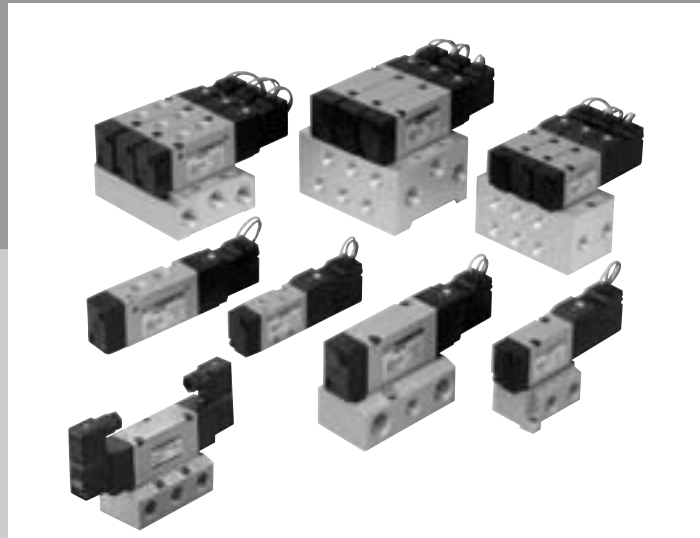


# 4KA/4KB

**3, 4, 5 port pilot operated valve 4K Series Pneumatic valve metal base**



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MN3E0 MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0 MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV HSV
2QV 3QV
SKH
PCD/ FS/FD
Ending

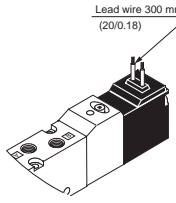
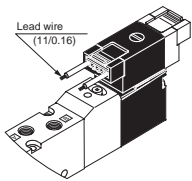
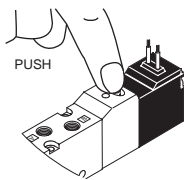
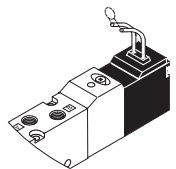
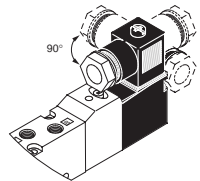
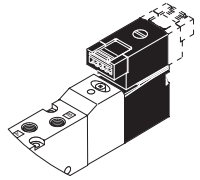
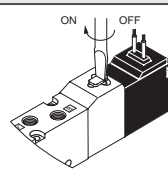
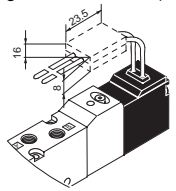
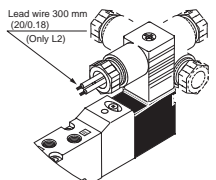
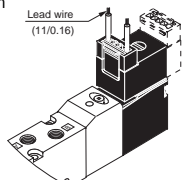
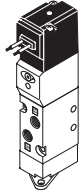
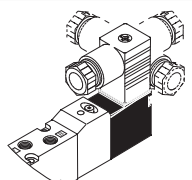
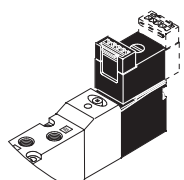
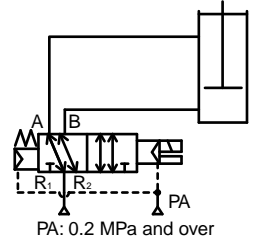
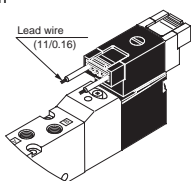
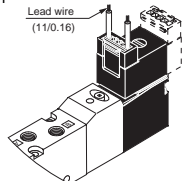
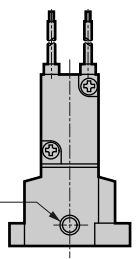
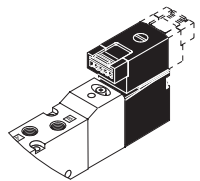
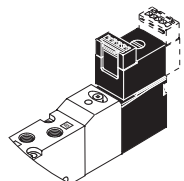
MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMFO
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Appearance		Model no.	Position No. of solenoid JIS symbol	Valve performance		Voltage (V)		
				Flow characteristics C (dm <sup>3</sup> / (s·bar)) Note 1	Applicable cylinder bore size			
Discrete	Body porting	3 port	3KA1	<p><b>3KA1</b></p> <ul style="list-style-type: none"> <li>● 2-position single N.C. type</li> <li>● 2-position single N.O. type</li> <li>● 2-position double solenoid</li> </ul> <p><b>4KA1 to 4KA4</b> <b>4KB2 to 4KB4</b></p> <ul style="list-style-type: none"> <li>● 2-position single solenoid</li> </ul>	0.65	ø20 to ø40 ø40 to ø80 ø63 to ø100 ø125 to ø160	100 AC 200 AC 24 DC Option 110 AC 220 AC 12 DC	
		5 port	4KA1		0.60 to 0.68			
		4KA2	2.3 to 2.9					
		4KA3	4.1 to 5.6					
		4KA4	8.2 to 11					
	Sub-plate porting	5 port	4KB1	0.63 to 1.2	ø20 to ø40			
		4KB2	2.4 to 3.0	ø40 to ø80				
		4KB3	5.6 to 6.6	ø63 to ø100				
		4KB4	10 to 13	ø125 to ø160				
		Metal base	Individual wiring manifold	Body porting	3 port	M3KA1		<ul style="list-style-type: none"> <li>● 2-position double solenoid</li> <li>* Only 4KB1</li> <li>● 3-position all ports closed</li> <li>* Only 4KB1</li> <li>● 3-position A/B/R connection</li> <li>* Only 4KB1</li> <li>● 3-position P/A/B connection</li> <li>* Only 4KB1</li> </ul>
5 port	M4KA1				0.69 to 0.97			
M4KA2	2.4 to 3.0							
M4KA3	4.1 to 5.9							
M4KA4	8.3 to 11							
Sub-plate porting	4 port			M4KB1	0.60 to 0.81			
	M4KB2			1.8 to 2.1				
	5 port			M4KB3	4.3 to 4.8			
	M4KB4		8.6 to 9.4					
Block manifold	Sub-plate porting		5 port	MN4KB1	0.60 to 0.80	ø20 to ø40		
				MN4KB2	2.3 to 3.1	ø40 to ø80		

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

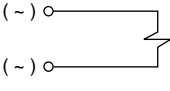
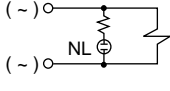
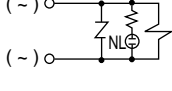
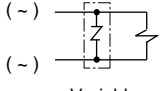
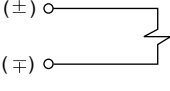
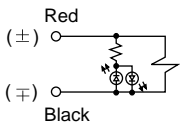
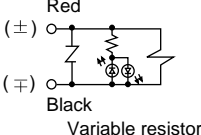
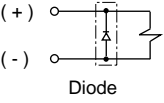
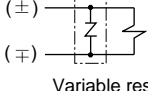


# 3KA/4KA/4KB Series

	Electric connection		Manual override		Other options	
MN3E0 MN4E0						
4GA/B						
M4GA/B						
MN4GA/B						
4GA/B (Master)						
W4GA/B2						
W4GB4						
MN3S0 MN4S0						
4TB						
4L2-4/ LMFO						
4SA/B0						
4SA/B1						
4KA/B						
4F						
PV5G/ CMF						
PV5/ CMF						
3MA/B0						
3PA/B						
P/MB						
NP/NAP/ NVP						
4F*0E						
HMV HSV						
2QV 3QV						
SKH						
PCD/ FS/FD						
Ending						
	<b>Blank</b> Grommet lead wire		<b>Blank</b> Non-locking		<b>S</b> With surge suppressor	
		<b>C2</b> C-connector with lead wire with surge suppressor/light ● Lead wire length C2 : 300 mm C20 : 500 mm C21 : 1000 mm C22 : 2000 mm C23 : 3000 mm				
				AC, DC (other than grommet lead wire type)		
				*: Operates while held down.		
	<b>B</b> Small terminal box, w/o lead wire	<b>C3</b> C-connector, w/o lead wire with surge suppressor/light	<b>M1</b> Locking		<b>DC</b> (only grommet lead wire)	
						
	* 4K $\hat{a}$ 3 and 4K $\hat{a}$ 4 only rotate 180°.		* Operates in the ON direction. This should normally be set to the OFF side.		(Suppression connector type)	
	<b>L</b> (L2) Small terminal box with indicator light	<b>D</b> D-connector with lead wire			<b>P</b> Mounting plate	
						
	* 4K $\hat{a}$ 3 and 4K $\hat{a}$ 4 only rotate 180°.					
	<b>LS</b> Small terminal box with surge suppressor/light	<b>D1</b> D-connector, w/o lead wire			<b>K</b> External pilot	
					When using at low pressure of 0.15 MPa or less lower than the minimum working pressure, use the following external pilot. Note that the PA port must be pressurized.	
	* 4K $\hat{a}$ 3 and 4K $\hat{a}$ 4 only rotate 180°.					
	<b>C</b> C-connector with lead wire	<b>D2</b> D-connector with lead wire with surge suppressor/light			PA: 0.2 MPa and over	
						
	● Lead wire length C : 300 mm C00 : 500 mm C01 : 1000 mm C02 : 2000 mm C03 : 3000 mm		● Lead wire length D2 : 300 mm D20 : 500 mm D21 : 1000 mm D22 : 2000 mm D23 : 3000 mm		External pilot PA port	
	<b>C1</b> C-connector, w/o lead wire	<b>D3</b> D-connector, w/o lead wire with surge suppressor/light				
						

# 3KA/4KA/4KB Series

## Electric connection circuit diagram

Voltage type	Option	Electric wire circuit diagram	Wiring method
AC	-		Grommet lead wire Terminal box (B) C-connector (C, C0*, C1) D-connector (D, D0*, D1)
	With indicator light		Terminal box (L, L2)
	With surge suppressor and indicator light	 Variable resistor	Terminal box (LS) C-connector (C2, C2*, C3) D-connector (D2, D2*, D3)
	With surge suppressor (Option)	 Variable resistor	Surge suppressor attached (S)
DC	-		Grommet lead wire Terminal box (B) C-connector (C, C0*, C1) D-connector (D, D0*, D1)
	With indicator light		Terminal box (L, L2) For 4KA/B1, 4KA/B2, surge suppressor / indicator light is provided.
	With surge suppressor and indicator light	 Variable resistor	Terminal box (LS) C-connector (C2, C2*, C3) D-connector (D2, D2*, D3)
	With surge suppressor (Option)	 Diode *A diode has polarity.	Grommet lead wire (24 VDC or less) Surge suppressor attached (S)
 Variable resistor * The varistor does not have polarity.		Surge suppressor attached (S)	

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

3, 4, 5 port pilot operated valve 4K Series



# Discrete valve body porting

## 3, 5 port pilot operated valve pneumatic valve

# 3KA1, 4KA1/2/3/4 Series

● Applicable cylinder bore size:  $\varnothing 20$  to  $\varnothing 160$

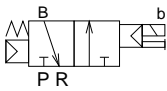


Refer to Intro 17 for details.

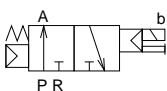


### JIS symbol

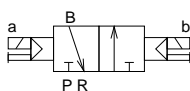
- 3 port valve  
2-position single N.C. type



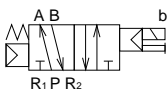
- 3 port valve  
2-position single N.O. type



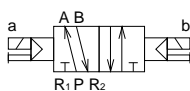
- 3 port valve  
2-position double solenoid



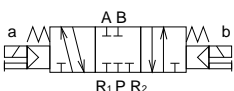
- 5 port valve  
2-position single solenoid



- 5 port valve  
2-position double solenoid



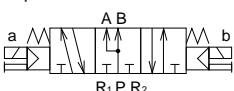
- 5 port valve  
3-position all ports closed



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



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



### Common specifications

Descriptions	
Type of valve/operation method	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.70
Min. working pressure MPa	Refer to the following individual specifications.
Withstanding pressure MPa	1.05
Ambient temperature °C	-5 to 50 (no freezing)
Fluid temperature °C	5 to 50
Lubrication	Not required
Protective structure	Dust proof
Vibration/impact m/s <sup>2</sup>	50 or less / 300 or less
Working environment	Containing corrosive gas is impermissible.

### Electric specifications

Descriptions		3KA1, 4KA1/2	4KA3/4
Rated voltage	AC	100, 200 ( 50/60 Hz )	
	DC	24	
Rated voltage fluctuation range		±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
		DC 24 V	—
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 W	AC 100 V	1.8 / 1.4	1.6 / 1.3
	AC 200 V	1.8 / 1.4	1.6 / 1.3
		DC 24 V	1.8 (2.0)
Heat proof class		B (molded coil)	
Temperature rise °C		43	30

Remarks: The 100 VAC 50/60 Hz rated voltage can be used at 110 VAC 60 Hz, and 200 VAC 50/60 Hz can be used at 220 VAC 60 Hz.

### Individual specifications

Descriptions			3KA1	4KA1	4KA2	4KA3	4KA4
Min. working pressure	2-position	Single solenoid	0.15	0.15	0.15	0.15	0.15
		Double solenoid					
MPa	3-position		-	0.20	0.20	0.20	0.20
	Port size	P/A/B port	M5 Push-in joint $\varnothing 4, \varnothing 6$	M5 Push-in joint $\varnothing 4, \varnothing 6$	Rc1/8 Push-in joint $\varnothing 6, \varnothing 8$	Rc1/4 Push-in joint $\varnothing 8, \varnothing 10$	Rc3/8 Push-in joint $\varnothing 10, \varnothing 12$
Note 1		R1/R2 port	M5	M5	Rc1/8	Rc1/4	Rc3/8
Response time	2-position		30 or less	30 or less	30 or less	30 or less	30 or less
	Note 2	3-position	-	60 or less	60 or less	60 or less	60 or less
Weight	g	2-position Single solenoid	70	70	115	214	325
		2-position Double solenoid	110	110	155	315	435
		3-position	-	120	170	354	505

Note 1: G threads and NPT threads are available for the piping port threads. Contact CKD for information.

Note 2: Response time is the value when supply pressure 0.5 MPa, not lubricated and ON. The value varies depending on pressure and quality of lubricant.

## Flow characteristics

Model no.	Solenoid position	C (dm <sup>3</sup> / (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

Note 1: Effective sectional area S and sonic conductance C are converted as  $S \approx 5.0 \times C$ .  
Flow characteristics are the value when port size is M5 (3KA1, 4KA1), Rc1/8 (4KA2), Rc1/4 (4KA3) and Rc3/8 (4KA4).

### Ozone proof specifications (Ending 5)

\*\* - Voltage - P11

### Coolant proof specifications

- Special structure with excellent oil proof and water proof properties

\*\* - A - Voltage

### Copper and PTFE free

- Copper and PTFE material not used for flow path

\*\* - Voltage - P6

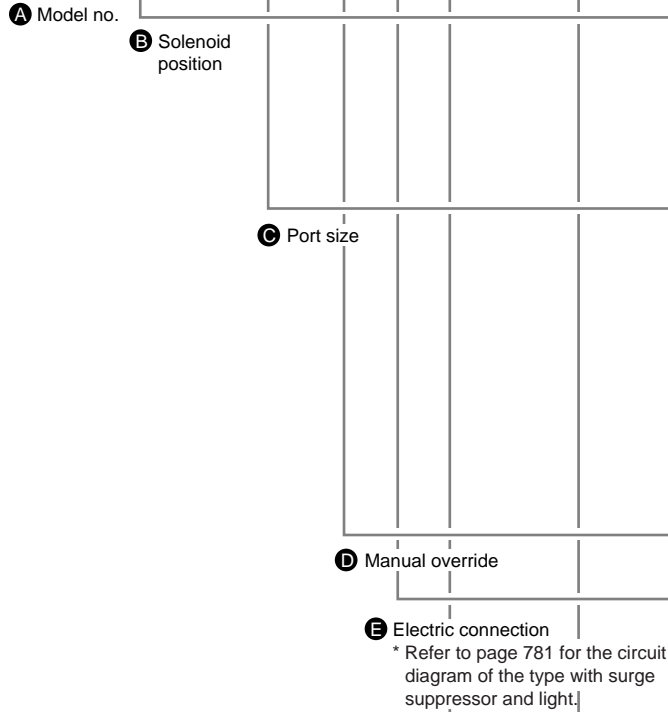
MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/ FS/FD
Ending

Discrete 3, 5 port pilot operated valve

# 3KA1/4KA1 to 4 Series

Discrete valve: Body porting

## How to order



<Table 1> Small terminal box L/L2/LS table

Symbol	Descriptions		3KA1	4KA1	4KA2	4KA3	4KA4	Surge suppressor
L	No lead wire	With light	●	●	●	●	●	
		With surge suppressor/light				●	●	Integrated
	With lead wire (300 mm)	With light	●	●	●			
		With surge suppressor/light						Integrated
LS	No lead wire	With surge suppressor/light	●	●	●	●	●	Integrated
		DC				●	●	Integrated

### Note on model no. selection

- Note 1: 3KA1, 4KA1 and 4KA2 compact terminal box, L and L2 DC voltage, and LS have a built-in surge absorber.
- Note 2: With a 24 VDC or less grommet lead wire, the enclosed surge suppressor is a suppression connector. (Refer to page 780)

### <Example of model number>

4KA210-06-M1BP-AC100V

- Ⓐ Model : 4KA2
- Ⓑ Solenoid position: 2-position single solenoid
- Ⓒ Port size : Rc1/8
- Ⓓ Manual override : Locking manual override
- Ⓔ Electric connection : Small terminal box, w/o lead wire
- Ⓕ Other options : Mounting plate
- Ⓖ Voltage : 100 VAC 50/60Hz

## Ⓐ Model no.

3KA1	4KA1	4KA2	4KA3	4KA4
------	------	------	------	------

Symbol	Descriptions	3KA1	4KA1	4KA2	4KA3	4KA4
Ⓑ Solenoid position	1	2-position single solenoid		●	●	●
	2	2-position double solenoid	●	●	●	●
	3	3-position all ports closed		●	●	●
	4	3-position A/B/R connection		●	●	●
	5	3-position P/A/B connection		●	●	●
Ⓒ Port size	1	2-position single solenoid normally closed	●			
	11	2-position single solenoid normally open	●			

Ⓒ Port size	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 joint	(1)	(1)		
	GS6	ø6 push-in joint	(1)	(1)	(2)	
	GS8	ø8 push-in joint			(2)	(3)
	GS10	ø10 push-in joint				(3) (4)
	GS12	ø12 push-in joint				(4)

Ⓓ Electric connection	Blank	Non-locking manual override	●	●	●	●	●
	M1	Locking manual override	●	●	●	●	●

Ⓔ Electric connection	Grommet lead wire					
	Blank	Grommet lead wire (300 mm)	●	●	●	●
Ⓕ Small terminal box	Blank		●	●	●	●
	L		●	●	●	●
	L2		●	●	●	●
	LS		●	●	●	●
Ⓖ C-connector (lead wire lateral)	C		●	●	●	●
	C00		●	●	●	●
	C01		●	●	●	●
	C02		●	●	●	●
	C03		●	●	●	●
	C1		●	●	●	●
	C2		●	●	●	●
	C20		●	●	●	●
	C21		●	●	●	●
	C22		●	●	●	●
	C23		●	●	●	●
	C3		●	●	●	●

Ⓖ D-connector (lead wire upward)	D		●	●	●	●
	D00		●	●	●	●
	D01		●	●	●	●
	D02		●	●	●	●
	D03		●	●	●	●
	D1		●	●	●	●
	D2		●	●	●	●
	D20		●	●	●	●
	D21		●	●	●	●
	D22		●	●	●	●
	D23		●	●	●	●

Ⓕ Other options	Blank	No option	●	●	●	●
	P	Mounting plate (only 2-position single solenoid)	●	●	●	●
	S	Surge suppressor attached Note 2	●	●	●	●

Ⓖ Voltage	Standard	AC100V	100 VAC 50/60Hz	●	●	●	●
		AC200V	200 VAC 50/60Hz	●	●	●	●
		DC24V	24 VDC	●	●	●	●
	Option	AC110V	110 VAC 50/60Hz	●	●	●	●
		AC220V	220 VAC 50/60Hz	●	●	●	●
		DC12V	12 VDC	●	●	●	●





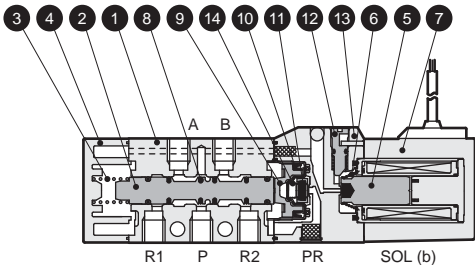
# 3KA1/4KA1 Series

Discrete valve: Body porting

## Internal structure and parts list

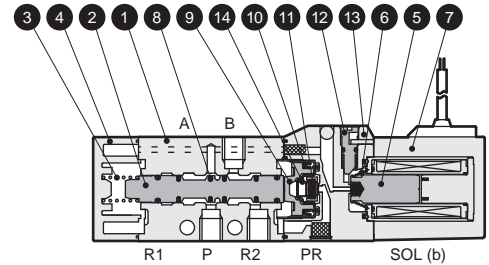
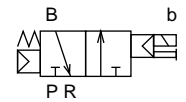
### 4KA110

● 2-position single solenoid



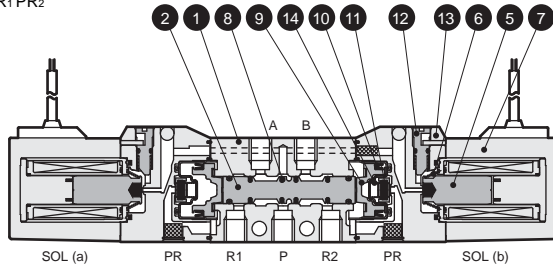
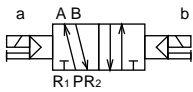
### 3KA110-NC

● 2-position single solenoid / N.C. type



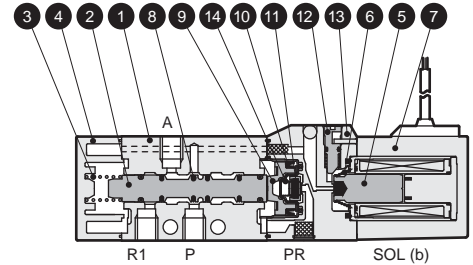
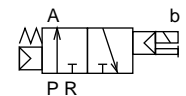
### 4KA120

● 2-position double solenoid



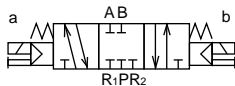
### 3KA1110-NO

● 2-position single solenoid / N.O. type



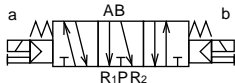
### 4KA130

● 3-position all ports closed



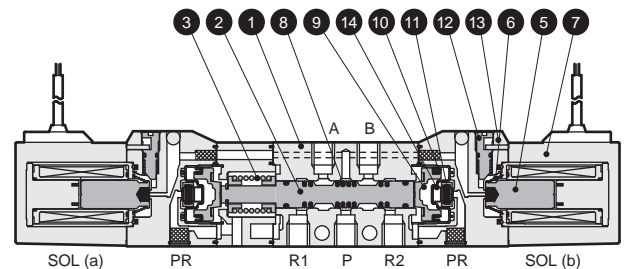
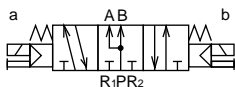
### 4KA140

● 3-position A/B/R connection



### 4KA150

● 3-position P/A/B connection



## Main parts list

No.	Parts 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 seal	Nitrile rubber
9	Piston	Resin
10	Piston packing seal	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot operated valve	Resin
14	Valve seat spring	Stainless steel

## Repair parts list

No. / parts name Model no.	2 8	9 10	5 6 7
	Spool assembly	Piston assembly	Coil assembly *
3KA110	4K9-110		
3KA1110		4K9-151	
4KA110	4K9-110	4K9-151	
4KA120	4K9-118		
4KA130	4K9-111		
4KA140	4K9-112		
4KA150	4K9-113	4K9-152	

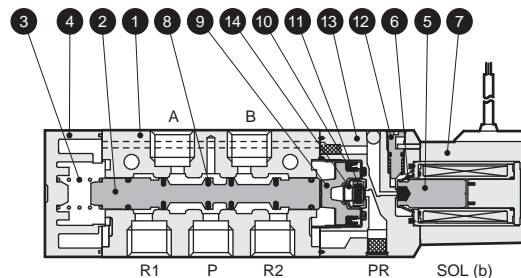
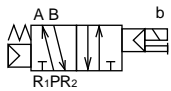
4K1L-**E** Electric connection option symbol  
 ← Blank for grommet lead wire  
 COIL-**G** Voltage

\* Options satisfying the model selection are assembled or enclosed with the coil assembly compact terminal box and connector.

### Internal structure and parts list

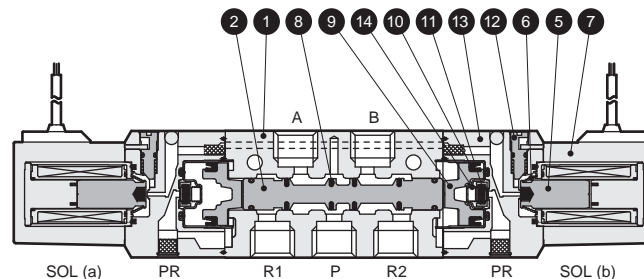
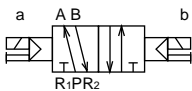
#### 4KA210

● 2-position single solenoid



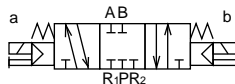
#### 4KA220

● 2-position double solenoid



#### 4KA230

● 3-position all ports closed



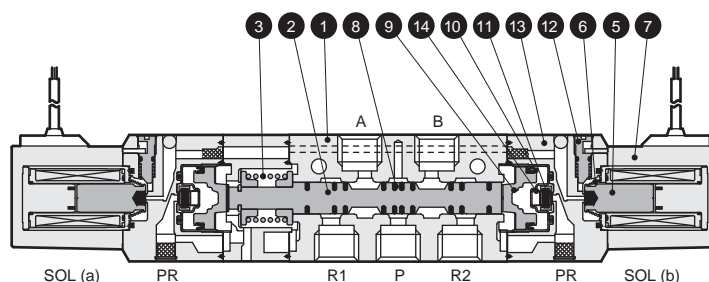
#### 4KA240

● 3-position A/B/R connection



#### 4KA250

● 3-position P/A/B connection



### Main parts list

No.	Parts 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 seal	Nitrile rubber
9	Piston	Resin
10	Piston packing seal	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot operated valve	Resin
14	Valve seat spring	Stainless steel

### Repair parts list

No. / parts name	2 8	9 10	5 6 7
Model no.	Spool assembly	Piston assembly	Coil assembly *
4KA210	4K9-150	4K9-153	4K9-154
4KA220	4K9-126		
4KA230	4K9-127		
4KA240	4K9-128		
4KA250	4K9-129		

\* Options satisfying the model selection are assembled or enclosed with the coil assembly compact terminal box and connector.

