0.86	0.35	1.0 (0.66)	0.15 (0.25)
	2-position		1.0	0.30	1.1 (0.72)	0.11 (0.26)
	3-position	All ports closed	0.96	0.32	1.0 —	0.14 —
		A/B/R connection	0.96	0.29	1.2 (0.71)	0.11 (0.30)
		P/A/B connection	1.1	0.31	1.0 —	0.15 —
MN3GB2 MN4GB2	Two 3-port valves integrated		1.7	0.42	2.2 (1.6)	0.15 (0.19)
	2-position		2.4	0.35	2.5 (1.7)	0.19 (0.19)
	3-position	All ports closed	2.2	0.38	2.3 —	0.17 —
		ABRConnection	2.2	0.38	2.5 (1.7)	0.18 (0.20)
		P/A/B connection	2.3	0.29	2.3 —	0.15 —

*1: Formula to calculate sonic conductance C from effective cross-sectional area S is S≈5.0×C.
*2: Values in ( ) are with the exhaust check valve.

Reduced wiring specifications

Item	T10	T11	T30	T50	T51	T52	T53
Type	Common terminal block M3 thread	Common terminal block Clamping method	D-sub-connector	20P flat cable connector, With power supply terminal	20P flat cable connector, With power supply terminal	10P flat cable connector, With power supply terminal	26P flat cable connector, With power supply terminal
Connector	—	—	D-sub-connector 25-pin	MIL-C-83503 standard compliant, Pressure welding socket 20-pin	MIL-C-83503 standard compliant, Pressure welding socket 20-pin	MIL-C-83503 standard compliant, Pressure welding socket 10-pin	MIL-C-83503 standard compliant, Pressure welding socket 26-pin

Serial transmission slave unit specifications

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

Item		T6G1
Network name		CC-Link ver. 1.10
Power supply voltage	Unit side	24 VDC ±10%
	Valve side	24 VDC +10%, -5%
Current consumption	Unit side	100 mA or less (when all output points are ON)
	Valve side	15 mA or less (when all output points are OFF)
No. of output points		16 points
Occupied number		1 station
Operation display		LED (power supply and communication status)
Output		NPN

Item		T7G1	T7L1*1	T7D1	T7S1	T7SP1
Network name		CC-Link ver. 1.10	SAVE NET	DeviceNet*2	CompoNet	
Power supply voltage	Unit side	24 VDC +10%, -5% Common power supply terminal				
	Valve side					
	Communication side	—	—	11 to 25 VDC *3	14.0 to 26.4 VDC	
Current consumption	Unit side	110 mA or less (when all output points are ON) Load current is not included			40 mA or less (when all output points are ON) Load current is not included	
	Valve side					
	Communication side	—	—	50 mA or less	65mA or less (all points ON: 24 VDC) 95 mA or less (all points ON: 14 VDC)	
No. of output points		16 points	16 points	16 points	16 points	
Occupied number		1 station	1 station	2 bytes	Word slave 1 node (16 points)	
Operation display		LED (power supply and communication status)				
Output		NPN				PNP

Item		T8G1 / T8G2	T8GP1 / T8GP2	T8P1 / T8P2	T8PP1 / T8PP2	T8EC1 / T8EC2	T8ECP1 / T8ECP2	T8EN1 / T8EN2	T8ENP1 / T8ENP2	T8D1 / T8D2	T8DP1 / T8DP2	T8EB1 / T8EB2	T8EBP1 / T8EBP2	T8EP1 / T8EP2	T8EPP1 / T8EPP2
Communication protocol		CC-Link ver. 1.10		PROFIBUS-DP (V0)		EtherCAT		EtherNet/IP		DeviceNet		CC-Link IEF Basic		PROFINET	
Power supply voltage	Unit side	24 VDC ±10%								11 to 25 VDC		24 VDC ±10%			
	Valve side	24 VDC+10%, -5%													
Current consumption	Unit side	60 mA or less (when all output points are ON)		60 mA or less (when all output points are ON)		110 mA or less (when all output points are ON)		120 mA or less (when all output points are ON)		70 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)		130 mA or less (when all output points are ON)	
	Valve side	T8□1: 15mA or less T8□2:20mA or less (when all output points are ON) Load current is not included								15 mA or less (When all output points are ON) Load current is not included					
No. of output points		T8□1: 16 points T8□2: 32 points													
Occupied number		1 station													
Operation display		LED (Power supply and communication status)													
Output		NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output

*1 Transmission bit rate of 128 bits and half-duplex transmission method are supported. Contact CKD for other specifications.
*2 Also compatible with DeviceNet compliant networks (DLNK, etc.)
*3 The communication power supply (V+, V- on the DeviceNet cable) is insulated from the power supply terminal (unit power supply/valve power supply).

MN4GB1, 2-T* Series

Reduced wiring block manifold; Base piping

How to order

●Manifold model No.

MN4GB1 **1** 0 R - C6 - T30 W H - 10 - 3 - P4

●3-port manifold model No.

MN3GB1 **66** 0 R - C6 - T30 W H - 10 - 3 - P4

●Discrete valve block with solenoid valve

N4GB1 **1** 0 R - C6 - A2N *1 H — 3 - P4

●Discrete 3-port valve block with solenoid valve

N3GB1 **66** 0 R - C6 - A2N *1 H — 3 - P4

* If a cable is required, refer to page 226 and specify the cable length of *1. When not required, leave the space blank.

●Discrete solenoid valve

4GB1 **1** 9 R - **00** - A2N H — 3 - P4

●Discrete 3-port solenoid valve

3GB1 **66** 9 R - **00** - A2N H — 3 - P4

A Model No.
B Solenoid position
C Port size (*1) (*2)
D Reduced wiring connection
E Terminal/connector pin array
F Option
G Station No.
H Voltage

Code	Description		A Model No. Manifold: Two 3-port valves integrated: MN3GB1	MN3GB2	Manifold: 5-port valve: MN4GB1	MN4GB2	Valve block with solenoid valve discrete/single solenoid valve: (N)3GB1	(N)3GB2	(N)4GB1	(N)4GB2
B Solenoid position										
1	2-position single				●	●			●	●
2	2-position double				●	●			●	●
3	3-position all ports closed				●	●			●	●
4	3-position ABR connection				●	●			●	●
5	3-position PAB connection				●	●			●	●
66	3-port valve Two valves integrated (*3)(*4)	A side valve: Normally Closed	●	●			●	●		
		B side valve: Normally Closed								
67		A side valve: Normally Closed	●	●			●	●		
		B side valve: Normally Open								
76		A side valve: Normally Open	●	●			●	●		
		B side valve: Normally Closed								
77		A side valve: Normally Open	●	●			●	●		
		B side valve: Normally Open								
8	Mix manifold (when there are multiple solenoid positions)		●	●	●	●	●	●	●	●

C Port size (port A/B) Type	Metric fitting/Rc thread								
C4	ø4 push-in fitting		●	●	●	●	●	●	●	●
C6	ø6 push-in fitting		●	●	●	●	●	●	●	●
C8	ø8 push-in fitting			●		●		●		●
CX	Push-in fitting mix (*5)		●	●	●	●				
Single side plug specs.	Port A	Port B								
C4NC	ø4 push-in fitting	Plug			●	●			●	●
C6NC	ø6 push-in fitting				●	●			●	●
C8NC	ø8 push-in fitting					●				●
C4NO	Plug	ø4 push-in fitting			●	●			●	●
C6NO		ø6 push-in fitting			●	●			●	●
C8NO		ø8 push-in fitting				●				●

is not available.

Precautions for model selection

*1 Ports A and B plug specifications are available for 2-position single only. Specify the port P/R bore size with the supply and exhaust block model No. in the manifold specifications sheet.
*2: For a discrete solenoid valve, select 00 for Port size.
*3 This will be MN4GA*80R for a mix with 4, 5-port valves. Further, select MN3GB*80R when mixing with masking plate.
*4: Not compatible with combination with external pilot (K). Dimensions are the same as those of the respective 2-position double solenoid.
*5 The push-in fitting cannot be mixed with the single valve's 4(A) or 2(B) port.

