

# Fluid control valve(2/2 way)



## 2KLA 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 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<br>[Note1] | Orifice size<br>(Φmm) | Cv   | Valid area or<br>section (mm <sup>2</sup> ) | Weight<br>[Note2](g) | Max. operating pressure differential |     | Proof pressure |     |
|------------|----------------------|-----------------------|------|---|----------------------|--------------------------------------|-----|----------------|-----|
|            |                      |                       |      |   |                      | MPa                                  | psi | MPa            | psi |
| 2KLAH030   | -06 1/8"             | 2.0                   | 0.18 | 3.0   | 243.5                | 1.5                                  | 220 | 3.0            | 450 |
|            | -08 1/4"             |                       |      |   | 233.5                |                                      |     |                |     |
| 2KLA030    | -06 1/8"             | 3.0                   | 0.33 | 6.0   | 243.5                | 0.7                                  | 100 |                |     |
|            | -08 1/4"             |                       |      |   | 233.5                |                                      |     |                |     |
| 2KLAH050   | -10 3/8"             | 4.0                   | 0.55 | 10.0  | 528                  | 1.5                                  | 220 |                |     |
|            | -15 1/2"             |                       |      |   | 508                  |                                      |     |                |     |
| 2KLA050    | -10 3/8"             | 5.0                   | 0.83 | 15.0  | 528                  | 0.7                                  | 100 |                |     |
|            | -15 1/2"             |                       |      |   | 508                  |                                      |     |                |     |

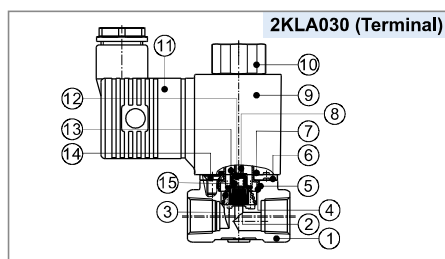
[Note1] G thread is available.

[Note2] The weight in the table is the terminal valve's weight, 2KLA030 series grommet valve's weight is 10g less than terminal's. 2KLA050series 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) |
|------------|----------------------|------------|----------------|---------------|-------------------|--------------------------|------------|----------------|
| 2KLA□030   | CDA110KH<br>CLA110KH | AC         | 50             | ±15%          | Terminal<br>(CDA) | 10.0VA                   | Class H    | 50             |
|            |                      |            | 60             |               |                   | 8.0VA                    |            | 45             |
|            |                      | DC         | -              | ±10%          |                   | 7.0W                     |            | 50             |
| 2KLA□050   | CDA160KH<br>CLA160KH | AC         | 50             | ±15%          | Grommet<br>(CLA)  | 25.0VA                   | Class H    | 65             |
|            |                      |            | 60             |               |                   | 22.0VA                   |            | 60             |
|            |                      | DC         | -              | ±10%          |                   | 10.5W                    |            | 50             |

### Inner structure



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

### 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

2KLA 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 |
|---|-------------------------------------|------------------------------------|--|--|-------------------------------------|---------------|
| 2KLA: 2/2 way direct-acting and normally opened | H: High pressure<br>Blank: Standard | 030: 030 Series<br>050: 050 Series | 06: 1/8"<br>08: 1/4"<br>10: 3/8"<br>15: 1/2" | A: AC220V<br>B: DC24V<br>C: AC110V<br>E: AC24V<br>F: DC12V | Blank: Terminal<br>I: Grommet[Note] | G: G          |

[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.

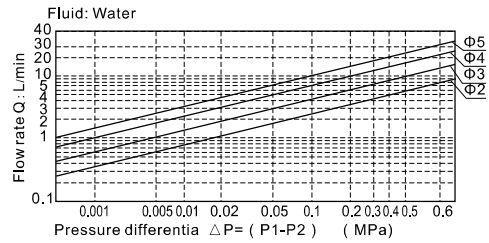
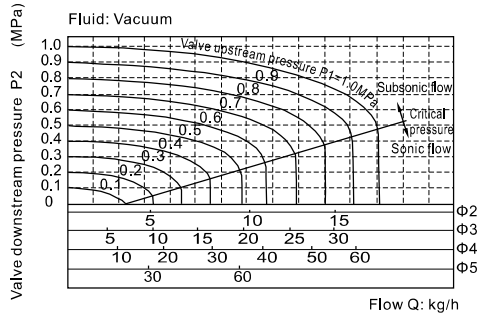


