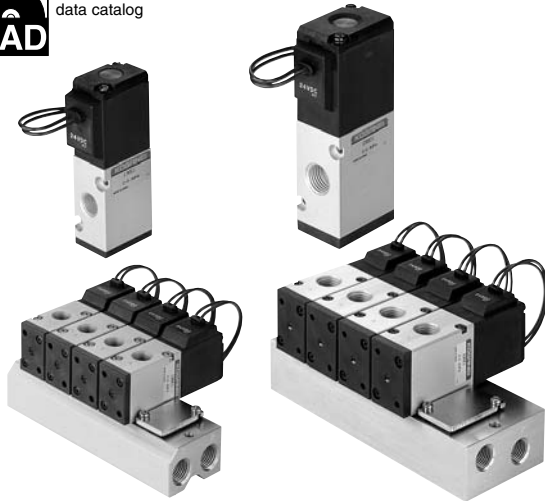




Presenting our CAD drawing
data catalog



KOGANEI

VALVES GENERAL CATALOG

SOLENOID VALVES

130, 230 SERIES

INDEX

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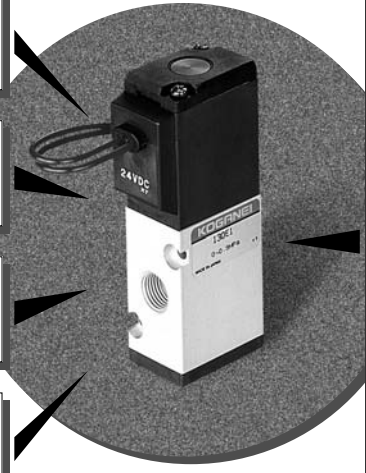
Solenoid Valves 130, 230 Series

Featuring the benefits of direct acting type valves, the Solenoid Valves 130, 230 Series Offers excellent reliability and durability for response to its requirement for "reliable operation."

Applications

- Selector valve
- Divider valve
- Air blow
- Drive for low pressure specification actuator
- Drive for single acting cylinder
- For low pressure or vacuum, etc.

- Allows choice of NC or NO, and can also be used as a selector valve or a divider valve.
- Vacuum, and combination of vacuum and positive pressure types are also available.
- As a sealing method, new type poppet construction is used for high durability.
- Achieves low power consumption.
4W DC/standard type, 2W DC/low current type



Compact by reducing 35% volume, but achieving larger flow rate.
※In comparison with Koganei Solenoid valves 100 Series and 130 Series.

| Solenoid valves 100 series 100E1 | Solenoid valves 130 series 130E1 |
|----------------------------------|----------------------------------|
| | |
| 27 | 19 |

Compact

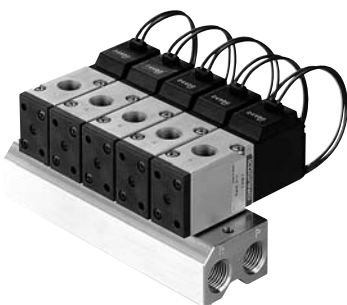
Solenoid Valves 130 Series

- Valve width: 19mm
- Effective area: 4.5mm²
- ※ Low current type is 2.3mm²

Single unit



Manifold



Solenoid Valves 230 Series

- Valve width: 24mm
- Effective area: 8.0mm²
- ※ Low current type is 4.5mm²

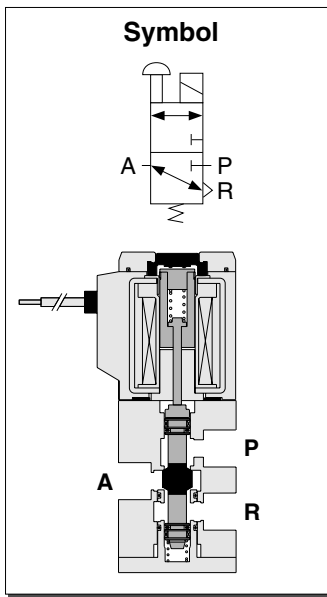
Single unit



Manifold



2-, 3-port Valves Valve Functions and Connection Port Configurations



130E1, 230E1 (For Positive Pressure)

| | | De-energized | Energized |
|-----------------------|----------------------|--------------|-----------|
| 2-port | Normally closed (NC) | | |
| | Normally open (NO) | | |
| 3-port | Normally closed (NC) | | |
| | Normally open (NO) | | |
| Selector valve | | | |
| Divider valve | | | |