[Port size/wiring method list]

Code	Description		Ⓐ Model No. Manifold: Two 3-port valves integrated MN3GB1	MN3GB2	5-port valve MN4GB1	MN4GB2	Valve block with solenoid valve discrete/single solenoid valve (N)3GB1	(N)3GB2	(N)4GB1	(N)4GB2
Ⓓ Reduced wiring (lamp and surge suppressor provided as standard) 12/24 VDC										
T10	Common terminal block (M3 thread)	Left-sided specifications	●	●	●	●				
T10R		Right-sided specifications	●	●	●	●				
T11	Common terminal block (clamping)	Left-sided specifications	●	●	●	●				
T11R		Right-sided specifications	●	●	●	●				
T30	D-sub-connector	Left-sided specifications	●	●	●	●				
T30R		Right-sided specifications	●	●	●	●				
T50	20-pin flat cable connector (with power supply terminal)	Left-sided specifications	●	●	●	●				
T50R		Right-sided specifications	●	●	●	●				
T51	20-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●				
T51R		Right-sided specifications	●	●	●	●				
T52	10-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●				
T52R		Right-sided specifications	●	●	●	●				
T53	26-pin flat cable connector (without power supply terminal)	Left-sided specifications	●	●	●	●				
T53R		Right-sided specifications	●	●	●	●				
Ⓓ Serial transmission (lamp/surge suppressor provided as standard) 24 VDC										
T6G1	CC-Link	NPN 16 points	●	●	●	●				
T7D1	DeviceNet	NPN 16 points	●	●	●	●				
T7G1	CC-Link	NPN 16 points	●	●	●	●				
T7L1	SAVE NET	NPN 16 points	●	●	●	●				
T7S1	CompoNet	NPN 16 points	●	●	●	●				
T7SP1		PNP 16 points	●	●	●	●				
T8G1	CC-Link	NPN 16 points	●	●	●	●				
T8G2		NPN 32 points	●	●	●	●				
T8GP1		PNP 16 points	●	●	●	●				
T8GP2		PNP 32 points	●	●	●	●				
T8P1	PROFIBUS-DP	NPN 16 points	●	●	●	●				
T8P2		NPN 32 points	●	●	●	●				
T8PP1		PNP 16 points	●	●	●	●				
T8PP2		PNP 32 points	●	●	●	●				
T8EC1	EtherCAT	NPN 16 points	●	●	●	●				
T8EC2		NPN 32 points	●	●	●	●				
T8ECP1		PNP 16 points	●	●	●	●				
T8ECP2		PNP 32 points	●	●	●	●				
T8EN1	EtherNet/IP	NPN 16 points	●	●	●	●				
T8EN2		NPN 32 points	●	●	●	●				
T8ENP1		PNP 16 points	●	●	●	●				
T8ENP2		PNP 32 points	●	●	●	●				
T8D1	DeviceNet	NPN 16 points	●	●	●	●				
T8D2		NPN 32 points	●	●	●	●				
T8DP1		PNP 16 points	●	●	●	●				
T8DP2		PNP 32 points	●	●	●	●				
T8EB1	CC-Link IEF Basic	NPN 16 points	●	●	●	●				
T8EB2		NPN 32 points	●	●	●	●				
T8EBP1		PNP 16 points	●	●	●	●				
T8EBP2		PNP 32 points	●	●	●	●				
T8EP1	PROFINET	NPN 16 points	●	●	●	●				
T8EP2		NPN 32 points	●	●	●	●				
T8EPP1		PNP 16 points	●	●	●	●				
T8EPP2		PNP 32 points	●	●	●	●				
A2N	Without lead wire (without socket)	With surge suppressor and indicator lamp					●	●	●	●
Ⓔ Terminal/connector pin array										
Blank	Standard wiring	(*6)	●	●	●	●	●	●	●	●
W	Double wiring	(*6)	●	●	●	●	●	●	●	●
W 1	Double wiring (with single spare wiring)	(*6)(*7)	●	●	●	●	●	●	●	●
Ⓕ Option										
Blank	Manual override of non-locking/locking common		●	●	●	●	●	●	●	●
M	Non-locking manual override		●	●	●	●	●	●	●	●
H	With exhaust check valve	(*8)	●	●	●	●	●	●	●	●
K	External pilot	(*9)			●	●			●	●
A	Ozone/coolant proof		●	●	●	●	●	●	●	●
S	Surgeless	(*10)	●	●	●	●	●	●	●	●
E	Low exoergic/energy circuit	(*10)(*11)	●	●	●	●	●	●	●	●
L	With pipe adaptor		●	●	●	●	●	●	●	●
Q	Reduced wiring duct		●	●	●	●	●	●	●	●
F	Port A/B filter built in	(*12)	●	●	●	●	●	●	●	●
Z1	Air supply spacer	(*13)	●	●	●	●				
Z3	Exhaust spacer	(*13)	●	●	●	●				
Z6	Spacer pilot check valve	(*13)			●					
Ⓖ Station No.										
1	1 station		●	●	●	●				
to	to									
24	24 stations (Max. station number for MN4GB2 is 20.)									
Ⓗ Voltage										
3	24 VDC		●	●	●	●	●	●	●	●
4	12 VDC		●	●	●	●	●	●	●	●

Ozone-proof specifications • Coolant proof specifications

Can be selected with "How to order" Item Ⓕ option "A" on the left.

CE marking specifications

** - Voltage - **ST**

- Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".

Precautions for model selection

*6: 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.

***7 Spare wiring (A type socket assembly) is included on the cap side for single types. A holder for retaining the socket assembly is included for single unit valves (A2N). Refer to page 230 for details. Combination with port sizes C*NC and C*NO is not supported.**

***8 The 3-position all ports closed and PAB connection are not provided with the exhaust check valve specifications (H). Refer to "Pneumatic Valves No.CB-023SA" for details on the exhaust check valve.**

*9 Consult with CKD when using a vacuum with the external pilot (K).

*10 Surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.

*11 Surgeless specifications.

*12 A filter is built into port P as standard.

***13 Specify the spacer mounting position/quantity in the manifold specifications sheet. Stacking of spacers is not possible. Combination with masking plates is not possible. For details, refer to pages 227 to 228.**

*14 Only compatible with MN4GB1 and MN4GB2 solenoid positions "3" and "4".

A. Discrete valve block with solenoid valve

Block assembled from solenoid valve body and valve block (split resin base). For model selection, refer to the following pages.
Body piping individual wiring: Page 208, base piping individual wiring: Page 212, Body piping reduced wiring: Page 218, base piping reduced wiring: Page 222

B. Discrete valve block with masking plate

Block assembled from masking plate and valve block (split resin base).

N4GA1 R - MP ——— 3 ——— P4

N4GB1 R - MPD - C4 - 3 F - P4

Ⓐ Model No.

Ⓑ Type

Ⓒ Port size

Ⓓ Cable length *2

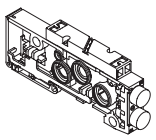
Ⓔ Option

Code	Description	Ⓐ Model No. N4GA1	N4GA2	N4GB1	N4GB2
Ⓑ Type					
MP	For individual wiring				
MPS	For reduced wiring single				
MPD	For reduced wiring double/3-position				
Ⓒ Port size (for base piping, this must be configured.)					
Type	Metric fitting/Rc thread				
C4	ø4 push-in fitting			●	●
C6	ø6 push-in fitting			●	●
C8	ø8 push-in fitting				●
Single side plug specs.	Port A	Port B			
C4NC	ø4 push-in fitting	Plug			●	●
C6NC	ø6 push-in fitting				●	●
C8NC	ø8 push-in fitting					●
C4NO	Plug	ø4 push-in fitting			●	●
C6NO		ø6 push-in fitting			●	●
C8NO		ø8 push-in fitting				●
Ⓓ Cable length *3					
Blank	For individual wiring				
2 to 10	Select the length from page 226.				
Ⓔ Option					
Blank	No option				
L	With pipe adaptor				
F	Port A/B filter built in				

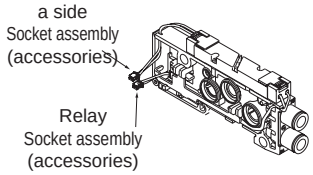
is not available.

