

Discrete valve  
Body piping

# 4GA4 Series

● Cylinder bore size:  $\varnothing 100$  to  $\varnothing 140$



## Common specifications

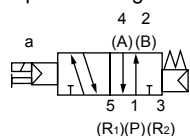
Item	Description
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7 ( $\approx 100$ psi, 7 bar)
Min. working pressure MPa	0.2 ( $\approx 29$ psi, 2 bar)
Proof pressure MPa	1.05 ( $\approx 150$ psi, 10.5 bar)
Ambient temperature $^{\circ}\text{C}$	-5 (23 $^{\circ}\text{F}$ ) to 55 (131 $^{\circ}\text{F}$ ) (no freezing)
Fluid temperature $^{\circ}\text{C}$	5 (41 $^{\circ}\text{F}$ ) to 55 (131 $^{\circ}\text{F}$ )
Manual override	Non-locking/locking common
Lubrication (*1)	Not required
Degree of protection (*2)	Dust-proof {IP40 equivalent (DIN terminal box: IP65)}
Vibration resistance $\text{m/s}^2$	50 or less
Shock resistance $\text{m/s}^2$	300 or less
Atmosphere	Cannot be used in corrosive gas environments

- \*1: Use turbine oil Class 1 ISO VG32 for lubrication.  
Excessive or intermittent lubrication results in unstable operation.
- \*2: Avoid water drops or oil, etc., during use.  
IP65 (jet-proof) or equivalent applies for DIN terminal box specifications.  
However, the specified outer diameter of the applicable cord and tightening torque must be used for fixing in place.

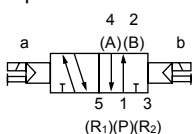
## JIS symbol

● 5-port valve

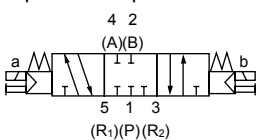
2-position single



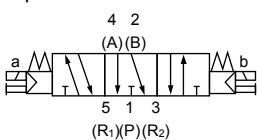
2-position double



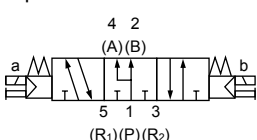
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



## Electrical specifications

Item	Description		
Rated voltage V	AC	100(50/60 Hz) 110(50/60 Hz)	
	DC	12, 24	
Voltage fluctuation range		$\pm 10\%$	
Starting current A	AC	100 V	0.056/0.044
		110 V	0.051/0.040
	DC	12 V	-
		24 V	-
Holding current A	AC	100 V	0.028/0.022
		110 V	0.025/0.020
	DC	12 V	0.079(0.083)
		24 V	0.040(0.042)
Power consumption (*3) W	AC	100 V	1.8/1.4
		110 V	(1.8/1.5)
	DC	12 V	0.95(1.0)
		24 V	
Thermal class		B	
Surge suppressor		Option	
Indicator		Lamp (option)	

\*3: Values in ( ) apply when lamp is included.

## Individual specifications

Item	4GA4
Port size	Push-in fitting $\varnothing 8$ , $\varnothing 10$ , $\varnothing 12$ Rc3/8, G3/8, NPT3/8 Rc1/4, G1/4, NPT1/4

## Performance/characteristics by model

Item	4GA4			
	ON		OFF	
Response time ms	2-position	Single	40(40)	40(52)
		Double	40(52)	40(52)
	3-position	ABR connection	60(72)	60(72)

Values with lamp/surge suppressor are shown. The response times are the values with supply pressure of 0.5 MPa at 20 $^{\circ}\text{C}$  and without lubrication. They depend on the pressure and the lubricant quality. Values in ( ) are for AC.

## Weight

Item	4GA4			
Weight g	2-position	Single	Grommet lead wire	310(319)
			E type connector	313(322)
			DIN terminal box	322(331)
		Double	Grommet lead wire	371(380)
			E type connector	377(386)
			DIN terminal box	395(404)
	3-position	All ports closed	Grommet lead wire	402(411)
			E type connector	408(417)
			DIN terminal box	426(435)

Values in ( ) include the mounting screw and gasket. Values for the E type connector include the socket assembly (with 300 mm lead wire).

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

4GA/B  
M4GA/B  
MN4GA/B  
4GA/B (master)  
4GB With sensor  
4GD/E  
M4GD/E  
MN4GD/E  
4GA4/B4  
MN3E  
MN4E  
W4GA/B2  
W4GB4  
MN3S0  
MN4S0  
4SA/B0  
4KA/B  
4KA/B (master)  
4F  
4F (master)  
PV5G  
GMF  
PV5  
GMF  
PV5S-0  
3Q  
MV3QR  
3MA/B0  
3PA/B  
P/M/B  
NP/NAP  
NVP  
4G\*0EJ  
4F\*0EX  
4F\*0E  
HMV  
HSV  
2QV  
3QV  
SKH  
Silencer  
TotAirSys (Total Air)  
TotAirSys (Gamma)  
Ending

## 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
4GA4	2-position		8.1	0.40	8.0	0.31
	3-position	All ports closed	6.9	0.37	7.5	0.42
		ABR connection	6.8	0.40	8.7	0.37
		PAB connection	8.9	0.37	7.6	0.27

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

### Coolant proof specifications

Can be selected with “How to order” Item  $\text{\textcircled{E}}$  option “A” on page 706.

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

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

\*\* - Voltage - **P4**

### CE marking specifications

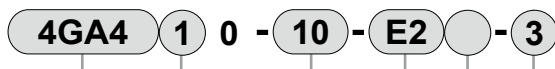
\*\* - Voltage - **ST**

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
<b>4GA4/B4</b>
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

# 4GA4 Series

Discrete valve; body piping

## How to order



**A** Model No.

**4GA4**

**A** Model No.

**B** Solenoid position

**C** Port size

**D** Electrical connections  
Refer to page 703 for the circuit diagram with surge suppressor/lamp.

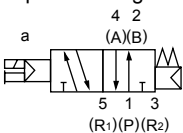
**E** Option

**F** Voltage

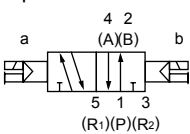
## JIS symbol

● 5-port valve

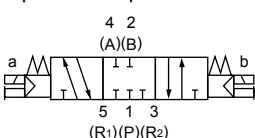
2-position single



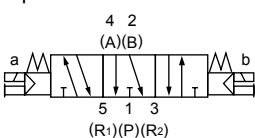
2-position double



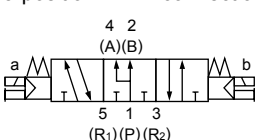
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



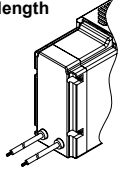
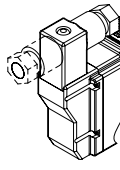
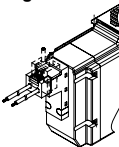
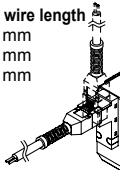
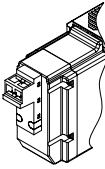
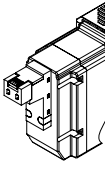
Code	Description	
<b>B Solenoid position</b>		
1	2-position single	●
2	2-position double	●
3	3-position all ports closed	●
4	3-position ABR connection	●
5	3-position PAB connection	●
<b>C Port size</b>		
Port	A/B Port	P/R Port Rc1/4
C8	ø8 push-in fitting	●
C10	ø10 push-in fitting	●
C12	ø12 push-in fitting	●
10	Rc3/8	●
10G	G3/8	● (*1)
10N	NPT3/8	● (*2)
<b>D Electrical connections</b>		
Blank	Grommet lead wire	●
B	DIN terminal box (Pg7) with surge suppressor/lamp	●
<b>E type connector (upward/lateral common)</b>		
E0	Lead wire (300 mm)	●
E00	Lead wire (500 mm)	●
E01	Lead wire (1000 mm)	●
E02	Lead wire (2000 mm)	●
E03	Lead wire (3000 mm)	●
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	●
E0N	Without lead wire (without socket)	●
E2N	Without lead wire (without socket) with surge suppressor/lamp	●
E3	No lead wire (with socket/terminal), surge suppressor/indicator lamp	●
E1	Without lead wire (socket/terminal attached)	●
<b>EJ type connector (socket with cover, upward/lateral common)</b>		
E01J	Lead wire (1000 mm)	●
E02J	Lead wire (2000 mm)	●
E03J	Lead wire (3000 mm)	●
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	●
<b>E Option</b>		
Blank	None	●
A	Coolant proof	●
F	A/B port filter built in	●
<b>F Voltage</b>		
1	100 VAC	●
3	24 VDC	●
4	12 VDC	●
5	110 VAC	●

### ⚠ Precautions for model No. selection

\*1: P/R port is G1/4.

\*2: P/R port is NPT1/4.

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G\*0EJ
- 4F\*0EX
- 4F\*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

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

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
<b>4GA4/B4</b>
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

# 4GA4 Series

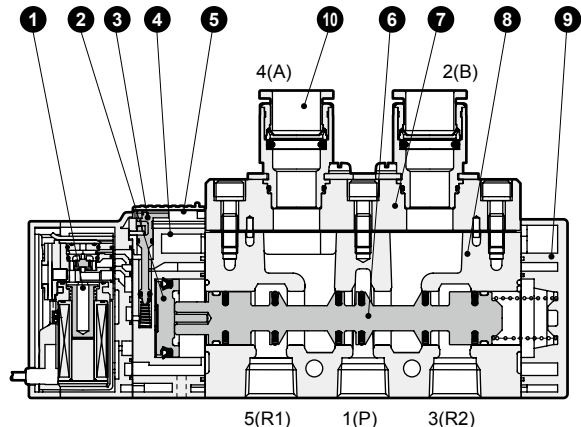
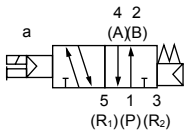
Discrete valve; body piping

## Internal structure and parts list

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- 4GA4<sup>3</sup>/<sub>4</sub>/<sub>5</sub>0
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G\*0EJ
- 4F\*0EX
- 4F\*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

