



Discrete valve body piping
Pilot operated 3, 5-port pneumatic valve

3KA1/4KA1/2/3/4 Series

● Cylinder bore size: $\varnothing 20$ to $\varnothing 160$



Refer to the Ending for details.



- 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

JIS symbol

- 3-port valve
2-position NC single
- 3-port valve
2-position NO single
- 3-port valve
2-position double
- 5-port valve
2-position single
- 5-port valve
2-position double
- 5-port valve
3-position all ports closed
- 5-port valve
3-position A/B/R connection
- 5-port valve
3-position P/A/B connection
- 5-port valve
3-position P/A/B connection

Common specifications

Item	Description
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.70 (≈ 100 psi, 7 bar)
Min. working pressure MPa	Refer to Individual specifications listed below
Proof pressure MPa	1.05 (≈ 150 psi, 10.5 bar)
Ambient temperature $^{\circ}\text{C}$	-5 (23°F) to 50 (122°F) (no freezing)
Fluid temperature $^{\circ}\text{C}$	5 (41°F) to 50 (122°F)
Lubrication	Not required
Degree of protection	Dust-proof
Vibration resistance m/s^2	50 or less
Shock resistance m/s^2	300 or less
Atmosphere	Cannot be used in corrosive gas environment.

Electrical specifications

Item		3KA1, 4KA1/2	4KA3/4
Rated voltage	AC	100,200 (50 / 60 Hz)	
	DC	24	
Voltage fluctuation range		$\pm 10\%$	
Starting current	AC 100 V	0.056/0.044	0.046/0.042
	AC 200 V	0.028/0.022	0.023/0.021
Holding current	AC 100 V	0.028/0.022	0.023/0.021
	AC 200 V	0.014/0.011	
	DC 24 V	0.075	
Power consumption	AC 100 V	1.8 / 1.4 (1.8 / 1.5)	1.6 / 1.3 (1.8 / 1.5)
	AC 200 V	1.8 / 1.4 (1.8 / 1.5)	1.6 / 1.3 (1.8 / 1.5)
	DC 24 V	1.8 (2.0)	
Thermal class		B (molded coil)	
Temperature rise $^{\circ}\text{C}$		43	30

Reference: 100 VAC 50/60 Hz can be used with a rated voltage of 110 VAC 60 Hz and 200 VAC 50/60 Hz can be used with 220 VAC 60 Hz.

Individual specifications

1 MPa \approx 145.0 psi, 1 MPa = 10 bar

Item			3KA1	4KA1	4KA2	4KA3	4KA4
Min. working pressure	2-position	Single	0.15	0.15	0.15	0.15	0.15
		Double			0.10	0.10	0.10
MPa	3-position		-	0.20	0.20	0.20	0.20
Port size	P/A/B port		M5 Push-in fitting $\varnothing 4, \varnothing 6$	M5 Push-in fitting $\varnothing 4, \varnothing 6$	Rc1/8, G1/8, NPT1/8 Push-in fitting $\varnothing 6, \varnothing 8$	Rc1/4, G1/4, NPT1/4 Push-in fitting $\varnothing 8, \varnothing 10$	Rc3/8, G3/8, NPT3/8 Push-in fitting $\varnothing 10, \varnothing 12$
	R1/R2 port		M5	M5	Rc1/8, G1/8, NPT1/8	Rc1/4, G1/4, NPT1/4	Rc3/8, G3/8, NPT3/8

Performance/characteristics by model

Item		3KA1	4KA1	4KA2	4KA3	4KA4
Response time	2-position	30 or less	30 or less	30 or less	30 or less	30 or less
*1	ms 3-position	-	60 or less	60 or less	60 or less	60 or less

*1: The response time is the value at 0.5 MPa working pressure, with no lubrication, and with the power ON. It depends on the pressure and the lubricant quality.

Weight

Item			3KA1	4KA1	4KA2	4KA3	4KA4
Weight	g	2-position Single	70	70	115	214	325
		Double	110	110	155	315	435
	3-position	-	120	170	354	505	

Flow characteristics

Model No.	Solenoid position	C[dm ³ /(s·bar)]	b	
3KA1	2-position	0.65	0.37	
4KA1	2-position	0.65	0.37	
	3-position	All ports closed	0.60	0.32
		A/B/R connection	0.68	0.39
		P/A/B connection	0.61	0.36
4KA2	2-position	2.6	0.43	
	3-position	All ports closed	2.3	0.43
		A/B/R connection	2.9	0.34
		P/A/B connection	2.3	0.42
4KA3	2-position	5.6	0.49	
	3-position	All ports closed	4.1	0.60
		A/B/R connection	4.1	0.62
		P/A/B connection	4.2	0.68
4KA4	2-position	9.8	0.49	
	3-position	All ports closed	8.2	0.54
		A/B/R connection	11	0.50
		P/A/B connection	8.4	0.54

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

*2: Flow characteristics are values when the port size is M5 (3KA1, 4KA1), Rc1/8 (4KA2), Rc1/4 (4KA3), or Rc3/8 (4KA4).

Ozone-proof specifications (Ending Page 5)

** - Voltage - **P11**

Copper and PTFE free specifications

● Copper- and PTFE-based materials are not used in the flow path.

** - Voltage - **P6**

CE marking specifications

** - Voltage - **ST**

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

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

3KA1/4KA1 to 4 Series

Discrete valve; body piping

How to order

4KA2 1 0 - 06 - M1 B - AC100V

● Single solenoid valve for manifold

4KA2 1 9 - 06 - M1 B - AC100V

A Model No. **B** Solenoid position

C Port size

D Manual override

E Electrical connections
* Refer to page 1263 for the circuit diagram with surge suppressor/lamp.

F Other options

G Voltage

[Table 1] Compact terminal box L/LS compatibility table

Code	Description		3KA1	4KA1	4KA2	4KA3	4KA4	Surge suppressor
L	Without lead wire	With indicator lamp	AC	●	●	●	●	●
		DC				●	●	
	with surge suppressor/indicator lamp	AC						
		DC	●	●	●			Integrated
LS	Without lead wire	with surge suppressor/indicator lamp	AC	●	●	●	●	Integrated
		DC				●	●	Integrated

⚠ Precautions for model No. selection

*1 : The compact terminal boxes of 3KA1, 4KA1, and 4KA2 and the DC voltage models of L, and LS are equipped with a surge suppressor.

*2 : The surge suppressor for attachment is a suppression connector when the grommet lead wire is 24 VDC or less. (Refer to page 1262)

*3 : The surge suppressor can only be selected when the grommet lead wire or compact terminal box "B" has been selected for the electrical connections.

*4 : With regard to the printed model No., although the model No. when placing an order is "4KA□□9", the model No. listed on the product name plate will be "4KA□□0".

[Example of model No.]

4KA210-06-M1BP-AC100V

- A** Model : 4KA2
- B** Solenoid position : 2-position single
- C** Port size : Rc1/8
- D** Manual override : Locking manual override
- E** Electrical connections: Compact terminal box/without lead wire
- F** Other options : With mounting plate
- G** Voltage : 100 VAC 50/60 Hz

* Gasket/mounting screw attached (*4)

		A Model No.					
		3KA1	4KA1	4KA2	4KA3	4KA4	
Solenoid position B	Code	Description					
	1	2-position single		●	●	●	
	2	2-position double	●	●	●	●	
	3	3-position all ports closed		●	●	●	
	4	3-position A/B/R connection		●	●	●	
	5	3-position P/A/B connection		●	●	●	
Solenoid position B	1	2-position single normally closed	●				
	11	2-position single normally open	●				
Port size C	Port	P/A/B port	R1/R2 port (1) = M5 (2) = Rc1/8 (3) = Rc1/4 (4) = Rc3/8				
	M5	M5	(1)	(1)			
	06	Rc1/8			(2)		
	08	Rc1/4				(3)	
	10	Rc3/8				(4)	
	GS4	ø4 Push-in fitting	(1)	(1)			
	GS6	ø6 Push-in fitting	(1)	(1)	(2)		
	GS8	ø8 Push-in fitting			(2)	(3)	
	GS10	ø10 Push-in fitting				(3) (4)	
	GS12	ø12 Push-in fitting				(4)	
	Port	P/A/B port	R1/R2 port (1) = M5 (5) = NPT1/8 (6) = NPT1/4 (7) = NPT3/8				
	06N	NPT1/8			(5)		
	08N	NPT1/4				(6)	
	10N	NPT3/8				(7)	
GS4N	ø4 Push-in fitting	(1)	(1)				
GS6N	ø6 Push-in fitting	(1)	(1)	(5)			
GS8N	ø8 Push-in fitting			(5)	(6)		
GS10N	ø10 Push-in fitting				(6) (7)		
GS12N	ø12 Push-in fitting				(7)		
Port size C	Port	P/A/B port	R1/R2 port (1) = M5 (8) = G1/8 (9) = G1/4 (10) = G3/8				
	06G	G1/8			(8)		
	08G	G1/4				(9)	
	10G	G3/8				(10)	
	GS4G	ø4 Push-in fitting	(1)	(1)			
	GS6G	ø6 Push-in fitting	(1)	(1)	(8)		
	GS8G	ø8 Push-in fitting			(8)	(9)	
	GS10G	ø10 Push-in fitting				(9) (10)	
	GS12G	ø12 Push-in fitting				(10)	
	D	Blank	Non-locking manual override	●	●	●	●
		M1	Locking manual override	●	●	●	●
	E	Refer to the electrical connections list on the next page.					
	F	Blank	No option	●	●	●	●
P		Mounting plate (compatible only with 2-position single)	●	●	●	●	
S		Surge suppressor attached (*2) (*3)	●	●	●	●	
-A		Coolant supported (packing: FKM)	●	●	●	●	
Voltage G	AC100V	100 VAC 50/60 Hz	●	●	●	●	
	AC200V	200 VAC 50/60 Hz	●	●	●	●	
	DC24V	24 VDC	●	●	●	●	
	DC12V	12 VDC	●	●	●	●	
	AC110V	110 VAC 50/60 Hz	●	●	●	●	
	AC220V	220 VAC 50/60 Hz	●	●	●	●	
* Other custom order products							
AC24V			●	●	●	●	
AC115V			●	●	●	●	
AC120V			●	●	●	●	

3KA1/4KA1 to 4 Series

Discrete valve; body piping

[Electrical connections list]

		A Model No.				
		3KA1	4KA1	4KA2	4KA3	4KA4
Code	Description					
E	Grommet lead wire					
	Blank	Grommet lead wire (300 mm)	●	●	●	●
	Compact terminal box					
	B	Without lead wire	●	●	●	●
	L	Without lead wire	Refer to [Table 1] on the previous page for details (*1)			
	LS	Without lead wire, with surge suppressor/lamp	Refer to [Table 1] on the previous page for details (*1)			
	C-connector (lead wire lateral direction)					
	C	Lead wire length (300 mm)	●	●	●	●
	C00	Lead wire length (500 mm)	●	●	●	●
	C01	Lead wire length (1000 mm)	●	●	●	●
	C02	Lead wire length (2000 mm)	●	●	●	●
	C03	Lead wire length (3000 mm)	●	●	●	●
	C1	Without lead wire	●	●	●	●
	C2	Lead wire length (300 mm) with surge suppressor/lamp	●	●	●	●
	C20	Lead wire length (500 mm) with surge suppressor/lamp	●	●	●	●
	C21	Lead wire length (1000 mm) with surge suppressor/lamp	●	●	●	●
	C22	Lead wire length (2000 mm) with surge suppressor/lamp	●	●	●	●
	C23	Lead wire length (3000 mm) with surge suppressor/lamp	●	●	●	●
	C3	Without lead wire, with surge suppressor/lamp	●	●	●	●
	D-connector (lead wire upward direction)					
	D	Lead wire length (300 mm)	●	●	●	●
	D00	Lead wire length (500 mm)	●	●	●	●
	D01	Lead wire length (1000 mm)	●	●	●	●
	D02	Lead wire length (2000 mm)	●	●	●	●
	D03	Lead wire length (3000 mm)	●	●	●	●
	D1	Without lead wire	●	●	●	●
	D2	Lead wire length (300 mm) with surge suppressor/lamp	●	●	●	●
	D20	Lead wire length (500 mm) with surge suppressor/lamp	●	●	●	●
	D21	Lead wire length (1000 mm) with surge suppressor/lamp	●	●	●	●
	D22	Lead wire length (2000 mm) with surge suppressor/lamp	●	●	●	●
	D23	Lead wire length (3000 mm) with surge suppressor/lamp	●	●	●	●
	D3	Without lead wire, with surge suppressor/lamp	●	●	●	●

- 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

3KA1/4KA1 Series

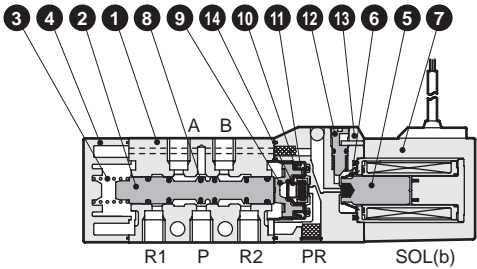
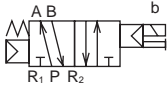
Discrete valve; body piping

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
- 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

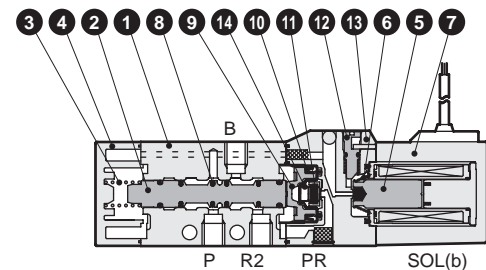
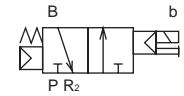
4KA110

● 2-position single



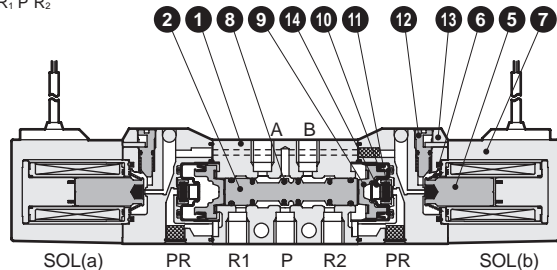
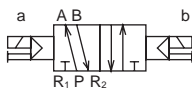
3KA110-NC

