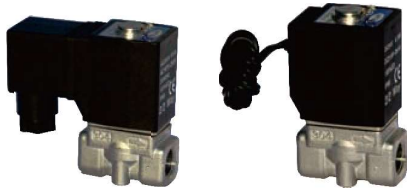


# Fluid control valve(2/2 way)

## 2L Series (Direct-acting and normally closed)



### Symbol

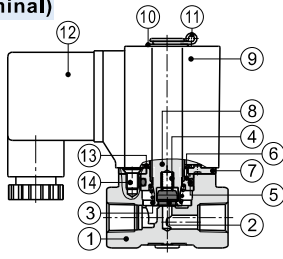


### Product feature

1. Direct acting and normally closed type 2/2 way solenoid valve. Its high sensibility allows it to change direction quickly;
2. It has wide pressure range, including standard and high pressure (H) to choose from;
3. It is compact, small size and light weight. It is easy to install and dismantle.
4. The valve body is made of SUS304 . Its coil has a Heat resistance classification of Class H. The standard seal material is PTFE(Teflon) which is suitable for a variety of working medium such as water with high temperature and vapour.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

### Inner structure

#### 2L030 (Terminal)



No.	Item	No.	Item	No.	Item
1	Body	6	Fixed cap	11	E Clip
2	Airtight ring	7	Fixed plate	12	Connector
3	Spring	8	Movable core	13	Washer
4	Spring	9	Coil assembly	14	Screw
5	O-ring	10	Washer		

### Specification

Model\Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm <sup>2</sup> )	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2LH030	-06 1/8"	2.0	0.18	3.0	300	2.0	300	3.0	450
	-08 1/4"								
2L030	-06 1/8"	3.0	0.33	6.0	300	1.0	150		
	-08 1/4"								
2LH050	-10 3/8"	4.0	0.55	10.0	600	2.0	300		
	-15 1/2"								
2L050	-10 3/8"	5.0	0.83	15.0	600	1.0	150		
	-15 1/2"								

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2L030 series grommet valve's weight is 10g less than terminal's. 2L050series grommet valve's weight is 20g less than terminal's.

### Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(°C)
2L□030	CDA116 CLA116	AC	50	±15%	Terminal (CDA)	10.0VA	Class H	35
			60			8.0VA		30
		DC	-	±10%		6.5W		30
2L□050	CDA170 CLA170	AC	50	±15%	Grommet (CLA)	25.0VA	Class H	60
			60			22.0VA		55
		DC	-	±10%		12.0W		40

### Valve's specification

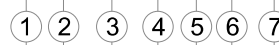
Acting		Direct acting			
Initial state		Normally closed			
Adaptable fluid		Steam, High temperature Water, Oil			
Viscosity limit		Under 20CST			
Ambient and fluid temperature ( °C )		Oil	Water	Steam	Ambient
	Max.	150	150	183	100
	Min.	-10 [Note1]	1	-	-20

[Note1] 50CST or less.

### Ordering code

#### Ordering code of valves

2L H 030 08 A □ □



① Model	② Pressure condition	③ Size series	④ Port size	⑤ Voltage	⑥ Electrical entry	⑦ Thread type
2L: 2/2 way direct-acting and normally closed	H: High pressure Blank: Standard	030: 030 Series 050: 050 Series	06: 1/8" 08: 1/4" 10: 3/8" 15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT

[Note] The wire length is 0.5m.

#### Ordering code of accessories

Ordering code of accessories is the same as 2S series valve's, Please refer to P194 for details of ordering code.

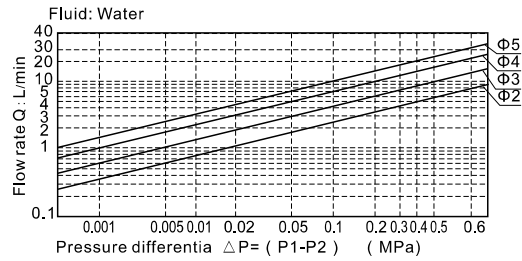
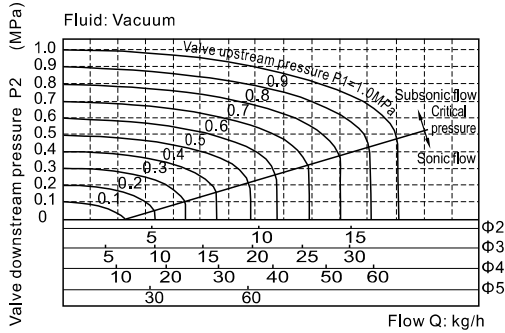


