



\* Refer to page 77 for metal base (integrated).

\* Refer to page 161 for the master valve.

FP 1 FRU/Auxiliary components Electronic components Pneumatic valves Pneumatic cylinders Electric actuator	Appearance series		Model No.	Electrical connections	Position Number of solenoid valves JIS symbol	Valve performance		Voltage (V)		
	Flow characteristics C [dm <sup>3</sup> /(s·bar)]	Cylinder bore size								
FP 1 FRU/Auxiliary components Electronic components Pneumatic valves Pneumatic cylinders Electric actuator	Individual wiring manifold	Body piping	MN4GA180R	MN4GA1	Blank -E <input type="checkbox"/>	<ul style="list-style-type: none"> <li>● 3-port valve 2-position single NC</li> <li></li> </ul>	1.0 to 1.2	ø20 to ø40	AC100 AC200 DC24 DC12 (*2)	
			MN4GA2	Blank -E <input type="checkbox"/> -B	2.2 to 2.5		ø40 to ø80			
		Base side piping	MN4GB180R	MN4GB1	Blank -E <input type="checkbox"/>	<ul style="list-style-type: none"> <li>● 5-port valve 2-position single</li> <li></li> </ul>	1.0 to 1.2	ø20 to ø40		
			MN4GB2	Blank -E <input type="checkbox"/> -B	2.2 to 2.5		ø40 to ø80			
	Main line components Vacuum components	Main line components	Terminal block MN4GA280R	MN4GA1 (N3GA1) (N4GA1)	-T10 -T11	<ul style="list-style-type: none"> <li>● 2-position double</li> <li></li> </ul>	1.0 to 1.2	ø20 to ø40	DC24 DC12	
				MN4GA2 (N3GA2) (N4GA2)	(-A2N)		2.2 to 2.5	ø40 to ø80		
			Connector MN4GA280R	MN4GA1 (N3GA1) (N4GA1)	-T30 -T5 <input type="checkbox"/>	<ul style="list-style-type: none"> <li>● 3-position all ports closed</li> <li></li> </ul>	1.0 to 1.2	ø20 to ø40		
				MN4GA2 (N3GA2) (N4GA2)	(-A2N)		2.2 to 2.5	ø40 to ø80		
		Fluid control valves	Body piping	Serial transmission MN4GA180R	MN4GA1 (N3GA1) (N4GA1)	-T6 <input type="checkbox"/> -T7 <input type="checkbox"/>	<ul style="list-style-type: none"> <li>● 3-position A/B/R connection</li> <li></li> </ul>	1.0 to 1.2	ø20 to ø40	DC24 DC12
					MN4GA2 (N3GA2) (N4GA2)	(-A2N)		2.2 to 2.5	ø40 to ø80	
				Terminal block MN4GB180R	MN4GB1 (N4GB1)	-T10 -T11	<ul style="list-style-type: none"> <li>● Two 3-port valves integrated NC/NC</li> <li></li> </ul>	1.0 to 1.2	ø20 to ø40	
					MN4GB2 (N4GB2)	(-A2N)		2.2 to 2.5	ø40 to ø80	
FP 2 Antibacterial/Bacteria-removing filter Vacuum components	Reduced wiring manifold	Base side piping	MN4GB1 (N4GB1)	-T30 -T5 <input type="checkbox"/>	<ul style="list-style-type: none"> <li>● NC/NO</li> <li></li> </ul>	1.0 to 1.2	ø20 to ø40	DC24 DC12		
			MN4GB2 (N4GB2)	(-A2N)		2.2 to 2.5	ø40 to ø80			
		Connector MN4GB180R	MN4GB1 (N4GB1)	-T30 -T5 <input type="checkbox"/>	<ul style="list-style-type: none"> <li>● NO/NC</li> <li></li> </ul>	1.0 to 1.2	ø20 to ø40			
			MN4GB2 (N4GB2)	(-A2N)		2.2 to 2.5	ø40 to ø80			
Fluid control valves	Serial transmission MN4GB280R	MN4GB1 (N4GB1)	-T6 <input type="checkbox"/> -T7 <input type="checkbox"/>	<ul style="list-style-type: none"> <li>● NO/NO</li> <li></li> </ul>	1.0 to 1.2	ø20 to ø40	DC24			
		MN4GB2 (N4GB2)	(-A2N)		2.2 to 2.5	ø40 to ø80				

# MN4GA/4GB-FP1 Series

Series variation

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

\*2: The grommet lead wire specifications are compatible with DC voltage only.

\*3: Only compatible with base piping models.

\*4: Specification for reduced wiring manifold equipped. Only 12/24 VDC is supported.

	Switching position								A/B piping port		Electrical connections												Page				
	2-position				3-position				Push-in fitting	Female thread	Single unit, individual wiring						Reduced wiring										
	Normally closed	Normally open	Single	Double	All ports closed	ABR connection	PAB connection	Two 3-port valves integrated			Mix	∅4	∅6	∅8	M5	Rc1/8	Grommet lead (*2)	E-connector	EJ-connector	DIN terminal box	A-connector (*4)	Common terminal block		D-sub-connector	Flat cable with power supply terminal	Flat cable without power supply terminal	Serial transmission
									C4	C6	C8	M5	O6	Blank	E□	E□J	B□	A2NT	T1□	T30	T50	T5□	T6□	T7□	T8□		
	●	●	●	●	●	●	○	●	●	●		●		●	●	●											127
	●	●	●	●	●	●	○	●		●	●		●		●	●	●										131
	●	●	●	●	●	●	○	●	●	●		●							●	●							135
	●	●	●	●	●	●	○	●	●	●		●							●	●	●	●					
	●	●	●	●	●	●	○	●	●	●		●							●	●			●	●	●		139
	●	●	●	●	●	●	○	●	●	●		●							●	●	●	●					
	●	●	●	●	●	●	○	●	●	●		●							●	●			●	●	●		
	●	●	●	●	●	●	○	●	●	●		●							●	●			●	●	●		

Electric actuator	Pneumatic cylinders	Pneumatic valves	FRU/Auxiliary components	Electronic components	Vacuum components	Main line components	Fluid control valves	Main line components	Antibacterial/Bacteria-removing filter	Bacteria-removing filter	Vacuum components	Fluid control valves
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FP1

FP2

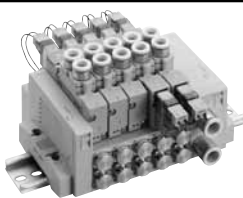
# MN4GA/4GB-FP1 Series

	Electrical connections				Manual override	Other options		
	Discrete valve/individual wiring manifold		Reduced wiring manifold					
FP1	Electric actuator	Blank ① Grommet lead wire	E3 E-connector with socket/terminal (S)(L)	T10 Common terminal block M3 thread specifications (left side)	T50 Flat cable with power supply terminal (left side)	Blank Non-locking/locking common	H With exhaust check valve	
		● Lead wire length 300 mm				(Standard equipment)		
	Pneumatic cylinders	Pneumatic valves	EO ① E-connector	A2N A-connector downward without socket	T10R Common terminal block M3 thread specifications (right side)	T50R Flat cable with power supply terminal (right side)		F Port A/B filter integrated
			● Lead wire length 300 mm 500 mm 1 m 2 m 3 m					
	FRU/Auxiliary components Electronic components	Vacuum components	E0N E-connector without socket	● For AC voltage, (a) dimension is 3.5 mm longer than DC voltage.	T11 Common terminal block Clamping specification (left side)	T5 <sub>1</sub> <sub>3</sub> Flat cable without power supply terminal (left side)		Z1 Air supply spacer Z3 Exhaust spacer
								① For non-locking, push to turn on and release to turn off ② For locking, push and turn 90° clockwise to hold the on state Turn anti-clockwise to unlock OFF
	Main line components	Fluid control valves	E1 E-connector with socket/terminal	B BN DIN terminal box (BN: Without terminal box)	T11R Common terminal block Clamping specification (right side)	T5 <sub>1</sub> <sub>3</sub> R Flat cable without power supply terminal (right side)	M Non-locking	Z2 In-stop valve spacer
							Protective cover Manual button ① Push to turn ON, release to turn OFF	
	FP2	Main line components	E2 ①(S)(L) E-connector	E0*J ① EJ-connector	T30 D-sub-connector (left side)	T6*0 T6*1 Serial transmission		W1 Single spare wiring
				● Lead wire length 1 m 2 m 3 m				
Antibacterial/Bacteria-removing filter		E2N E-connector without socket (S)(L)	E2*J ①(S)(L) EJ-connector	T30R D-sub-connector (right side)	T7*0 T7*1 Serial transmission Thin slot	Q Reduced wiring duct		
Vacuum components	Fluid control valves				T8*1 T8*2 Serial transmission Thin slot			

## Electrical connection circuit diagram

Electrical connections		Without lead wire	With lead wire	With indicator lamp	With surge suppressor	Without socket	Circuit diagram	
<b>Option S</b>	Blank	Grommet lead wire	●					
	E0	E-connector	●					
	E0*J	EJ-connector	●					
	E0N	E-connector				●		
	E1	E-connector	●					
	E2	E-connector		●	●	●		
	E2*J	EJ-connector		●	●	●		
	E2N	E-connector			●	●		●
E3	E-connector	●		●	●			
A2N	A-connector			●	●	●		
<b>Option E</b>	B	DIN terminal box	●					
	BN	DIN terminal box (without terminal box)		●	●			
<b>Option E</b>	E2	E-connector		●	●	●		
	E2*J	EJ-connector		●	●	●		
	E2N	E-connector			●	●		●
	A2N	A-connector			●	●		●
<b>Option E</b>	E2	E-connector		●	●	●		
	E2*J	EJ-connector		●	●	●		
	E2N	E-connector			●	●		●
	A2N	A-connector			●	●		●

Electric actuator	Pneumatic cylinders	Pneumatic valves	FRL/Auxiliary components	Electronic components	Vacuum components	Main line components	Fluid control valves	Main line components	Antibacterial/Bacteria-removing filter	Vacuum components	Fluid control valves



Pneumatic Valves  
Catalog No. CB-023SA

Individual wiring block manifold  
Body piping

# MN4GA1/2-FP1 Series

● Applicable cylinder bore size:  $\varnothing 20$  to  $\varnothing 80$

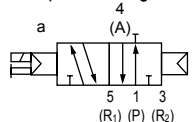


Electric actuator  
Pneumatic cylinders  
Pneumatic valves  
FRU/Auxiliary components  
Electronic components  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Antibacterial/Bacteria-removing filter  
Vacuum components  
Fluid control valves

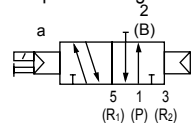
## JIS symbol

● 3-port valve

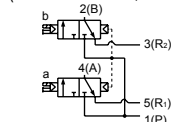
2-position single NC



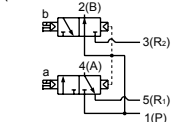
2-position single NO



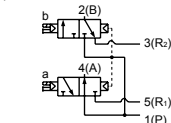
● Two 3-port valves integrated  
(A side valve: NC, B side valve: NC)



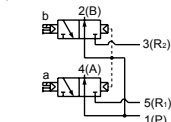
(A side valve: NC, B side valve: NO)



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

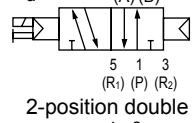


(A side valve: NO, B side valve: NO)

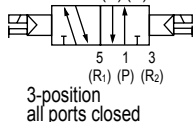


● 5-port valve

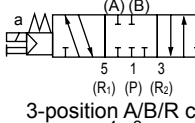
2-position single



2-position double



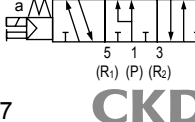
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



## Manifold common specifications

Descriptions	Content
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)
Degree of protection *1	Dust-proof
Vibration resistance m/s <sup>2</sup>	50 or less
Shock resistance m/s <sup>2</sup>	300 or less
Atmosphere	Cannot be used in corrosive gas environments

\*1: Avoid water drops or oil, etc., during use. IP65 (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.  
\*2: 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

Descriptions		Content			
Rated voltage	V	DC24	DC12	AC100	AC200
Voltage fluctuation range		±10%			
Holding current	Standard	0.015 (0.017)	0.030 (0.034)	0.009 (0.009)	0.006 (0.006)
	A (*3) With low exoergic/energy circuit	0.005	0.010	-	-
Power consumption	Standard	0.35 (0.40)		-	-
	W (*3) With low exoergic/energy circuit	0.1		-	-
Apparent power	VA (*3)	-		0.93 (0.98)	1.40
		Standard		-	-
Thermal class		B			
Surge suppressor		Option			
Indicator		Lamp (option)			

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

## Individual specifications

Descriptions		MN3GA1/MN4GA1	MN3GA2/MN4GA2
Max. station No.		24 stations	20 stations
Port size	Metric fitting/ M5, Rc thread	Push-in fitting $\varnothing 4$ , $\varnothing 6$ M5	Push-in fitting $\varnothing 4$ , $\varnothing 6$ , $\varnothing 8$ Rc1/8
		P/R Port	Push-in fitting $\varnothing 6$ , $\varnothing 8$

Descriptions		MN3GA1/MN4GA1		MN3GA2/MN4GA2		
		ON	OFF	ON	OFF	
Response time	Two 3-port valves integrated	9	12	12	29	
	2-position	Single	15	15	19	19
		Double	9	-	18	-
ms	3-position ABR 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.

