

Discrete valve
Base piping

3GB1, 2 & 4GB1, 2, 3 Series

● Applicable cylinder bore size: $\phi 20$ to $\phi 100$



Refer to Ending for details.



4GAB

M4GAB

MN4GAB

4GAB
Master valve

4GD/E

M4GD/E

MN4GD/E

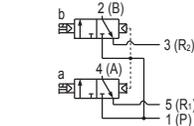
Technical data

Safety
precautions

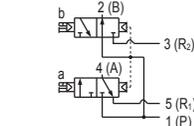
Manifold
Specifications

JIS symbol

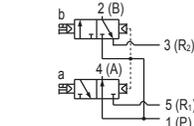
- Dual 3 port valve integrated type
(A side valve: N.C. type, B side valve: N.C. type)



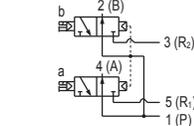
(A side valve: N.C. type, B side valve: N.O. type)



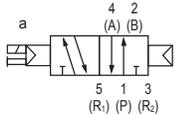
(A side valve: N.O. type, B side valve: N.C. type)



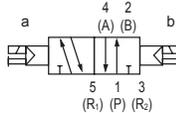
(A side valve: N.O. type, B side valve: N.O. type)



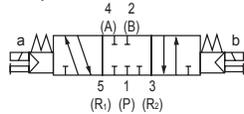
- 5 port valve
2-position single



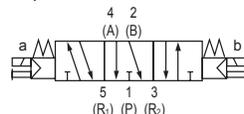
2-position double



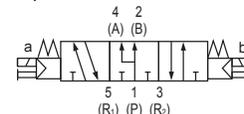
3-position
all ports closed



3-position A/B/R connection



3-position P/A/B connection



Common specifications

Descriptions	
Valve type and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2 (Note 3)
Proof pressure MPa	1.05
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual operating device	Non-locking/locking common type (standard)
Pilot exhaust method	Internal pilot Main valve/pilot valve common exhaust type External pilot Main valve/pilot valve individual exhaust type
Lubrication Note 1	Not required
Degree of protection Note 2	Dust proof
Vibration resistance m/s ²	50 or less
Shock resistance m/s ²	300 or less
Atmosphere	Containing corrosive gas is not permissible

Note 1 Use the turbine oil Class 1 ISO VG32 if lubricated. Excessive or intermittent lubrication results in unstable operation.

Note 2 Avoid water drops or oil, etc. during use.

IP65 (jet-proof type) applies for IP terminal box specifications. Note that the specified adaptive cord outer diameter and tightening torque must be used for fixing.

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

Individual specifications

Port size		3GB1 & 4GB1	3GB2 & 4GB2	4GB3
Rc thread	A/B port	Rc1/8	Rc1/4	Rc1/4, Rc3/8
	P/R1/R2 port	Rc1/8	Rc1/4	Rc1/4, Rc3/8
NPT thread (Note 5)	A/B port	1/8NPT	1/4NPT	1/4NPT, 3/8NPT
	P/R1/R2 port	1/8NPT	1/4NPT	1/4NPT, 3/8NPT
G thread (Note 5)	A/B port	G1/8	G1/4	-
	P/R1/R2 port	G1/8	G1/4	-

Note 5: This is a available consult factory order.

Descriptions	3GB1 & 4GB1		3GB2 & 4GB2		4GB3			
	ON	OFF	ON	OFF	ON	OFF		
Response time ms	Dual 3 port valve integrated type	9	12	12	29	-	-	
	2-position	Single	12	12	19	19	25	28
		Double	9	-	18	-	24	-
3-position	ABR connection	8	15	17	30	23	45	

Values including a light surge suppressor. The response time is the value at 0.5 MPa supply pressure, 20°C, with no lubrication. It varies depending on the pressure and the lubricant quality.

Descriptions		3GB1 & 4GB1	3GB2 & 4GB2	4GB3		
Weight g	2-position	Single	Grommet lead wire	80 (38)	156 (74)	215 (96)
			E type 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 type 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 type connector	102 (60)	188 (106)	246 (127)
			DIN terminal box	-	227 (145)	282 (163)

• Values in () do not include a discrete sub-plate. Values for E type connector include the socket assembly (with 300 mm lead wire).

For EJ type connector, add 16 g/connector to E type connector weight.

• The weight of dual 3 port valve integrated type is the same as that of 2-position double.

3GB1, 2 & 4GB1, 2, 3 Series

Discrete valve; base piping

Flow characteristics

Model no.	Valve Position	P→A/B		A/B→R1/R2		
		C [dm ³ /(s·bar)]	b	C [dm ³ /(s·bar)]	b	
3GB1 4GB1	Dual 3 port valve integrated type	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
		ABR connection	1.1	0.31	1.3	0.29
	PAB connection	1.4	0.30	1.1	0.26	
3GB2 4GB2	Dual 3 port valve integrated type	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
		ABR connection	2.2	0.23	2.6	0.16
	PAB 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
		ABR connection	3.3	0.36	4.2	0.18
		PAB connection	4.5	0.28	3.4	0.30

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

Ozone proof specifications / **Cutting oil proof type specifications**

Select the option "A" of **E** in how to order on page 56.

Clean room specifications (Catalog No. CB-033S)

- Particle generation preventing structure for use in clean rooms

** - Voltage - **P7***

Specifications for secondary battery (Catalog No. CC-947A)

- In order to be applicable for secondary battery manufacturing process, confine materials for air passage and sliding section

** - Voltage - **P4**

4GA/B

M4GA/B

MN4GA/B

4GA/B
Master valve

4GD/E

M4GD/E

MN4GD/E

Technical data

Safety
precautions

Manifold
Specifications

3GB1, 2 & 4GB1, 2, 3 Series

Discrete valve; base piping

How to order

4GB1 1 0 R - 06 - E2 - 3

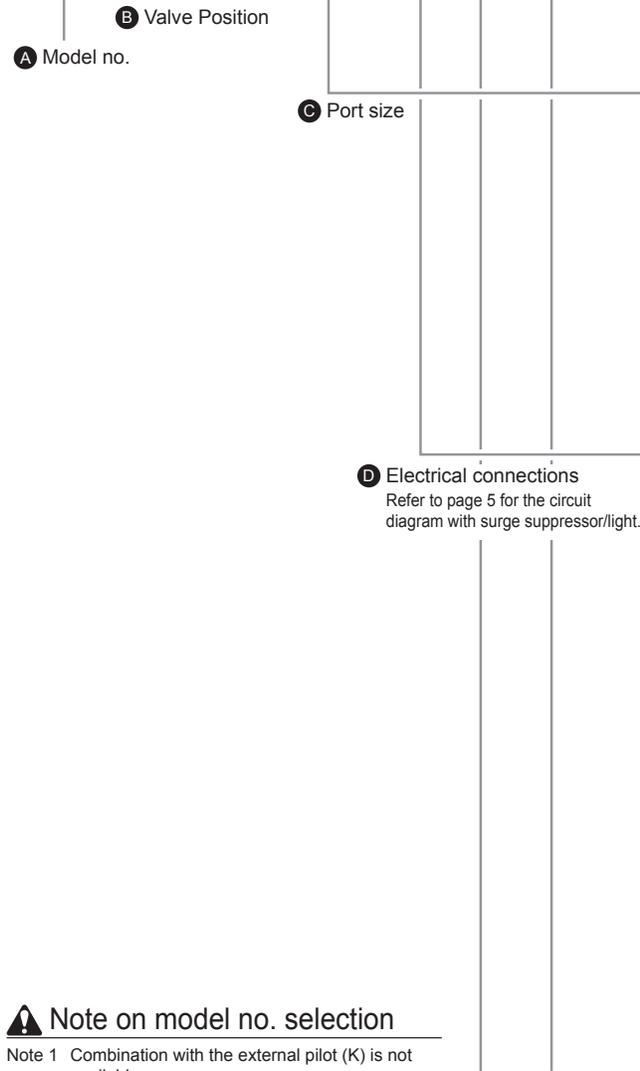
3GB1 66 0 R - 06 - E2 - 3

Discrete valve for mounting base

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

3 port discrete valve for mounting base

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



⚠ Note on model no. selection

- Note 1 Combination with the external pilot (K) is not available. Dimensions are the same as the respective 2-position double.
- Note 2 Available consult factory order.
- Note 3 3-position all ports closed and PAB connection are not provided with check valve. Refer to page 628 for details on check valve.
- Note 4 Only the E2* type, E2* J type connector and 12/24 VDC are supported. In addition, the surgeless "S" and Low heat energy-saving circuit "E" cannot be selected at the same time.
- Note 5 This is surgeless specifications.
- Note 6 The P port has a filter built inside as a standard.
- Note 7 Only the DIN terminal box are supported.
- Note 8 Grommet lead wire specifications are only for DC voltage.
- Note 9 Supports AC voltage and 12/24 VDC. The light is also attached to the terminal box.
- Note 10 AC voltage comes with a rectifier circuit.

A Model No.

Symbol	Descriptions	3GB1	3GB2	4GB1	4GB2	4GB3
B Valve 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	Dual 3 port valve integrated type Note 1	●	●			
	A side valve: Normally closed B side valve: Normally closed					
67	Dual 3 port valve integrated type Note 1	●	●			
	A side valve: Normally closed B side valve: Normally closed					
76	Dual 3 port valve integrated type Note 1	●	●			
	A side valve: Normally open B side valve: Normally closed					
77	Dual 3 port valve integrated type Note 1	●	●			
	A side valve: Normally open B side valve: Normally open					

C Port size						
Port	4 (A)/2 (B) port	P/R1/R2 port (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/R2 port (5) = 1/8NPT (6) = 1/4NPT (7) = 3/8NPT				
06N	1/8NPT (Note 2)	(5)	(5)			
08N	1/4NPT (Note 2)		(6)	(6)	(6)	
10N	3/8NPT (Note 2)				(7)	
Port	4 (A)/2 (B) port	P/R1/R2 port (8) = G1/8 (9) = G1/8				
06G	G1/8 (Note 2)	(8)	(8)			
08G	G1/4 (Note 2)		(9)	(9)		
00	Discrete valve for mounting base	●	●	●	●	●

D Electrical connections						
Blank	Grommet lead wire (300 mm) (Note 8)	●	●	●	●	●
B	DIN terminal box (Pg7) with surge suppressor/light (Note 9)		●			●
BN	DIN terminal box (Pg7) (without terminal box) with surge suppressor (Note 9)				●	●
E type connector (upward/lateral direction common)						
E0	Lead wire (300 mm) (Note 10)	●	●	●	●	●
E00	Lead wire (500 mm) (Note 10)	●	●	●	●	●
E01	Lead wire (1000 mm) (Note 10)	●	●	●	●	●
E02	Lead wire (2000 mm) (Note 10)	●	●	●	●	●
E03	Lead wire (3000 mm) (Note 10)	●	●	●	●	●
E0N	Without lead wire (without socket) (Note 10)	●	●	●	●	●
E1	Without lead wire (with socket/terminal) (Note 10)	●	●	●	●	●
E2	Lead wire (300 mm) with surge suppressor/light	●	●	●	●	●
E20	Lead wire (500 mm) with surge suppressor/light	●	●	●	●	●
E21	Lead wire (1000 mm) with surge suppressor/light	●	●	●	●	●
E22	Lead wire (2000 mm) with surge suppressor/light	●	●	●	●	●
E23	Lead wire (3000 mm) with surge suppressor/light	●	●	●	●	●
E2N	Without lead wire (without socket) with surge suppressor/light	●	●	●	●	●
E3	Without lead wire (with socket/terminal) with surge suppressor/light	●	●	●	●	●
EJ type connector (socket with cover, upward/lateral direction common)						
E01J	Lead wire (1000 mm) (Note 10)	●	●	●	●	●
E02J	Lead wire (2000 mm) (Note 10)	●	●	●	●	●
E03J	Lead wire (3000 mm) (Note 10)	●	●	●	●	●
E21J	Lead wire (1000 mm) with surge suppressor/light	●	●	●	●	●
E22J	Lead wire (2000 mm) with surge suppressor/light	●	●	●	●	●
E23J	Lead wire (3000 mm) with surge suppressor/light	●	●	●	●	●

E Option						
Blank	Non-locking/locking common manual override	●	●	●	●	●
M	Non-locking manual override	●	●	●	●	●
H	With check valve (Note 3)	●	●	●	●	●
K	External pilot			●	●	●
A	Ozone/cutting oil proof	●	●	●	●	●
S	Surgeless (Note 4)	●	●	●	●	●
E	Low heat and energy saving circuit (Note 4), (Note 5)	●	●	●	●	●
F	A/B port filter integrated (Note 6)	●	●	●	●	●

F Voltage						
1	100 VAC (rectifier integrated)	●	●	●	●	●
2	200 VAC (rectified integrated) (Note7)				●	●
3	24 VDC	●	●	●	●	●
4	12 VDC	●	●	●	●	●
7	3 VDC	○	○	○	○	○
8	5 VDC	○	○	○	○	○

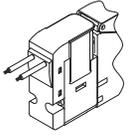
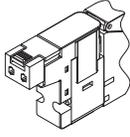
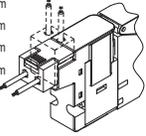
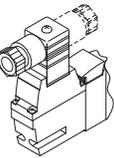
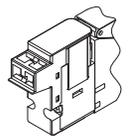
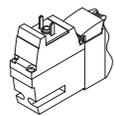
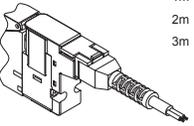
is not available.

○ Contact CKD for price and availability.

4GAB
M4GAB
MN4GAB
4GAB Master valve
4GD/E
M4GD/E
MN4GD/E
Technical data
Safety precautions
Manifold Specifications

3GB1, 2 & 4GB1, 2, 3 Series

Discrete valve; base piping

Electrical connections	
Discrete valve/individual wiring manifold	
Blank Grommet lead wire	E1 E3 E type connector with socket/terminal
● Lead wire length 300mm 	
E0 E2 E type connector	B DIN terminal box
● Lead wire length 300mm 500mm 1000mm 2000mm 3000mm 	
E0N E2N E type connector without socket	BN DIN terminal box without terminal box
	
E0*J E2*J EJ type connector	
● Lead wire length 1m 2m 3m 	

4GAB

M4GAB

MN4GAB

4GAB
Master valve

4GD/E

M4GD/E

MN4GD/E

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precautions

Manifold
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