MN3E0  
MN4E0  
4GA/B  
M4GA/B  
MN4GA/B  
4GA/B (Master)  
W4GA/B2  
W4GB4  
MN3S0  
MN4S0  
4TB  
4L2-4/  
LMF0  
4SA/B0  
4SA/B1  
**4KA/B**  
4F  
PV5G/  
CMF  
PV5/  
CMF  
3MA/B0  
3PA/B  
P/M/B  
NP/NAP/  
NVP  
4F\*OE  
HMV  
HSV  
2QV  
3QV  
SKH  
PCD/  
FS/FD  
Ending

Discrete  
3, 5 port pilot operated valve

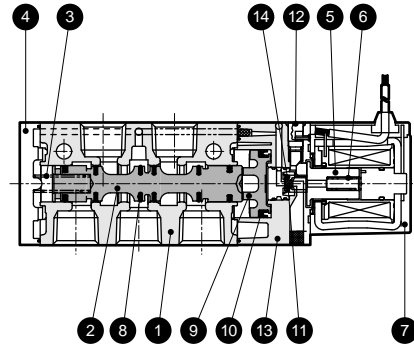
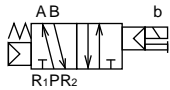
# 4KA3 Series

Discrete valve: Body porting

## Internal structure and parts list

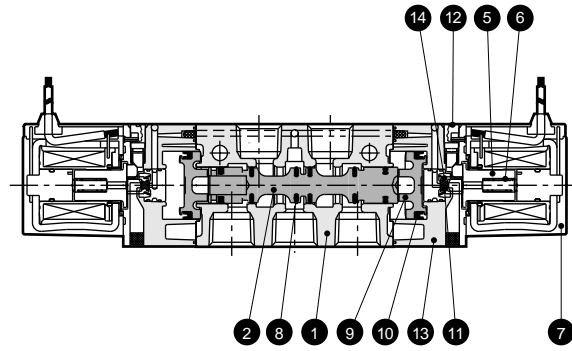
### 4KA310

● 2-position single solenoid



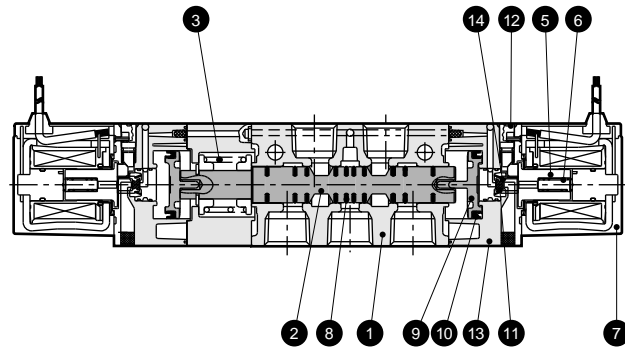
### 4KA320

● 2-position double solenoid



### 4KA330

● 3-position all ports closed



### 4KA340

● 3-position A/B/R connection



### 4KA350

● 3-position P/A/B connection



## Main parts list

No.	Parts 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 seal	Nitrile rubber
9	Piston	Resin
10	Piston packing seal	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot operated valve	Resin
14	Valve seat spring	Stainless steel

## Repair parts list

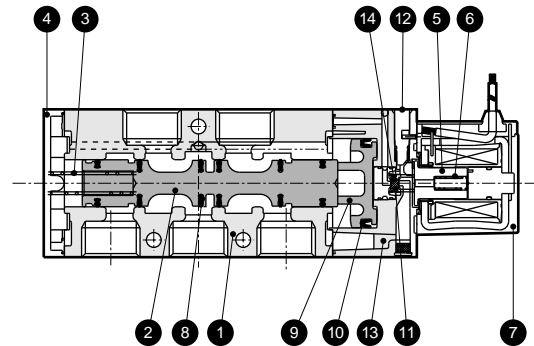
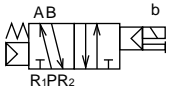
No. / parts name	2 8	9 10	5 6 7
Model no.	Spool assembly	Piston assembly	Coil assembly *
4KA310	4K9-133	4K9-137	4K3-  Electric connection option symbol Blank for grommet COIL-  Voltage lead wire
4KA320	4K9-134	4K9-138	
4KA330	4K9-135		
4KA340	4K9-136		
4KA350	4K9-136		

\* Options satisfying the model selection are assembled or enclosed with the coil assembly compact terminal box and connector.

### Internal structure and parts list

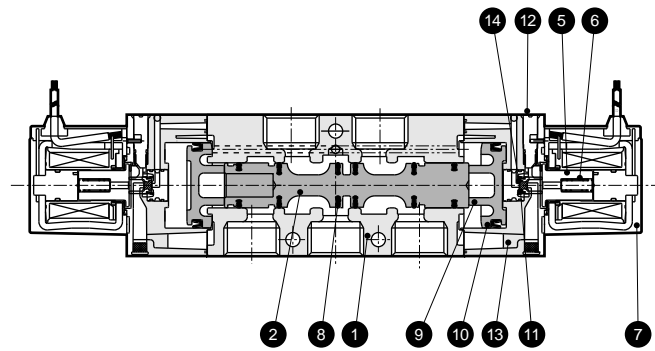
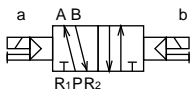
#### 4KA410

● 2-position single solenoid



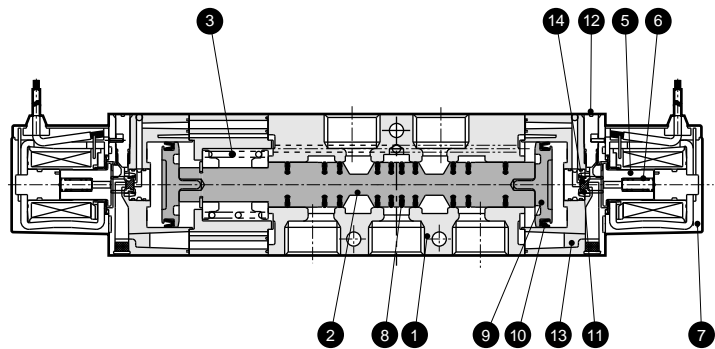
#### 4KA420

● 2-position double solenoid



#### 4KA430

● 3-position all ports closed



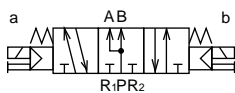
#### 4KA440

● 3-position A/B/R connection



#### 4KA450

● 3-position P/A/B connection



### Main parts list

No.	Parts 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 seal	Nitrile rubber
9	Piston	Resin
10	Piston packing seal	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot operated valve	Resin
14	Valve seat spring	Stainless steel

### Repair parts list

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

\* Options satisfying the model selection are assembled or enclosed with the coil assembly compact terminal box and connector.

MN3E0  
MN4E0  
4GA/B  
M4GA/B  
MN4GA/B  
4GA/B (Master)  
W4GA/B2  
W4GB4  
MN3S0  
MN4S0  
4TB  
4L2-4/  
LMF0  
4SA/B0  
4SA/B1  
**4KA/B**  
4F  
PV5G/  
CMF  
PV5/  
CMF  
3MA/B0  
3PA/B  
P/M/B  
NP/NAP/  
NVP  
4F\*0E  
HMV  
HSV  
2QV  
3QV  
SKH  
PCD/  
FS/FD  
Ending

Discrete  
3, 5 port pilot operated valve

# 3KA1 Series

Discrete valve: Body porting

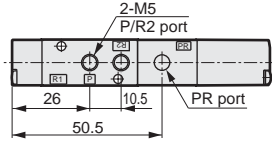
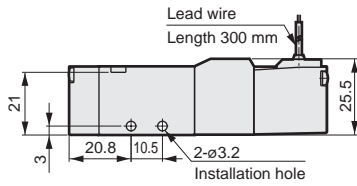
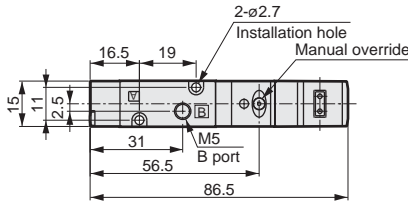
MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMFO
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

## Dimensions

### 3KA110



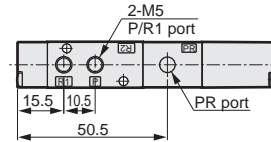
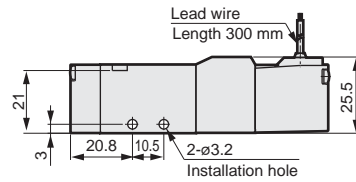
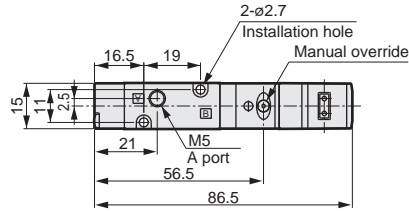
● 2-position single N.C. type: Grommet lead wire



### 3KA1110



● 2-position single N.O. type: Grommet lead wire

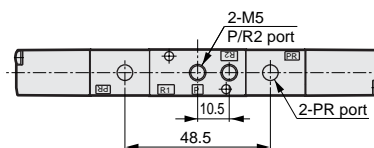
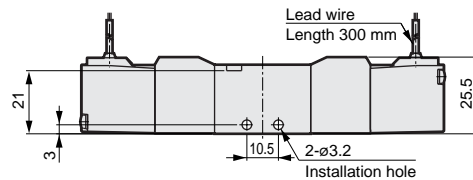
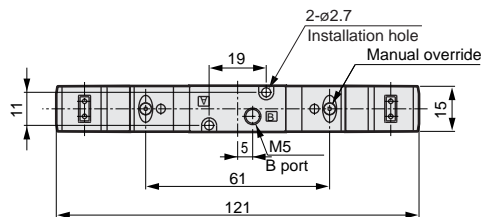
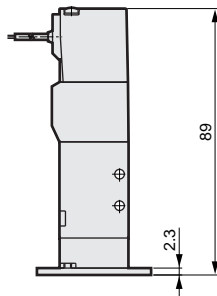
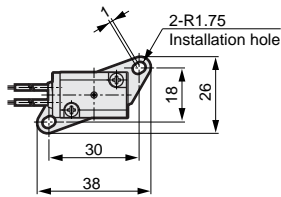


### 3KA120



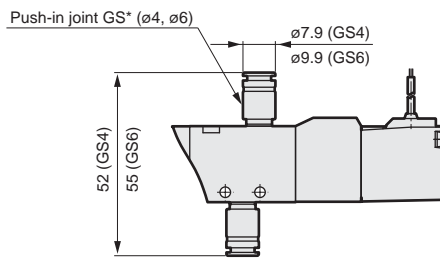
● Mounting plate: (P <Only 2-position single solenoid>)

● 2-position double N.C. type: Grommet lead wire



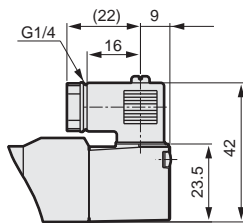
### Dimensions

- $\varnothing 4/\varnothing 6$  push-in joint: (GS4, GS6)

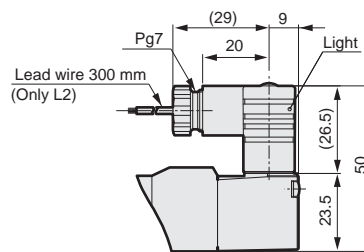


- Small terminal box: (B <without indicator light> , L, L2, LS <with indicator light>)

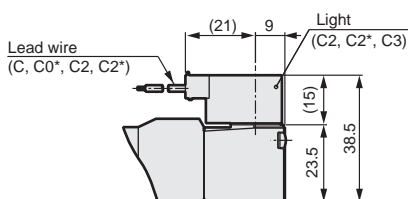
Without indicator light



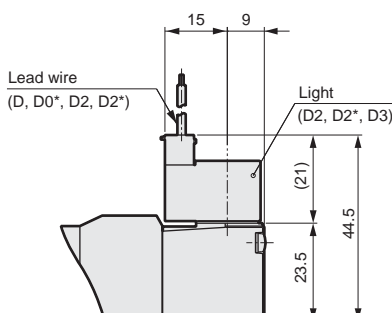
With indicator light



- C-connector: (C, C1, C0\*, C2, C2\*, C3)



- D-connector: (D, D1, D0\*, D2, D2\*, D3)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Discrete 3, 5 port pilot operated valve

# 4KA1 Series

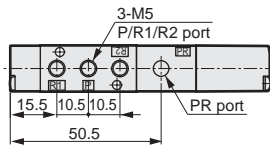
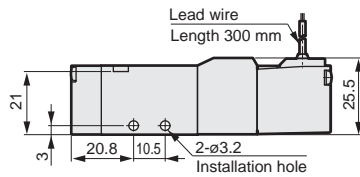
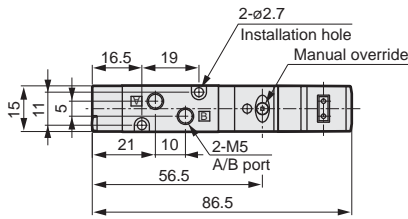
Discrete valve: Body porting

## Dimensions

### 4KA110



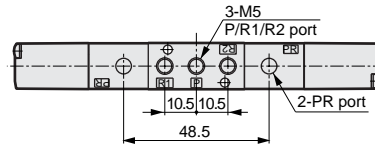
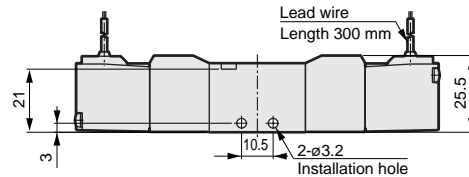
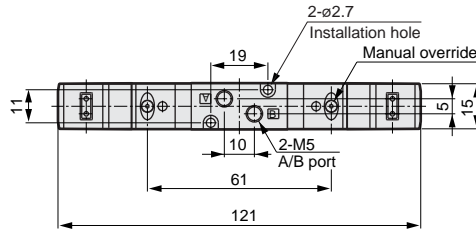
● 2-position single solenoid: Grommet lead wire



### 4KA120



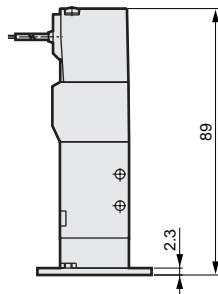
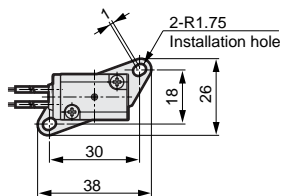
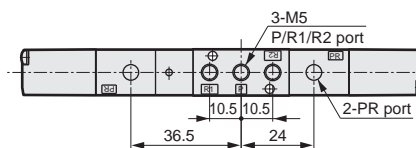
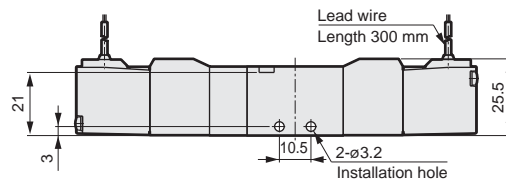
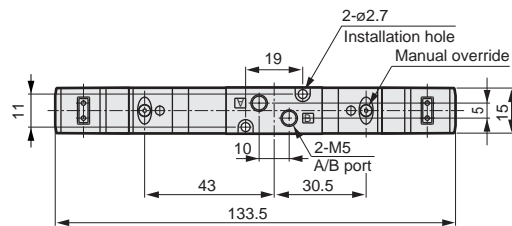
● 2-position double solenoid: Grommet lead wire



### 4KA140<sup>3</sup>/<sub>5</sub>



● 3-position: Grommet lead wire



● Mounting plate: (P <Only 2-position single solenoid>)





# 4KA2 Series

Discrete valve: Body porting

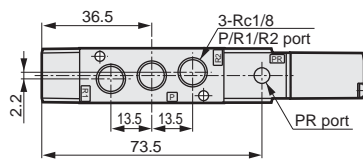
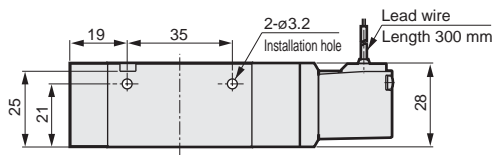
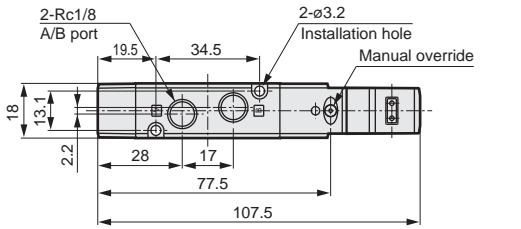
MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMFO
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/MB
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

## Dimensions

### 4KA210



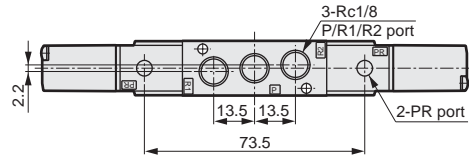
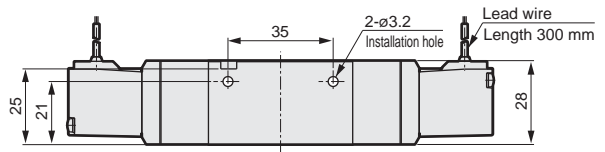
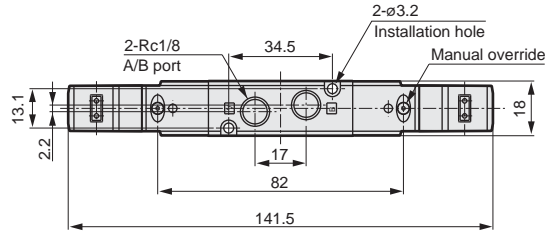
● 2-position single solenoid: Grommet lead wire



### 4KA220



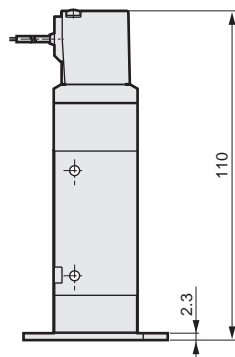
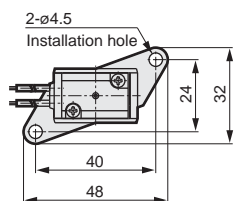
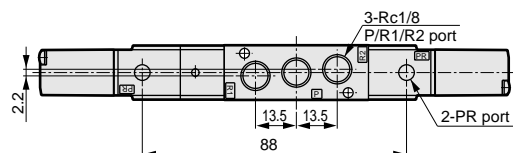
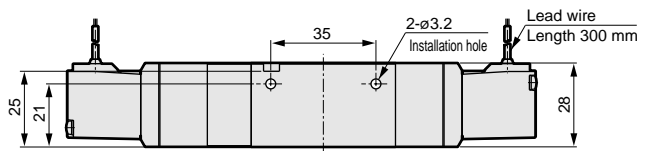
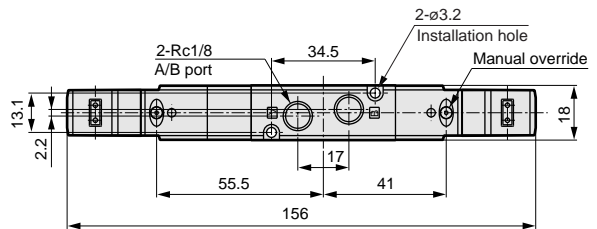
● 2-position double solenoid: Grommet lead wire



### 4KA240<sup>3</sup>/<sub>5</sub>

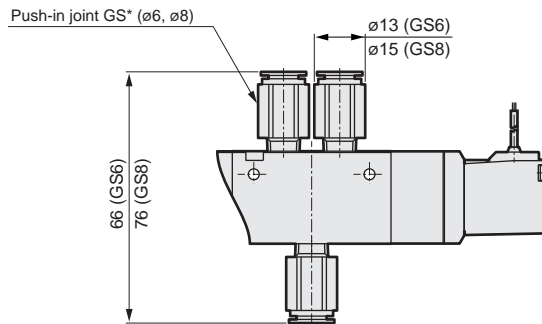


● 3-position: Grommet lead wire



### Dimensions

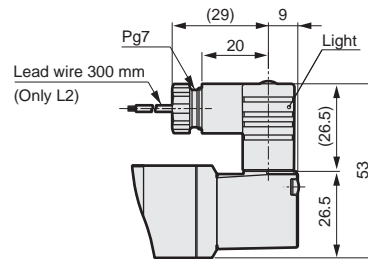
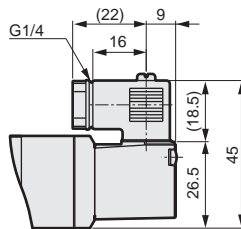
- $\varnothing 6/\varnothing 8$  push-in joint: (GS6, GS8)



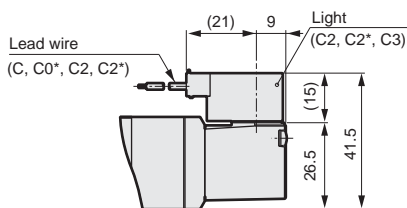
- Small terminal box: (B <without indicator light> , L, L2, LS <with indicator light>)

Without indicator light

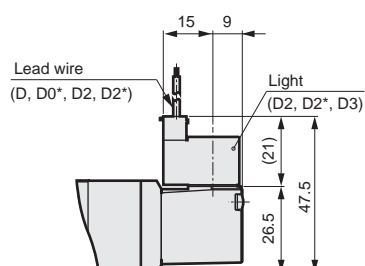
With indicator light



- C-connector: (C, C1, C0\*, C2, C2\*, C3)



- D-connector: (D, D1, D0\*, D2, D2\*, D3)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/ FS/FD
Ending

Discrete 3, 5 port pilot operated valve

# 4KA3 Series

Discrete valve: Body porting

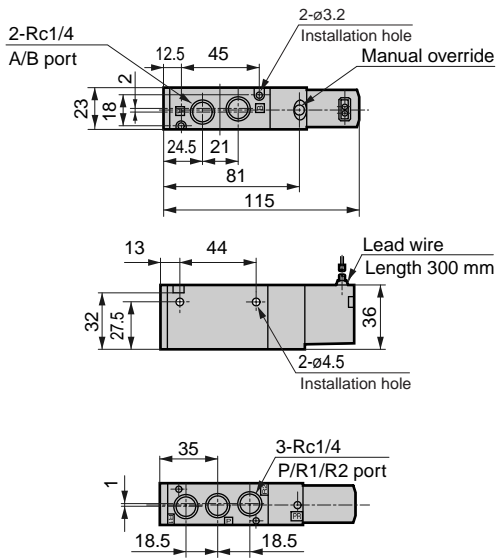
MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMFO
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

## Dimensions

### 4KA310



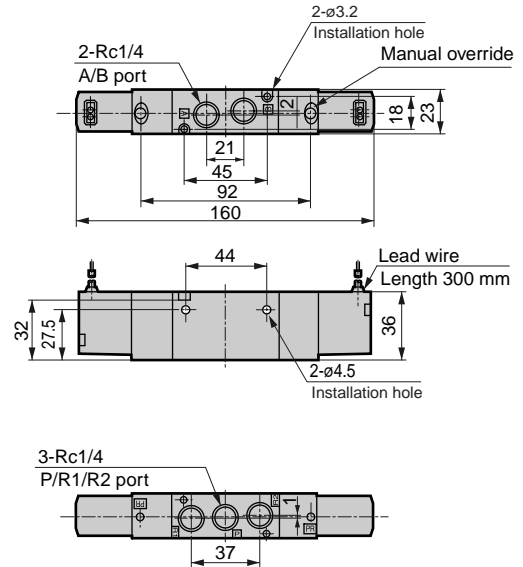
● 2-position single solenoid: Grommet lead wire



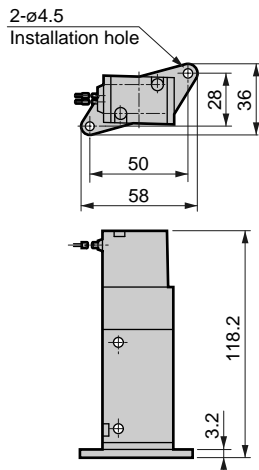
### 4KA320



● 2-position double solenoid: Grommet lead wire



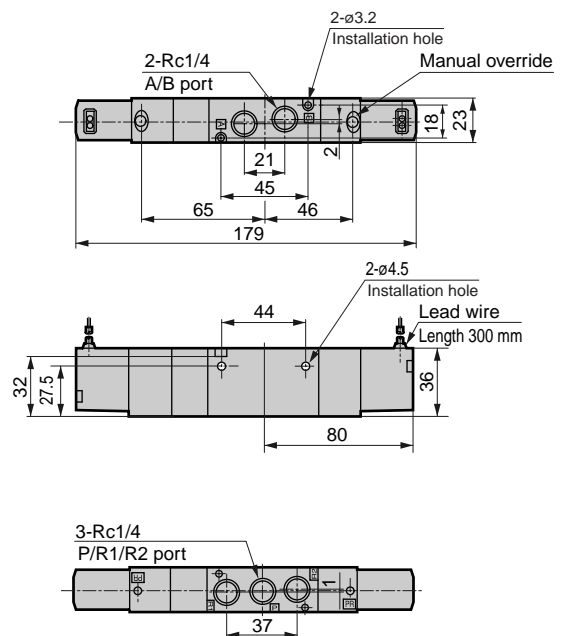
● Mounting plate: (P <Only 2-position single solenoid>)