# MN4GA1/2-FP1 Series

Individual wiring block manifold; body piping

## Flow characteristics

Model No.	Solenoid position	P→A/B		A/B→R1/R2		
		C[dm <sup>3</sup> / (s·bar)]	b	C[dm <sup>3</sup> / (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 —
		ABR connection	0.92	0.29	1.1 (0.69)	0.13 (0.22)
	PAB 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 —
		ABR connection	2.0	0.27	2.5 (1.7)	0.18 (0.12)
		PAB connection	2.3	0.31	2.3 —	0.16 —

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

\*2: Values in ( ) are with built-in exhaust check valve.

Electric actuator	Pneumatic cylinders	Pneumatic valves	FRU/Auxiliary components Electronic components	Vacuum components	Main line components	Fluid control valves	Main line components	Antibacterial/Bacteria-removing filter	Vacuum components	Fluid control valves



# MN4GA1/2-FP1 Series

Individual wiring block manifold; body piping

## How to order

Manifold model No.

**MN4GA1** (1) 0 R - (C6) - (E2) (H) - (10) - (3) - FP1

3-port manifold model No.

**MN3GA1** (1) 0 R - (C6) - (E2) (H) - (10) - (3) - FP1

Discrete valve block with solenoid valve

**N4GA1** (1) 0 R - (C6) - (E2) (H) - (3) - FP1

Discrete 3-port valve block with solenoid valve

**N3GA1** (1) 0 R - (C6) - (E2) (H) - (3) - FP1

Discrete solenoid valve

**4GA1** (1) 9 R - (C6) - (E2) (H) - (3) - FP1

Discrete 3-port solenoid valve

**3GA1** (1) 9 R - (C6) - (E2) (H) - (3) - FP1

**A** Model No.

**B** Solenoid position

**C** Port size  
\*1

**D** Electrical connections

**E** Option

**F** Station No.

**G** Voltage

## ⚠ 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: Select MN4GA\*80 when mixing with 4/5-port valves. Further, select MN3GA\*80 when mixing with masking plate.
- \*3: Push-in fitting cannot be mixed with the single valve 4(A) or 2(B) port.
- \*4: 3-position all ports closed and PAB connection are not provided with the exhaust check valve (H).**
- \*5: In addition, surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.
- \*6: Surgeless specifications.
- \*7: A filter is built into port P as standard.
- \*8: Specify the spacer mounting position and quantity in manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Refer to pages 149 to 150 for details.**
- \*9: Only the DIN terminal box is supported.

A 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
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Code	Content	MN3GA1	MN3GA2	MN4GA1	MN4GA2	(N) 3GA1	(N) 3GA2	(N) 4GA1	(N) 4GA2
<b>B Solenoid position</b>									
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	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)	●	●	●	●	●	●	●	●

<b>C Port size (port A/B)</b>									
Type	Metric fitting/Rc thread	MN3GA1	MN3GA2	MN4GA1	MN4GA2	(N) 3GA1	(N) 3GA2	(N) 4GA1	(N) 4GA2
C4	ø4 Push-in fitting	●	●	●	●	●	●	●	●
C6	ø6 Push-in fitting	●	●	●	●	●	●	●	●
C8	ø8 Push-in fitting	●	●	●	●	●	●	●	●
CX	Push-in fitting mix *3	●	●	●	●	●	●	●	●
M5	M5	●	●	●	●	●	●	●	●
06	Rc1/8		●	●	●	●	●	●	●

<b>D Electrical connections</b>									
Refer to the following page for electrical connections									

<b>E Option</b>									
Blank	Non-locking/locking common manual override	●	●	●	●	●	●	●	●
M	Non-locking manual override	●	●	●	●	●	●	●	●
H	With exhaust check valve *4	●	●	●	●	●	●	●	●
S	Surgeless *5	●	●	●	●	●	●	●	●
E	Low exoergic/energy saving circuit *5, *6	●	●	●	●	●	●	●	●
F	Port A/B filter integrated *7	●	●	●	●	●	●	●	●
Z1	Air supply spacer *8	●	●	●	●				
Z2	In-stop valve spacer *8, *9	●	●	●	●				
Z3	Exhaust spacer *8	●	●	●	●				

<b>F Station No.</b>									
1	1 station								
to	to	●	●	●	●				
24	24 stations (Max. station number for MN3GA2/MN4GA2 is 20.)								

<b>G Voltage</b>									
1	100 VAC (rectifier circuit integrated)	●	●	●	●	●	●	●	●
2	200 VAC (rectifier circuit integrated) *9		●		●		●		●
3	24 VDC	●	●	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●	●	●

■ is not available.  
○ indicates a made-to-order product.

# MN4GA1/2-FP1 Series

Individual wiring block manifold; body piping

[Electrical connection list]

A 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

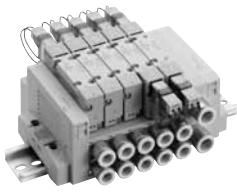
D Electrical connections										
Blank	Grommet lead wire (300 mm)	*10	●	●	●	●	●	●	●	●
B	DIN terminal box (Pg7) With surge suppressor/lamp	*11		●						●
BN	DIN terminal box (Pg7) (without terminal box) With surge suppressor	*11		●						●
E-connector (upward/lateral direction common)										
E0	Lead 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)	*12	●	●	●	●	●	●	●	●
E1	Without lead wire (socket/terminal included)	*14	●	●	●	●	●	●	●	●
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 (with socket/terminal) With surge suppressor/lamp		●	●	●	●	●	●	●	●
EJ-connector (socket with cover, upward/lateral direction 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: A lamp comes with the terminal box.  
 \*12: AC voltage includes a rectifier circuit.

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

Electric actuator	Pneumatic cylinders	Pneumatic valves	FRU/Auxiliary components Electronic components	Vacuum components	Main line components	Fluid control valves	Main line components	Antibacterial/Bacteria-removing filter	Vacuum components	Fluid control valves
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Pneumatic Valves  
Catalog No. CB-023SA

Individual wiring block manifold  
Base side piping

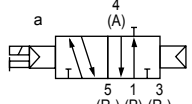
# MN4GB1/2-FP1 Series

● Applicable cylinder bore size:  $\varnothing 20$  to  $\varnothing 80$

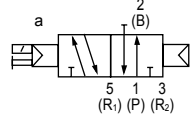


## JIS symbol

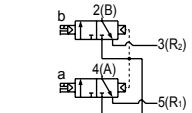
- 3-port valve  
2-position single NC



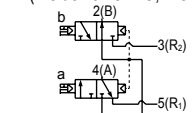
- 2-position single NO



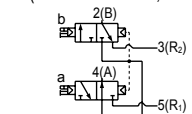
- Two 3-port valves integrated  
(A side valve: NC, B side valve: NC)



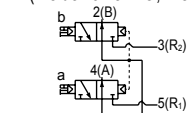
- (A side valve: NC, B side valve: NO)



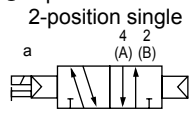
- (A side valve: NO, B side valve: NC)



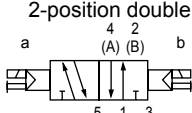
- (A side valve: NO, B side valve: NO)



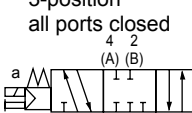
- 5-port valve  
2-position single



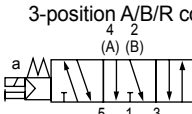
- 2-position double



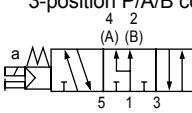
- 3-position  
all ports closed



- 3-position A/B/R connection



- 3-position P/A/B connection



## Manifold common specifications

Descriptions	Content
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	Lateral direction from 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)
Degree of protection *1	Dust-proof
Vibration resistance m/s <sup>2</sup>	50 or less
Shock resistance m/s <sup>2</sup>	300 or less
Atmosphere	Cannot be used in corrosive gas environments

\*1: Avoid water drops or oil, etc., during use. IP65 (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.

\*2: 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

Descriptions		Content			
Rated voltage	V	DC24	DC12	AC100	AC200
Voltage fluctuation range		±10%			
Holding current	Standard	0.015 (0.017)	0.030 (0.034)	0.009 (0.009)	0.006 (0.006)
	A (*3) With low exoergic/energy circuit	0.005	0.010	-	
Power consumption	Standard	0.35 (0.40)		-	
W (*3)	With low exoergic/energy circuit	0.1		-	
Apparent power	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.

## Individual specifications

Descriptions			M3GB1/M4GB1	M3GB2/M4GB2
Max. station No.			24 stations	20 stations
Port size	Metric fitting	A/B Port	Push-in fitting $\varnothing 4$ , $\varnothing 6$	Push-in fitting $\varnothing 6$ , $\varnothing 8$
		P/R Port	Push-in fitting $\varnothing 6$ , $\varnothing 8$	Push-in fitting $\varnothing 8$ , $\varnothing 10$

Descriptions		MN3GB1/MN4GB1		MN3GB2/MN4GB2		
		ON	OFF	ON	OFF	
Response time	Two 3-port valves integrated	9	12	12	29	
	2-position	Single	15	15	19	19
		Double	9	-	18	-
	3-position	ABR 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.

F P 1  
 Electric actuator  
 Pneumatic cylinders  
 Pneumatic valves  
 FRU/Auxiliary components  
 Electronic components  
 Vacuum components  
 Main line components  
 Fluid control valves  
 Main line components  
 Antibacterial/Bacteria-removing filter  
 Vacuum components  
 Fluid control valves  
 F P 2

# MN4GB1/2-FP1 Series

Individual wiring manifold; base piping

## Flow characteristics

Model No.	Solenoid position		P→A/B		A/B→R1/R2	
			C[dm <sup>3</sup> /(s·bar)]	b	C[dm <sup>3</sup> /(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 —
		ABR connection	0.96	0.29	1.2 (0.71)	0.11 (0.30)
		PAB 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 —
		ABR connection	2.2	0.38	2.5 (1.7)	0.18 (0.20)
		PAB connection	2.3	0.29	2.3 —	0.15 —

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

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

Electric actuator	Pneumatic cylinders	Pneumatic valves	FRU/Auxiliary components Electronic components	Vacuum components	Main line components	Fluid control valves	Main line components	Antibacterial/Bacteria-removing filter	Vacuum components	Fluid control valves

# MN4GB1/2-FP1 Series

Individual wiring manifold; base piping

## How to order

Manifold model No.

**MN4GB1** **1** **0** **R** - **C6** - **E2** **H** - **10** - **3** - **FP1**

3-port manifold model No.

**MN3GB1** **66** **0** **R** - **C6** - **E2** **H** - **10** - **3** - **FP1**

Discrete valve block with solenoid valve

**N4GB1** **1** **0** **R** - **C6** - **E2** **H** - **3** - **FP1**

Discrete 3-port valve block with solenoid valve

**N3GB1** **66** **0** **R** - **C6** - **E2** **H** - **3** - **FP1**

Discrete solenoid valve

**4GB1** **1** **9** **R** - **00** - **E2** **H** - **3** - **FP1**

Discrete 3-port solenoid valve

**3GB1** **66** **9** **R** - **00** - **E2** **H** - **3** - **FP1**

**A** Model No.

**B** Solenoid position

**D** Electrical connections

**F** Station No.

**C** Port size  
\*1, \*2  
\*3

**E** Option

**G** Voltage

A Model No.							
Manifold				Discrete valve block with solenoid valve / Discrete solenoid valve			
3-port valve Two valves integrated		5-port valve					
MN3GB1	MN3GB2	MN4GB1	MN4GB2	(N) 3GB1	(N) 3GB2	(N) 4GB1	(N) 4GB2

Code	Content	MN3GB1	MN3GB2	MN4GB1	MN4GB2	(N) 3GB1	(N) 3GB2	(N) 4GB1	(N) 4GB2
<b>B Solenoid position</b>									
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	○	○			○	○		
67									
76		○	○			○	○		
77		○	○			○	○		
8	Mix manifold (when there are multiple solenoid positions)	●	●	●	●	●	●	●	●

<b>C Port size (port A/B)</b>										
Type	Metric fitting/Rc thread		MN3GB1	MN3GB2	MN4GB1	MN4GB2	(N) 3GB1	(N) 3GB2	(N) 4GB1	(N) 4GB2
C4	ø4 Push-in fitting		●	●	●	●	●	●	●	●
C6	ø6 Push-in fitting		●	●	●	●	●	●	●	●
C8	ø8 Push-in fitting				●	●			●	●
CX	Push-in fitting mix *5		●	●	●	●				
Single side plug specifications	A Port	B Port								
	C4NC	ø4 Push-in fitting			●	●			●	●
C6NC	ø6 Push-in fitting	Plug			●	●			●	●
C8NC	ø8 Push-in fitting				●	●			●	●
C4NO	Plug	ø4 Push-in fitting			●	●			●	●
C6NO		ø6 Push-in fitting			●	●			●	●
C8NO		ø8 Push-in fitting			●	●			●	●
00	Discrete valve for mounting base						●	●	●	●

<b>D Electrical connections</b>									
Refer to the next page for electrical connections.									

