

# Fluid control valve(2/2way)

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



### Symbol



### Product feature

1. Direct acting and normally closed type 2/2 way fluid valve. Its high sensibility allows it to change direction quickly;
2. It has wide pressure range, including extra high pressure (X), high pressure (H), standard, large volume(L) and extra large volume (T);
3. It is compact, small size and light weight. Easy to install and dismantle.
4. The valve body is made of SUS304. Its coil has a Heat resistance classification of Class F, The standard seal material is FPM-F. Please contact us if other seal material are required.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry.

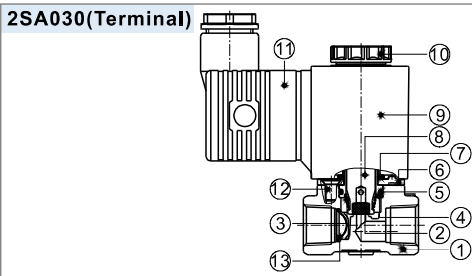
### Specification

Model\Item	Port size [Note1]	Orifice size (Ømm)	Cv	Valid area or section (mm <sup>2</sup> )	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2SAX030	-06	1/8"	1.5	0.10	1.8	3.0	450	5.0	750
	-08	1/4"							
2SAH030	-06	1/8"	2.0	0.18	3.0	2.0	300		
	-08	1/4"							
2SA030	-06	1/8"	3.0	0.33	6.0	1.0	150		
	-08	1/4"							
2SAL030	-06	1/8"	4.0	0.55	10.0	0.5	75		
	-08	1/4"							
2SAT030	-06	1/8"	6.0	1.10	12.0	0.1	15		
	-08	1/4"							
2SAX050	-10	3/8"	3.0	0.34	6.1	3.0	450		
	-15	1/2"							
	-10	3/8"						530	510
2SAH050	-10	3/8"	4.0	0.55	10.0	2.0	300		
	-15	1/2"						530	510
	-10	3/8"						530	510
2SA050	-10	3/8"	5.0	0.83	15.0	1.0	150		
	-15	1/2"						530	510
	-10	3/8"						530	510
2SAL050	-10	3/8"	7.0	1.40	25.0	0.5	75		
	-15	1/2"						530	510
	-10	3/8"						530	510
2SAT050	-10	3/8"	10.0	2.20	40.0	0.1	15		
	-15	1/2"						530	510
	-10	3/8"						530	510

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

[Note2] The weight in the table is the terminal valve's weight, 2SA030 series grommet valve's weight is 10g less than terminal's, 2SA050series grommet valve's weight is 20g less than terminal's.

### Inner structure



No.	Item	No.	Item	No.	Item
1	Body	6	Fixed plate	11	Connector
2	Airtight ring	7	O-ring	12	Screw [Note]
3	Spring	8	Movable core	13	Filter [Note]
4	Steel bushing	9	Coil assembly		
5	O-ring	10	Coil nut		

[Note] Extra large volume type has no filter element.

### Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(°C)
2SA□030	CDA110 CLA110	AC	50	±15%	Terminal (CDA)	10.0VA	Class F	50
			60			8.0VA		45
		DC	-	±10%		6.5W		50
2SA□050	CDA160 CLA160	AC	50	±15%	Grommet (CLA)	25.0VA	Class F	65
			60			22.0VA		60
		DC	-	±10%		12.0W		50

### Valve's specification

Acting		Direct acting				
Initial state		Normally closed				
Adaptable fluid		Air, Water, Oil				
Viscosity limit		Under 20CST				
Ambient and fluid temperature ( °C )		Water	Air	Oil	Ambient	
		Max. 80	90	80	70	
		Min. 1	-20 [Note1]	-10 [Note2]	-20	

[Note1] Dew point: -20(°C) or less ;

[Note2] 50CST or less.

### Ordering code

#### Ordering code of valves

2SA L 030 08 A □ □



① Model	② Pressure condition	③ Size series	④ Port size	⑤ Voltage	⑥ Electrical entry	⑦ Thread type
2SA: 2/2 way direct-acting and normally closed	X: Extra high pressure H: High pressure Blank: Standard L: Large volume T: Extra large volume	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 2WA series valve's, Please refer to P169 for details of ordering code.