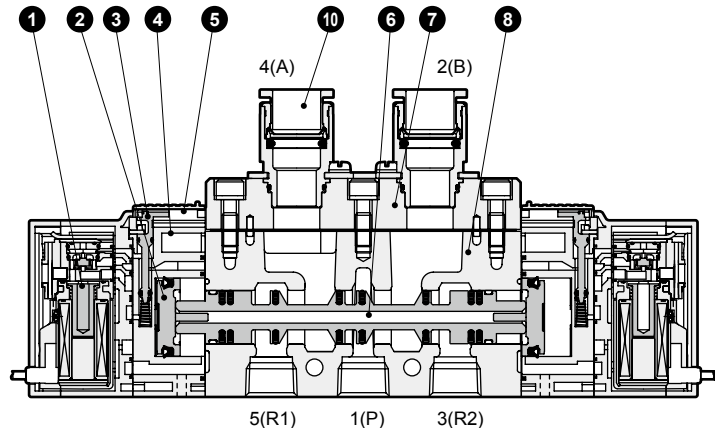
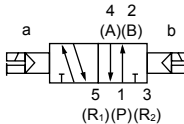
### 4GA410

- 2-position single
- Grommet lead wire (blank)



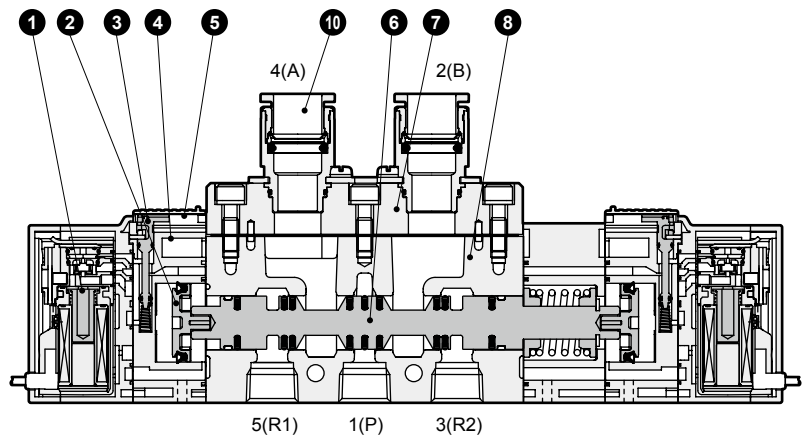
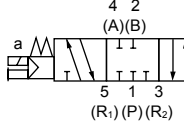
### 4GA420

- 2-position double
- Grommet lead wire (blank)



### 4GA4<sup>3</sup>/<sub>4</sub>/<sub>5</sub>0

- 3-position
- Grommet lead wire (blank)



### Main parts list

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

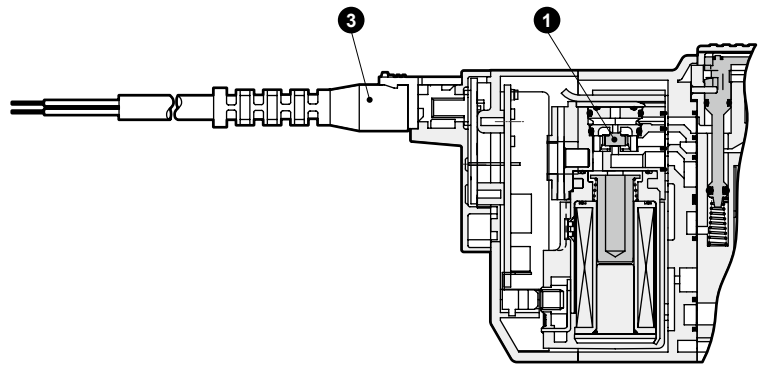
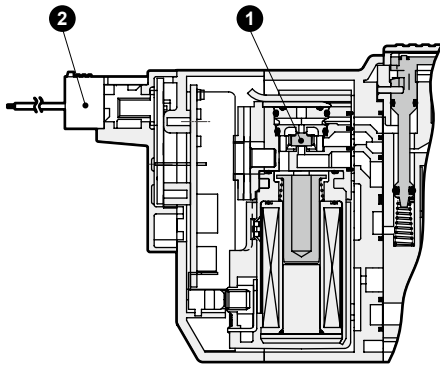
### Parts list

No.	Part name	Model No.
-	Cartridge push-in fitting and related parts	ø8 straight
-		ø10 straight
-		ø12 straight

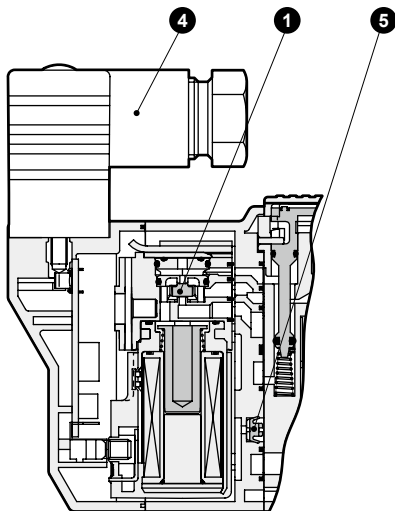
## Internal structure and parts list/dimensions (electrical connections section)

● E type connector E□□

● EJ type connector E□□J



● DIN terminal box B



### Main parts list

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

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
<b>4GA4/B4</b>
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

# 4GA4 Series

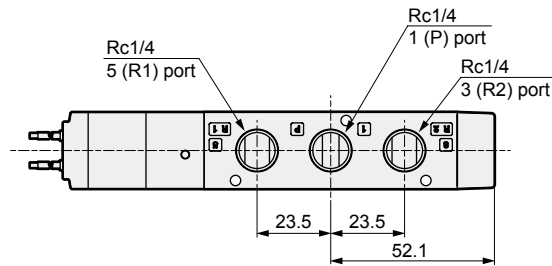
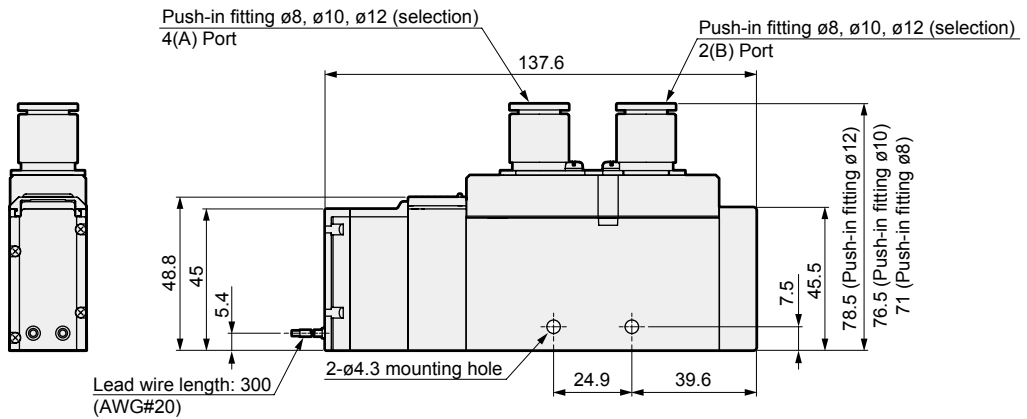
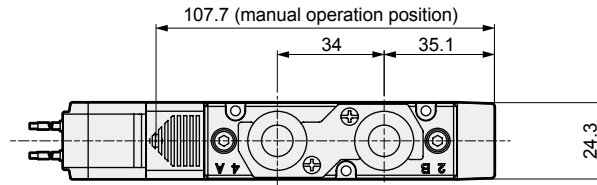
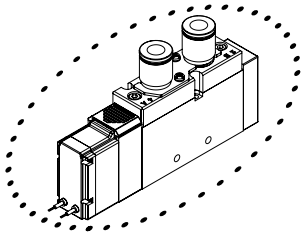
Discrete valve; body piping

## Dimensions

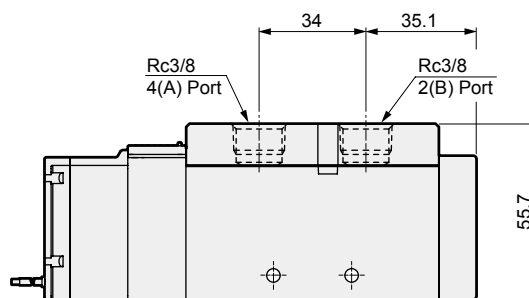
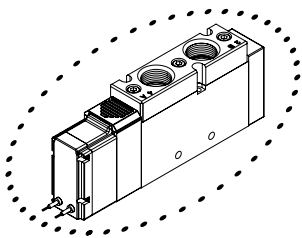
- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4**
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G\*0EJ
- 4F\*0EX
- 4F\*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

### 4GA410

● 2-position single grommet lead wire (blank)

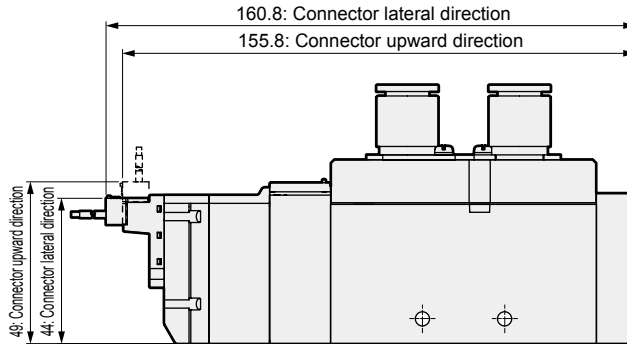
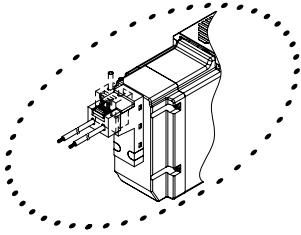


● Rc3/8 female thread (10)