### 4KA340<sup>3</sup>/<sub>5</sub>

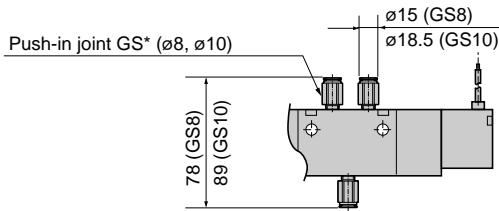


● 3-position: Grommet lead wire

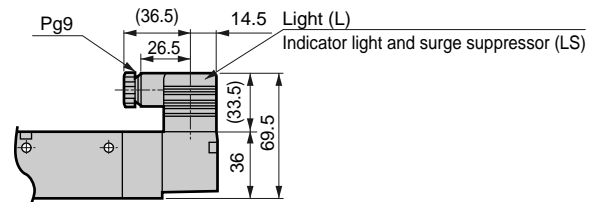


### Dimensions

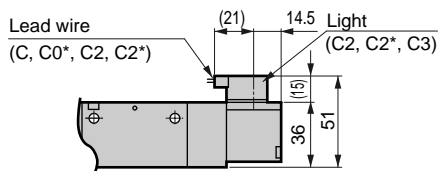
- $\varnothing 8/\varnothing 10$  push-in joint: (GS8, GS10)



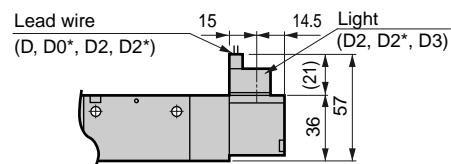
- Terminal box: (B, L, LS)



- C-connector: (C, C1, C0\*, C2, C2\*, C3)



- D-connector: (D, D1, D0\*, D2, D2\*, D3)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Discrete 3, 5 port pilot operated valve

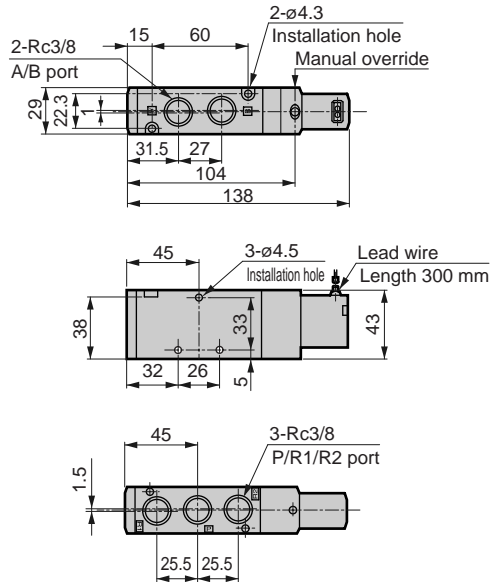
# 4KA4 Series

Discrete valve: Body porting

## Dimensions

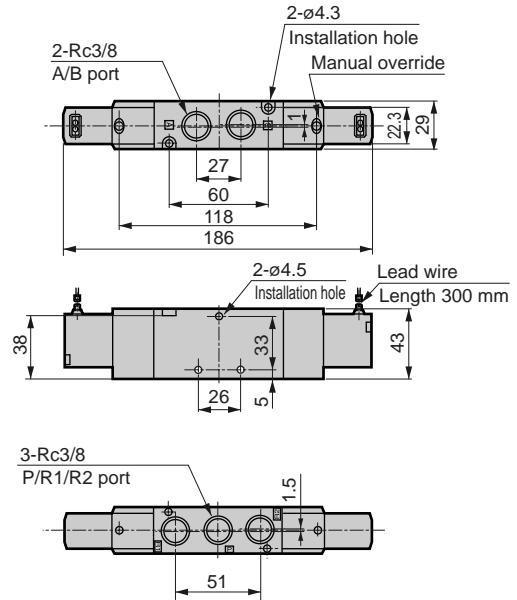
### 4KA410

● 2-position single solenoid: Grommet lead wire

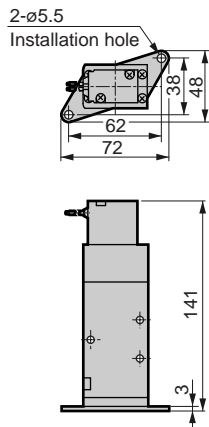


### 4KA420

● 2-position double solenoid: Grommet lead wire

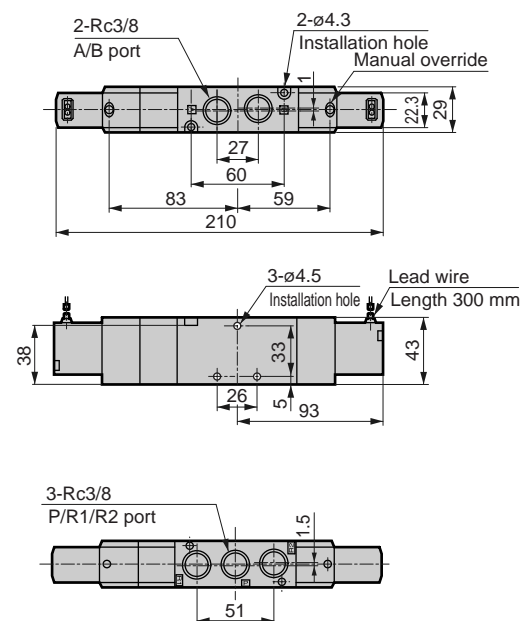


● Mounting plate: (P <Only 2-position single solenoid>)



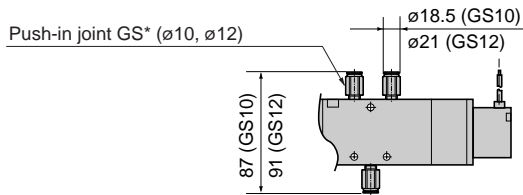
### 4KA440

● 3-position: Grommet lead wire

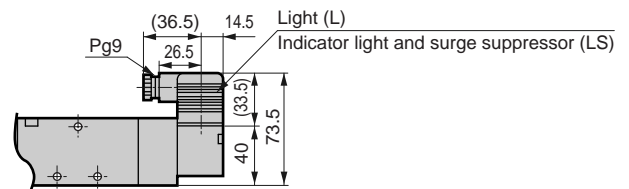


### Dimensions

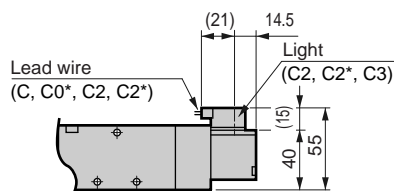
- $\varnothing 10/\varnothing 12$  push-in joint: (GS10, GS12)



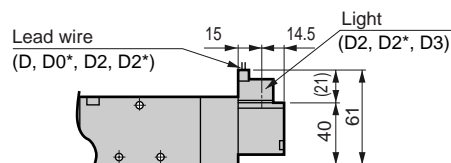
- Terminal box: (B, L, LS)



- C-connector: (C, C1, C0\*, C2, C2\*, C3)



- D-connector: (D, D1, D0\*, D2, D2\*, D3)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Discrete 3, 5 port pilot operated valve



# Discrete valve Sub-plate porting

## 5 port pilot operated valve pneumatic valve

# 4KB1/2/3/4 Series

● Applicable cylinder bore size:  $\varnothing 20$  to  $\varnothing 160$

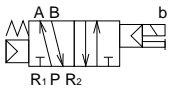
CE Refer to Intro 17 for details.



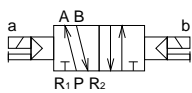
- MN3E0
- MN4E0
- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (Master)
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4TB
- 4L2-4/LMFO
- 4SA/B0
- 4SA/B1
- 4KA/B
- 4F
- PV5G/CMF
- PV5/CMF
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP/NVP
- 4F\*0E (2-position single solenoid)
- HMV
- HSV
- 2QV
- 3QV
- SKH
- PCD/FS/FD
- Ending

### JIS symbol

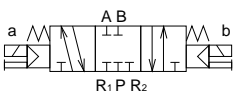
- 5 port valve  
2-position single solenoid



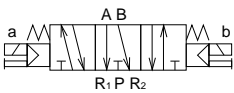
- 5 port valve  
2-position double solenoid



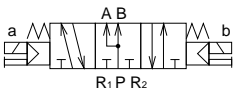
- 5 port valve  
3-position all ports closed



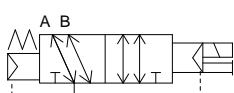
- 5 port valve  
3-position A/B/R connection



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



- External pilot



(2-position single solenoid)

### Common specifications

Descriptions	
Type of valve/operation method	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.70
Min. working pressure MPa	Refer to the following individual specifications.
Withstanding pressure MPa	1.05
Ambient temperature °C	-5 to 50 (no freezing)
Fluid temperature °C	5 to 50
Lubrication	Not required
Protective structure	Dust proof
Vibration/impact m/s <sup>2</sup>	50 or less / 300 or less
Working environment	Containing corrosive gas is impermissible.

Note 1: The working pressure range is 0 to 0.7 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

### Electric specifications

Descriptions		4KB1/2	4KB3/4
Rated voltage	AC	100, 200 ( 50/60 Hz )	
	DC	24	
Rated voltage fluctuation range		±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
		DC 24 V	—
Holding current	AC 100V	0.028/0.022	0.023/0.021
	AC 200V	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)
Heat proof class		B (molded coil)	
Temperature rise °C		43	30

Remarks: The 100 VAC 50/60 Hz rated voltage can be used at 110 VAC 60 Hz, and 200 VAC 50/60 Hz can be used at 220 VAC 60 Hz.

### Individual specifications

Descriptions			4KB1	4KB2	4KB3	4KB4
Min. working pressure MPa	2-position	Single solenoid	0.15	0.15	0.15	0.15
		Double solenoid				
	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
Note 1	R1/R2 port		Rc1/8	Rc1/4	Rc1/4, Rc3/8	Rc3/8, Rc1/2
Response time ms	2-position		30 or less	30 or less	30 or less	30 or less
	3-position		60 or less	60 or less	60 or less	60 or less
Weight g	2-position	Single solenoid	100	200	335	555
		Double solenoid	140	245	442	655
	3-position		150	255	474	730

Note 1: G threads and NPT threads are available for the piping port threads. Contact CKD for information.

Note 2: Response time is the value when supply pressure 0.5 MPa, not lubricated and ON. The value varies depending on pressure and quality of lubricant.



### Flow characteristics

Model no.	Solenoid position	C (dm <sup>3</sup> / (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

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

### Ozone proof specifications (Ending 5)

\*\* - Voltage - P11

### Coolant proof specifications

● Special structure with excellent oil proof and water proof properties

\*\* - A - Voltage

### Copper and PTFE free

● Copper and PTFE material not used for flow path

\*\* - Voltage - P6

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/ FS/FD
Ending

Discrete 5 port pilot operated valve

# 4KB1 to 4 Series

Discrete valve: Sub-plate porting

How to order



**A** Model no.

**B** Solenoid position

**C** Port size

**D** Manual override

**E** Electric connection  
\* Refer to page 781 for the circuit diagram of the type with surge suppressor and light.

**F** Other options

**G** Voltage

**A** Model no.

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

Symbol	Descriptions					
<b>B</b> Solenoid position	1	2-position single solenoid	●	●	●	●
	2	2-position double solenoid	●	●	●	●
	3	3-position all ports closed	●	●	●	●
	4	3-position A/B/R connection	●	●	●	●
	5	3-position P/A/B connection	●	●	●	●

<b>C</b> Port size	Port	P/A/B port	R1, R2 port (1) = Rc1/8 (2) = Rc1/4 (3) = Rc3/8 (4) = Rc1/2			
	06	Rc1/8	(1)	(2)		
	08	Rc1/4		(2)	(2)	
	10	Rc3/8			(3)	(3)
	15	Rc1/2				(4)

<b>D</b>	Blank	Non-locking manual override	●	●	●	●
	M1	Locking manual override	●	●	●	●

<b>E</b> Electric connection	Grommet lead wire					
	Blank	Grommet lead wire (300 mm)	●	●	●	●
	Small terminal box					
	B	No lead wire	●	●	●	●
	L	No lead wire	●	●	●	●
	L2	Lead wire length (300 mm)	Refer to <Table 1> on the left. Note 1			

<b>E</b> Electric connection	C-connector (lead wire lateral)					
	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	No lead wire	●	●	●	●
	C2	Lead wire length (300 mm) with surge suppressor/light	●	●	●	●
	C20	Lead wire length (500 mm) with surge suppressor/light	●	●	●	●
	C21	Lead wire length (1000 mm) with surge suppressor/light	●	●	●	●
	C22	Lead wire length (2000 mm) with surge suppressor/light	●	●	●	●
	C23	Lead wire length (3000 mm) with surge suppressor/light	●	●	●	●
	C3	No lead wire with surge suppressor/light	●	●	●	●

<b>E</b> Electric connection	D-connector (lead wire upward)					
	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	No lead wire	●	●	●	●
	D2	Lead wire length (300 mm) with surge suppressor/light	●	●	●	●
	D20	Lead wire length (500 mm) with surge suppressor/light	●	●	●	●
	D21	Lead wire length (1000 mm) with surge suppressor/light	●	●	●	●
	D22	Lead wire length (2000 mm) with surge suppressor/light	●	●	●	●
	D23	Lead wire length (3000 mm) with surge suppressor/light	●	●	●	●
	D3	No lead wire with surge suppressor/light	●	●	●	●

<b>F</b>	Blank	No option	●	●	●	●
	K	External pilot Note 2	●	●	●	●
	S	Surge suppressor attached Note 3	●	●	●	●

<b>G</b> Voltage	Standard					
	AC100V	100 VAC 50/60Hz	●	●	●	●
	AC200V	200 VAC 50/60Hz	●	●	●	●
	DC24V	24 VDC	●	●	●	●
	AC110V	110 VAC 50/60Hz	●	●	●	●
	AC220V	220 VAC 50/60Hz	●	●	●	●
Option						
DC12V	12 VDC	●	●	●	●	

<Table 1> Small terminal box L/L2/LS table

Symbol	Descriptions		4KB1	4KB2	4KB3	4KB4	Surge suppressor
L	No lead wire	With light	AC	●	●	●	●
		DC			●	●	
	With surge suppressor/light	AC					
		DC	●	●			Integrated
L2	With lead wire (300 mm)	With light	AC	●	●		
		DC					
	With surge suppressor/light	AC					
		DC	●	●			Integrated
LS	No lead wire	With surge suppressor/light	AC	●	●	●	●
		DC			●	●	Integrated

## Note on model no. selection

Note 1: 4KB1 and 4KB2 compact terminal box, L and L2 DC voltage, and LS have a built-in surge absorber.

Note 2: Consult CKD for details on using vacuum with the external pilot (K).

Note 3: With a 24 VDC or less grommet lead wire, the enclosed surge suppressor is a suppression connector. (Refer to page 780)

## <Example of model number>

**4KB210-06-M1BK-AC100V**

- A** Model : 4KB2
- B** Solenoid position : 2-position single solenoid
- C** Port size : Rc1/8
- D** Manual override : Locking manual override
- E** Electric connection : Small terminal box, w/o lead wire
- F** Other options : Mounting plate
- G** Voltage : 100 VAC 50/60Hz



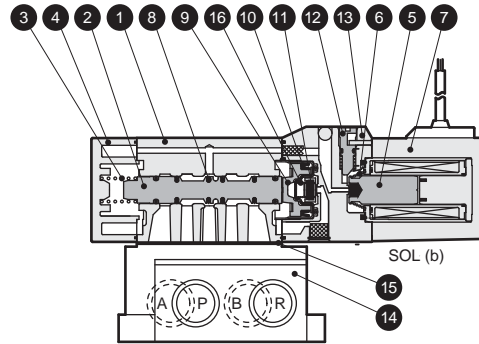
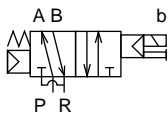
# 4KB1 Series

Discrete valve: Sub-plate porting

## Internal structure and parts list

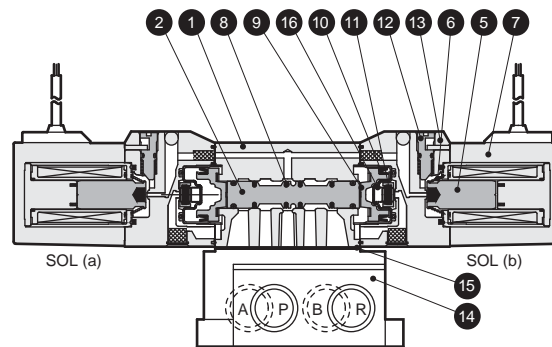
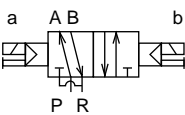
### 4KB110

● 2-position single solenoid



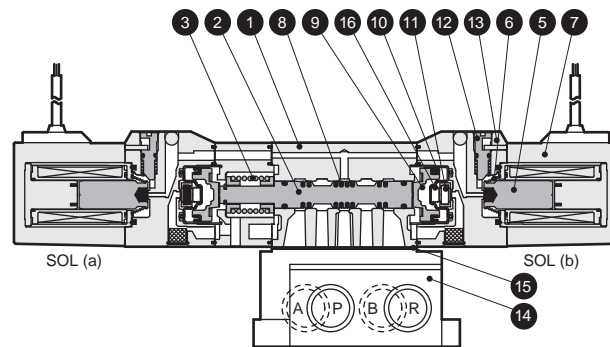
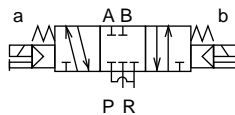
### 4KB120

● 2-position double solenoid



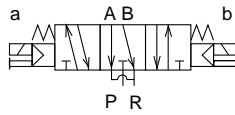
### 4KB130

● 3-position all ports closed



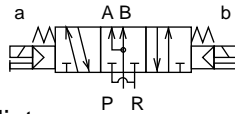
### 4KB140

● 3-position A/B/R connection



### 4KB150

● 3-position P/A/B connection



## Main parts list

No.	Parts 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 seal	Nitrile rubber
9	Piston	Resin
10	Piston packing seal	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot operated 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	4KB110- <b>B</b> Port size - <b>F</b> External pilot - SUB-BASE-KIT

\* Set screw is included with a sub-plate kit.

## Repair parts list

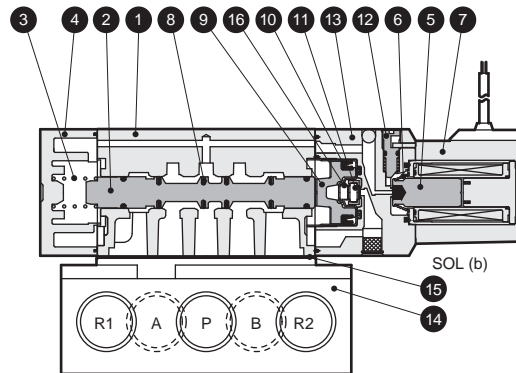
No. / parts name	2 8	9 10	5 6 7
Model no.	Spool assembly	Piston assembly	Coil assembly *
4KB110	4K9-110	4K9-151	4K1L- <b>E</b> Electric connection option symbol Blank for grommet lead wire
4KB120	4K9-118		
4KB130	4K9-111	4K9-152	
4KB140	4K9-112		
4KB150	4K9-113		

\* Options satisfying the model selection are assembled or enclosed with the coil assembly compact terminal box and connector.

### Internal structure and parts list

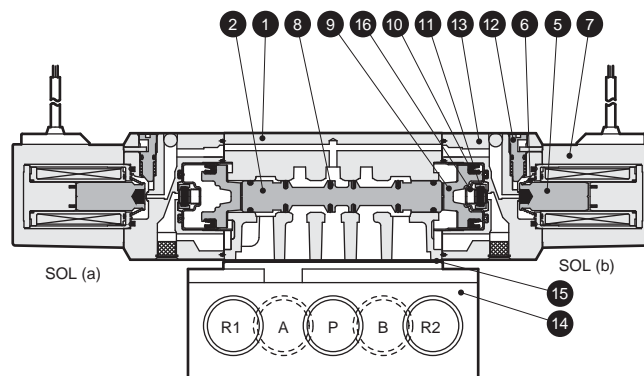
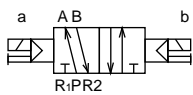
#### 4KB210

● 2-position single solenoid



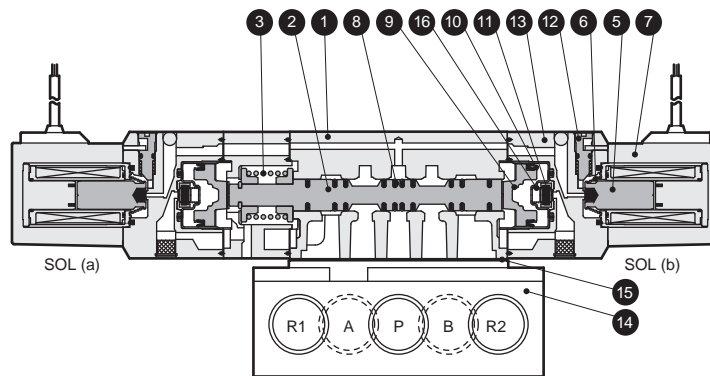
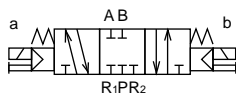
#### 4KB220

● 2-position double solenoid



#### 4KB230

● 3-position all ports closed



#### 4KB240

● 3-position A/B/R connection



#### 4KB250

● 3-position P/A/B connection



### Main parts list

No.	Parts 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 seal	Nitrile rubber
9	Piston	Resin
10	Piston packing seal	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot operated 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>B</b> Port size - <b>F</b> External pilot -SUB-BASE-KIT
15		

\* Set screw is included with a sub-plate kit.

### Repair parts list

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

\* Options satisfying the model selection are assembled or enclosed with the coil assembly compact terminal box and connector.

MN3E0  
MN4E0  
4GA/B  
M4GA/B  
MN4GA/B  
4GA/B (Master)  
W4GA/B2  
W4GB4  
MN3S0  
MN4S0  
4TB  
4L2-4/LMF0  
4SA/B0  
4SA/B1  
**4KA/B**  
4F  
PV5G/CMF  
PV5/CMF  
3MA/B0  
3PA/B  
P/M/B  
NP/NAP/NVP  
4F\*OE  
HMV  
HSV  
2QV  
3QV  
SKH  
PCD/FS/FD

Ending

Discrete 5 port pilot operated valve

# 4KB3 Series

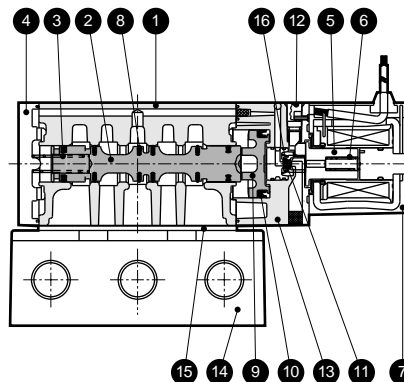
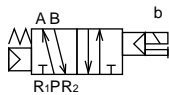
Discrete valve: Sub-plate porting

## Internal structure and parts list

MN3E0  
MN4E0

### 4KB310

● 2-position single solenoid



4GA/B

M4GA/B

MN4GA/B

4GA/B  
(Master)

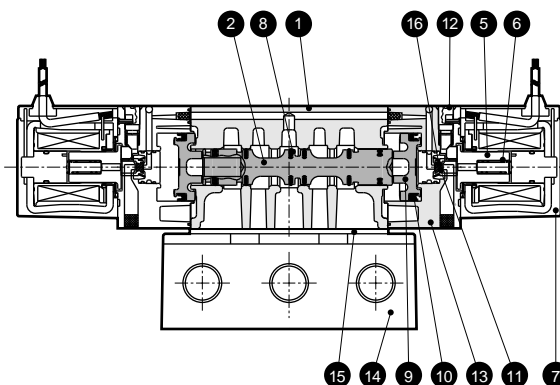
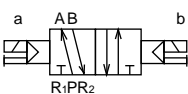
W4GA/B2

W4GB4

MN3S0  
MN4S0

### 4KB320

● 2-position double solenoid



4TB

4L2-4/  
LMFO

4SA/B0

4SA/B1

4KA/B

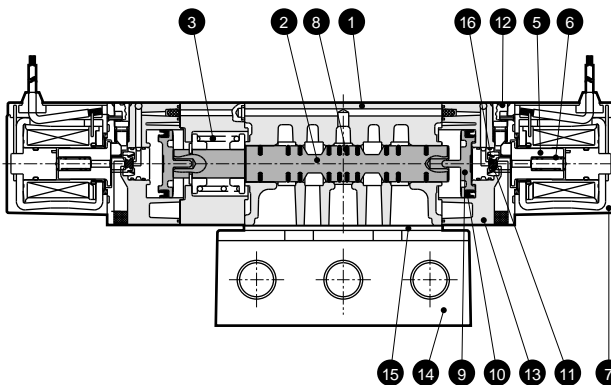
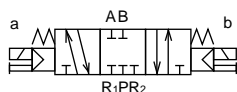
4F

PV5G/  
CMF

PV5/  
CMF

### 4KB330

● 3-position all ports closed



3MA/B0

3PA/B

### 4KB340

● 3-position A/B/R connection



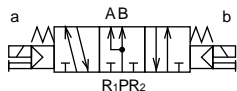
P/M/B

NP/NAP/  
NVP

4F\*0E

### 4KB350

● 3-position P/A/B connection



HMV  
HSV

2QV  
3QV

## Main parts list

No.	Parts 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 seal	Nitrile rubber
9	Piston	Resin
10	Piston packing seal	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot operated 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- <b>E</b> Port size - <b>F</b> External pilot
15		-SUB-BASE-KIT

\* Set screw is included with a sub-plate kit.