# Fluid control valve(2/2 way)



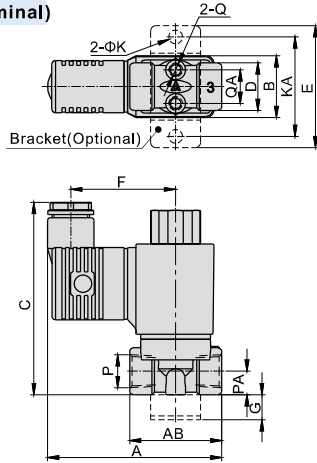
## 2KLA Series (Direct-acting and normally opened)

### Flow chart

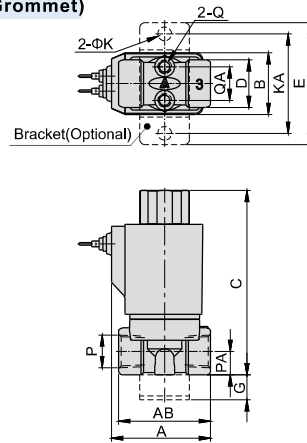


### Dimensions

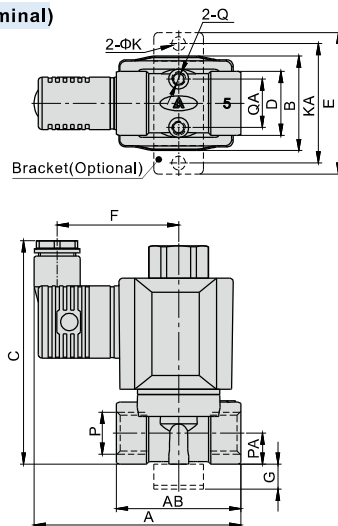
#### 2KLA□030(Terminal)



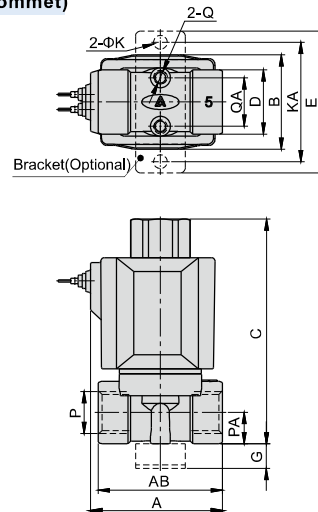
#### 2KLA□030(Grommet)



#### 2KLA□050(Terminal)



#### 2KLA□050(Grommet)



| Model/Item  | A  | AB | B  | C    | D  | E  | F  | G  | K   | KA | P    | PA   | Q  | QA   |
|-------------|----|----|----|------|----|----|----|----|-----|----|------|------|----|------|
| 2KLA□030-06 | 70 | 37 | 25 | 77.5 | 19 | 49 | 42 | 10 | 5.5 | 40 | 1/8" | 9.5  | M5 | 13.5 |
| 2KLA□030-08 | 70 | 37 | 25 | 77.5 | 19 | 49 | 42 | 10 | 5.5 | 40 | 1/4" | 9.5  | M5 | 13.5 |
| 2KLA□050-10 | 83 | 50 | 38 | 90   | 26 | 57 | 49 | 10 | 5.5 | 48 | 3/8" | 12.5 | M5 | 19.5 |
| 2KLA□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   |
|-------------|----|----|----|----|----|----|----|-----|----|------|------|----|------|
| 2KLA□030-06 | 40 | 37 | 25 | 74 | 19 | 49 | 10 | 5.5 | 40 | 1/8" | 9.5  | M5 | 13.5 |
| 2KLA□030-08 | 40 | 37 | 25 | 74 | 19 | 49 | 10 | 5.5 | 40 | 1/4" | 9.5  | M5 | 13.5 |
| 2KLA□050-10 | 53 | 50 | 38 | 90 | 26 | 57 | 10 | 5.5 | 48 | 3/8" | 12.5 | M5 | 19.5 |
| 2KLA□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)