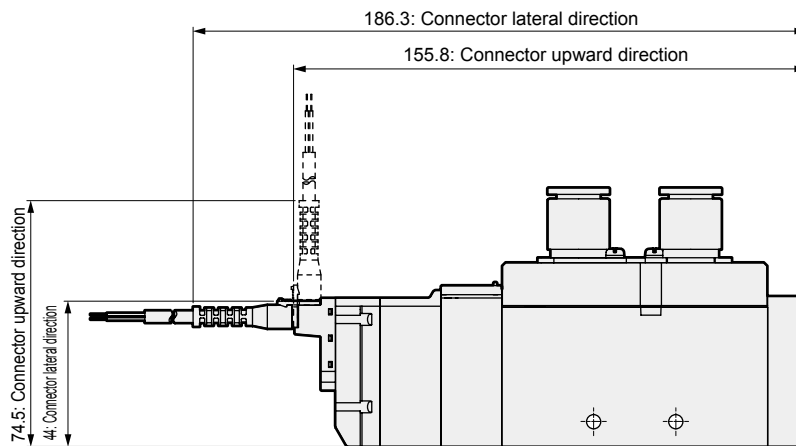
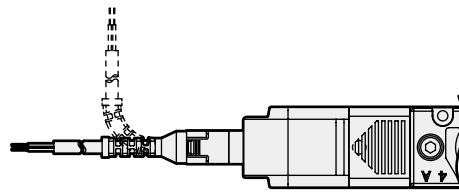
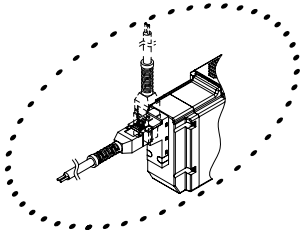


## Dimensions

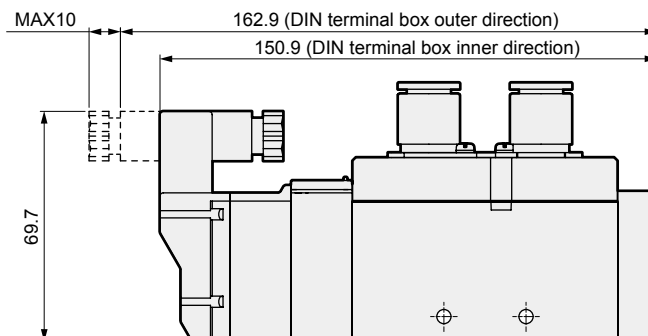
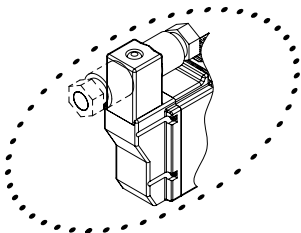
● E type connector (E)



● EJ type connector (E\*\*J)



● DIN terminal box (B)



Note: DIN terminal box assembly is shipped facing inward.

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
<b>4GA4/B4</b>
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

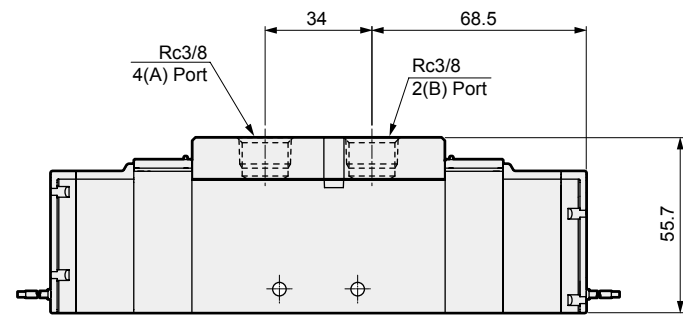
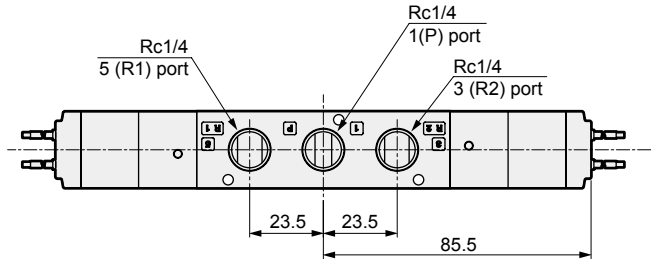
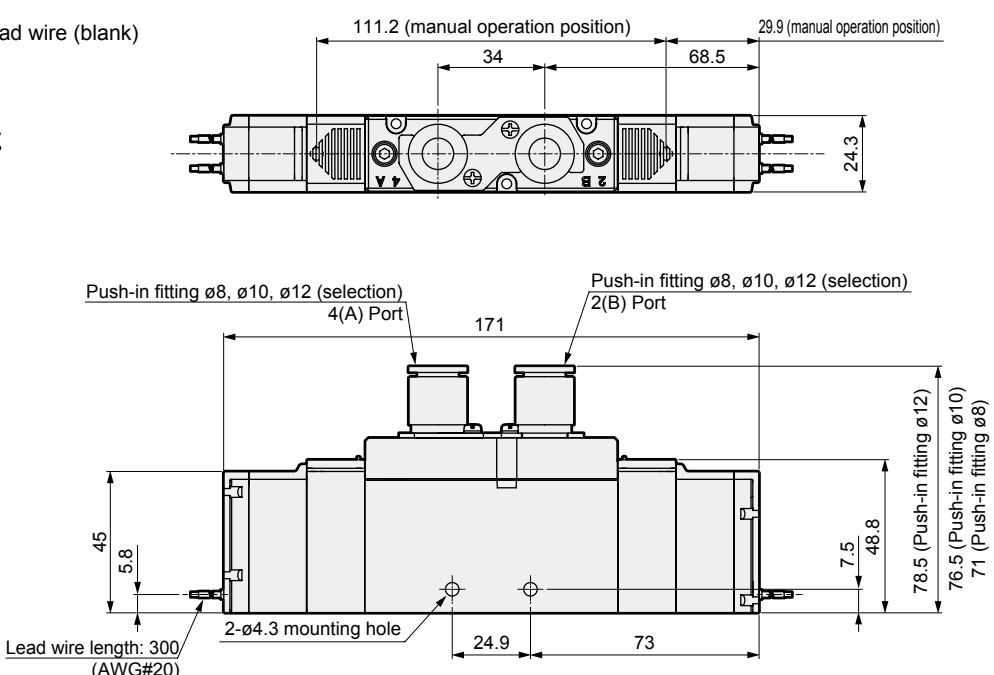
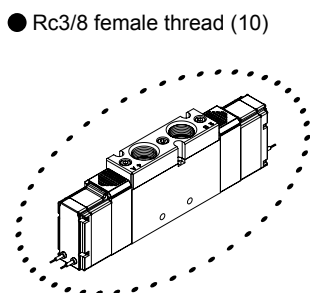
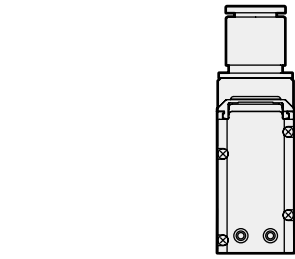
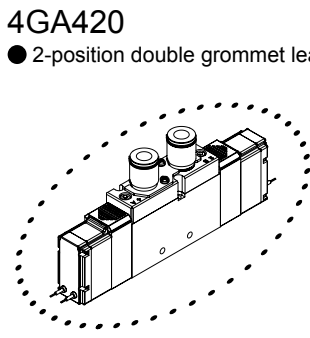


# 4GA4 Series

Discrete valve; body piping

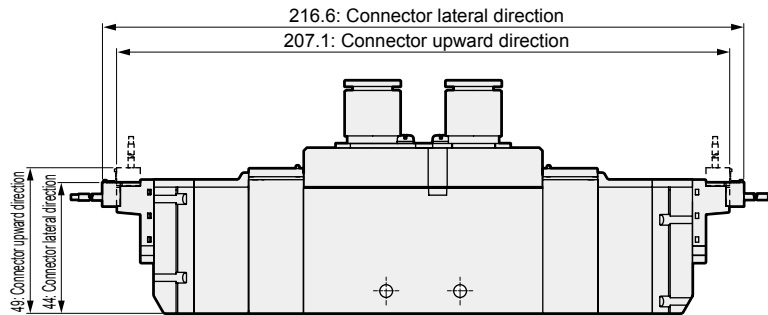
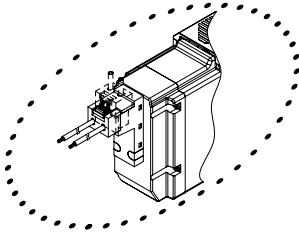
## Dimensions

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4**
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G\*0EJ
- 4F\*0EX
- 4F\*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

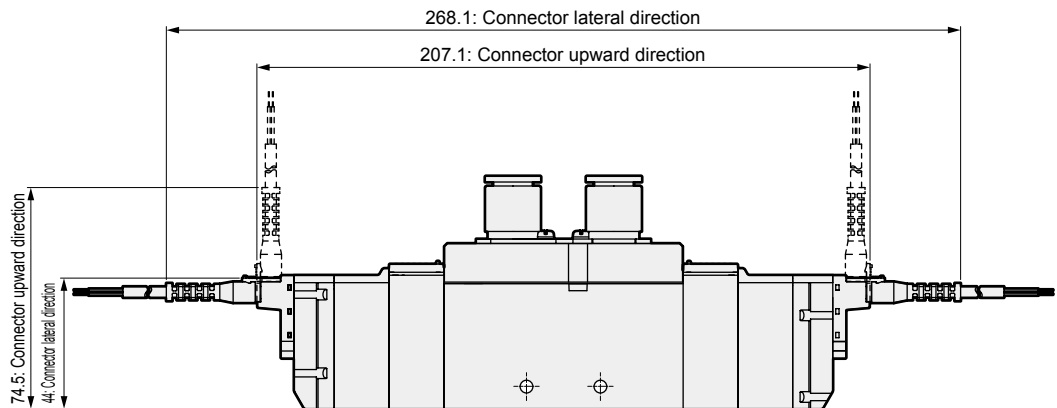
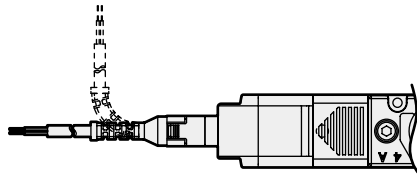
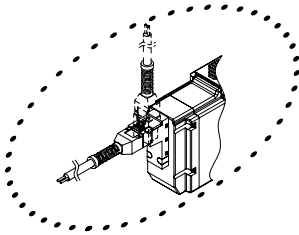


## Dimensions

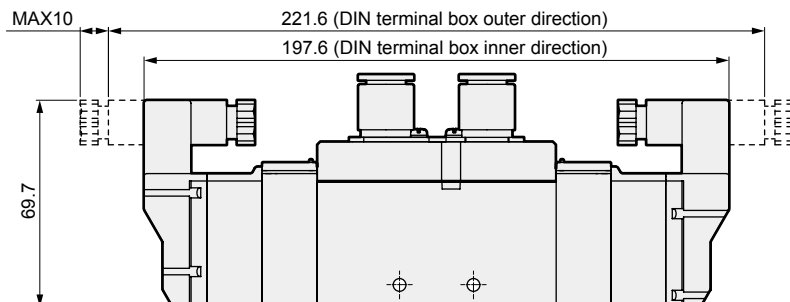
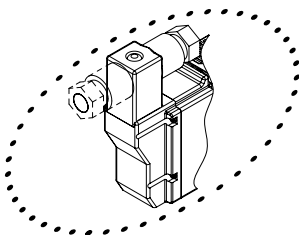
● E type connector (E)



● EJ type connector (E\*\*J)



● DIN terminal box (B)



Note: DIN terminal box assembly is shipped facing inward.