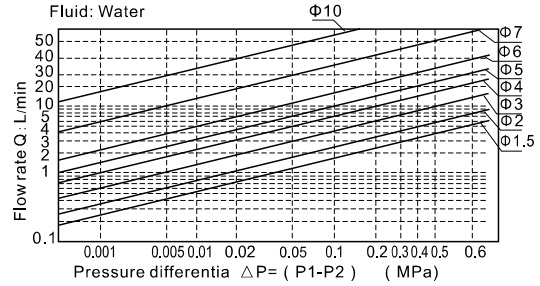
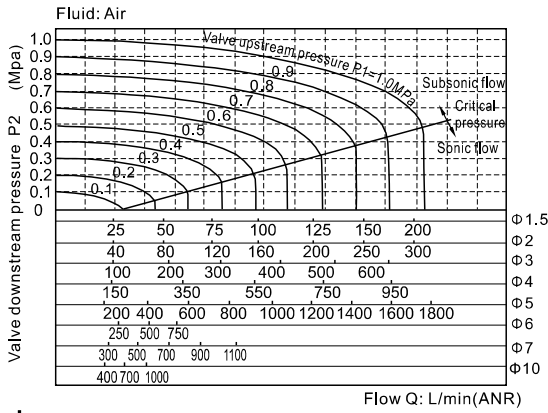


# Fluid control valve(2/2way)

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

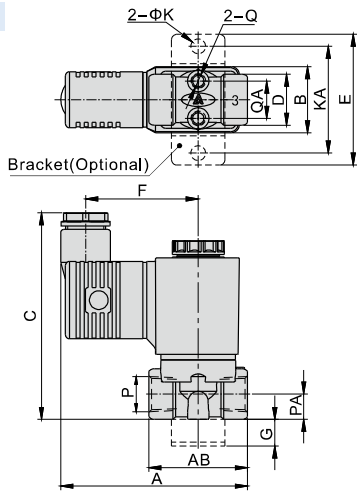


### Flow chart

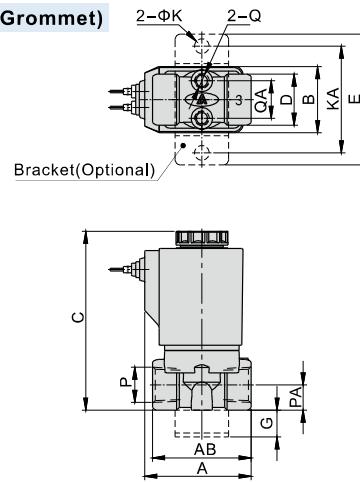


### Dimensions

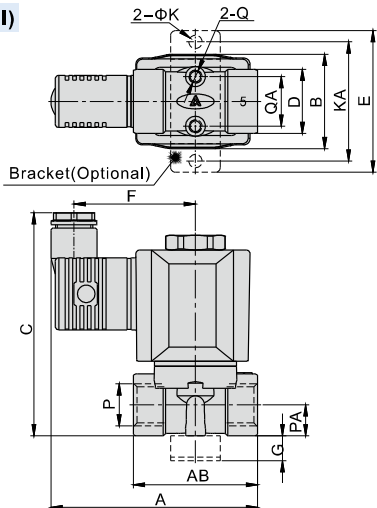
#### 2SA□030 (Terminal)



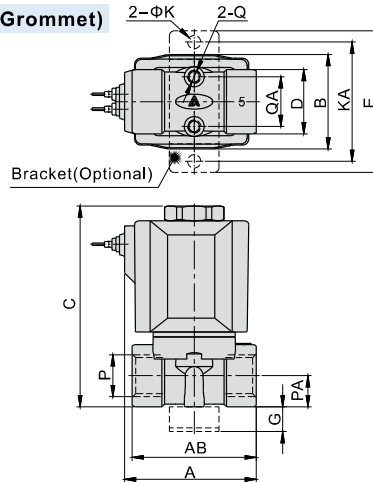
#### 2SA□030 (Grommet)



#### 2SA□050 (Terminal)



#### 2SA□050 (Grommet)



Model/Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2SA□030-06	70	37	25	77.5	19	49	42	10	5.5	40	1/8"	9.5	M5	13.5
2SAT□030-06	71.5	39.5	25	77.5	19	49	42	10	5.5	40	1/8"	9.5	M5	13.5
2SA□030-08	70	37	25	77.5	19	49	42	10	5.5	40	1/4"	9.5	M5	13.5
2SAT□030-08	71.5	39.5	25	77.5	19	49	42	10	5.5	40	1/4"	9.5	M5	13.5
2SA□050-10	83	50	38	90	26	57	49	10	5.5	48	3/8"	12.5	M5	19.5
2SAT□050-10	84	51	38	90	26	57	49	10	5.5	48	3/8"	12.5	M5	19.5
2SA□050-15	83	50	38	90	26	57	49	10	5.5	48	1/2"	12.5	M5	19.5
2SAT□050-15	84	51	38	90	26	57	49	10	5.5	48	1/2"	12.5	M5	19.5