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



### Symbol

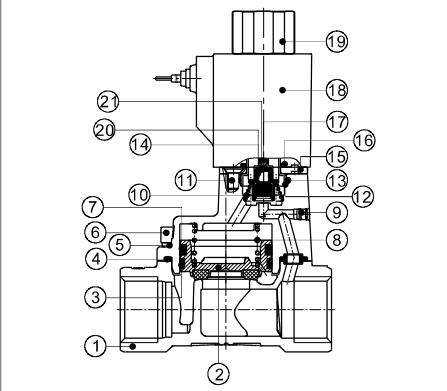


### Product feature

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

2KLA150(Grommet)



| No. | Item      | No. | Item          |
|-----|-----------|-----|---------------|
| 1   | Body      | 12  | Steel bushing |
| 2   | Position  | 13  | O-ring        |
| 3   | Wear ring | 14  | Airtight ring |
| 4   | Gasket    | 15  | Fixed plate   |
| 5   | Cover     | 16  | Gasket washer |
| 6   | Screw     | 17  | Mandril       |
| 7   | Spring    | 18  | Coil assembly |
| 8   | Spring    | 19  | Coil nut      |
| 9   | Plug      | 20  | Spring        |
| 10  | Spring    | 21  | Airtight bush |
| 11  | Screw     |     |               |

### 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 |
| 2KLA150-15 | 1/2"              | 15.0               | 5.50  | 100.0                                    | 569               | Max: 0.7<br>Min: 0.05           | Max: 100<br>Min: 10 | 1.5            | 220 |
| 2KLA200-20 | 3/4"              | 20.0               | 9.50  | 170.0                                    | 722               |                                 |                     |                |     |
| 2KLA250-25 | 1"                | 25.0               | 12.50 | 220.0                                    | 1026              |                                 |                     |                |     |
| 2KLA320-32 | 1 1/4"            | 35.0               | 23.00 | 420.0                                    | 2261              |                                 |                     |                |     |
| 2KLA400-40 | 1 1/2"            | 40.0               | 31.00 | 560.0                                    | 2641              |                                 |                     |                |     |
| 2KLA500-50 | 2"                | 50.0               | 49.00 | 880.0                                    | 3508              |                                 |                     |                |     |

[Note1] G thread is available.

[Note2] The weight in the table is the terminal valve's weight, 2KLA150~250 series grommet valve's weight is 10g less than terminal's. 2KLA320~500 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) |
|------------|-----------|------------|----------------|---------------|------------------|--------------------------|------------|----------------|
| 2KLA150    | CDA110KH  | AC         | 50             | ±15%          | Terminal (CDA)   | 10.0VA                   | Class H    | 50             |
| 2KLA200    |           |            | 60             |               |                  | 8.0VA                    |            | 45             |
| 2KLA250    | CLA110KH  | DC         | -              | ±10%          |                  | 6.5W                     |            | 50             |
| 2KLA320    |           |            | 50             | ±15%          |                  | 25.0VA                   |            | 65             |
| 2KLA400    | CLA160KH  | AC         | 60             | ±10%          | Grommet (CLA)    | 22.0VA                   | 60         |                |
| 2KLA500    |           |            | -              |               |                  | 12.0W                    | 50         |                |

### 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

**2KLA 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 |
|--|----------------|-------------|--|---|---------------|
| 2KLA: 2/2 way internally piloted and normally opened | 150: Φ15mm     | 15: 1/2"    | A: AC220V<br>B: DC24V<br>C: AC110V<br>E: AC24V<br>F: DC12V | Blank: Terminal<br>I: Grommet<br>[Note] | G: G          |
|  | 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 2WA series valve's. Please refer to P171 for details of ordering code.