## Repair parts list

No. / parts name	2 8	9 10	5 6 7
Model no.	Spool assembly	Piston assembly	Coil assembly *1
4KB310			
4KB320	4K9-133	4K9-137	
4KB330	4K9-134		
4KB340	4K9-135	4K9-138	
4KB350	4K9-136		

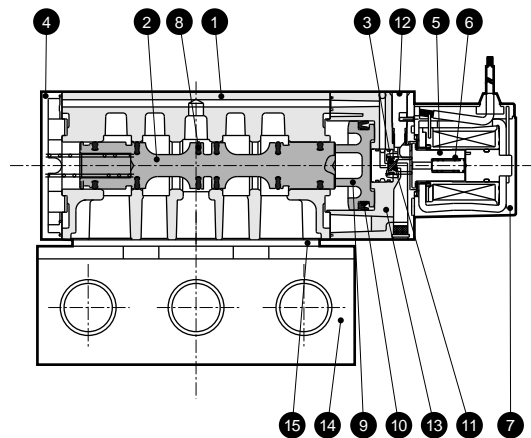
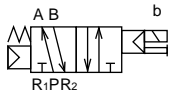
\*1: Options satisfying the model selection are assembled or enclosed with the coil assembly compact terminal box and connector.

\*2: The gasket (15) has a preset installation direction.

### Internal structure and parts list

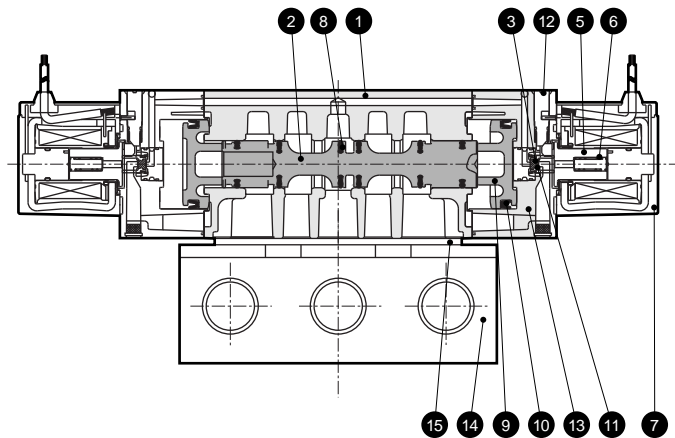
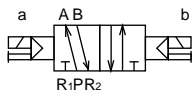
#### 4KB410

● 2-position single solenoid



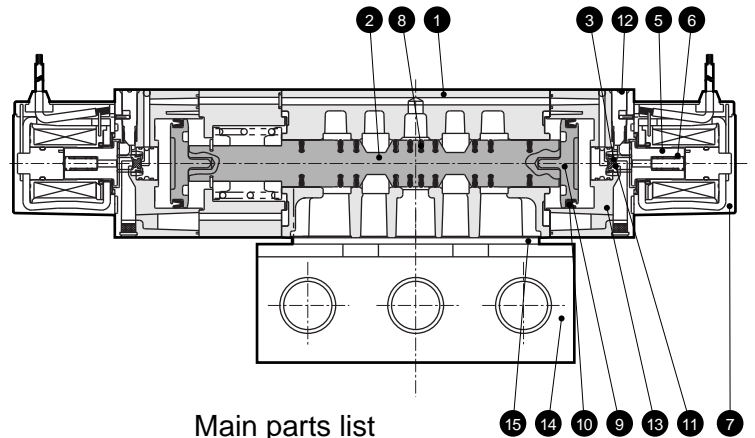
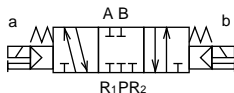
#### 4KB420

● 2-position double solenoid



#### 4KB430

● 3-position all ports closed



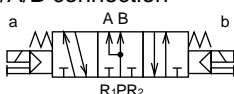
#### 4KB440

● 3-position A/B/R connection



#### 4KB450

● 3-position P/A/B connection



### Main parts list

No.	Parts 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 seal	Nitrile rubber
9	Piston	Resin
10	Piston packing seal	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Resin
13	Pilot operated 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>B</b> Port size - <b>F</b> External pilot -SUB-BASE-KIT
15		

\* Set screw is included with a sub-plate kit.

### Repair parts list

No. / parts name	2 8	9 10	5 6 7
Model no.	Spool assembly	Piston assembly	Coil assembly *
4KB410	4K9-140	4K9-144	4K3- <b>E</b> Electric connection option symbol Blank for grommet COIL- <b>G</b> Voltage lead wire
4KB420			
4KB430	4K9-141	4K9-145	
4KB440			
4KB450	4K9-143		

\*1: The plunger assembly is enclosed with the coil assembly. The coil and plunger combination is limited, so do not interchange parts.

\*2: Options satisfying the model selection are assembled or enclosed with the coil assembly compact terminal box and connector.

\*3: Precautions apply when assembling the coil assembly into the valve. Contact CKD for information.

MN3E0  
MN4E0  
4GA/B  
M4GA/B  
MN4GA/B  
4GA/B (Master)  
W4GA/B2  
W4GB4  
MN3S0  
MN4S0  
4TB  
4L2-4/LMF0  
4SA/B0  
4SA/B1  
**4KA/B**  
4F  
PV5G/CMF  
PV5/CMF  
3MA/B0  
3PA/B  
P/M/B  
NP/NAP/NVP  
4F\*0E  
HMV  
HSV  
2QV  
3QV  
SKH  
PCD/FS/FD  
Ending

Discrete 5 port pilot operated valve

# 4KB1 Series

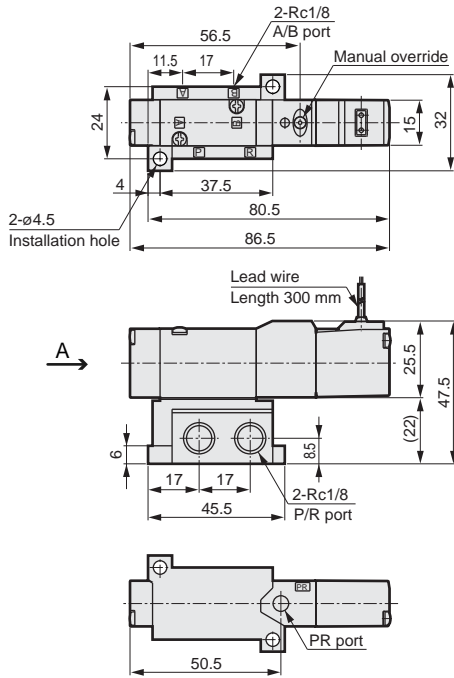
Discrete valve: Sub-plate porting



## Dimensions

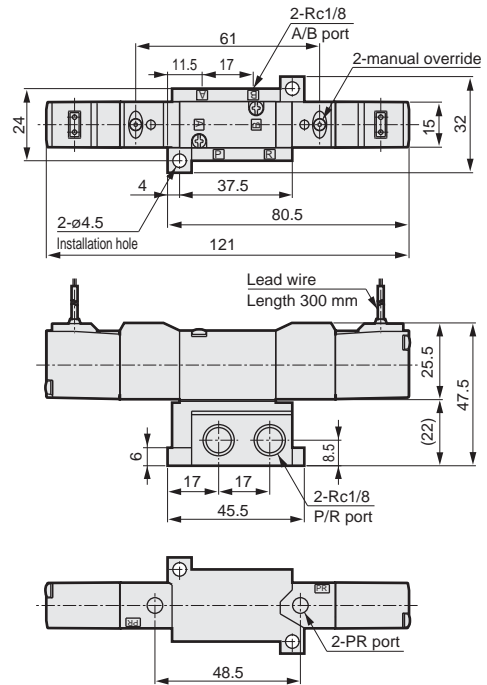
### 4KB110

● 2-position single solenoid: Grommet lead wire



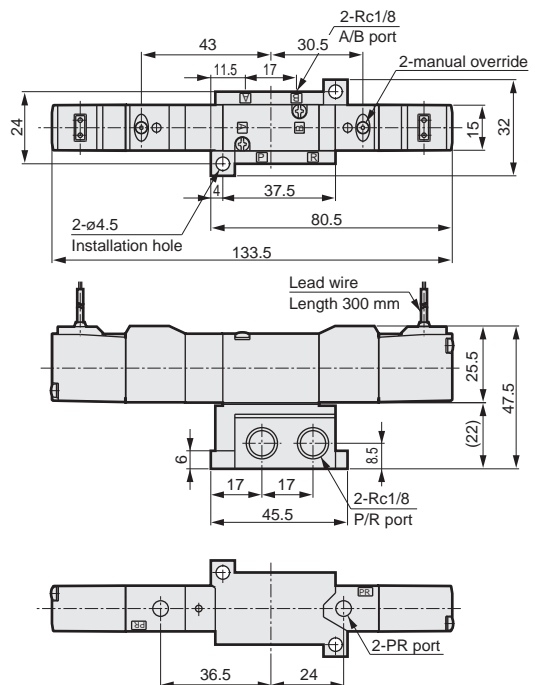
### 4KB120

● 2-position double solenoid: Grommet lead wire



### 4KB140<sup>3</sup><sub>5</sub>

● 3-position: Grommet lead wire







# 4KB2 Series

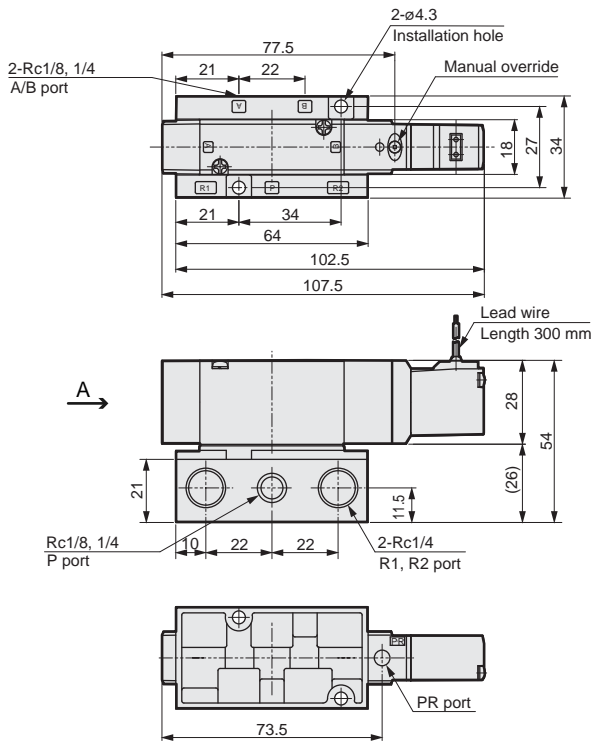
Discrete valve: Sub-plate porting



## Dimensions

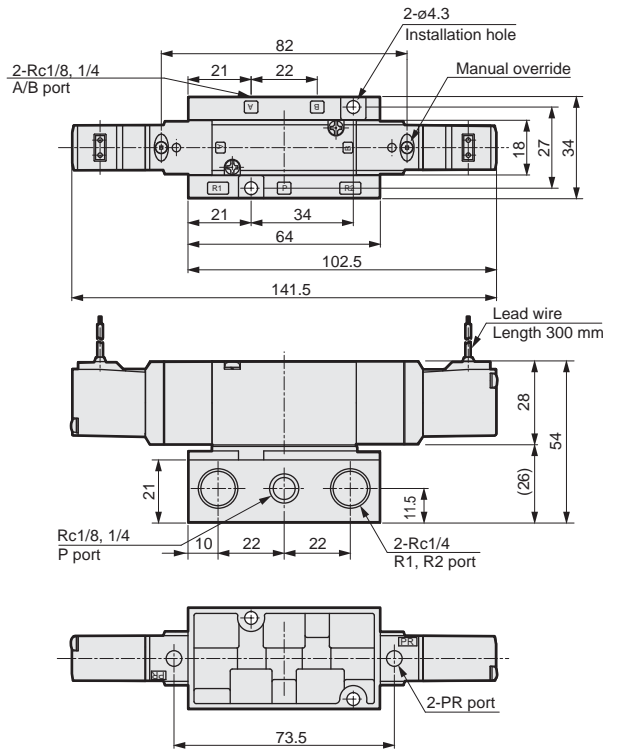
### 4KB210

● 2-position single solenoid: Grommet lead wire



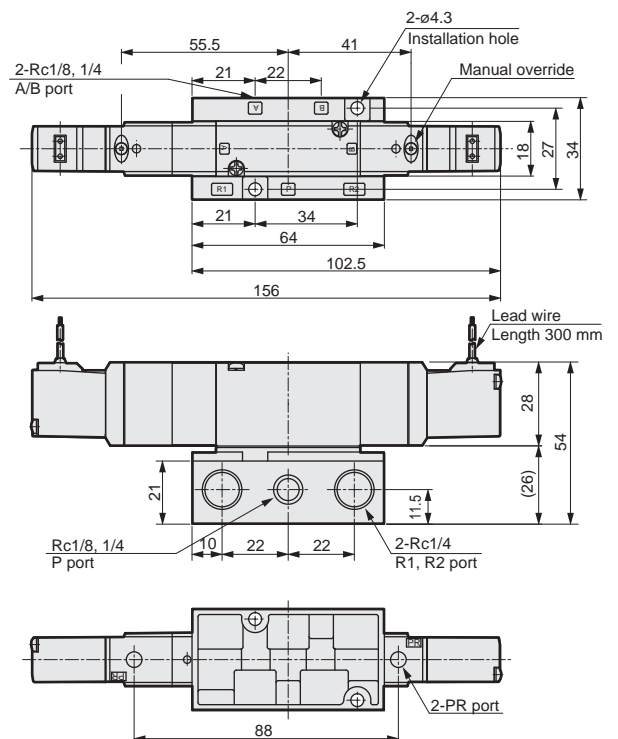
### 4KB220

● 2-position double solenoid: Grommet lead wire



### 4KB2<sup>3</sup><sub>5</sub>40

● 3-position: Grommet lead wire

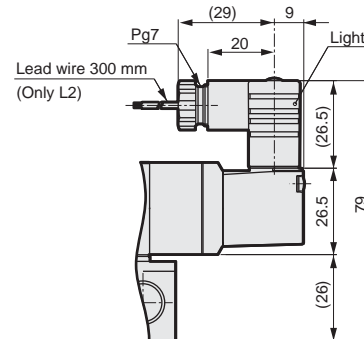
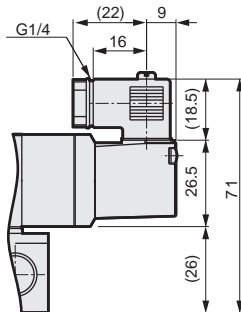


### Dimensions

- Small terminal box: (B <without indicator light> , L, L2, LS <with indicator light>)

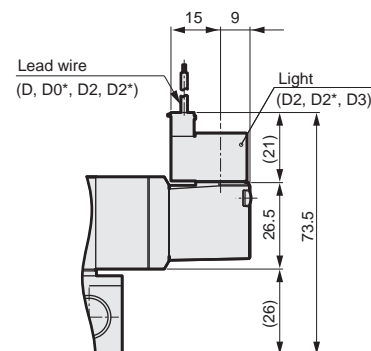
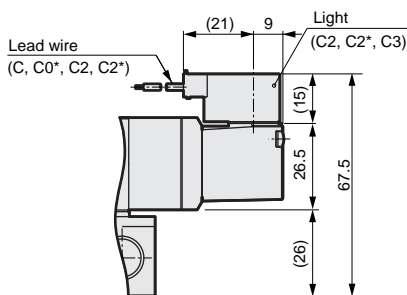
Without indicator light

With indicator light

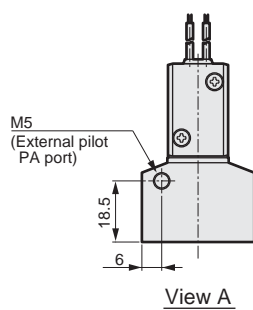


- C-connector: (C, C1, C0\*, C2, C2\*, C3)

- D-connector: (D, D1, D0\*, D2, D2\*, D3)



- External pilot: (K)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Discrete 5 port pilot operated valve

# 4KB3 Series

Discrete valve: Sub-plate porting

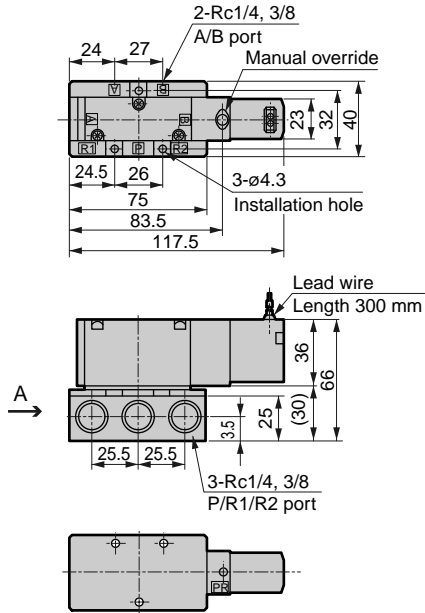
Dimensions



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMFO
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

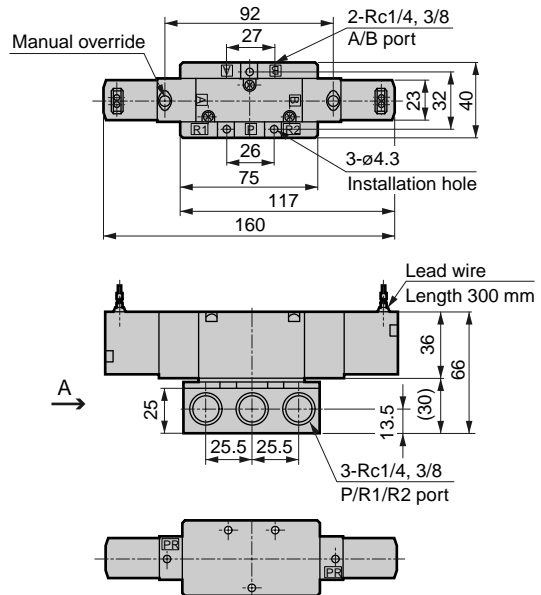
## 4KB310

● 2-position single solenoid: Grommet lead wire



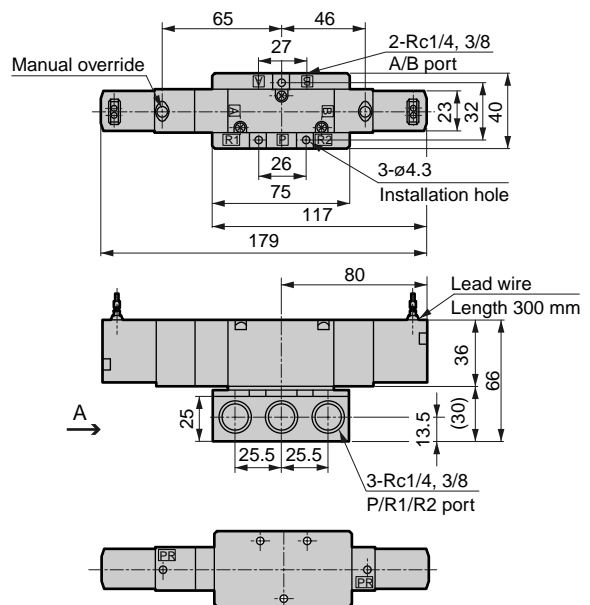
## 4KB320

● 2-position double solenoid: Grommet lead wire



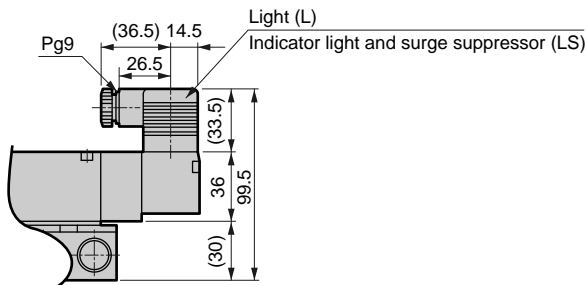
## 4KB3<sup>3</sup>/<sub>5</sub>40

● 3-position: Grommet lead wire

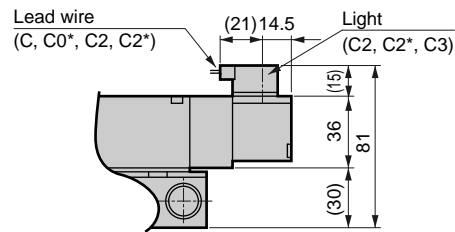


### Dimensions

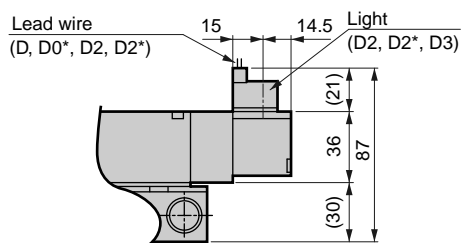
● Terminal box: (B, L, LS)



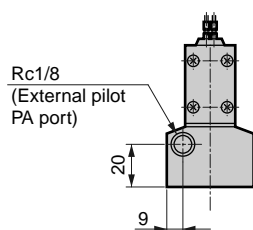
● C-connector: (C, C1, C0\*, C2, C2\*, C3)



● D-connector: (D, D1, D0\*, D2, D2\*, D3)



● External pilot: (K)



View A

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/ FS/FD
Ending

Discrete 5 port pilot operated valve

# 4KB4 Series

Discrete valve: Sub-plate porting

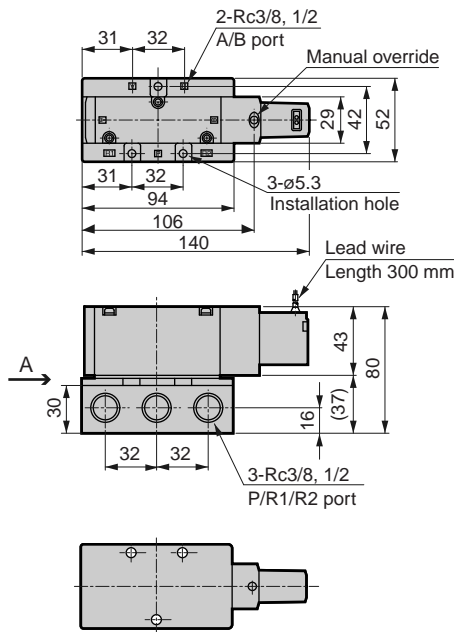
Dimensions



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMFO
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

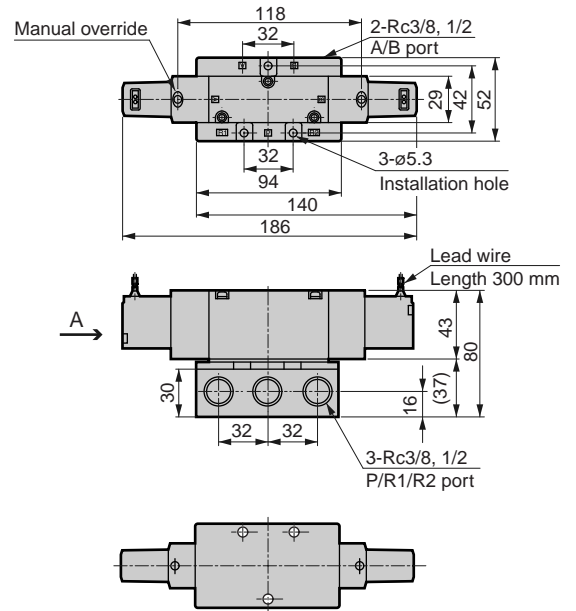
## 4KB410

● 2-position single solenoid: Grommet lead wire



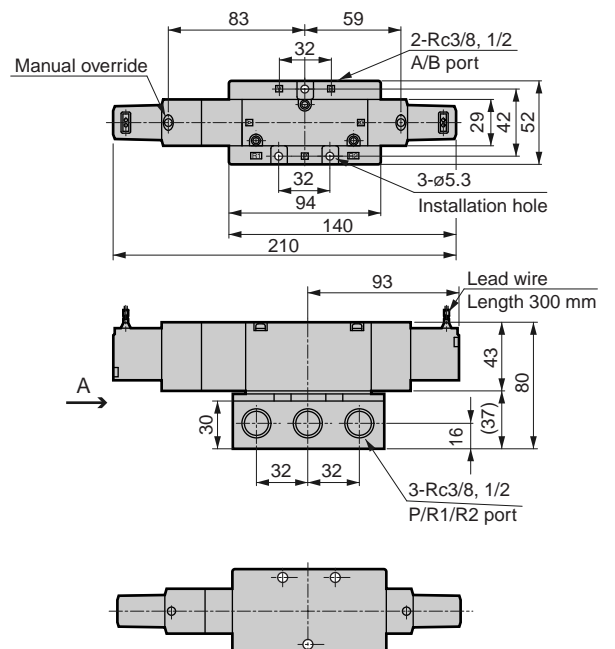
## 4KB420

● 2-position double solenoid: Grommet lead wire



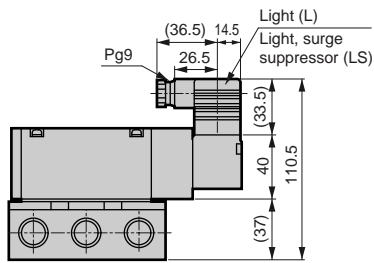
## 4KB4<sup>3</sup>/<sub>5</sub>0

● 3-position: Grommet lead wire

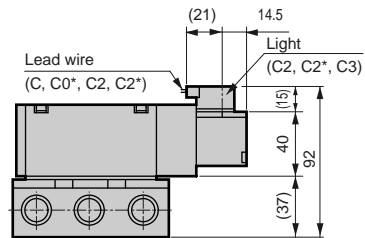


### Dimensions

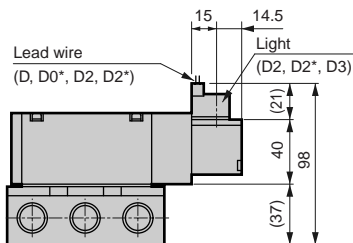
● Terminal box: (B, L, LS)



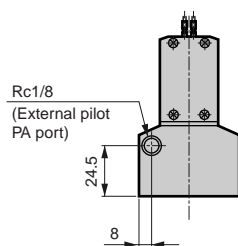
● C-connector: (C, C1, C0\*, C2, C2\*, C3)



● D-connector: (D, D1, D0\*, D2, D2\*, D3)



● External pilot: (K)



View A

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/ FS/FD
Ending

Discrete 5 port pilot operated valve



# Individual wiring manifold Body porting 3, 5 port pilot operated valve pneumatic valve M3KA1, M4KA1/2/3/4 Series

● Applicable cylinder bore size:  $\varnothing 20$  to  $\varnothing 160$

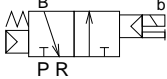


Refer to Intro 17 for details.

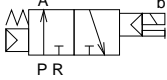


## JIS symbol

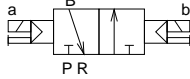
- 3 port valve  
2-position single N.C. type



- 3 port valve  
2-position single N.O. type



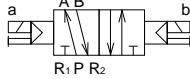
- 3 port valve  
2-position double N.C. type



- 5 port valve  
2-position single solenoid



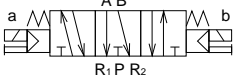
- 5 port valve  
2-position double solenoid



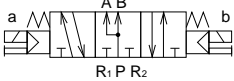
- 5 port valve  
3-position all ports closed



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



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



## Common specifications

Descriptions	
Manifold method	Manifold integrated
Manifold type	Common supply, common exhaust
Station number	Note 1 2 to 20 stations
Type of valve/operation method	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.70
Min. working pressure MPa	Refer to the following individual specifications.
Withstanding pressure MPa	1.05
Ambient temperature °C	-5 to 50 (no freezing)
Fluid temperature °C	5 to 50
Lubrication	Not required
Protective structure	Dust proof
Vibration/impact m/s <sup>2</sup>	50 or less / 300 or less
Working environment	Containing corrosive gas is impermissible.

Note 1: The maximum number of stations for 4KA3 is 15 and for 4KA4 is 12.

## Electric specifications

Descriptions		3KA1, 4KA1/2	4KA3/4
Rated voltage	AC	100, 200 ( 50/60 Hz )	
	DC	24	
Rated voltage fluctuation range		±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
	DC 24 V	—	
Holding current	AC 100 V	0.028/0.022	0.023/0.021
	AC 200 V	0.014/0.011	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)	
Heat proof class		B (molded coil)	
Temperature rise °C		43	30

Remarks: The 100 VAC 50/60 Hz rated voltage can be used at 110 VAC 60 Hz, and 200 VAC 50/60 Hz can be used at 220 VAC 60 Hz.

## Individual specifications

Descriptions			3KA1	4KA1	4KA2	4KA3	4KA4
Min. working pressure MPa	2-position	Single solenoid	0.15	0.15	0.15	0.15	0.15
		Double solenoid			0.10	0.10	0.10
	3-position	-	0.20	0.20	0.20	0.20	
Port size Note 1	A/B port	M5 Push-in joint $\varnothing 4, \varnothing 6$	M5 Push-in joint $\varnothing 4, \varnothing 6$	Rc1/8 Push-in joint $\varnothing 6, \varnothing 8$	Rc1/4 Push-in joint $\varnothing 8, \varnothing 10$	Rc3/8 Push-in joint $\varnothing 10, \varnothing 12$	
	P/R1/R2 port	Rc1/8	Rc1/8	Rc1/4	Rc3/8	Rc1/2	
Response time Note 2 ms	2-position	30 or less	30 or less	30 or less	30 or less	30 or less	
	3-position	-	60 or less	60 or less	60 or less	60 or less	

Note 1: G threads and NPT threads are available for the piping port threads. Contact CKD for information.

Note 2: Response time is the value when supply pressure 0.5 MPa, not lubricated and ON. The value varies depending on pressure and quality of lubricant.



# M3KA1/M4KA1 to 4 Series

Individual wiring manifold: Body porting

## Flow characteristics

Model no.	Solenoid position	C (dm <sup>3</sup> / (s·bar))	b	
<b>3KA1</b>	2-position	0.69	0.29	
<b>4KA1</b>	2-position	0.69	0.29	
	3-position	All ports closed	0.69	0.29
		A/B/R connection	0.97	0.31
		P/A/B connection	0.73	0.30
<b>4KA2</b>	2-position	2.6	0.25	
	3-position	All ports closed	2.4	0.32
		A/B/R connection	3.0	0.16
		P/A/B connection	2.4	0.31
<b>4KA3</b>	2-position	5.6	0.39	
	3-position	All ports closed	4.1	0.51
		A/B/R connection	5.9	0.37
		P/A/B connection	4.1	0.56
<b>4KA4</b>	2-position	9.7	0.29	
	3-position	All ports closed	8.3	0.40
		A/B/R connection	11	0.30
		P/A/B connection	8.7	0.46

Note 1: Effective sectional area S and sonic conductance C are converted as  $S \div 5.0 \times C$ .  
Flow characteristics are the value when port size is M5 (3KA1, 4KA1), Rc1/8 (4KA2), Rc1/4 (4KA3) and Rc3/8 (4KA4).

### Ozone proof specifications (Ending 5)

\*\* - Voltage - P11

### Coolant proof specifications

- Special structure with excellent oil proof and water proof properties

\*\* - A - Station number - Voltage

### Copper and PTFE free

- Copper and PTFE material not used for flow path

\*\* - Voltage - P6

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/ FS/FD
Ending

Individual wiring manifold  
3, 5 port pilot operated valve

# M3KA1/M4KA1 to 4 Series

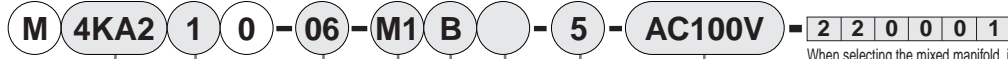
## Individual wiring manifold: Body porting

### How to order

● Discrete solenoid valve for manifold



● Manifold



A Model no. B Solenoid position

C Port size

D Manual override

E Electric connection

\* Refer to page 781 for the circuit diagram of the type with surge suppressor and light.

\* Gasket and set screw attached

		A Model no.					
		3KA1	4KA1	4KA2	4KA3	4KA4	
B Solenoid position	Symbol	Descriptions					
	1	2-position single solenoid	●	●	●	●	
	2	2-position double solenoid	●	●	●	●	
	3	3-position all ports closed	●	●	●	●	
	4	3-position A/B/R connection	●	●	●	●	
	5	3-position P/A/B connection	●	●	●	●	
	11	2-position single solenoid normally closed	●				
	8	Mix manifold Note 1	●	●	●	●	
C Port size	Port	A/B port		P/R1/R2 port (1)=Rc1/8 (2)=Rc1/4 (3)=Rc3/8 (4)=Rc1/2			
	M5	M5		(1)	(1)		
	06	Rc1/8			(2)		
	08	Rc1/4				(3)	
	10	Rc3/8				(4)	
	GS4	ø4 push-in joint	(1)	(1)			
	GS6	ø6 push-in joint	(1)	(1)	(2)		
	GS8	ø8 push-in joint			(2)	(3)	
	GS10	ø10 push-in joint				(3) (4)	
	GS12	ø12 push-in joint				(4)	
D Manual override	Blank	Non-locking manual override		●	●	●	
	M1	Locking manual override		●	●	●	
	E Electric connection	Grommet lead wire					
		Blank	Grommet lead wire (300 mm)				
		Small terminal box					
		B	No lead wire				
		L	No lead wire				
		L2	Lead wire length (300 mm) Refer to <Table 1> on the left. Note 2				
		LS	No lead wire with surge suppressor/light				
		C-connector (lead wire lateral)					
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	No lead wire						
C2	Lead wire length (300 mm) with surge suppressor/light						
C20	Lead wire length (500 mm) with surge suppressor/light						
C21	Lead wire length (1000 mm) with surge suppressor/light						
C22	Lead wire length (2000 mm) with surge suppressor/light						
C23	Lead wire length (3000 mm) with surge suppressor/light						
C3	No lead wire with surge suppressor/light						
D-connector (lead wire upward)							
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	No lead wire						
D2	Lead wire length (300 mm) with surge suppressor/light						
D20	Lead wire length (500 mm) with surge suppressor/light						
D21	Lead wire length (1000 mm) with surge suppressor/light						
D22	Lead wire length (2000 mm) with surge suppressor/light						
D23	Lead wire length (3000 mm) with surge suppressor/light						
D3	No lead wire with surge suppressor/light						
F Other options	Blank	No option					
	S	Surge suppressor attached Note 3					
G Station number	2 to 12	2 to 12 stations					
	2 to 15	2 to 15 stations					
	2 to 20	2 to 20 stations					
H Voltage	AC100V	100 VAC 50/60Hz					
	AC200V	200 VAC 50/60Hz					
	DC24V	24 VDC					
	AC110V	110 VAC 50/60Hz					
	AC220V	220 VAC 50/60Hz					
	DC12V	12 VDC					

<Table 1> Small terminal box L/L2/LS table

Symbol	Descriptions	3KA1	4KA1	4KA2	4KA3	4KA4	Surge suppressor
L	No lead wire	With light AC	●	●	●	●	
		DC			●	●	
	With surge suppressor/light	AC	●	●	●		
		DC					Integrated
L2	With lead wire (300 mm)	With light AC	●	●	●		
		DC					
	With surge suppressor/light	AC	●	●	●		
		DC	●	●	●		Integrated
LS	No lead wire	With surge suppressor/light AC	●	●	●	●	Integrated
		DC			●	●	Integrated

### Note on model no. selection

Note 1: If the changeover position class is mixed (8), indicate details of the combination at the end of the model. Refer to the following page.

Note 2: 3KA1, 4KA1 and 4KA2 compact terminal box, L and L2 DC voltage, and LS have a built-in surge absorber.

Note 3: With a 24 VDC or less grommet lead wire, the enclosed surge suppressor is a suppression connector. (Refer to page 780)

### <Example of model number>

**M4KA210-06-M1B-2-AC100V**

- A Model : M4KA2
- B Solenoid position: 2-position single solenoid
- C Port size : Rc1/8
- D Manual override : Locking manual override
- E Electric connection : Small terminal box, w/o lead wire
- F Other options : None
- G Station number : 2 stations
- H Voltage : 100 VAC 50/60Hz

### How to order masking plate kit

**M 4KA180 - MP-KIT**

\* Gasket and set screw attached

A Model no.

A Model no.
4KA180
4KA280
4KA380
4KA480

### How to order mix manifold

· 3 port valve

**M 3KA1 8 0 - M5 - 4 - AC100V -**

S10	S11	S20	MP
3	0	0	1

S10 = 1 to 3 MP = 4

· 5 port valve

**M 4KA3 8 0 - 06 - 7 - AC100V -**

S1	S2	S3	S4	S5	MP
2	2	2	1	0	0

S1 = 1, 6 S2 = 2, 5 S3 = 3, 4 S4 = 7

Mix manifold "8"

\* Refer to previous page for the others

### How to Order Mixed Manifold Models

(1) Indicate the quantity for each function (solenoid position) at the end of the model.

Functions and symbols are indicated below.

S1	S2	S3	S4	S5	MP
2	2	2	1	0	0

Indicate the quantity.

Example: 5 port valve 2-position single solenoid → S1

· 3 port valve

Symbol	Function (solenoid position)
S10	3 port valve 2-position single solenoid N.C. type
S11	3 port valve 2-position single solenoid N.O. type
S20	3 port valve 2-position double solenoid
MP	Masking plate

· 5 port valve

Symbol	Function (solenoid position)
S1	2-position single solenoid
S2	2-position double solenoid
S3	3-position all ports closed
S4	3-position A/B/R connection
S5	3-position P/A/B connection
MP	Masking plate

(2) Indicate the function (solenoid position) and layout position in the Remarks field.

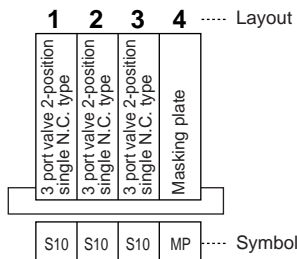
Solenoid position symbol = ○, ○ th station (Facing the piping port. The 1st station is at left.)

Example: S10 = 1 to 3 (1st to 3rd station are the 3 port valve 2-position single solenoid N.C. type.)

S1 = 1, 6 (1st, 6th station are the 5 port valve 2-position single solenoid.)

(Example of model number 1)

For 3 port valve 4 stations



3 port valve 2-position single solenoid (S10) : 3 piece (1st to 3rd station)  
Masking plate (MP) : 1 piece (4th station)



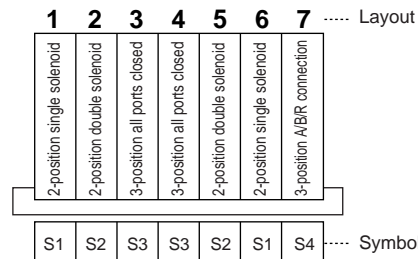
M3KA180-M5-4-100 VAC - 

S10	S11	S20	MP
3	0	0	1

S10 = 1 to 3 MP = 4

(Example of model number 2)

For 5 port valve 7 stations



2-position single solenoid (S1) : 2 piece (1st and 6th station)  
2-position double solenoid (S2) : 2 piece (2nd and 5th station)  
3-position all ports closed (S3) : 2 piece (3rd and 4th station)  
3-position A/B/R connection (S4) : 1 piece (7th station)



M4KA380-06-7-100 VAC - 

S1	S2	S3	S4	S5	MP
2	2	2	1	0	0

S1 = 1, 6 S2 = 2, 5 S3 = 3, 4 S4 = 7

MN3E0  
MN4E0

4GA/B

M4GA/B

MN4GA/B

4GA/B  
(Master)

W4GA/B2

W4GB4

MN3S0  
MN4S0

4TB

4L2-4/  
LMF0

4SA/B0

4SA/B1

**4KA/B**

4F

PV5G/  
CMF

PV5/  
CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/  
NVP

4F\*OE

HMV  
HSV

2QV  
3QV

SKH

PCD/  
FS/FD

Ending

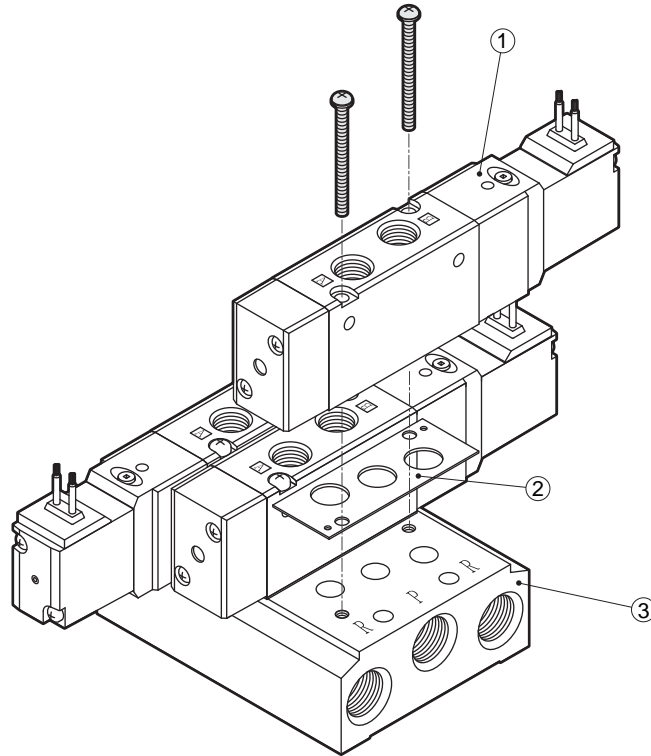
Individual wiring manifold  
3, 5 port pilot operated valve

# M3KA1/M4KA1 to 4 Series

Individual wiring manifold: Body porting

## Manifold components explanation and parts

MN3E0  
MN4E0  
4GA/B  
M4GA/B  
MN4GA/B  
4GA/B  
(Master)  
W4GA/B2  
W4GB4  
MN3S0  
MN4S0  
4TB  
4L2-4/  
LMFO  
4SA/B0  
4SA/B1  
**4KA/B**



### Main parts list

No.	Component name	Model no. (example)	Descriptions
1	Discrete solenoid valve	4KA219-06-DC24V	Discrete solenoid valve 2 set screws Gasket
2	Gasket kit	M4KA210-GASKET-KIT	Gasket 2 set screws
3	Manifold sub-plate kit	M4KA210-06-3-SUB-BASE-KIT	Manifold sub-plate 2 set screws Gasket

### Repair parts list

No.	Parts name	Model no.	Applicable model	No.	Parts name	Model no.	Applicable model
-	Coil assembly	4K1L- * -COIL- *	3KA1	-	Piston assembly	4K9- *	3KA11(1)0, 4KA110
		Electric connection   Voltage	4KA1			└ 151	3KA120, 4KA120
			4KA2			152	4KA130
			4KA3				4KA140
		4KA4				4KA150	
						153	4KA210
							4KA220
							4KA230
						154	4KA240
							4KA250
						137	4KA310, 4KA320
							4KA330
				138	4KA340		
					4KA350		
				144	4KA410, 4KA420		
					4KA430		
				145	4KA440		
					4KA450		
-	Spool assembly	4K9- *	3KA11(1)0, 4KA110				
		└ 110					
		118	3KA120, 4KA120				
		111	4KA130				
		112	4KA140				
		113	4KA150				
		150	4KA210				
		126	4KA220				
		127	4KA230				
		128	4KA240				
		129	4KA250				
		133	4KA310, 4KA320				
		134	4KA330				
135	4KA340						
136	4KA350						
140	4KA410, 4KA420						
141	4KA430						
142	4KA440						
143	4KA450						



# M3KA1/M4KA1 Series

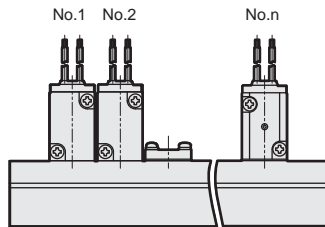
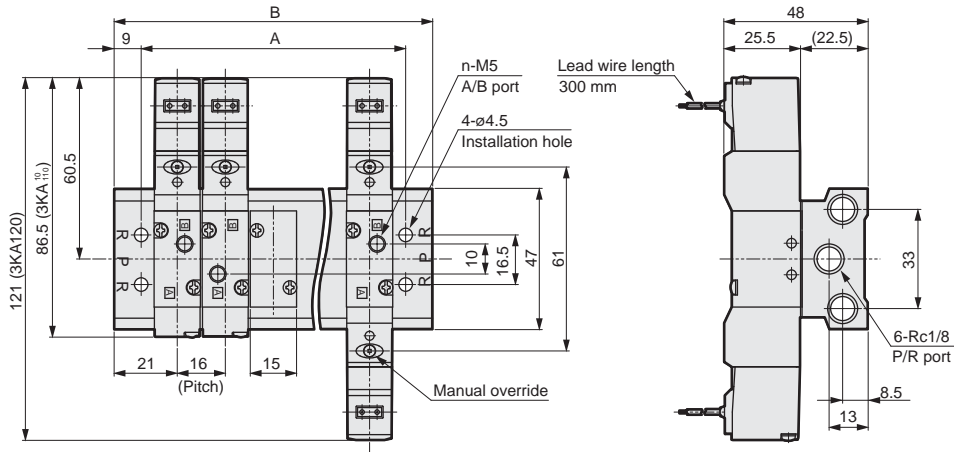
Individual wiring manifold: Body porting

Dimensions



## M3KA1-M5

● 3-port valve / port size M5: Grommet lead wire

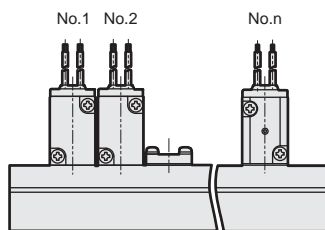
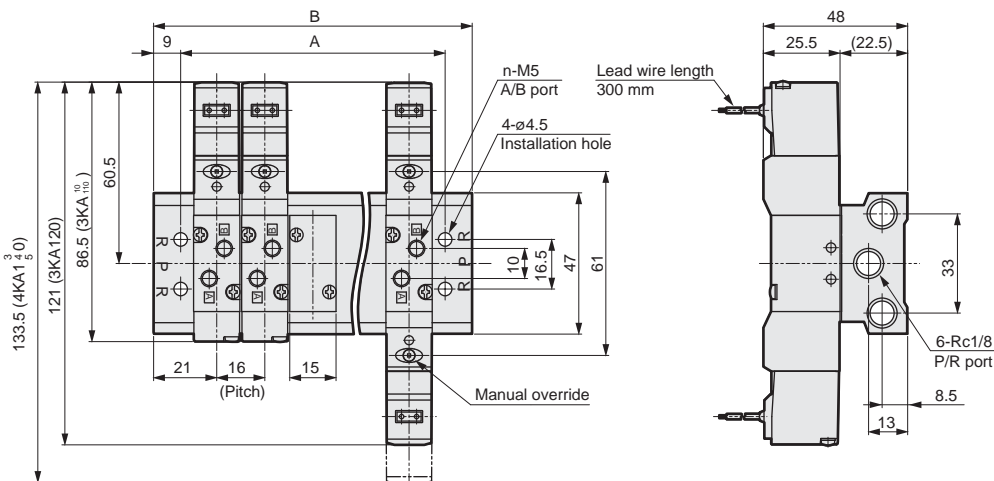


■ Discrete manifold model no. 3KA1\*9-M5-OPTION-VOLTAGE

\* The B port is the connection port for 3KA119-M5 and the A port is the connection port for 3KA1119-M5.

## M4KA1-M5

● 5 port valve / port size M5: Grommet lead wire



■ Discrete manifold model no. 4KA1\*9-M5-OPTION-VOLTAGE

Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328
B	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330	346

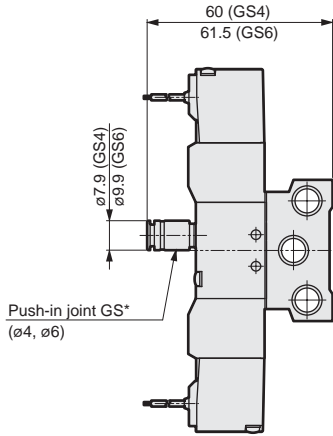
# M3KA1/M4KA1 Series

Individual wiring manifold: Body porting

## Dimensions

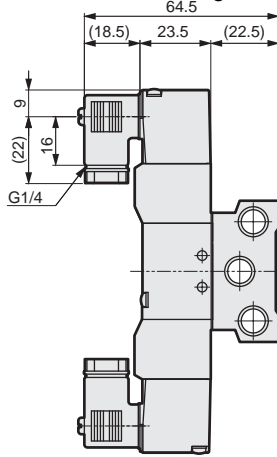
### M3KA1 (3 port valve)

- $\varnothing 4$ ,  $\varnothing 6$  push-in joint: (GS4, GS6)

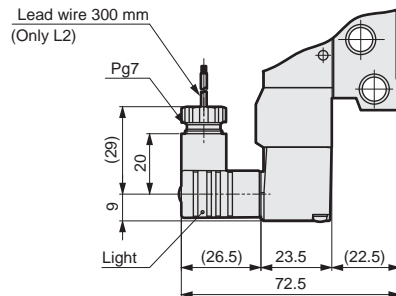


- Small terminal box: (B, L, L2, LS)

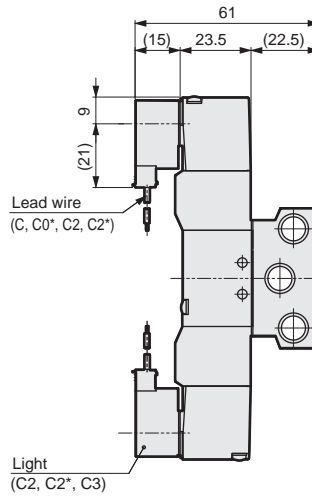
Without indicator light



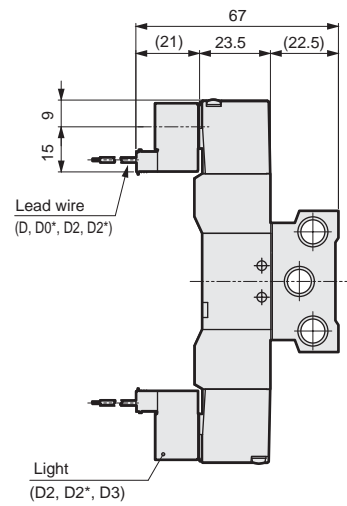
With indicator light



- C-connector: (C, C1, C0\*, C2, C2\*, C3)

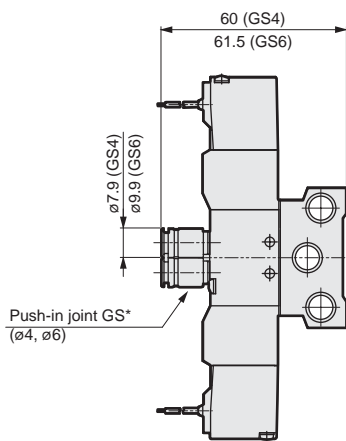


- D-connector: (D, D1, D0\*, D2, D2\*, D3)



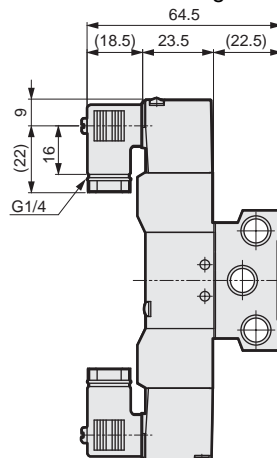
### M4KA1 (5 port valve)

- $\varnothing 4$ ,  $\varnothing 6$  push-in joint: (GS4, GS6)

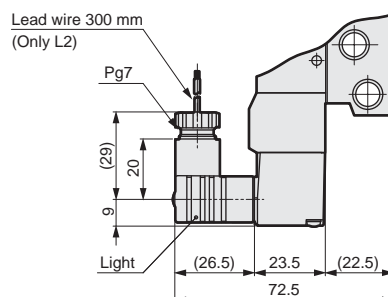


- Small terminal box: (B, L, L2, LS)

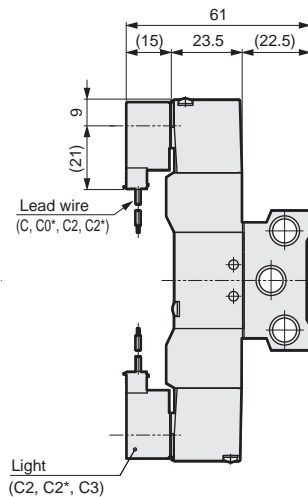
Without indicator light



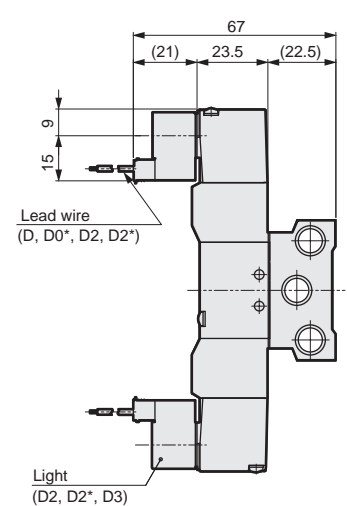
With indicator light



- C-connector: (C, C1, C0\*, C2, C2\*, C3)



- D-connector: (D, D1, D0\*, D2, D2\*, D3)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*OE
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Individual wiring manifold  
3, 5 port pilot operated valve

# M4KA2/M4KA3 Series

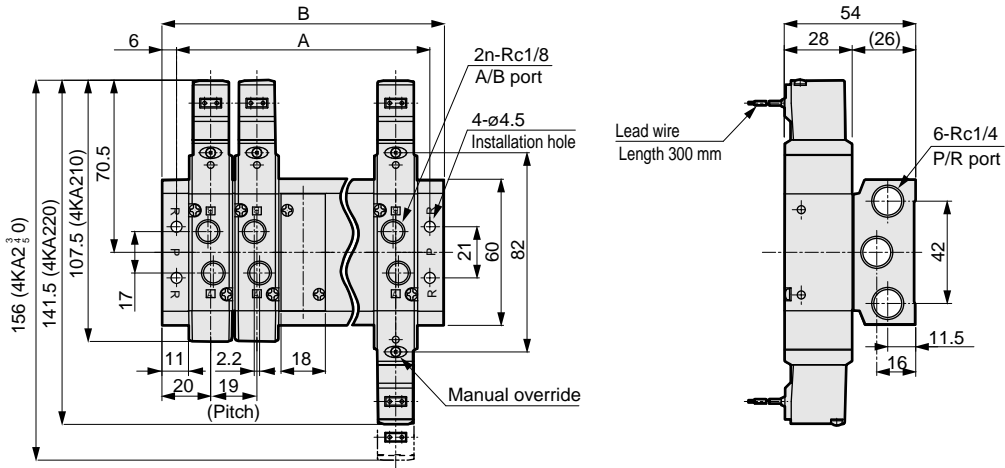
Individual wiring manifold: Body porting



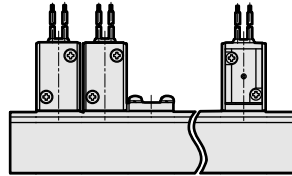
## Dimensions

### M4KA2-06

● Port size Rc1/8: Grommet lead wire



Station number No. 1 No. 2 No. 3 ... No. n

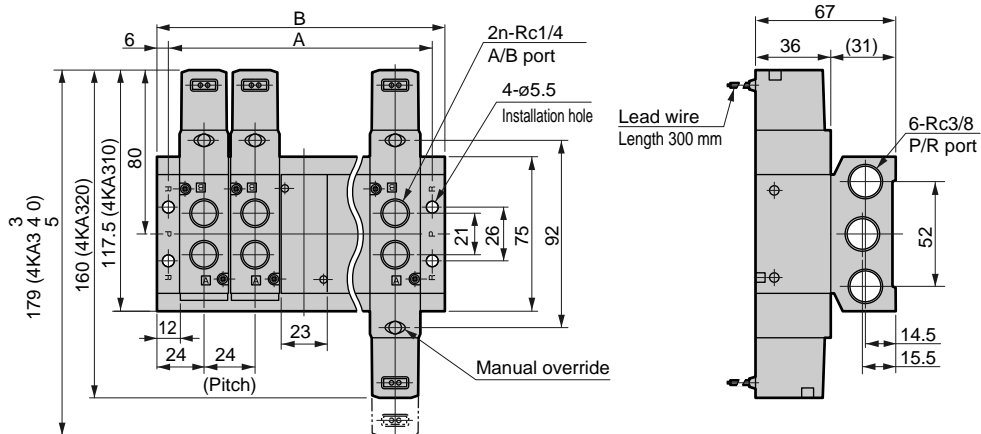


■ Discrete manifold model no.  
4KA2\*9-06-OPTION-VOLTAGE

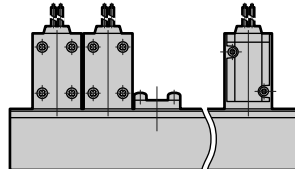
Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	47	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389
B	59	78	97	116	135	154	173	192	211	230	249	268	287	306	325	344	363	382	401

### M4KA3-08

● Port size Rc1/4: Grommet lead wire



No.1 No.2 No.3-...-No.n



■ Discrete manifold model no.  
4KA3\*9-08-OPTION-VOLTAGE

Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	60	84	108	132	156	180	204	228	252	276	300	324	348	372
B	72	96	120	144	168	192	216	240	264	288	312	336	360	384



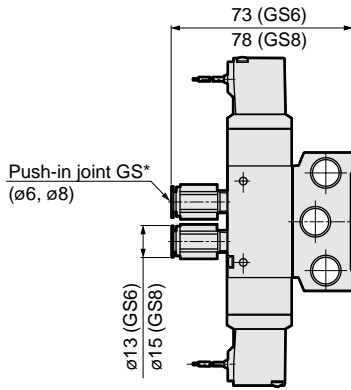
# M4KA2/M4KA3 Series

Individual wiring manifold: Body porting

## Dimensions

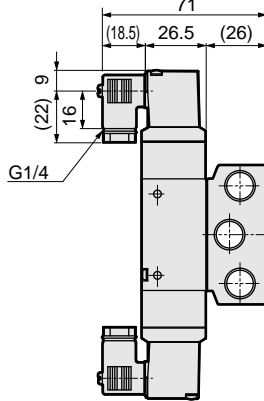
### M4KA2

●  $\varnothing 6$ ,  $\varnothing 8$  push-in joint:  
(GS6, GS8)

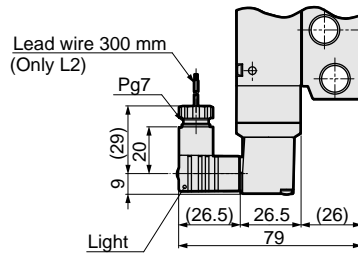


● Small terminal box:  
(B, L, L2, LS)

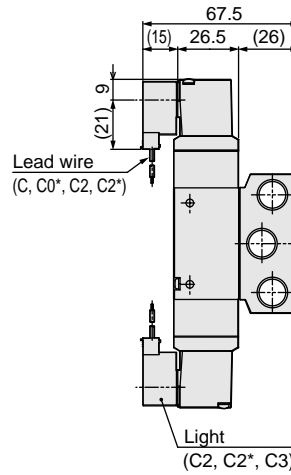
Without indicator light



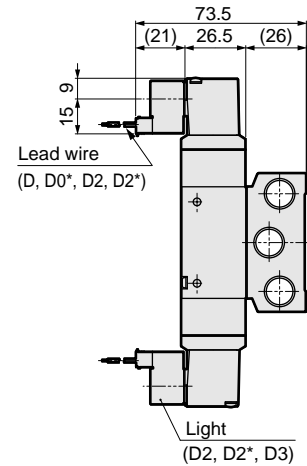
With indicator light



● C-connector:  
(C, C1, C0\*, C2, C2\*, C3)

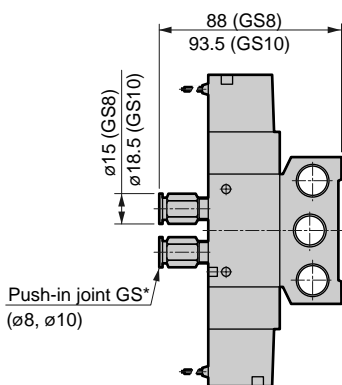


● D-connector:  
(D, D1, D0\*, D2, D2\*, D3)

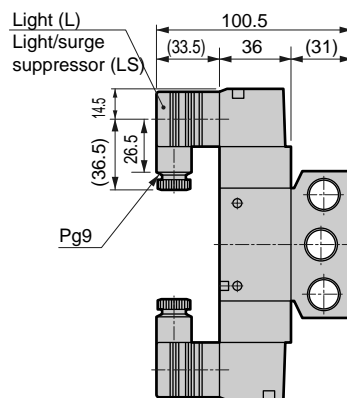


### M4KA3

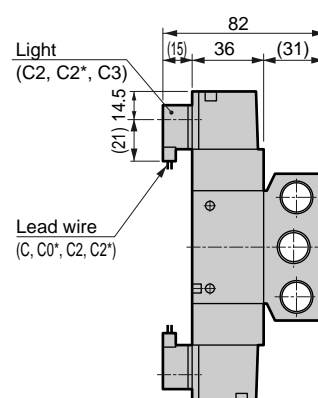
●  $\varnothing 8$ ,  $\varnothing 10$  push-in joint:  
(GS8, GS10)



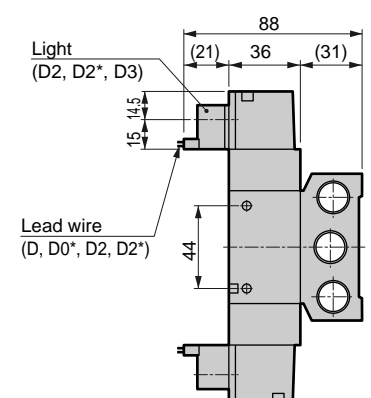
● Small terminal box:  
(B, L, L2, LS)



● C-connector:  
(C, C1, C0\*, C2, C2\*, C3)



● D-connector:  
(D, D1, D0\*, D2, D2\*, D3)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NPN/NP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Individual wiring manifold  
3, 5 port pilot operated valve

# M4KA4 Series

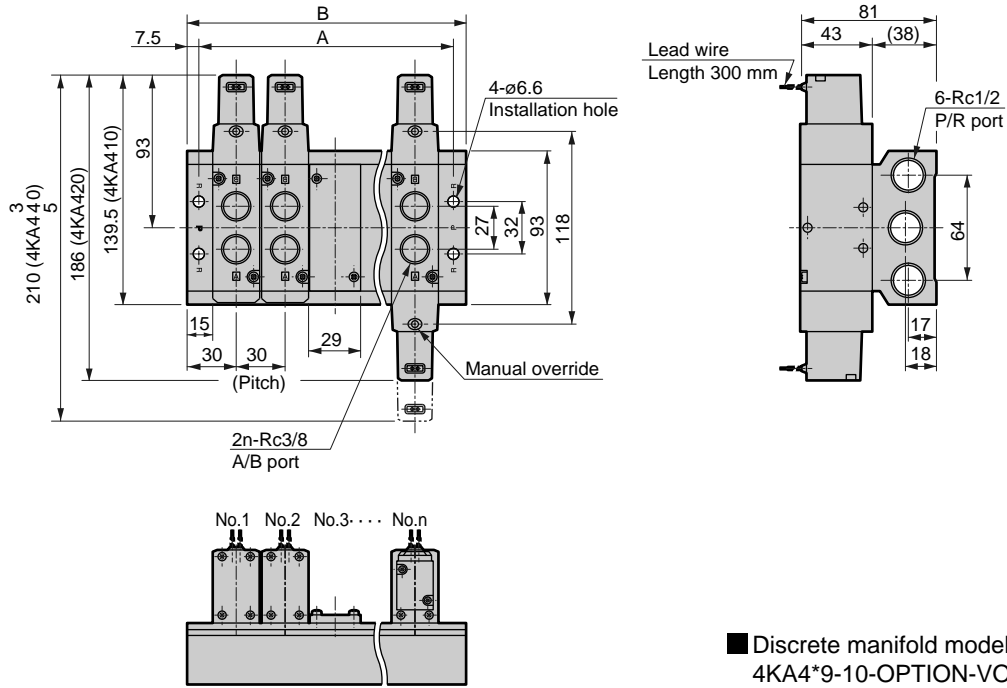
Individual wiring manifold: Body porting



## Dimensions

### M4KA4-10

● Port size Rc3/8: Grommet lead wire



■ Discrete manifold model no.  
4KA4\*9-10-OPTION-VOLTAGE

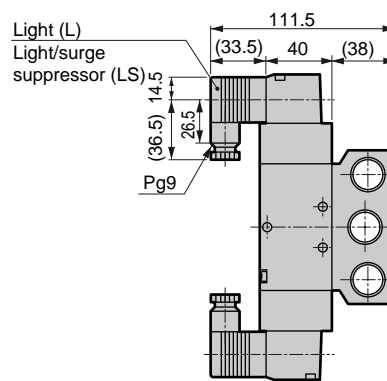
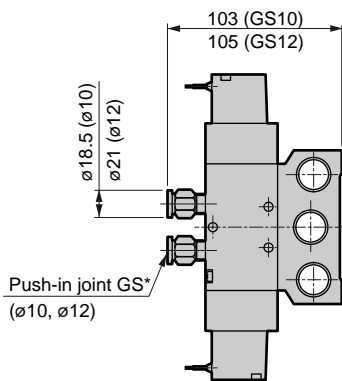
Station number	2	3	4	5	6	7	8	9	10	11	12
A	75	105	135	165	195	225	255	285	315	345	375
B	90	120	150	180	210	240	270	300	330	360	390

### Dimensions

#### M4KA4

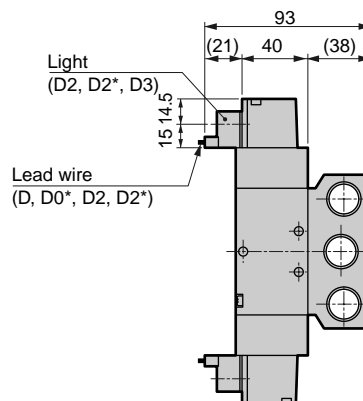
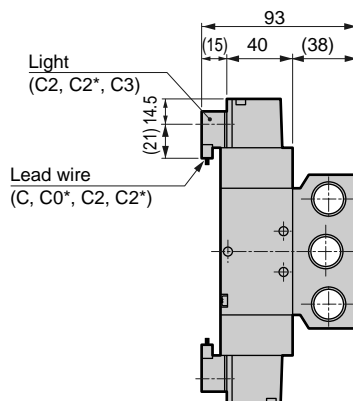
- Push-in joint  $\phi 10$ ,  $\phi 12$  :  
(GS10, GS12)

- Small terminal box:  
(B, L, LS)



- C-connector:  
(C, C1, C0\*, C2, C2\*, C3)

- D-connector:  
(D, D1, D0\*, D2, D2\*, D3)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Individual wiring manifold  
3, 5 port pilot operated valve



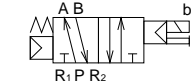
Individual wiring manifold Sub-plate porting  
4, 5 port pilot operated valve pneumatic valve

# M4KB1/2/3/4 Series

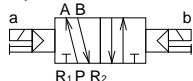
● Applicable cylinder bore size:  $\varnothing 20$  to  $\varnothing 160$   Refer to Intro 17 for details.  

## JIS symbol

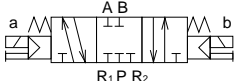
- 5 port valve  
2-position single solenoid



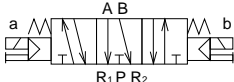
- 5 port valve  
2-position double solenoid



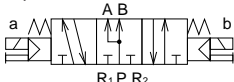
- 5 port valve  
3-position all ports closed



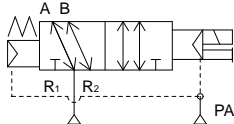
- 5 port valve  
3-position A/B/R connection



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



- External pilot



(2-position single solenoid)

## Common specifications

Descriptions	
Manifold method	Manifold integrated
Manifold type	Common supply, common exhaust
Station number	Note 1 2 to 20 stations
Type of valve/operation method	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.70
Min. working pressure MPa	Refer to the following individual specifications.
Withstanding pressure MPa	1.05
Ambient temperature °C	-5 to 50 (no freezing)
Fluid temperature °C	5 to 50
Lubrication	Not required
Protective structure	Dust proof
Vibration/impact m/s <sup>2</sup>	50 or less / 300 or less
Working environment	Containing corrosive gas is impermissible.

Note 1: The max. number of stations for 4KB3 is 15 and for 4KB4 is 12.

Note 2: The working pressure range is 0 to 0.7 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

## Electric specifications

Descriptions		4KB1/2	4KB3/4
Rated voltage	AC	100, 200 ( 50/60 Hz )	
	DC	24	
Rated voltage fluctuation range		±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
	DC 24 V	-	
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 W Value in ( ) are with indicator light	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)	
Heat proof class		B (molded coil)	
Temperature rise °C		43	30

Remarks: The 100 VAC 50/60 Hz rated voltage can be used at 110 VAC 60 Hz, and 200 VAC 50/60 Hz can be used at 220 VAC 60 Hz.

## Individual specifications

Descriptions		4KB1	4KB2	4KB3	4KB4
Min. working pressure MPa	2-position	Single solenoid	0.15	0.15	0.15
		Double solenoid	0.10	0.10	0.10
	3-position	0.20	0.20	0.20	0.20
Port size Note 1	A/B port	M5, Rc1/8 Push-in joint $\varnothing 6$	Rc1/8, Rc1/4 Push-in joint $\varnothing 6, \varnothing 8$	Rc1/4, Rc3/8 Push-in joint $\varnothing 6, \varnothing 10$	Rc3/8, Rc1/2 Push-in joint $\varnothing 10, \varnothing 12$
	P/R1/R2 port	Rc1/8	Rc1/4	Rc3/8	Rc1/2
Response time Note 2 ms	2-position	30 or less	30 or less	30 or less	30 or less
	3-position	60 or less	60 or less	60 or less	60 or less

Note 1: G threads and NPT threads are available for the piping port threads. Contact CKD for information.

Note 2: Response time is the value when supply pressure 0.5 MPa, not lubricated and ON. The value varies depending on pressure and quality of lubricant.

### Flow characteristics

Model no.	Solenoid position	C (dm <sup>3</sup> / (s·bar))	b	
4KB1	2-position	0.71	0.25	
	3-position	All ports closed	0.60	0.23
		A/B/R connection	0.81	0.25
		P/A/B connection	0.67	0.32
4KB2	2-position	2.1	0.13	
	3-position	All ports closed	1.8	0.11
		A/B/R connection	2.0	0.17
		P/A/B connection	1.8	0.23
4KB3	2-position	4.5	0.11	
	3-position	All ports closed	4.4	0.21
		A/B/R connection	4.8	0.18
		P/A/B connection	4.3	0.20
4KB4	2-position	8.9	0.22	
	3-position	All ports closed	8.9	0.24
		A/B/R connection	9.4	0.23
		P/A/B connection	8.6	0.20

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

### Ozone proof specifications (Ending 5)

\*\* -Voltage - P11

### Coolant proof specifications

- Special structure with excellent oil proof and water proof properties

\*\* - A - Station number - Voltage

### Copper and PTFE free

- Copper and PTFE material not used for flow path

\*\* -Voltage - P6

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Individual wiring manifold  
4, 5 port pilot operated valve

# M4KB1 to 4 Series

## Individual wiring manifold: Sub-plate porting

### How to order

● Discrete solenoid valve for manifold



\* Gasket and set screw attached

● Manifold

Note 6, 7



When selecting the mixed manifold, indicate the quantity for each valve function. Refer to the following page.

A Model no.				
4KB1	4KB2	4KB3	4KB4	
●	●	●	●	
●	●	●	●	
●	●	●	●	
●	●	●	●	
●	●	●	●	

A Model no.

B Solenoid position

C Port size

D Manual override

E Electric connection

\* Refer to page 781 for the circuit diagram of the type with surge suppressor and light.

<Table 1> Small terminal box L/L2/LS table

Symbol	Descriptions	4KB1	4KB2	4KB3	4KB4	Surge suppressor	
L	No lead wire	With light	●	●	●	●	
		DC			●	●	
	With surge suppressor/light	AC	●	●			Integrated
		DC	●	●			
L2	With lead wire (300 mm)	With light	●	●			
		DC					
	With surge suppressor/light	AC	●	●			Integrated
		DC	●	●			
LS	No lead wire	With surge suppressor/light	●	●	●	●	Integrated
		DC	●	●	●	●	Integrated

### Note on model no. selection

Note 1: If the changeover position class is mixed (8), indicate details of the combination at the end of the model. Refer to the following page.

Note 2: A CE mark indicates common pilot exhaust. (The maximum number of stations is 10.)

Note 3: The max. number of stations for the external pilot (K) is 10. Consult with CKD for vacuum applications.

Note 4: 4KB1 and 4KB2 compact terminal box, L and L2 DC voltage, and LS have a built-in surge absorber.

Note 5: With a 24 VDC or less grommet lead wire, the enclosed surge suppressor is a suppression connector. (Refer to page 780.)

Note 6: When ordering the CE discrete manifold solenoid valve, the port size is "00CE".

Note 7: The port size is "00Y" for the discrete solenoid valve for the 4KB1 back porting manifold.

### <Example of model number>

#### M4KB210-06-M1B-2-AC100V

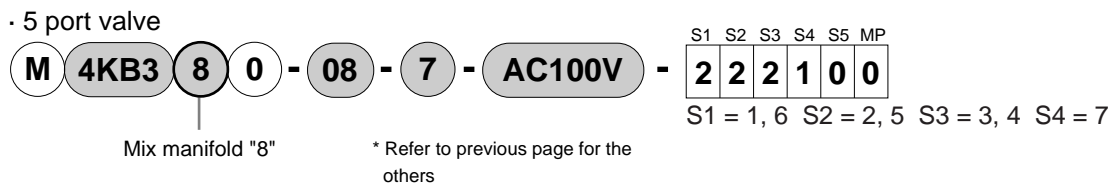
- A Model : M4KB2
- B Solenoid position : 2-position single solenoid
- C Port size : Rc1/8
- D Manual override : Locking manual override
- E Electric connection : Small terminal box, w/o lead wire
- F Other options : None
- G Station number : 2 stations
- H Voltage : 100 VAC 50/60Hz

Symbol	Descriptions	4KB1	4KB2	4KB3	4KB4	
B Solenoid position	1	2-position single solenoid	●	●	●	●
	2	2-position double solenoid	●	●	●	●
	3	3-position all ports closed	●	●	●	●
	4	3-position A/B/R connection	●	●	●	●
	5	3-position P/A/B connection	●	●	●	●
	8	Mix manifold	●	●	●	●
C Port size	Port	A/B port	P/R1/R2 port			
	M5	M5	(1)			
	06	Rc1/8	(1)	(2)		
	08	Rc1/4		(2)	(3)	
	10	Rc3/8			(3)	(4)
	15	Rc1/2				(4)
	M5Y	M5 (Rear)	(1)			
	06Y	Rc1/8 (Rear)		(2)		
	08Y	Rc1/4 (Rear)			(3)	
	10Y	Rc3/8 (Rear)				(4)
	H6	ø6 push-in joint	(1)	(2)		
	H8	ø8 push-in joint		(2)	(3)	
	H10	ø10 push-in joint			(3)	(4)
	H12	ø12 push-in joint				(4)
M5CE	M5	Note 2	(1)			
06CE	Rc1/8	Note 2	(1)			
H6CE	ø6 push-in joint	Note 2	(1)			
D Blank	Blank	Non-locking manual override	●	●	●	●
	M1	Locking manual override	●	●	●	●
E Electric connection	Grommet lead wire					
	Blank	Grommet lead wire (300 mm)	●	●	●	●
	Small terminal box					
	B	No lead wire	●	●	●	●
	L	No lead wire	Refer to <Table 1> on the left. Note 4			
	L2	Lead wire length (300 mm)	Refer to <Table 1> on the left. Note 4			
	LS	No lead wire with surge suppressor/light	Refer to <Table 1> on the left. Note 4			
	C-connector (lead wire lateral)					
	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	No lead wire	●	●	●	●
C2	Lead wire length (300 mm) with surge suppressor/light	●	●	●	●	
C20	Lead wire length (500 mm) with surge suppressor/light	●	●	●	●	
C21	Lead wire length (1000 mm) with surge suppressor/light	●	●	●	●	
C22	Lead wire length (2000 mm) with surge suppressor/light	●	●	●	●	
C23	Lead wire length (3000 mm) with surge suppressor/light	●	●	●	●	
C3	No lead wire with surge suppressor/light	●	●	●	●	
D-connector (lead wire upward)						
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	No lead wire	●	●	●	●	
D2	Lead wire length (300 mm) with surge suppressor/light	●	●	●	●	
D20	Lead wire length (500 mm) with surge suppressor/light	●	●	●	●	
D21	Lead wire length (1000 mm) with surge suppressor/light	●	●	●	●	
D22	Lead wire length (2000 mm) with surge suppressor/light	●	●	●	●	
D23	Lead wire length (3000 mm) with surge suppressor/light	●	●	●	●	
D3	No lead wire with surge suppressor/light	●	●	●	●	
F Blank	Blank	No option	●	●	●	●
	K	External pilot (Only if of port size Rc1/8)	Note 3	●		
	S	With surge suppressor	Note 5	●	●	●
G 2 to 12	2 to 12 stations				●	
	2 to 15			●		
	2 to 20		●	●		
H Voltage	AC100V	100 VAC 50/60Hz	●	●	●	●
	AC200V	200 VAC 50/60Hz	●	●	●	●
	DC24V	24 VDC	●	●	●	●
	AC110V	110 VAC 50/60Hz	●	●	●	●
	AC220V	220 VAC 50/60Hz	●	●	●	●
	DC12V	12 VDC	●	●	●	●

### How to order masking plate kit



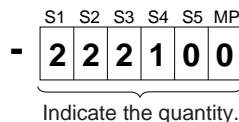
### How to order mix manifold



### How to Order Mixed Manifold Models

- (1) Indicate the quantity for each function (solenoid position) at the end of the model.  
Functions and symbols are indicated below.

Example: 2-position single solenoid → S1



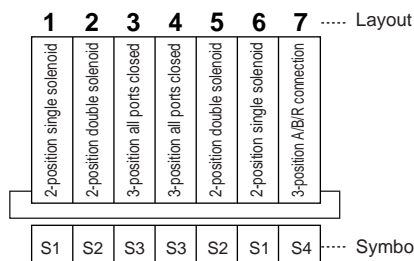
Symbol	Function (solenoid position)
S1	2-position single solenoid
S2	2-position double solenoid
S3	3-position all ports closed
S4	3-position A/B/R connection
S5	3-position P/A/B connection
MP	Masking plate

- (2) Indicate the function (solenoid position) and layout position in the Remarks field.

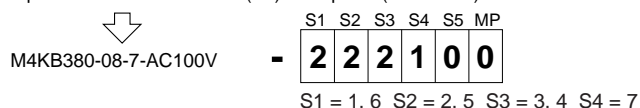
Solenoid position symbol = ○, ○ th station (Facing the piping port. The 1st station is at left.)

Example: S1 = 1, 6 (1st, 6th stations are 5 port valve 2-position single solenoid.)

<Example of model number>  
For 7 stations



- 2-position single solenoid (S1) : 2 piece (1st and 6th station)
- 2-position double solenoid (S2) : 2 piece (2nd and 5th station)
- 3-position all ports closed (S3) : 2 piece (3rd and 4th station)
- 3-position A/B/R connection (S4) : 1 piece (7th station)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

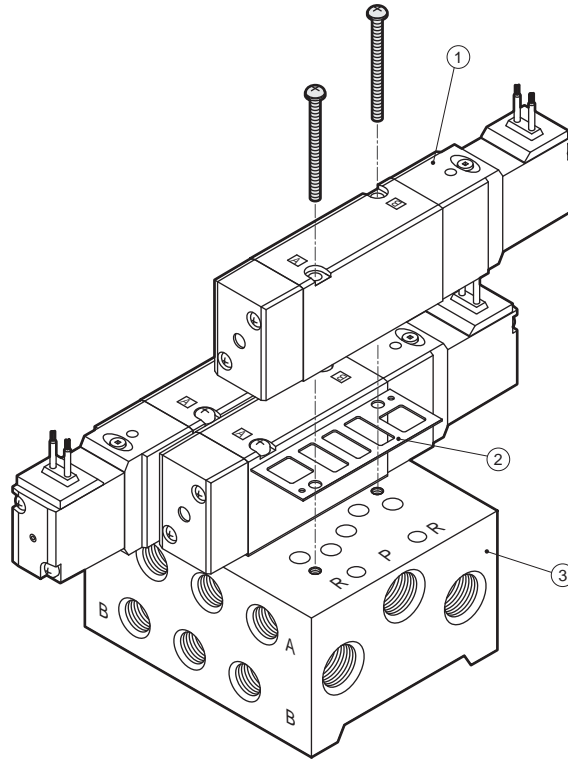
Individual wiring manifold  
4, 5 port pilot operated valve

# M4KB1 to 4 Series

Individual wiring manifold: Sub-plate porting

## Manifold components explanation and parts list

- MN3E0
- MN4E0
- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (Master)
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4TB
- 4L2-4/LMFO
- 4SA/B0
- 4SA/B1
- 4KA/B**



### Main parts list

No.	Component name	Model no. (example)	Descriptions
1	Discrete solenoid valve	4KB219-00-DC24V	Discrete solenoid valve 2 set screws Gasket
2	Gasket kit	M4KB210-GASKET-KIT	Gasket 2 set screws
3	Manifold sub-plate kit	M4KB210-06-3-SUB-BASE-KIT	Manifold sub-plate 2 set screws Gasket

### Repair parts list

No.	Parts name	Model no.	Applicable model	No.	Parts name	Model no.	Applicable model
-	Coil assembly	4K1L- * -COIL- *	4KB1	-	Piston assembly	4K9- * └ 151	4KB110
		┌ Electric connection   Voltage	4KB2			4KB120	
		4K3- * -COIL- *	4KB3			4KB130	
		┌ Electric connection   Voltage	4KB4			4KB140	
-	Spool assembly	4K9- * └ 110	4KB110			152	4KB150
		118	4KB120			153	4KB210
		111	4KB130			154	4KB220
		112	4KB140			154	4KB230
		113	4KB150			137	4KB240
		150	4KB210			138	4KB250
		126	4KB220			137	4KB310/4KB320
		127	4KB230			138	4KB330
		128	4KB240			138	4KB340
		129	4KB250			144	4KB350
		133	4KB310/4KB320	144	4KB410/4KB420		
		134	4KB330	145	4KB430		
		135	4KB340	145	4KB440		
		136	4KB350	145	4KB450		
		140	4KB410/4KB420				
		141	4KB430				
142	4KB440						
143	4KB450						





# M4KB1-M5/06 Series

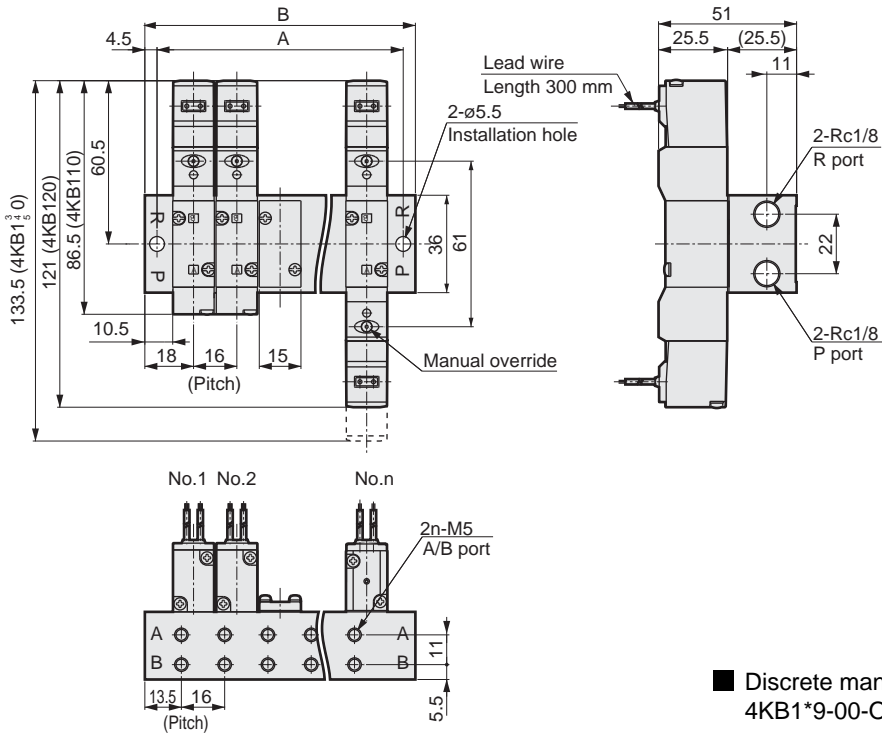
Individual wiring manifold: Sub-plate porting



## Dimensions

### M4KB1-M5

● Port size M5: Grommet lead wire

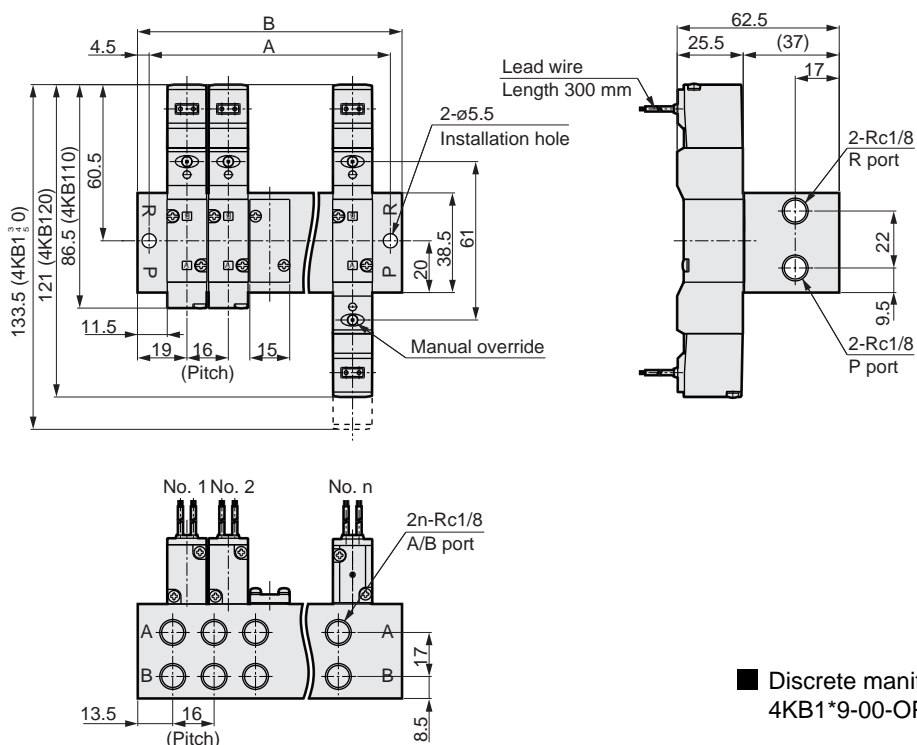


■ Discrete manifold model no.  
4KB1\*9-00-OPTION-VOLTAGE

Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	43	59	75	91	107	123	139	155	171	187	203	219	235	251	267	283	299	315	331
B	52	68	84	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324	340

### M4KB1-06

● Port size Rc1/8: Grommet lead wire



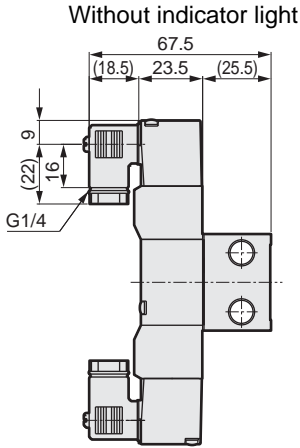
■ Discrete manifold model no.  
4KB1\*9-00-OPTION-VOLTAGE

Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	45	61	77	93	109	125	141	157	173	189	205	221	237	253	269	285	301	317	333
B	54	70	86	102	118	134	150	166	182	198	214	230	246	262	278	294	310	326	342

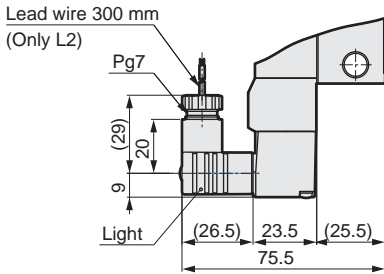
### Dimensions

<For port size M5>

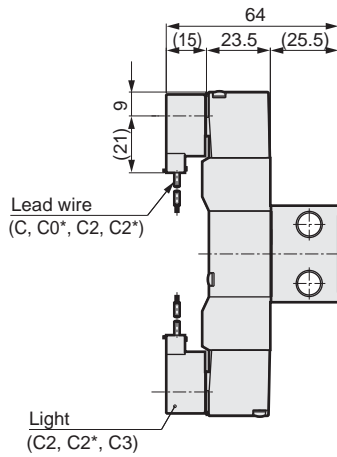
- Small terminal box:  
(B, L, L2, LS)



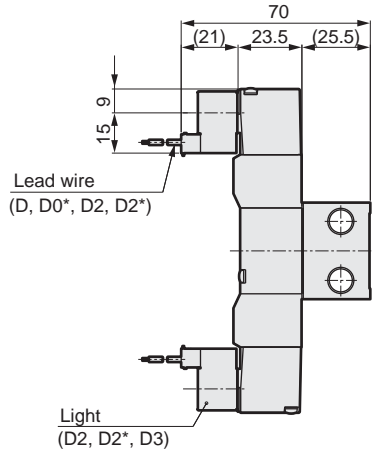
With indicator light



- C-connector:  
(C, C1, C0\*, C2, C2\*, C3)

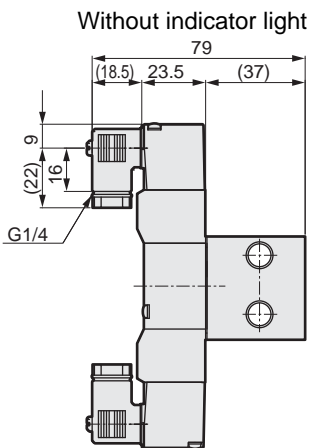


- D-connector:  
(D, D1, D0\*, D2, D2\*, D3)

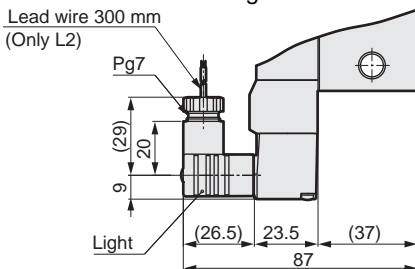


<For port size Rc1/8>

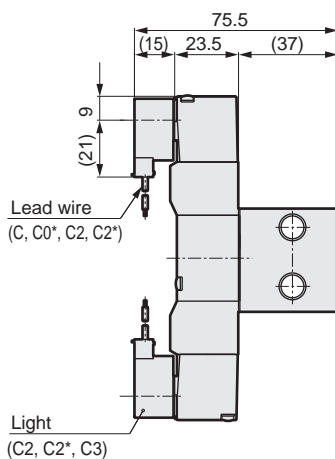
- Small terminal box:  
(B, L, L2, LS)



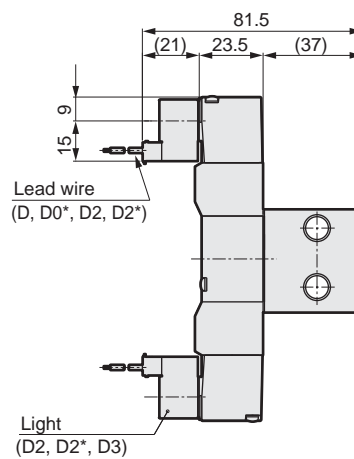
With indicator light



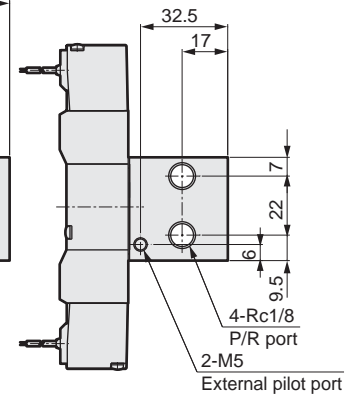
- C-connector:  
(C, C1, C0\*, C2, C2\*, C3)



- D-connector:  
(D, D1, D0\*, D2, D2\*, D3)



- External pilot: (K)  
(Port size Rc1/8, up to 10 stations)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Individual wiring manifold  
4, 5 port pilot operated valve

# M4KB1-H6/M5Y Series

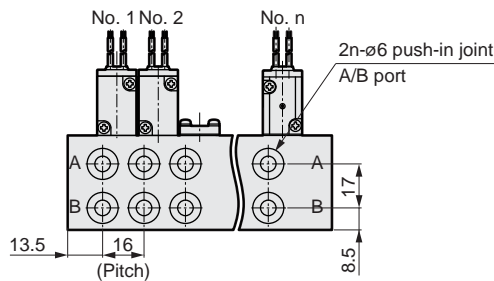
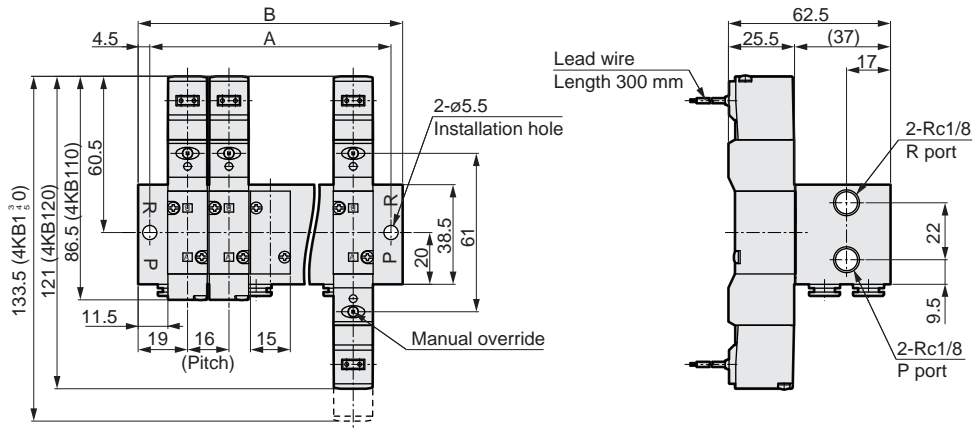
Individual wiring manifold: Sub-plate porting

Dimensions



## M4KB1-H6

● Port size  $\phi 6$  push-in joint: Grommet lead wire

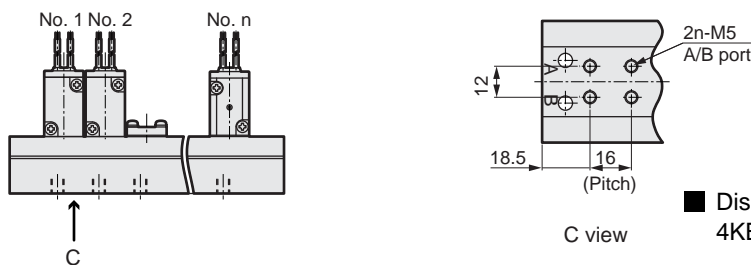
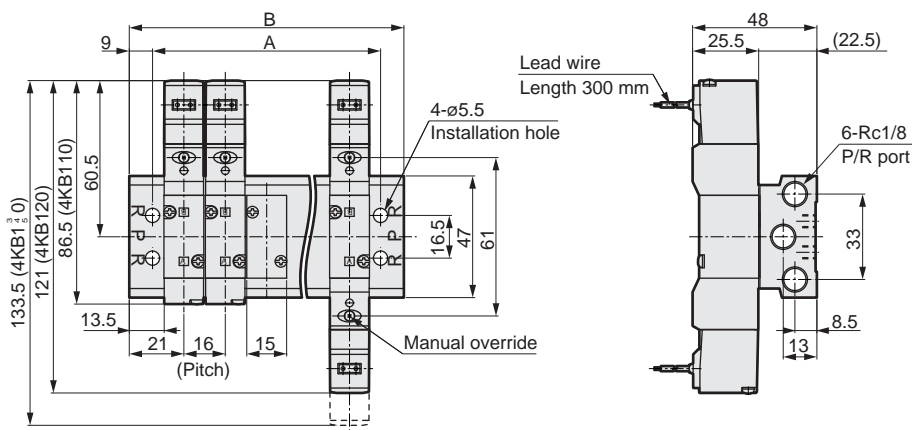


■ Discrete manifold model no.  
4KB1\*9-00-OPTION-VOLTAGE

Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	45	61	77	93	109	125	141	157	173	189	205	221	237	253	269	285	301	317	333
B	54	70	86	102	118	134	150	166	182	198	214	230	246	262	278	294	310	326	342

## M4KB1-M5Y

● Port size M5 (back porting): Grommet lead wire



■ Discrete manifold model no.  
4KB1\*9-00Y-OPTION-VOLTAGE

Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328
B	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330	346

# M4KB1-H6/M5Y Series

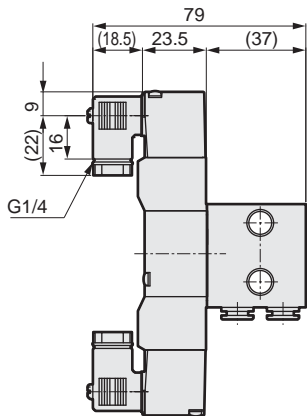
Individual wiring manifold: Sub-plate porting

## Dimensions

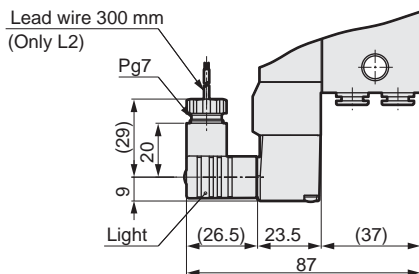
<For port size  $\varnothing 6$  push-in joint>

● Small terminal box: (B, L, L2, LS)

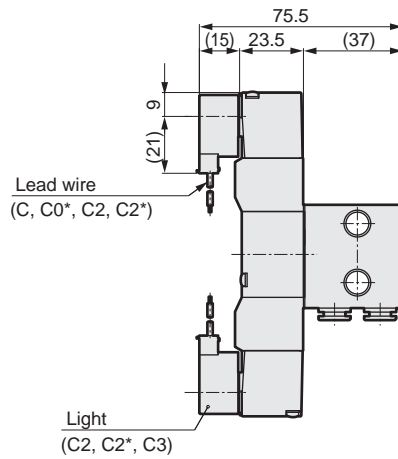
Without indicator light



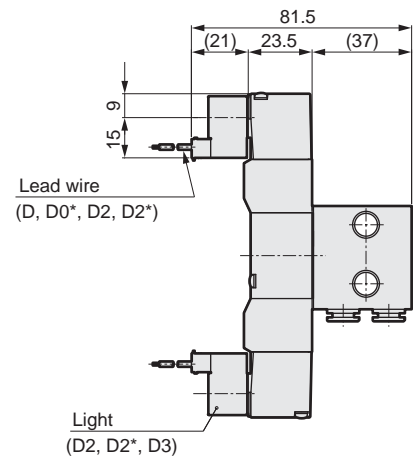
With indicator light



● C-connector:  
(C, C1, C0\*, C2, C2\*, C3)



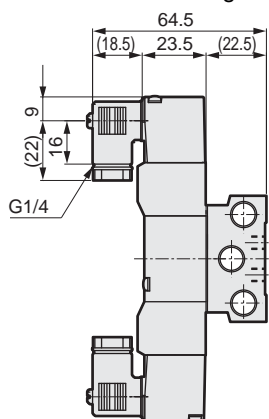
● D-connector:  
(D, D1, D0\*, D2, D2\*, D3)



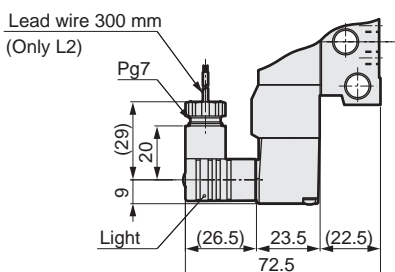
<For port size M5 (back porting)>

● Small terminal box: (B, L, L2, LS)

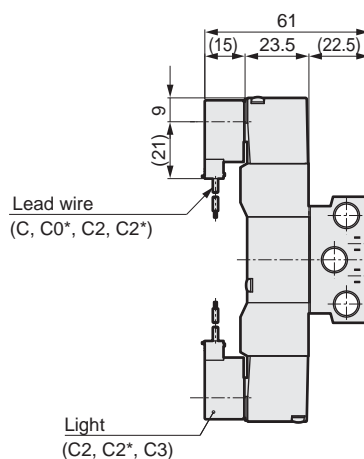
Without indicator light



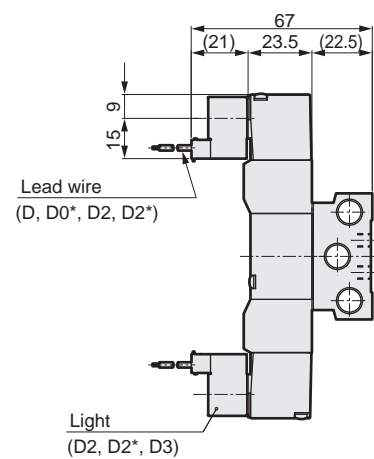
With indicator light



● C-connector:  
(C, C1, C0\*, C2, C2\*, C3)



● D-connector:  
(D, D1, D0\*, D2, D2\*, D3)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Individual wiring manifold  
4, 5 port pilot operated valve

# M4KB1-\*CE Series

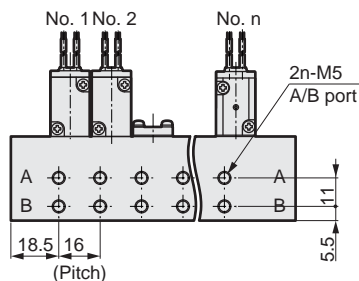
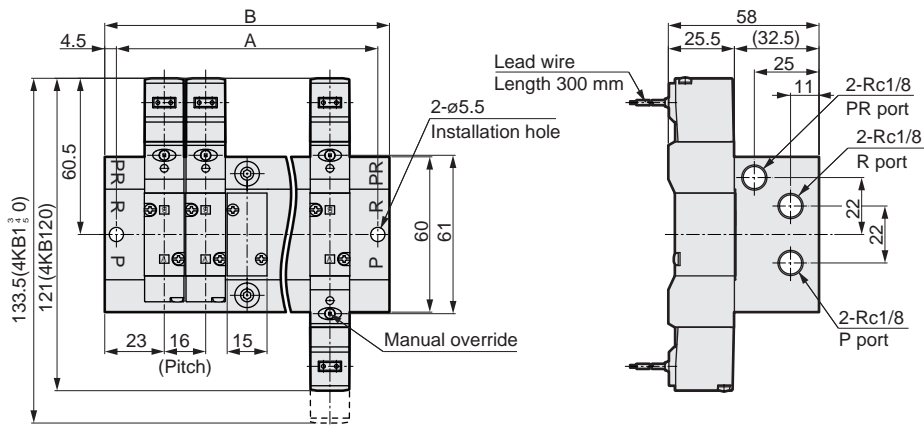
Individual wiring manifold: Sub-plate porting(pilot common exhaust)

Dimensions



## M4KB1-M5CE

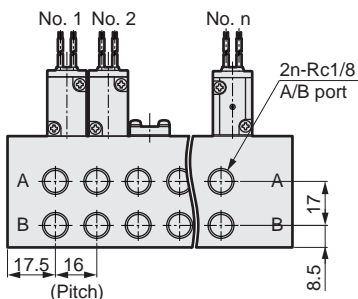
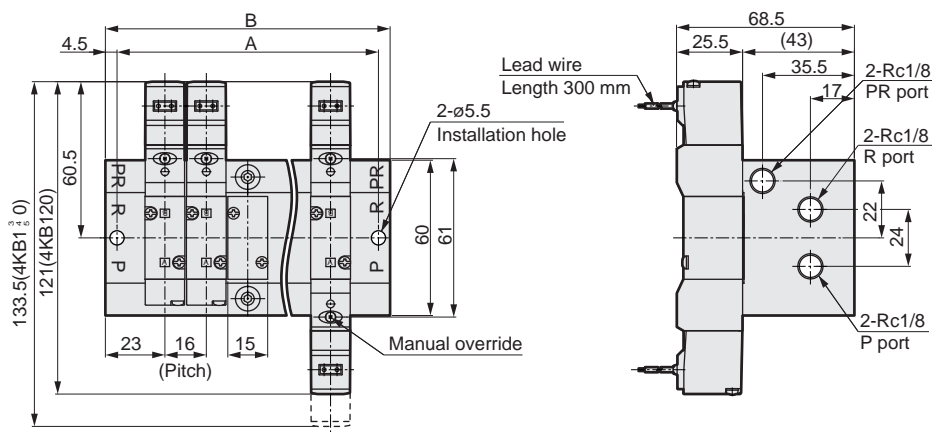
● Port size M5 / pilot common exhaust: Grommet lead wire



■ Discrete manifold model no.  
4KB1\*9-00CE-OPTION-VOLTAGE

## M4KB1-06CE

● Port size Rc1/8 / pilot common exhaust: Grommet lead wire



■ Discrete manifold model no.  
4KB1\*9-00CE-OPTION-VOLTAGE

Station number	2	3	4	5	6	7	8	9	10
A	53	69	85	101	117	133	149	165	181
B	62	78	94	110	126	142	158	174	190

# M4KB1-\*CE Series

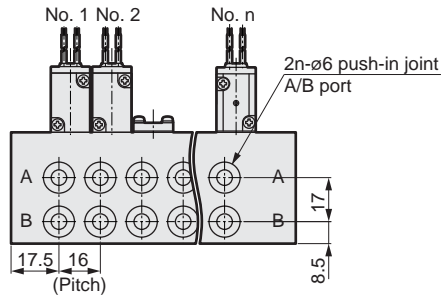
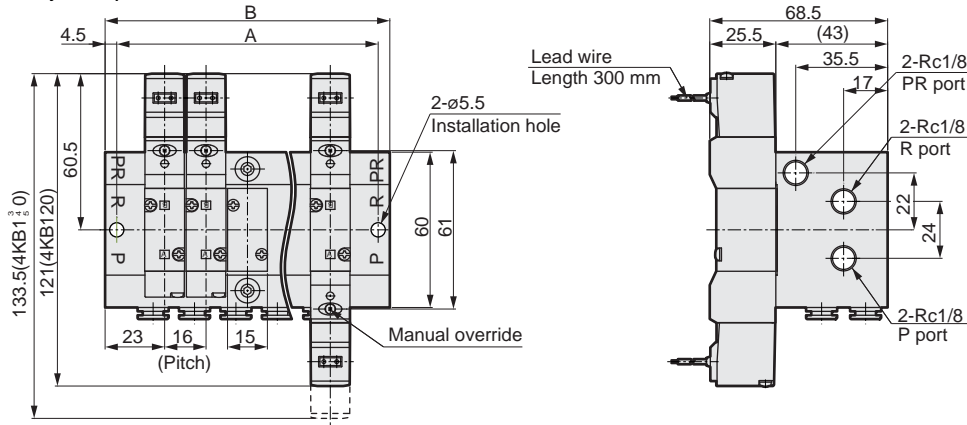
Individual wiring manifold: Sub-plate porting(pilot common exhaust)

Dimensions



## M4KB1-H6CE

● Port size  $\phi 6$  push-in joint / pilot common exhaust: Grommet lead wire



■ Discrete manifold model no.  
4KB1\*9-00CE-OPTION-VOLTAGE

Station number	2	3	4	5	6	7	8	9	10
A	53	69	85	101	117	133	149	165	181
B	62	78	94	110	126	142	158	174	190

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Individual wiring manifold  
4, 5 port pilot operated valve

# M4KB2 Series

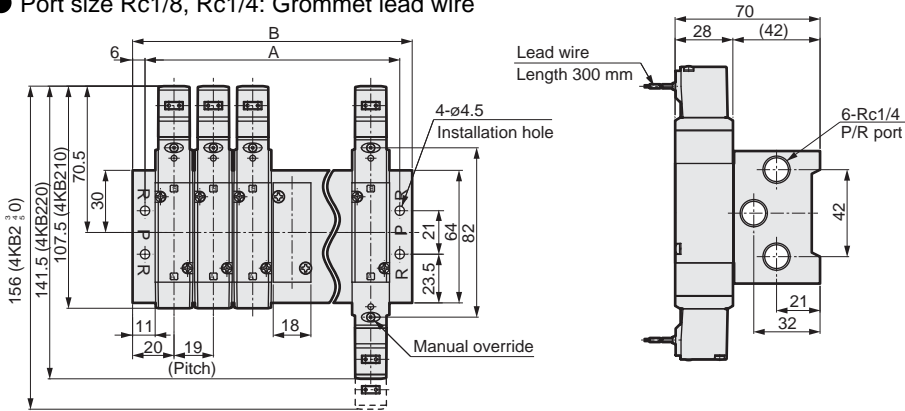
Individual wiring manifold: Sub-plate porting



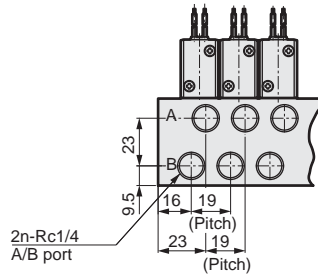
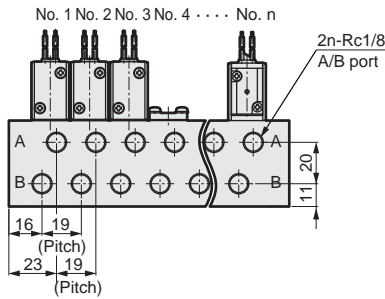
Dimensions

## M4KB2-06/08

● Port size Rc1/8, Rc1/4: Grommet lead wire



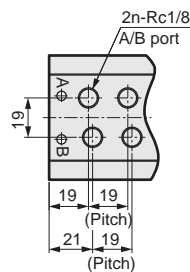
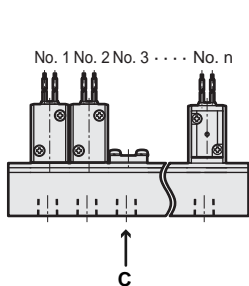
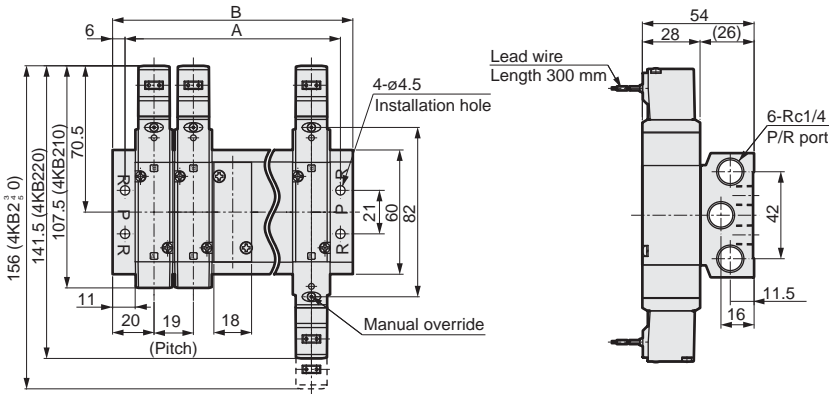
## M4KB2-08



■ Discrete manifold model no. 4KB2\*9-00-OPTION-VOLTAGE

## M4KB2-06Y

● Port size Rc1/8 (back porting): Grommet lead wire



C view

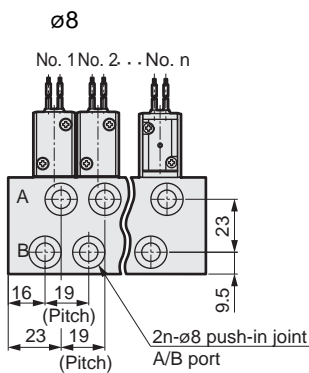
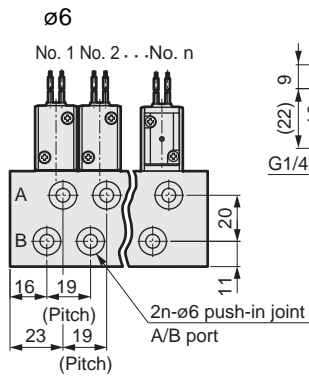
■ Discrete manifold model no. 4KB2\*9-00-OPTION-VOLTAGE

Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	47	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389
B	59	78	97	116	135	154	173	192	211	230	249	268	287	306	325	344	363	382	401

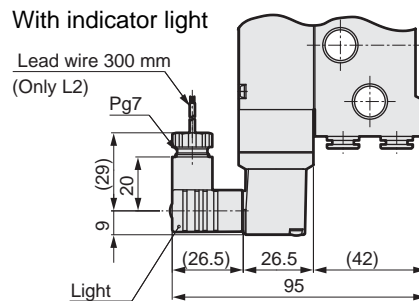
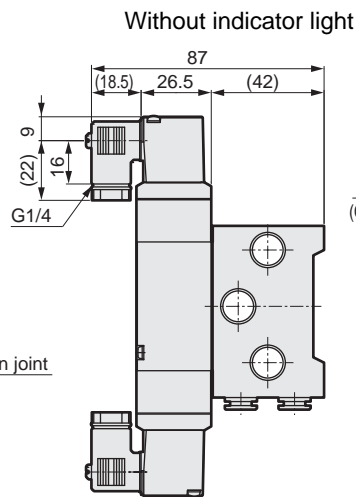


### Dimensions

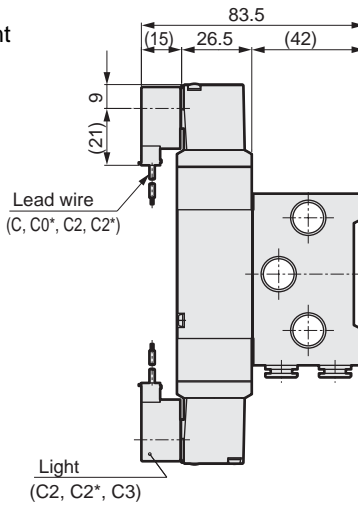
- $\varnothing 6$ ,  $\varnothing 8$  push-in joint: (H6, H8)



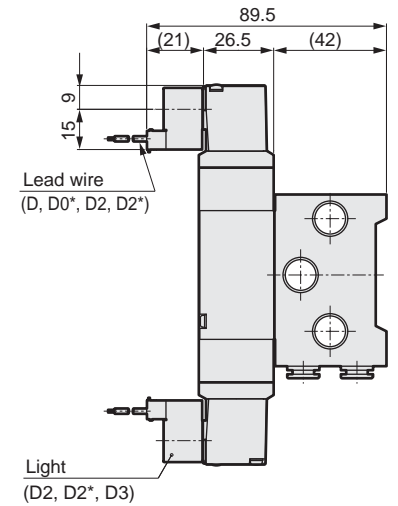
- Small terminal box: (B, L, L2, LS)



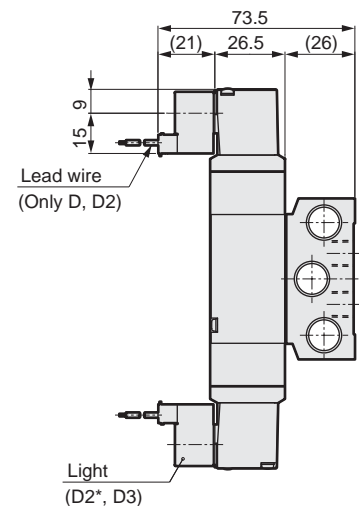
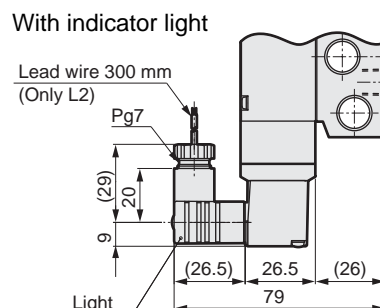
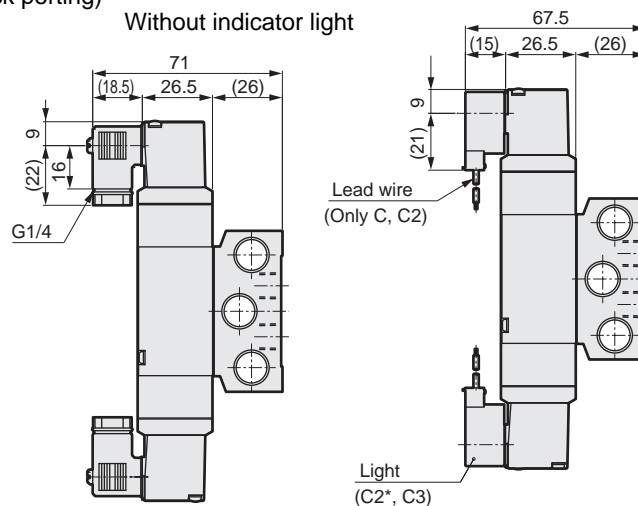
- C-connector: (C, C1, C0\*, C2, C2\*, C3)



- D-connector: (D, D1, D0\*, D2, D2\*, D3)



- Port size Rc1/8(back porting)



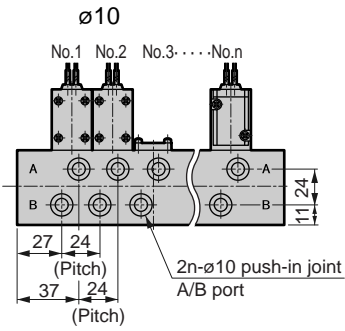
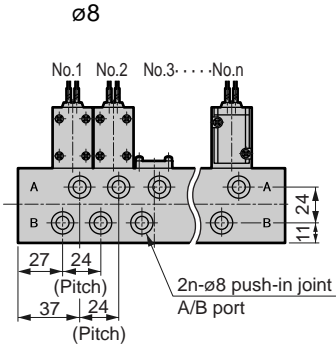
MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*OE
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Individual wiring manifold  
4, 5 port pilot operated valve

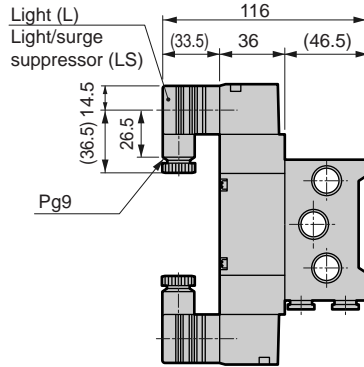


### Dimensions

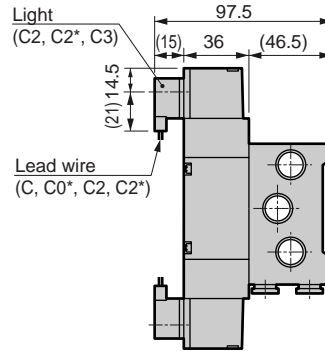
- $\varnothing 8$ ,  $\varnothing 10$  push-in joint: (H8, H10)



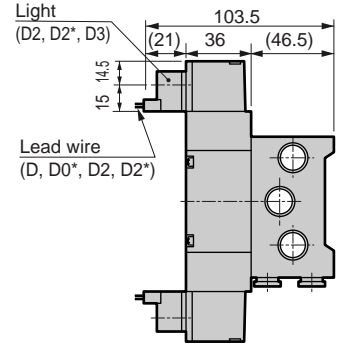
- Terminal box: (B, L, LS)



- C-connector: (C, C1, C0\*, C2, C2\*, C3)

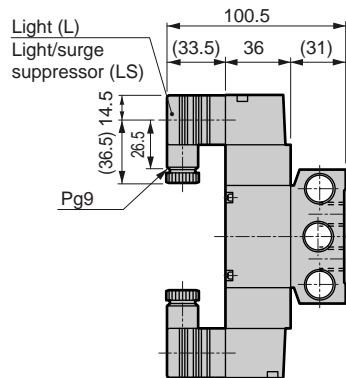


- D-connector: (D, D1, D0\*, D2, D2\*, D3)

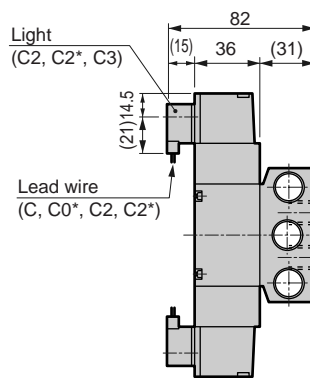


- Port size Rc1/4 (back porting)

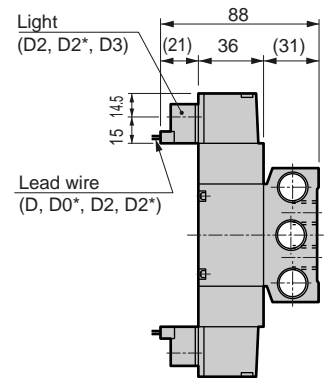
- Terminal box: (B, L, LS)



- C-connector: (C, C1, C0\*, C2, C2\*, C3)



- D-connector: (D, D1, D0\*, D2, D2\*, D3)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*OE
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Individual wiring manifold  
4, 5 port pilot operated valve

# M4KB4 Series

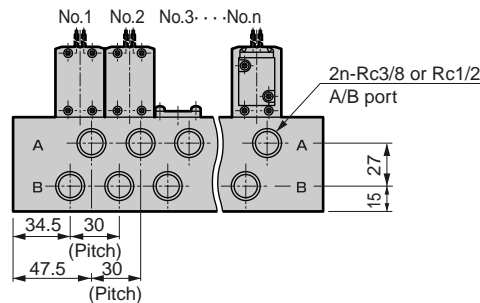
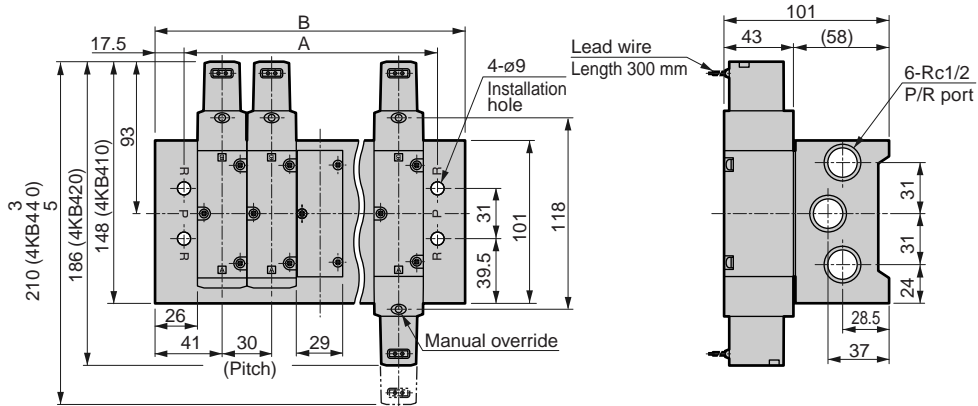
Individual wiring manifold: Sub-plate porting

Dimensions



## M4KB4-10/15

● Port size Rc3/8, 1/2: Grommet lead wire

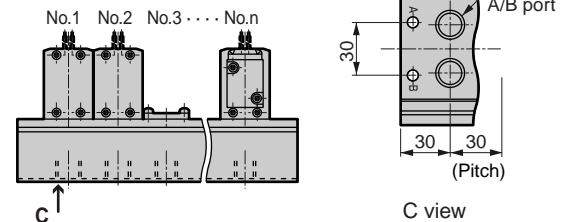
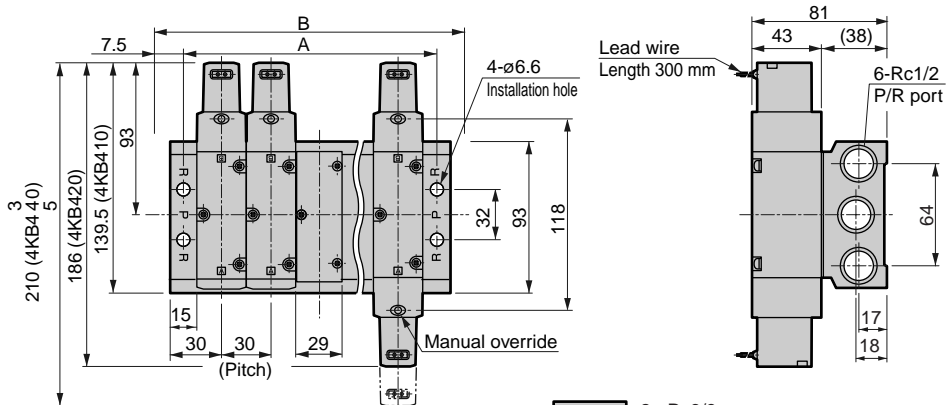


■ Discrete manifold model no. 4KB4\*9-00-OPTION-VOLTAGE

Station number	2	3	4	5	6	7	8	9	10	11	12
A	77	107	137	167	197	227	257	287	317	347	377
B	112	142	172	202	232	262	292	322	352	382	412

## M4KB4-10Y

● Port size Rc3/8 (back porting): Grommet lead wire

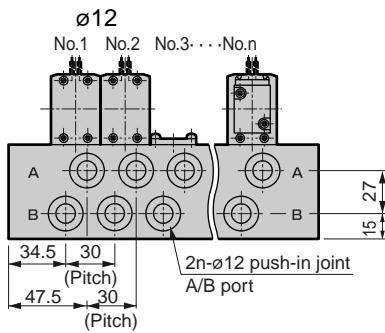
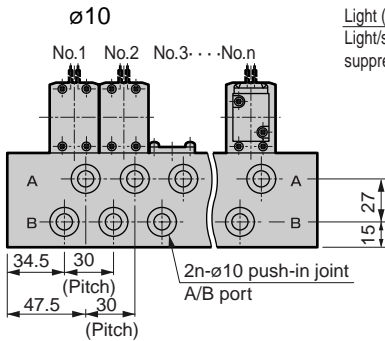


■ Discrete manifold model no. 4KB4\*9-00-OPTION-VOLTAGE

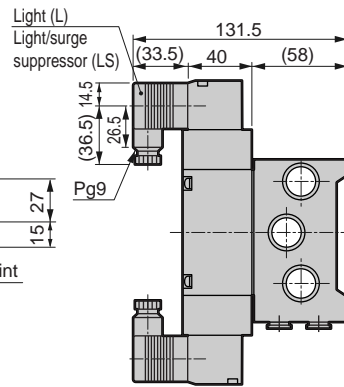
Station number	2	3	4	5	6	7	8	9	10	11	12
A	75	105	135	165	195	225	255	285	315	345	375
B	90	120	150	180	210	240	270	300	330	360	390

### Dimensions

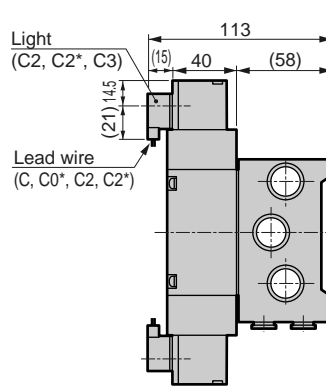
- Push-in joint  $\varnothing 10$ ,  $\varnothing 12$  : (H10, H12)



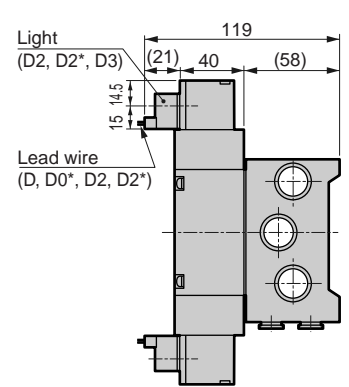
- Terminal box: (B, L, LS)



- C-connector: (C, C1, C0\*, C2, C2\*, C3)

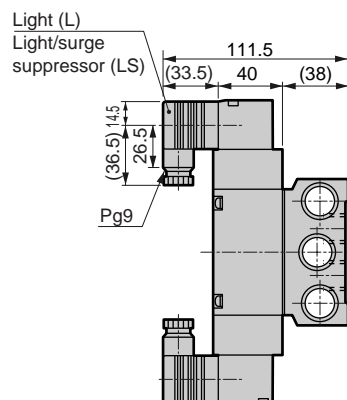


- D-connector: (D, D1, D0\*, D2, D2\*, D3)

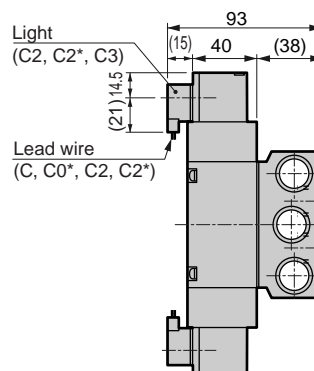


- Port size Rc3/8 (back porting)

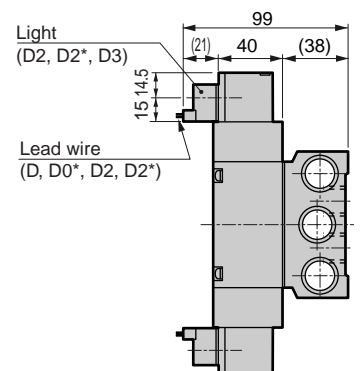
- Terminal box: (B, L, LS)



- C-connector: (C, C1, C0\*, C2, C2\*, C3)



- D-connector: (D, D1, D0\*, D2, D2\*, D3)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
<b>4KA/B</b>
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*OE
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Individual wiring manifold  
4, 5 port pilot operated valve