# Fluid control valve(2/2 way)

## 2L Series (Direct-acting and normally closed)

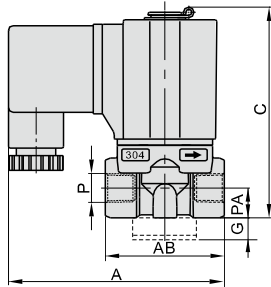
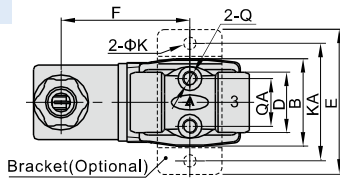


### Flow chart

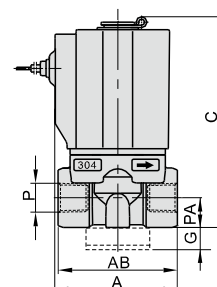
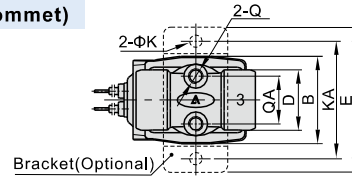


### Dimensions

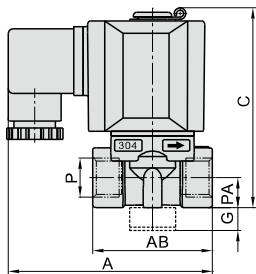
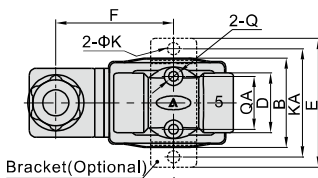
#### 2L□030(Terminal)



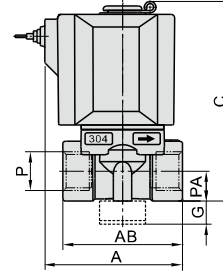
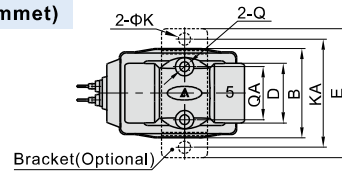
#### 2L□030(Grommet)



#### 2L□050(Terminal)



#### 2L□050(Grommet)



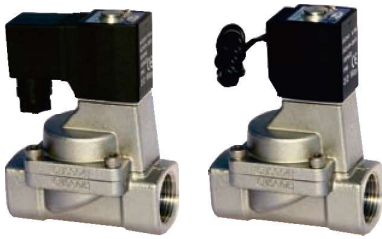
Model/Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2L□030-06	72.5	40	29.5	71	20	49	43.5	10	5.3	40	1/8"	10	M5	16
2L□030-08	72.5	40	29.5	71	20	49	43.5	10	5.3	40	1/4"	10	M5	16
2L□050-10	89.5	52	39	87	26	56	51	10	5.3	48	3/8"	13	M5	23
2L□050-15	89.5	52	39	87	26	56	51	10	5.3	48	1/2"	13	M5	23

Model/Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2L□030-06	41	40	29.5	71	20	49	10	5.3	40	1/8"	10	M5	16
2L□030-08	41	40	29.5	71	20	49	10	5.3	40	1/4"	10	M5	16
2L□050-10	60	52	39	87	26	56	10	5.3	48	3/8"	13	M5	23
2L□050-15	60	52	39	87	26	56	10	5.3	48	1/2"	13	M5	23