Model/Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2SA□030-06	40	37	25	67	19	49	10	5.5	40	1/8"	9.5	M5	13.5
2SAT□030-06	41.5	39.5	25	67	19	49	10	5.5	40	1/8"	9.5	M5	13.5
2SA□030-08	40	37	25	67	19	49	10	5.5	40	1/4"	9.5	M5	13.5
2SAT□030-08	41.5	39.5	25	67	19	49	10	5.5	40	1/4"	9.5	M5	13.5
2SA□050-10	53	50	38	81	26	57	10	5.5	48	3/8"	12.5	M5	19.5
2SAT□050-10	54	51	38	81	26	57	10	5.5	48	3/8"	12.5	M5	19.5
2SA□050-15	53	50	38	81	26	57	10	5.5	48	1/2"	12.5	M5	19.5
2SAT□050-15	54	51	38	81	26	57	10	5.5	48	1/2"	12.5	M5	19.5



# Fluid control valve(2/2way)

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



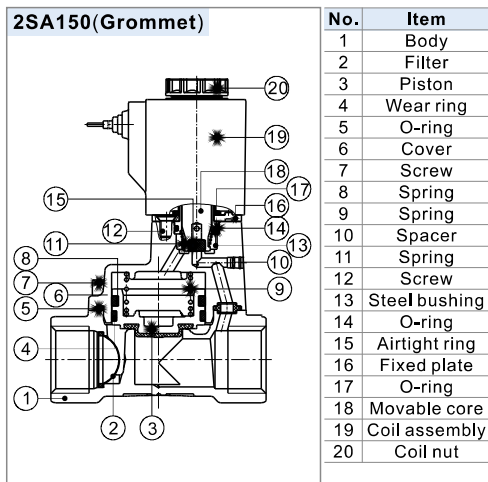
### Symbol



### Product feature

1. Indirect acting (Internal pilot) and normally closed type 2/2 way fluid valve. It can change direction quickly and has large flow.
2. It is compact, small and light weight. Easy to install and dismantle;
3. The valve body is made of SUS304. The coil has a Heat resistance classification of Class F. The standard seal material is FPM-F. Please contact us if other seal material are required.
4. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry.

### Inner structure



### Ordering code

#### Ordering code of valves

2SA 150 15 A □ □



① Model	② Orifice size	③ Port size	④ Voltage	⑤ Electrical entry	⑥ Thread type
2SA: 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: Φ32mm	32: 1 1/4"			
	400: Φ40mm	40: 1 1/2"			
	500: Φ50mm	50: 2"			

[Note] The wire length is 0.5m.

### 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
2SA150-15	1/2"	15.0	5.50	100.0	575	Max:1.0 Min:0.05	Max:100 Min:10	1.5	220
2SA200-20	3/4"	20.0	9.50	170.0	735				
2SA250-25	1"	25.0	12.50	220.0	1035				
2SA320-32	1 1/4"	35.0	23.00	420.0	2288				
2SA400-40	1 1/2"	40.0	31.00	560.0	2678				
2SA500-50	2"	50.0	49.00	880.0	3558				

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

[Note2] The weight in the table is the terminal valve's weight, Grommet valve's weight is 10g 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)
2SA150 2SA200 2SA250	CDA110 CLA110	AC	50	±15%	Terminal (CDA)	10.0VA	Class F	50
			60			8.0VA		45
		DC	-	±10%		6.5W		50
2SA320 2SA400 2SA500	CDA160 CLA160	AC	50	±15%	Grommet (CLA)	25.0VA		65
			60			±10%		22.0VA
		DC	-	±10%		12.0W	50	

### Valve's specification

Acting	Internally piloted				
	Initial state	Normally closed			
Adaptable fluid	Air, Water, Oil				
Viscosity limit	Under 20CST				
Ambient and fluid temperature ( °C )		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(°C) or less ; [Note2] 50CST or less.

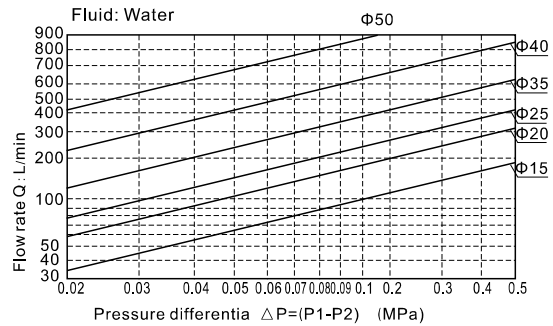
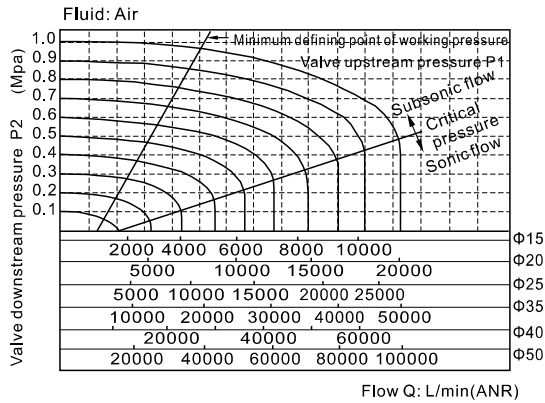
#### Ordering code of accessories

Ordering code of accessories is the same as 2WA series valve's, Please refer to P171 for details of ordering code.