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
<b>4GA4/B4</b>
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

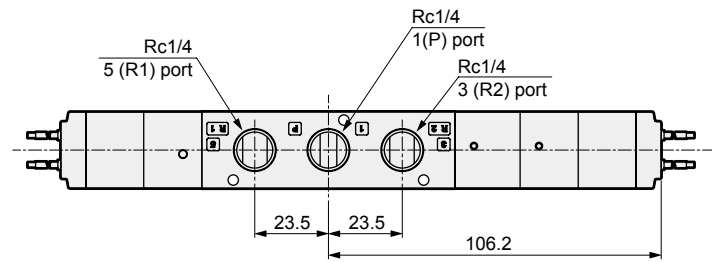
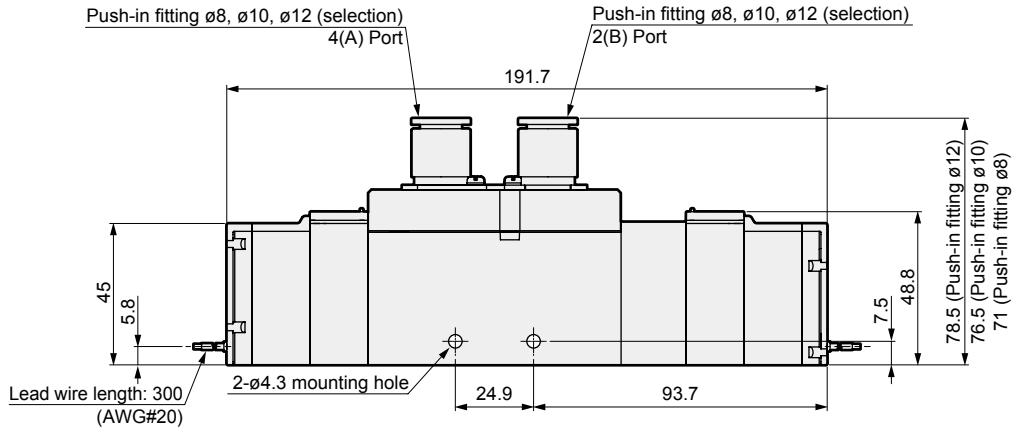
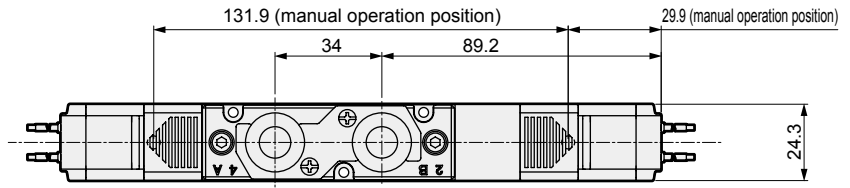
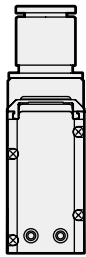
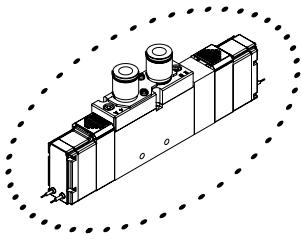
# 4GA4 Series

Discrete valve; body piping

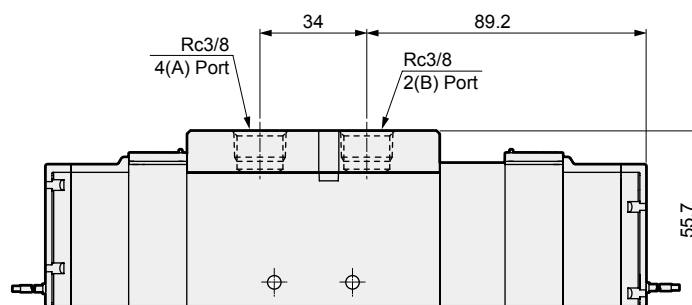
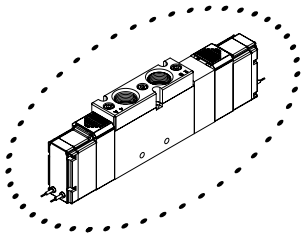
## Dimensions

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4**
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G\*0EJ
- 4F\*0EX
- 4F\*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

**4GA4 <sup>3</sup>/<sub>4</sub> 0**  
 ● 3-position grommet lead wire (blank)

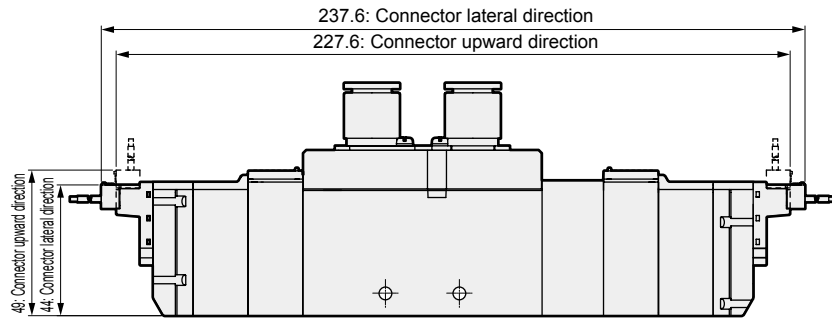
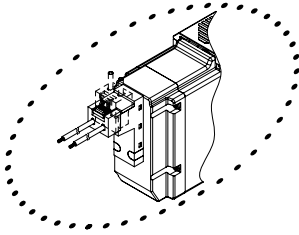


● Rc3/8 female thread (10)

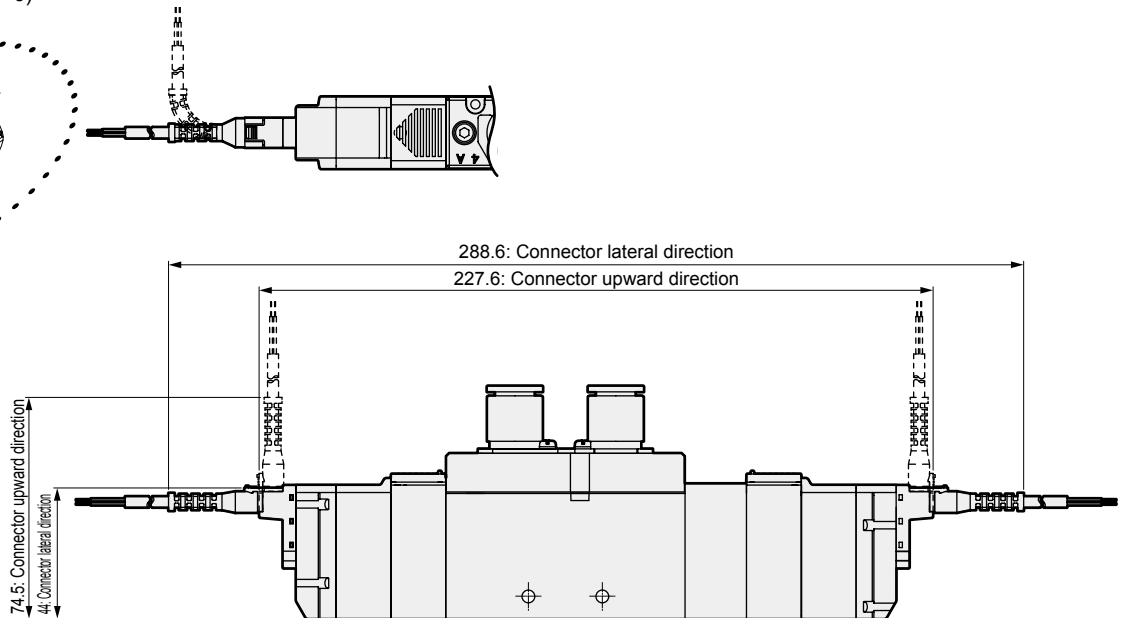
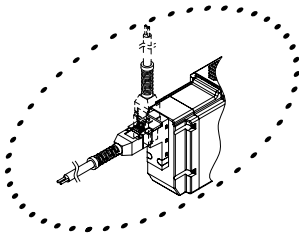


## Dimensions

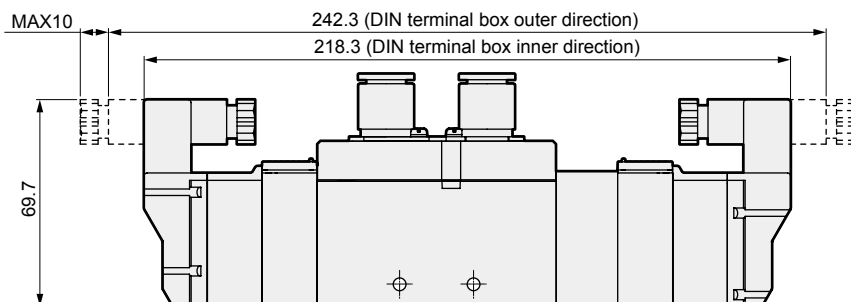
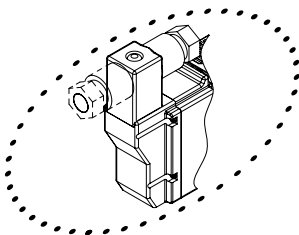
● E type connector (E)



● EJ type connector (E\*\*J)

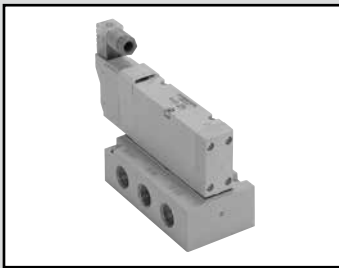


● DIN terminal box (B)



Note: DIN terminal box assembly is shipped facing inward.