● 2-position single / NC



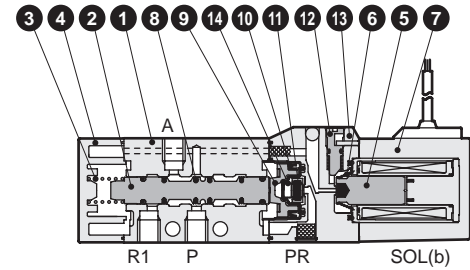
4KA120

● 2-position double



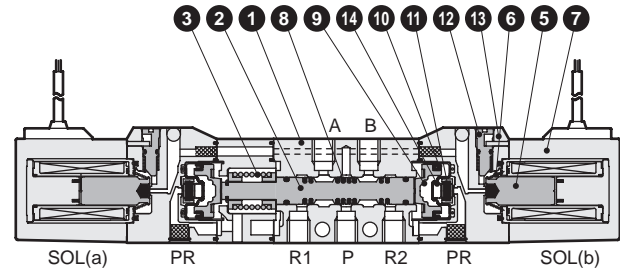
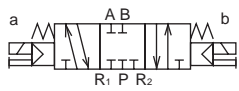
3KA1110-NO

● 2-position single / NO



4KA130

● 3-position all ports closed



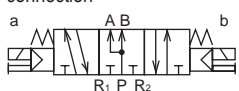
4KA140

● 3-position A/B/R connection



4KA150

● 3-position P/A/B connection



Main parts list

No.	Part name	Material
1	Body	Aluminum alloy die-casting
2	Valving element (spool)	Aluminum
3	Valve spring	Stainless steel
4	Cap	Resin
5	Plunger	-
6	Plunger spring	-
7	Coil assembly	-
8	Spool packing	Nitrile rubber
9	Piston	Resin
10	Piston packing	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot valve	Resin
14	Valve seat spring	Stainless steel

Repair parts list

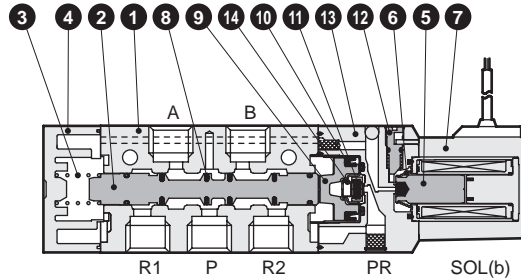
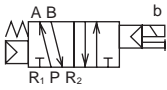
No./part name	2 8	9 10	5 6 7
Model No.	Spool assembly	Piston assembly	Coil assembly *
3KA110	4K9-110	4K9-151	4K1L- E electrical connection option code Blank for grommet lead wire
3KA1110			
4KA110	4K9-110	4K9-151	COIL - G Voltage
4KA120			
4KA130	4K9-111	4K9-152	
4KA140			
4KA150	4K9-113		

* The compact terminal box and connector of the coil assembly will come assembled and included with the options of the descriptions indicated with model No. selection.

Internal structure and parts list

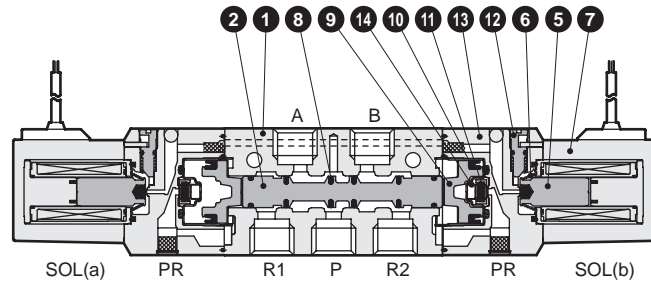
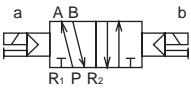
4KA210

● 2-position single



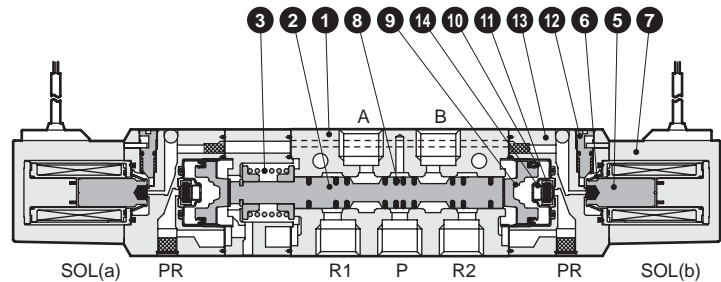
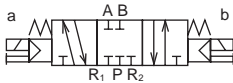
4KA220

● 2-position double



4KA230

● 3-position all ports closed



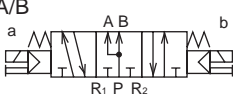
4KA240

● 3-position A/B/R connection



4KA250

● 3-position P/A/B connection



Main parts list

No.	Part name	Material
1	Body	Aluminum alloy die-casting
2	Valving element (spool)	Aluminum
3	Valve spring	Stainless steel
4	Cap	Resin
5	Plunger	-
6	Plunger spring	-
7	Coil assembly	-
8	Spool packing	Nitrile rubber
9	Piston	Resin
10	Piston packing	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot valve	Resin
14	Valve seat spring	Stainless steel

Repair parts list

No./part name	2 8	9 10	5 6 7
Model No.	Spool assembly	Piston assembly	Coil assembly *
4KA210	4K9-150	4K9-153	4K1L E electrical connection option code Blank for grommet lead wire COIL - G Voltage
4KA220	4K9-126		
4KA230	4K9-127		
4KA250	4K9-129		

* The compact terminal box and connector of the coil assembly will come assembled and included with the options of the descriptions indicated with model No. selection.

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

4KA3 Series

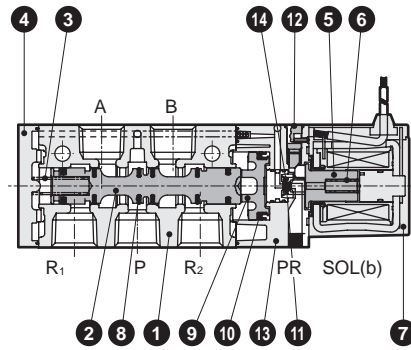
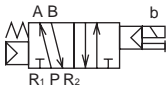
Discrete valve; body piping

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
- 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

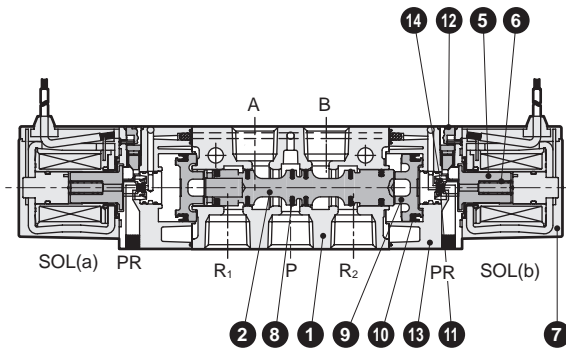
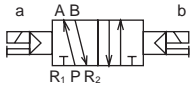
4KA310

● 2-position single



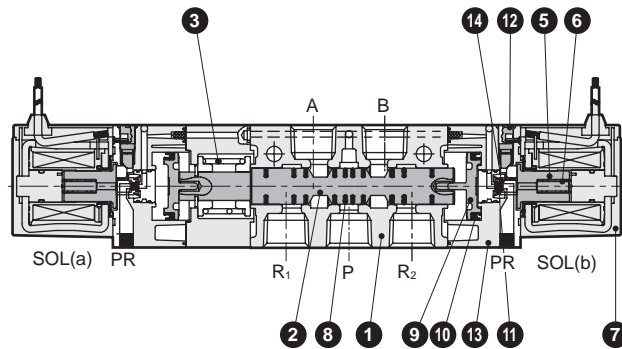
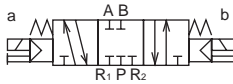
4KA320

● 2-position double



4KA330

● 3-position all ports closed



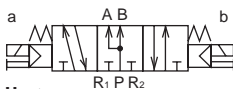
4KA340

● 3-position A/B/R connection



4KA350

● 3-position P/A/B connection



Main parts list

Repair parts list

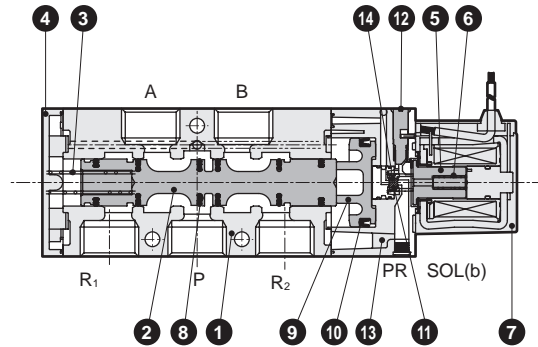
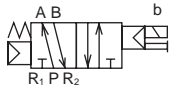
No.	Part name	Material	No./part name		2 8 9 10 5 6 7		
			Model No.	Spool assembly	Piston assembly	Coil assembly *	
1	Body	Aluminum alloy die-casting	4KA310				
2	Valving element (spool)	Aluminum	4KA320	4K9-133	4K9-137		
3	Valve spring	Stainless steel	4KA330	4K9-134			
4	Cap	Resin	4KA340	4K9-135	4K9-138		
5	Plunger	-	4KA350	4K9-136			
6	Plunger spring	-					
7	Coil assembly	-					
8	Spool packing	Nitrile rubber					
9	Piston	Resin					
10	Piston packing	Nitrile rubber					
11	Valve seat	Nitrile rubber					
12	Manual button	Resin					
13	Pilot valve	Resin					
14	Valve seat spring	Stainless steel					

* The terminal box and connector of the coil assembly will come assembled and included with the options of the descriptions indicated with model No. selection.

Internal structure and parts list

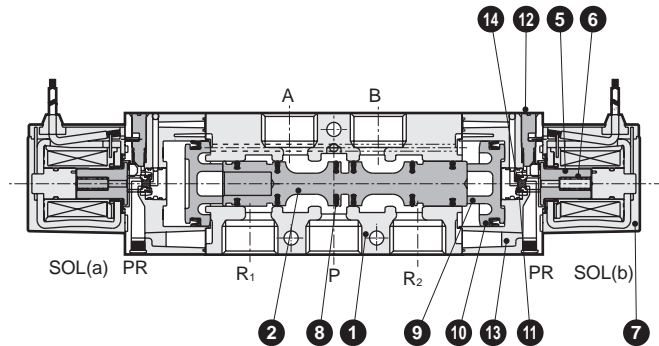
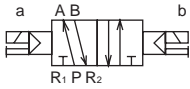
4KA410

● 2-position single



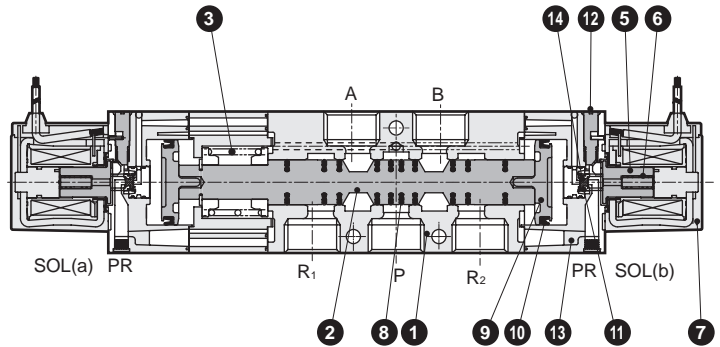
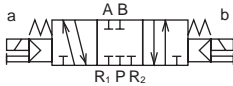
4KA420

● 2-position double



4KA430

● 3-position all ports closed



4KA440

● 3-position A/B/R connection



4KA450

● 3-position P/A/B connection



Main parts list

No.	Part name	Material
1	Body	Aluminum alloy die-casting
2	Valving element (spool)	Aluminum
3	Valve spring	Stainless steel
4	Cap	Resin
5	Plunger	-
6	Plunger spring	-
7	Coil assembly	-
8	Spool packing	Nitrile rubber
9	Piston	Resin
10	Piston packing	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot valve	Resin
14	Valve seat spring	Stainless steel

Repair parts list

No./part name	2 8	9 10	5 6 7
Model No.	Spool assembly	Piston assembly	Coil assembly *
4KA410	4K9-140	4K9-144	4K3- E electrical connection option code Blank for grommet lead wire COIL - G Voltage
4KA420	4K9-141	4K9-145	
4KA430	4K9-142		
4KA440	4K9-143		

* The terminal box and connector of the coil assembly will come assembled and included with the options of the descriptions indicated with model No. selection.