# Fluid control valve(2/2 way)

## 2L Series (Internally piloted and normally closed)



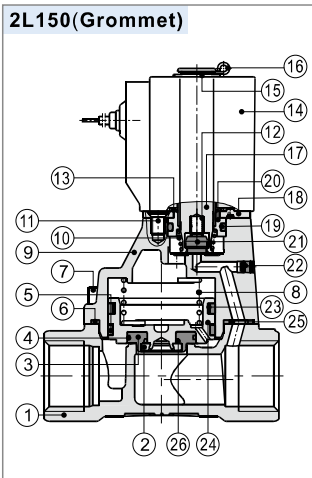
### Symbol



### Product feature

1. Indirect acting (Internal pilot) and normally closed type 2/2 way solenoid valve. Its high sensibility allows it to change direction quickly.
2. It is compact, small size and light weight. It is easy to install and dismantle.
3. The valve body is made of SUS304. Its coil has a Heat resistance classification of Class H. The standard seal material is PTFE (Teflon) which is suitable for a variety of working medium such as water with high temperature and vapour.
4. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry.

### Inner structure



No.	Item
1	Body
2	Fixed ring
3	Airtight gasket
4	O-ring
5	Wear ring
6	Gasket
7	Screw
8	Spring
9	Cover
10	Spring
11	Screw
12	Spring
13	Spring washer
14	Coil assembly
15	Washer
16	E Clip
17	Movable core
18	Fixed plate
19	O-ring
20	Fixed cap
21	Airtight ring
22	Plug
23	Spring
24	Piston
25	Spacer
26	O-ring

### Ordering code

#### Ordering code of valves

2L 150 15 A □ □



① Model	② Orifice size	③ Port size	④ Voltage	⑤ Electrical entry	⑥ Thread type
2L: 2/2 way internally piloted and normally closed	150: Φ15mm	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
	200: Φ20mm	20: 3/4"			
	250: Φ25mm	25: 1"			
	320: Φ35mm	32: 1 1/4"			
	400: Φ40mm	40: 1 1/2"			
	500: Φ50mm	50: 2"			

[Note] The wire length is 0.5m.

#### Ordering code of accessories

Ordering code of accessories is the same as 2S series valve's, please refer to P196 for details of ordering code.

[Note] 320\400\500 series valves do not have mounting accessories.

### Specification

Model/Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm <sup>2</sup> )	Weight [Note2](g)	Operating pressure differential		Proof pressure	
						MPa	psi	MPa	psi
2L150-15	1/2"	15.0	5.50	100.0	675	Max: 1.0 Min: 0.05	Max: 150 Min: 10	1.5	220
2L200-20	3/4"	20.0	9.50	170.0	875				
2L250-25	1"	25.0	12.50	220.0	1120				
2L320-32	1 1/4"	35.0	23.00	420.0	2700				
2L400-40	1 1/2"	40.0	31.00	560.0	3250				
2L500-50	2"	50.0	49.00	880.0	4300				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2L150~250series grommet valve's weight is 10g less than terminal's. 2L320~500series grommet valve's weight is 20g less than terminal's.

### Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(°C)
2L150 2L200 2L250	CDA116 CLA116	AC	50	±15%	Terminal (CDA)  Grommet (CLA)	10.0VA	Class H	35
			60			8.0VA		30
	-	±10%	6.5W	30				
2L320 2L400 2L500	CDA170 CLA170	AC	50	±15%		25.0VA		60
			60			22.0VA		55
	-	±10%	12.0W	40				

### Valve's specification

Acting	Internally piloted				
	Initial state	Normally closed			
Adaptable fluid	Steam, High temperature Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (°C)		Oil	Water	Steam	Ambient
	Max.	150	150	183	100
	Min.	-10 [Note1]	1	-	-20

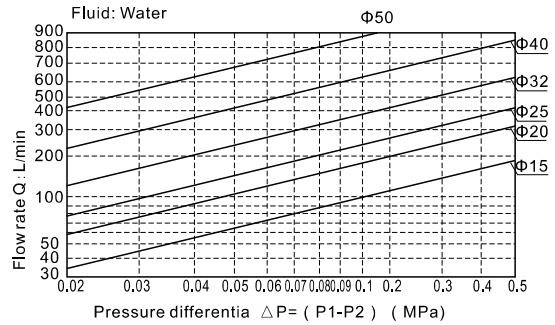
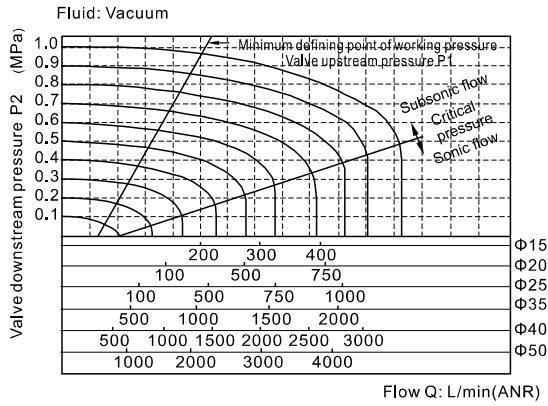
[Note1] 50CST or less.