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
<b>4GA4/B4</b>
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending



# Discrete valve Base piping 4GB4 Series

● Cylinder bore size:  $\varnothing 125$  to  $\varnothing 160$



## Common specifications

Item	Description
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7 ( $\approx 100$ psi, 7 bar)
Min. working pressure MPa	0.2 ( $\approx 29$ psi, 2 bar) (*3)
Proof pressure MPa	1.05 ( $\approx 150$ psi, 10.5 bar)
Ambient temperature $^{\circ}\text{C}$	-5 (23 $^{\circ}\text{F}$ ) to 55 (131 $^{\circ}\text{F}$ ) (no freezing)
Fluid temperature $^{\circ}\text{C}$	5 (41 $^{\circ}\text{F}$ ) to 55 (131 $^{\circ}\text{F}$ )
Manual override	Non-locking/locking common
Pilot exhaust method	Internal pilot Main valve/pilot valve common exhaust
	External pilot Main valve/pilot valve individual exhaust
Lubrication (*1)	Not required
Degree of protection (*2)	Dust-proof (IP40 equivalent (DIN terminal box: IP65))
Vibration resistance $\text{m/s}^2$	50 or less
Shock resistance $\text{m/s}^2$	300 or less
Atmosphere	Cannot be used in corrosive gas environments

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

## Electrical specifications

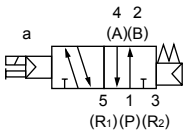
Item	Description
Rated voltage V	AC 100(50/60 Hz) 110(50/60 Hz)
	DC 12, 24
Voltage fluctuation range	$\pm 10\%$
Starting current A	AC 100 V 0.056/0.044 110 V 0.051/0.040
	DC 12 V - 24 V -
	DC 12 V 0.079(0.083) 24 V 0.040(0.042)
Power consumption W (*4)	
	DC 12 V 0.95(1.0) 24 V
	Surge suppressor
Indicator	Lamp (option)

\*4: Values in ( ) apply when lamp is included.

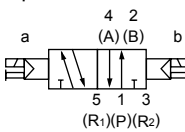
## JIS symbol

● 5-port valve

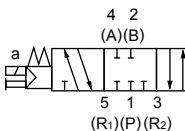
2-position single



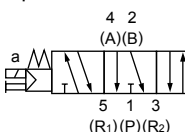
2-position double



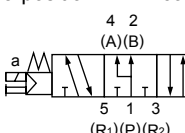
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



## Individual specifications

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

## Performance/characteristics by model

Item	4GB4	
	ON	OFF
Response time ms	2-position Single 40(40)	40(52)
	Double 40(52)	40(52)
	3-position ABR connection 60(72)	60(72)

Values with lamp/surge suppressor are shown. The response times are the values with supply pressure of 0.5 MPa at 20 $^{\circ}\text{C}$  and without lubrication. They depend on the pressure and the lubricant quality. Values in ( ) are for AC.

## Weight

Item	4GB4	
Weight g	2-position Single	Grommet lead wire 563(256)
		E type connector 566(259)
		DIN terminal box 575(268)
	2-position Double	Grommet lead wire 620(313)
		E type connector 626(319)
		DIN terminal box 644(337)
	3-position All ports Block	Grommet lead wire 655(348)
		E type connector 661(354)
		DIN terminal box 679(372)

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

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

4GA/B

M4GA/B

MN4GA/B

4GA/B (master)

4GB With sensor

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

MN3E MN4E

W4GA/B2

W4GB4

MN3S0 MN4S0

4SA/B0

4KA/B

4KA/B (master)

4F

4F (master)

PV5G GMF

PV5 GMF

PV5S-0

3Q

MV3QR

3MA/B0

3PA/B

P/M/B

NP/NAP NVP

4G\*0EJ

4F\*0EX

4F\*0E

HMV HSV

2QV 3QV

SKH

Silencer

TotAirSys (Total Air)

TotAirSys (Gamma)


Ending

## 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
4GB4	2-position		11	0.19	13	0.19
	3-position	All ports closed	9.1	0.11	12	0.27
		ABR connection	9.2	0.11	15	0.22
		PAB connection	10	0.06	12	0.24

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

## Coolant proof specifications

Can be selected with “How to order” Item  option “A” on page 718.

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

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

\*\* - Voltage - 

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
<b>4GA4/B4</b>
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

# 4GB4 Series

Discrete valve; base piping

## How to order

**4GB4** **1** **0** - **10** - **E2** **3**

**A** Model No.

**B** Solenoid position

**C** Port size

**D** Electrical connections  
Refer to page 703 for the circuit diagram with surge suppressor/lamp.

**E** Option

**F** Voltage

**A** Model No.

**4GB4**

Code	Description	
<b>B Solenoid position</b>		
<b>1</b>	2-position single	●
<b>2</b>	2-position double	●
<b>3</b>	3-position all ports closed	●
<b>4</b>	3-position ABR connection	●
<b>5</b>	3-position PAB connection	●

<b>C Port size</b>			
Port	A/B Port	P/R Port	
		Rc3/8	Rc1/2
<b>10</b>	Rc3/8	●	
<b>15</b>	Rc1/2		●
<b>10G</b>	G3/8	● (*1)	
<b>15G</b>	G1/2		● (*1)
<b>10N</b>	NPT3/8	● (*2)	
<b>15N</b>	NPT1/2		● (*2)

<b>D Electrical connections</b>		
<b>Blank</b>	Grommet lead wire	●
<b>B</b>	DIN terminal box (Pg7) with surge suppressor/lamp	●

<b>E type connector (upward/lateral common)</b>		
<b>E0</b>	Lead wire (300 mm)	●
<b>E00</b>	Lead wire (500 mm)	●
<b>E01</b>	Lead wire (1000 mm)	●
<b>E02</b>	Lead wire (2000 mm)	●
<b>E03</b>	Lead wire (3000 mm)	●
<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>E0N</b>	Without lead wire (without socket)	●
<b>E2N</b>	Without lead wire (without socket) with surge suppressor/lamp	●
<b>E3</b>	No lead wire (with socket/terminal), surge suppressor/indicator lamp	●
<b>E1</b>	Without lead wire (socket/terminal attached)	●

<b>EJ type connector (socket with cover, upward/lateral common)</b>		
<b>E01J</b>	Lead wire (1000 mm)	●
<b>E02J</b>	Lead wire (2000 mm)	●
<b>E03J</b>	Lead wire (3000 mm)	●
<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	●

<b>E Option</b>		
<b>Blank</b>	None	●
<b>K</b>	External pilot	●
<b>A</b>	Coolant proof	●
<b>F</b>	A/B port filter built in	●

<b>F Voltage</b>		
<b>1</b>	100 VAC	●
<b>3</b>	24 VDC	●
<b>4</b>	12 VDC	●
<b>5</b>	110 VAC	●

### ⚠ Precautions for model No. selection

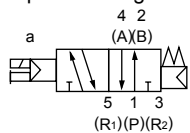
\*1: P/R port is G thread.

\*2: P/R port is NPT thread.

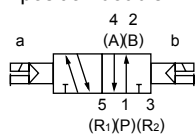
## JIS symbol

● 5-port valve

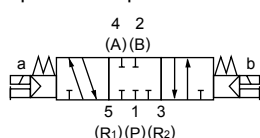
2-position single



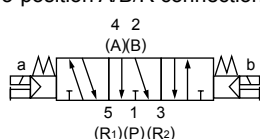
2-position double



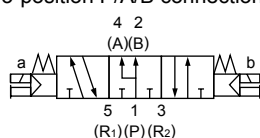
3-position all ports closed



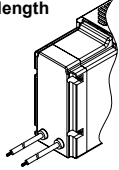
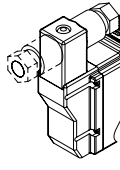
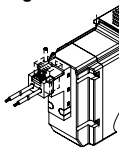
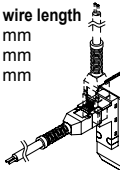
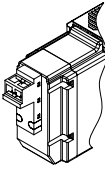
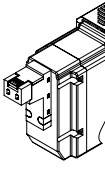
3-position A/B/R connection



3-position P/A/B connection



- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G\*0EJ
- 4F\*0EX
- 4F\*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

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

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
<b>4GA4/B4</b>
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

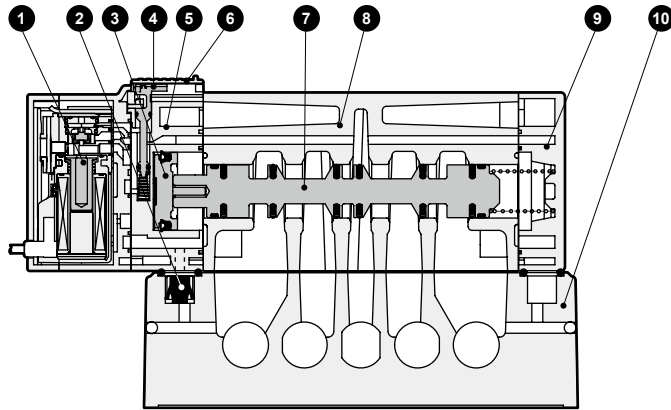
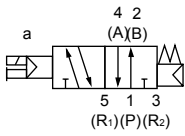


4GA/B  
M4GA/B  
MN4GA/B  
4GA/B (master)  
4GB With sensor  
4GD/E  
M4GD/E  
MN4GD/E  
4GA4/B4  
MN3E  
MN4E  
W4GA/B2  
W4GB4  
MN3S0  
MN4S0  
4SA/B0  
4KA/B  
4KA/B (master)  
4F  
4F (master)  
PV5G  
GMF  
PV5  
GMF  
PV5S-0  
3Q  
MV3QR  
3MA/B0  
3PA/B  
P/M/B  
NP/NAP  
NVP  
4G\*0EJ  
4F\*0EX  
4F\*0E  
HMV  
HSV  
2QV  
3QV  
SKH  
Silencer  
TotAirSys (Total Air)  
TotAirSys (Gamma)  
Ending