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

3KA1 Series

Discrete valve; body piping

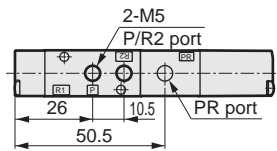
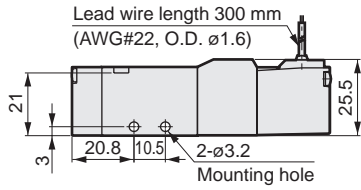
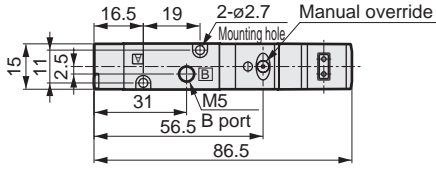
Dimensions

- 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

3KA110



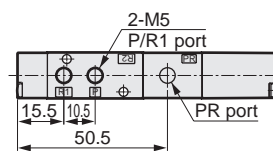
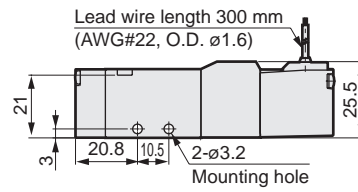
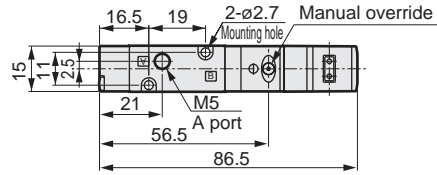
● 2 position NC single: grommet lead wire



3KA1110



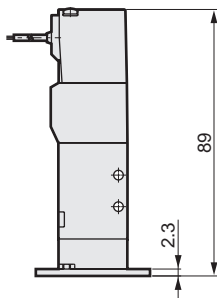
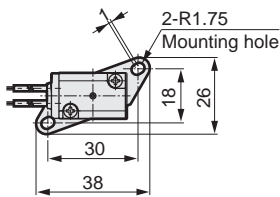
● 2 position NO single: grommet lead wire



● Mounting plate: (P [2-position single])

Material: Steel

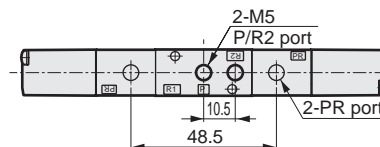
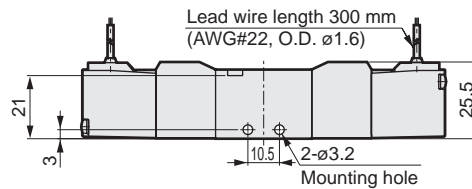
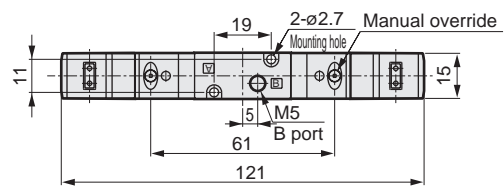
Zinc chromate treatment



3KA120

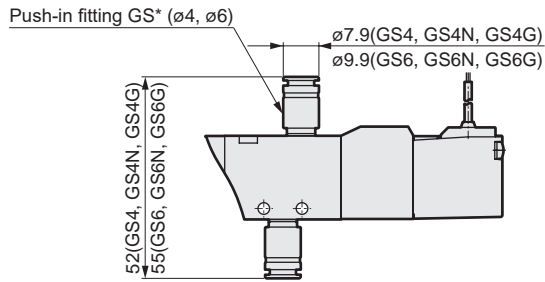


● 2 position NC double: grommet lead wire



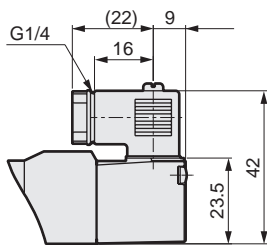
Dimensions

- $\varnothing 4/\varnothing 6$ push-in fitting: (GS4*/GS6*)

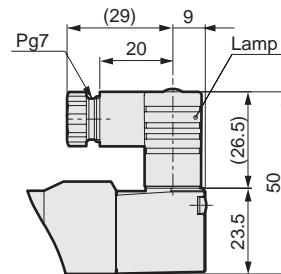


- Compact terminal box: (B [Without lamp]/L/LS [With lamp])

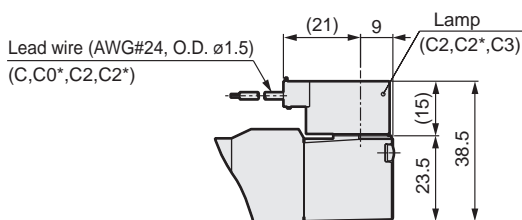
Without indicator lamp



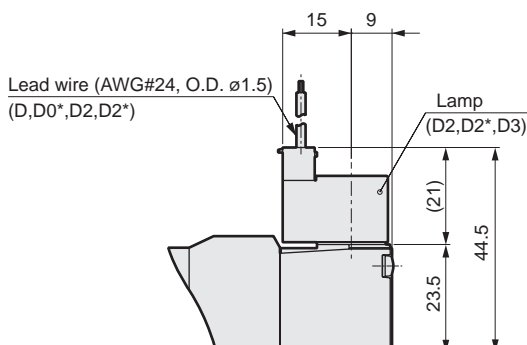
With indicator lamp



- C-connector: (C/C1/C0*/C2/C2*/C3)



- D-connector: (D/D1/D0*/D2/D2*/D3)



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

4KA1 Series

Discrete valve; body piping

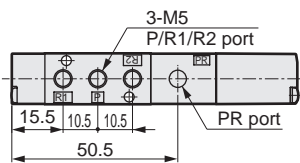
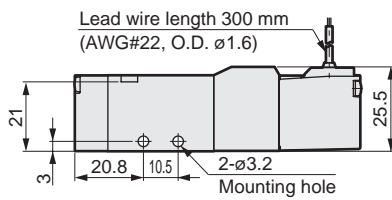
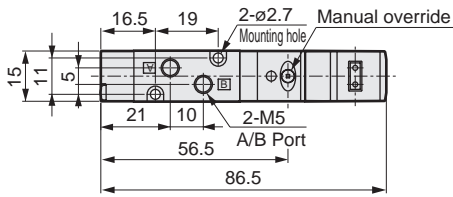
Dimensions

- 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

4KA110



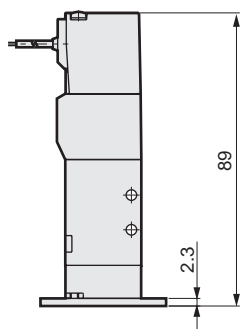
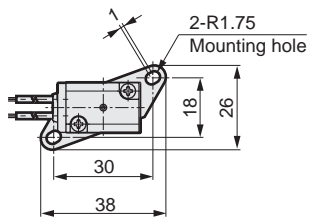
● 2-position single: grommet lead wire



● Mounting plate: (P [2-position single only])

Material: Steel

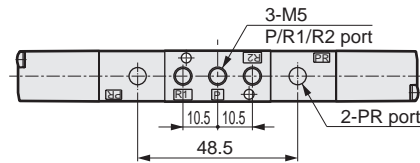
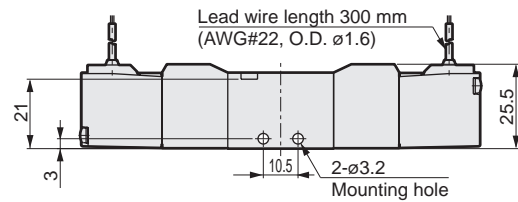
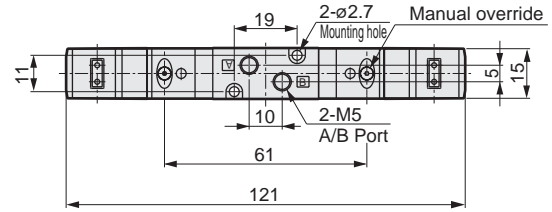
Zinc chromate treatment



4KA120



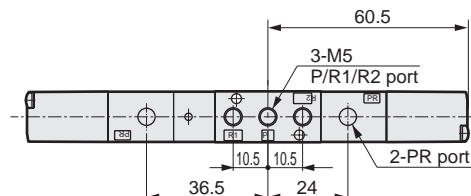
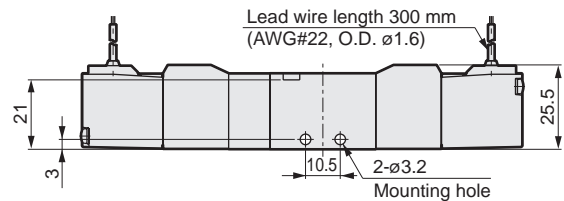
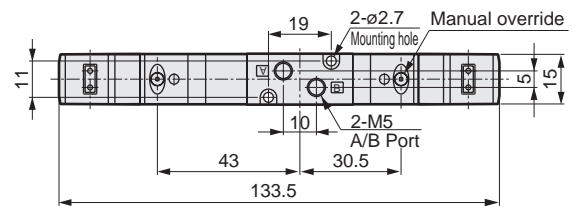
● 2-position double: grommet lead wire



4KA140

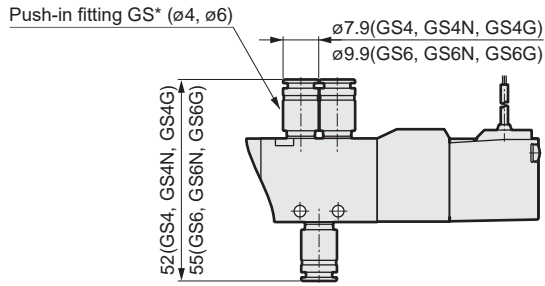


● 3-position: grommet lead wire



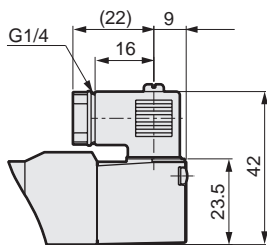
Dimensions

- $\varnothing 4/\varnothing 6$ push-in fitting: (GS4*/GS6*)

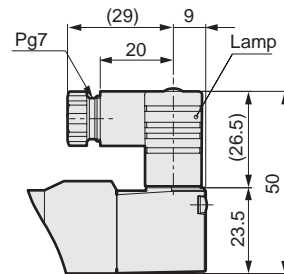


- Compact terminal box: (B [Without lamp]/L/LS [With lamp])

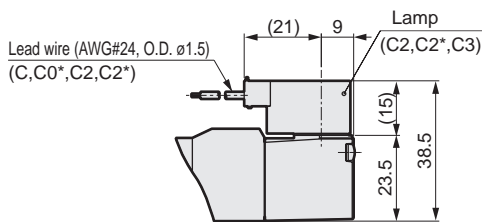
Without indicator lamp



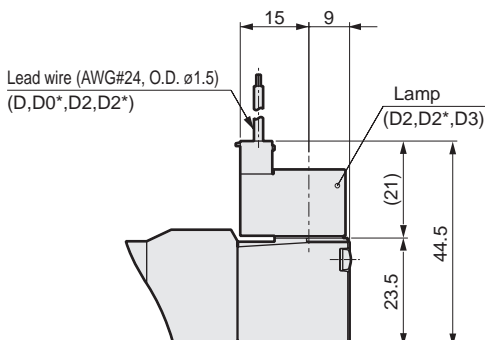
With indicator lamp



- C-connector: (C/C1/C0*/C2/C2*/C3)



- D-connector: (D/D1/D0*/D2/D2*/D3)



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

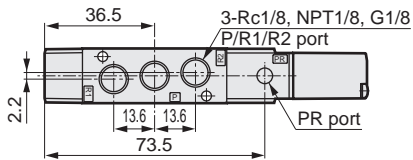
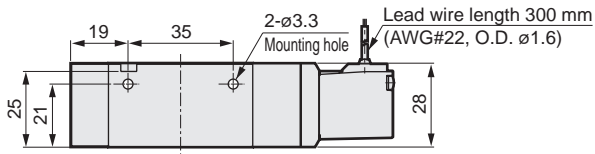
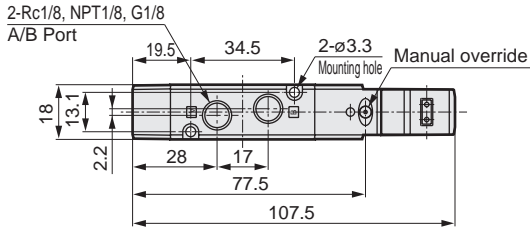
4KA2 Series

Discrete valve; body piping

Dimensions

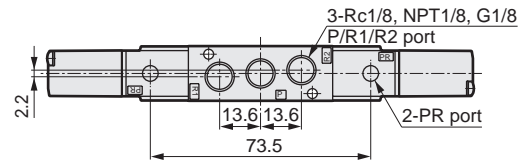
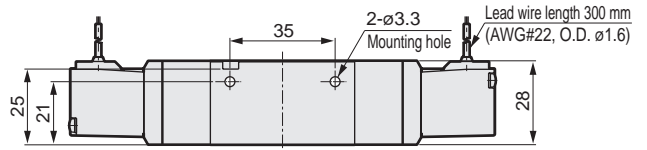
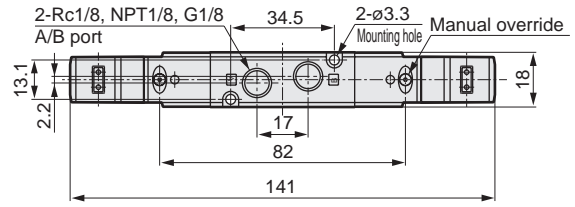
4KA210

● 2-position single: grommet lead wire



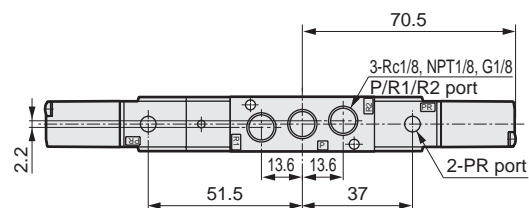
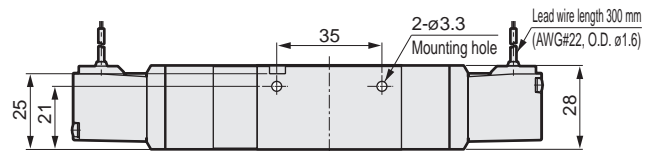
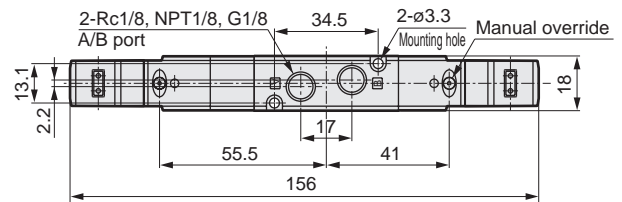
4KA220

● 2-position double: grommet lead wire



4KA240

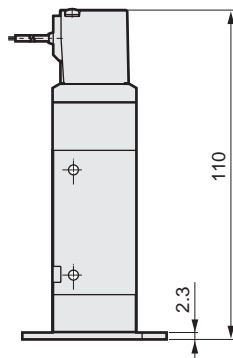
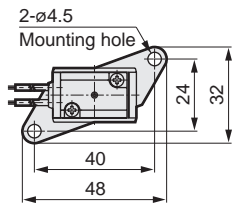
● 3-position: grommet lead wire



● Mounting plate: (P [2-position single only])

Material: Steel

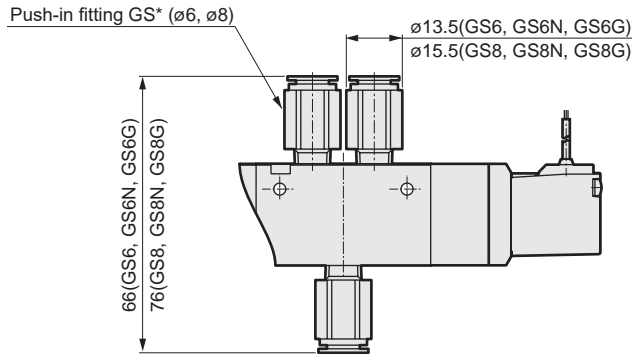
Zinc chromate treatment



- 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

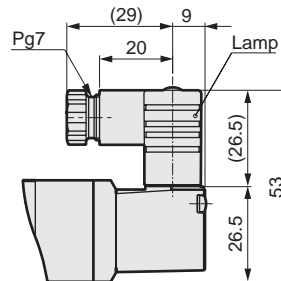
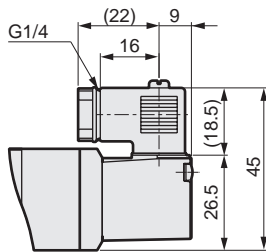
- $\varnothing 6/\varnothing 8$ push-in fitting: (GS6*/GS8*)