# Fluid control valve(2/2 way)

## 2L Series (Internally piloted and normally closed)

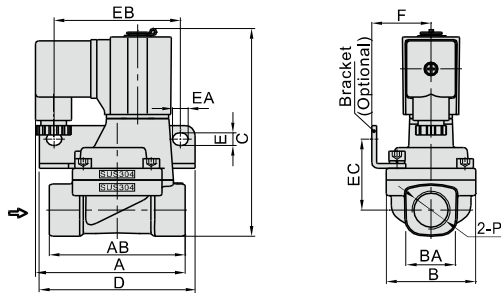


### Flow chart

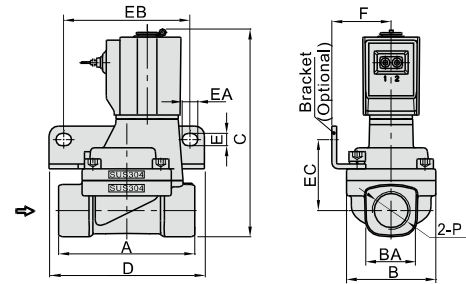


### Dimensions

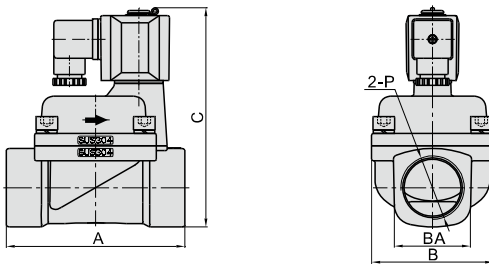
#### 2L150~250(Terminal)



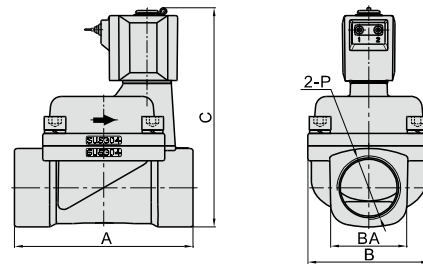
#### 2L150~250(Grommet)



#### 2L320~500(Terminal)



#### 2L320~500(Grommet)



Model/Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
2L150-15	77	70	46	27.5	107	80	6.4	8	65	36.5	30.5	1/2"
2L200-20	78.5	82	53	33.5	115.5	90	6.4	8	75	40	34	3/4"
2L250-25	81	92	59	40.5	124	95	6.4	8	80	44.5	36	1"
2L320-32	125	-	80	52	154.5	-	-	-	-	-	-	1 1/4"
2L400-40	132	-	90	58	162	-	-	-	-	-	-	1 1/2"
2L500-50	150	-	100	70	177	-	-	-	-	-	-	2"

Model/Item	A	B	BA	C	D	E	EA	EB	EC	F	P
2L150-15	70	46	27.5	107	80	6.4	8	65	36.5	30.5	1/2"
2L200-20	82	53	33.5	115.5	90	6.4	8	75	40	34	3/4"
2L250-25	92	59	40.5	124	95	6.4	8	80	44.5	36	1"
2L320-32	125	80	52	154.5	-	-	-	-	-	-	1 1/4"
2L400-40	132	90	58	162	-	-	-	-	-	-	1 1/2"
2L500-50	150	100	70	177	-	-	-	-	-	-	2"



# Fluid control valve(2/2 way)

## 2KL Series (Direct-acting and normally opened)



### Symbol



### Product feature

1. Direct acting and normally opened type 2/2 way solenoid valve. Its high sensibility allows it to change direction quickly;
2. It has wide pressure range, including standard and high pressure (H) to choose from;
3. It is compact, small size and light weight. It is easy to install and dismantle.
4. The valve body is made of SUS304 . Its coil has a Heat resistance classification of Class H. The standard seal material is PTFE(Teflon) which is suitable for a variety of working medium such as water with high temperature and vapour.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