## Internal structure and parts list

### 4GB410

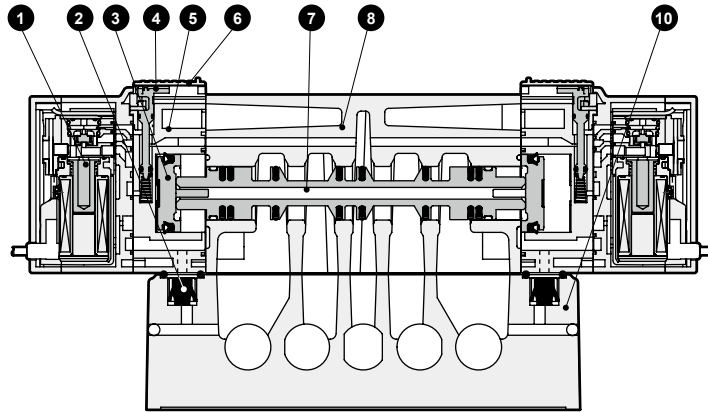
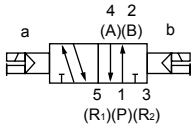
- 2-position single
- Grommet lead wire (blank)



5(R1) 4(A) 1(P) 2(B) 3(R2)

### 4GB420

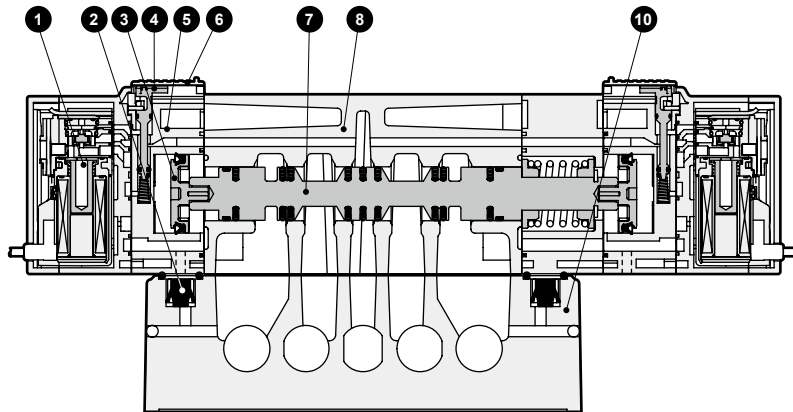
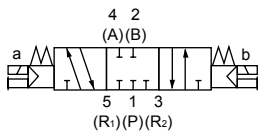
- 2-position double
- Grommet lead wire (blank)



5(R1) 4(A) 1(P) 2(B) 3(R2)

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

- 3-position
- Grommet lead wire (blank)



5(R1) 4(A) 1(P) 2(B) 3(R2)

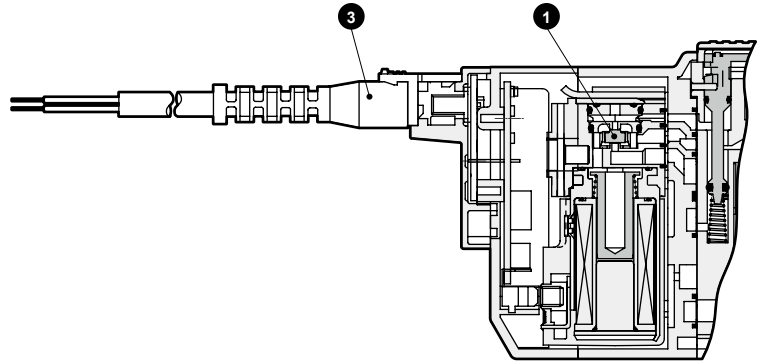
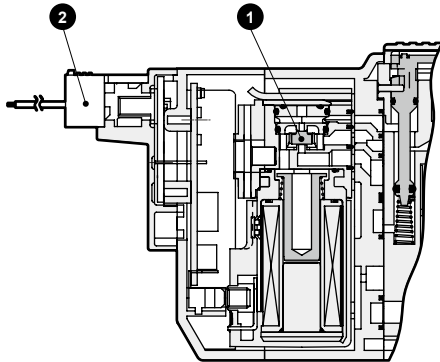
## Main parts list

No.	Part name	Material	No.	Part name	Material
1	Coil assembly	-	6	Manual protection cover	PBT
2	Check valve	H-NBR	7	Spool assembly	-
3	Piston assembly	-	8	Body	Aluminum
4	Manual override	-	9	Cap	PA
5	Piston chamber	PBT	10	Discrete sub-plate	Aluminum

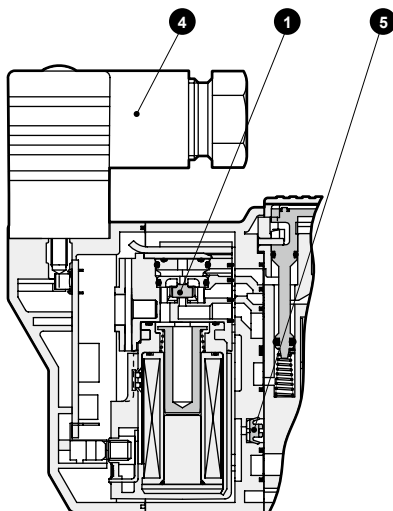
## Internal structure and parts list/dimensions (electrical connections)

● E type connector E□□

● EJ type connector E□□J



● DIN terminal box B



### Main parts list

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

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
<b>4GA4/B4</b>
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

# 4GB4 Series

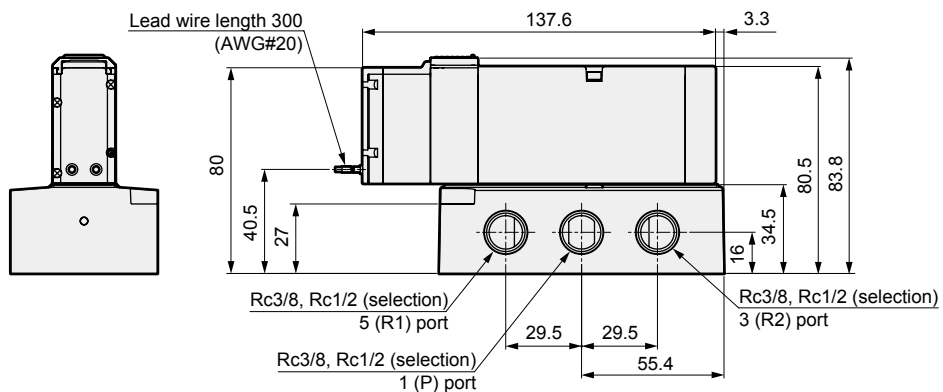
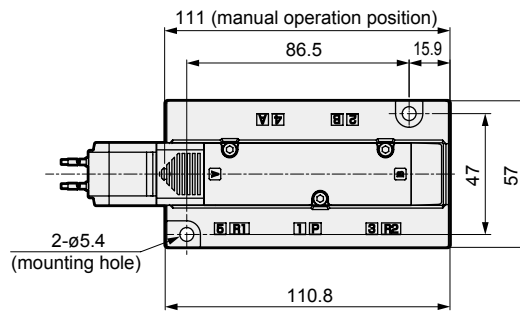
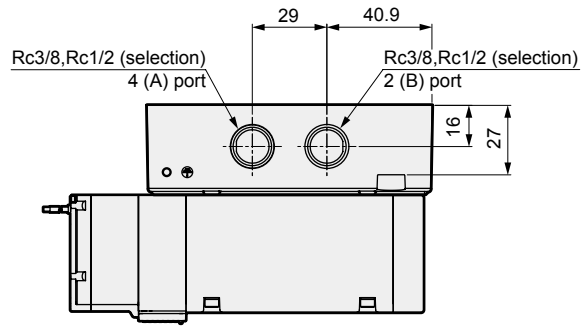
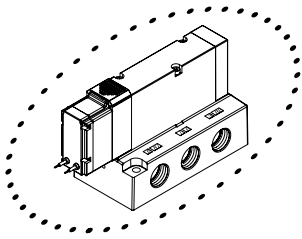
Discrete valve; base piping

## Dimensions

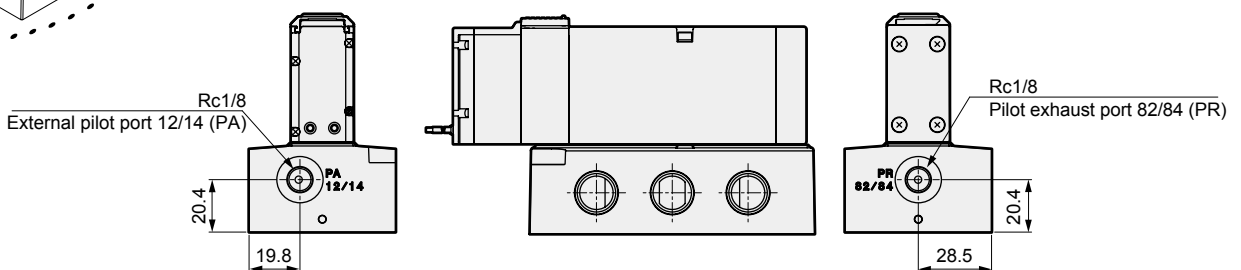
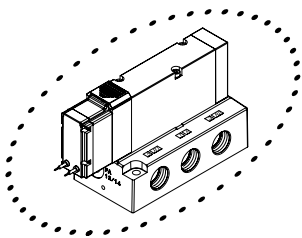
- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4**
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G\*0EJ
- 4F\*0EX
- 4F\*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

### 4GB410

● 2-position single grommet lead wire (blank)

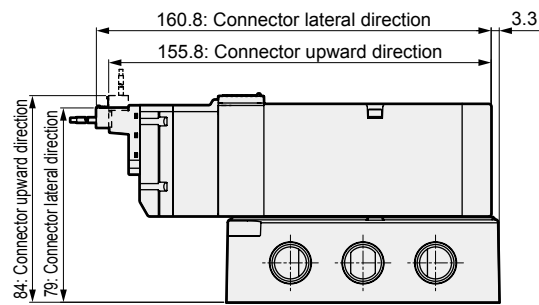
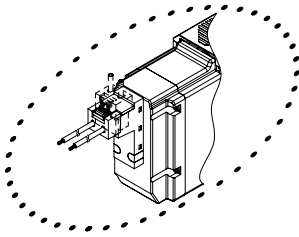


● External pilot (K)