V130E1, V230E1 (For Vacuum)

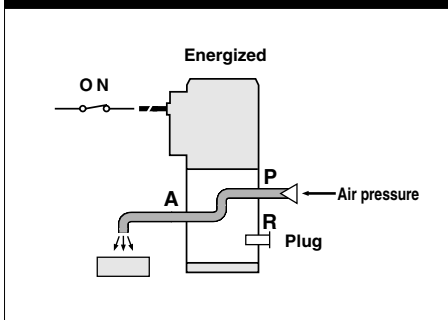
| | | De-energized | Energized |
|-----------------------|----------------------|--------------|-----------|
| 2-port | Normally closed (NC) | | |
| | Normally open (NO) | | |
| 3-port | Normally closed (NC) | | |
| | Normally open (NO) | | |
| Selector valve | | | |
| Divider valve | | | |

SV130E1, SV230E1 (For both vacuum and positive pressure)

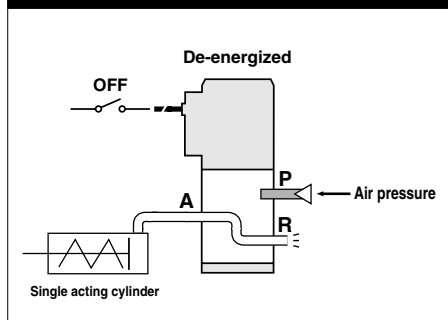
| | | De-energized | Energized |
|--------|----------------------|--------------|-----------|
| 3-port | Normally closed (NC) | | |
| | Normally open (NO) | | |

Application Examples for Solenoid Valves 130, 230 Series

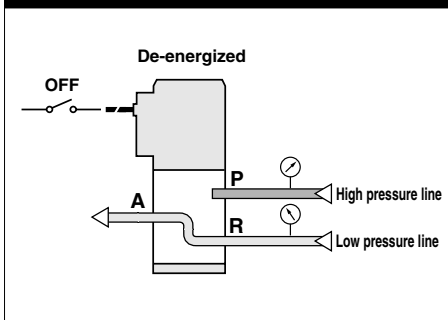
1. Air blow (used in NC state)



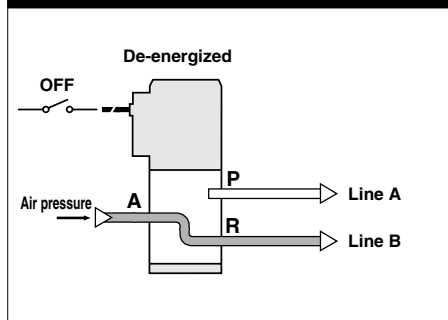
2. Drive for single acting cylinder (used in NC state)



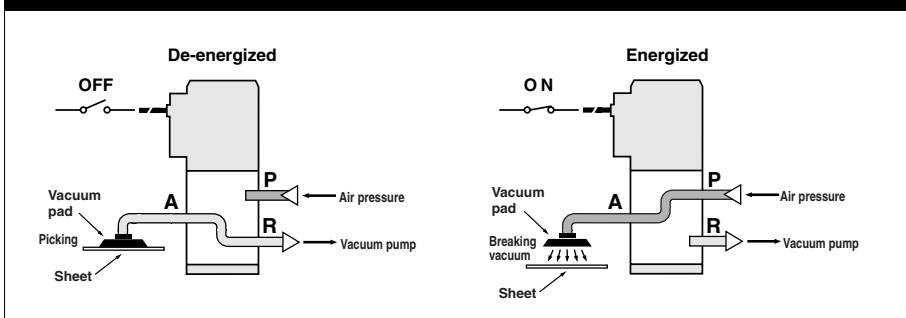
3. Selector valve (valve for switching between two pressure states)



4. Divider valve (valve used for allocation)



5. Picking up sheet and breaking vacuum, etc. (for both vacuum and positive pressure specifications)



130, 230 Series Product Range

Single Unit

Solenoid Valves 130 Series

2-, 3-port solenoid valve

| | | |
|---------------------------------------|-----------------------------|---|
| 130E1 For positive pressure | V130E1 For vacuum | SV130E1 For both vacuum and positive pressure |
|---------------------------------------|-----------------------------|---|