# Fluid control valve(2/2way)

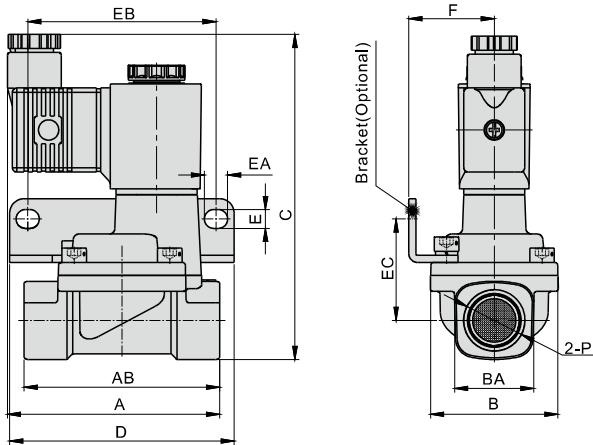
## 2SA Series (Internally piloted and normally closed)

### Flow chart

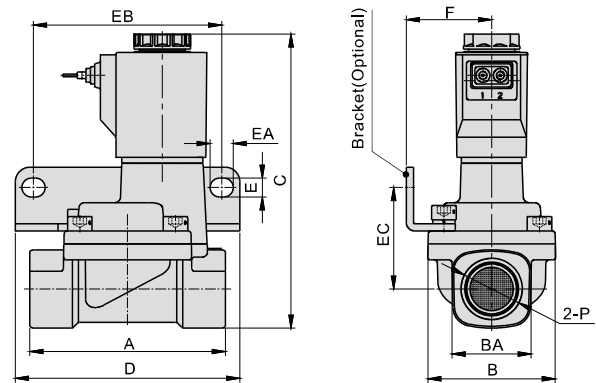


### Dimensions

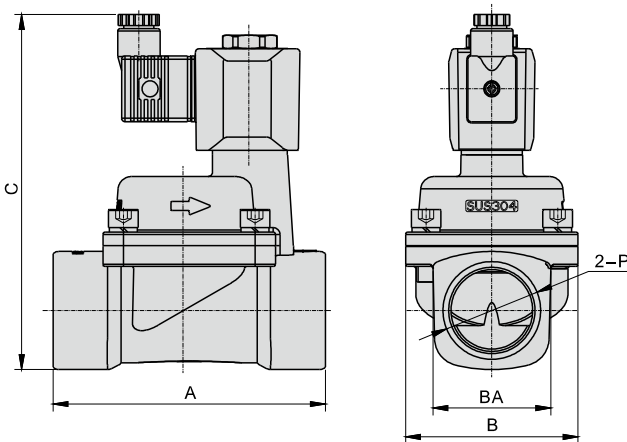
#### 2SA150~250 (Terminal)



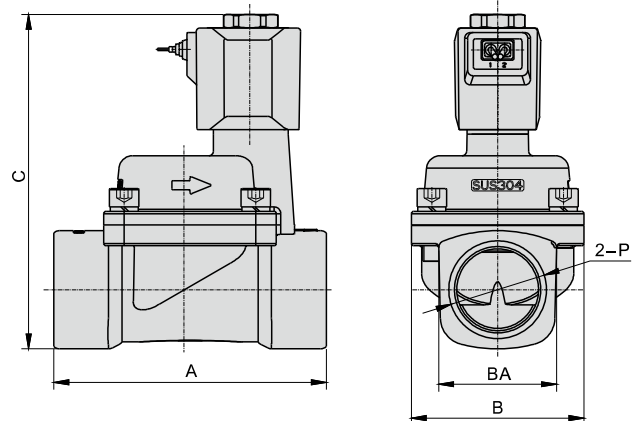
#### 2SA150~250(Grommet)



#### 2SA320~500 (Terminal)



#### 2SA320~500(Grommet)



Model/Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
2SA150-15	73.5	67.5	44	27.5	112	77.5	6.5	8	65	35	29.5	1/2"
2SA200-20	75.5	79.5	51	33.5	119	87.5	6.5	8	75	38	33	3/4"
2SA250-25	77.5	90	57	40.5	126	93	6.5	8	80	42	35	1"
2SA320-32	120	-	76	52	156	-	-	-	-	-	-	1 1/4"
2SA400-40	126	-	86	58	166	-	-	-	-	-	-	1 1/2"
2SA500-50	144	-	96	70	177	-	-	-	-	-	-	2"