### Specification

Model\Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm <sup>2</sup> )	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2KLH030	-06 1/8"	2.0	0.18	3.0	305	1.5	220	3.0	450
	-08 1/4"								
2KL030	-06 1/8"	3.0	0.33	6.0	305	0.7	100		
	-08 1/4"								
2KLH050	-10 3/8"	4.0	0.55	10.0	610	1.5	220		
	-15 1/2"								
2KL050	-10 3/8"	5.0	0.83	15.0	610	0.7	100		
	-15 1/2"								

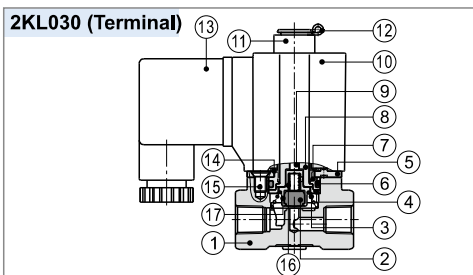
[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2KL030 series grommet valve's weight is 10g less than terminal's. 2KL050series grommet valve's weight is 20g less than terminal's.

### Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(°C)	
2KL□030	CDA116 CLA116	AC	50	±15%	Terminal (CDA)	15.0VA	Class H	50	
			60			11.0VA		40	
		DC	-	±10%		6.5W		30	
2KL□050	CDA170 CLA170	AC	50	±15%	Grommet (CLA)	35.0VA		Class H	65
			60			30.0VA			60
		DC	-	±10%		12.0W			40

### Inner structure



No.	Item	No.	Item	No.	Item
1	Body	7	Fixed cap	13	Connector
2	Airtight ring	8	Electromagnet	14	Spring washer
3	Spring	9	Mandril	15	Screw
4	Fixed ring	10	Coil assembly	16	Spring
5	Fixed plate	11	Position ring	17	Airtight bush
6	O-ring	12	E Clip		

### Valve's specification

Acting	Direct acting				
Initial state	Normally opened				
Adaptable fluid	Steam, High temperature Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature ( °C )		Oil	Water	Steam	Ambient
	Max.	150	150	183	100
	Min.	-10 [Note1]	1	-	-20

[Note1] 50CST or less.

### Ordering code

#### Ordering code of valves

2KL H 030 08 A □ □

① ② ③ ④ ⑤ ⑥ ⑦

① Model	② Pressure condition	③ Size series	④ Port size	⑤ Voltage	⑥ Electrical entry	⑦ Thread type
2KL: 2/2 way direct-acting and normally opened	H: High pressure Blank: Standard	030: 030 Series	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet[Note]	Blank: PT G: G T: NPT
		050: 050 Series	10: 3/8" 15: 1/2"			

[Note] The wire length is 0.5m.

#### Ordering code of accessories

Ordering code of accessories is the same as 2S series valve's, Please refer to P194 for details of ordering code.

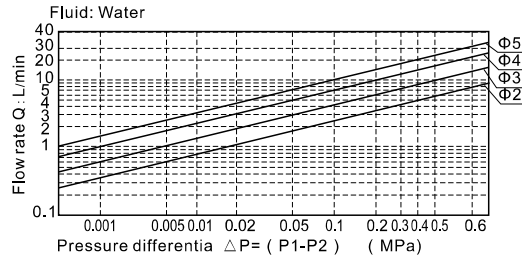
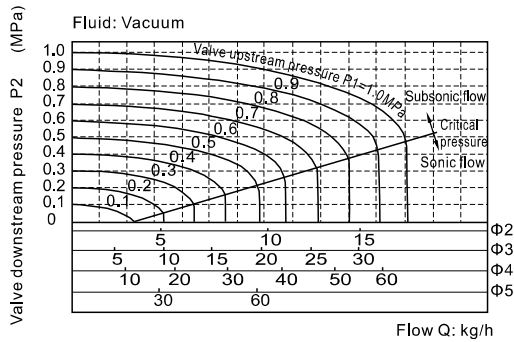


# Fluid control valve(2/2 way)

## 2KL Series (Direct-acting and normally opened)

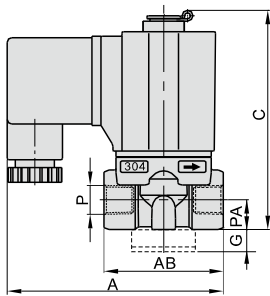
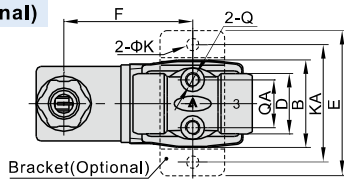


### Flow chart

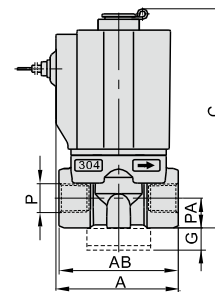
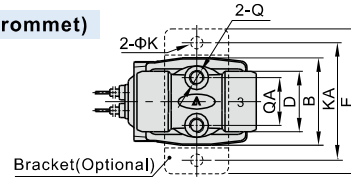


### Dimensions

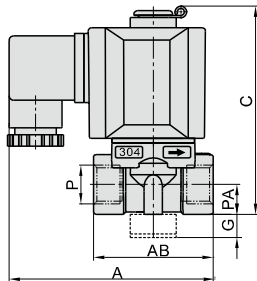
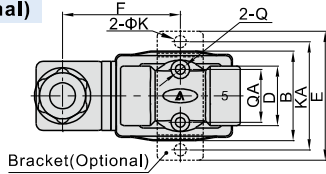
#### 2KL□030(Terminal)



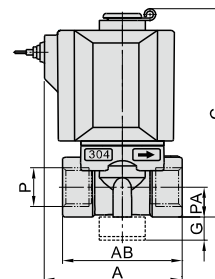
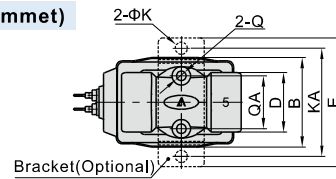
#### 2KL□030(Grommet)



#### 2KL□050(Terminal)



#### 2KL□050(Grommet)



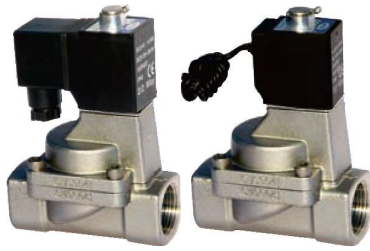
Model\Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2KL□030-06	72.5	40	29.5	76	20	49	43.5	10	5.3	40	1/8"	10	M5	16
2KL□030-08	72.5	40	29.5	76	20	49	43.5	10	5.3	40	1/4"	10	M5	16
2KL□050-10	89.5	52	39	92	26	56	51	10	5.3	48	3/8"	13	M5	23
2KL□050-15	89.5	52	39	92	26	56	51	10	5.3	48	1/2"	13	M5	23

Model\Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2KL□030-06	41	40	29.5	76	20	49	10	5.3	40	1/8"	10	M5	16
2KL□030-08	41	40	29.5	76	20	49	10	5.3	40	1/4"	10	M5	16
2KL□050-10	60	52	39	92	26	56	10	5.3	48	3/8"	13	M5	23
2KL□050-15	60	52	39	92	26	56	10	5.3	48	1/2"	13	M5	23



# Fluid control valve(2/2 way)

## 2KL Series (Internally piloted and normally opened)



### Symbol

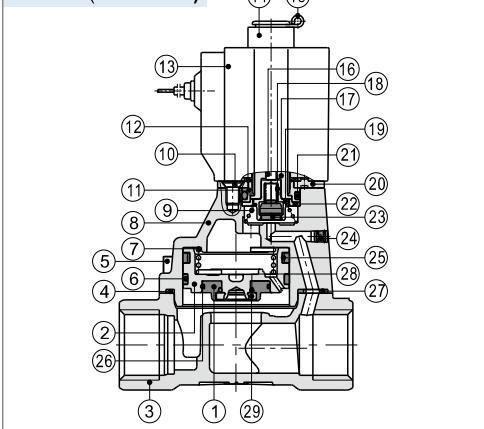


### Product feature

1. Indirect acting (Internal pilot) and normally opened type 2/2 way solenoid valve. Its high sensibility allows it to change direction quickly.
2. It is compact, small size and light weight. It is easy to install and dismantle.
3. The valve body is made of SUS304. Its coil has a Heat resistance classification of Class H. The standard seal material is PTFE (Teflon) which is suitable for a variety of working medium such as water with high temperature and vapour.
4. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry.

### Inner structure

#### 2KL150 (Grommet)



No.	Item	No.	Item
1	Gasket	16	Mandril
2	Piston	17	Electromagnet
3	Body	18	Spring
4	Gasket	19	Airtight bush
5	Screw	20	Fixed plate
6	Wear ring	21	O-ring
7	Spring	22	Fixed ring
8	Cover	23	Airtight ring
9	Spring	24	Plug
10	Screw	25	Spring
11	Fixed cap	26	O-ring
12	Spring washer	27	Spacer
13	Coil assembly	28	O-ring
14	Position ring	29	Fixed ring
15	E Clip		

### Specification

Model/Item	Port size [Note1]	Orifice size (Φmm)	Cv	Valid area or section (mm <sup>2</sup> )	Weight [Note2](g)	Operating pressure differential		Proof pressure	
						MPa	psi	MPa	psi
2KL150-15	1/2"	15.0	5.50	100.0	675	Max: 0.7 Min: 0.05	Max: 100 Min: 10	1.5	220
2KL200-20	3/4"	20.0	9.50	170.0	880				
2KL250-25	1"	25.0	12.50	220.0	1125				
2KL320-32	1 1/4"	35.0	23.00	420.0	2710				
2KL400-40	1 1/2"	40.0	31.00	560.0	3260				
2KL500-50	2"	50.0	49.00	880.0	4310				

[Note1] PT thread, G thread and NPT thread are available.

[Note2] The weight in the table is the terminal valve's weight, 2KL150~250 series grommet valve's weight is 10g less than terminal's, 2KL320~500 series grommet valve's weight is 20g less than terminal's.

### Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(°C)	
2KL150 2KL200 2KL250	CDA116 CLA116	AC	50	±15%	Terminal (CDA)	15.0VA	Class H	50	
			60			11.0VA		40	
2KL320 2KL400 2KL500	CDA170 CLA170	AC	50	±15%		Grommet (CLA)		6.5W	30
			60					35.0VA	65
2KL320 2KL400 2KL500	CDA170 CLA170	DC	-	±10%	Grommet (CLA)		30.0VA	60	
			-				12.0W	40	

### Valve's specification

Acting	Internally piloted				
Initial state	Normally opened				
Adaptable fluid	Steam, High temperature Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature (°C)		Oil	Water	Steam	Ambient
	Max.	150	150	183	100
	Min.	-10 [Note1]	1	-	-20

[Note1] 50CST or less.

### Ordering code

#### Ordering code of valves

2KL 150 15 A □ □

① ② ③ ④ ⑤ ⑥

① Model	② Orifice size	③ Port size	④ Voltage	⑤ Electrical entry	⑥ Thread type
2KL: 2/2 way internally piloted and normally opened	150: Φ15mm	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet [Note]	Blank: PT G: G T: NPT
	200: Φ20mm	20: 3/4"			
	250: Φ25mm	25: 1"			
	320: Φ35mm	32: 1 1/4"			
	400: Φ40mm	40: 1 1/2"			
	500: Φ50mm	50: 2"			

[Note] The wire length is 0.5m.

#### Ordering code of accessories

Ordering code of accessories is the same as 2S series valve's. Please refer to P196 for details of ordering code.

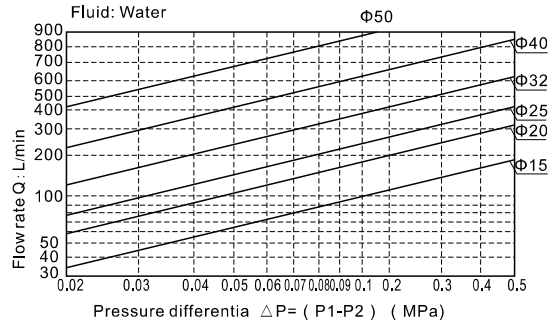
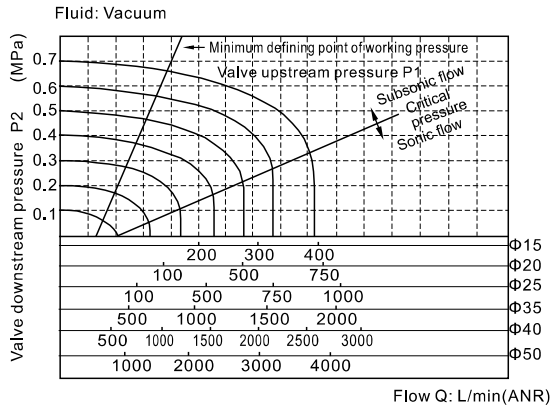
[Note] 320\400\500 series valves do not have mounting accessories.

# Fluid control valve(2/2 way)

## 2KL Series (Internally piloted and normally opened)

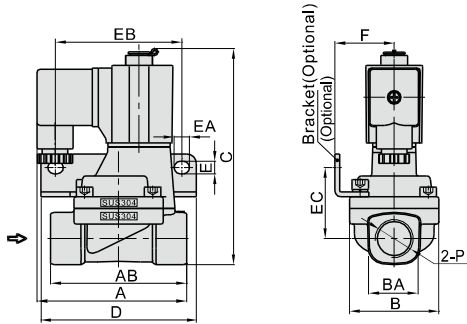


### Flow chart

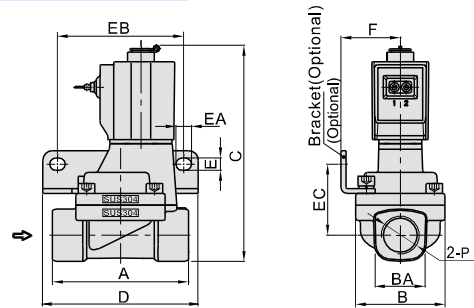


### Dimensions

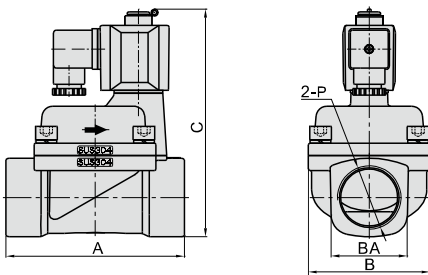
#### 2KL150~250(Terminal)



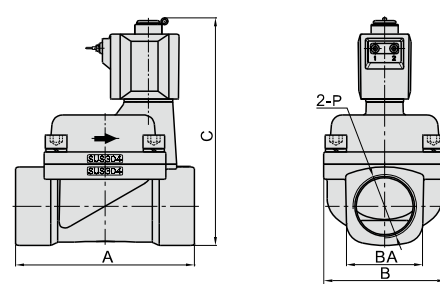
#### 2KL150~250(Grommet)



#### 2KL320~500(Terminal)



#### 2KL320~500(Grommet)



Model/Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
2KL150-15	77	70	46	27.5	112.5	80	6.4	8	65	36.5	30.5	1/2"
2KL200-20	78.5	82	53	33.5	121	90	6.4	8	75	40	34	3/4"
2KL250-25	81	92	59	40.5	129.5	95	6.4	8	80	44.5	36	1"
2KL320-32	125	-	80	52	160	-	-	-	-	-	-	1 1/4"
2KL400-40	132	-	90	58	167	-	-	-	-	-	-	1 1/2"
2KL500-50	150	-	100	70	182	-	-	-	-	-	-	2"

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2KL200-20	82	53	33.5	121	90	6.4	8	75	40	34	3/4"
2KL250-25	92	59	40.5	129.5	95	6.4	8	80	44.5	36	1"
2KL320-32	125	80	52	160	-	-	-	-	-	-	1 1/4"
2KL400-40	132	90	58	167	-	-	-	-	-	-	1 1/2"
2KL500-50	150	100	70	182	-	-	-	-	-	-	2"