***2 A socket assembly is attached with purchases for reduced wiring station expansion, so select "2 to 10". Select a cable length from page 226 and fill it into the D cable length field. If ordering with the manifold specifications sheet, the cable length can be omitted.**

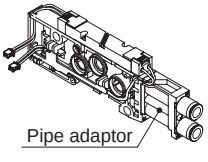
N4GA1R-MP



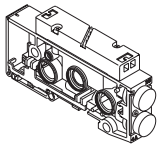
N4GB1R-MPD-C4-3



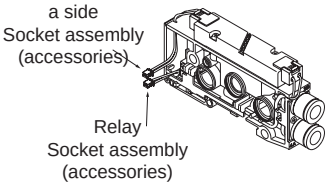
N4GB1R-MPD-C4-3L



N4GA2R-MP



N4GB2R-MPD-C6-5

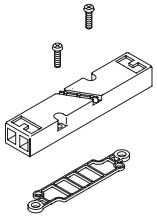


B-1. Masking plate

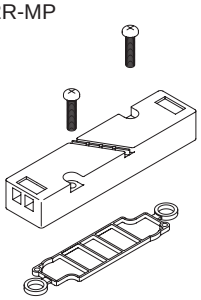
4G1R - MP

Ⓐ Model No.

4G1R-MP



4G2R-MP



Piping

C. Discrete valve block (separate item only)

Discrete valve block (split resin base).

N4GA1 R - V1 — 3 — P4
N4GB1 R - V2 - C4 - 3 F — P4

Ⓐ Model No.
Ⓑ Type
Ⓒ Port size
Ⓓ Cable length *2
Ⓔ Option

Ⓐ Model No.	N4GA1	N4GA2	N4GB1	N4GB2

Code	Description
Ⓑ Type	
V1	For individual wiring For reduced wiring single
V2	For reduced wiring double/3-position

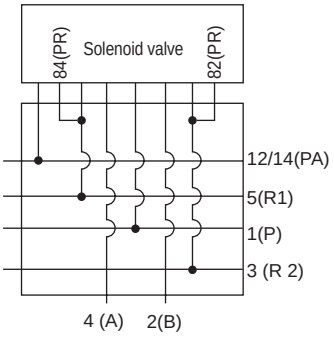
Ⓒ Port size (Settings are necessary for base piping.)					
Type	Metric fitting/Rc thread				
C4	ø4 push-in fitting			●	●
C6	ø6 push-in fitting			●	●
C8	ø8 push-in fitting				●
Single side plug Specifications	Port A	Port B			
C4NC	ø4 push-in fitting	Plug			●	●
C6NC	ø6 push-in fitting				●	●
C8NC	ø8 push-in fitting					●
C4NO	Plug	ø4 push-in fitting			●	●
C6NO		ø6 push-in fitting			●	●
C8NO		ø8 push-in fitting				●

Ⓓ Cable length *3	
Blank	For individual wiring
2 to 10	Select the length from page 226 .

Ⓔ Option					
Blank	No option	●	●	●	●
L	With pipe adaptor			●	●
F	Port A/B filter built in			●	●
Z6	For spacer pilot check valve mounting			●	

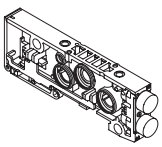
is not available.

***2 A socket assembly is attached with purchases for reduced wiring station expansion, so select "2 to 10". Select a cable length from page 226 and fill it into the Ⓓ cable length field. If ordering with the manifold specifications sheet, the cable length can be omitted.**

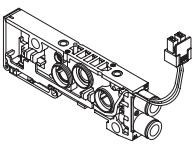


Discrete valve block circuit diagram

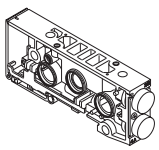
N4GA1R-V1



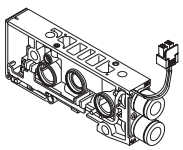
N4GB1R-V2-C4



N4GA2R-V1

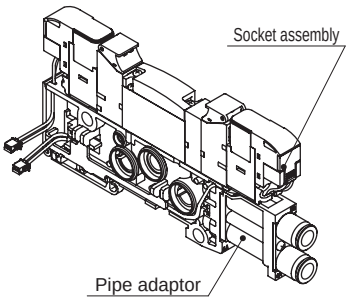


N4GB2R-V2-C6



Option L pipe adaptor

Combining axial push-in fittings with pipe adaptors may cause the fitting to protrude past the socket assembly, making tube attachment and removal easier.



As problems may occur depending on the configuration, make selections with a sufficient understanding of the features of each block.

C. Discrete valve block (separate item only)

Valve block for expansion Cable length

Calculate the distance W between the expansion position and the wiring block (Fig. 1),<<Select a cable with appropriate length from Table 1>>. Note that the required socket assembly differs between the a side solenoid and b side solenoid. While Fig. 1 shows the wiring block with left side specifications, similarly calculate the distance W between the expansion position and the wiring block for the right side specifications.

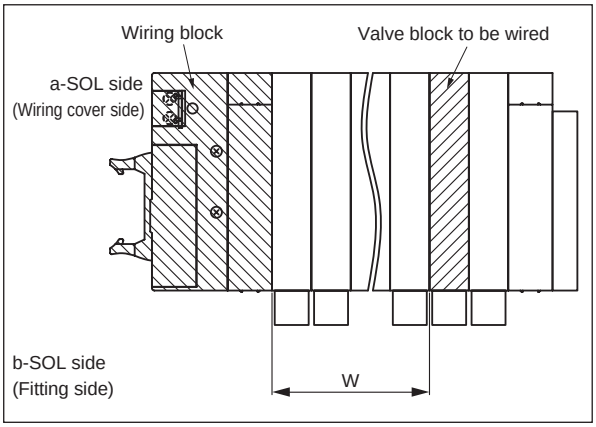
Calculation of W

- For MN4G1
  W=(10.5xn)+(16xm)+(10.5xl)
- For MN4G2
  W=(16xn)+(18xm)+(10.5xl)
  n/m/l: No. of valve blocks/supply and exhaust blocks/partition blocks
- For MN4GX
  Calculate W using the mix block width of 16.

<<Table 1>>W length - selection No. compatibility table

Selection No.	Type of wiring		
	T10/11(R)	T30/5*/6(R)	T7*/T8*
2		0	25 or less
3	20 or less	Over 0 to 30	Over 25 to 55
4	Over 20 to 70	Over 30 to 80	Over 55 to 105
5	Over 70 to 120	Over 80 to 130	Over 105 to 155
6	Over 120 to 170	Over 130 to 180	Over 155 to 205
7	Over 170 to 260	Over 180 to 270	Over 205 to 295
8	Over 260 to 350	Over 270 to 360	Over 295 to 385
9	Over 350 to 450	Over 360 to 460	Over 385 to 485
10	Over 450 to 570	Over 460 to 580	Over 485 to 605

Fig. 1



D. Supply and exhaust block

The supply and exhaust block can be installed at any position adjacent to the valve block. As there is no set number of units, install two or more units when necessary for combinations with partition blocks or in order to increase the flow rate for supply and exhaust. In order to prevent foreign matter from entering, port P is equipped with a filter.

N4G1R - Q - 8 - P4

Model No.

A Port size

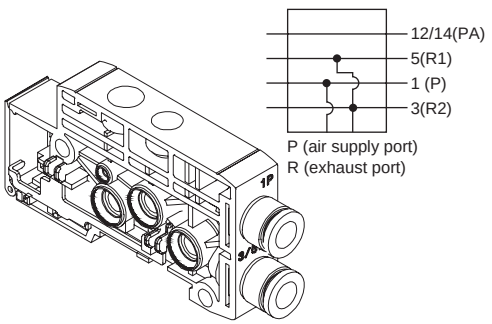
A	Port size
6	ø6 push-in fitting
8	ø8 push-in fitting

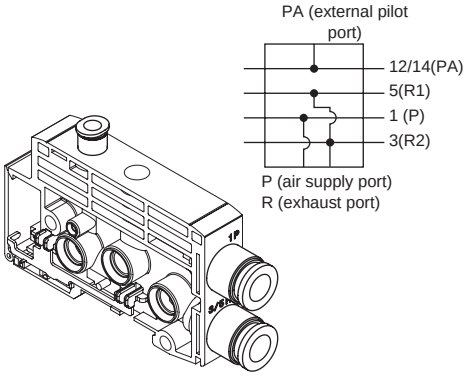
N4G2R - QK - 10 - P4

Model No.