<b>E Option</b>									
Blank	Non-locking/locking common manual override	●	●	●	●	●	●	●	●
M	Non-locking manual override	●	●	●	●	●	●	●	●
H	With exhaust check valve *6	●	●	●	●	●	●	●	●
S	Surgeless *7	●	●	●	●	●	●	●	●
E	Low exoergic/energy saving circuit *7, *8	●	●	●	●	●	●	●	●
F	Port A/B filter integrated *9	●	●	●	●	●	●	●	●
Z1	Air supply spacer *10	●	●	●	●				
Z2	In-stop valve spacer *10	●	●	●	●				
Z3	Exhaust spacer *10	●	●	●	●				

<b>F Station No.</b>									
1	1 station								
to	to	●	●	●	●				
24	24 stations (Max. station number for MN4GB2 is 20.)								

<b>G Voltage</b>									
1	100 VAC (rectifier circuit integrated)	●	●	●	●	●	●	●	●
2	200 VAC (rectifier circuit integrated) *11		●		●		●		●
3	24 VDC	●	●	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●	●	●

○ is not available.

○ indicates a made-to-order product.

## ⚠ 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: Ports A and B are the same size for radial push-in fitting mix (CX).
- \*3: For a discrete solenoid valve, select "00" for port size.
- \*4: Select MN4GB\*80R when mixing with 4/5-port valves. Further, select MN3GB\*80R when mixing with masking plate.
- \*5: The push-in fitting cannot be mixed with the discrete valve's 4(A) or 2(B) port.
- \*6: **3-position all ports closed and PAB connection are not provided with the exhaust check valve (H).**
- \*7: In addition, surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.
- \*8: Surgeless specifications.
- \*9: A filter is built into port P as standard.
- \*10: **Specify the spacer mounting position and quantity in manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Only single solenoid can be selected together with radial push-in fitting (upward). Refer to pages 149 to 150 for details.**
- \*11: Only the DIN terminal box is supported.

# MN4GB1/2-FP1 Series

Individual wiring manifold; base piping

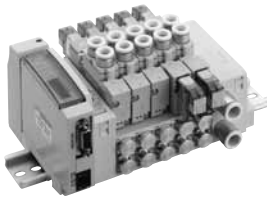
[Electrical connection list]

Code	Content	A Model No.								
		Manifold				Discrete valve block with solenoid valve / Discrete solenoid valve				
		3-port valve Two valves integrated		5-port valve		(N) 3GB1		(N) 4GB1		
		MN3GB1	MN3GB2	MN4GB1	MN4GB2	(N) 3GB1	(N) 3GB2	(N) 4GB1	(N) 4GB2	
<b>D Electrical connections</b>										
<b>Blank</b>	Grommet lead wire (300 mm)	*12	●	●	●	●	●	●	●	●
<b>B</b>	DIN terminal box (Pg7) With surge suppressor/lamp	*13		●		●		●		●
<b>BN</b>	DIN terminal box (Pg7) (without terminal box) With surge suppressor/lamp	*13		●		●		●		●
E-connector (upward/lateral direction common)										
<b>E0</b>	Lead wire (300 mm)	*14	●	●	●	●	●	●	●	●
<b>E00</b>	Lead wire (500 mm)	*14	●	●	●	●	●	●	●	●
<b>E01</b>	Lead wire (1000 mm)	*14	●	●	●	●	●	●	●	●
<b>E02</b>	Lead wire (2000 mm)	*14	●	●	●	●	●	●	●	●
<b>E03</b>	Lead wire (3000 mm)	*14	●	●	●	●	●	●	●	●
<b>E0N</b>	Without lead wire (without socket)	*14	●	●	●	●	●	●	●	●
<b>E1</b>	Without lead wire (socket/terminal included)	*14	●	●	●	●	●	●	●	●
<b>E2</b>	Lead wire (300 mm) With surge suppressor/lamp		●	●	●	●	●	●	●	●
<b>E20</b>	Lead wire (500 mm) With surge suppressor/lamp		●	●	●	●	●	●	●	●
<b>E21</b>	Lead wire (1000 mm) With surge suppressor/lamp		●	●	●	●	●	●	●	●
<b>E22</b>	Lead wire (2000 mm) With surge suppressor/lamp		●	●	●	●	●	●	●	●
<b>E23</b>	Lead wire (3000 mm) With surge suppressor/lamp		●	●	●	●	●	●	●	●
<b>E2N</b>	Without lead wire (without socket) With surge suppressor/lamp		●	●	●	●	●	●	●	●
<b>E3</b>	Without lead wire (with socket/terminal) With surge suppressor/lamp		●	●	●	●	●	●	●	●
EJ-connector (socket with cover, upward/lateral direction common)										
<b>E01J</b>	Lead wire (1000 mm)	*14	●	●	●	●	●	●	●	●
<b>E02J</b>	Lead wire (2000 mm)	*14	●	●	●	●	●	●	●	●
<b>E03J</b>	Lead wire (3000 mm)	*14	●	●	●	●	●	●	●	●
<b>E21J</b>	Lead wire (1000 mm) With surge suppressor/lamp		●	●	●	●	●	●	●	●
<b>E22J</b>	Lead wire (2000 mm) With surge suppressor/lamp		●	●	●	●	●	●	●	●
<b>E23J</b>	Lead wire (3000 mm) With surge suppressor/lamp		●	●	●	●	●	●	●	●

■ is not available.

- \*12: The grommet lead wire specifications are compatible with DC voltage only.
- \*13: A lamp comes with the terminal box.
- \*14: AC voltage includes a rectifier circuit.

Electric actuator	Pneumatic cylinders	Pneumatic valves	FRU/Auxiliary components Electronic components	Vacuum components	Main line components	Fluid control valves	Main line components	Antibacterial/Bacteria-removing filter	Vacuum components	Fluid control valves
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Pneumatic Valves  
Catalog No. CB-023SA

Reduced wiring block manifold  
Body piping

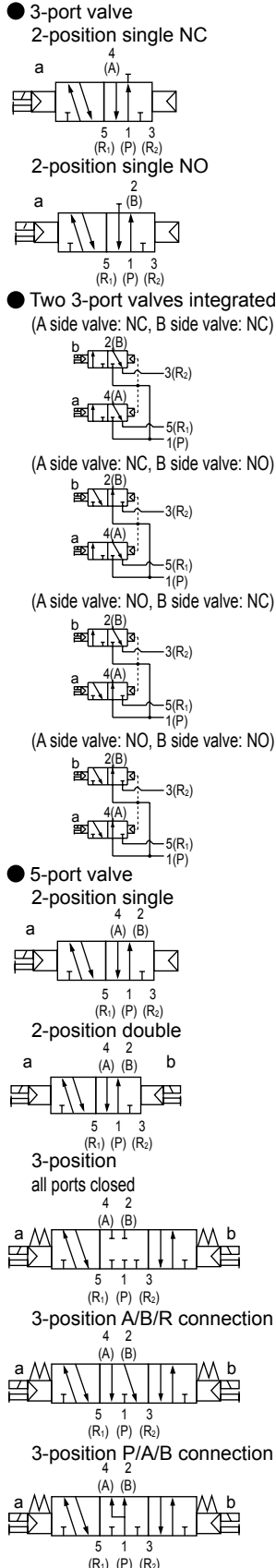
# MN4GA1/2-T\*-FP1 Series

● Applicable cylinder bore size:  $\varnothing 20$  to  $\varnothing 80$



Electric actuator  
 Pneumatic cylinders  
 Pneumatic valves  
 FRU/Auxiliary components  
 Electronic components  
 Vacuum components  
 Main line components  
 Fluid control valves  
 Main line components  
 Antibacterial/Bacteria-removing filter  
 Vacuum components  
 Fluid control valves

## JIS symbol



## Manifold common specifications

Descriptions	Content
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)
Degree of protection *1	Dust-proof
Vibration resistance m/s <sup>2</sup>	50 or less
Shock resistance m/s <sup>2</sup>	300 or less
Atmosphere	Cannot be used in corrosive gas environments

\*1: Dust-proof degree of protection. Not drip-proof. Avoid dripping water or oil, etc., during use.

\*2: 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

Descriptions	Content		
Rated voltage V	T1□, T30□, T5□	T6□, T7□, T8□	
	DC24	DC12	DC24
Voltage fluctuation range (*3)	±10%		+10%, -5%
Holding current A	Standard	0.017	0.034
	With low exoergic/energy saving circuit	0.005	0.010
Power consumption W	Standard	0.4	
	With low exoergic/energy saving circuit	0.1	
Thermal class	B		
Surge suppressor *4	Zener diode		
Indicator	LED		

\*3: T6□, T7□ and T8□ (serial transmission) may experience voltage drops due to internal circuitry, so care should be taken when regulating voltages.

\*4: If low exoergic/energy circuit or surgeless types are selected then there will be a diode.

## Individual specifications

Descriptions	MN3GA1/MN4GA1										
	T10	T11	T30	T50	T51	T52	T53	T6*0/1	T7*0/1	T8*1/2	
Max. station No.	Standard wiring	16 stations	24 stations	24 stations	16 stations	18 stations	8 stations	24 stations	8/16 stations	8/16 stations	16/24 stations
	Double wiring	8 stations	12 stations	12 stations	8 stations	9 stations	4 stations	12 stations	4/8 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	8/16-points	8/16-points	16/32-points
Port size	Metric fitting/ M5, Rc thread	Push-in fitting $\varnothing 4$ , $\varnothing 6$ M5									
	A/B Port	Push-in fitting $\varnothing 6$ , $\varnothing 8$									
P/R Port	Metric fitting/ M5, Rc thread	Push-in fitting $\varnothing 4$ , $\varnothing 6$ , $\varnothing 8$ Rc1/8									
	A/B Port	Push-in fitting $\varnothing 8$ , $\varnothing 10$									

Descriptions	MN3GA2/MN4GA2										
	T10	T11	T30	T50	T51	T52	T53	T6*0/1	T7*0/1	T8*1/2	
Max. station No.	Standard wiring	16 stations	20 stations	20 stations	16 stations	18 stations	8 stations	20 stations	8/16 stations	8/16 stations	16/20 stations
	Double wiring	8 stations	12 stations	12 stations	8 stations	9 stations	4 stations	12 stations	4/8 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	8/16-points	8/16-points	16/32-points
Port size	Metric fitting/ M5, Rc thread	Push-in fitting $\varnothing 4$ , $\varnothing 6$ , $\varnothing 8$ Rc1/8									
	A/B Port	Push-in fitting $\varnothing 8$ , $\varnothing 10$									

## Flow characteristics

Model No.	Solenoid position	P→A/B		A/B→R1/R2		
		C[dm <sup>3</sup> /(s·bar)]	b	C[dm <sup>3</sup> /(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 —
		ABR connection	0.92	0.29	1.1 (0.69)	0.13 (0.22)
	PAB 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 —
		ABR connection	2.0	0.27	2.5 (1.7)	0.18 (0.12)
	PAB connection	2.3	0.31	2.3 —	0.16 —	

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

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

# MN4GA1/2-T\*-FP1 Series

Reduced wiring block manifold; body piping

## Reduced wiring specifications

Descriptions	T10	T11	T30	T50	T51	T52	T53
Type	Common terminal block M3 thread	Common terminal block clamping	D-sub-connector	20-pin flat cable connector with power supply terminal	20P Flat cable connector, no power supply terminal	10P Flat cable connector, no power supply terminal	26P Flat cable connector, no 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

Descriptions	T6G1	T6C0*1	T6C1*1
Network name	CC-Link ver1.10	CompoBus/S	
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)	
Output points	16 point	8 point	16 point
Occupied No.	1 station	1 Node address (8-point mode)	2 Node address (8-point mode)
Operation display	LED (power supply and communication status)		
Output format	NPN		

Descriptions	T7C0*2	T7C1*2	T7G1	T7L1*3	T7D1	T7S1	T7SP1
Network name	CompoBus/S		CC-Link ver1.10	SAVE NET	DeviceNet*4,*5	CompoNet	
Power supply voltage	Unit side	24 VDC ±10%					
	Valve side	24 VDC +10%, -5%					
Communication side	—		—	—	11 to 25 VDC *6	14.0 to 26.4 VDC	
Current consumption	Unit side	50 mA or less (when all output points are ON)		110 mA or less (when all output points are ON)		40 mA or less (when all output points are ON)	
	Valve side	15 mA or less (when all output points are OFF)		Load current is not included		Load current is not included	
	Communication side	—		—	—	50 mA or less	65 mA or less (all points ON: 24 VDC) 95 mA or less (all points ON: 14 VDC)
Output points	8 point	16 point	16 point	16 point	16 point	16 point	
Occupied No.	1 Node address (8-point mode)	2 Node address (8-point mode)	1 station	1 station	2 bytes	Word slave 1 node (16 points)	
Operation display	LED (power supply and communication status)						
Output format	NPN					NPN	PNP

Descriptions	T8G1	T8GP1	T8P1	T8PP1	T8EC1	T8ECP1	T8EN1	T8ENP1	T8D1	T8DP1	T8EB1	T8EBP1	T8EP1	T8EPP1	
	T8G2	T8GP2	T8P2	T8PP2	T8EC2	T8ECP2	T8EN2	T8ENP2	T8D2	T8DP2	T8EB2	T8EBP2	T8EP2	T8EPP2	
Communication system name	CC-Link ver1.10		PROFIBUS-DP (V0)		EtherCAT		EtherNet/IP		DeviceNet		CC-Link IEF Basic		PROFINET		
Power supply voltage	Unit side	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							
Output points	T8□1: 16 points T8□2: 32 points														
Occupied No.	1 station														
Operation display	LED (power supply and communication status)														
Output format	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 Long-distance communication mode is not supported.