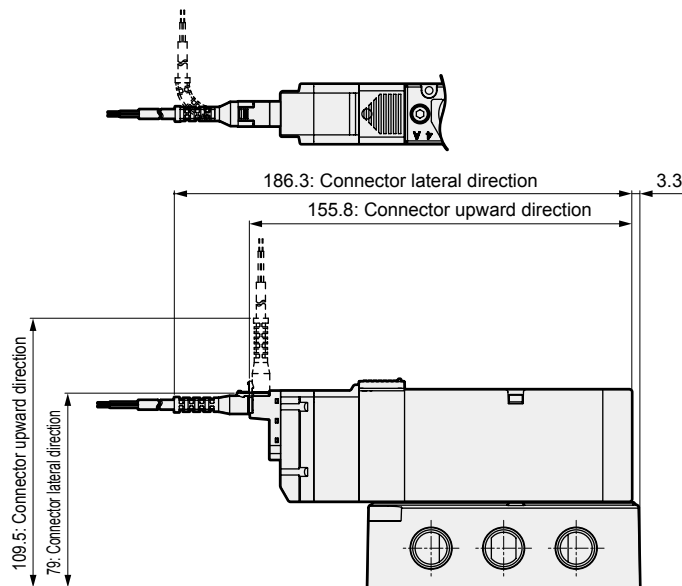
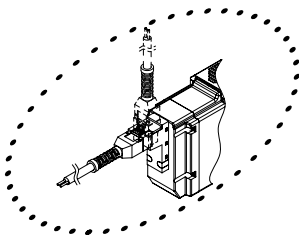


## Dimensions

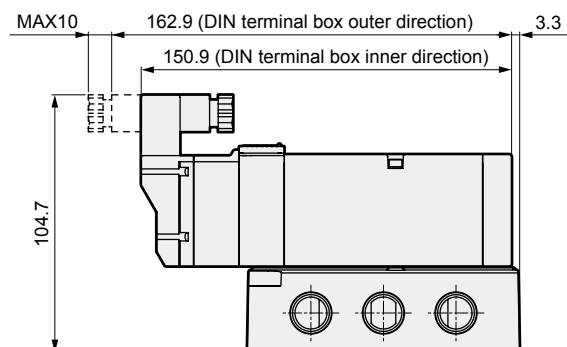
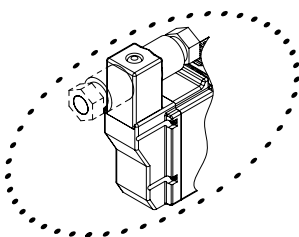
● E type connector (E)



● EJ type connector (E\*\*J)



● DIN terminal box (B)



Note: DIN terminal box assembly is shipped facing inward.

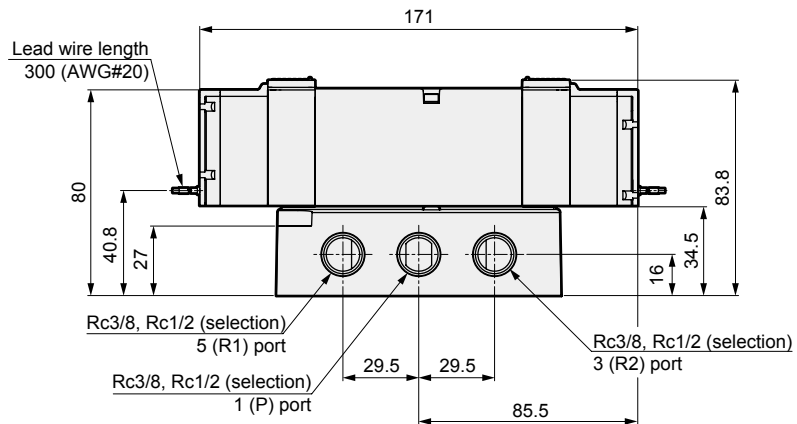
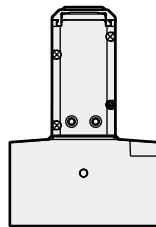
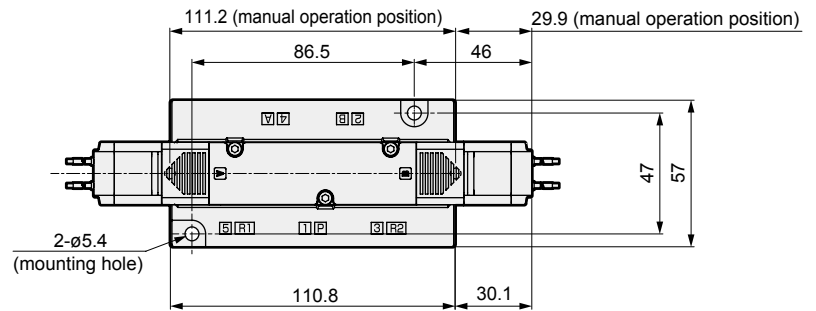
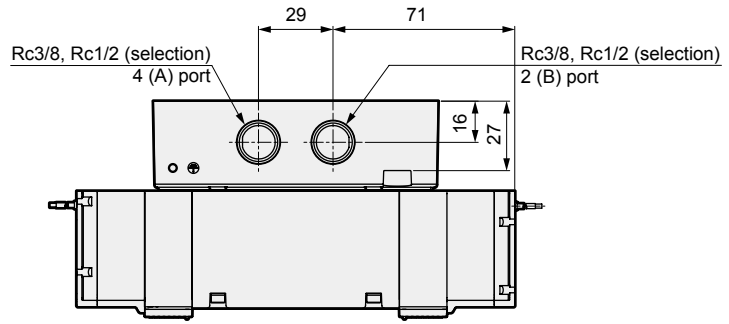
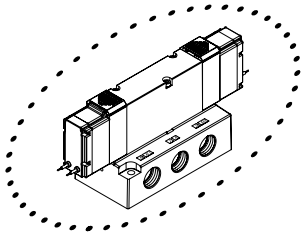
4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
<b>4GA4/B4</b>
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

4GA/B  
M4GA/B  
MN4GA/B  
4GA/B (master)  
4GB With sensor  
4GD/E  
M4GD/E  
MN4GD/E  
4GA4/B4  
MN3E  
MN4E  
W4GA/B2  
W4GB4  
MN3S0  
MN4S0  
4SA/B0  
4KA/B  
4KA/B (master)  
4F  
4F (master)  
PV5G  
GMF  
PV5  
GMF  
PV5S-0  
3Q  
MV3QR  
3MA/B0  
3PA/B  
P/M/B  
NP/NAP  
NVP  
4G\*0EJ  
4F\*0EX  
4F\*0E  
HMV  
HSV  
2QV  
3QV  
SKH  
Silencer  
TotAirSys (Total Air)  
TotAirSys (Gamma)  
Ending

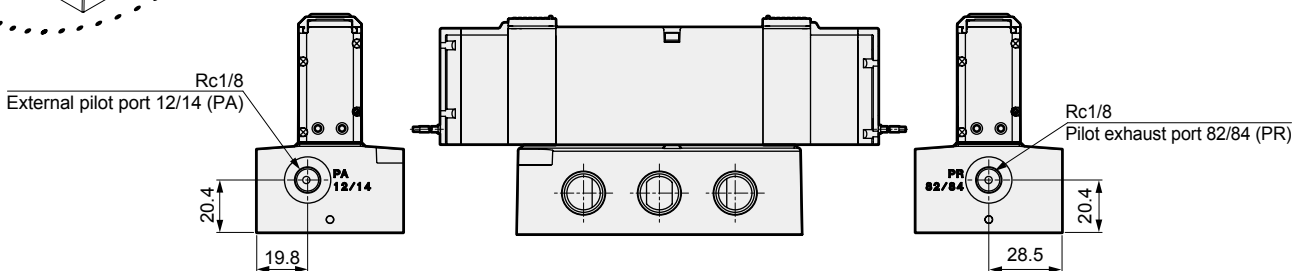
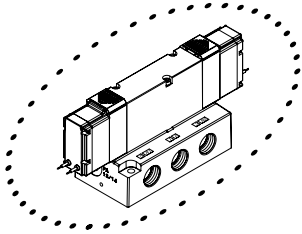
## Dimensions

### 4GB420

● 2-position double grommet lead wire (blank)

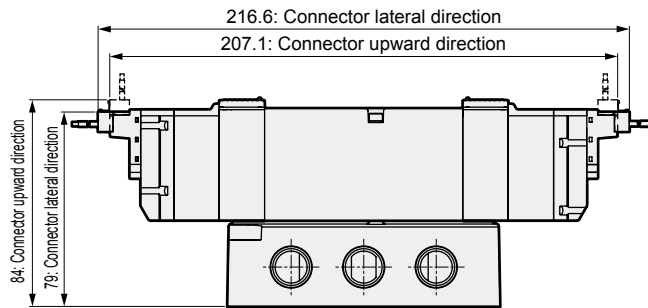
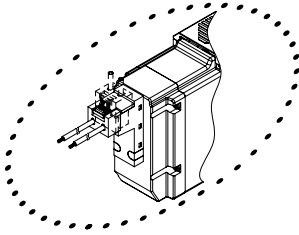


● External pilot (K)

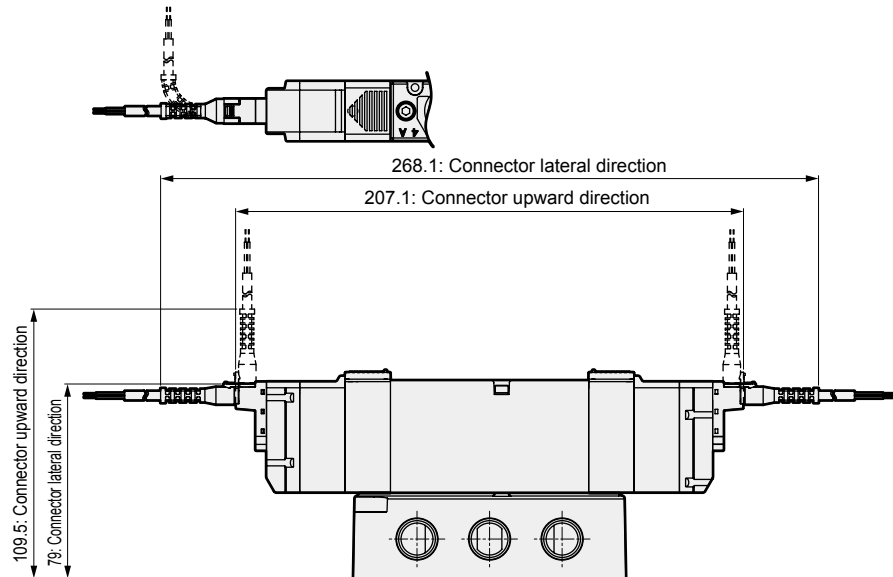
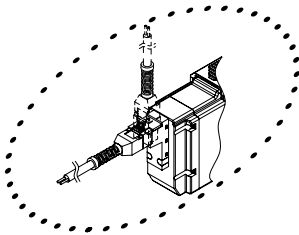