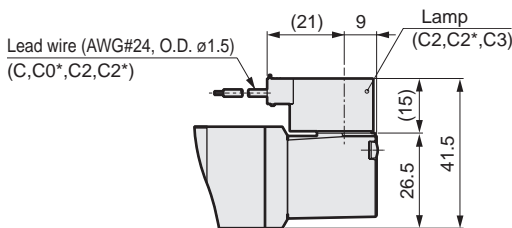
- Compact terminal box: (B [Without lamp]/L/LS [With lamp])

Without indicator lamp

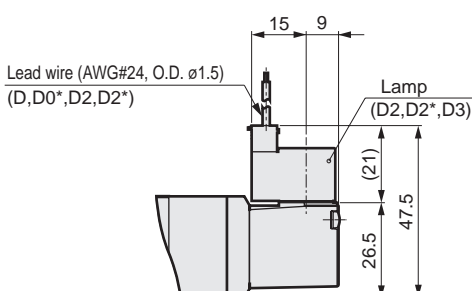
With indicator lamp



- C-connector: (C/C1/C0*/C2/C2*/C3)



- D-connector: (D/D1/D0*/D2/D2*/D3)



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

4KA3 Series

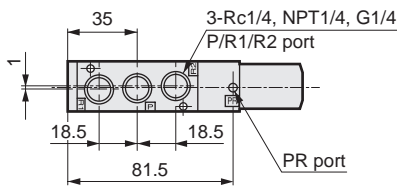
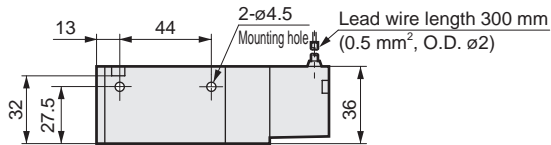
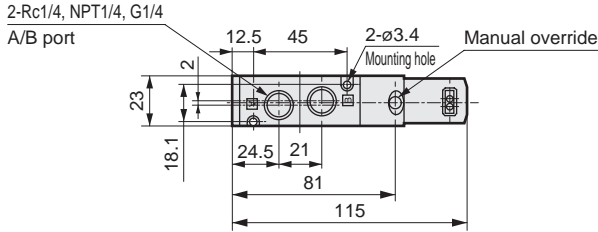
Discrete valve; body piping

Dimensions

4KA310



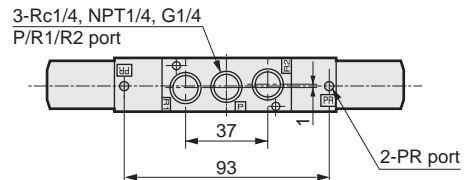
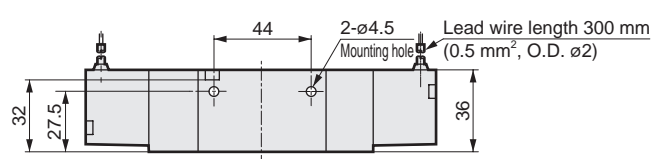
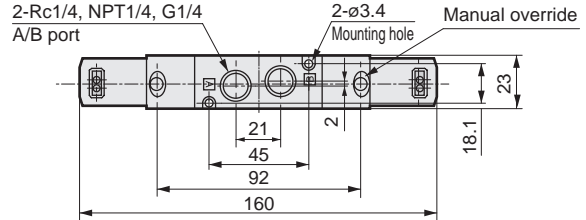
● 2-position single: grommet lead wire



4KA320



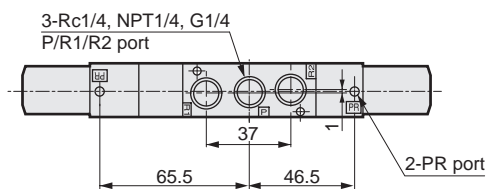
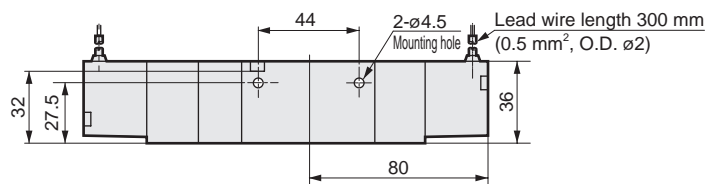
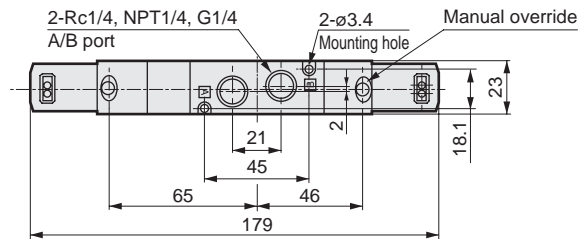
● 2-position double: grommet lead wire



4KA340



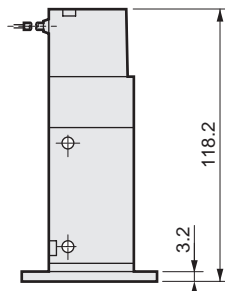
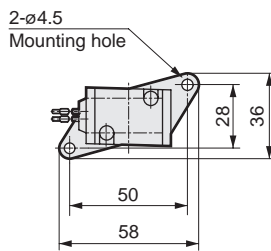
● 3-position: grommet lead wire



● Mounting plate: (P [2-position single only])

Material: Steel

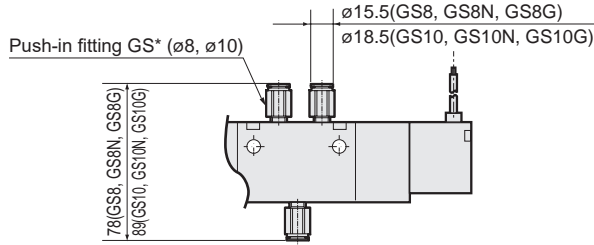
Zinc chromate treatment



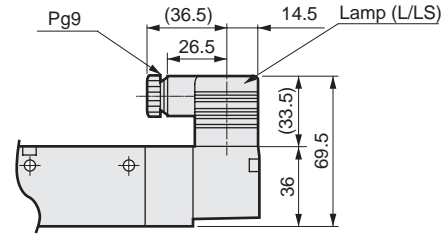
- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B**
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G*0EJ
- 4F*0EX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

Dimensions

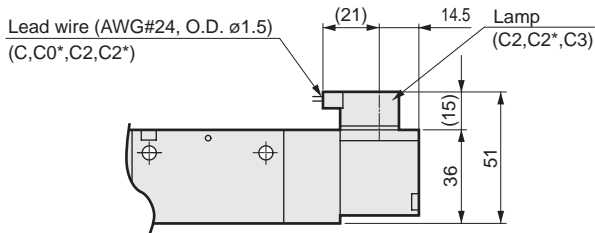
● $\varnothing 8/\varnothing 10$ push-in fitting: (GS8*/GS10*)



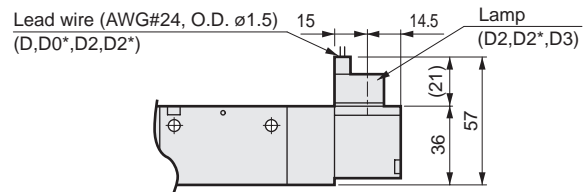
● Terminal box: (B/L/LS)



● C-connector: (C/C1/C0*/C2/C2*/C3)



● D-connector: (D/D1/D0*/D2/D2*/D3)



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

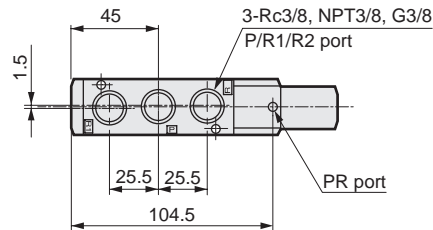
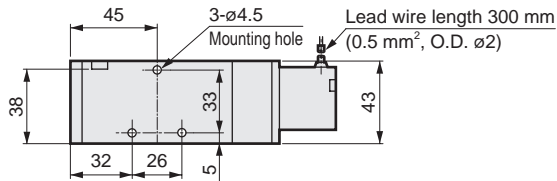
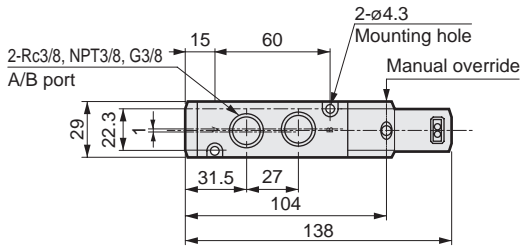
4KA4 Series

Discrete valve; body piping

Dimensions

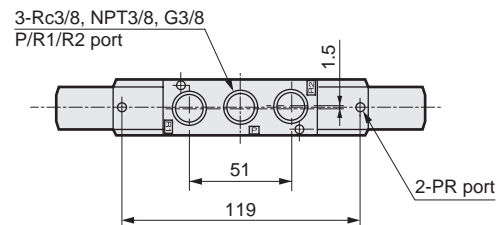
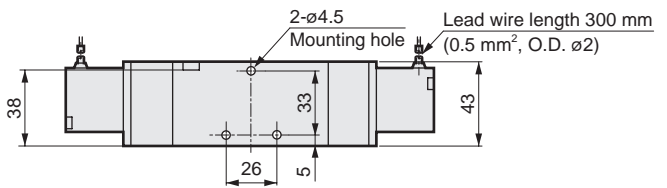
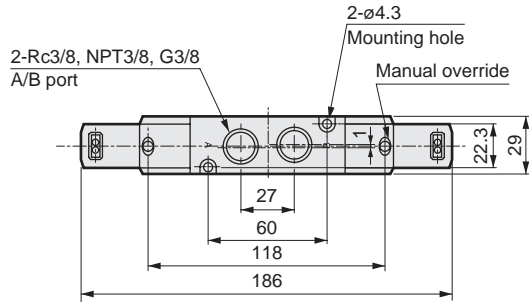
4KA410

● 2-position single: grommet lead wire



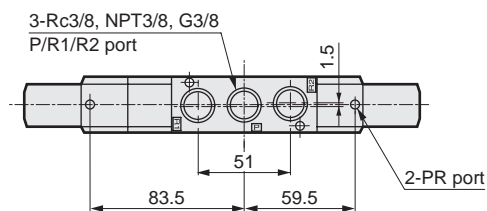
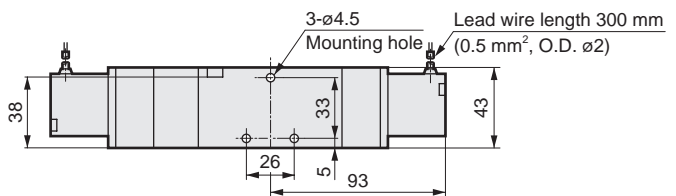
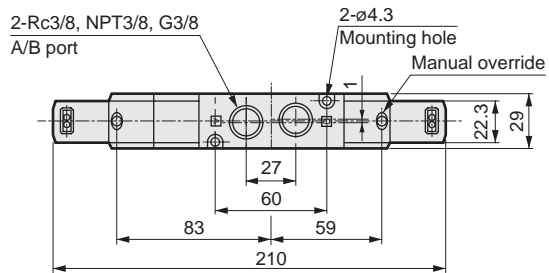
4KA420

● 2-position double: grommet lead wire



4KA440

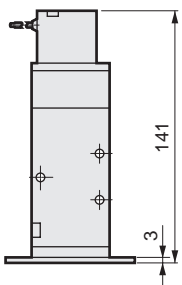
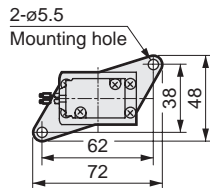
● 3-position: grommet lead wire



● Mounting plate: (P [2-position single only])

Material: Steel

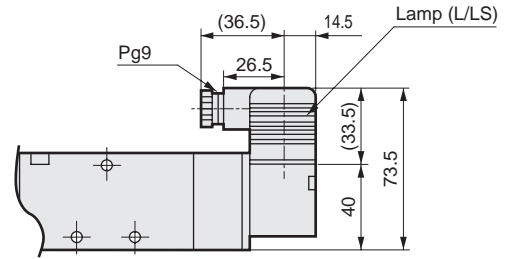
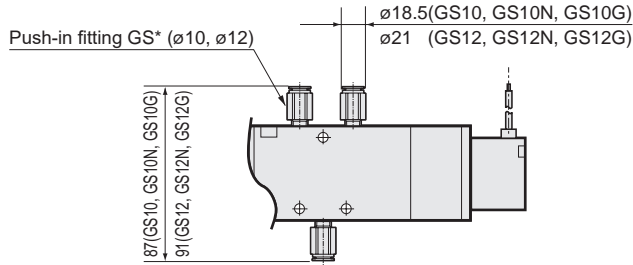
Zinc chromate treatment



Dimensions

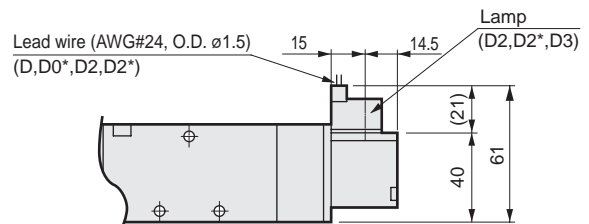
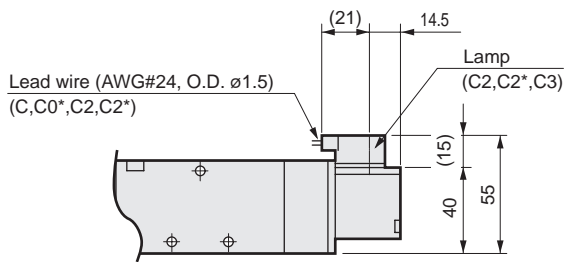
● With $\phi 10/\phi 12$ push-in fitting: (GS10*/GS12*)

● Terminal box: (B/L/LS)



● C-connector: (C/C1/C0*/C2/C2*/C3)

● D-connector: (D/D1/D0*/D2/D2*/D3)



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

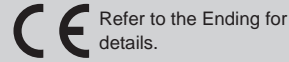
4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HNV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys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



Discrete valve sub-plate piping
Pilot operated 5-port pneumatic valve

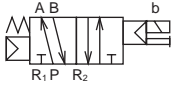
4KB1/2/3/4 Series

● Cylinder bore size: $\varnothing 20$ to $\varnothing 160$

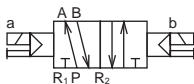


JIS symbol

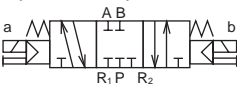
- 5-port valve
2-position single



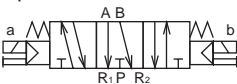
- 5-port valve
2-position double



- 5-port valve
3-position all ports closed



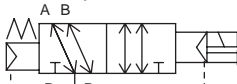
- 5-port valve
3-position A/B/R connection



- 5-port valve
3-position P/A/B connection



- External pilot



(2-position single)

Common specifications

Item	Description
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working press. MPa	0.70 (≈ 100 psi, 7 bar)
Min. working press. MPa	Refer to Individual specifications listed below
Proof pressure MPa	1.05 (≈ 150 psi, 10.5 bar)
Ambient temperature $^{\circ}\text{C}$	-5 (23 $^{\circ}\text{F}$) to 50 (122 $^{\circ}\text{F}$) (no freezing)
Fluid temperature $^{\circ}\text{C}$	5 (41 $^{\circ}\text{F}$) to 50 (122 $^{\circ}\text{F}$)
Lubrication	Not required
Degree of protection	Dust-proof
Vibration resistance m/s^2	50 or less
Shock resistance m/s^2	300 or less
Atmosphere	Cannot be used in corrosive gas environment.

*1: The working pressure when the external pilot (option code: K) has been selected is 0 to 0.7 MPa.
In addition, use the pilot with a pressure of 0.2 to 0.7 MPa.

Electrical specifications

Item		4KB1/2	4KB3/4
Rated voltage	AC	100,200 (50 / 60 Hz)	
	DC	24	
Voltage fluctuation range		$\pm 10\%$	
Starting current	AC 100 V	0.056/0.044	0.046/0.042
	A AC 200 V	0.028/0.022	0.023/0.021
Holding current	AC 100 V	0.028/0.022	0.023/0.021
	A AC 200 V	0.014/0.011	
Power consumption	DC 24 V	0.075	
	AC 100 V	1.8 / 1.4 (1.8 / 1.5)	1.6 / 1.3 (1.8 / 1.5)
() : With indicator	AC 200 V	1.8 / 1.4 (1.8 / 1.5)	1.6 / 1.3 (1.8 / 1.5)
	DC 24 V	1.8(2.0)	
Thermal class		B (molded coil)	
Temperature rise $^{\circ}\text{C}$		43	30

Reference: 100 VAC 50/60 Hz can be used with a rated voltage of 110 VAC 60 Hz and 200 VAC 50/60 Hz can be used with 220 VAC 60 Hz.

Individual specifications

1 MPa \approx 145.0 psi, 1 MPa = 10 bar

Item		4KB1	4KB2	4KB3	4KB4
Min. working pressure	2-position	Single	0.15	0.15	0.15
		Double	0.10	0.10	0.10
	3-position	0.20	0.20	0.20	0.20
Port size	P/A/B port	Rc1/8	Rc1/8, Rc1/4	Rc1/4, Rc3/8	Rc3/8, Rc1/2
		NPT1/8	NPT1/8, NPT1/4	NPT1/4, NPT3/8	NPT3/8, NPT1/2
	R1/R2 port	G1/8	G1/8, G1/4	G1/4, G3/8	G3/8, G1/2
		Rc1/8	Rc1/8, Rc1/4	Rc1/4, Rc3/8	Rc3/8, Rc1/2
		NPT1/8	NPT1/8, NPT1/4	NPT1/4, NPT3/8	NPT3/8, NPT1/2
		G1/8	G1/8, G1/4	G1/4, G3/8	G3/8, G1/2

Performance/characteristics by model

Item		4KB1	4KB2	4KB3	4KB4
Response time	2-position	30 or less	30 or less	30 or less	30 or less
	*1 ms 3-position	60 or less	60 or less	60 or less	60 or less

*1: The response time is the value at 0.5 MPa working pressure, with no lubrication, and with the power ON. It depends on the pressure and the lubricant quality.

Weight

Item		4KB1	4KB2	4KB3	4KB4
Weight	g 2-position	Single	104	200	353
		Double	144	240	454
	3-position	154	255	493	759

Flow characteristics

Model No.	Solenoid position	C [dm ³ / (s·bar)]	b	
4KB1	2-position	0.89	0.44	
	3-position	All ports closed	0.63	0.50
		A/B/R connection	1.2	0.29
		P/A/B connection	0.75	0.39
4KB2	2-position	2.7	0.24	
	3-position	All ports closed	2.4	0.29
		A/B/R connection	3.0	0.27
		P/A/B connection	2.4	0.34
4KB3	2-position	6.3	0.26	
	3-position	All ports closed	5.6	0.27
		A/B/R connection	6.6	0.20
		P/A/B connection	5.9	0.27
4KB4	2-position	12	0.24	
	3-position	All ports closed	11	0.27
		A/B/R connection	13	0.21
		P/A/B connection	10	0.22

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

Ozone-proof specifications (Ending Page 5)

** - Voltage - **P11**

Copper and PTFE free specifications

● Copper- and PTFE-based materials are not used in the flow path.

** - Voltage - **P6**

CE marking specifications

** - Voltage - **ST**

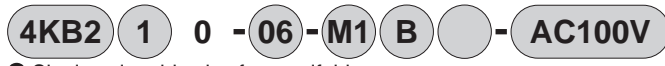
• Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".

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

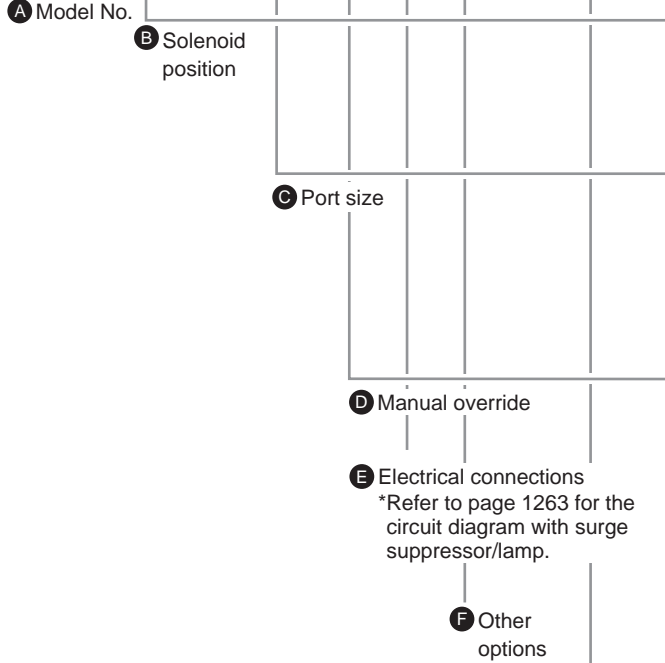
4KB1 to 4 Series

Discrete valve; sub-plate piping

How to order



● Single solenoid valve for manifold



* Gasket/mounting screw included

A Model No.

4KB1	4KB2	4KB3	4KB4
------	------	------	------

Code	Description	4KB1	4KB2	4KB3	4KB4
B Solenoid position	1 2-position single	●	●	●	●
	2 2-position double	●	●	●	●
	3 3-position all ports closed	●	●	●	●
	4 3-position A/B/R connection	●	●	●	●
	5 3-position P/A/B connection	●	●	●	●

C Port size	Port	Port P/A/B	Port R1/R2			
			(1) = Rc1/8	(2) = Rc1/4	(3) = Rc3/8	(4) = Rc1/2
C Port size	06	Rc1/8	(1)	(2)		
	08	Rc1/4		(2)	(2)	
	10	Rc3/8			(3)	(3)
	15	Rc1/2				(4)
C Port size	Port	Port P/A/B	Port R1/R2			
			(5) = NPT1/8	(6) = NPT1/4	(7) = NPT3/8	(8) = NPT1/2
C Port size	06N	NPT1/8	(5)	(6)		
	08N	NPT1/4		(6)	(6)	
	10N	NPT3/8			(7)	(7)
	15N	NPT1/2				(8)
C Port size	Port	Port P/A/B	Port R1/R2			
			(9) = G1/8	(10) = G1/4	(11) = G3/8	(12) = G1/2
C Port size	06G	G1/8	(9)	(10)		
	08G	G1/4		(10)	(10)	
	10G	G3/8			(11)	(11)
	15G	G1/2				(12)

D	Description	4KB1	4KB2	4KB3	4KB4
Blank	Non-locking manual override	●	●	●	●
M1	Locking manual override	●	●	●	●

E Refer to the electrical connections list on the next page.

F	Description	4KB1	4KB2	4KB3	4KB4
Blank	No option	●	●	●	●
K	External pilot (*2)	●	●	●	●
S	Surge suppressor included (*3) (*4)	●	●	●	●
-A	Coolant supported (packing: FKM)	●	●	●	●

G Voltage	Voltage	Description	Standard			
			4KB1	4KB2	4KB3	4KB4
G Voltage	AC100V	100 VAC 50/60 Hz	●	●	●	●
	AC200V	200 VAC 50/60 Hz	●	●	●	●
	DC24V	24 VDC	●	●	●	●
	DC12V	12 VDC	●	●	●	●
	AC110V	110 VAC 50/60 Hz	●	●	●	●
	AC220V	220 VAC 50/60 Hz	●	●	●	●

* Other made-to-order products					
AC24V	4KB1	4KB2	4KB3	4KB4	
AC115V	●	●	●	●	
AC120V	●	●	●	●	

[Table 1] Compact terminal box L/LS compatibility table

Code	Description	4KB1	4KB2	4KB3	4KB4	Surge suppressor		
L	Without lead wire	With indicator lamp	AC	●	●	●	●	
		DC			●	●		
	With surge suppressor and indicator lamp	AC						
		DC	●	●				Integrated
LS	Without lead wire	With surge suppressor and indicator lamp	AC	●	●	●	●	Integrated
		DC			●	●		Integrated

⚠ Precautions for model No. selection

- *1: The DC voltage models of the compact terminal box "L" of 4KB1, 4KB2 are equipped with a surge suppressor.
- *2: Consult with CKD when using a vacuum with the external pilot (K).
- *3: The surge suppressor for attachment is a suppression connector when the grommet lead wire is 24 VDC or less. (Refer to page 1262.)
- *4: The surge suppressor can only be selected when the grommet lead wire or compact terminal box "B" has been selected for the electrical connections.

[Example of model No.]

4KB210-06-M1BK-AC100V

- A Model : 4KB2
- B Solenoid position : 2-position single
- C Port size : Rc1/8
- D Manual override : Locking manual override
- E Electrical connections : Compact terminal box/ without lead wire
- F Other options : External pilot
- G Voltage : 100 VAC 50/60 Hz

G Voltage

[Electrical connections list]

		A Model No.				
		4KB1	4KB2	4KB3	4KB4	
Code	Description					
E	Grommet lead wire					
	Blank	Grommet lead wire (300 mm)	●	●	●	●
	Compact terminal box					
	B	Without lead wire	●	●	●	●
	L	Without lead wire	Refer to [Table 1] on the previous page for details (*1)			
	LS	Without lead wire, with surge suppressor/lamp				
	C-connector (lead wire lateral direction)					
	C	Lead wire length (300 mm)	●	●	●	●
	C00	Lead wire length (500 mm)	●	●	●	●
	C01	Lead wire length (1000 mm)	●	●	●	●
	C02	Lead wire length (2000 mm)	●	●	●	●
	C03	Lead wire length (3000 mm)	●	●	●	●
	C1	Without lead wire	●	●	●	●
	C2	Lead wire length (300 mm) with surge suppressor/lamp	●	●	●	●
	C20	Lead wire length (500 mm) with surge suppressor/lamp	●	●	●	●
	C21	Lead wire length (1000 mm) with surge suppressor/lamp	●	●	●	●
	C22	Lead wire length (2000 mm) with surge suppressor/lamp	●	●	●	●
	C23	Lead wire length (3000 mm) with surge suppressor/lamp	●	●	●	●
	C3	Without lead wire, with surge suppressor/lamp	●	●	●	●
	D-connector (lead wire upward direction)					
	D	Lead wire length (300 mm)	●	●	●	●
	D00	Lead wire length (500 mm)	●	●	●	●
	D01	Lead wire length (1000 mm)	●	●	●	●
	D02	Lead wire length (2000 mm)	●	●	●	●
	D03	Lead wire length (3000 mm)	●	●	●	●
	D1	Without lead wire	●	●	●	●
	D2	Lead wire length (300 mm) with surge suppressor/lamp	●	●	●	●
	D20	Lead wire length (500 mm) with surge suppressor/lamp	●	●	●	●
	D21	Lead wire length (1000 mm) with surge suppressor/lamp	●	●	●	●
	D22	Lead wire length (2000 mm) with surge suppressor/lamp	●	●	●	●
	D23	Lead wire length (3000 mm) with surge suppressor/lamp	●	●	●	●
	D3	Without lead wire, with surge suppressor/lamp	●	●	●	●

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

4KB1 Series

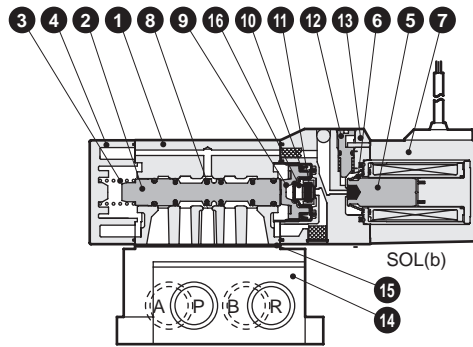
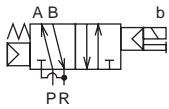
Discrete valve; sub-plate piping

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
- 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

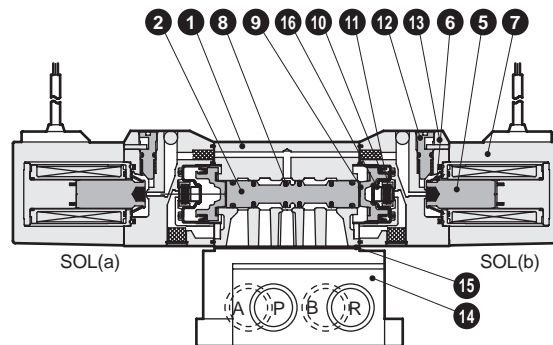
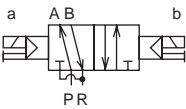
4KB110

● 2-position single



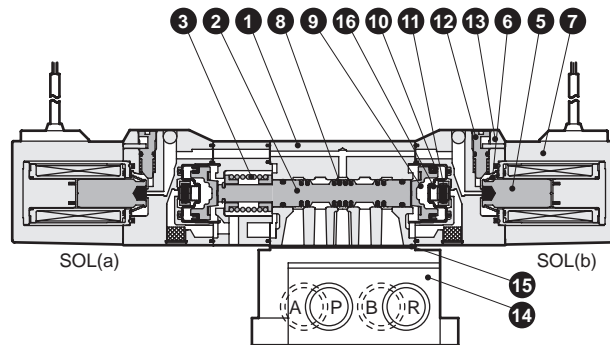
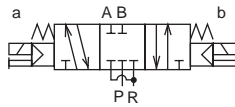
4KB120

● 2-position double



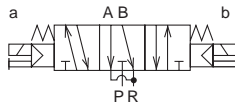
4KB130

● 3-position all ports closed



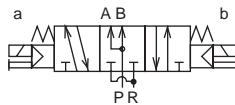
4KB140

● 3-position A/B/R connection



4KB150

● 3-position P/A/B connection



Main parts list

No.	Part name	Material
1	Body	Aluminum alloy die-casting
2	Valving element (spool)	Aluminum
3	Valve spring	Stainless steel
4	Cap	Resin
5	Plunger	-
6	Plunger spring	-
7	Coil assembly	-
8	Spool packing	Nitrile rubber
9	Piston	Resin
10	Piston packing	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot valve	Resin
14	Sub-plate	Aluminum alloy die-casting
15	Gasket	*2 Nitrile rubber
16	Valve seat spring	Stainless steel

Main parts list

No.	Component name	Model No.
14	Sub-plate kit	4KB110- E Port size - F Exterior Pilot -SUB-BASE-KIT
15		

* Mounting screws are attached to the sub-plate kit.

Repair parts list

No./part name	2 8	9 10	5 6 7
Model No.	Spool assembly	Piston assembly	Coil assembly *
4KB110	4K9-110	4K9-151	4K1L- E electrical connection option code - Blank for grommet lead wire
4KB120	4K9-118		
4KB130	4K9-111	4K9-152	COIL - G Voltage
4KB140	4K9-112		
4KB150	4K9-113		

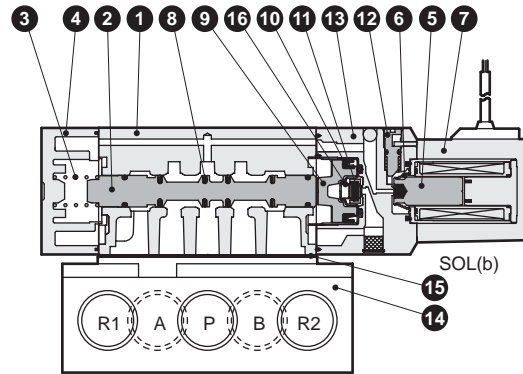
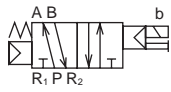
*1: The compact terminal box and connector of the coil assembly will come assembled and attached with the options of the descriptions indicated with model No. selection.

*2: Take care, as gasket **15** mounting has an orientation.

Internal structure and parts list

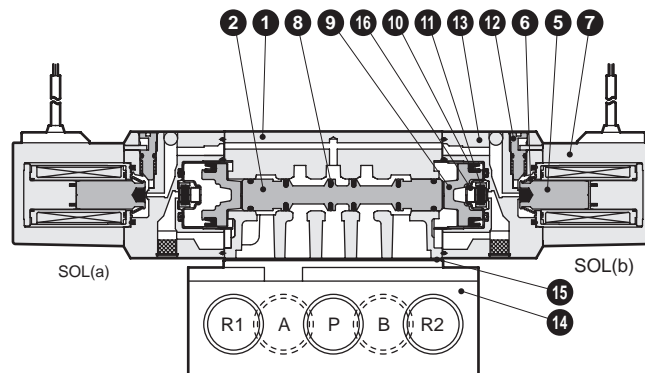
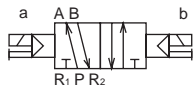
4KB210

● 2-position single



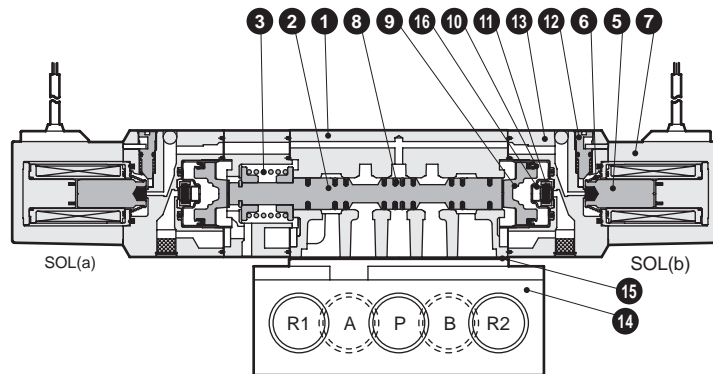
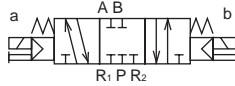
4KB220

● 2-position double



4KB230

● 3-position all ports closed



4KB240

● 3-position A/B/R connection



4KB250

● 3-position P/A/B connection



Main parts list

No.	Part name	Material
1	Body	Aluminum alloy die-casting
2	Valving element (spool)	Aluminum
3	Valve spring	Stainless steel
4	Cap	Resin
5	Plunger	-
6	Plunger spring	-
7	Coil assembly	-
8	Spool packing	Nitrile rubber
9	Piston	Resin
10	Piston packing	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot valve	Resin
14	Sub-plate	Aluminum alloy die-casting
15	Gasket	Nitrile rubber
16	Valve seat spring	Stainless steel

Main parts list

No.	Component name	Model No.
14	Sub-plate kit	4KB210- B Port size - F Exterior Pilot -SUB-BASE-KIT
15		

* Mounting screws are attached to the sub-plate kit.

Repair parts list

No./part name	2 8	9 10	5 6 7
Model No.	Spool assembly	Piston assembly	Coil assembly *
4KB210	4K9-150	4K9-153	4K1L- E electrical connection option code Blank for grommet lead wire
4KB220	4K9-126		
4KB230	4K9-127	4K9-154	
4KB240	4K9-128		
4KB250	4K9-129		COIL - G Voltage

*1: The compact terminal box and connector of the coil assembly will come assembled and attached with the options of the descriptions indicated with model No. selection.

- 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

4KB3 Series

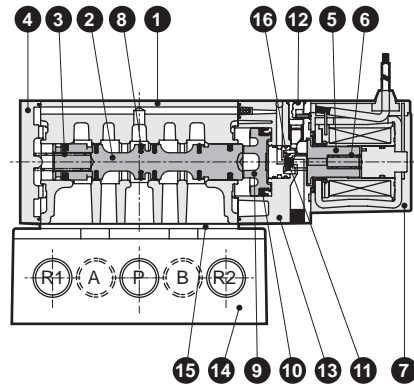
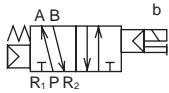
Discrete valve; sub-plate piping

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
- 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

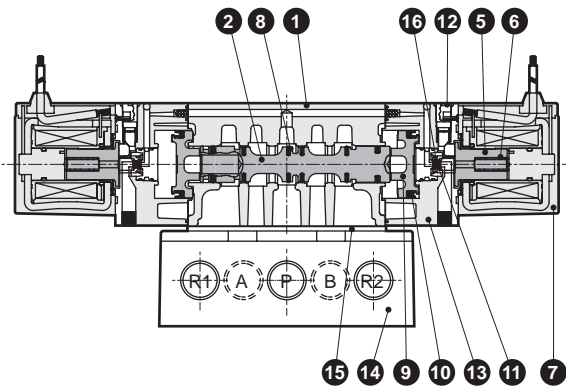
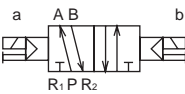
4KB310

● 2-position single



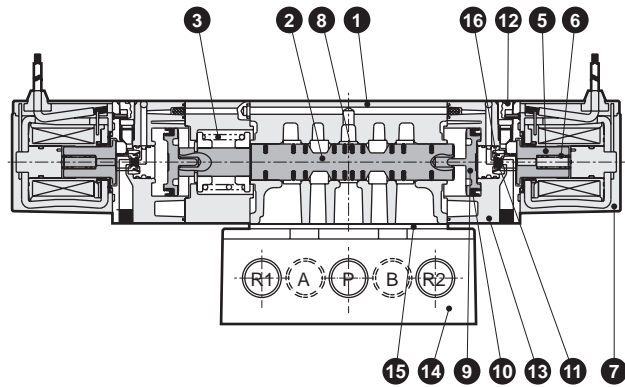
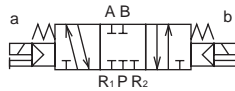
4KB320

● 2-position double



4KB330

● 3-position all ports closed



4KB340

● 3-position A/B/R connection



4KB350

● 3-position P/A/B connection



Main parts list

No.	Part name	Material
1	Body	Aluminum alloy die-casting
2	Valving element (spool)	Aluminum
3	Valve spring	Stainless steel
4	Cap	Resin
5	Plunger	-
6	Plunger spring	-
7	Coil assembly	-
8	Spool packing	Nitrile rubber
9	Piston	Resin
10	Piston packing	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot valve	Resin
14	Sub-plate	Aluminum alloy die-casting
15	Gasket	*2 Nitrile rubber
16	Valve seat spring	Stainless steel

Main parts list

No.	Component name	Model No.
14	Sub-plate kit	4KB310- E Port size - F External pilot -SUB-BASE-KIT
15		

* Mounting screws are attached to the sub-plate kit.

Repair parts list

No./part name	2 8	9 10	5 6 7
Model No.	Spool assembly	Piston assembly	Coil assembly *1
4KB310			
4KB320	4K9-133	4K9-137	
4KB330			4K3- E electrical connection option code - Blank for grommet lead wire
4KB340	4K9-134		
4KB350	4K9-135	4K9-138	COIL - G Voltage

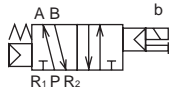
* 1: The terminal box and connector of the coil assembly will come assembled and included with the options of the descriptions indicated with model No. selection.

* 2: Take care, as gasket **15** mounting has an orientation.

Internal structure and parts list

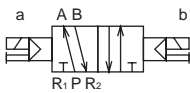
4KB410

● 2-position single



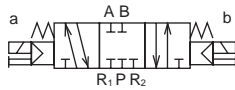
4KB420

● 2-position double



4KB430

● 3-position all ports closed



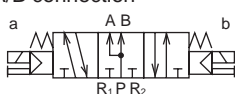
4KB440

● 3-position A/B/R connection



4KB450

● 3-position P/A/B connection



Main parts list

No.	Part name	Material
1	Body	Aluminum alloy die-casting
2	Valving element (spool)	Aluminum
3	Valve spring	Stainless steel
4	Cap	Resin
5	Plunger	-
6	Plunger spring	-
7	Coil assembly	-
8	Spool packing	Nitrile rubber
9	Piston	Resin
10	Piston packing	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot valve	Resin
14	Sub-plate	Aluminum alloy die-casting
15	Gasket	Nitrile rubber
16	Valve seat spring	Stainless steel

Main parts list

No.	Component name	Model No.
14	Sub-plate kit	4KB410- B Port size - F External pilot -SUB-BASE-KIT
15		

* Mounting screws are attached to the sub-plate kit.