Model/Item	A	B	BA	C	D	E	EA	EB	EC	F	P	
2SA150-15	67.5	44	27.5	102	77.5	6.5	8	65	35	29.5	1/2"	
2SA200-20	79.5	51	33.5	109	87.5	6.5	8	75	38	33	3/4"	
2SA250-25	90	57	40.5	116	93	6.5	8	80	42	35	1"	
2SA320-32	120	76	52	147	-	-	-	-	-	-	-	1 1/4"
2SA400-40	126	86	58	155	-	-	-	-	-	-	-	1 1/2"
2SA500-50	144	96	70	170	-	-	-	-	-	-	-	2"

# Fluid control valve(2/2 way)

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



### Symbol



### Product feature

1. Direct acting and normally opened type 2/2 way fluid valve. Its high sensibility allows it to change direction quickly;
2. It has wide pressure range, including extra high pressure (X), high pressure (H), standard and large volume(L);
3. It is compact, small size and light weight. Easy to install and dismantle.
4. The valve body is made of SUS304 . Its coil has a Heat resistance classification of Class F. The standard seal material is FPM-F. Please contact us if other seal material are required.
5. The protection class of the coil is IP65 and there is a choice for grommet or terminal electrical entry .

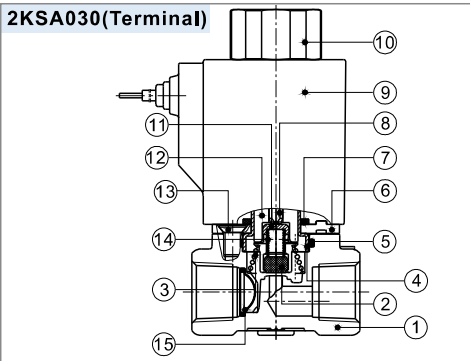
### Specification

Model\Item	Port size [Note1]	Orifice size (Ømm)	Cv	Valid area or section(mm <sup>2</sup> )	Weight [Note2](g)	Max.operating pressure differentia		Proof pressure	
						MPa	psi	MPa	psi
2KSAX030	-06 1/8"	1.5	0.10	1.8	245	2.0	300	3.0	450
	-08 1/4"				235				
2KSAH030	-06 1/8"	2.0	0.18	3.0	245	1.5	220		
	-08 1/4"				235				
2KSA030	-06 1/8"	3.0	0.33	6.0	245	0.7	100		
	-08 1/4"				235				
2KSAL030	-06 1/8"	4.0	0.55	10.0	245	0.4	60		
	-08 1/4"				235				
2KSAX050	-10 3/8"	3.0	0.34	6.1	530	2.0	300		
	-15 1/2"				510				
2KSAH050	-10 3/8"	4.0	0.55	10.0	530	1.5	220		
	-15 1/2"				510				
2KSA050	-10 3/8"	5.0	0.83	15.0	530	0.7	100		
	-15 1/2"				510				
2KSAL050	-10 3/8"	7.0	1.40	25.0	530	0.4	60		
	-15 1/2"				510				

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

[Note2] The weight in the table is the terminal valve's weight, 2KSA030 series grommet valve's weight is 10g less than terminal's, 2KSA050series grommet valve's weight is 20g less than terminal's.

### Inner structure



No.	Item	No.	Item	No.	Item
1	Body	6	Fixed plate	11	Airtight bush
2	Airtight ring	7	O-ring	12	Electromagnet
3	Spring	8	Mandril	13	Screw
4	Coil axis	9	Coil assembly	14	Spring
5	O-ring	10	Coil nut	15	Filter

### Specification of coil

Valve type	Coil type	Power type	Frequency (Hz)	Voltage range	Electrical entry	Power Consumption (VA/W)	Insulation	Temp. rise(°C)
2KSA□030	CDA110 CLA110	AC	50	±15%	Terminal (CDA)	15.0VA	Class F	50
			60			11.0VA		45
		DC	-	±10%		6.5W		50
2KSA□050	CDA160 CLA160	AC	50	±15%	Grommet (CLA)	35.0VA		65
			60			30.0VA		60
		DC	-	±10%		12.0W		50

### Valve's specification

Acting		Direct acting			
Initial state		Normally opened			
Adaptable fluid		Air, Water, Oil			
Viscosity limit		Under 20CST			
Ambient and fluid temperature ( °C )		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(°C) or less ;

[Note2] 50CST or less.

### Ordering code

#### Ordering code of valves

2KSA H 030 08 A □ □



① Model	② Pressure condition	③ Size series	④ Port size	⑤ Voltage	⑥ Electrical entry	⑦ Thread type
2KSA: 2/2 way direct-acting and normally opened	X: Extra high pressure H: High pressure Blank: Standard L: Large volume	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 2WA series valve's, Please refer to P169 for details of ordering code.