\*2 Long-distance communication mode is supported.

\*3 Transmission bit rate of 128 bits and half-duplex transmission method are supported. Contact CKD for other specifications.

\*4 DeviceNet compliant networks (DLNK, etc.) are supported as well.

\*5 Contact CKD for EDS file. EDS file: A text file of parameters for communication with various companies' master units

\*6 Communication power supply (V+ and V- of DeviceNet cable) is isolated from power supply terminals (unit power supply/valve power supply).

Electric actuator  
Pneumatic cylinders  
Pneumatic valves  
FRU/Auxiliary components  
Electronic components  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Antibacterial/Bacteria-removing filter  
Vacuum components  
Fluid control valves

FP1

FP2



# MN4GA1/2-T\*-FP1 Series

Reduced wiring block manifold; body piping

## How to order

Manifold model No.

**MN4GA1** (1) **0 R** - **C6** - **T30** **W** **H** - **10** - **3** - **FP1**

3-port manifold model No.

**MN3GA1** (1) **0 R** - **C6** - **T30** **W** **H** - **10** - **3** - **FP1**

Discrete valve block with solenoid valve

**N4GA1** (1) **0 R** - **C6** - **A2N**\*1 ( ) **H** — **3** - **FP1**

Discrete 3-port valve block with solenoid valve

**N3GA1** (1) **0 R** - **C6** - **A2N**\*1 ( ) **H** — **3** - **FP1**

\* When a cable is required, refer to page 147 and specify the cable length for: \*1. When not required, leave the space blank.

Discrete solenoid valve

**4GA1** (1) **9 R** - **C6** - **A2N** ( ) **H** — **3** - **FP1**

Discrete 3-port solenoid valve

**3GA1** (1) **9 R** - **C6** - **A2N** ( ) **H** — **3** - **FP1**

**A** Model No.

**B** Solenoid position

**C** Port size  
\*1

### ⚠ 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: Select MN4GA\*80R when mixing with 4/5-port valves. Further, select MN3GA\*80R when mixing with masking plate.
- \*3: Push-in fitting cannot be mixed with the single valve 4(A) or 2(B) port.
- \*4: 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.
- \*5: **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).**
- \*6: **3-position all ports closed and PAB connection are not provided with the exhaust check valve (H).**
- \*7: Surgeless "S" and low exoergic/energy circuit "E" cannot be selected together.
- \*8: Surgeless specifications.
- \*9: A filter is built into port P as standard.
- \*10: **Specify the spacer mounting position and quantity in manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Refer to pages 149 to 150 for details.**

**D** Reduced wiring connection, serial transmission

**E** Terminal/connector pin array

**F** Option

**G** Station No.

**H** Voltage

A 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	Content	MN3GA1	MN3GA2	MN4GA1	MN4GA2	(N) 3GA1	(N) 3GA2	(N) 4GA1	(N) 4GA2
<b>B Solenoid position</b>									
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	○	○	A side valve: Normally closed		○	○		
				B side valve: Normally closed					
67	Two valves integrated *2	○	○	A side valve: Normally closed		○	○		
				B side valve: Normally open					
76	Two valves integrated *2	○	○	A side valve: Normally open		○	○		
				B side valve: Normally closed					
77	Two valves integrated *2	○	○	A side valve: Normally open		○	○		
				B side valve: Normally open					
8	Mix manifold (when there are multiple solenoid positions)	●	●	●	●	●	●	●	●

<b>C Port size (port A/B)</b>									
Type	Metric fitting/Rc thread	MN3GA1	MN3GA2	MN4GA1	MN4GA2	(N) 3GA1	(N) 3GA2	(N) 4GA1	(N) 4GA2
CF	ø1.8 barbed fitting (compatible tube UP-9102)**	●	●	●	●	●	●	●	●
C18	ø1.8 push-in fitting (compatible tube UP-9402)**	●	●	●	●	●	●	●	●
C4	ø4 Push-in fitting	●	●	●	●	●	●	●	●
C6	ø6 Push-in fitting	●	●	●	●	●	●	●	●
C8	ø8 Push-in fitting		●	●	●	●	●	●	●
CX	Push-in fitting mix *3	●	●	●	●	●	●	●	●
M5	M5	●	●	●	●	●	●	●	●
06	Rc1/8		●	●	●	●	●	●	●

**D Reduced wiring connection, serial transmission**  
Refer to the next page for reduced wiring and serial transmission.

<b>E Terminal/connector pin array</b>									
Blank	Standard wiring *4	●	●	●	●	●	●	●	●
W	Double wiring *4	●	●	●	●	●	●	●	●
W1	Double wiring (with single spare wiring) *4, *5	●	●	●	●	●	●	●	●

<b>F Option</b>									
Blank	Non-locking/locking common manual override	●	●	●	●	●	●	●	●
M	Non-locking manual override	●	●	●	●	●	●	●	●
H	With exhaust check valve *6	●	●	●	●	●	●	●	●
S	Surgeless *7	●	●	●	●	●	●	●	●
E	Low exoergic/energy saving circuit *7, *8	●	●	●	●	●	●	●	●
Q	Reduced wiring duct	●	●	●	●	●	●	●	●
F	Port A/B filter integrated *9	●	●	●	●	●	●	●	●
Z1	Air supply spacer *10	●	●	●	●				
Z2	In-stop valve spacer *10	●	●	●	●				
Z3	Exhaust spacer *10	●	●	●	●				

<b>G Station No.</b>									
1	1 station								
to	to	●	●	●	●				
24	24 stations (Refer to page 238 for the max. station number per model)								

<b>H Voltage</b>									
3	24 VDC	●	●	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●	●	●

○ is not available. ● indicates a made-to-order product.

# MN4GA1/2-T\*-FP1 Series

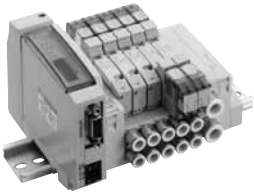
Reduced wiring block manifold; body piping

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

D 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	●	●	●	●	

D Serial transmission (lamp and surge suppressor provided as standard) 24 VDC							
T6C0	CompoBus/S	NPN 8 points	●	●	●	●	
T6C1		NPN 16 points	●	●	●	●	
T6G1	CC-Link	NPN 16 points	●	●	●	●	
T7C0	CompoBus/S	NPN 8 points	●	●	●	●	
T7C1		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				●	●

Electric actuator	Pneumatic cylinders	Pneumatic valves	FRL/Auxiliary components Electronic components	Vacuum components	Main line components	Fluid control valves	Main line components	Antibacterial/Bacteria-removing filter	Vacuum components	Fluid control valves
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Pneumatic Valves  
Catalog No. CB-023SA

Reduced wiring block manifold  
Base side piping

# MN4GB1/2-T\*-FP1 Series

● Applicable cylinder bore size: ø20 to ø80

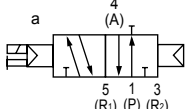


FP1  
FP2

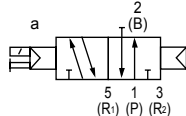
Electric actuator  
Pneumatic cylinders  
Pneumatic valves  
FRU/Auxiliary components  
Electronic components  
Vacuum components  
Main line components  
Fluid control valves  
Antibacterial/Bacteria-removing filter  
Vacuum components  
Fluid control valves

## JIS symbol

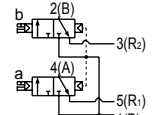
- 3-port valve  
2-position single NC



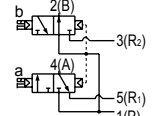
- 2-position single NO



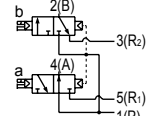
- Two 3-port valves integrated  
(A side valve: NC, B side valve: NC)



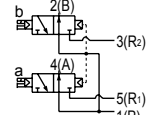
- (A side valve: NC, B side valve: NO)



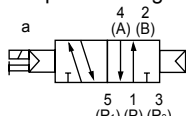
- (A side valve: NO, B side valve: NC)



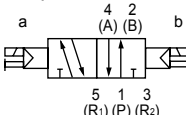
- (A side valve: NO, B side valve: NO)



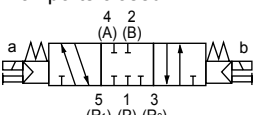
- 5-port valve  
2-position single



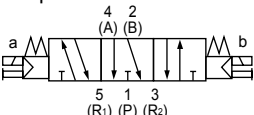
- 2-position double



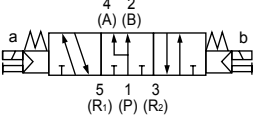
- 3-position  
all ports closed



- 3-position A/B/R connection



- 3-position P/A/B connection



## Manifold common specifications

Descriptions	Content
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	Lateral direction from 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)
Degree of protection *1	Dust-proof
Vibration resistance m/s <sup>2</sup>	50 or less
Shock resistance m/s <sup>2</sup>	300 or less
Atmosphere	Cannot be used in corrosive gas environments

## Electrical specifications

Descriptions	Content		
Rated voltage V	T1□, T30□, T5□	T6□, T7□, T8□	
	DC24	DC12	DC24
Voltage fluctuation range (*3)		±10%	+10%, -5%
	Holding current A	Standard	0.017
With low exoergic/energy saving circuit			0.005
Power consumption W	Standard	0.4	
	With low exoergic/energy saving circuit	0.1	
Thermal class	B		
Surge suppressor (*4)	Zener diode		
Indicator	LED		

- \*1: Dust-proof degree of protection. Not drip-proof. Avoid dripping water or oil, etc., during use.
- \*2: 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.
- \*3: T6□, T7□ and T8□ (serial transmission) may experience voltage drops due to internal circuitry, so care should be taken when regulating voltages.
- \*4: If low exoergic/energy circuit or surgeless types are selected then there will be a diode.

## Individual specifications

Descriptions		MN3GB1/MN4GB1									
		T10	T11	T30	T50	T51	T52	T53	T6*0/1	T7*0/1	T8*1/2
Max. station No.	Standard wiring	16 stations	24 stations	24 stations	16 stations	18 stations	8 stations	24 stations	8/16 stations	8/16 stations	16/24 stations
	Double wiring	8 stations	12 stations	12 stations	8 stations	9 stations	4 stations	12 stations	4/8 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	8/16-points	8/16-points	16/32-points
Port size	Metric fitting	Push-in fitting ø4, ø6									
	A/B Port	Push-in fitting ø6, ø8									

Descriptions		MN3GB2/MN4GB2									
		T10	T11	T30	T50	T51	T52	T53	T6*0/1	T7*0/1	T8*1/2
Max. station No.	Standard wiring	16 stations	20 stations	20 stations	16 stations	18 stations	8 stations	20 stations	8/16 stations	8/16 stations	16/20 stations
	Double wiring	8 stations	12 stations	12 stations	8 stations	9 stations	4 stations	12 stations	4/8 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	8/16-points	8/16-points	16/32-points
Port size	Metric fitting	Push-in fitting ø4, ø6, ø8									
	A/B Port	Push-in fitting ø8, ø10									

## Flow characteristics

Model No.	Solenoid position	P → A/B		A/B → R1/R2		
		C [dm <sup>3</sup> /(s·bar)]	b	C [dm <sup>3</sup> /(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
		ABR connection	0.96	0.29	1.2 (0.71)	0.11 (0.30)
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
		ABR connection	2.2	0.38	2.5 (1.7)	0.18 (0.20)
	PAB connection	2.3	0.29	2.3	0.15	

- \*1: Effective cross-sectional area S and sonic conductance C are converted with the formula  $S \approx 5.0 \times C$ .
- \*2: Values in ( ) are with the exhaust check valve.

