

# MN4GA/4GB Series

## Block configurations

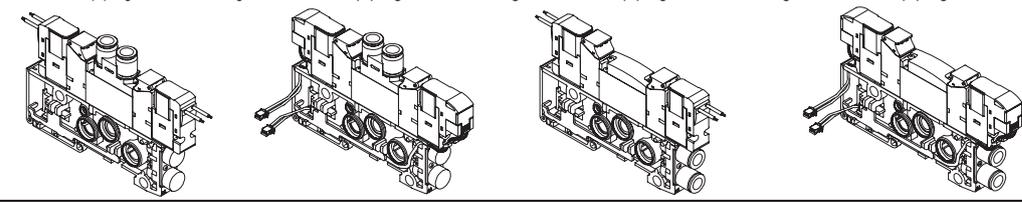
SCPD3	Block manifold; block configurations
SCM	Flexible assembly enables expansion of stations and maintenance.
SSD2	<ul style="list-style-type: none"> <li>● Valve block with solenoid valve           <ol style="list-style-type: none"> <li>(1) The types of solenoid valve required can be arranged on a DIN rail at the number of stations required. However, the max. number of stations depends on the wiring method. (Refer to pages 646 and 662.)</li> <li>(2) Solenoid valves are numbered 1, 2, 3... from the left with the fitting in front.</li> </ol> </li> </ul>
MDC2	
SMG	
LCM	<ul style="list-style-type: none"> <li>● Supply and exhaust block           <ol style="list-style-type: none"> <li>(1) At the connecting part of each block, a number of blocks can be freely connected.</li> <li>(2) Select internal or external pilot according to the solenoid valve.</li> </ol> </li> </ul>
LCR	
LCG	<ul style="list-style-type: none"> <li>● End block           <ol style="list-style-type: none"> <li>(1) Install on both sides for individual wiring specifications.</li> <li>(2) Install only on wiring block opposite side for reduced wiring specifications.</li> </ol> </li> </ul>
LCX	
STM	<ul style="list-style-type: none"> <li>● Partition block           <ol style="list-style-type: none"> <li>(1) Install in combination with supply and exhaust blocks for multi-pressure specifications.</li> </ol> </li> </ul>
STG	<ul style="list-style-type: none"> <li>● Mixed block           <ol style="list-style-type: none"> <li>(1) Install when combining 4G1 and 4G2 as a mix on the same DIN rail. This will have the effect of reduced piping. Note : The mix block is narrow, with 4G1 on the left and 4G2 on the right.</li> </ol> </li> </ul>
STR2	
MRL2	
GRC	
Cylinder switch	
MN3E MN4E	
4GA/B	
M4GA/B	
<b>MN4GA/B</b>	
F.R (module unit)	
Clean F.R	
Precision R	
Press gauge Diff. press gauge	
Electro-pneumatic R	
Speed controller	
Auxiliary valve	
Fitting/tube	
Clean air unit	
Pressure sensor	
Flow rate sensor	
Valve for air blow	
Ending	

### Block manifold configuration

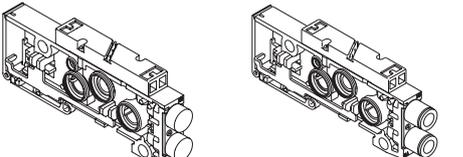
#### Piping section

#### Piping block

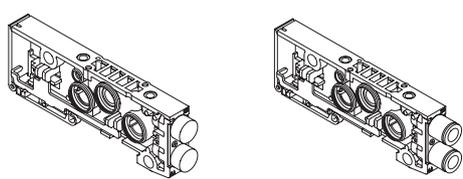
**A** Discrete valve block with solenoid valve  
 ● For direct piping individual wiring ● For direct piping reduced wiring ● For base piping individual wiring ● For base piping reduced wiring



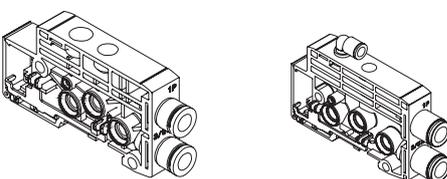
**B** Discrete valve block with masking plate  
 ● For direct piping ● For base piping



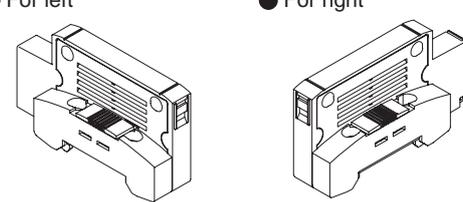
**C** Discrete valve block  
 ● For direct piping ● For base piping



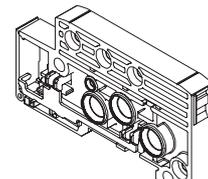
**D** Supply and exhaust block  
 ● Internal pilot ● External pilot



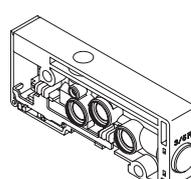
**E** End block  
 ● For left ● For right



**F** Partition block



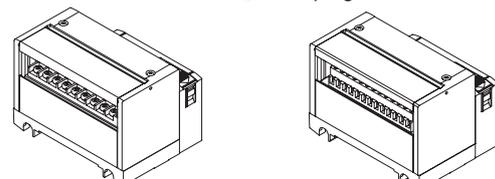
**G** Mix block



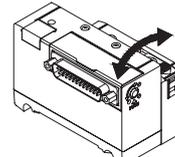
#### Wiring section

#### Wiring block

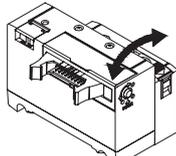
**H** Common terminal block  
 ● M3 thread ● Clamping



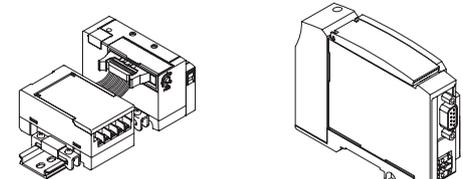
**I** D sub-connector block



**J** Flat cable connector block



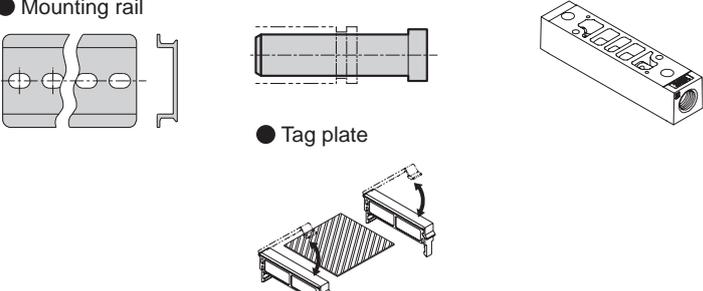
**K** Serial transmission block  
 ● Connector ● Thin slot



#### Related products

#### Related products

**L** Related products  
 ● Mounting rail ● Blanking plug ● Air supply spacer ● Tag plate



- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG
- STR2
- MRL2
- GRC
- Cylinder Switch
- MN3E  
MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- F.R. (module unit)
- Clean F.R
- Precision R
- Press gauge  
Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/ tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending

# MN4GA/4GB Series

## Block manifold: Piping section

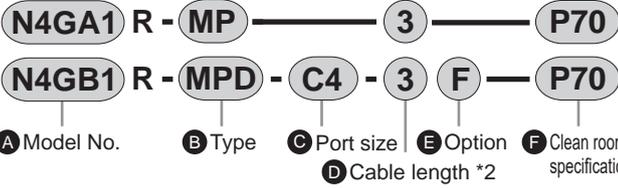
### Piping section

#### A. Discrete valve block with solenoid valve

A block formed as an assembly of the main unit of a solenoid valve and a valve block (split resin base). For selection guides, refer to the following pages. Direct piping individual wiring: page 632, base piping individual wiring: page 640, direct piping reduced wiring: pages 648, base piping reduced wiring: pages 664

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

A block formed as an assembly of a masking plate and a valve block (split resin base).



B Type	
MP	For individual wiring
MPS	For reduced wiring single
MPD	For reduced wiring double/3-position
D Cable length *3	
Blank	For individual wiring
2 to 10	Select a length from page 686.
E Option	
Blank	No option
L	With piping adaptor
F	A/B port filter integrated

\*2: When purchasing the product for the purpose of expanding stations of reduced wiring, a socket assembly will be attached, where "2-10" should be selected. Select a cable length from page 686 and fill it in the section of D Cable length. However, it will not be necessary to include the cable length when making arrangements with the manifold specifications.