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

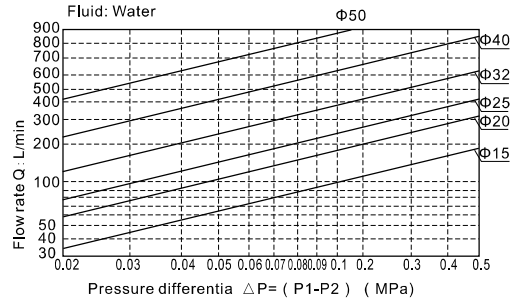
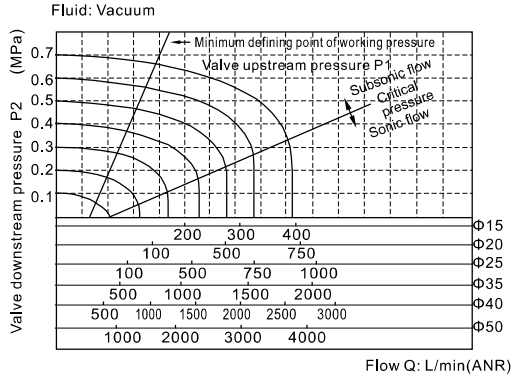


# Fluid control valve(2/2 way)



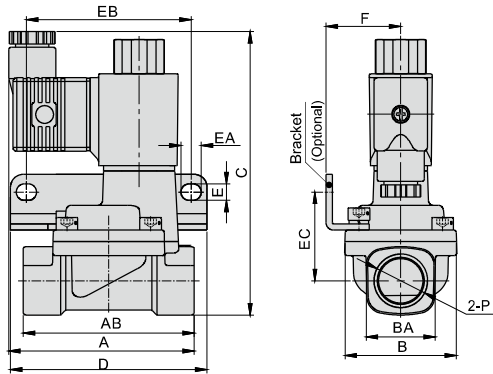
## 2KLA Series (Internally piloted and normally opened)

### Flow chart

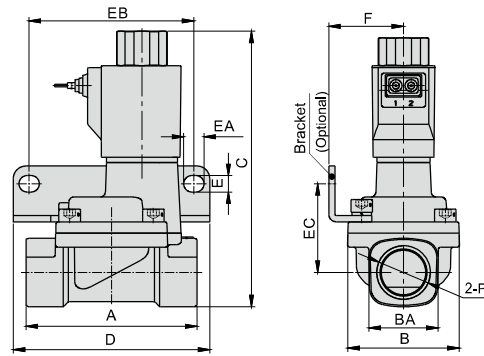


### Dimensions

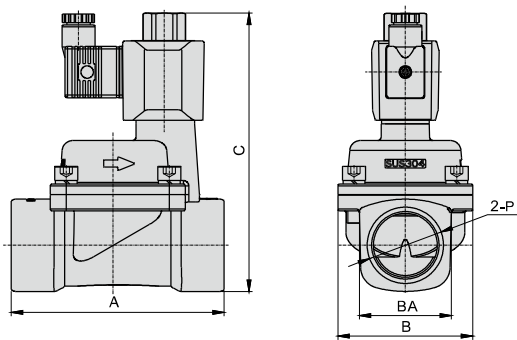
#### 2KLA150~250(Terminal)



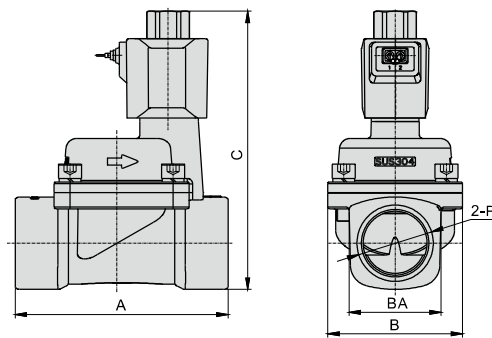
#### 2KLA150~250(Grommet)