# MN4GB1/2-T\*-FP1 Series

Reduced wiring block manifold; base piping

## Reduced wiring specifications

Descriptions	T10	T11	T30	T50	T51	T52	T53
Type	Common terminal block M3 thread	Common terminal block clamping	D-sub-connector	20-pin flat cable connector with power supply terminal	20P Flat cable connector, no power supply terminal	10P Flat cable connector, no power supply terminal	26P Flat cable connector, no 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

Descriptions	T6G1	T6C0-1	T6C1-1
Network name	CC-Link ver1.10	CompoBus/S	
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)	
Output points	16 point	8 point	16 point
Occupied No.	1 station	1 Node address (8-point mode)	2 Node address (8-point mode)
Operation display	LED (power supply and communication status)		
Output format	NPN		

Descriptions	T7C0-2	T7C1-2	T7G1	T7L1-3	T7D1	T7S1	T7SP1
Network name	CompoBus/S		CC-Link ver1.10	SAVE NET	DeviceNet*4,*5	CompoNet	
Power supply voltage	Unit side	24 VDC ±10%					
	Valve side	24 VDC +10%, -5%					
Current consumption	Communication side	—					
	Unit side	50 mA or less (when all output points are ON)	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	15 mA or less (when all output points are OFF)					
Output points	Communication side	—					
	Unit side	8 point	16 point	16 point	16 point	16 point	16 point
Occupied No.	1 Node address (8-point mode)	2 Node address (8-point mode)	1 station	1 station	2 bytes	Word slave 1 node (16 points)	
Operation display	LED (power supply and communication status)						
Output format	NPN						PNP

Descriptions	T8G1	T8GP1	T8P1	T8PP1	T8EC1	T8ECP1	T8EN1	T8ENP1	T8D1	T8DP1	T8EB1	T8EBP1	T8EP1	T8EPP1	
	T8G2	T8GP2	T8P2	T8PP2	T8EC2	T8ECP2	T8EN2	T8ENP2	T8D2	T8DP2	T8EB2	T8EBP2	T8EP2	T8EPP2	
Communication system name	CC-Link ver1.10		PROFIBUS-DP(V0)		EtherCAT		EtherNet/IP		DeviceNet		CC-Link IEF Basic		PROFINET		
Power supply voltage	Unit side	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)	120 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							
Output points	T8□1: 16 points T8□2: 32 points														
Occupied No.	1 station														
Operation display	LED (power supply and communication status)														
Output format	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 Long-distance communication mode is not supported.

\*2 Long-distance communication mode is supported.

\*3 Transmission bit rate of 128 bits and half-duplex transmission method are supported. Contact CKD for other specifications.

\*4 DeviceNet compliant networks (DLNK, etc.) are supported as well.

\*5 Contact CKD for EDS file. EDS file: A text file of parameters for communication with various companies' master units

\*6 Communication power supply (V+ and V- of DeviceNet cable) is isolated from power supply terminals (unit power supply/valve power supply).

Electric actuator  
Pneumatic cylinders  
Pneumatic valves  
FRU/Auxiliary components  
Electronic components  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Antibacterial/Bacteria-removing filter  
Vacuum components  
Fluid control valves

FP1

FP2

# MN4GB1/2-T\*-FP1 Series

Reduced wiring block manifold; base piping

## How to order

● Manifold model No.  
**MN4GB1** **1** **0** **R** - **C6** - **T30** **W** **H** - **10** - **3** - **FP1**

● 3-port manifold model No.  
**MN3GB1** **66** **0** **R** - **C6** - **T30** **W** **H** - **10** - **3** - **FP1**

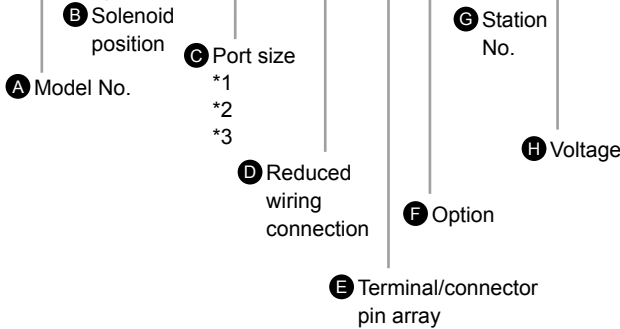
● Discrete valve block with solenoid valve  
**N4GB1** **1** **0** **R** - **C6** - **A2N**<sup>\*1</sup> **H** - **3** - **FP1**

● Discrete 3-port valve block with solenoid valve  
**N3GB1** **66** **0** **R** - **C6** - **A2N**<sup>\*1</sup> **H** - **3** - **FP1**

\* When a cable is required, refer to page 147 and specify the cable length for "1". When not required, leave the space blank.

● Single solenoid valve  
**4GB1** **1** **9** **R** - **00** - **A2N** **H** - **3** - **FP1**

● Discrete 3-port solenoid valve  
**3GB1** **66** **9** **R** - **00** - **A2N** **H** - **3** - **FP1**



## ⚠ 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: Ports A and B are the same size for radial push-in fitting mix (CX).
- \*3: For a discrete solenoid valve, select "00" for Port size.
- \*4: Select MN4GB\*80R when mixing with 4, 5-port valves. Further, select MN3GB\*80R when mixing with masking plate.
- \*5: Push-in fitting cannot be mixed with the single valve 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).**
- \*8: **3-position all ports closed and PAB connection are not provided with the exhaust check valve (H).**
- \*9: 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 manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Cannot be selected together with radial push-in fitting (upward). Refer to pages 149 to 150 for details.**

A Model No.							
Manifold				Discrete valve block with solenoid valve / Discrete solenoid valve			
Two 3-port valves integrated		5-port valve					
MN3GB1	MN3GB2	MN4GB1	MN4GB2	(N) 3GB1	(N) 3GB2	(N) 4GB1	(N) 4GB2

Code	Content	MN3GB1	MN3GB2	MN4GB1	MN4GB2	(N) 3GB1	(N) 3GB2	(N) 4GB1	(N) 4GB2
<b>B Solenoid position</b>									
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	○	○			○	○		
67						○	○		
76						○	○		
77						○	○		
8	Mix manifold (when there are multiple solenoid positions)	●	●	●	●	●	●	●	●

<b>C Port size (port A/B)</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 specifications		A Port	B Port							
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								
00	Discrete valve for mounting base									

**D Reduced wiring connection**  
Refer to the next page for electrical connections.

<b>E Terminal/connector pin array</b>									
Blank	Standard wiring	*6	●	●	●	●	●	●	●
W	Double wiring	*6	●	●	●	●	●	●	●
W1	Double wiring (with single spare wiring)	*6, *7	●	●	●	●	●	●	●

<b>F Option</b>									
Blank	Non-locking/locking common manual override		●	●	●	●	●	●	●
M	Non-locking manual override		●	●	●	●	●	●	●
H	With exhaust check valve	*8	●	●	●	●	●	●	●
S	Surgeless	*9	●	●	●	●	●	●	●
E	Low exoergic/energy saving circuit	*9, *10	●	●	●	●	●	●	●
Q	Reduced wiring duct		●	●	●	●	●	●	●
F	Port A/B filter integrated	*11	●	●	●	●	●	●	●
Z1	Air supply spacer	*12	●	●	●	●			
Z2	In-stop valve spacer	*12	●	●	●	●			
Z3	Exhaust spacer	*12	●	●	●	●			

<b>G Station No.</b>									
1	1 station								
to		●	●	●	●				
24	24 stations (Max. station number for MN4GB2 is 20.)								

<b>H Voltage</b>									
3	24 VDC		●	●	●	●	●	●	●
4	12 VDC		●	●	●	●	●	●	●

□ is not available.  
○ indicates a made-to-order product.



# MN4GB1/2-T\*-FP1 Series

Reduced wiring block manifold; base piping

[Wiring method list]

Code			A Model No.							
			Manifold				Discrete valve block with solenoid valve/ discrete solenoid valve			
			Two 3-port valves integrated		5-port valve					
			MN3GB1	MN3GB2	MN4GB1	MN4GB2	(N) 3GB1	(N) 3GB2	(N) 4GB1	(N) 4GB2
<b>D Reduced wiring (lamp and surge suppressor provided as standard) 12/24 VDC</b>										
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	●	●	●	●				
<b>D Serial transmission (lamp and surge suppressor provided as standard) 24 VDC</b>										
T6C0	CompoBus/S	NPN 8 points	●	●	●	●				
T6C1		NPN 16 points	●	●	●	●				
T6G1	CC-Link	NPN 16 points	●	●	●	●				
T7C0	CompoBus/S	NPN 8 points	●	●	●	●				
T7C1		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					●	●	●	●

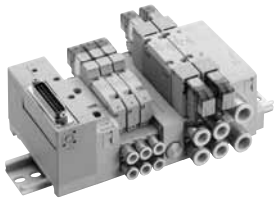
Electric actuator	Pneumatic cylinders	Pneumatic valves	FRU/Auxiliary components	Electronic components	Vacuum components	Main line components	Fluid control valves	Main line components	Antibacterial/Bacteria-removing filter	Vacuum components	Fluid control valves
-------------------	---------------------	------------------	--------------------------	-----------------------	-------------------	----------------------	----------------------	----------------------	--	-------------------	----------------------



4G1/2 mix manifolds

# MN3GAX12, MN4GAX12 MN4GBX12-FP1 Series

● Applicable cylinder bore size:  $\varnothing 20$  to  $\varnothing 80$



Pneumatic Valves  
Catalog No. CB-023SA

## Specifications

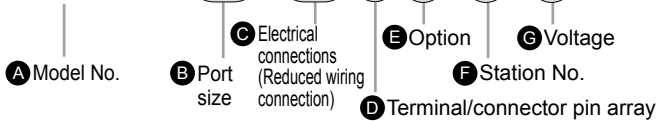
Common with all series.

For individual wiring, refer to page 127 (body piping) or page 131 (base piping), and for reduced wiring, refer to page 135 (body piping) or page 139 (base piping).

## How to order

**MN3G<sup>A</sup><sub>B</sub>X12R** - - **FP1**

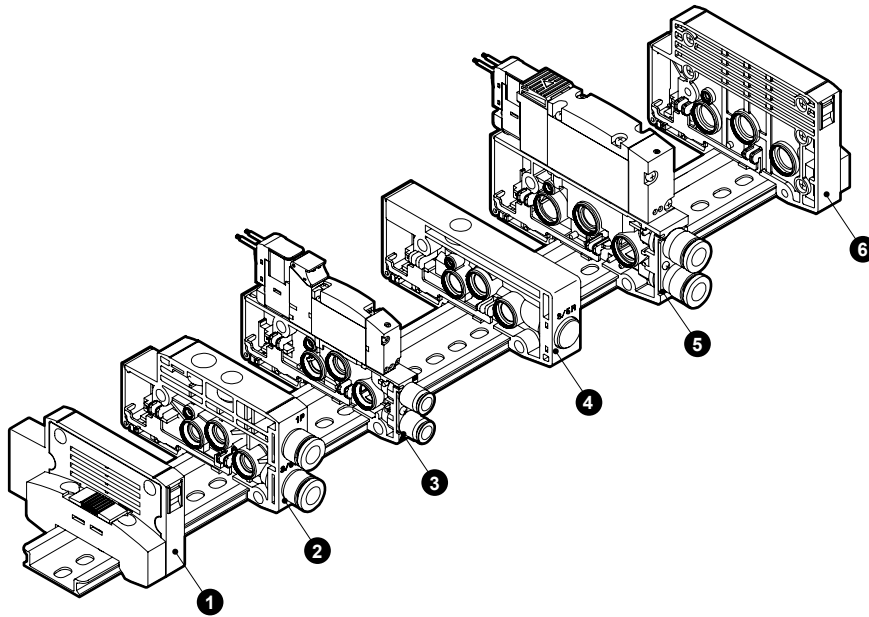
**MN4G<sup>A</sup><sub>B</sub>X12R** - - **FP1**



\* The model No. will be "MN□G□X12R-". Other items are common with the example of model No. for each series.

For individual wiring, refer to page 129 (body piping) or page 133 (base piping), and for reduced wiring, refer to page 137 (body piping) or page 141 (base piping).

## Manifold components explanation and parts list



\* Notes on 4G1/2 mix manifolds

With the fitting at the front, the left side of the mixed block is the 4G1 Series and the right side the 4G2 Series. (Note that these position settings cannot be reversed.)

## List of main components (refer to pages 145 to 150 for details)

No.	Component name	Model No. (example)
1	End block L	N4G1R-EL
2	Supply and exhaust block	N4G1R-Q-8-FP1
3	Discrete valve block with solenoid valve	N4GB110R-C6-H-3-FP1
4	Mixed block	N4G12R-MIX-FP1
5	Discrete valve block with solenoid valve	N4GB210R-C8-H-3-FP1
6	End block R	N4G2R-ER-FP1

## Weight

N4G12R-MIX: 49 g

Refer to the specifications of each series for other components.