130series
Specifications p. 142

130series
Order code p. 144

130series
Dimensions p. 147

Solenoid Valves 230 Series

2-, 3-port solenoid valve

| | | |
|---------------------------------------|-----------------------------|---|
| 230E1 For positive pressure | V230E1 For vacuum | SV230E1 For both vacuum and positive pressure |
|---------------------------------------|-----------------------------|---|



230series
Specifications p. 148

230series
Order code p. 150

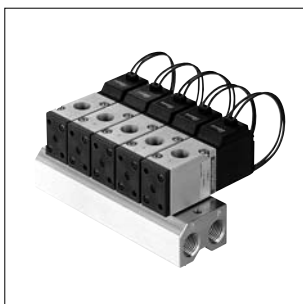
230series
Dimensions p. 153

Manifold (Direct piping type)

Solenoid Valves 130 Series

Manifold for 2-, 3-port valves

130M□T



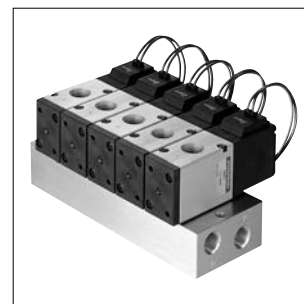
130series
Order code p. 145

130series
Dimensions p. 147

Solenoid Valves 230 Series

Manifold for 2-, 3-port valves

230M□T



230series
Order code p. 151

230series
Dimensions p. 153

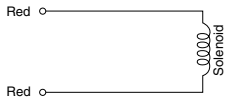


Solenoid

Internal circuit

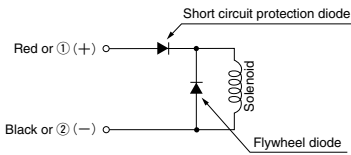
● DC24V

Standard solenoid



Solenoid (surge suppression)

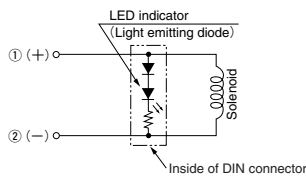
Order code: -SR



① and ② are for with DIN connector (Order code: -39).

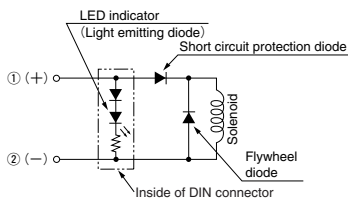
Solenoid with indicator

Order code: -39L



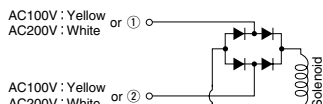
Solenoid with indicator (surge suppression)

Order code: -39L-SR



● AC100V, AC200V (surge suppression)

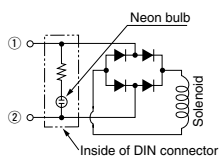
Standard solenoid



① and ② are for with DIN connector (Order code: -39).

Solenoid with indicator

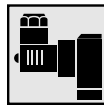
Order code: -39L



Cautions: 1. Do not apply megger between the lead wires.

2. With indicator can be used with DIN connector type only. Order code: -39L

3. Leakage current inside the circuit could result in failure of the solenoid valve to return or in other erratic operation. Always use within the range of the allowable leakage current. If circuit conditions, etc., cause the leakage current to exceed the maximum allowable leakage current, consult us.



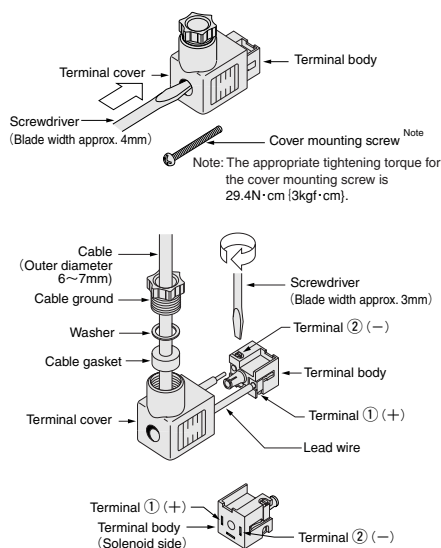
DIN connector

Wiring instructions

Remove the cover mounting screws, and lift the terminal cover off from the solenoid. Use a screwdriver, etc., to push strongly against the terminal body through the hole of the terminal cover's mounting screw, and remove the terminal body.

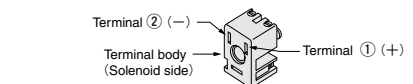
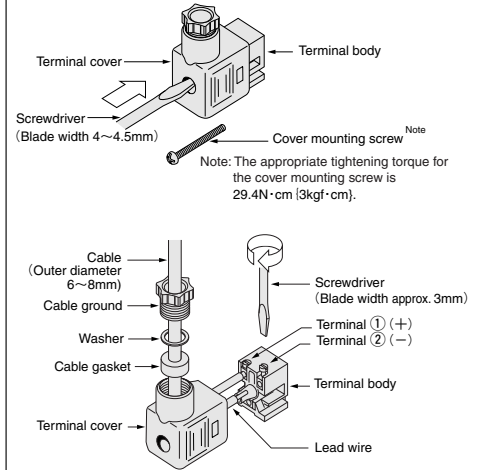
Slip a cable ground, washer, and cable gasket over a cable, insert the cable into the terminal cover's wiring port, and connect the lead wire to the terminal body (screwdriver blade width of about 3mm).

DIN connector for 130 series



※For the DC24V solenoid with surge suppression, connect (+) to terminal ①, and (-) to terminal ②.

DIN connector for 230 series



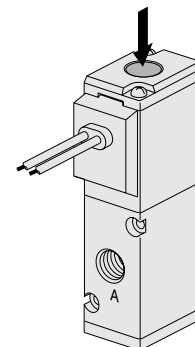
※For the DC24V solenoid with surge suppression, connect (+) to terminal ①, and (-) to terminal ②.



Manual override

Non-lock type

To operate, press the manual override all the way down. The valve works the same as an energized state as long as the manual override is pushed down, and returns to the rest position upon release.



Others

Do not use this unit as a vacuum holding valve.

130 SERIES SPECIFICATIONS

Specifications

Basic Models and Functions

| Item | Basic model | Standard type | 130E1 (For positive pressure) | V130E1 (For vacuum) | SV130E1 (For both vacuum and positive pressure) |
|---------------------|---|----------------------------------|--------------------------------|----------------------|--|
| | | Low current type ^{Note} | 130LE1 (For positive pressure) | V130LE1 (For vacuum) | SV130LE1 (For both vacuum and positive pressure) |
| Number of positions | 2 positions | | | | |
| Number of ports | 2, 3 ports | | | | |
| Valve function | Normally closed (NC) or Normally open (NO) Single solenoid | | | | |

Note: Voltage is DC24V only.

Specifications

| Item | Basic model | Standard type | 130E1 | V130E1 | SV130E1 |
|--|--|------------------|--------------------------------------|-----------------------------|-------------------|
| | | Low current type | 130LE1 | V130LE1 | SV130LE1 |
| Media | | | Air | Vacuum | Vacuum, air |
| Operation method | Direct acting type | | | | |
| Effective area [Cv] | mm ² | | 4.5(0.25)/Low current type 2.3(0.13) | | |
| Port size | Rc1/8 | | | | |
| Lubrication | Not required | | | | |
| Operating pressure range | (Positive pressure) MPa {kgf/cm ² } | 0~0.9 {0~9.2} | | — | 0~0.7 {0~7.1} |
| | (Vacuum) kPa {mmHg} | — | | -100~0 {-750.1~0} | -100~0 {-750.1~0} |
| Proof pressure | MPa{kgf/cm ² } | | 1.35 {13.8} | — | 1.05 {10.7} |
| Response time ^{Note} ms | DC24V | Max.10/20 | | Low current type Max. 15/20 | |
| | AC100V, AC200V | Max. 15/25 | | | |
| Maximum operating frequency | Hz | | | | |
| Operating temperature range (atmosphere and media) | °C | | | | |
| Shock resistance m/s ² {G} | Lateral direction | 1373.0 {140.0} | | | |
| | Axial direction | 392.3 {40.0} | | | |
| Mounting direction | Any | | | | |

Note: Values when air pressure is 0.5MPa {5.1 kgf/cm²}. In addition, the values of DC24V at OFF are those with solenoid with surge suppression **-SR**.

Remark: Conversion to psi., 1MPa=145psi., 1kgf/cm²=14.2psi., e.g. 0.9MPa=131psi.