F Clean room specifications		
	Structure	Material restriction
P70	Exhaust treatment	—
P74	Exhaust treatment	Copper-based/silicon-based/halogen-based materials (fluorine, chlorine, bromine) are prohibited

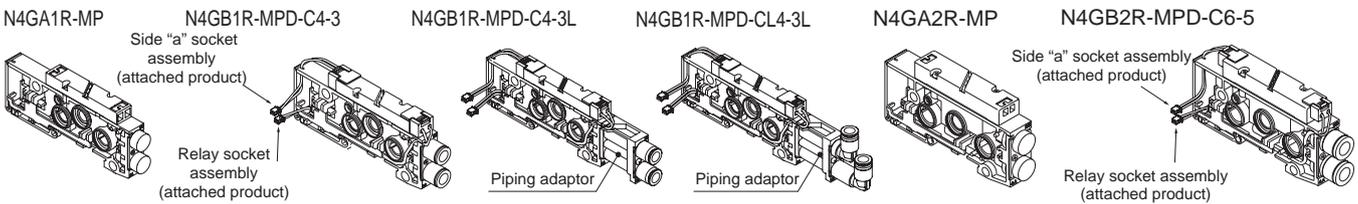
Code		Content		A Model No.			
C Port size (it is necessary to configure this with base piping)		Millimeter fitting/Rc thread		N4GA1	N4GA2	N4GB1	N4GB2
CF	ø1.8 barbed fitting (applicable tube UP-9102-**)					●	
C18	ø1.8 push-in fitting (applicable tube UP-9402-**)					●	
C4	ø4 push-in fitting					●	
C6	ø6 push-in fitting					●	
C8	ø8 push-in fitting					●	
CL18	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**) *1					●	
CL4	ø4 radial facing-up push-in fitting					●	
CL6	ø6 radial facing-up push-in fitting					●	
CL8	ø8 radial facing-up push-in fitting					●	
CL18N	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**) *1					●	
CD4	ø4 radial facing-down push-in fitting					●	
CD6	ø6 radial facing-down push-in fitting					●	
CD8	ø8 radial facing-down push-in fitting					●	
Single side plugged specifications		A port		B port			
CFNC	ø1.8 barbed fitting (applicable tube UP-9102-**) *1					●	
C18NC	ø1.8 push-in fitting (applicable tube UP-9402-**) *1					●	
C4NC	ø4 push-in fitting					●	
C6NC	ø6 push-in fitting					●	
C8NC	ø8 push-in fitting					●	
CFNO	ø1.8 barbed fitting (applicable tube UP-9102-**) *1					●	
C18NO	ø1.8 push-in fitting (applicable tube UP-9402-**) *1					●	
C4NO	ø4 push-in fitting					●	
C6NO	ø6 push-in fitting					●	
C8NO	ø8 push-in fitting					●	
CL18NC	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**) *1					●	
CL4NC	ø4 radial facing-up push-in fitting					●	
CL6NC	ø6 radial facing-up push-in fitting					●	
CL8NC	ø8 radial facing-up push-in fitting					●	
CL18NO	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**) *1					●	
CL4NO	ø4 radial facing-up push-in fitting					●	
CL6NO	ø6 radial facing-up push-in fitting					●	
CL8NO	ø8 radial facing-up push-in fitting					●	

Code		Content		A Model No.			
Type	Millimeter fitting/Rc thread						
Single side plugged specifications		A port	B port				
CD18NC	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**) *1					●	
CD4NC	ø4 radial facing-down push-in fitting					●	
CD6NC	ø6 radial facing-down push-in fitting					●	
CD8NC	ø8 radial facing-down push-in fitting					●	
CD18NO	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**) *1					●	
CD4NO	ø4 radial facing-down push-in fitting					●	
CD6NO	ø6 radial facing-down push-in fitting					●	
CD8NO	ø8 radial facing-down push-in fitting					●	
Single side plugged specifications		Inch fitting/inch thread					
C3N	ø1/8 inch push-in fitting					●	
C4N	ø5/32 inch push-in fitting					●	
C6N	ø1/4 inch push-in fitting					●	
C8N	ø5/16 inch push-in fitting					●	
CL3N	ø1/8 inch radial facing-up push-in fitting *1					○	
CL4N	ø5/32 inch radial facing-up push-in fitting *1					○	
CL6N	ø1/4 inch radial facing-up push-in fitting *1					○	
CL8N	ø5/16 inch radial facing-up push-in fitting *1					○	
Single side plugged specifications		A port	B port				
C3NCN	ø1/8 inch push-in fitting					●	
C4NCN	ø5/32 inch push-in fitting					●	
C6NCN	ø1/4 inch push-in fitting					●	
C8NCN	ø5/16 inch push-in fitting					●	
C3NO	ø1/8 inch push-in fitting					●	
C4NO	ø5/32 inch push-in fitting					●	
C6NO	ø1/4 inch push-in fitting					●	
C8NO	ø5/16 inch push-in fitting					●	
CL3NCN	ø1/8 inch radial facing-up push-in fitting *1					○	
CL4NCN	ø5/32 inch radial facing-up push-in fitting *1					○	
CL6NCN	ø1/4 inch radial facing-up push-in fitting *1					○	
CL8NCN	ø5/16 inch radial facing-up push-in fitting *1					○	
CL3NON	ø1/8 inch radial facing-up push-in fitting *1					○	
CL4NON	ø5/32 inch radial facing-up push-in fitting *1					○	
CL6NON	ø1/4 inch radial facing-up push-in fitting *1					○	
CL8NON	ø5/16 inch radial facing-up push-in fitting *1					○	

\*1: This is a custom order product.

■ indicates specifications not available.

○ Custom order products. Contact CKD for details.



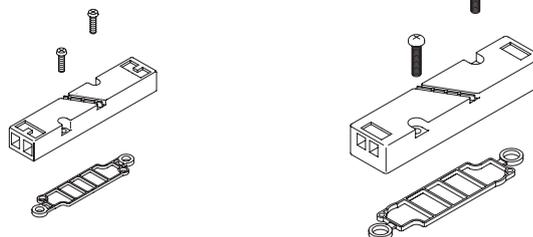
#### B-1. Masking plate

**4G1R - MP-P70**

4G1R-MP

4G2R-MP

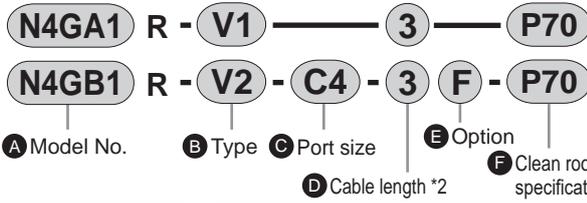
A Model No.



## Piping section

### C. Discrete valve block (discrete correspondence only)

A discrete valve block (split resin base).



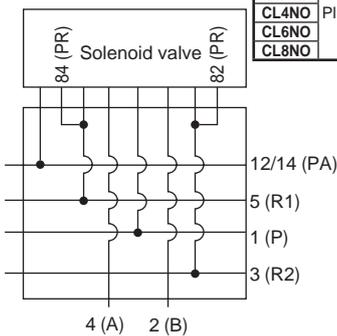
B Type	
V1	For individual wiring For reduced wiring single
V2	For reduced wiring double/3-position

D Cable length *3	
Blank	For individual wiring
2 to 10	Select a length from page 686.

\*2: When purchasing the product for the purpose of expanding stations of reduced wiring, a socket assembly will be attached, where "2-10" should be selected. Select a cable length from page 686 and fill it in the section of D Cable length. However, it will not be necessary to include the cable length when making arrangements with the manifold specifications.

F Clean room specifications		
	Structure	Material restriction
P70	Exhaust treatment	—
P74	Exhaust treatment	Copper-based/ silicon-based/ halogen-based materials (fluorine, chlorine, bromine) are prohibited

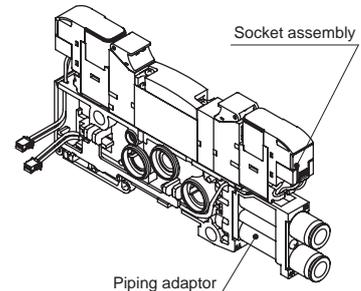
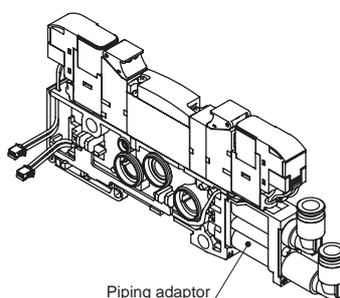


Discrete valve lock circuit diagram

### Option L with piping adaptor attached

Select L (with piping adaptor) when using the radia facing-up push-in fitting at Double, 3 position.

Combination of the straight push-in fitting and the piping adaptor makes the fitting jut out further than the socket assembly and, as a result, the workability of connecting/disconnecting tube is improved.



Code	Content	A Model No.			
		N4GA1	N4GA2	N4GB1	N4GB2
C Port size (it is necessary to configure this with base piping)					
Type	Millimeter fitting/Rc thread				
CF	ø1.8 barbed fitting (applicable tube UP-9102-**)			●	
C18	ø1.8 push-in fitting (applicable tube UP-9402-**)			●	
C4	ø4 push-in fitting			●	
C6	ø6 push-in fitting			●	
C8	ø8 push-in fitting			●	
CL18	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**)			●	
CL4	ø4 radial facing-up push-in fitting			●	
CL6	ø6 radial facing-up push-in fitting			●	
CL8	ø8 radial facing-up push-in fitting			●	
CD18	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**)			●	
CD4	ø4 radial facing-down push-in fitting			●	
CD6	ø6 radial facing-down push-in fitting			●	
CD8	ø8 radial facing-down push-in fitting			●	
Single side plugged specifications					
	A port	B port			
CFNC	ø1.8 barbed fitting (applicable tube UP-9102-**) / ø1.8 push-in fitting (applicable tube UP-9402-**) / Plug			●	
C18NC	ø1.8 barbed fitting (applicable tube UP-9102-**) / ø1.8 push-in fitting (applicable tube UP-9402-**) / Plug			●	
C4NC	ø4 push-in fitting			●	
C6NC	ø6 push-in fitting			●	
C8NC	ø8 push-in fitting			●	
CFNO	ø1.8 barbed fitting (applicable tube UP-9102-**) / ø1.8 push-in fitting (applicable tube UP-9402-**) / Plug			●	
C18NO	ø1.8 barbed fitting (applicable tube UP-9102-**) / ø1.8 push-in fitting (applicable tube UP-9402-**) / Plug			●	
C4NO	ø4 push-in fitting			●	
C6NO	ø6 push-in fitting			●	
C8NO	ø8 push-in fitting			●	
CL18NC	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**) / Plug			●	
CL4NC	ø4 radial facing-up push-in fitting			●	
CL6NC	ø6 radial facing-up push-in fitting			●	
CL8NC	ø8 radial facing-up push-in fitting			●	
CL18NO	ø1.8 radial facing-up push-in fitting (applicable tube UP-9402-**) / Plug			●	
CL4NO	ø4 radial facing-up push-in fitting			●	
CL6NO	ø6 radial facing-up push-in fitting			●	
CL8NO	ø8 radial facing-up push-in fitting			●	

Code	Content	A Model No.			
		N4GA1	N4GA2	N4GB1	N4GB2
Type					
Type	Millimeter fitting/Rc thread				
Single side plugged specifications	CD18NC	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**) / Plug			●
	CD4NC	ø4 radial facing-down push-in fitting			●
	CD6NC	ø6 radial facing-down push-in fitting			●
	CD8NC	ø8 radial facing-down push-in fitting			●
CD18NO	ø1.8 radial facing-down push-in fitting (applicable tube UP-9402-**) / Plug			●	
CD4NO	ø4 radial facing-down push-in fitting			●	
CD6NO	ø6 radial facing-down push-in fitting			●	
CD8NO	ø8 radial facing-down push-in fitting			●	
Type	Inch fitting/inch thread				
C3N	ø1/8 inch push-in fitting			●	
C4N	ø5/32 inch push-in fitting			●	
C6N	ø1/4 inch push-in fitting			●	
C8N	ø5/16 inch push-in fitting			●	
CL3N	ø1/8 inch radial facing-up push-in fitting *1			○	
CL4N	ø5/32 inch radial facing-up push-in fitting *1			○	
CL6N	ø1/4 inch radial facing-up push-in fitting *1			○	
CL8N	ø5/16 inch radial facing-up push-in fitting *1			○	
Single side plugged specifications					
	A port	B port			
C3NCN	ø1/8 inch push-in fitting			●	
C4NCN	ø5/32 inch push-in fitting			●	
C6NCN	ø1/4 inch push-in fitting			●	
C8NCN	ø5/16 inch push-in fitting			●	
C3NON	ø1/8 inch push-in fitting			●	
C4NON	ø5/32 inch push-in fitting			●	
C6NON	ø1/4 inch push-in fitting			●	
C8NON	ø5/16 inch push-in fitting			●	
CL3NCN	ø1/8 inch radial facing-up push-in fitting *1			○	
CL4NCN	ø5/32 inch radial facing-up push-in fitting *1			○	
CL6NCN	ø1/4 inch radial facing-up push-in fitting *1			○	
CL8NCN	ø5/16 inch radial facing-up push-in fitting *1			○	
CL3NON	ø1/8 inch radial facing-up push-in fitting *1			○	
CL4NON	ø5/32 inch radial facing-up push-in fitting *1			○	
CL6NON	ø1/4 inch radial facing-up push-in fitting *1			○	
CL8NON	ø5/16 inch radial facing-up push-in fitting *1			○	
E Option					
Blank	No option			●	●
L	With piping adaptor			●	●
F	Port A/B filter built in			●	●
Z6	For spacer pilot check valve mounting			●	●

\*1: This is a custom order product.

■ indicates specifications not available.

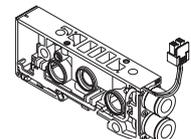
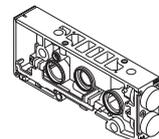
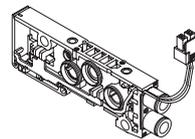
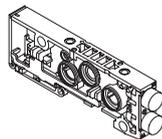
○ Custom order products. Contact CKD for details.

N4GA1R-V1

N4GB1R-V2-C4

N4GA2R-V1

N4GB2R-V2-C6



# MN4GA/4GB Series

## Block manifold: Piping section

### SCPD3 Piping section

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

### SCM C. Discrete valve block (discrete correspondence only)

### SSD2 Valve block for expansion, cable length

Calculate the distance W between the expansion position and the electrical block (Fig. 1), and select a cable of an appropriate length from [Table 1]. Please be aware that the required socket assembly will differ between the a side solenoid and the b side solenoid.

Although Fig. 1 shows specifications where the electrical block is on the left side, similarly calculate the distance W between the expansion position and the electrical block with right side specifications as well.

Calculation of W

• MN4G1

$$W = (10.5 \times n) + (16 \times m) + (10.5 \times l)$$

• MN4G2

$$W = (16 \times n) + (18 \times m) + (10.5 \times l)$$

n: number of valve blocks m: number of supply and exhaust blocks l: number of partition blocks

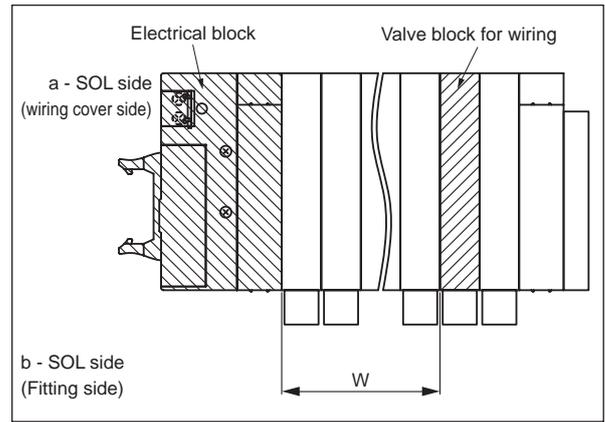
• MN4GX

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



### GRC D. Supply and exhaust block

The supply and exhaust block can be installed at any position adjacent to the valve block.

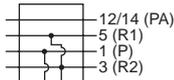
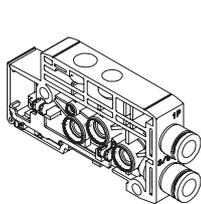
As there is no set number of units, install two or more units when necessary for combinations with partition blocks or when wanting to increase the flow rate for supply and exhaust. In order to prevent foreign objects from flowing in, the P port is equipped with a filter.

### N4G1R - Q - 8 - P70

Model No. A Type B Port size C Clean room specifications

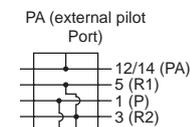
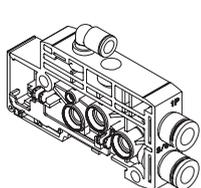
A Type	B Port size	6M *2	P port ø1/4 inch push-in fitting R port ø6 push-in fitting
Q Internal pilot	6 ø6 push-in fitting	6LM *1 *2	P port ø1/4 inch push-in fitting Upward R port ø6 push-in fitting Upward
QK External pilot	6L ø6 push-in fitting Upward	6DM *1 *2	P port ø1/4 inch push-in fitting Downward R port ø6 push-in fitting Downward
	6D ø6 push-in fitting Downward	8M *2	P port ø5/16 inch push-in fitting R port ø8 push-in fitting *2
	8 ø8 push-in fitting	8LM *1 *2	P port ø5/16 inch push-in fitting Upward R port ø8 push-in fitting Upward
	8L ø8 push-in fitting Upward	8DM *1 *2	P port ø5/16 inch push-in fitting Downward R port ø8 push-in fitting Downward
	8D ø8 push-in fitting Downward		
	6N ø1/4 inch push-in fitting		
	6LN ø1/4 inch push-in fitting *1		
	6DN ø1/4 inch push-in fitting Downward *1		
	8N ø5/16 inch push-in fitting		P70
	8LN ø5/16 inch push-in fitting Upward *1		P74
	8DN ø5/16 inch push-in fitting Downward *1		

### N4G1R-Q-8



P (supply port)  
R (exhaust port)

### N4G1R-QK-8



P (supply port)  
R (exhaust port)

\* External pilot port: ø6 push-in fitting

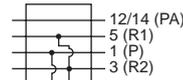
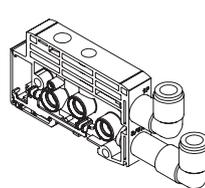
### N4G2R - QK - 10L - P70

Model No. A Type B Port size C Clean room specifications

A Type	B Port size	8M *2	P port ø5/16 inch push-in fitting R port ø8 push-in fitting
Q Internal pilot	8 ø8 push-in fitting	8ML *1 *2	P port ø5/16 inch push-in fitting Upward R port ø8 push-in fitting Upward
QK External pilot	8L ø8 push-in fitting Upward	8DM *1 *2	P port ø5/16 inch push-in fitting Downward R port ø8 push-in fitting Downward
	8D ø8 push-in fitting Downward	10M *2	P port ø3/8 inch push-in fitting R port ø10 push-in fitting
	10 ø10 push-in fitting	10LM *1 *2	P port ø3/8 inch push-in fitting Upward R port ø10 push-in fitting Upward
	10L ø10 push-in fitting Upward	10DM *1 *2	P port ø3/8 inch push-in fitting Downward R port ø10 push-in fitting Downward
	10D ø10 push-in fitting Downward		
	8N ø5/16 inch push-in fitting		
	8LN ø5/16 inch push-in fitting Upward *1		
	8DN ø5/16 inch push-in fitting Downward *1		
	10N ø3/8 inch push-in fitting		P70
	10LN ø3/8 inch push-in fitting Upward *1		P74
	10DN ø3/8 inch push-in fitting Downward *1		

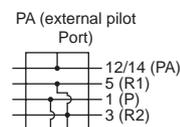
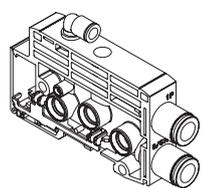
\*1: This is a custom order product.  
\*2: When using a silencer for the inch fitting specifications, select 6\*M and 8\*M.  
\*3: For X end block, select atmosphere release (EX).

### N4G2R-Q-10L



P (supply port)  
R (exhaust port)

### N4G2R-QK-10



P (supply port)  
R (exhaust port)

\* External pilot port: ø6 push-in fitting

### Piping section

#### E. End block

Install the units on both ends of the manifold with individual wiring. Install the units on opposite sides of the electrical block with reduced wiring.

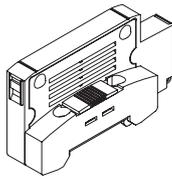
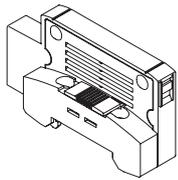
**N4G1 R-E-R-P70**

Model No. Common exhaust **A** Mounting position **B** Clean room specifications

A Mounting position		B Clean room specifications
L	For left side	P70
R	For right side	P74

N4G1R-EL

N4G1R-ER



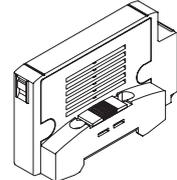
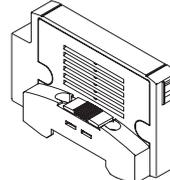
**N4G2 R-E-L-P70**

Model No. Common exhaust **A** Mounting position **B** Clean room specifications

A Mounting position		B Clean room specifications
L	For left side	P70
R	For right side	P70

N4G2R-EL

N4G2R-ER



#### F. Partition block

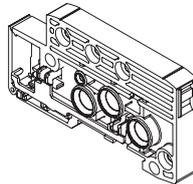
It is possible to implement measures to prevent mixture of different pressures and increase of back pressure by using the combination of a partition block and a supply and exhaust block.

**N4G1 R-S-P70**

Model No. **A** Type **B** Clean room specifications

A Type	B Clean room specifications
SA	P/R/PA stop P70
S	P/R stop PA through P74
SP	P stop R/PA through
SE	R stop P/PA through

N4G1-S

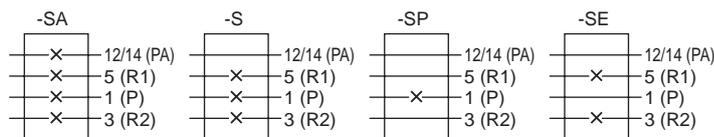
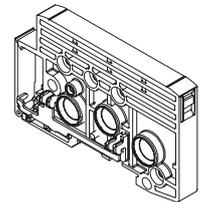


**N4G2 R-SA-P70**

Model No. **A** Type **B** Clean room specifications

A Type	B Clean room specifications
SA	P/R/PA stop P70
S	P/R stop PA through P74
SP	P stop R/PA through
SE	R stop P/PA through

N4G2-S



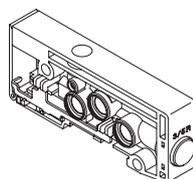
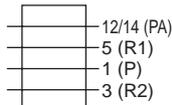
#### G. Mixed block

Installed in cases when 4G1 and 4G2 will coexist in the same manifold.

The mounting positions will be 4G1 on the left side of the mixed block and 4G2 on the right side.

**N4G12 R-MIX-P70**

Clean room specifications
P70
P74



SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder Switch

MN3E  
MN4E

4GA/B

M4GA/B

MN4GA/B

F.R. (module unit)

Clean F.R

Precision R

Press gauge  
Diff. press gauge

Electro-pneumatic R

Speed controller

Auxiliary valve

Fitting/tube

Clean air unit

Pressure sensor

Flow rate sensor

Valve for air blow

Ending

# MN4GA/4GB Series

## Block manifold: Wiring section

### Wiring section

Wiring block cannot be ordered as a separate item.

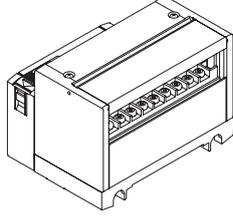
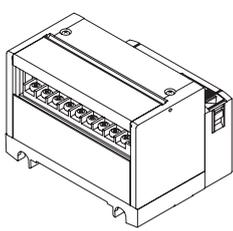
\* Wiring blocks are: H. Common terminal block, I.D. sub-connector block, J. Flat cable connector block, K. Generic term for serial transmission blocks.

### H. Common terminal block

M3 thread

N4G1R-T10

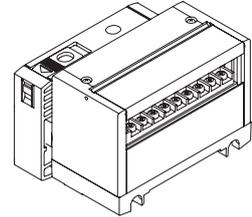
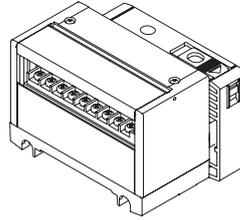
N4G1R-T10R



M3 thread

N4G2R-T10

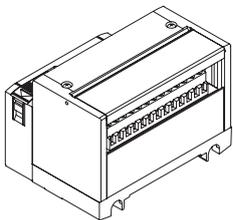
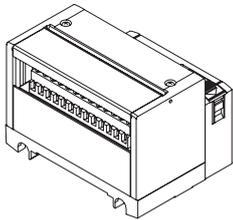
N4G2R-T10R



Clamping

N4G1R-T11

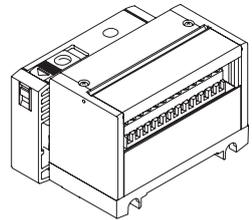
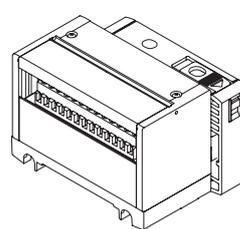
N4G1R-T11R



Clamping

N4G2R-T11

N4G2R-T11R



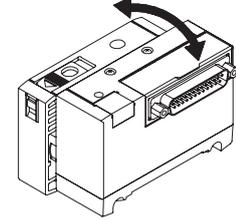
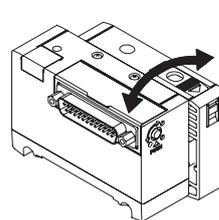
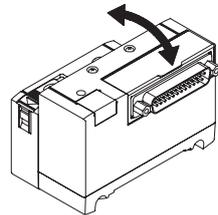
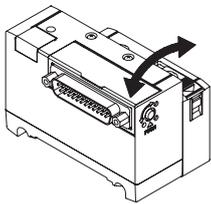
### I. D sub-connector block

N4G1R-T30

N4G1R-T30R

N4G2R-T30

N4G2R-T30R



\* Refer to page 717 for the model No. of cables with a D sub-connector cable.

### J. Flat cable connector block

● With power supply terminal

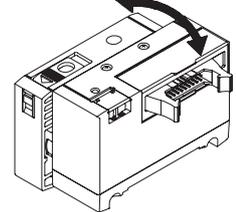
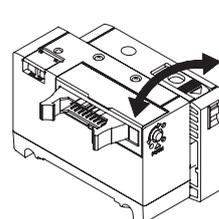
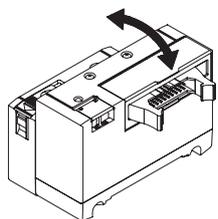
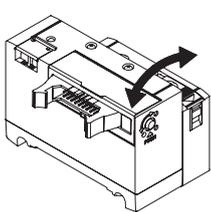
N4G1R-T50

N4G1R-T50R

● With power supply terminal

N4G2R-T50

N4G2R-T50R



● Without power supply terminal

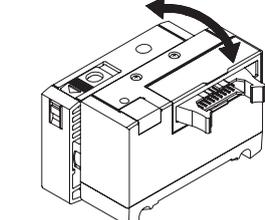
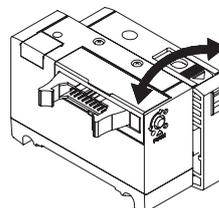
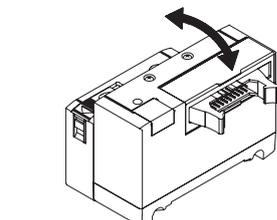
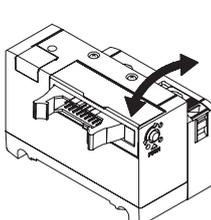
N4G1R-T51(N4G1R-T52)  
(N4G1R-T53)

N4G1R-T51R(N4G1R-T52R)  
(N4G1R-T53R)

● Without power supply terminal

N4G2R-T51(N4G2R-T52)  
(N4G2R-T53)

N4G2R-T51R(N4G2R-T52R)  
(N4G2R-T53R)



\* The appearance of the connector unit varies with T52 and T53.

**Wiring section** (Electrical block) \*Orders cannot be placed for only an electrical block.

### K. Serial transmission block

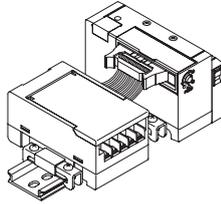
#### ● Connector

#### N4G1R - T6G1

Model No. **A** Type

A Type			
T6G1	CC-Link	NPN	16 points

N4G1R-T6\*

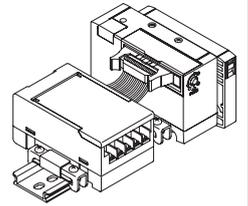


#### N4G2R - T6G1

Model No. **A** Type

A Type			
T6G1	CC-Link	NPN	16 points

N4G2R-T6\*



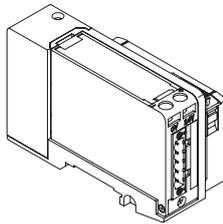
#### ● Thin slot

#### N4G1R - T7D1

Model No. **A** Type

A Type			
T7D1	DeviceNet		16 points
T7G1	CC-Link	NPN	16 points
T7L1	SAVE NET		16 points
T7S1	CompoNet	NPN	16 points
T7SP1		PNP	

N4G1R-T7\*

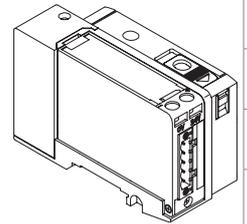


#### N4G2R - T7G1

Model No. **A** Type

A Type			
T7D1	DeviceNet		16 points
T7G1	CC-Link	NPN	16 points
T7L1	SAVE NET		16 points
T7S1	CompoNet	NPN	16 points
T7SP1		PNP	

N4G2R-T7\*



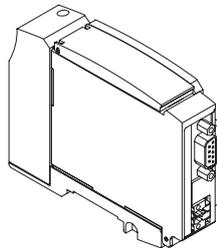
#### ● Thin slot type

#### N4G1R - T8G1

**A** Wiring method

A Wiring method			
T8G1	CC-Link	NPN	16 points
T8G2			32 points
T8GP1			16 points
T8GP2	PROFIBUS-DP	PNP	32 points
T8P1			16 points
T8P2			32 points
T8PP1	EtherCAT	NPN	16 points
T8PP2			32 points
T8EC1			16 points
T8EC2	EtherNet/IP	PNP	32 points
T8ECP1			16 points
T8ECP2			32 points
T8EN1	DeviceNet	NPN	16 points
T8EN2			32 points
T8ENP1			16 points
T8ENP2	DeviceNet	PNP	32 points
T8D1			16 points
T8D2			32 points
T8DP1	CC-Link	NPN	16 points
T8DP2			32 points
T8EB1			16 points
T8EB2	IEF Basic	PNP	32 points
T8EBP1			16 points
T8EBP2			32 points
T8EF1	CC-Link	NPN	16 points
T8EF2			32 points
T8EFP1			16 points
T8EFP2	IE Field	PNP	32 points
T8EP1			16 points
T8EP2			32 points
T8EPP1	PROFINET	NPN	16 points
T8EPP2			32 points
T8EPP1			16 points
T8EPP2	IO-Link	PNP	32 points
T8KC1			16 points
T8KC2			32 points
T8KCP1	IO-Link	NPN	16 points
T8KCP2			32 points

N4G1R-T8\*

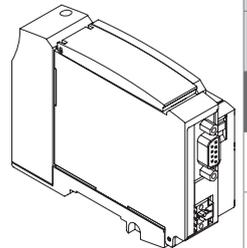


#### N4G2R - T8G1

**A** Wiring method

A Wiring method			
T8G1	CC-Link	NPN	16 points
T8G2			32 points
T8GP1			16 points
T8GP2	PROFIBUS-DP	PNP	32 points
T8P1			16 points
T8P2			32 points
T8PP1	EtherCAT	NPN	16 points
T8PP2			32 points
T8EC1			16 points
T8EC2	EtherNet/IP	PNP	32 points
T8ECP1			16 points
T8ECP2			32 points
T8EN1	DeviceNet	NPN	16 points
T8EN2			32 points
T8ENP1			16 points
T8ENP2	DeviceNet	PNP	32 points
T8D1			16 points
T8D2			32 points
T8DP1	CC-Link	NPN	16 points
T8DP2			32 points
T8EB1			16 points
T8EB2	IEF Basic	PNP	32 points
T8EBP1			16 points
T8EBP2			32 points
T8EF1	CC-Link	NPN	16 points
T8EF2			32 points
T8EFP1			16 points
T8EFP2	IE Field	PNP	32 points
T8EP1			16 points
T8EP2			32 points
T8EPP1	PROFINET	NPN	16 points
T8EPP2			32 points
T8EPP1			16 points
T8EPP2	IO-Link	PNP	32 points
T8KC1			16 points
T8KC2			32 points
T8KCP1	IO-Link	NPN	16 points
T8KCP2			32 points

N4G2R-T8\*



SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E
MN4E
4GA/B
M4GA/B
MN4GA/B
F.R. (module unit)
Clean F.R
Precision R
Press gauge
Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

# MN4GA/4GB Series

## Block manifold: Wiring section

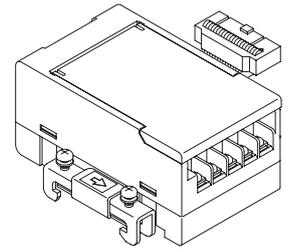
L. Serial transmission slave unit \* The serial transmission slave unit may be ordered as a separate item.

● Discrete serial transmission slave unit (connector type)

**4GR - OPP3 - 1G**

A Wiring method

Code	Content			
<b>A Wiring method</b>				
<b>1G</b>	T6G1	CC-Link	NPN	16 points

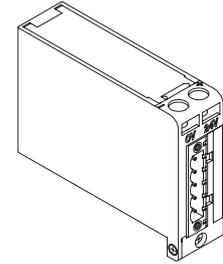


● Discrete serial transmission slave unit (thin slot type)

**4GR - OPP4 - 1D**

A Wiring method

Code	Content			
<b>A Wiring method</b>				
<b>1D</b>	T7D1	DeviceNet	NPN	16 points
<b>1G</b>	T7G1	CC-Link	NPN	16 points
<b>1L</b>	T7L1	SAVE NET	NPN	16 points
<b>1S</b>	T7S1	CompoNet	NPN	16 points
<b>1S-P</b>	T7SP1		PNP	16 points

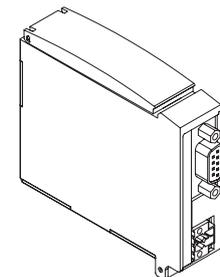


● Serial transmission slave unit single component (thin slot)

**4GR - OPP7 - 2G**

A Wiring method

Code	Description			
<b>A Wiring method</b>				
<b>1G</b>	T8G1	CC-Link	NPN	16 points
<b>2G</b>	T8G2		PNP	32 points
<b>1G-P</b>	T8GP1	PROFIBUS-DP	NPN	16 points
<b>2G-P</b>	T8GP2		PNP	32 points
<b>1P</b>	T8P1	EtherCAT	NPN	16 points
<b>2P</b>	T8P2		PNP	32 points
<b>1P-P</b>	T8PP1	EtherNet/IP	NPN	16 points
<b>2P-P</b>	T8PP2		PNP	32 points
<b>1EC</b>	T8EC1	DeviceNet	NPN	16 points
<b>2EC</b>	T8EC2		PNP	32 points
<b>1EC-P</b>	T8ECP1	CC-Link IEF	NPN	16 points
<b>2EC-P</b>	T8ECP2		PNP	32 points
<b>1EN</b>	T8EN1	Basic	NPN	16 points
<b>2EN</b>	T8EN2		PNP	32 points
<b>1EN-P</b>	T8ENP1	CC-Link	NPN	16 points
<b>2EN-P</b>	T8ENP2		PNP	32 points
<b>1D</b>	T8D1	IE Field	NPN	16 points
<b>2D</b>	T8D2		PNP	32 points
<b>1D-P</b>	T8DP1	PROFINET	NPN	16 points
<b>2D-P</b>	T8DP2		PNP	32 points
<b>1EB</b>	T8EB1	IO-Link	NPN	16 points
<b>2EB</b>	T8EB2		PNP	32 points
<b>1EB-P</b>	T8EBP1	IO-Link	NPN	16 points
<b>2EB-P</b>	T8EBP2		PNP	32 points
<b>1EF</b>	T8EF1	IO-Link	NPN	16 points
<b>2EF</b>	T8EF2		PNP	32 points
<b>1EF-P</b>	T8EFP1	IO-Link	NPN	16 points
<b>2EF-P</b>	T8EFP2		PNP	32 points
<b>1EP</b>	T8EP1	IO-Link	NPN	16 points
<b>2EP</b>	T8EP2		PNP	32 points
<b>1EP-P</b>	T8EPP1	IO-Link	NPN	16 points
<b>2EP-P</b>	T8EPP2		PNP	32 points
<b>1K</b>	T8KC1	IO-Link	NPN	16 points
<b>2K</b>	T8KC2		PNP	32 points
<b>1KC-P</b>	T8KCP1	IO-Link	NPN	16 points
<b>2KC-P</b>	T8KCP2		PNP	32 points



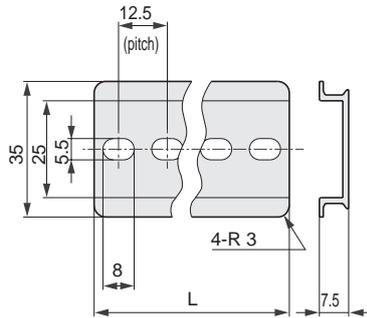
SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E MN4E
4GA/B
M4GA/B
MN4GA/B
F.R. (module unit)
Clean F.R
Precision R
Press gauge Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

## Related products

Mounting rail, blanking plug, tag plate

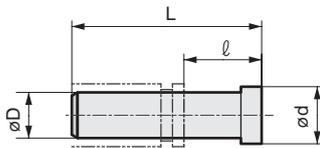
### ● Mounting rail

N4GR-BAA [length] -P70



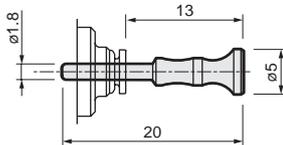
- The minimum length is 87.5 mm.
- Select the length in pitches of 12.5 mm.
- Refer to page 701 for details.

### ● Blanking plug



Model No.	D	L	ℓ	d
GWP4-B-P70	ø4	27	16	6
GWP6-B-P70	ø6	29	11.5	8
GWP8-B-P70	ø8	33	14	10
GWP10-B-P70	ø10	40	18.5	12

**PG-P2-B** (for ø1.8)



### ● Tag plate will be shipped upon being attached to the main unit of the manifold.

When required, place a circle on the field for tag plate in the manifold specifications on pages 703 to 706.

(Tag holder)

## N4G1 R - TAG-HOLDER-P70

**A Model No.**

**N4G1**

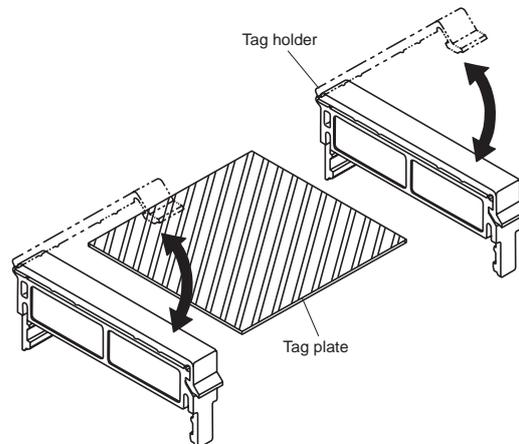
**N4G2**

(available in sets of 2.)

(Tag plate)

## N4G1 R - TAG-PLATE - A - 200<sup>\*1</sup> -P70

A Model No.	B Type	C Length (mm) <sup>*1</sup>
N4G1	A	MN4GA1/2 shared
	B1	Wide type for MN4GB1
	B2	Thin type for MN4GB1 <sup>*2</sup>
N4G2	B	For MN4GB2



\*1: As the (length) of the plates are available in the three different lengths of 200, 300, and 400, cut the plates to suit the product length.

\*2: With the narrow type, manual operations are possible even with the tag plate covering the unit.

\*3: Tag plate cannot be attached when spacers are used in the manifold specifications.

\*4: Tag plate cannot be mounted when the DIN terminal box for MN3GA2/MN4GA2 is selected.

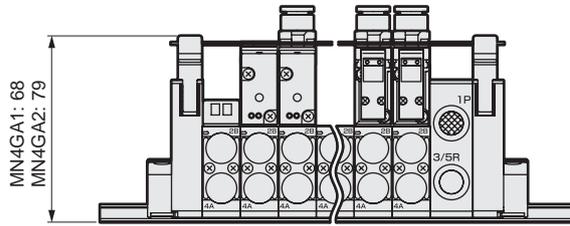
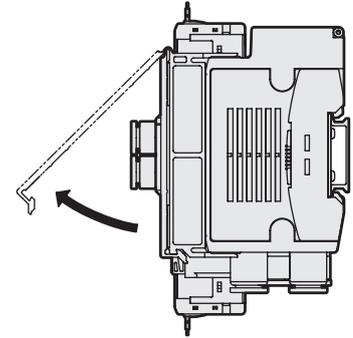
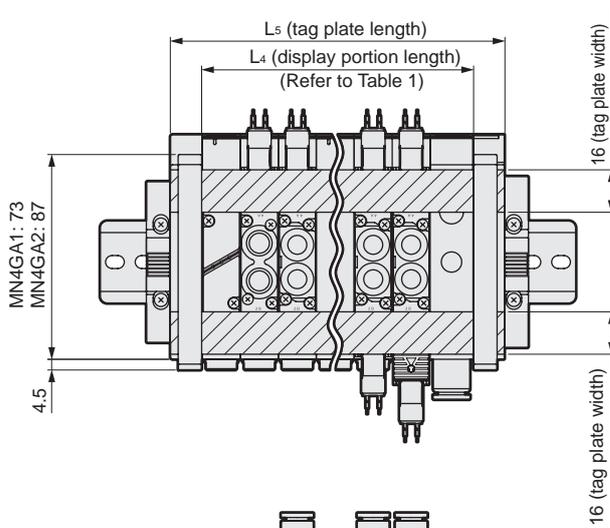
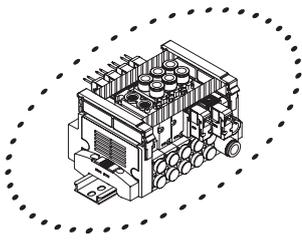
# MN4GA/4GB Series

Block manifold: related products

## Dimensions: tag plate

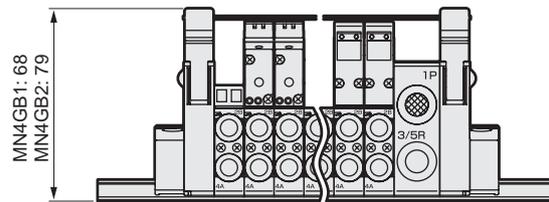
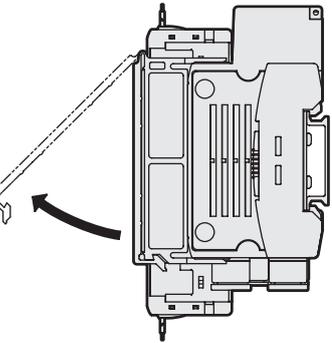
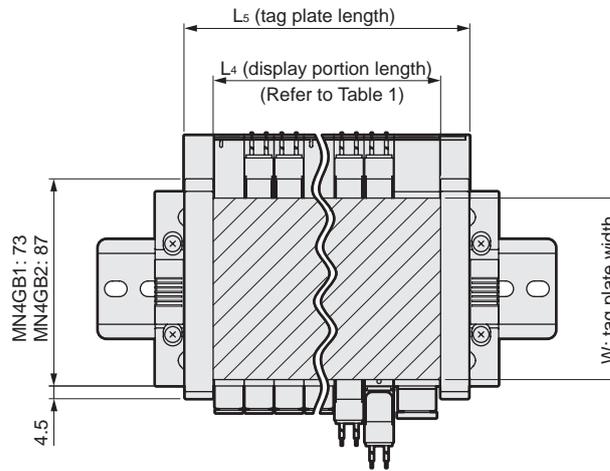
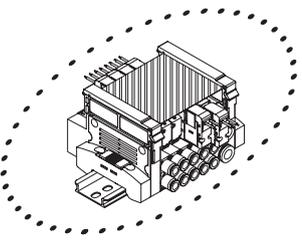
### MN4GA1/2

● Tag plate



### MN4GB1/2

● Tag plate



Model No.	W
N4G1R-TAG-PLATE-B1-length	64
N4G1R-TAG-PLATE-B2-length	30
N4G2R-TAG-PLATE-B-length	45

Table 1: Formula for calculation of L<sub>5</sub> (tag plate length)

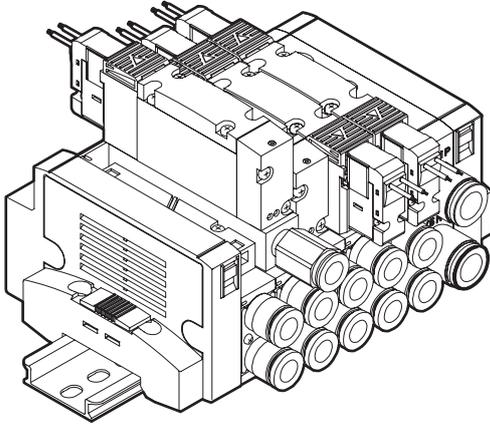
MN4GA1	Individual wiring	$L_5 = (10.5 \times n) + (16 \times m) + (10.5 \times l) + 20$
MN4GB1	Reduced wiring	$L_5 = (10.5 \times n) + (16 \times m) + (10.5 \times l) + 25$
MN4GA2	Individual wiring	$L_5 = (16 \times n) + (18 \times m) + (10.5 \times l) + 20$
MN4GB2	Reduced wiring	$L_5 = (16 \times n) + (18 \times m) + (10.5 \times l) + 25$

n : number of valve blocks  
 m : number of supply and exhaust blocks  
 l : number of partition blocks

### Related products

Air supply spacer

- Air supply 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	0.70	0.23	0.93	0.16	8
4G2	1.6	0.17	1.8	0.16	35

Note 1: The values are for when a valve is mounted.

Note 2: Effective cross-sectional area S and sonic conductance C are converted as  $S \doteq 5.0 \times C$ .

### How to order discrete units

4G ② R - P - GWS6 - P70

① Air supply spacer model No.

② Port size

③ Clean room specifications

### ⚠ Precautions for model selection

- \*1 Specify the positions and quantity of air supply spacers for manifold in the manifold specifications sheet.
- \*2 If the port A/B fitting is elbow, turn the air supply port of the air supply spacer toward the reverse side ("a" solenoid side).
- \*3 If the elbow (upward) port A/B fitting is used for the reduced wiring manifold, the air supply spacer cannot be selected.
- \*4 Combination with the masking plate is not supported.

Code	Content	Model No.			
		4GA1	4GB1	4GA2	4GB2
<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)	●		●	
GWS4	ø4 fitting	●			
GWS6	ø6 fitting	●		●	
GWS8	ø8 fitting			●	
06N	1/8NPT thread			●	
06G	G1/8 thread			●	
<b>C Clean room specifications</b>					
	Structure	Material restriction			
P70	Exhaust treatment		●	●	

■ indicates specifications not available.

Attached products: 4G1 set screws (2), dedicated gasket (1)  
4G2 set screws (2), PR check valves (2), body gasket (1)

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder Switch

MN3E  
MN4E

4GA/B

M4GA/B

MN4GA/B

F.R. (module unit)

Clean F.R

Precision R

Press gauge  
Diff. press gauge

Electro-pneumatic R

Speed controller

Auxiliary valve

Fitting/tube

Clean air unit

Pressure sensor

Flow rate sensor

Valve for air blow

Ending

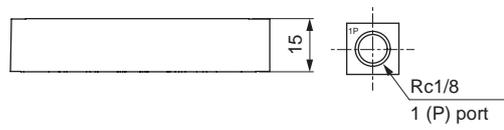
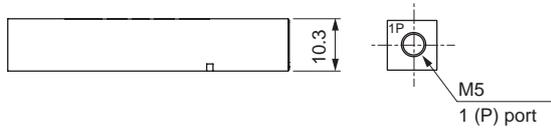
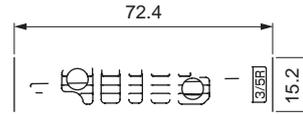
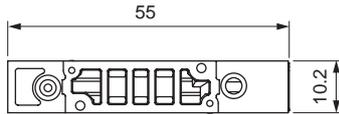
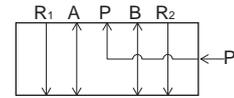
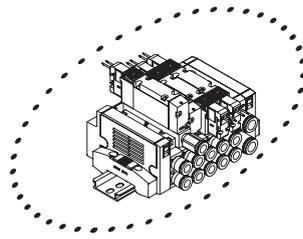
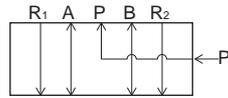
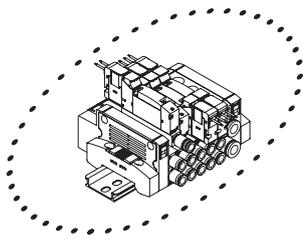
# MN4GA/4GB Series

Block manifold: related products

## Dimensions

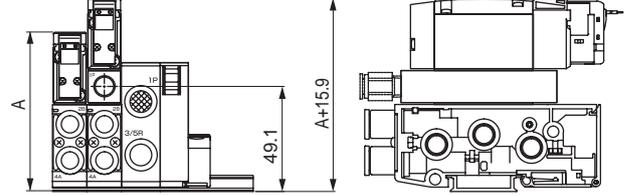
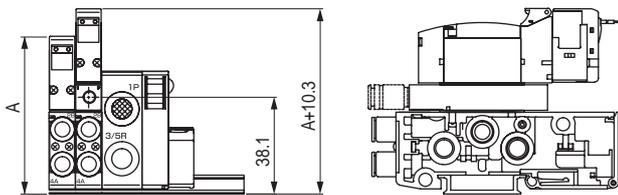
● 4G1

● 4G2



Dimensions when mounted

Dimensions when mounted



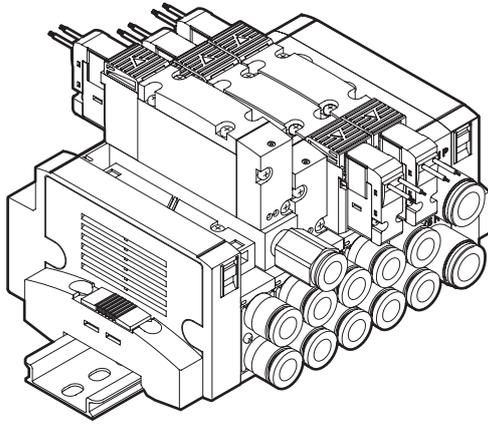
Note: For A dimensions, check the dimensions of the respective specifications.

- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG
- STR2
- MRL2
- GRC
- Cylinder switch
- MN3E  
MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- F.R (module unit)
- Clean F.R
- Precision R
- Press gauge  
Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending

### Related products

Exhaust spacer

- Exhaust 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	0.94	0.28	0.68	0.33	7
4G2	1.5	0.24	1.9	0.24	34

Note 1: The values are for when a valve is mounted.

Note 2: Effective cross-sectional area S and sonic conductance C are converted as  $S \approx 5.0 \times C$ .

### How to order discrete units

4G 2 R - R - GWS6 - P70

A Exhaust spacer model No.

B Port size

C Clean room specifications

### ⚠ Precautions for model selection

- \*1 Specify the positions and quantity of exhaust spacers for manifold in the manifold specifications sheet.
- \*2 If the port A/B fitting is elbow, turn the exhaust port of the exhaust spacer toward the reverse side ("a" solenoid side).
- \*3 If elbow upward port A/B fitting is used for the reduced wiring manifold, the exhaust spacer cannot be selected.
- \*4 Combination with the masking plate is not supported.

Code		Content		Model No.			
				4GA1	4GB1	4GA2	4GB2
<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)	●		●		
GWS4		ø4 fitting	●				
GWS6		ø6 fitting	●		●		
GWS8		ø8 fitting			●		
06N		1/8NPT thread			●		
06G		G1/8 thread			●		
<b>C Clean room specifications</b>							
	Structure	Material restriction					
P70	Exhaust treatment	-		●		●	

■ indicates specifications not available.

Attached products: 4G1 set screws (2), dedicated gasket (1)  
4G2 set screws (2), PR check valves (2), body gasket (1)

- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG
- STR2
- MRL2
- GRC
- Cylinder Switch
- MN3E  
MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- F.R. (module unit)
- Clean F.R
- Precision R
- Press gauge  
Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending

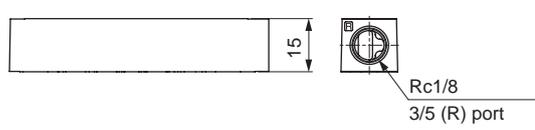
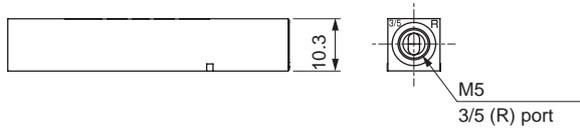
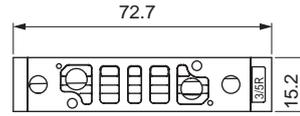
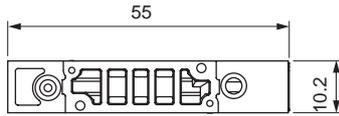
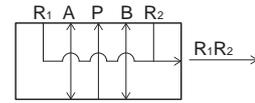
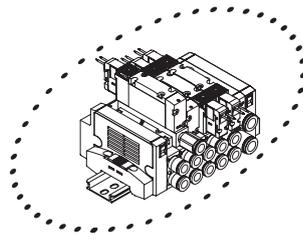
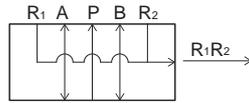
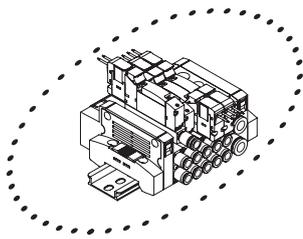
# MN4GA/4GB Series

Block manifold: related products

## Dimensions

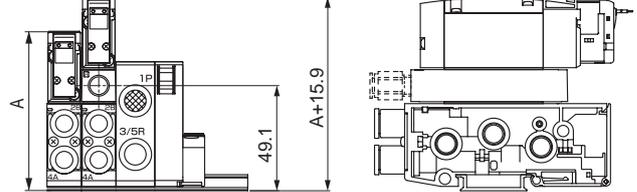
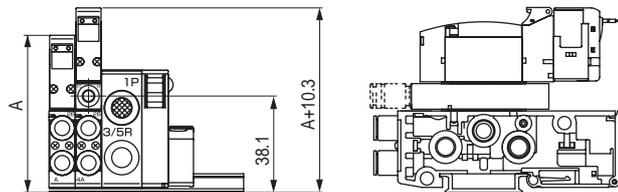
● 4G1

● 4G2



Dimensions upon mounting

Dimensions upon mounting



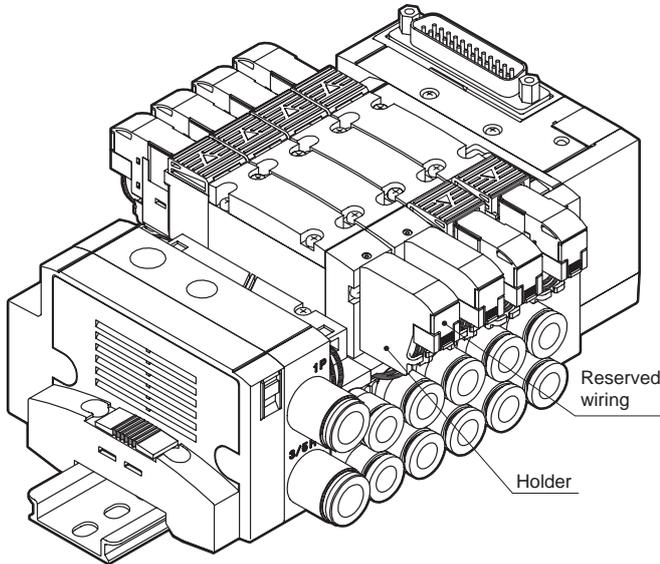
- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG
- STR2
- MRL2
- GRC
- Cylinder switch
- MN3E  
MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- F.R (module unit)
- Clean F.R
- Precision R
- Press gauge  
Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending

**Related products**

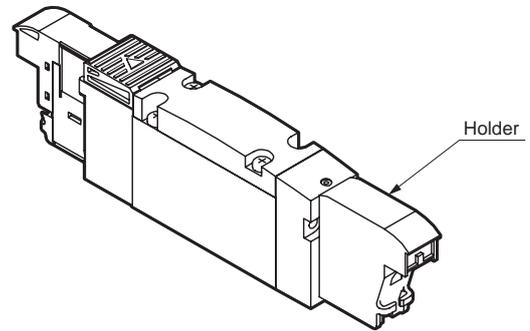
Double wiring (with single spare wiring)

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

Manifold



Discrete valve (A2N)



A holder for retaining the socket assembly is attached. (A-type socket assembly is not attached.) This is used to impose and retain the socket assembly that is no longer required when the valve is changed from the double solenoid to the single solenoid.

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

## How to order

● Model No. with manifold installed (example)

**MN4GB1 1 0 R - C6 - T30 W1 H - 10 - 3 - P70**

**A** Model No.

**B** Solenoid position

**C** Port size

**D** Wiring method

**F** Option

**G** Station No.

**H** Voltage

**I** Clean room specifications

Code	Content
<b>E</b>	Terminal and connector pin wiring
<b>W1</b>	Double wiring (with single spare wiring)

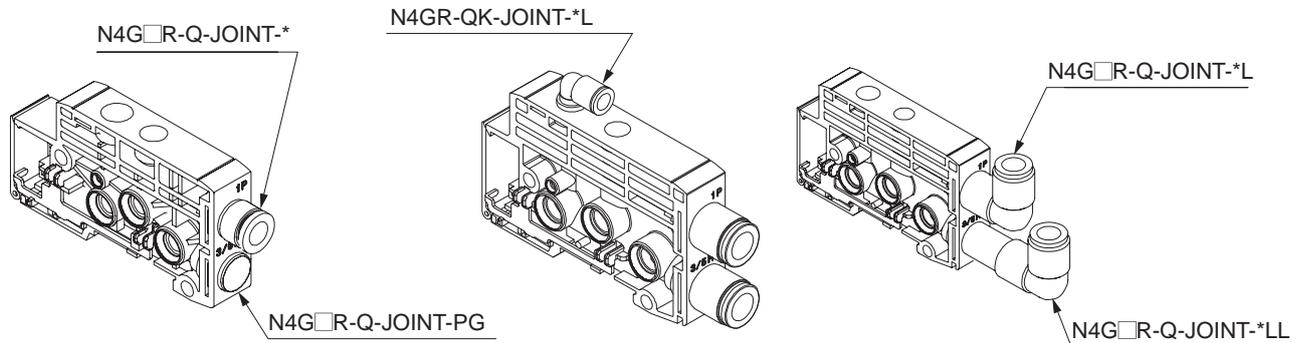
\* For details of model No., refer to How to order for each individual series. Combination with port sizes C\*NC and C\*NO is not supported.

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E MN4E
4GA/B
M4GA/B
<b>MN4GA/B</b>
F.R.(module unit)
Clean F.R
Precision R
Press gauge Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending



## Related parts

### 1. MN4G cartridge push-in fitting for supply and exhaust block



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

Port size	Part model No.
ø6 straight	N4G1R-Q-JOINT-6-P70
ø8 straight	N4G1R-Q-JOINT-8-P70
ø6 elbow	N4G1R-Q-JOINT-6L, 6LL-P70
ø8 elbow	N4G1R-Q-JOINT-8L, 8LL-P70
ø1/4 inch straight	N4G1R-Q-JOINT-6N-P70
ø5/16 inch straight	N4G1R-Q-JOINT-8N-P70
ø1/4 inch elbow	N4G1R-Q-JOINT-6LN, 6LLN-P70
ø5/16 inch elbow	N4G1R-Q-JOINT-8LN, 8LLN-P70
Plug cartridge	N4G1R-Q-JOINT-PG

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

Port size	Part model No.
ø8 straight	N4G2R-Q-JOINT-8-P70
ø10 straight	N4G2R-Q-JOINT-10-P70
ø8 elbow	N4G2R-Q-JOINT-8L, 8LL-P70
ø10 elbow	N4G2R-Q-JOINT-10L, 10LL-P70
ø5/16 inch straight	N4G2R-Q-JOINT-8N-P70
ø3/8 inch straight	N4G2R-Q-JOINT-10N-P70
ø5/16 inch elbow	N4G2R-Q-JOINT-8LN, 8LLN-P70
ø3/8 inch elbow	N4G2R-Q-JOINT-10LN, 10LLN-P70
Plug cartridge	N4G1R-Q-JOINT-PG

#### 1.3 MN4G1/2 common, fitting for 12/14 (PA)

Port size	Part model No.
ø6 straight	N4GR-QK-JOINT-6-P70
ø6 elbow	N4GR-QK-JOINT-6L-P70

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder  
Switch

MN3E

MN4E

4GA/B

M4GA/B

MN4GA/B

F.R.(module  
unit)Clean  
F.RPrecision  
R

Press gauge

Diff. press gauge

Electro-  
pneumatic RSpeed  
controllerAuxiliary  
valveFitting/  
tubeClean  
air unitPressure  
sensorFlow rate  
sensorValve for  
air blow

Ending