F P 1						F P 2				
Electric actuator	Pneumatic cylinders	<b>Pneumatic valves</b>	FRL/Auxiliary components Electronic components	Vacuum components	Main line components	Fluid control valves	Main line components	Antibacterial/Bacteria-removing filter	Vacuum components	Fluid control valves

# MN4GA/4GB-FP1 Series

## Block manifold: piping section

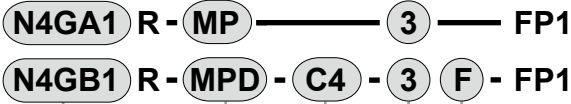
### Piping

#### 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 129, base piping individual wiring: page 133, body piping reduced wiring: page 137,  
 base piping reduced wiring: page 141

#### B. Discrete valve block with masking plate

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



**A** Model No.

**B** Type

**C** Port size

**D** Cable length \*1

**E** Option

\*1: A socket assembly is included with purchases for reduced wiring station expansion, so select "2 to 10". Select a cable length from page 147 and fill it into the **D** cable length field. If ordering with the manifold specifications sheet, the cable length can be omitted.

**A** Model No.

N4GA1	N4GA2	N4GB1	N4GB2
-------	-------	-------	-------

Code	Content	N4GA1	N4GA2	N4GB1	N4GB2
<b>B Type</b>					
MP	For individual wiring	●	●	●	●
MPS	For reduced wiring single	●	●	●	●
MPD	For reduced wiring double/3-position	●	●	●	●

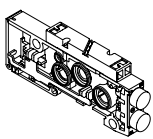
<b>C Port size (for base piping, this must be configured.)</b>					
Type	Metric fitting/Rc thread				
C4	ø4 Push-in fitting				●
C6	ø6 Push-in fitting				●
C8	ø8 Push-in fitting				●
Single side plug specifications					
	A Port	B Port			
C4NC	ø4 Push-in fitting	Plug			●
C6NC	ø6 Push-in fitting				●
C8NC	ø8 Push-in fitting				●
C4NO	Plug	ø4 Push-in fitting			●
C6NO		ø6 Push-in fitting			●
C8NO		ø8 Push-in fitting			●

<b>D Cable length *4</b>					
Blank	For individual wiring	●	●	●	●
2 to 10	Select the length from page 147.	●	●	●	●

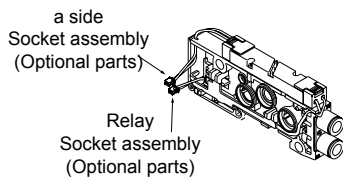
<b>E Option</b>					
Blank	No option			●	●
L	With pipe adapter			●	●
F	Port A/B filter built in			●	●

■ is not available.  
 ○ indicates a made-to-order product.

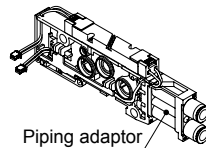
N4GA1R-MP-FP1



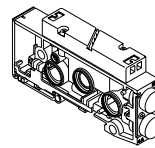
N4GB1R-MPD-C4-3-FP1



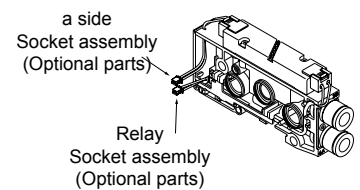
N4GB1R-MPD-C4-3L-FP1



N4GA2R-MP-FP1



N4GB2R-MPD-C6-5-FP1



### Piping

#### C. Discrete valve block (separate item only)

Discrete valve block (split resin base).

**N4GA1** R - **V1** - **3** - **FP1**

**N4GB1** R - **V2** - **C4** - **3** - **F** - **FP1**

**A** Model No.

**B** Type

**C** Port size

**D** Cable length \*1

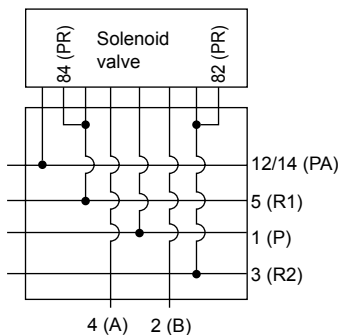
**E** Option

\*1: A socket assembly is included with purchases for reduced wiring station expansion, so select "2 to 10". Select a cable length from page 147 and fill it into the **D** cable length field. If ordering with the manifold specifications sheet, the cable length can be omitted.

		<b>A Model No.</b>			
		<b>N4GA1</b>	<b>N4GA2</b>	<b>N4GB1</b>	<b>N4GB2</b>
<b>Code</b>	<b>Content</b>				
<b>B Type</b>					
<b>V1</b>	For individual wiring For reduced wiring single	●	●	●	●
<b>V2</b>	For reduced wiring double/3-position	●	●	●	●
<b>C Port size (for base piping, this must be configured.)</b>					
<b>Type</b>	<b>Metric fitting/Rc thread</b>				
<b>C4</b>	ø4 Push-in fitting			●	
<b>C6</b>	ø6 Push-in fitting			●	●
<b>C8</b>	ø8 Push-in fitting				●
<b>Single side plug specifications</b>	<b>A Port</b>	<b>B Port</b>			
<b>C4NC</b>	ø4 Push-in fitting		Plug	●	●
<b>C6NC</b>	ø6 Push-in fitting			●	●
<b>C8NC</b>	ø8 Push-in fitting			●	●
<b>C4NO</b>	Plug	ø4 Push-in fitting			●
<b>C6NO</b>		ø6 Push-in fitting			●
<b>C8NO</b>		ø8 Push-in fitting			●
<b>D Cable length *4</b>					
<b>Blank</b>	For individual wiring	●	●	●	●
<b>2 to 10</b>	Select the length from page 147.	●	●	●	●
<b>E Option</b>					
<b>Blank</b>	No option			●	●
<b>L</b>	With pipe adapter			●	●
<b>F</b>	Port A/B filter built in			●	●

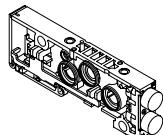
■ is not available.

○ indicates a made-to-order product.

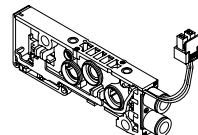


Discrete valve block circuit diagram

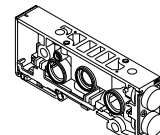
N4GA1R-V1-FP1



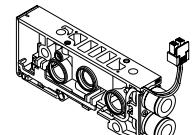
N4GB1R-V2-C4-FP1



N4GA2R-V1-FP1



N4GB2R-V2-C6-FP1



Electric actuator  
Pneumatic cylinders  
Pneumatic valves  
FRU/Auxiliary components  
Electronic components  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Antibacterial/Bacteria-removing filter  
Vacuum components  
Fluid control valves

FP1

FP2

# MN4GA/4GB-FP1 Series

## Block manifold: piping section

### Piping

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), and select an appropriate cable length from [Table 1]. Note that the required socket assembly will differ between the a side solenoid and the 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.

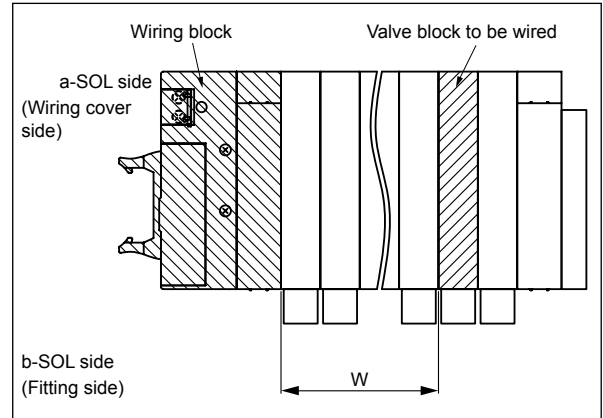
Calculation of  $W$

- For MN4G1  
 $W = (10.5 \times n) + (16 \times m) + (10.5 \times l)$
  - For MN4G2  
 $W = (16 \times n) + (18 \times m) + (10.5 \times l)$
- n: No. of valve blocks m: No. of supply and exhaust blocks l: No. of 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.

**N4G1 R - Q - 8 X - FP1**

Model No.      **A** Bore size      **B** Exhaust

<b>A Bore size</b>		<b>B Exhaust</b>	
<b>6</b>	ø6 Push-in fitting	<b>Blank</b>	Common exhaust
<b>8</b>	ø8 Push-in fitting	<b>X *1</b>	Atmospheric release

\*1: For X, select atmosphere release (EX) for the end block.

**N4G2 R - Q - 10 X - FP1**

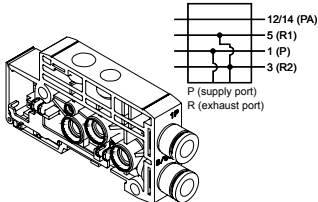
Model No.      **A** Bore size      **B** Exhaust

<b>A Bore size</b>		<b>B Exhaust</b>	
<b>8</b>	ø8 Push-in fitting	<b>Blank</b>	Common exhaust
<b>10</b>	ø10 Push-in fitting	<b>X *1</b>	Atmospheric release

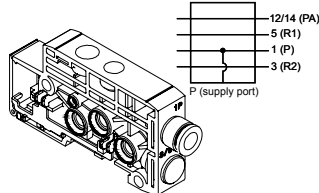
\*2: Select 6\*M or 8\*M when using a silencer with inch fitting specifications.

\*3: For X, select atmosphere release (EX) for the end block.

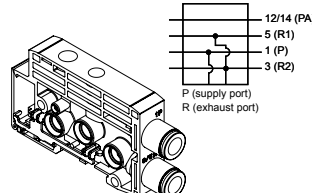
N4G1R-Q-8-FP1



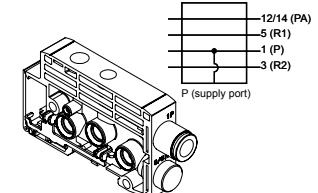
N4G1R-Q-8X-FP1



N4G2R-Q-10-FP1



N4G2R-Q-10X-FP1



### Piping

#### E. End block

Install on both ends of the manifold for individual wiring. Install on opposite sides of the wiring block for reduced wiring. An exhaust muffler is built into the atmosphere release type.

**N4G1 R - E R - FP1**

Model No.    **A** Type    **B** Installation position

Common exhaust		Atmosphere release	
x	12/14 (PA)	x	12/14 (PA)
x	5 (R1)	x	5 (R1)
x	1 (P)	x	1 (P)
x	3 (R2)	x	3 (R2)

**N4G2 R - EX L**

Model No.    **A** Type    **B** Installation position

Common exhaust		Atmosphere release	
x	12/14 (PA)	x	12/14 (PA)
x	5 (R1)	x	5 (R1)
x	1 (P)	x	1 (P)
x	3 (R2)	x	3 (R2)

A Type		B Installation position	
<b>E</b>	Common exhaust	<b>L</b>	For left side
<b>EX</b>	Atmospheric release	<b>R</b>	For right side

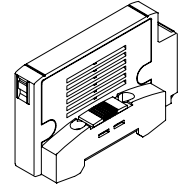
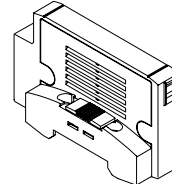
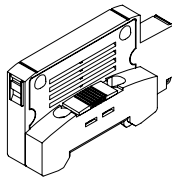
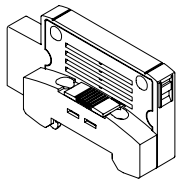
A Type		B Installation position	
<b>E</b>	Common exhaust	<b>L</b>	For left side
<b>EX</b>	Atmospheric release	<b>R</b>	For right side

N4G1R-EL-FP1

N4G1R-ER-FP1

N4G2R-EL-FP1

N4G2R-ER-FP1



#### F. Partition block

Multi-pressure mixing and measures for back pressure increase prevention can be achieved by combining partition blocks and supply and exhaust blocks.

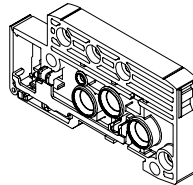
**N4G1 R - S - FP1**

Model No.    **A** Type    N4G1-S

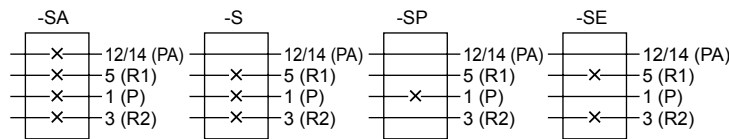
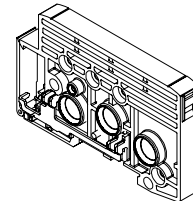
**N4G2 R - SA - FP1**

Model No.    **A** Type    N4G2-S

A Type	
<b>SA</b>	P/R/PA blocked
<b>S</b>	P/R blocked PA through
<b>SP</b>	P blocked R/PA through
<b>SE</b>	R blocked P/PA through



A Type	
<b>SA</b>	P/R/PA blocked
<b>S</b>	P/R blocked PA through
<b>SP</b>	P blocked R/PA through
<b>SE</b>	R blocked P/PA through



#### G. Mixed block

Install when 4G1 and 4G2 will be mixed within the same manifold. Installation positions are 4G1 on the left side of the mixed block and 4G2 on the right side.

**N4G12 R - MIX - FP1**

Model No.    **A** Type    N4G12-MIX

x	12/14 (PA)
x	5 (R1)
x	1 (P)
x	3 (R2)

Electric actuator  
Pneumatic cylinders  
Pneumatic valves  
FRU/Auxiliary components  
Electronic components  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Antibacterial/Bacteria-removing filter  
Vacuum components  
Fluid control valves

FP1

FP2



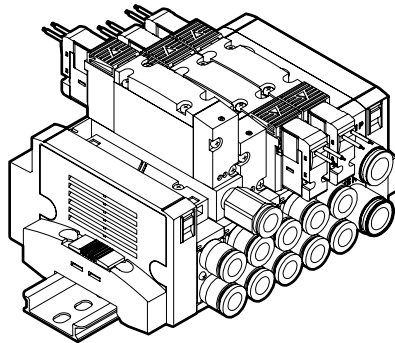
# MN4GA/4GB-FP1 Series

Block manifold; related products

F P 1  
 F P 2  
 Electric actuator  
 Pneumatic cylinders  
 Pneumatic valves  
 FRU/Auxiliary components  
 Electronic components  
 Vacuum components  
 Main line components  
 Fluid control valves  
 Main line components  
 Antibacterial/Bacteria-removing filter  
 Vacuum components  
 Fluid control valves

## Related products

- Air supply spacer



## How to order discrete units

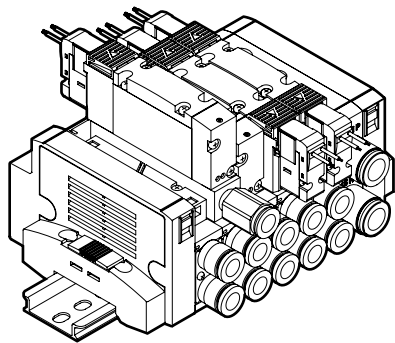
**4G** **2** **R** - **P** - **GWS6** - **FP1**

- A** Air supply spacer model No.
- B** Port size \*1, \*2

## ⚠ Precautions for model selection

- \*1 Blank indicates (1) M5, (2) Rc1/8.
- \*2 Blank indicates the FP1 specifications or equivalent as standard, and thus does not require "FP1" at the end of the model number.
- \*3 Specify the positions and quantity of air supply spacers for manifold in the manifold specifications sheet.
- \*4 Combination with the masking plate is not supported.

- Exhaust spacer



## How to order discrete units

**4G** **2** **R** - **R** - **GWS6** - **FP1**

- A** Exhaust spacer model No.
- B** Port size \*1, \*2

## ⚠ Precautions for model selection

- \*1 Blank indicates (1) M5, (2) Rc1/8.
- \*2 Blank indicates the FP1 specifications or equivalent as standard, and thus does not require "FP1" at the end of the model number.
- \*3 Specify the positions and quantity of air supply spacers for manifold in the manifold specifications sheet.
- \*4 Combination with the masking plate is not supported.

## Specifications

Model No.	P→A/B		A/B→R		Weight g
	C[dm <sup>3</sup> /(s·bar)]	b	C[dm <sup>3</sup> /(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  $S \approx 5.0 \times C$ .

		Model No.			
		4GA1	4GB1	4GA2	4GB2
Code	Content				
<b>A Air supply spacer model No.</b>					
1	For 4G1	●			
2	For 4G2				●
<b>B Port size</b>					
Blank	M5 thread (4G1), Rc thread (4G2)	(1)		(2)	
GWS4	ø4 Fitting	●			
GWS6	ø6 Fitting	●		●	
GWS8	ø8 Fitting				●

is not available.

Optional parts: 4G1 mounting screws (2), dedicated gasket (1)  
4G2 mounting screws (2), PR check valves (2), body gasket (1)

## Specifications

Model No.	P→A/B		A/B→R		Weight g
	C[dm <sup>3</sup> /(s·bar)]	b	C[dm <sup>3</sup> /(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  $S \approx 5.0 \times C$ .

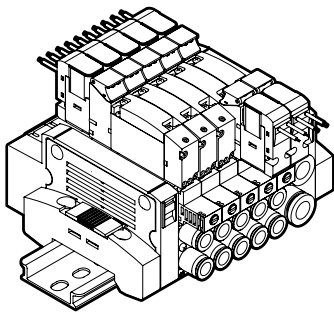
		Model No.			
		4GA1	4GB1	4GA2	4GB2
Code	Content				
<b>A Exhaust spacer model No.</b>					
1	For 4G1	●			
2	For 4G2				●
<b>B Port size</b>					
Blank	M5 thread (4G1), Rc thread (4G2)	(1)		(2)	
GWS4	ø4 Fitting	●			
GWS6	ø6 Fitting	●		●	
GWS8	ø8 Fitting				●

is not available.

Optional parts: 4G1 mounting screws (2), dedicated gasket (1)  
4G2 mounting screws (2), PR check valves (2), body gasket (1)

## Related products

- In-stop valve spacer



## Specifications

Model No.	P→A/B		A/B→R		Weight g
	C [dm <sup>3</sup> / (s·bar)]	b	C [dm <sup>3</sup> / (s·bar)]	b	
4G1	0.54	0.03	0.82	0.27	17
4G2	1.5	0.17	1.6	0.20	63

\*1: Values with base piping and 2-position valve mounted.

\*2: The effective cross-sectional area when discharging residual pressure is 1.0 mm<sup>2</sup> (reference value).

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

Optional parts: PR check valve 2, body gasket 1

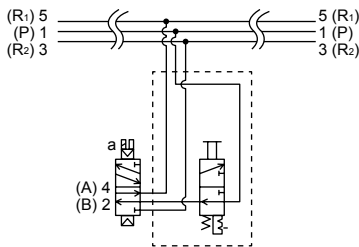
## How to order discrete units

4G1 R - IS - FP1

4G2 R - IS - FP1

In-stop valve spacer

## JIS symbol

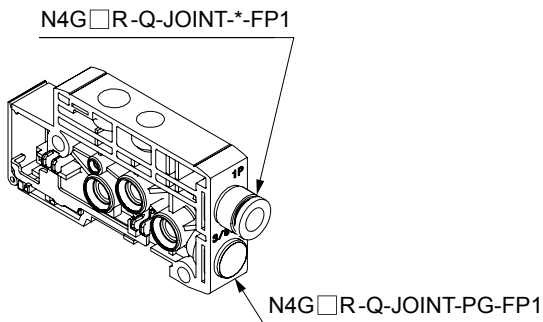


## ⚠ Precautions for model No. selection

- \*1: Specify the spacer mounting position and quantity in manifold specifications sheet.
- \*2: When retrofitting to the reduced wiring manifold, the existing wiring may be too short. Contact CKD for details.

## Related parts

- MN4G cartridge push-in fitting for supply and exhaust block



- 1.1 MN4G1 supply and exhaust block, fitting for 1(P), 3/5(R)

Bore size	Part model No.
ø6 Straight	N4G1R-Q-JOINT-6-FP1
ø8 Straight	N4G1R-Q-JOINT-8-FP1
Plug cartridge	N4G1R-Q-JOINT-PG-FP1

- 1.2 MN4G2 supply and exhaust block, fitting for 1(P), 3/5(R)

Bore size	Part model No.
ø8 Straight	N4G2R-Q-JOINT-8-FP1
ø10 Straight	N4G2R-Q-JOINT-10-FP1
Plug cartridge	N4G2R-Q-JOINT-PG-FP1

Electric actuator  
Pneumatic cylinders  
Pneumatic valves  
FRU/Auxiliary components  
Electronic components  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Antibacterial/Bacteria-removing filter  
Vacuum components  
Fluid control valves

FP1

FP2

# MN4GA/4GB-FP1 Series

## How to fill out block manifold MN4G Series manifold specifications sheet

● Manifold model No. (example)

**MN** **4GA1** **8** **0R-** **CX** - **T50** **W** **H** - **8** - **3** - **FP1**

**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

When filling in this field, select the model No. from "Block configurations" (pages 145 to 150).

Part name	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 :50	<input type="checkbox"/>																																1
Valve block with solenoid valve (page 145)	N4GA1 :1: 0R- :C4	<input type="checkbox"/>	<input type="checkbox"/>																														2	
	N4GA1 :2: 0R- :C6				<input type="checkbox"/>																												1	
	N4GA1 :3: 0R- :C4			<input type="checkbox"/>																													1	
	N4GA1 : : 0R- : :																																	
	N4GA1 : : 0R- : :																																	
	N4GA1 : : 0R- : :																																	
	N3GA1 :1: 0R- :C4										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																					3
N3GA1 : : 0R- : :																																		
Valve block with masking plate (page 145)	N4GA1R-MP																																	
	N4GA1R-MPS																																	
	N4GA1R-MPD						<input type="checkbox"/>																											1
Supply and exhaust block (page 147)	N4G1R-Q : : :8L							<input type="checkbox"/>					<input type="checkbox"/>																					2
	N4G1R-Q : : : :																																	
	N4G1R-Q : : : :																																	
Partition block (page 148)	N4G1R-S :A								<input type="checkbox"/>																									1
	N4G1R-S : :																																	
	N4G1R-S : :																																	
End block (page 148)	N4G1R-E :R													<input type="checkbox"/>																				1
	N4G1R-E : :																																	
Mounting rail	L <sub>2</sub> = : : : (How to calculate length on next page)	Blanking plug						Silencer						Tag plate (included)		Included parts																		
		GWP4-B	GWP6-B	GWP8-B	SLW-H6	SLW-H8	A	<input type="checkbox"/>																										
		Cable with D-sub-connector						4GR-CABLE-D0□□□□						Push-in fitting tube remover (included as standard) <input checked="" type="checkbox"/> Not required (check the box)																				

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

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

### Preparing the manifold specifications

- Complete from the left end, with the piping port facing forward. (Include the model No. of the block selected from block configurations (pages 145 to 150) and instructions for the arrangement thereof.)
- Indicate the total number of blocks specified in the column for quantity on the right end of the table.
- Mark a circle for optional parts that are required.
- 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 154
  - MN4GB1: page 154
  - MN4GA2: page 155
  - MN4GB2: page 155
  - MN4GA×1/2 (Mix manifold): page 156
  - MN4GB×1/2 (Mix manifold): page 156

# Manifold specifications sheet

## MN4GA/4GB-FP1 Series

### Mounting rail length (L2)

- ① Determine the rail length using the calculation method shown below.  
The obtained length is standard.
- ② For standard length, length (L2) is not required on the specifications sheet.  
Indicate the length when using a non-standard length.

### ● How to determine the length of the mounting rail

$$\text{Manifold length (L1)} = (\text{Valve block Quantity} \times A) + (\text{Supply and exhaust block Quantity} \times B) + (\text{Partition block Quantity} \times C) + D + E$$

A, B, C, D, and E indicate the length (width) of each block.

$$\text{Mounting rail length (L2)} = L1 \times 12.5$$

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

$$\text{Rail mounting pitch (L3)} = L2 - 12.5$$

Block length (width) dimensions table (mm)

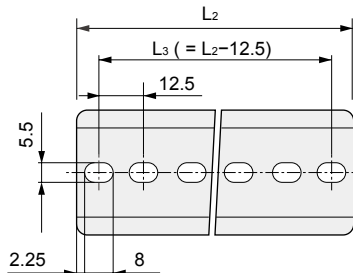
		MN4GA/B1	MN4GA/B2	MN4G1/2MIX		
				MN4GA/B1	MN4GA/B2	
A	Valve block	10.5	16	10.5	16	
B	Supply and exhaust block	16	18	16	18	
C	Partition block	10.5	10.5	10.5	10.5	
D	Individual wiring	41	46	44.5		
	Wiring block for reduced wiring	T10/T11	83.8	86.3	86.3	
		T10R/T11R	83.8	86.3	83.8	
		T30/T5*	69.3	71.8	71.8	
		T30R/T5*R	69.3	71.8	69.3	
		T6*	143.5	146	146	
		T7*	64.3	66.8	66.8	
T8*	64.3	66.8	66.8			
E	Mixed block				16	

\* The end block is included in the wiring block.

### ● DIN rail length quick reference table

L1: Manifold Length	47.5		60	72.5	85	97.5	110	122.5	135	147.5	160	172.5	185	197.5	210	222.5	235	247.5	260	272.5	285	297.5	310	322.5	335	347.5
	or less	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to
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
Pitch L3	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: When L1 exceeds this table, calculate the length by referring to "How to calculate the length of the mounting rail".



Electric actuator	Pneumatic cylinders	Pneumatic valves	FRU/Auxiliary components Electronic components	Vacuum components	Main line components	Fluid control valves	Main line components	Antibacterial/Bacteria-removing filter	Vacuum components	Fluid control valves
-------------------	---------------------	------------------	--	-------------------	----------------------	----------------------	----------------------	--	-------------------	----------------------

# MN4GA/4GB-FP1 Series

## How to fill out wiring specifications sheet

Not required for standard wiring and double wiring.