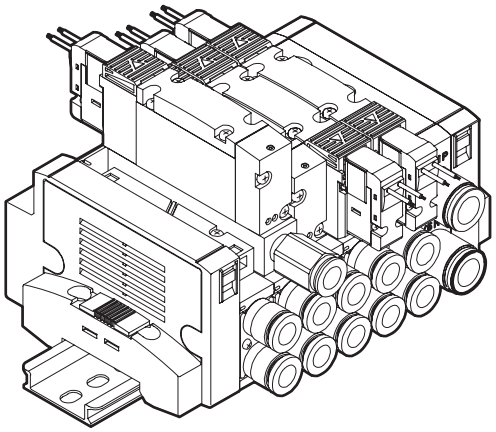
A Port size

A	Port size
8	ø8 push-in fitting
10	ø10 push-in fitting





● Air supply spacer



Specifications

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

*1: Values are when a valve is mounted.
*2: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 x C.

How to order discrete units

4G (2) R − P − (GWS6) − P4

Ⓐ Air supply spacer model No.

Ⓑ Port size

*1
The port size of "●" is a standard product and equivalent to P4 specifications. It is not necessary to add "-P 4" to the model No.

Code	Description	Model No. 4GA1	4GB1	4GA2	4GB2
Ⓐ Air supply spacer model No.					
1	For 4G1	●			
2	For 4G2			●	
Ⓑ Port size					
Blank	M5(4G1), Rc1/8(4G2)	●		●	
GWS4	ø4 fitting	○			
GWS6	ø6 fitting			○	
06N	1/8NPT thread			●	
06G	G1/8 thread			●	

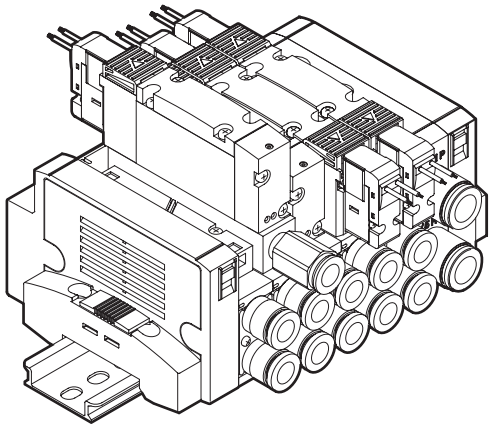
is not available.

Accessories: 4G1 2 mounting screws, 1 specially designed gasket
4G2 2 mounting screws, 2 PR check valves, 1 body gasket

⚠ Precautions for model selection

*2 Specify the positions and quantity of air supply spacers for manifold in the manifold specifications sheet.
*3 If the port A/B fitting is elbow, turn the air supply port of the air supply spacer toward the reverse side ("a" solenoid side).
*4 If the elbow (upward) port A/B fitting is used for the reduced wiring manifold, the air supply spacer cannot be selected.
*5 Combination with the masking plate is not supported.

● Exhaust spacer



Specifications

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

*1: Values are when a valve is mounted.
*2: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 x C.

How to order discrete units

4G (2) R − R − (GWS6) − P4

Ⓐ Exhaust spacer model No.
Ⓑ Port size

*1
The port size of "●" is a standard product and equivalent to P4 specifications. It is not necessary to add "-P 4" to the model No.

Code	Description	Model No. 4GA1	4GB1	4GA2	4GB2
Ⓐ **Exhaust spacer model No.**					
1	For 4G1	●			
2	For 4G2			●	
Ⓑ **Port size**					
Blank	M5 (4G1), Rc1/8 (4G2)	●		●	
GWS4	ø4 fitting	○			
GWS6	ø6 fitting			○	
06N	1/8NPT thread			●	
06G	G1/8 thread			●	

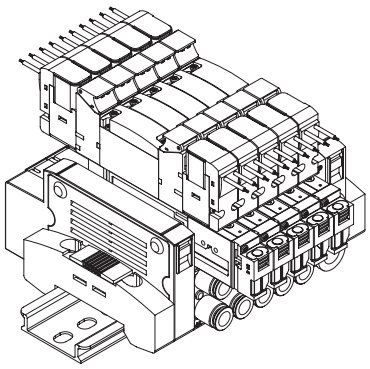
is not available.

Accessories: 4G1 2 mounting screws, 1 specially designed gasket
4G2 2 mounting screws, 2 PR check valves, 1 body gasket

⚠ Precautions for model selection

*2 Specify the positions and quantity of exhaust spacers for manifold in the manifold specifications sheet.
*3 If the port A/B fitting is elbow, turn the exhaust port of the exhaust spacer toward the reverse side ("a" solenoid side).
*4 If elbow upward port A/B fitting is used for the reduced wiring manifold, the exhaust spacer cannot be selected.
*5 Combination with the masking plate is not supported.

● Spacer pilot check valve

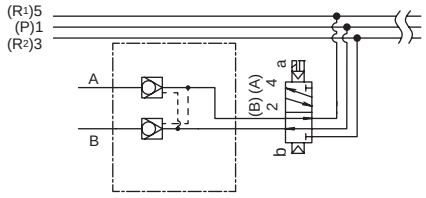


Specifications

Pilot check valve		4G1R-PC
Working fluid		Compressed air
Max. working pressure	MPa	0.7
Min. working pressure	MPa	0.2
Proof pressure	MPa	1.05
Effective cross-sectional area	mm^2	1.6 (Solenoid valve)
Ambient temperature	°C	−5 to 55 (no freezing)
Working fluid temperature	°C	5 to 55
Lubrication	*1	Not required
Atmosphere		Cannot be used in corrosive gas environment.
Weight	g	22

*1: Use turbine oil Class 1 ISO VG32 for lubrication.
Note that excessive lubricant may cause unstable operation.

JIS symbol

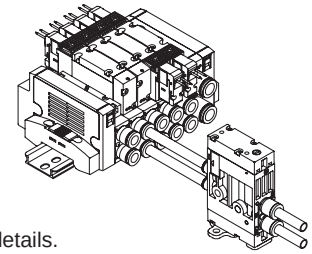


Note: Using a cylinder with a large diameter (more than ø50 as a guide) with little exhaust restriction (eg, no speed controller, no silencer) may lead to a decrease in intermediate stop accuracy and stopping error. Please be careful.

Discrete model No.

4G1R-PC

● Pilot check valve



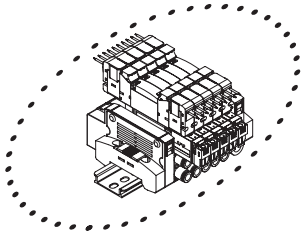
Refer to page 179 for details.

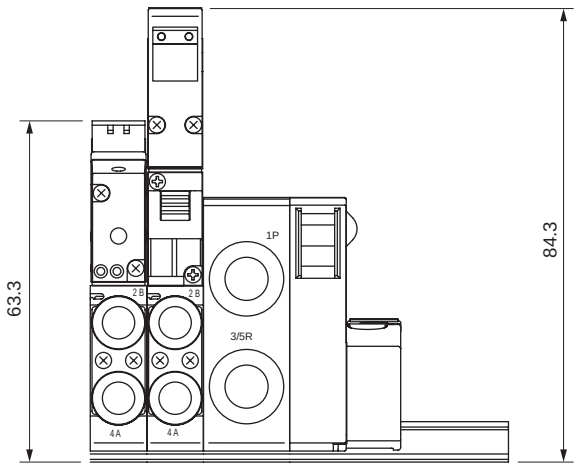
⚠ Precautions for model No. selection

*1: Specify the spacer positions in the manifold specifications sheet.
*2: Stacking of spacers is not possible.
*3: A spacer cannot be combined with a masking plate.
*4: The spacer pilot check valve can be mounted only when the piping method is base piping.
*5: Reduced wiringWhen adding a spacer to the manifold, select the socket assembly lead wireis insufficient (does not reach it). Replace the valve block. (Refer to page 225 for details.)

Dimensions

● MN4GB1

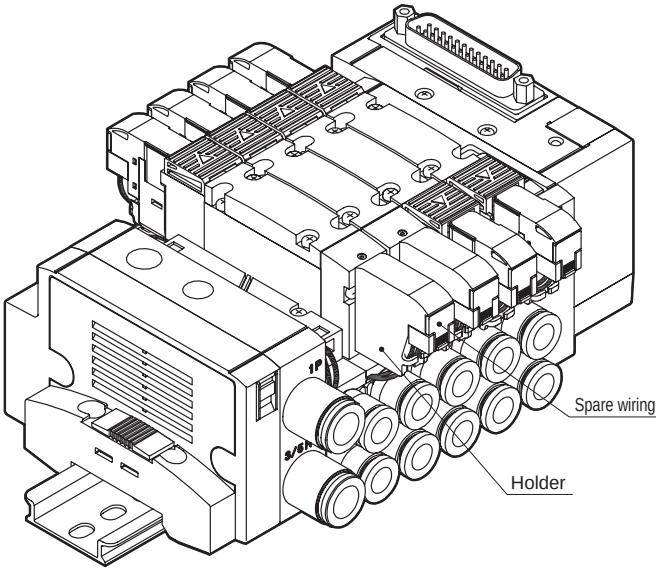




Note: For A dimension, check the dimensions of the respective specifications.

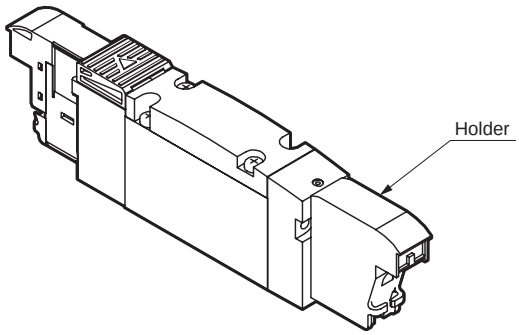
● Double wiring (with single spare wiring) (W1)

For manifolds



Spare wiring (holder and A type socket assembly) is included on the cap side for single solenoid valves.
This simplifies the workflow when changing valves from a single solenoid to a double solenoid, as you do not need to prepare the A type socket assembly separately.

Discrete valve (2-position single)



A holder for retaining the socket assembly is included.
(Not included for A type sockets.)
This can be used to hold the socket assembly no longer required when changing the valve from a double solenoid to a single solenoid.

Example of model No.

● Manifold model No. (example)

MN4GB1 (A) 1 (B) 0 R - C6 (C) - T30 (D) W1 (E) H (F) - 10 (G) - 3 (H) - P4

- (A) Model No.
- (B) Solenoid position
- (C) Port size
- (D) Wiring method
- (E) Terminal/connector pin array
- (F) Option
- (G) Station No.
- (H) Voltage

Code	Description
(E) Terminal/connector pin array	
W1	Double wiring (with single spare wiring)

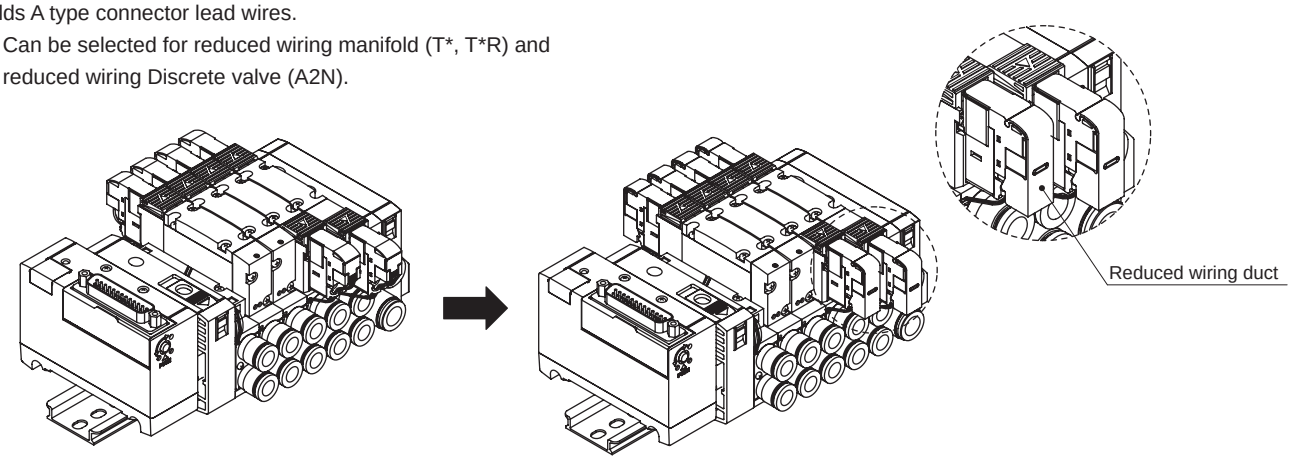
* Refer to How to order for each series for details about model numbers.
Combination with port sizes C*NC and C*NO is not supported.

Related products Reduced wiring duct

● Reduced wiring duct(Q)

Holds A type connector lead wires.

- Can be selected for reduced wiring manifold (T*, T*R) and reduced wiring Discrete valve (A2N).



Standard

When Q (reduced wiring duct) selected

Example of model No.

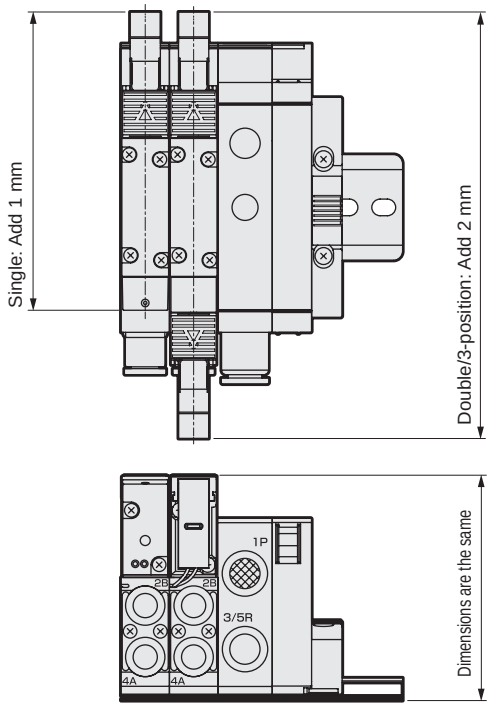
● Manifold model No. (example)

MN4GB1 1 0 R - C6 - T30 W Q - 10 - 3 - P4

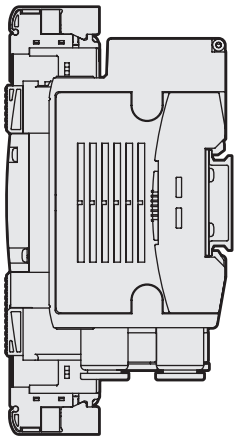
- A Model No.
- B Solenoid position
- C Port size
- D Wiring method
- E Terminal/ Connector pin array
- G Station No.
- H Voltage

Code	Description
F Option	
Q	Reduced wiring duct

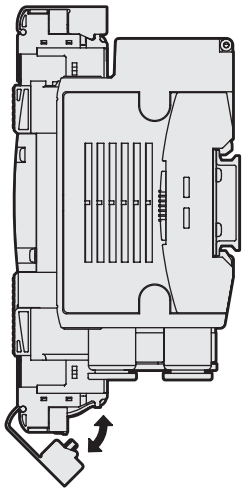
● Dimension lines



Reduced wiring duct closed state



Open state



How to fill out block manifold MN4G Series manifold specifications sheet

● Manifold model No. (example)

MN 4 GA1 8 0R- CX - T50 W H - 8 - 3 P4

Ⓐ Model No. Ⓑ Solenoid position Ⓒ Port size Ⓓ Electrical connections (Reduced wiring connection) Ⓔ Terminal/Connector pin array Expression (Note: Fill in for reduced wiring.) Ⓕ Option Ⓖ Station No. Ⓗ Voltage

For information, Block configurations (Pneumatic Valves No.CB-023SA) to select a model No.

Part name	Model No.	Layout position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Quantity
Wiring block	N4G1R-T 50	○																														1
With solenoid valve Valve block (Page 224)	N4GA1 1 0R- C4 -		○	○																												2
	N4GA1 2 0R- C6 -					○																										1
	N4GA1 3 0R- C4 -				○																											1
	N4GA1 0R- -																															
	N4GA1 0R- -																															
	N4GA1 0R- -																															
	N3GA1 1 0R- C4 -									○	○	○																				3
	N3GA1 0R- -																															
Valve block with masking plate (Page 224)	N4GA1R-MP																															
	N4GA1R-MPS																															
	N4GA1R-MPD						○																									1
Supply and exhaust block (Page 226)	N4G1R-Q - 8L							○					○																			2
	N4G1R-Q -																															
	N4G1R-Q -																															
Partition block	N4G1R-S A								○																							1
	N4G1R-S																															
	N4G1R-S																															
End block	N4G1R-E R													○																		1
	N4G1R-E																															
Mounting rail	L_2= (How to calculate length on next page)	Blanking plug: GWP 4-B / GWP 6-B / GWP 8-B; D Cable with sub-connector; 4GR-CABLE-D0□-□																														Included parts
		Tag plate (included): A ○; Push-in fitting tube remover (standard attachment) ☑Not required (Check)																														

* A circuit diagram of the above manifold model No. (example) is provided on the following page. Use for reference.

If the tube remover (standard accessory) is not required, place a check.

Preparing manifold specifications sheet

● Complete from the left end, with the piping port facing forward.
(Block components (Pneumatic Valves No.CB-023SA) and layout.)
● Write the total number of blocks specified in the table far right.
● For required included parts, ○ mark.
● Indicate the mounting rail length. (Fill in only when a length other than the standard length is required.)
● As there are manifold specifications sheets for each of the various series, fill in the form for the corresponding specifications.

- MN4GA1: Page 236
- MN4GB1: Page 237
- MN4GA2: Page 238
- MN4GB2: Page 239
- MN4GA×1, 2 (mix manifold): Page 240
- MN4GB×1, 2 (mix manifold): Page 241

● Mounting rail model No.: N4GR-BAA Length

Mounting rail length (L2)

①Determine the rail length using the calculation method shown below.
The obtained length is standard.
②With standard length,For specifications sheet, N (L2) is not required.
If you need a length other than the standard length, please enter it.

● How to determine the length of the mounting rail

Manifold length (L1) = (A× Valve Block Quantity)+(B× Supply and exhaust Block Quantity)+(C× Partition Block Quantity)+ Wiring block D + Mixed block E

Mounting rail length (L2) = L2' x 12.5 A, B, C, D, and E indicate the length (width) of each block.

$$L2': \frac{L1+40}{12.5} \longrightarrow \text{round up to integer}$$

Rail mounting pitch (L3) = L2 - 12.5

Block length (width) dimensions table (mm)

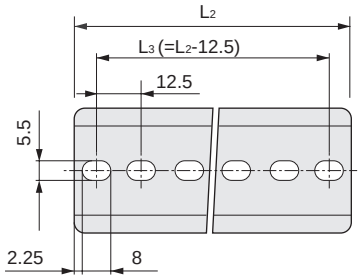
			MN4GA/B1	MN4GA/B2	MN4G1/2MIX	
					MN4GA/B1	MN4GA/B2
A	Valve block		10.5	16	10.5	16
B	Supply and exhaust block		16	18	16	18
C	Partition block		10.5	10.5	10.5	10.5
D	Individual wiring		41.2	46.2	43.7	
	For reduced wiring Wiring block	T10/T11	83.9	86.4	86.4	
		T10R/T11R	83.9	86.4	83.9	
		T30/T5*	69.4	71.9	71.9	
		T30R/T5*R	69.4	71.9	69.4	
		T6G1	143.6	146.1	146.1	
		T7*	64.4	66.9	66.9	
		T8*	64.4	66.9	66.9	
E	Mixed block				16	

* The end block is, Included in wiring block.

● Mounting rail length quick reference table

L1:Manifold Length	47.5 or less	47.5 Over to 60 or less	60 to 72.5	72.5 to 85	85 to 97.5	97.5 to 110	110 to 122.5	122.5 to 135	135 to 147.5	147.5 to 160	160 to 172.5	172.5 to 185	185 to 197.5	197.5 to 210	210 to 222.5	222.5 to 235	235 to 247.5	247.5 to 260	260 to 272.5	272.5 to 285	285 to 297.5	297.5 to 310	310 to 322.5	322.5 to 335	335 to 347.5	347.5 to 360
L2:Rail Length	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375	387.5	400
PitchL3	75	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375	387.5

*1:L1 exceeds this table,"How to calculate the length of the mounting rail" for calculation.



How to fill out wiring specifications sheet

Not required for standard wiring and double wiring.

● Wiring specificationsbook (Example)

* The following example has been filled out in accordance with the manifold specifications sheet on the previous page.

Connector pin No.				Valve No.																							
T50/T50R	T51/T51R	T52/T52R	T53/T53R	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1	1	**a**																							
2	2	2	2		**a**																						
3	3	3	3				**a**																				
4	4	4	4				**b**																				
5	5	5	5					**a**																			
6	6	6	6					**b**																			
7	7	7	7			**a**																					
8	8	8	8			**b**																					
9 - Power supply	9	9 COM	9																								
10 + (COM) Power supply	10	10 COM	10																								
11	11		11						**a**																		
12	12		12							**a**																	
13	13		13								**a**																
14	14		14																								
15	15		15																								
16	16		16																								
17	17		17																								
18	18		18																								
19 - Power supply	19 COM		19																								
20 + (COM) Power supply	20 COM		20																								
			21																								
			22																								
			23																								
			24																								
			25 COM																								
			26 COM																								

* When T50/T50R, the COM polarity is + (Positive) be careful.

● Notes on wiring specifications

①Fill in and attach to the manifold specifications sheet for anything other than the standard wiring or double wiring. Consult with CKD, as products will be custom made in this case.

②The valve No. is determined by counting the valve blocks only in order from the left with the ports facing forward. Note that this differs from the installation position numbers.

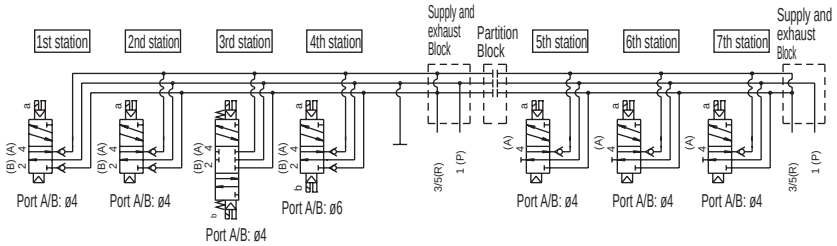
③As the connector pin No. and valve No. differ for each reduced wiring method (T1*/T30/T5*/T6G1/T7*/T8*), fill out the form upon reviewing the notes for each reduced wiring method (Pneumatic Valves No.CB-023SA).

④Wiring (socket assembly) is included with valve blocks with masking plates. "-MPS" is on the A side only. "-MPD" is on the A/B sides.

⑤Double solenoids or 3-position solenoid valves cannot be assembled to "-MPS". Order valve block with solenoid valve and carry out expansion.

⑥It is not possible to install spare wires for station expansion in advance. Wire the socket assembly of the solenoid valve for expansion of stations. To expand stations, (Pneumatic Valves No.CB-023SA).

Reference circuit diagram Simplified circuit diagram of manifold model No. (example) from previous page



* The manifold station numbers are set in order from the left with the piping port facing forward.
(Wiring blocks, supply and exhaust blocks, partition block, and end block are not included in the manifold station No.)

* Select a model No. from the page for block configurations (pneumatic valves No.CB-023SA) and specification model No.

* With piping port facing front, arrangement positions are set in order from the left.

MEMO

MN4GA1 Block manifold specifications sheet

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

Slip No.	Order No.

● Manifold model No.

Date issued / /

Company

Contact

Order No.

MN□GA1□0R-□-□ □□-□-□-P4

A Model No. B Solenoid position C Port size D Electrical connections (Reduced wiring connection) E Terminal/connector pin array (Note: Fill in for reduced wiring.) F Option G Station No. H Voltage

Refer to "Block configurations" (Pneumatic Valves No.CB-023SA) to select the model No.

Part name (Page)	Model No.	Layout position																														Quantity
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Wiring block	N4G1R-T□																															
With solenoid valve Valve block (Page 224)	N4GA1□0R-□																															
	N4GA1□0R-□																															
	N4GA1□0R-□																															
	N4GA1□0R-□																															
	N4GA1□0R-□																															
	N4GA1□0R-□																															
	N3GA1□0R-□																															
	N3GA1□0R-□																															
With masking plate Valve block (Page 224)	N4GA1R-MP																															
	N4GA1R-MPS																															
	N4GA1R-MPD																															
Air supply spacer (Page 227)	4 G1R-P-□																															
	4 G1R-P-□																															
Exhaust spacer (Page 228)	4G1R-R-□																															
Supply and exhaust block (Page 226)	N4G1R-Q□-□																															
	N4G1R-Q□-□																															
	N4G1R-Q□-□																															
Partition block	N4G1R-S□																															
	N4G1R-S□																															
	N4G1R-S□																															
End block	N4G1R-E□																															
	N4G1R-E□																															

Mounting rail	L2= □ * Write an integer multiple of 12.5. (How to determine the length: page 233)	Blanking plug						Tag plate (attachment)		Included Part
		GWP 4-B		GWP 6-B		GWP 8-B		A		
		Cable with D-sub-connector			4GR-CABLE-D0□-□				Push-in fitting tube remover (Included as Standard) □ Not required (Check)	

MN4GB1 Block manifold specifications sheet

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

Slip No.	Order No.

Date issued / /

Company

Contact

Order No.

● Manifold model No.

MN4GB1 □ 0R- □ - □ □ □ - □ - □ - P4

Ⓐ Model No. Ⓑ Solenoid position Ⓒ Port size Ⓓ Electrical connections (Reduced wiring connection) Ⓔ Terminal/Connector pin array (Note: Fill in for reduced wiring.) Ⓕ Option Ⓖ Station No. Ⓗ Voltage

Refer to "Block configurations" (Pneumatic Valves No.CB-023SA) to select the model No.

Part name (Page)	Model No.	Layout position																													Quantity
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Wiring block	N4G1R-T□																															
With solenoid valve Valve block (Page 224)	N4GB1□0R-□-□																															
	N4GB1□0R-□-□																															
	N4GB1□0R-□-□																															
	N4GB1□0R-□-□																															
	N4GB1□0R-□-□																															
	N4GB1□0R-□-□																															
	N3GB1□0R-□-□																															
	N3GB1□0R-□-□																															
With masking plate Valve block (Page 224)	N4GB1R-MP-□																															
	N4GB1R-MPS-□																															
	N4GB1R-MPD-□																															
Air supply spacer (Page 227)	4 G1R-P-□																															
	4 G1R-P-□																															
Exhaust spacer (Page 228)	4G1R-R-□																															
Spacer pilot Check valve	4G1R-PC-																															
Supply and exhaust block (Page 226)	N4G1R-Q□-□																															
	N4G1R-Q□-□																															
	N4G1R-Q□-□																															
Partition block	N4G1R-S□																															
	N4G1R-S□																															
	N4G1R-S□																															
End block	N4G1R-E□																															
	N4G1R-E□																															

Mounting rail	L_2= □ * Write an integer multiple of 12.5. (How to determine the length: page 233)	Blanking plug						Tag plate (attachment)				Included Part
		GWP 4-B		GWP 6-B		GWP 8-B		B1		B2		
		Cable with D-sub-connector			4GR-CABLE-D0□-□			Push-in fitting tube remover (standard attachment) □ Not required (check)				

MN4GA2 Block manifold specifications sheet

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

Slip No.	Order No.

● Manifold model No.

Date issued / /

Company

Contact

Order No.

MN □ GA2 □ 0R- □ - □ □ □ - □ - □ - P4

Ⓐ Model No. Ⓑ Solenoid position Ⓒ Port size Ⓓ Electrical connections (Reduced wiring connection) Ⓔ Terminal/connector pin array (Note: Fill in for reduced wiring.) Ⓕ Option Ⓖ Station No. Ⓗ Voltage

Refer to "Block configurations" (Pneumatic Valves No.CB-023SA) to select the model No.

Part name (Page)	Model No.	Layout position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Quantity
Wiring block	N4G2R-T □																															
With solenoid valve Valve block (Page 224)	N4GA2 □ 0R- □																															
	N4GA2 □ 0R- □																															
	N4GA2 □ 0R- □																															
	N4GA2 □ 0R- □																															
	N4GA2 □ 0R- □																															
	N4GA2 □ 0R- □																															
	N3GA2 □ 0R- □																															
	N3GA2 □ 0R- □																															
With masking plate Valve block (Page 224)	N4GA2R-MP																															
	N4GA2R-MPS																															
	N4GA2R-MPD																															
Air supply spacer (Page 227)	4G2R-P- □																															
	4G2R-P- □																															
Exhaust spacer (Page 228)	4G2R-R- □																															
Supply and exhaust block (Page 226)	N4G2R-Q □ - □																															
	N4G2R-Q □ - □																															
	N4G2R-Q □ - □																															
Partition block	N4G2R-S □																															
	N4G2R-S □																															
	N4G2R-S □																															
End block	N4G2R-E □																															
	N4G2R-E □																															

Mounting rail	L_2= □ * Write an integer multiple of 12.5. (How to determine the length: page 233)	Blanking plug						Tag plate (attachment)		Included Part
		GWP 4-B	□	GWP 6-B	□	GWP 8-B	□	A	□	
		Cable with D-sub-connector		4GR-CABLE-D0□-□				□		

MN4GB2 Block manifold specifications sheet

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

Slip No.	Order No.

● Manifold model No.

Date issued / /

Company

Contact

Order No.

MN4GB2 ☐ 0R- ☐ - ☐ ☐ ☐ - ☐ - ☐ - P4

Ⓐ Model No. Ⓑ Solenoid position Ⓒ Port size Ⓓ Electrical connections (Reduced wiring connection) Ⓔ Terminal/Connector pin array (Note: Fill in for reduced wiring.) Ⓕ Option Ⓖ Station No. Ⓗ Voltage

Refer to "Block configurations" (Pneumatic Valves No.CB-023SA) to select the model No.

Part name (Page)	Model No.	Layout position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Quantity
Wiring block	N4G2R-T☐																															
With solenoid valve Valve block (Page 224)	N4GB2☐0R-☐-																															
	N4GB2☐0R-☐-																															
	N4GB2☐0R-☐-																															
	N4GB2☐0R-☐-																															
	N4GB2☐0R-☐-																															
	N4GB2☐0R-☐-																															
	N3GB2☐0R-☐-																															
	N3GB2☐0R-☐-																															
With masking plate Valve block (Page 224)	N4GB2R-MP-☐																															
	N4GB2R-MPS-☐																															
	N4GB2R-MPD-☐																															
Air supply spacer (Page 227)	4G2R-P-☐																															
	4G2R-P-☐																															
Exhaust spacer (Page 228)	4G2R-R-☐																															
Supply and exhaust block (Page 226)	N4G2R-Q☐-☐																															
	N4G2R-Q☐-☐																															
	N4G2R-Q☐-☐																															
Partition block	N4G2R-S☐																															
	N4G2R-S☐																															
	N4G2R-S☐																															
End block	N4G2R-E☐																															
	N4G2R-E☐																															
Mounting rail	L2=☐ * Write an integer multiple of 12.5. (How to determine the length: page 233)	Blanking plug: GWP 4-B ☐ GWP 6-B ☐ GWP 8-B ☐ / Cable with D-sub-connector: 4GR-CABLE-D0☐-☐																														Tag plate (attachment): B ☐ / Included Part

MN4GA1/2 Mix manifold specifications sheet

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

Date issued / /

Slip No.	Order No.

Company

Contact

Order No.

● Manifold model No.

MN □ GAX12R- □ - □ □ □ - □ - □ - P4

Ⓐ Model No. Ⓒ Port size Ⓓ Electrical connections (Reduced wiring connection) Ⓔ Terminal/connector pin array (Note: Fill in for reduced wiring.) Ⓕ Option Ⓖ Station No. Ⓗ Voltage

Refer to "Block configurations" (Pneumatic Valves No.CB-023SA) to select the model No.

Part name (Page)	Model No.	Layout position																													Quantity
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Wiring block	N4G□R-T□																															
With solenoid valve Valve block (224 page)	N4GA□0R-□																															
	N4GA□0R-□																															
	N4GA□0R-□																															
	N4GA□0R-□																															
	N4GA□0R-□																															
	N4GA□0R-□																															
	N3GA□0R-□																															
	N3GA□0R-□																															
With masking plate Valve block (224 page)	N4GA□R-MP																															
	N4GA□R-MPS																															
	N4GA□R-MPD																															
Air supply spacer (Page 227)	4□G1R-P-□																															
	4G2R-P-□																															
Exhaust spacer (Page 228)	4G1R-R-□																															
	4G2R-R-□																															
Mixed block	N4G12R-MIX																															
Supply and exhaust block (Page 226)	N4G□R-Q□-□																															
	N4G□R-Q□-□																															
	N4G□R-Q□-□																															
Partition block	N4G□R-S□																															
	N4G□R-S□																															
	N4G□R-S□																															
End block	N4G□R-E□																															
	N4G□R-E□																															

Mounting rail	L_2= □ * Write an integer multiple of 12.5. (How to determine the length: page 233)	Blanking plug								Included Part
		GWP□-B		GWP□-B		GWP□-B		GWP□-B		
		Cable with D-sub-connector		4GR-CABLE-D0□-□			Push-in fitting tube remover (standard attachment) □ Not required (check)			

MN4GB1/2 Mix manifold specifications sheet

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

Slip No.	Order No.

Date issued / /

Company

Contact

Order No.

- Manifold model No.

MN4GBX12R- [ ] **-** [ ] [ ] [ ] **-** [ ] **-** [ ] **- P4**

(A) Model No. (C) Port size (D) Electrical connections (Reduced wiring connection) (E) Terminal/Connector pin array (Note: Fill in for reduced wiring.) (F) Option (G) Station No. (H) Voltage

Refer to "Block configurations" (Pneumatic Valves No.CB-023SA) to select the model No.

Part name	Model No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Quantity
		Layout position																														
Wiring block	N4G [ ] R-T [ ]																															
With solenoid valve Valve block (Page 224)	N4GB [ ] 0R- [ ] - [ ]																															
	N4GB [ ] 0R- [ ] - [ ]																															
	N4GB [ ] 0R- [ ] - [ ]																															
	N4GB [ ] 0R- [ ] - [ ]																															
	N4GB [ ] 0R- [ ] - [ ]																															
	N4GB [ ] 0R- [ ] - [ ]																															
	N3GB [ ] 0R- [ ] - [ ]																															
	N3GB [ ] 0R- [ ] - [ ]																															
With masking plateValve block(Page 224)	N4GB [ ] R-MP- [ ]																															
	N4GB [ ] R-MPS- [ ]																															
	N4GB [ ] R-MPD- [ ]																															
Air supply spacer(Page 227)	4 G1R-P- [ ]																															
	4G2R-P- [ ]																															
Exhaust spacer (Page 228)	4G1R-R- [ ]																															
	4G2R-R- [ ]																															
Mixed block	N4G12R-MIX																															
Supply and exhaust block (Page 226)	N4G [ ] R-Q [ ] - [ ]																															
	N4G [ ] R-Q [ ] - [ ]																															
	N4G [ ] R-Q [ ] - [ ]																															
Partition block	N4G [ ] R-S [ ]																															
	N4G [ ] R-S [ ]																															
	N4G [ ] R-S [ ]																															
End block	N4G [ ] R-E [ ]																															
	N4G [ ] R-E [ ]																															

Mounting rail	L_2= [ ] * Write an integer multiple of 12.5. (How to determine the length: page 233)	Blanking plug								Included Part
		GWP [ ] -B		GWP [ ] -B		GWP [ ] -B		GWP [ ] -B		
		Cable with D-sub-connector	4GR-CABLE-D0□-□		Push-in fitting tube remover (standard attachment) □ Not required (check)					

Common terminal block (T10/T11) wiring specifications sheet

* Fill in and attach to the manifold specifications sheet for anything other than the standard wiring or double wiring. (Available as made to order)
* Not required with standard wiring/double wiring.

Connector pin No.		Valve No.																							
T10 ☐	**T11** ☐	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1																								
2	2																								
3	3																								
4	4																								
5	5																								
6	6																								
7	7																								
8	8																								
9	9																								
10	10																								
11	11																								
12	12																								
13	13																								
14	14																								
15	15																								
16	16																								
COM	17																								
COM	18																								
	19																								
	20																								
	21																								
	22																								
	23																								
	24																								
	COM																								
	COM																								

D-sub-connector (T30) wiring specifications sheet

* Fill in and attach to the manifold specifications sheet for anything other than the standard wiring or double wiring. (Available as made to order)
* Not required with standard wiring/double wiring.

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

Flat cable connector (T50/T51/T52/T53) wiring specifications sheet

* Fill in and attach to the manifold specifications sheet for anything other than the standard wiring or double wiring. (Available as made to order)
* Not required with standard wiring/double wiring.

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

* Note that when the wiring method is T50/T50R, the COM polarity will be + (positive).

Serial transmission (T6G1/T7*) wiring specifications sheet

* Fill in and attach to the manifold specifications sheet for anything other than the standard wiring or double wiring. (Available as made to order)
* Not required with standard wiring/double wiring.

Serial transmission	Connector pin No.		Valve No.															
	T6G1	**T7***	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Connector type T6G1:CC-Link 16 points	1	1																
	2	2																
	3	3																
	4	4																
	5	5																
	6	6																
	7	7																
	8	8																
	9	9																
	10 COM	10																
	11	11																
	12	12																
Thin slot-insertion type T7D1:DeviceNet 16 points T7G1:CC-Link 16 points T7 L1:SAVE NET 16 points T7S1:CompoNet 16 points (NPN) T7SP1:CompoNet 16 points (PNP)	13	13																
	14	14																
	15	15																
	16	16																
	17	17																
	18	18																
	19	19																
	20 COM	20																

Serial transmission (T8*) wiring specifications sheet

* Fill in and attach to the manifold specifications sheet for anything other than the standard wiring or double wiring. (Available as made to order)
* Not required with standard wiring/double wiring.

Serial transmission			
T8G1	CC-Link	NPN	16 points
T8G2			32 points
T8GP1		PNP	16 points
T8GP2			32 points
T8P1	PROFIBUS-DP	NPN	16 points
T8P2			32 points
T8PP1		PNP	16 points
T8PP2			32 points
T8EC1	EtherCAT	NPN	16 points
T8EC2			32 points
T8ECP1		PNP	16 points
T8ECP2			32 points
T8EN1	EtherNet/IP	NPN	16 points
T8EN2			32 points
T8ENP1		PNP	16 points
T8ENP2			32 points
T8D1	DeviceNet	NPN	16 points
T8D2			32 points
T8DP1		PNP	16 points
T8DP2			32 points
T8EB1	CC-Link IEF Basic	NPN	16 points
T8EB2			32 points
T8EBP1		PNP	16 points
T8EBP2			32 points
T8EP1	PROFINET	NPN	16 points
T8EP2			32 points
T8EPP1		PNP	16 points
T8EPP2			32 points

Connector pin No.	Valve No.																							
T8*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
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