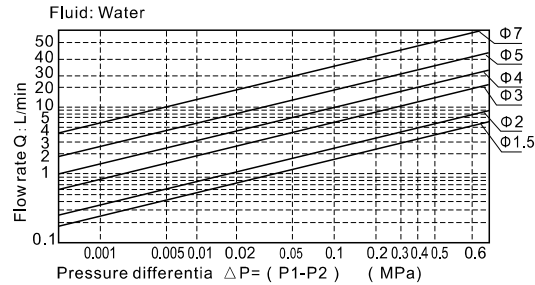
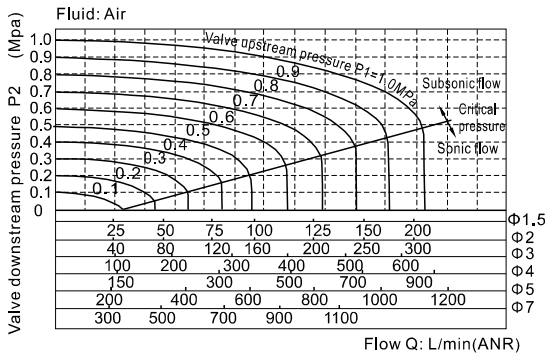


# Fluid control valve(2/2 way)

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

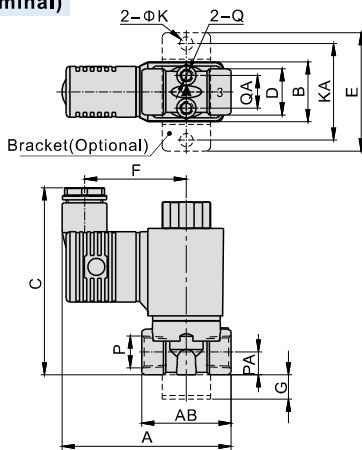


### Flow chart

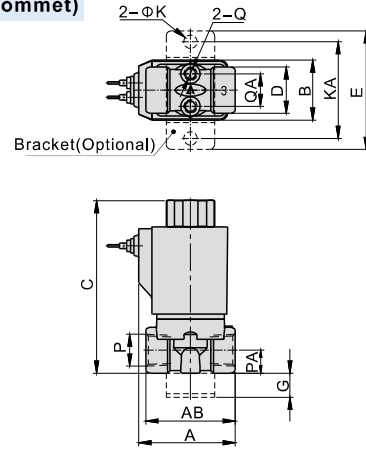


### Dimensions

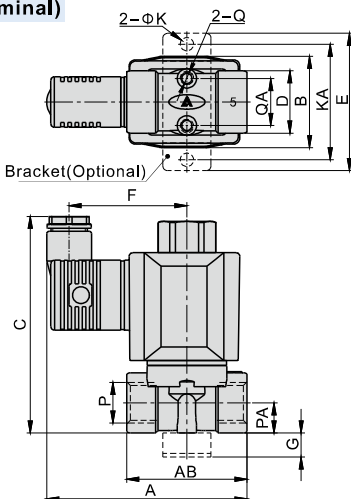
#### 2KSA□030 (Terminal)



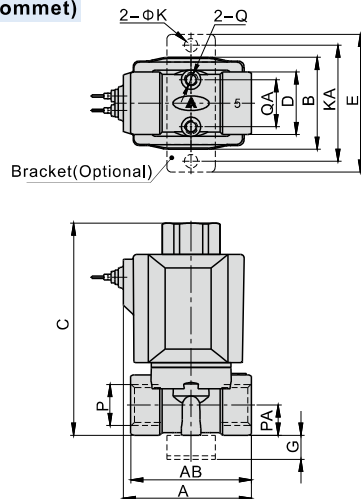
#### 2KSA□030(Grommet)



#### 2KSA□050 (Terminal)



#### 2KSA□050(Grommet)



Model\Item	A	AB	B	C	D	E	F	G	K	KA	P	PA	Q	QA
2KSA□030-06	70	37	25	77.5	19	49	42	10	5.5	40	1/8"	9.5	M5	13.5
2KSA□030-08	70	37	25	77.5	19	49	42	10	5.5	40	1/4"	9.5	M5	13.5
2KSA□050-10	83	50	38	90	26	57	49	10	5.5	48	3/8"	12.5	M5	19.5
2KSA□050-15	83	50	38	90	26	57	49	10	5.5	48	1/2"	12.5	M5	19.5

Model\Item	A	AB	B	C	D	E	G	K	KA	P	PA	Q	QA
2KSA□030-06	40	37	25	74	19	49	10	5.5	40	1/8"	9.5	M5	13.5
2KSA□030-08	40	37	25	74	19	49	10	5.5	40	1/4"	9.5	M5	13.5
2KSA□050-10	53	50	38	90	26	57	10	5.5	48	3/8"	12.5	M5	19.5
2KSA□050-15	53	50	38	90	26	57	10	5.5	48	1/2"	12.5	M5	19.5