● Wiring specifications sheet (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	9	9	9																								
10	10	10	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	19	COM	19																								
20	20	COM	20																								
			21																								
			22																								
			23																								
			24																								
			25	COM																							
			26	COM																							

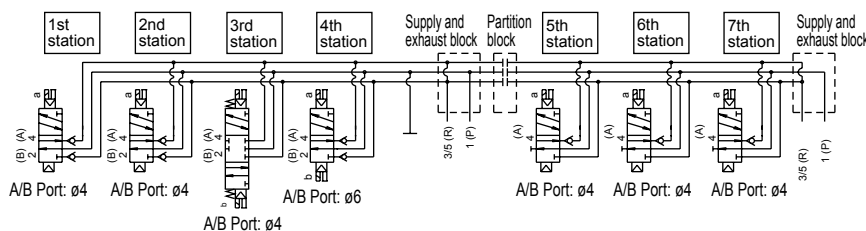
\* Note that when the wiring method is T50/T50R, the COM polarity will be + (positive).

● Notes on wiring specifications

- Fill 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 made to order in this case.
- The 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.
- As the connector pin No. and valve No. differ for each reduced wiring method (T1\*/T30/T5\*/T6\*/T7\*/T8\*), fill out the form upon reviewing the notes for each.
- Wiring (socket assembly) is included with valve blocks with masking plates. A side only for "-MPS". Both A and B sides for "-MPD".
- Double solenoids or 3-position solenoid valves cannot be assembled to "-MPS". Order valve block with solenoid valve and carry out expansion.
- It is not possible to install spare wires for station expansion in advance. Wire the socket assembly of the solenoid valve for expansion of stations. For the procedure for station expansion, refer to "Pneumatic Valves (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. (The electrical blocks, supply and exhaust blocks, partition block, and end block are not included in the number of manifold stations.)
- \* Select the model No. from block configuration (pages 145 to 150) and each specification model No. page.
- \* With piping port facing front, arrangement positions are set in order from the left.

# MN4GA/B1-FP1 Block manifold specifications sheet

● Contact                      ● Quantity                      set (s)                      ● Delivery date                      /                      /  
 Slip No.                      Order No.                      Company  
 Contact  
 Order No.

● Manifold model No.  
**MN**  **G**  **1**  **0R-**  -    -  -  **-FP1**

● **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 No.

When filling in this field, select the model No. from "Block configurations" (pages 145 to 150).

Part name (Description Page)	Model No.	Layout position																														Qty.	
		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																																
Valve block with solenoid valve (page 145)	N4G: 1 0R-																																
	N4G: 1 0R-																																
	N4G: 1 0R-																																
	N4G: 1 0R-																																
	N4G: 1 0R-																																
	N4G: 1 0R-																																
	N3G: 1 0R-																																
Valve block with masking plate (page 145)	N4G: 1R-MP																																
	N4G: 1R-MPS																																
	N4G: 1R-MPD																																
Air supply spacer (page 149)	4G1R-P-																																
	4G1R-P-																																
Exhaust spacer (page 149)	4G1R-R-																																
In-stop valve spacer (page 150)	4G1R-IS																																
Supply and exhaust block (page 147)	N4G1R-Q: -																																
	N4G1R-Q: -																																
	N4G1R-Q: -																																
Partition block (page 148)	N4G1R-S																																
	N4G1R-S																																
	N4G1R-S																																
End block (page 148)	N4G1R-E																																
	N4G1R-E																																
Mounting rail	L <sub>2</sub> = <input type="text"/> *Write an integer multiple of 12.5. (How to determine the length: page 152)	Blanking plug										Silencer										Tag plate (included)		Included parts									
		GWP4-B		GWP6-B		GWP8-B		SLW-H6		SLW-H8		A																					
		Cable with D-sub-connector					4GR-CABLE-D0 <input type="checkbox"/> - <input type="checkbox"/>					Push-in fitting tube remover (included as standard) <input type="checkbox"/> Not required (check the box)																					

Electric actuator  
 Pneumatic cylinders  
 Pneumatic valves  
 FRU/Auxiliary components  
 Vacuum components  
 Main line components  
 Fluid control valves  
 Main line components  
 Antibacterial/Bacteria-removing filter  
 Vacuum components  
 Fluid control valves



# MN4GA/B2-FP1 Block manifold specifications sheet

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

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

Contact \_\_\_\_\_

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

● Manifold model No.

**MN**  **G**  **2**  **OR-**  -  -  -  -  -  -  -  **-FP1**

**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

When filling in this field, select the model No. from "Block configurations" (pages 145 to 150).

Part name (Description Page)	Model No.	Layout position																														Qty.	
		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	N4G2R-T																																
Valve block with solenoid valve (page 145)	N4G 2 OR-																																
	N4G 2 OR-																																
	N4G 2 OR-																																
	N4G 2 OR-																																
	N4G 2 OR-																																
	N4G 2 OR-																																
	N3G 2 OR-																																
	N3G 2 OR-																																
Valve block with masking plate (page 145)	N4G 2R-MP																																
	N4G 2R-MPS																																
	N4G 2R-MPD																																
Air supply spacer (page 149)	4G2R-P-																																
	4G2R-P-																																
Exhaust spacer (page 149)	4G2R-R-																																
In-stop valve spacer (page 150)	4G2R-IS																																
Supply and exhaust block (page 147)	N4G2R-Q																																
	N4G2R-Q																																
	N4G2R-Q																																
Partition block (page 148)	N4G2R-S																																
	N4G2R-S																																
	N4G2R-S																																
End block (page 148)	N4G2R-E																																
	N4G2R-E																																
Mounting rail	L <sub>2</sub> = <input type="text"/>  *Write an integer multiple of 12.5. (How to determine the length: page 152)	Blanking plug										Silencer					Tag plate (included)					Included parts											
		GWP4-B					GWP8-B					SLW-H8					A																
		GWP6-B					GWP10-B					SLW-H10																					
		Cable with D-sub-connector										4GR-CABLE-D0□-□																					

# MN4GA/B1, 2-FP1 Mix manifold specifications sheet

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

Slip No.    Order No.

Date issued                      /                      /

Company

Contact

Order No.

● Manifold model No.

MN  G  X12R-  -   -  -  -  -FP1

**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

When filling in this field, select the model No. from "Block configurations" (pages 145 to 150).

Part name (Description Page)	Model No.	Layout position																														Qty.
		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 <input type="text"/> R-T <input type="text"/>																															
Valve block with solenoid valve (page 145)	N4G <input type="text"/> 0R- <input type="text"/>																															
	N4G <input type="text"/> 0R- <input type="text"/>																															
	N4G <input type="text"/> 0R- <input type="text"/>																															
	N4G <input type="text"/> 0R- <input type="text"/>																															
	N4G <input type="text"/> 0R- <input type="text"/>																															
	N3G <input type="text"/> 0R- <input type="text"/>																															
	N3G <input type="text"/> 0R- <input type="text"/>																															
Valve block with masking plate (page 145)	N4G <input type="text"/> R-MP <input type="text"/>																															
	N4G <input type="text"/> R-MPS <input type="text"/>																															
	N4G <input type="text"/> R-MPD <input type="text"/>																															
Air supply spacer (page 149)	4G1R-P- <input type="text"/>																															
	4G2R-P- <input type="text"/>																															
Exhaust spacer (page 149)	4G1R-R- <input type="text"/>																															
	4G2R-R- <input type="text"/>																															
In-stop valve spacer (page 150)	4G1R-1S																															
	4G2R-1S																															
Mixed block (page 148)	N4G12R-MIX																															
Supply and exhaust block (page 147)	N4G <input type="text"/> R-Q <input type="text"/> - <input type="text"/>																															
	N4G <input type="text"/> R-Q <input type="text"/> - <input type="text"/>																															
	N4G <input type="text"/> R-Q <input type="text"/> - <input type="text"/>																															
Partition block (page 148)	N4G <input type="text"/> R-S <input type="text"/>																															
	N4G <input type="text"/> R-S <input type="text"/>																															
	N4G <input type="text"/> R-S <input type="text"/>																															
End block (page 148)	N4G <input type="text"/> R-E <input type="text"/>																															
	N4G <input type="text"/> R-E <input type="text"/>																															
Mounting rail	L <sub>2</sub> = <input type="text"/>	Blanking plug															Silencer										Included parts					
	*Write an integer multiple of 12.5. (How to determine the length: page 152)	GWP <input type="text"/> -B <input type="text"/>	GWP <input type="text"/> -B <input type="text"/>	GWP <input type="text"/> -B <input type="text"/>	GWP <input type="text"/> -B <input type="text"/>	SLW-H <input type="text"/>	SLW-H <input type="text"/>	Cable with D-sub-connector					4GR-CABLE-D0 <input type="text"/> - <input type="text"/>					Push-in fitting tube remover (included as standard) <input type="checkbox"/> Not required (check the box)														

Electric actuator

Pneumatic cylinders

Pneumatic valves

FRU/Auxiliary components

Electronic components

Vacuum components

Main line components

Fluid control valves

Main line components

Antibacterial/Bacteria-removing filter

Vacuum components

Fluid control valves

F P 1

F P 2

### 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 on a made to order basis)  
 \* 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 on a made to order basis)  
 \* 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																									
2	14																								
3	15																								
4	16																								
5	17																								
6	18																								
7	19																								
8	20																								
9	21																								
10	22																								
11	23																								
12	24																								
13	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 on a made to order basis)  
 \* 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	9 COM																								
10 + (COM) power supply	10	10	10 COM																								
11	11		11																								
12	12		12																								
13	13		13																								
14	14		14																								
15	15		15																								
16	16		16																								
17	17		17																								
18	18		18																								
19 -power supply	19	COM	19																								
20 + (COM) power supply	20	COM	20																								
			21																								
			22																								
			23																								
			24																								
			25	COM																							
			26	COM																							

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

## Serial transmission (T6\*/T7\*) wiring specifications sheet

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

Serial transmission	Connector pin No.		Valve No.																									
	T6*	T7*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16										
<b>Connector</b>																												
T6C0: CompoBus/S 8-points	1	1																										
T6C1: CompoBus/S 16-points	2	2																										
T6G1: CC-Link 16-points	3	3																										
	4	4																										
	5	5																										
	6	6																										
	7	7																										
	8	8																										
	9	9																										
	10	10 COM																										
	11	11																										
	12	12																										
<b>Thin slot-insertion</b>																												
T7C0: CompoBus/S 8-points	13	13																										
T7C1: CompoBus/S 16-points	14	14																										
T7D1: DeviceNet 16-points	15	15																										
T7E0: S-LINK 8-points	16	16																										
T7E1: S-LINK 16-points	17	17																										
T7G1: CC-Link 16-points	18	18																										
T7L1: SAVE NET 16-points	19	19																										
	20	20 COM																										

Electric actuator  
 Pneumatic cylinders  
 Pneumatic valves  
 FRU/Auxiliary components  
 Electronic components  
 Vacuum components  
 Main line components  
 Fluid control valves  
 Main line components  
 Antibacterial/Bacteria-removing filter  
 Vacuum components  
 Fluid control valves

FP1

FP2

## 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 on a made to order basis)  
 \* Not required with standard wiring/double wiring.

Serial transmission				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
T8G1	CC-Link	NPN	16-point	1																								
			32-point	2																								
PNP		16-point	3																									
		32-point	4																									
T8P1	PROFIBUS-DP	NPN	16-point	5																								
T8P2			32-point	6																								
T8PP1		PNP	16-point	7																								
T8PP2			32-point	8																								
T8EC1	EtherCAT	NPN	16-point	9																								
T8EC2			32-point	10																								
T8ECP1		PNP	16-point	11																								
T8ECP2			32-point	12																								
T8EN1	EtherNet/IP	NPN	16-point	13																								
T8EN2			32-point	14																								
T8ENP1		PNP	16-point	15																								
T8ENP2			32-point	16																								
T8D1	DeviceNet	NPN	16-point	17																								
T8D2			32-point	18																								
T8DP1		PNP	16-point	19																								
T8DP2			32-point	20																								
T8EB1	CC-Link	NPN	16-point	21																								
T8EB2			32-point	22																								
T8EBP1	IEF Basic	PNP	16-point	23																								
T8EBP2			32-point	24																								
T8EP1	PROFINET	NPN	16-point	25																								
T8EP2			32-point	26																								
T8EPP1		PNP	16-point	27																								
T8EPP2			32-point	28																								
				29																								
				30																								
				31																								
				32																								

F P 1

Electric actuator

Pneumatic cylinders

Pneumatic valves

FRU/Auxiliary components  
Electronic components

Vacuum components

Main line components

Fluid control valves

Main line components

Antibacterial/Bacteria-removing filter

Vacuum components

Fluid control valves

F P 2