#### 2KLA320~500(Terminal)



#### 2KLA320~500(Grommet)



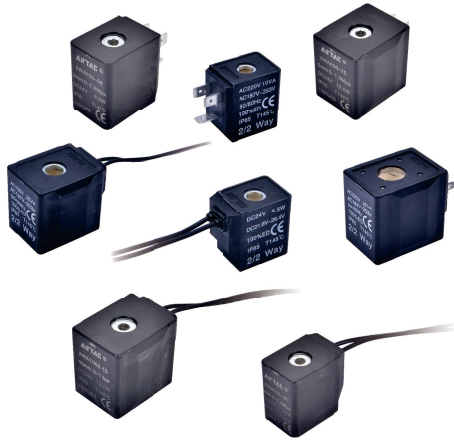
| Model\Item | A    | AB   | B  | BA   | C     | D    | E   | EA | EB | EC | F    | P      |
|------------|------|------|----|------|-------|------|-----|----|----|----|------|--------|
| 2KLA150-15 | 73.5 | 67.5 | 44 | 27.5 | 112   | 77.5 | 6.5 | 8  | 65 | 35 | 29.5 | 1/2"   |
| 2KLA200-20 | 75.5 | 79.5 | 51 | 33.5 | 119   | 87.5 | 6.5 | 8  | 75 | 38 | 33   | 3/4"   |
| 2KLA250-25 | 77.5 | 90   | 57 | 40.5 | 126   | 93   | 6.5 | 8  | 80 | 42 | 35   | 1"     |
| 2KLA320-32 | 120  | -    | 76 | 52   | 165.5 | -    | -   | -  | -  | -  | -    | 1 1/4" |
| 2KLA400-40 | 126  | -    | 86 | 58   | 175.5 | -    | -   | -  | -  | -  | -    | 1 1/2" |
| 2KLA500-50 | 144  | -    | 96 | 70   | 186.5 | -    | -   | -  | -  | -  | -    | 2"     |

| Model\Item | A    | B  | BA   | C     | D    | E   | EA | EB | EC | F    | P      |
|------------|------|----|------|-------|------|-----|----|----|----|------|--------|
| 2KLA150-15 | 67.5 | 44 | 27.5 | 102   | 77.5 | 6.5 | 8  | 65 | 35 | 29.5 | 1/2"   |
| 2KLA200-20 | 79.5 | 51 | 33.5 | 109   | 87.5 | 6.5 | 8  | 75 | 38 | 33   | 3/4"   |
| 2KLA250-25 | 90   | 57 | 40.5 | 116   | 93   | 6.5 | 8  | 80 | 42 | 35   | 1"     |
| 2KLA320-32 | 120  | 76 | 52   | 156.5 | -    | -   | -  | -  | -  | -    | 1 1/4" |
| 2KLA400-40 | 126  | 86 | 58   | 164.5 | -    | -   | -  | -  | -  | -    | 1 1/2" |
| 2KLA500-50 | 144  | 96 | 70   | 179.5 | -    | -   | -  | -  | -  | -    | 2"     |



# Fluid control valve

## Coil and accessories



### Specification

| Model/Item | Power type | Voltage (V) | Frequency (Hz) | Voltage range | Electrical entry | Power Consumption (VA/W) |        | Insulation | Temp.rise (°C) |
|------------|------------|-------------|----------------|---------------|------------------|--------------------------|--------|------------|----------------|
|            |            |             |                |               |                  | For NC                   | For NO |            |                |
| 110 Series | AC         | 220         | 50             | ± 15%         | DIN Terminal     | 10.0VA                   | 15.0VA | Class F    | 50             |
|            |            |             | 60             |               |                  | 8.0VA                    | 11.0VA |            | 45             |
|            |            | 110         | 50             |               |                  | 10.0VA                   | 15.0VA |            | 50             |
|            |            |             | 60             |               | 8.0VA            | 11.0VA                   | 45     |            |                |
|            |            | 24          | 50             |               | 10.0VA           | 15.0VA                   | 50     |            |                |
|            |            |             | 60             |               | 8.0VA            | 11.0VA                   | 45     |            |                |
|            | DC         | 24          | -              | ± 10%         | Grommet          | 6.5W                     |        |            | 50             |
|            |            | 12          | -              |               |                  | 65                       |        |            |                |
| 160 Series | AC         | 220         | 50             | ± 15%         | DIN Terminal     | 25.0VA                   | 35.0VA | Class F    | 65             |
|            |            |             | 60             |               |                  | 22.0VA                   | 30.0VA |            | 60             |
|            |            | 110         | 50             |               |                  | 25.0VA                   | 35.0VA |            | 65             |
|            |            |             | 60             |               | 22.0VA           | 30.0VA                   | 60     |            |                |
|            |            | 24          | 50             |               | 25.0VA           | 35.0VA                   | 65     |            |                |
|            |            |             | 60             |               | 22.0VA           | 30.0VA                   | 60     |            |                |
|            | DC         | 24          | -              | ± 10%         | Grommet          | 12.0W                    |        |            | 50             |
|            |            | 12          | -              |               |                  | 50                       |        |            |                |