# Fluid control valve(2/2 way)

2KSA Series (Internally piloted and normally opened )



## Symbol



## Product feature

1. Indirect acting (Internal pilot) and normally opened type 2/2 way fluid valve. It can change direction quickly and has large flow.
2. It is compact, small and light weight. Easy to install and dismantle;
3. The valve body is made of SUS304 . The coil has a Heat resistance classification of Class F. The standard seal material is FPM-F. Please contact us if other seal material are required.
4. 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)	Operating pressure differential		Proof pressure	
						MPa	psi	MPa	psi
2KSA150-15	1/2"	15.0	5.50	100.0	575	Max:0.7 Min:0.05	Max:100 Min:10	1.5	220
2KSA200-20	3/4"	20.0	9.50	170.0	735				
2KSA250-25	1"	25.0	12.50	220.0	1035				
2KSA320-32	1 1/4"	32.0	23.00	420.0	2287				
2KSA400-40	1 1/2"	40.0	31.00	560.0	2677				
2KSA500-50	2"	50.0	49.00	880.0	3557				

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

[Note2] The weight in the table is the terminal valve's weight, Grommet valve's weight is 10g 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)		
2KSA150	CDA110	AC	50	±15%	Terminal (CDA)	15.0VA	Class F	50		
2KSA200	CLA110		60			11.0VA		45		
2KSA250		DC	-	±10%		6.5W		50		
2KSA320	CDA160	AC	50	±15%		Grommet (CLA)		35.0VA	Class F	65
2KSA400	CLA160		60					30.0VA		60
2KSA500		DC	-	±10%				12.0W		50

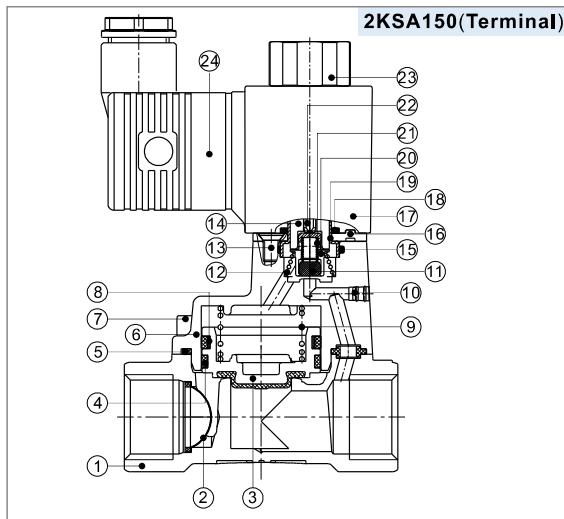
## Valve's specification

Acting		Internally piloted			
Initial state		Normally opened			
Adaptable fluid		Air, Water, Oil			
Viscosity limit		Under 20CST			
Ambient and fluid temperature ( °C )		Water	Air	Oil	Ambient
	Max.	80	90	80	70
	Min.	1	-20 [Note1]	-10 [Note2]	-20

[Note1] Dew point: -20(°C) or less ;

[Note2] 50CST or less.

## Inner structure



No.	Item
1	Body
2	Filter
3	Piston
4	Wear ring
5	O-ring
6	Cover
7	Screw
8	Spring
9	Spring
10	Spacer
11	Airtight ring
12	Spring
13	Screw
14	Movable core
15	O-ring
16	Fixed plate
17	Coil assembly
18	O-ring
19	Coil axis
20	Airtight ring
21	Spring
22	Man drill
23	Coil nut
24	Connector

## Ordering code

### Ordering code of valves

2KSA 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
2KSA: 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: Φ32mm	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 2WA series valve's, Please refer to P171 for details of ordering code.

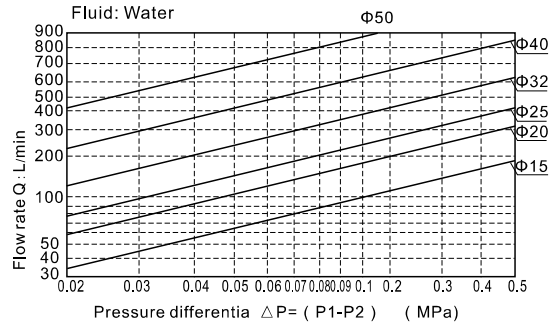
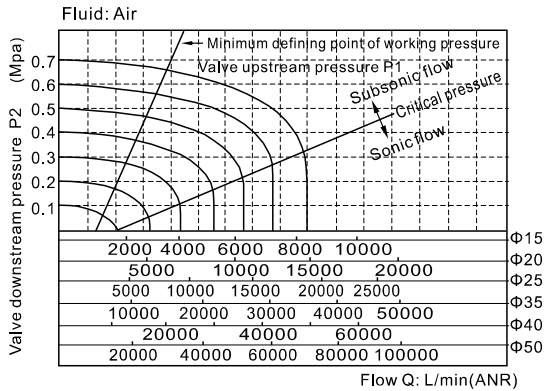


# Fluid control valve(2/2 way)

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

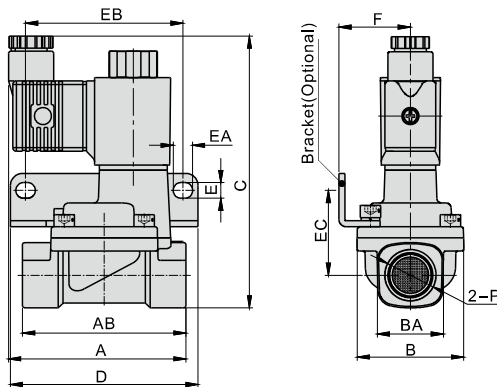


### Flow chart

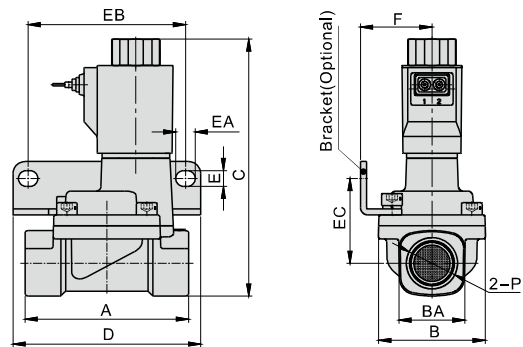


### Dimensions

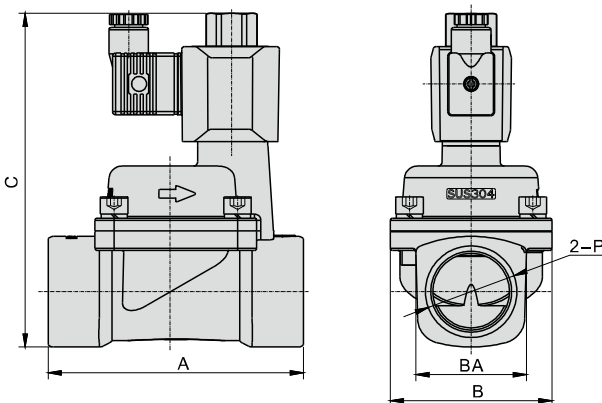
#### 2KSA150~250 (Terminal)



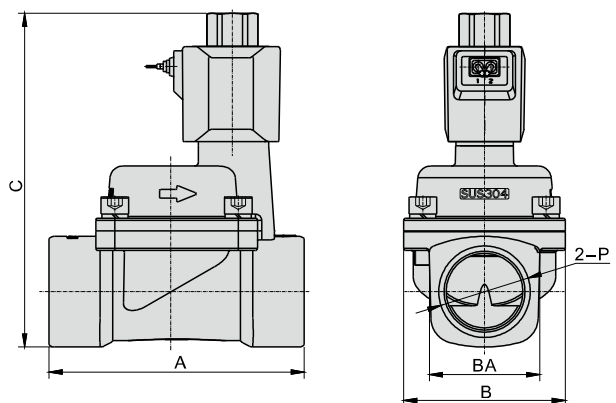
#### 2KSA150~250(Grommet)



#### 2KSA320~500 (Terminal)



#### 2KSA320~500(Grommet)



Model\Item	A	AB	B	BA	C	D	E	EA	EB	EC	F	P
2KSA150-15	73.5	67.5	44	27.5	112	77.5	6.5	8	65	35	29.5	1/2"
2KSA200-20	75.5	79.5	51	33.5	119	87.5	6.5	8	75	38	33	3/4"
2KSA250-25	77.5	90	57	40.5	126	93	6.5	8	80	42	35	1"
2KSA320-32	120	-	76	52	165.5	-	-	-	-	-	-	1 1/4"
2KSA400-40	126	-	86	58	175.5	-	-	-	-	-	-	1 1/2"
2KSA500-50	144	-	96	70	186.5	-	-	-	-	-	-	2"

Model\Item	A	B	BA	C	D	E	EA	EB	EC	F	P
2KSA150-15	67.5	44	27.5	109	77.5	6.5	8	65	35	29.5	1/2"
2KSA200-20	79.5	51	33.5	116	87.5	6.5	8	75	38	33	3/4"
2KSA250-25	90	57	40.5	123	93	6.5	8	80	42	35	1"
2KSA320-32	120	76	52	156.5	-	-	-	-	-	-	1 1/4"
2KSA400-40	126	86	58	164.5	-	-	-	-	-	-	1 1/2"
2KSA500-50	144	96	70	179.5	-	-	-	-	-	-	2"