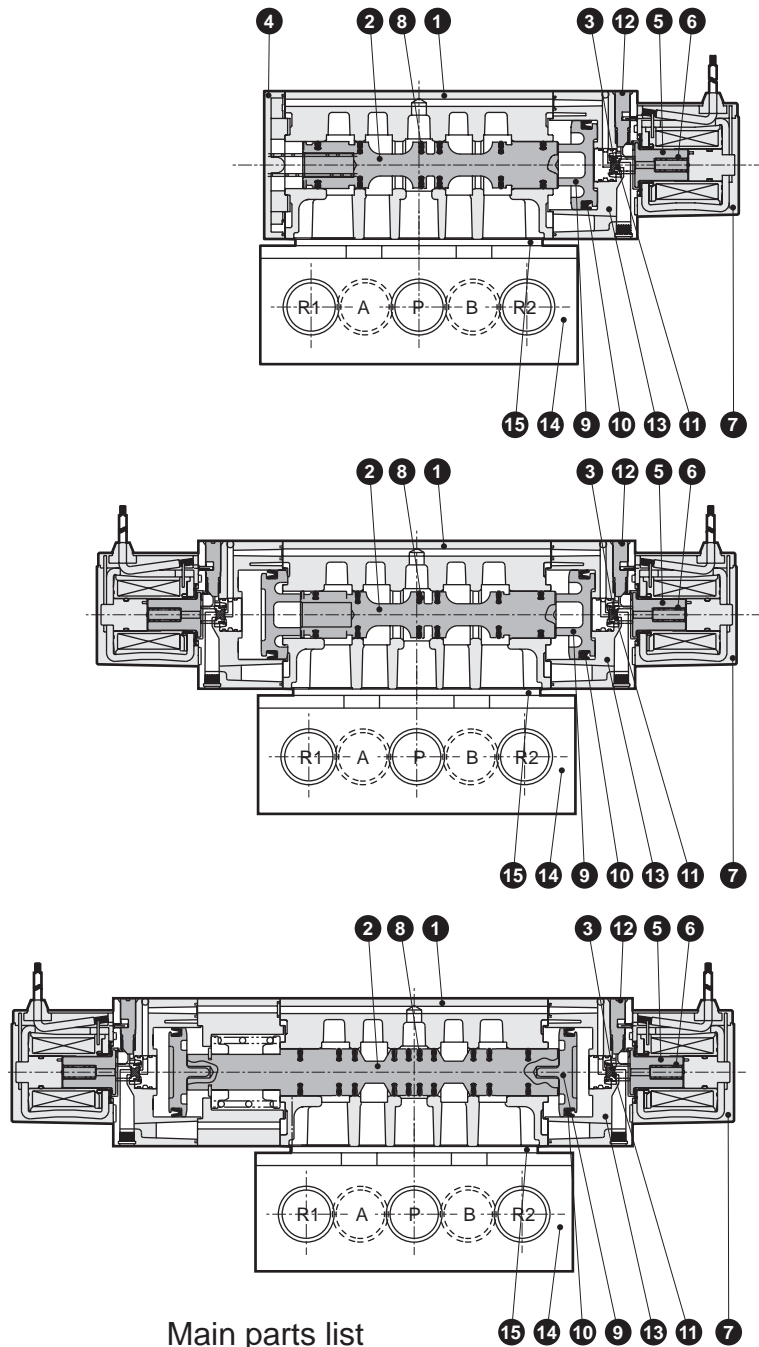
Repair parts list

No./part name	2 8	9 10	5 6 7
Model No.	Spool assembly	Piston assembly	Coil assembly *
4KB410			
4KB420	4K9-140	4K9-144	4K3- E electrical connection option code - Blank for grommet lead wire
4KB430	4K9-141	4K9-145	COIL - G Voltage
4KB440	4K9-142		
4KB450	4K9-143		

* 1: The plunger assembly is attached with the coil assembly. As there are limitations with the combinations of coils and plungers, do not replace these.

* 2: The terminal box and connector of the coil assembly will come assembled and included with the options of the descriptions indicated with model No. selection.

* 3: When combining a coil assembly into a valve, contact CKD for precautions regarding the work.



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

4KB1 Series

Discrete valve; sub-plate piping

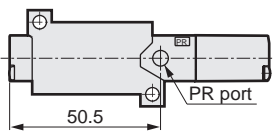
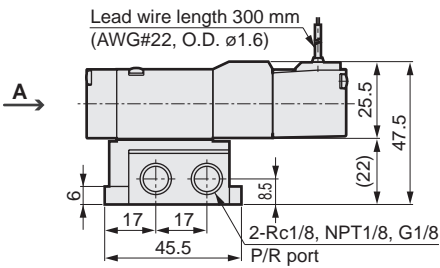
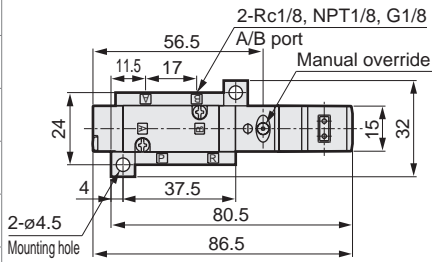
Dimensions



- 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

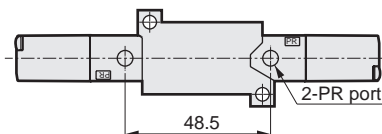
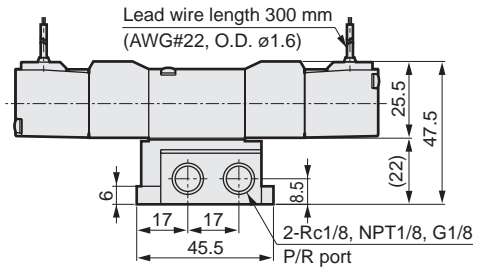
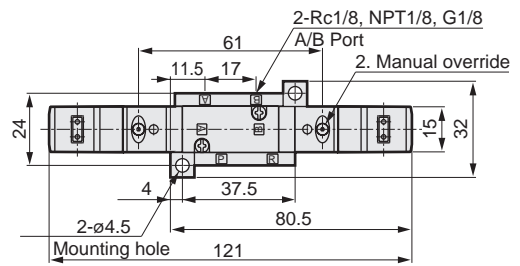
4KB110

● 2-position single: grommet lead wire



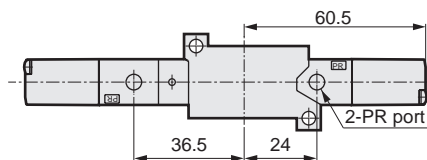
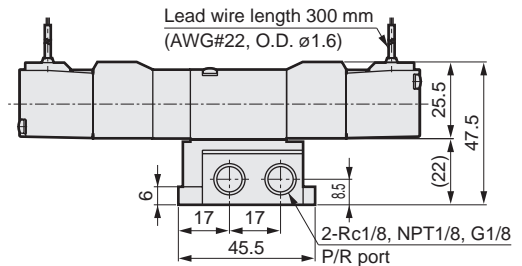
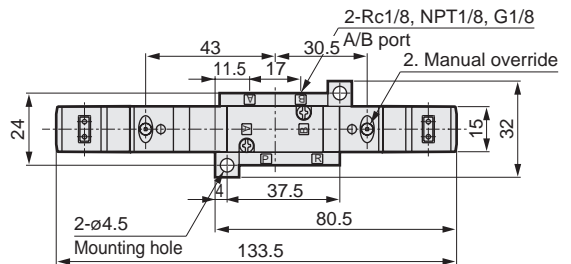
4KB120

● 2-position double: grommet lead wire



4KB140

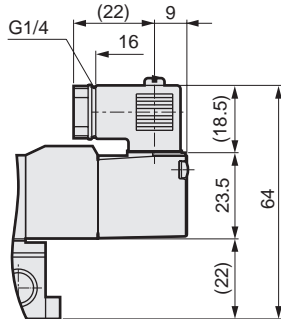
● 3-position: grommet lead wire



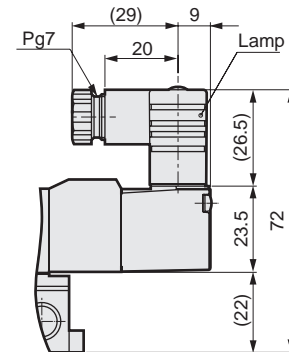
Dimensions

- Compact terminal box: (B [Without lamp]/L/LS [With lamp])

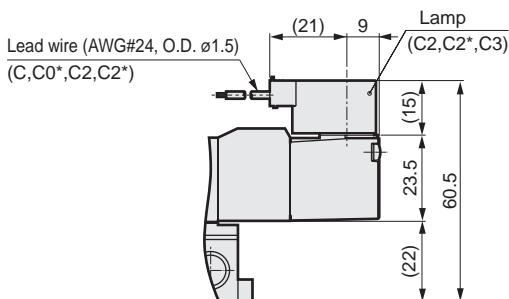
Without indicator lamp



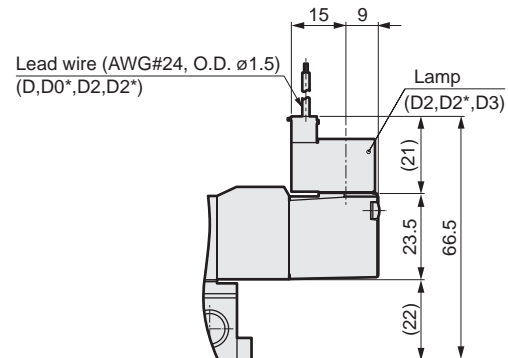
With indicator lamp



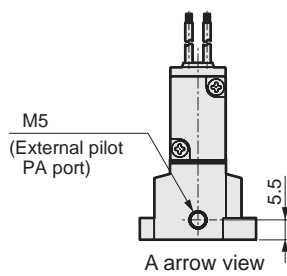
- C-connector: (C/C1/C0*/C2/C2*/C3)



- D-connector: (D/D1/D0*/D2/D2*/D3)



- External pilot: (K)



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

4KB2 Series

Discrete valve; sub-plate piping

Dimensions

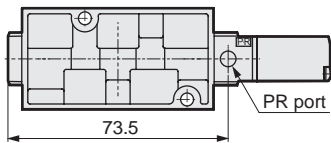
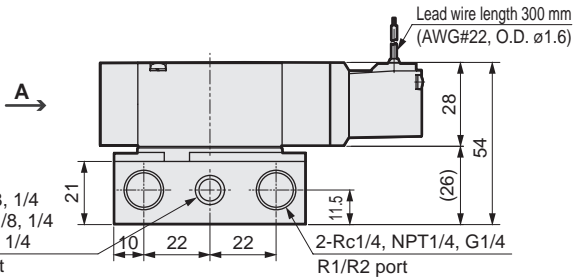
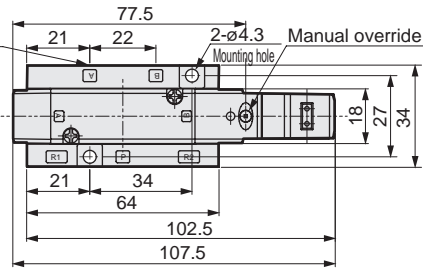


- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B**
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G*0EJ
- 4F*0EX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

4KB210

● 2-position single: grommet lead wire

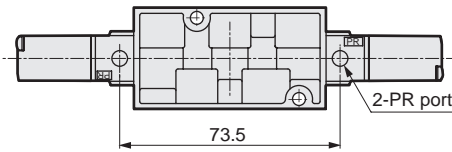
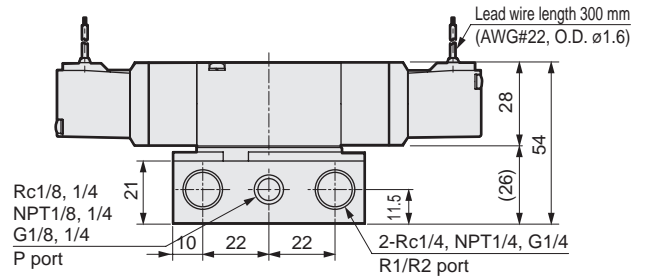
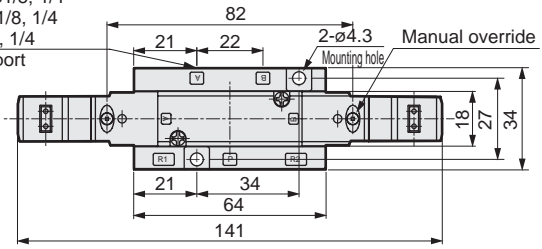
2-Rc1/8, 1/4
NPT1/8, 1/4
G1/8, 1/4
A/B port



4KB220

● 2-position double: grommet lead wire

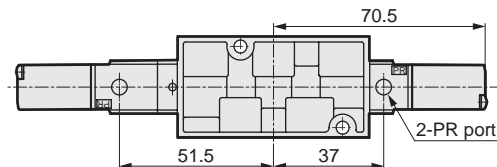
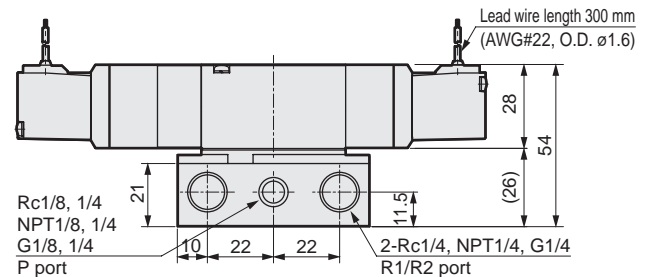
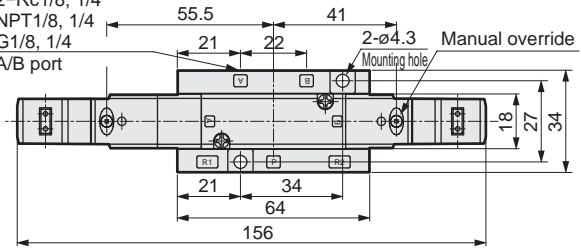
2-Rc1/8, 1/4
NPT1/8, 1/4
G1/8, 1/4
A/B port



4KB250

● 3-position: grommet lead wire

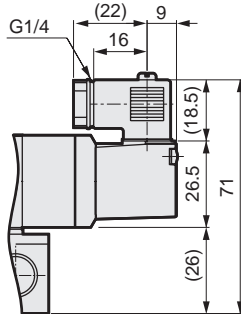
2-Rc1/8, 1/4
NPT1/8, 1/4
G1/8, 1/4
A/B port



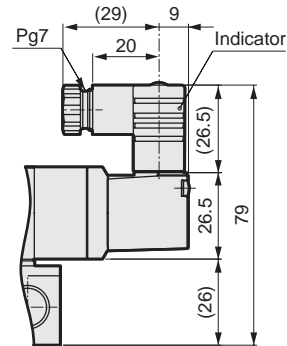
Dimensions

- Compact terminal box: (B [Without lamp]/L/LS [With lamp])

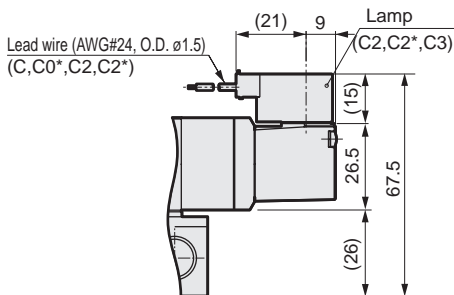
Without indicator lamp



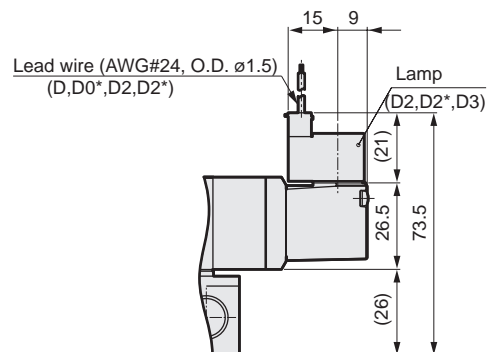
With indicator lamp



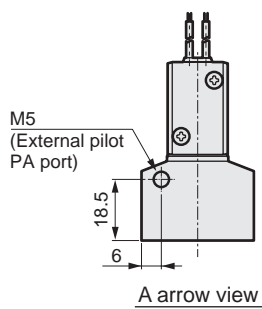
- C-connector: (C/C1/C0*/C2/C2*/C3)



- D-connector: (D/D1/D0*/D2/D2*/D3)



- External pilot: (K)



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

4KB3 Series

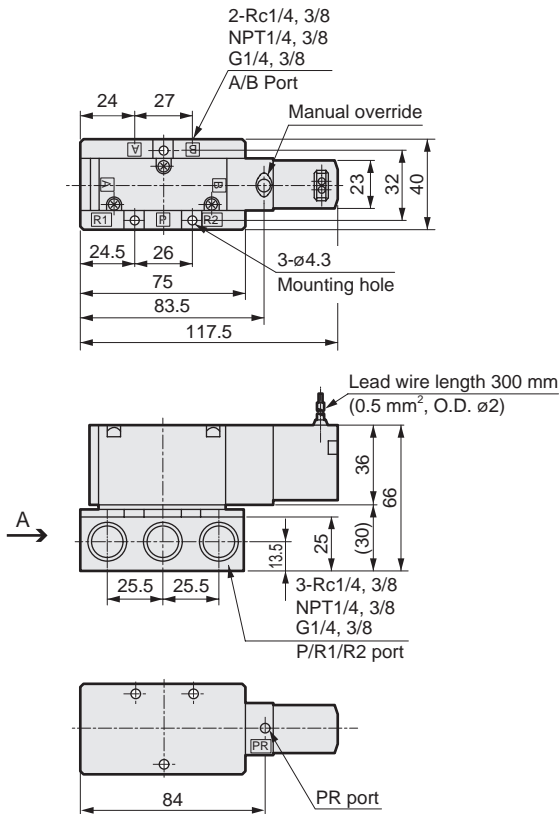
Discrete valve; sub-plate piping

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

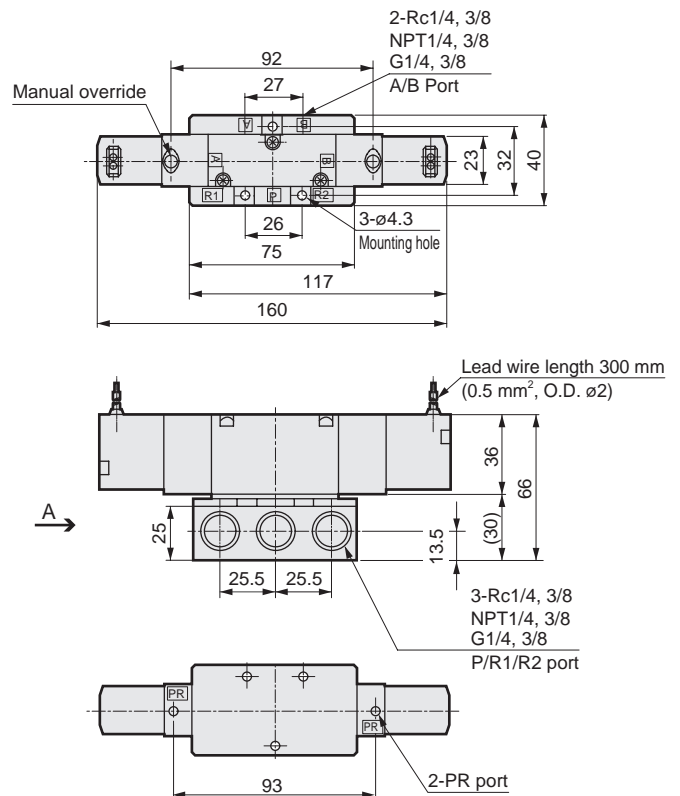
4KB310

● 2-position single: grommet lead wire



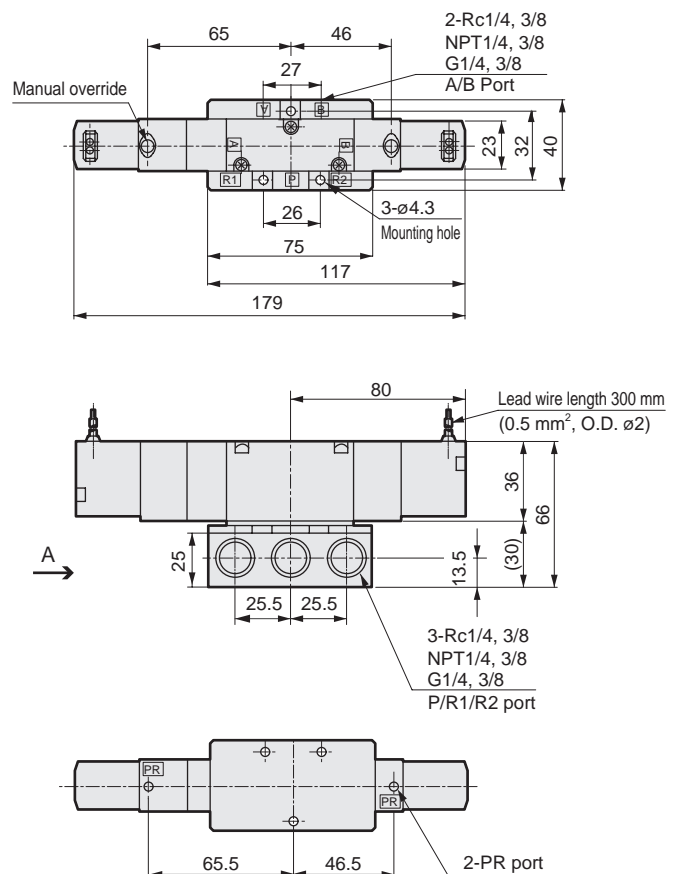
4KB320

● 2-position double: grommet lead wire



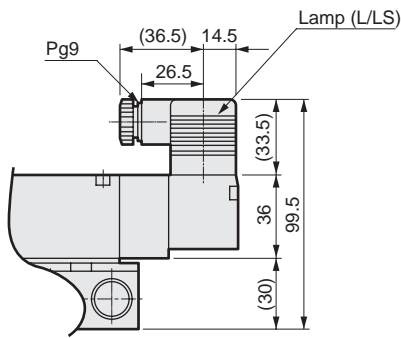
4KB340³/₅

● 3-position: grommet lead wire

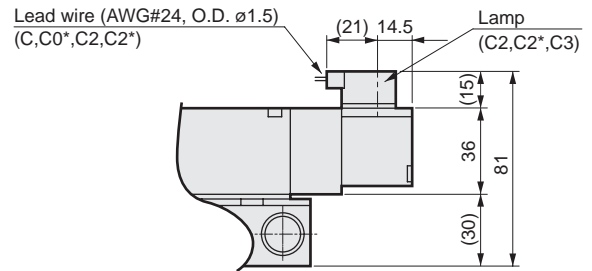


Dimensions

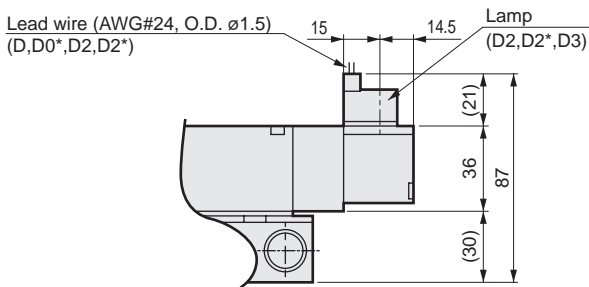
● Terminal box: (B/L/LS)



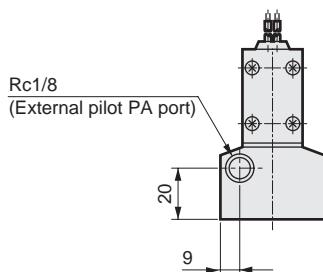
● C-connector: (C/C1/C0*/C2/C2*/C3)



● D-connector: (D/D1/D0*/D2/D2*/D3)



● External pilot: (K)



A arrow view

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

4KB4 Series

Discrete valve; sub-plate piping

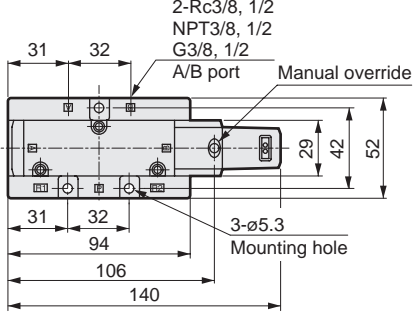
Dimensions



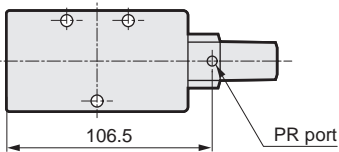
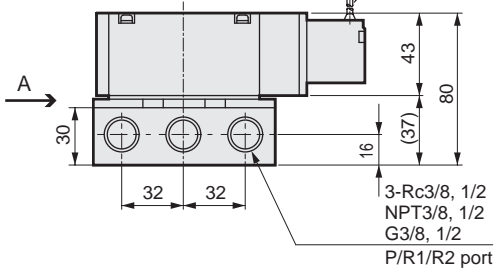
- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B**
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G*0EJ
- 4F*0EX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

4KB410

● 2-position single: grommet lead wire

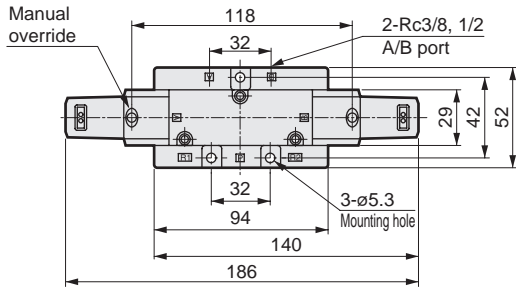


Lead wire length 300 mm
(0.5 mm², O.D. ø2)

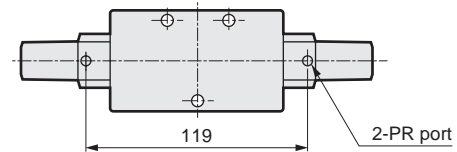
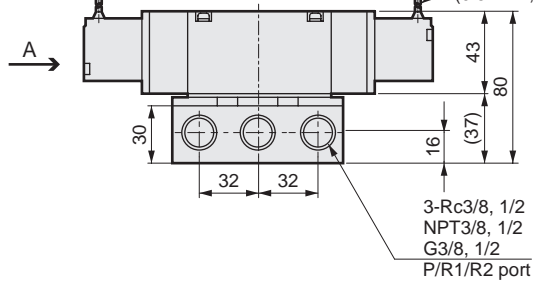


4KB420

● 2-position double: grommet lead wire

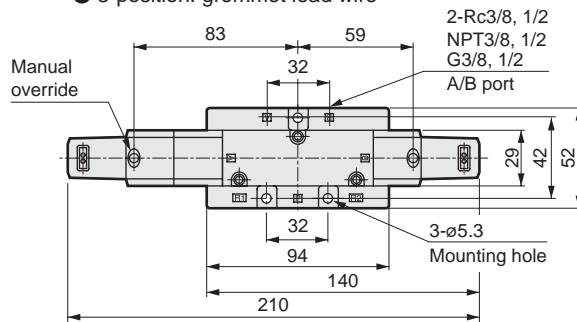


Lead wire length 300 mm
(0.5 mm², O.D. ø2)

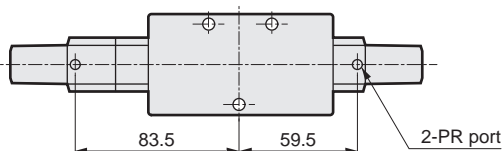
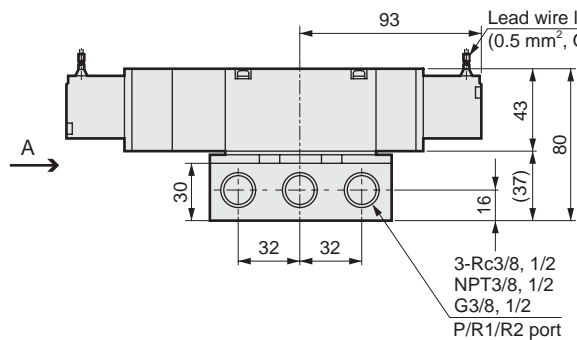


4KB440³/₅

● 3-position: grommet lead wire

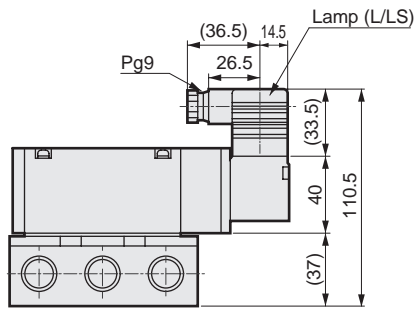


Lead wire length 300 mm
(0.5 mm², O.D. ø2)

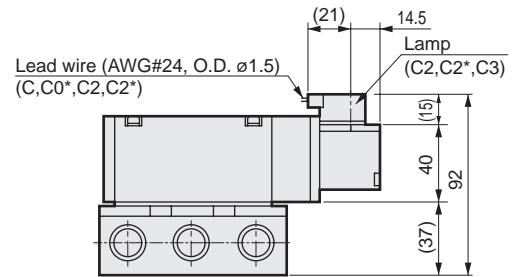


Dimensions

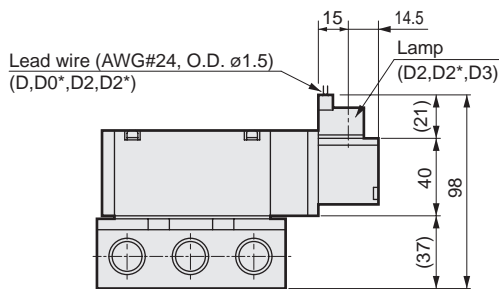
● Terminal box: (B/L/LS)



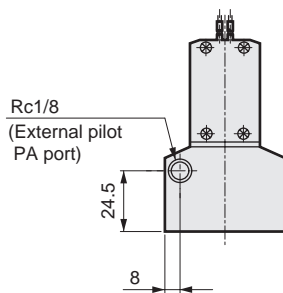
● C-connector: (C/C1/C0*/C2/C2*/C3)



● D-connector: (D/D1/D0*/D2/D2*/D3)



● External pilot: (K)



A arrow view

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