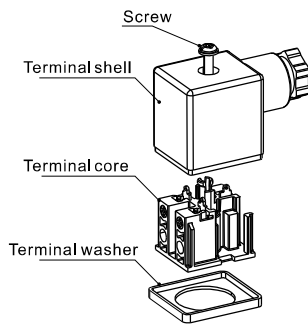
### Hookup

| Coil's type |                   | Hookup |
|-------------|-------------------|--------|
| 110 Series  | CDA110 (Terminal) | AC     |
|             |                   | DC     |
|             | CLA110 (Grommet)  | AC     |
|             |                   | DC     |
| 160 Series  | CDA160 (Terminal) | AC     |
|             |                   | DC     |
|             | CLA160 (Grommet)  | AC     |
|             |                   | DC     |

### How to select coil

| Valve type\Coil type   | 110Series |         | 160 Series |         |
|------------------------|-----------|---------|------------|---------|
|                        | Class F   | Class H | Class F    | Class H |
| 2SA□030 2KSA□030       | ●         | ×       | ×          | ×       |
| 2SA□050 2KSA□050       | ×         | ×       | ●          | ×       |
| 2SA150~250 2KSA150~250 | ●         | ×       | ×          | ×       |
| 2SA320~500 2KSA320~500 | ×         | ×       | ●          | ×       |
| 2WA□030 2KWA□030       | ●         | ×       | ×          | ×       |
| 2WA□050 2KWA□050       | ×         | ×       | ●          | ×       |
| 2WA150~250 2KWA150~250 | ●         | ×       | ×          | ×       |
| 2LA□030 2KLA□030       | ×         | ●       | ×          | ×       |
| 2LA□050 2KLA□050       | ×         | ×       | ×          | ●       |
| 2LA150~250 2KLA150~250 | ×         | ●       | ×          | ×       |
| 2LA320~500 2KLA320~500 | ×         | ×       | ×          | ●       |

### How to use connector



### How to select accessories

| Valve type\Accessories type | F-2WA030LB | F-2WA050LB | F-2WA150LB | F-2WA200LB | F-2WA250LB |
|-----------------------------|------------|------------|------------|------------|------------|
| 2SA□030 2KSA□030            | ●          | ×          | ×          | ×          | ×          |
| 2SA□050 2KSA□050            | ×          | ●          | ×          | ×          | ×          |
| 2SA150 2KSA150              | ×          | ×          | ●          | ×          | ×          |
| 2SA200 2KSA200              | ×          | ×          | ×          | ●          | ×          |
| 2SA250 2KSA250              | ×          | ×          | ×          | ×          | ●          |
| 2WA□030 2KWA□030            | ●          | ×          | ×          | ×          | ×          |
| 2WA□050 2KWA□050            | ×          | ●          | ×          | ×          | ×          |
| 2WA150 2KWA150              | ×          | ×          | ●          | ×          | ×          |
| 2WA200 2KWA200              | ×          | ×          | ×          | ●          | ×          |
| 2WA250 2KWA250              | ×          | ×          | ×          | ×          | ●          |
| 2LA□030 2KLA□030            | ●          | ×          | ×          | ×          | ×          |
| 2LA□050 2KLA□050            | ×          | ●          | ×          | ×          | ×          |
| 2LA150 2KLA150              | ×          | ×          | ●          | ×          | ×          |
| 2LA200 2KLA200              | ×          | ×          | ×          | ●          | ×          |
| 2LA250 2KLA250              | ×          | ×          | ×          | ×          | ●          |

### Ordering code of coil