## Dimensions

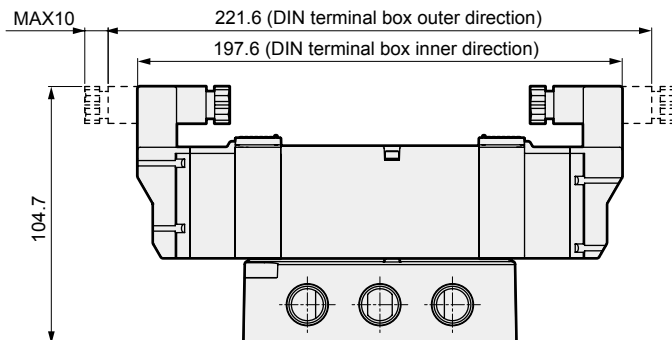
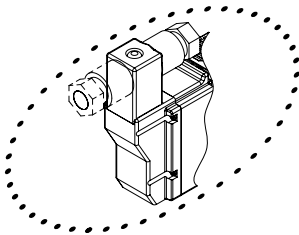
● E type connector (E)



● EJ type connector (E\*\*J)



● DIN terminal box (B)



Note: DIN terminal box assembly is shipped facing inward.

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
<b>4GA4/B4</b>
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

# 4GB4 Series

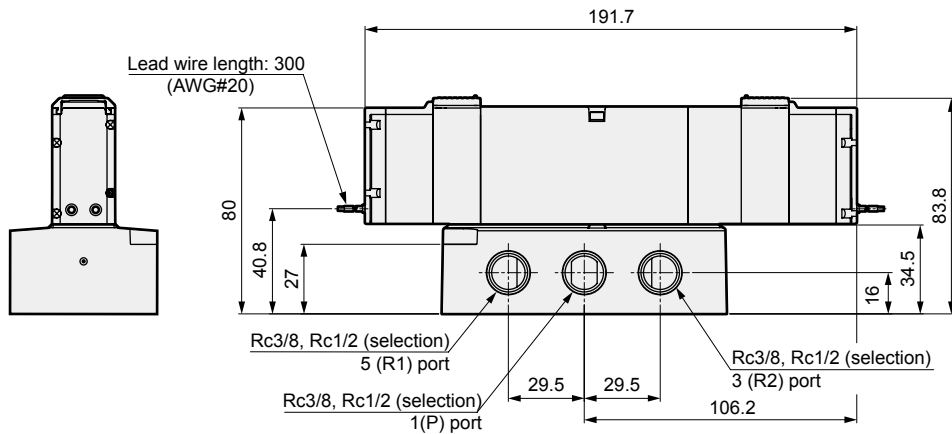
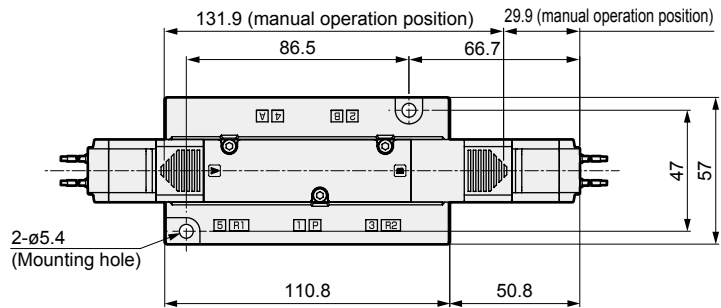
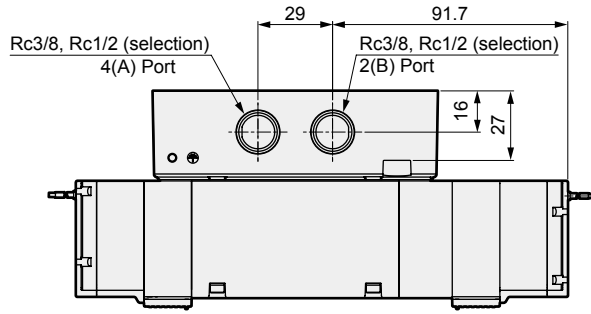
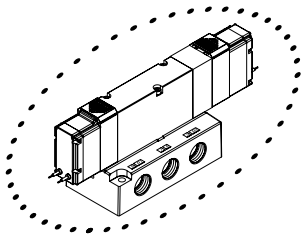
Discrete valve; base piping

## Dimensions

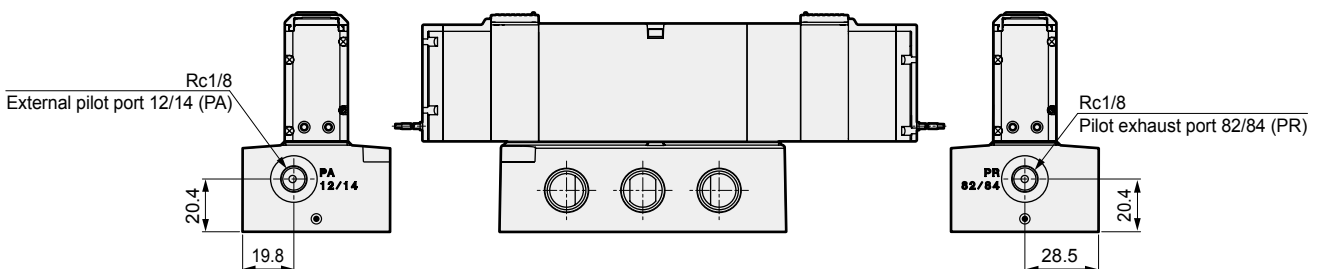
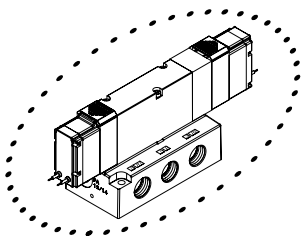
- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G\*0EJ
- 4F\*0EX
- 4F\*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

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

● 3-position grommet lead wire (blank)

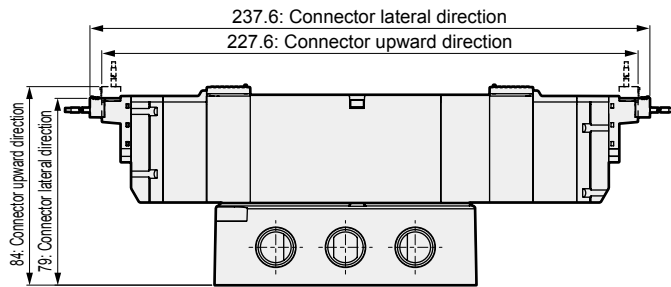
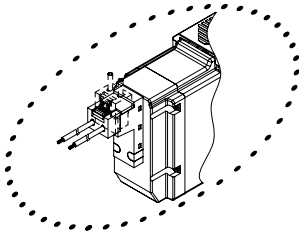


● External pilot (K)

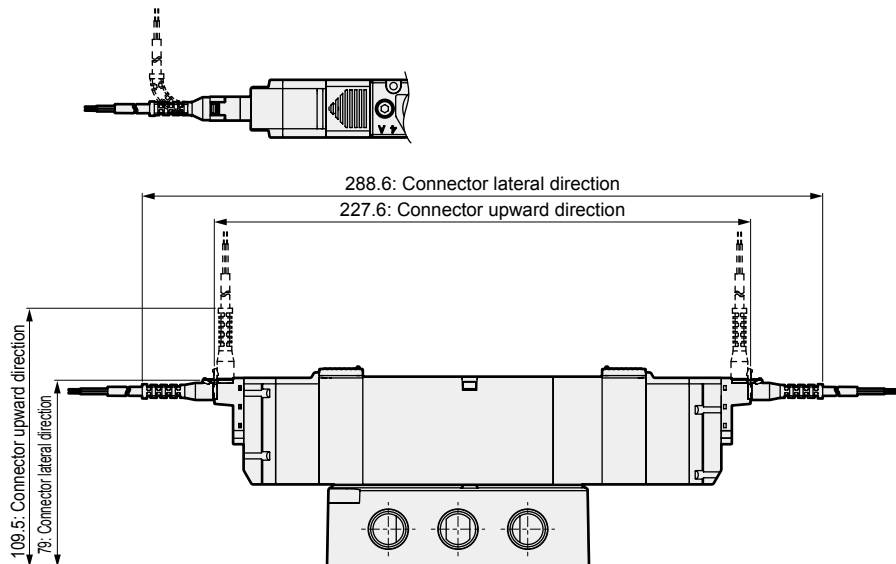
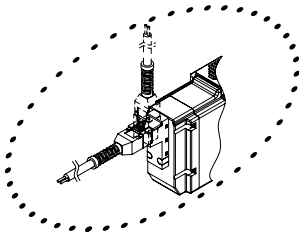


## Dimensions

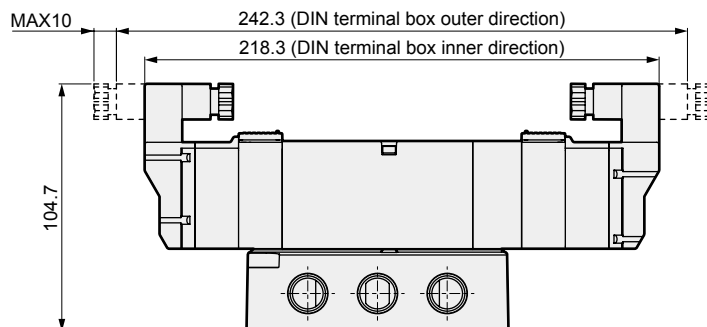
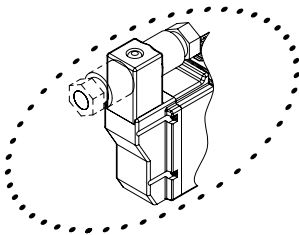
● E type connector (E)



● EJ type connector (E\*\*J)



● DIN terminal box (B)



Note: DIN terminal box assembly is shipped facing inward.

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
<b>4GA4/B4</b>
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending