



Discrete valve: Body porting 3, 5 port pilot operated valve 3KA1/4KA1/2/3/4 Series

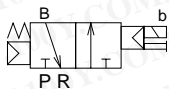
• Applicable cylinder bore size: 20 to 160mm



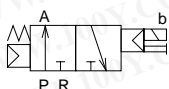
CAD DATA AVAILABLE.

JIS symbol

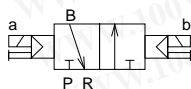
- 3 Port valve
2-position NC type single



- 3 Port valve
2-position NO type single



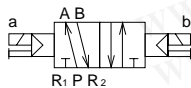
- 3 Port valve
2-position double



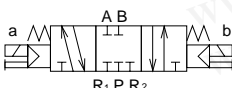
- 5 port valve
2-position single



- 5 port valve
2-position double



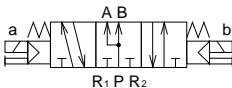
- 5 port valve
3-position all ports closed



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



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



Common specifications

Descriptions	
Valve and solenoid type	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.70
Min. working pressure MPa	Refer to individual specifications below.
Withstanding pressure MPa	1.05
Ambient temperature °C	-5 to 50
Fluid temperature °C	5 to 50
Lubrication	Not required
Protection structure	Dust proof
Vibration/impact m/s ²	50 or less/300 or less
Working environment	Not to be subject to corrosive gas

Other specifications (Consult with CKD.)

Descriptions	Model No.
Ozone proof specifications	**- [Voltage]-P11
Copper and PTFE free	**- [Voltage]-P6

Electrical specifications

Descriptions		3KA1, 4KA1/2	4KA3/4
Rated voltage V	AC	100, 200 (50 / 60 Hz)	
	DC	24	
Rated voltage fluctuation range		±10%	
Starting current A	AC 100V	0.056/0.044	0.046/0.042
	AC 200V	0.028/0.022	0.023/0.021
	DC 24V	—	
Holding current A	AC 100V	0.028/0.022	0.023/0.021
	AC 200V	0.014/0.011	
	DC 24V	0.075	
Power consumption W	AC 100V	1.8 / 1.4 (1.8 / 1.5)	1.6 / 1.3 (1.8 / 1.5)
	AC 200V	1.8 / 1.4 (1.8 / 1.5)	1.6 / 1.3 (1.8 / 1.5)
	DC 24V	1.8(2.0)	
Heat proof class		B (molded coil)	
Temperature rise °C		43	30

Reference: AC100V coil is available for AC110V 60Hz, while AC200V is available for AC220V 60Hz.

Individual specifications

Descriptions		3KA1	4KA1	4KA2	4KA3	4KA4	
Min. working pressure MPa	2-position Single	0.15	0.15	0.15	0.15	0.15	
	2-position Double			0.10	0.10	0.10	
	3-position	-	0.20	0.20	0.20	0.20	
Port size	Port P/A/B	M5 Push in joint 4, 6 dia.	M5 Push in joint 4, 6 dia.	Rc1/8 Push in joint 6, 8 dia.	Rc1/4 Push in joint 8, 10 dia.	Rc3/8 Push in joint 10, 12 dia.	
	Port R1/R2	M5	M5	Rc1/8	Rc1/4	Rc3/8	
Effective sectional area • 1, • 2 mm ²	2-position	3	3	12.5	25	50	
	3-position	-	3	11.0	22	43	
Response time • 3 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	
Mass g	2-position	Single	70	70	115	214	325
		Double	110	110	155	315	435
	3-position	-	120	170	354	505	

- 1: Effective sectional area is the value when port size M5 (3KA1/4KA1), Rc1/8 (4KA2), Rc1/4 (4KA3), Rc3/8 (4KA4).
- 2: For 3-position P/A/B connection type of 4KA1 series, effective sectional area is 2.5mm².
- 3: Response time is the value when supply pressure 0.5MPa, pre-lubricated and ON. The value varies depending on supplied pressure and oil quality.

勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-34970699
勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

3KA1, 4KA1 to 4 Series

Discrete valve: Body porting

How to order



A Solenoid position Code

B Port size

C Manual override

D Electric connection
 • Please refer to Page 485 about circuit diagram of surge suppressor with indicator light.

E Other options

F Voltage

⚠ Caution for model No. selection

- 1: When attached surge suppressor is DC24V or less, suppression connector type is provided.

<Example of model No.>

4KA210-06-M1BP-AC100V
 Model: 4KA2

- A** Solenoid position : 2-position single
- B** Port size : Rc1/8
- C** Manual override : Locking manual override
- D** Electric connection : Small terminal box/no lead wire
- E** Other options : Mounting plate
- F** Voltage : AC100V 50/60Hz

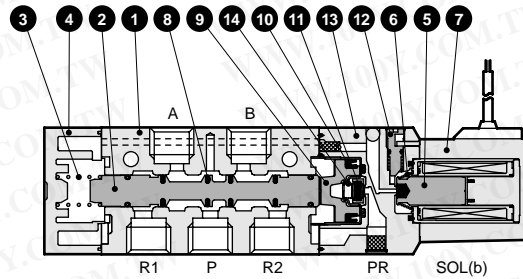
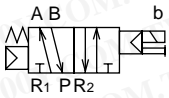
		Model				
		3KA1	4KA1	4KA2	4KA3	4KA4
A Solenoid position	Symbol	Descriptions				
	1	2-position single				
	2	2-position double				
	3	3-position all ports closed				
	4	3-position A/B/R connection				
	5	3-position P/A/B connection				
B Port size	Port	Port P/A/B		Port R1/R2		
				①=M5 ②=Rc1/8 ③=Rc1/4 ④=Rc3/8		
	M5	M5				
	06	Rc1/8		②		
	08	Rc1/4			③	
	10	Rc3/8				④
	GS4	4 mm dia. push in joint	①	①		
	GS6	6 mm dia. push in joint	①	①	②	
	GS8	8 mm dia. push in joint			②	③
	GS10	10 mm dia. push in joint				③ ④
	GS12	12 mm dia. push in joint				④
C Manual override	Blank	Non-locking manual override				
	M1	Locking manual override				
D Electric connection	Grommet lead wire					
	Blank	Grommet lead wire (300mm)				
	Small terminal box					
	B	No lead wire	No surge suppressor/light	●	●	●
	L	No lead wire	Indicator light (For DC of 4KA1/2, with surge supp.)	●	●	●
	L2	Lead wire length (300mm)		●	●	●
	LS	No lead wire	Surge suppressor/light	●	●	●
	C-connector (axial lead wire)					
	C	Lead wire length (300mm)		●	●	●
	C00	Lead wire length (500mm)	No surge suppressor/ light	●	●	●
	C01	Lead wire length (1000mm)		●	●	●
	C02	Lead wire length (2000mm)		●	●	●
	C03	Lead wire length (3000mm)		●	●	●
	C1	No lead wire		●	●	●
	C2	Lead wire length (300mm)	Surge suppressor/ light	●	●	●
	C20	Lead wire length (500mm)		●	●	●
	C21	Lead wire length (1000mm)		●	●	●
	C22	Lead wire length (2000mm)		●	●	●
	C23	Lead wire length (3000mm)		●	●	●
	C3	No lead wire			●	●
	D-connector (radial lead wire)					
	D	Lead wire length (300mm)		●	●	●
	D00	Lead wire length (500mm)	No surge suppressor/ light	●	●	●
D01	Lead wire length (1000mm)	●		●	●	
D02	Lead wire length (2000mm)	●		●	●	
D03	Lead wire length (3000mm)	●		●	●	
D1	No lead wire		●	●	●	
D2	Lead wire length (300mm)	Surge suppressor/ light	●	●	●	
D20	Lead wire length (500mm)		●	●	●	
D21	Lead wire length (1000mm)		●	●	●	
D22	Lead wire length (2000mm)		●	●	●	
D23	Lead wire length (3000mm)		●	●	●	
D3	No lead wire			●	●	●
E Other options	Blank	No option				
	P	Mounting plate (2-position single only)				
	S	Surge suppressor attached *1 (Grommet lead wire type only)				
F Voltage	AC100V	AC100V 50/60Hz	Standard	●	●	●
	AC200V	AC200V 50/60Hz		●	●	●
	DC24V	DC24V		●	●	●
	AC110V	AC110V 50/60Hz		●	●	●
	AC220V	AC220V 50/60Hz		●	●	●
	DC12V	DC12V		●	●	●
				Option	●	●

4SA/B0
4SA/B1
4GA/B
MN4GA/B
4GA/B (master)
MN3S0/
MN4S0
4TB
4L2-4/
LMFO
4KA/B
4F
PV5/
CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/
NVP
4F**0E
HMV/
HSV
Uniwire
system
SKH
PCD/
FS/FD
3, 4, 5 port pilot operated valve
Discrete

Internal structure and part list

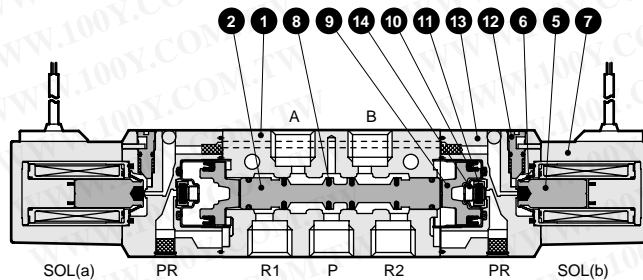
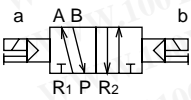
4KA210

- 2-position single



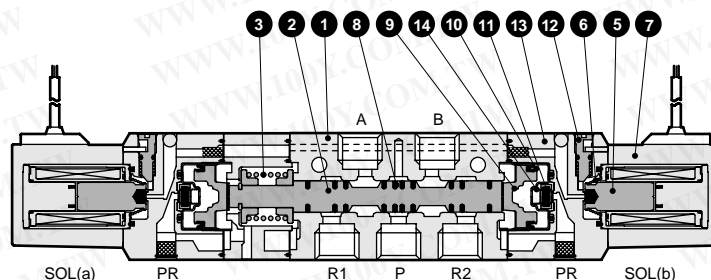
4KA220

- 2-position double



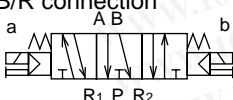
4KA230

- 3-position all ports closed



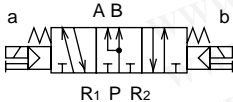
4KA240

- 3-position A/B/R connection



4KA250

- 3-position P/A/B connection



Main part list

No.	Parts name	Material
1	Body	Aluminum alloy die casting
2	Valving element (spool)	Aluminum
3	Valve spring	Stainless steel
4	Cap	Polyphenylen sulfite resin
5	Plunger	-
6	Plunger spring	-
7	Coil assembly	-
8	Spool packing seal	Nitrile rubber
9	Piston	Acetar resin
10	Piston packing seal	Nitrile rubber
11	Valve seat	Nitrile rubber
12	Manual button	Acetar resin
13	Pilot valve	Polyphenylen sulfite 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	4K1L-[D Electric connection]- ↑ For grommet lead wire, blank. Coil -[F Voltage]	
4KA220	4K9-126	4K9-154		
4KA230	4K9-127			
4KA240	4K9-128			
4KA250	4K9-129			

• For terminal box/connector type of coil assembly, option listed on how to order is assembled/attached.

4SA/B0

4SA/B1

4GA/B

MN4GA/B

4GA/B (master)

MN3S0/
MN4S0

4TB

4L2-4/
LMFO

4KA/B

4F

PV5/
CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/
NVP

4F**0E

HMV/
HSV

Uniwire
system

SKH


PCD/
FS/FD

3, 4, 5 port pilot operated valve
Discrete

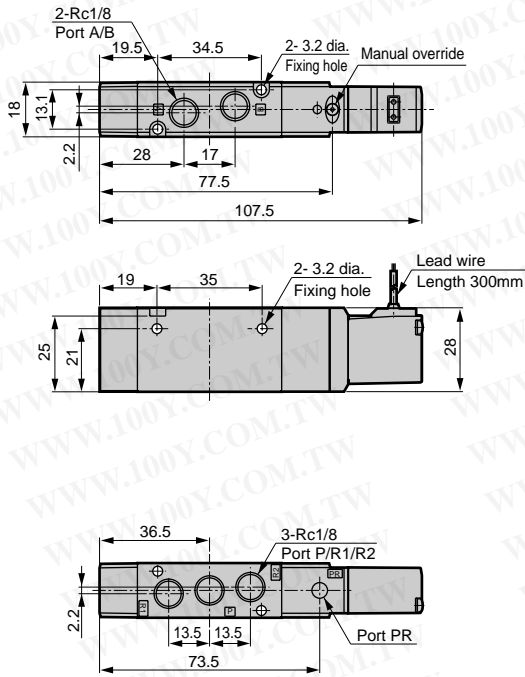
4KA2 Series


Discrete valve: Body porting

Dimensions

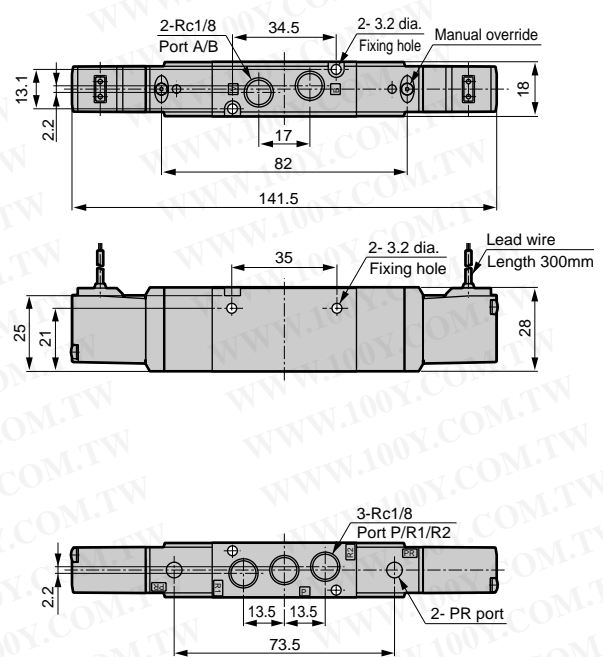
4KA210  (File name : Page 538 or Ending 22)


- 2-position single : Grommet lead wire



4KA220  (File name : Page 538 or Ending 22)

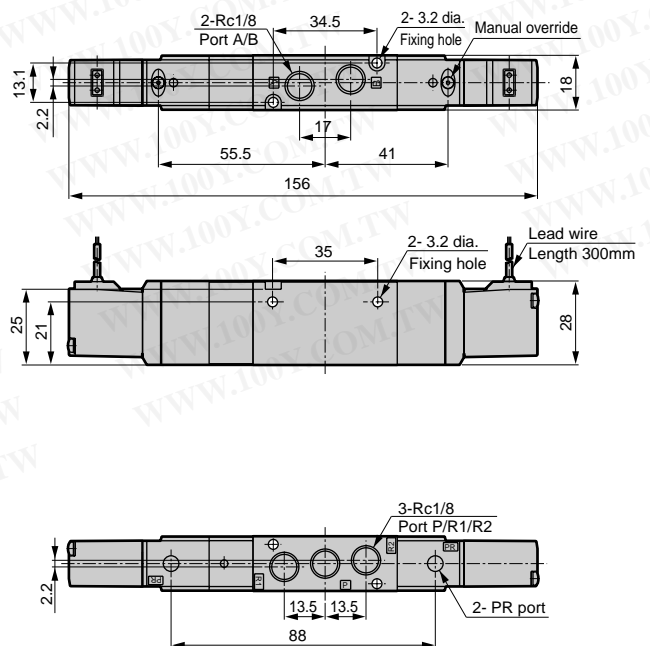
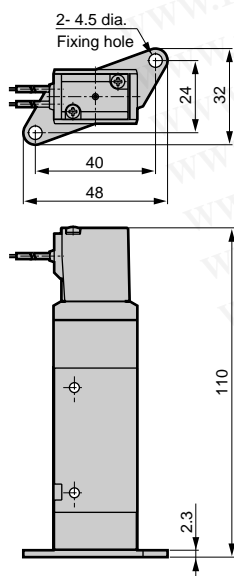
- 2-position double : Grommet lead wire



4KA2³/₄0  (File name : Page 538 or Ending 22)

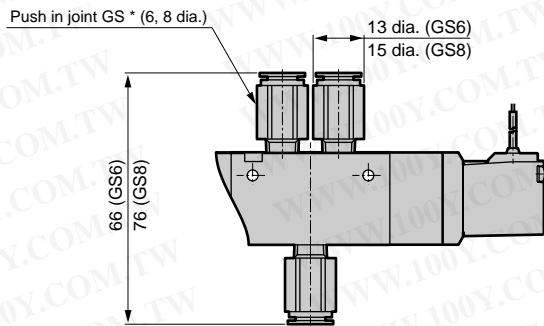
- Mounting plate : (P <2-position single >)

- 3-position : Grommet lead wire



Dimensions

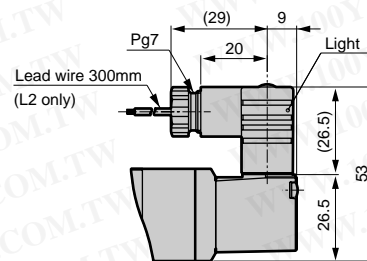
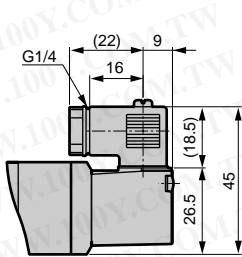
- 6, 8 mm dia. push in joint : (GS6/GS8)



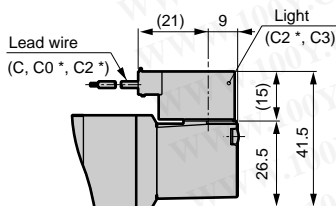
- Small terminal box : (B <No light>/L/L2/LS <Light>)

Without indicator light

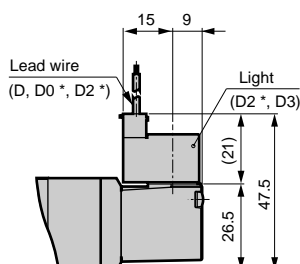
Indicator light



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



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



4SA/B0

4SA/B1

4GA/B

MN4GA/B

4GA/B
(master)

MN3S0/
MN4S0

4TB

4L2-4/
LMF0

4KA/B

4F

PV5/
CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/
NVP

4F**0E

HMV/
HSV

Uniwire
system

SKH

PCD/
FS/FD

Discrete

3, 4, 5 port pilot operated valve