Solenoid Specifications

| Item | Rated voltage | DC24V | | AC100V | | AC200V | |
|--|--|--|--|-------------------------|----|-----------------------|----|
| | | Standard type | Low current type | | | | |
| Type | | DC type | | Full-wave rectification | | | |
| Operating voltage range | V | 21.6~26.4 (24 ±10%) | | 90~110 (100 ±10%) | | 180~220 (200 ±10%) | |
| Current (When rated voltage is applied) | Frequency | — | | 50 | 60 | 50 | 60 |
| | Energizing ^{Note 2} mA(r.m.s) | 185 (4.4W) [177 (4.2W)] ^{Note 1} | 88 (2.1W) [84 (2.0W)] ^{Note 1} | 37 | 35 | 25 | 24 |
| Maximum allowable leakage current | mA | 10 | | 4 | | 2 | |
| Insulation resistance | MΩ | 10 | | | | | |
| Wiring and lead wire length | Standard | Grommet type: 300mm | | | | | |
| | Option | With DIN connector | | | | | |
| Color of lead wire | | Red Red (+), Black (-) ^{Note 3} | | Yellow | | White | |
| Indicator (For DIN connector -39L) | | LED (Red) | | Neon bulb | | | |
| Surge suppression | Standard | — | | Bridge diode | | | |
| | Option | Flywheel diode | | — | | | |

Notes: 1. Figures in brackets [] are for solenoids with surge suppression **-SR**.

2. Since the AC types have built-in bridge diodes, the starting current value and energizing current value are virtually the same.

3. For solenoids with surge suppression **-SR**.

Manifold Connection Port Size

| Manifold model | Port | Location of piping connection | Port size |
|----------------|------|-------------------------------|-----------|
| 130M□T | P | Manifold | Rc 1/4 |
| | A | Valve | Rc 1/8 |
| | R | Manifold | Rc 1/4 |

Mass

Valve Mass

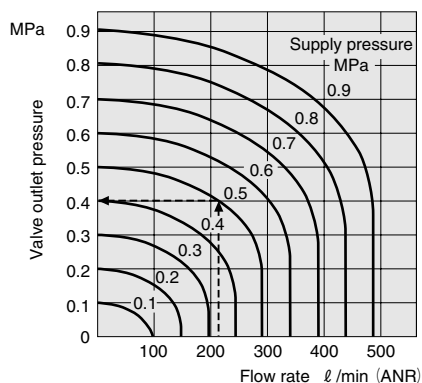
| Basic model | Mass | |
|-------------|-------------------------------------|--------------|
| | 130□E1, V130□E1, SV130□E1 | Grommet type |
| | DIN connector type -39 | 114 |
| | Mounting base -21 (additional mass) | 15 |

Manifold Mass

| Manifold model | Mass calculation of each unit n=number of units | Block-off plate |
|----------------|---|-----------------|
| 130M□T | (39×n) +31 | 13 |

Flow Rate

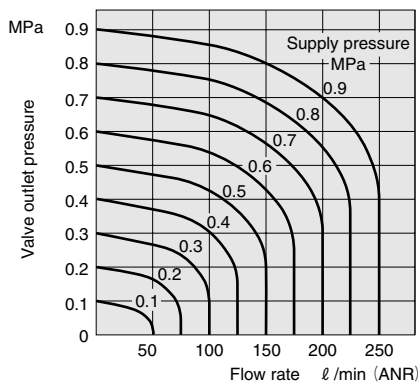
● 130E1



How to read the graph

If supply pressure is 0.5MPa and flow rate is 220 l/min (ANR), the valve outlet pressure becomes 0.4MPa.

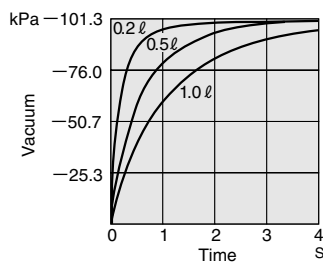
● 130LE1



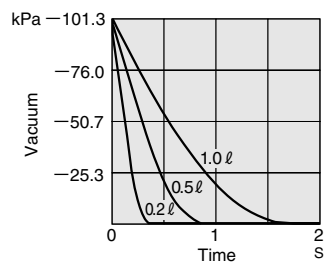
Time to Exhaust and Supply Air

● V130E1, SV130E1

Exhaust time



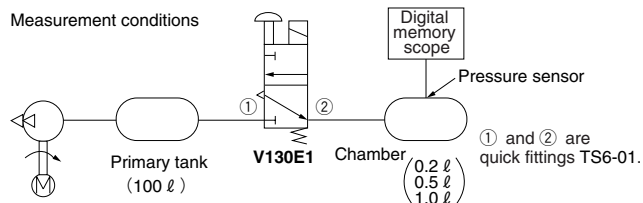
Air supply time



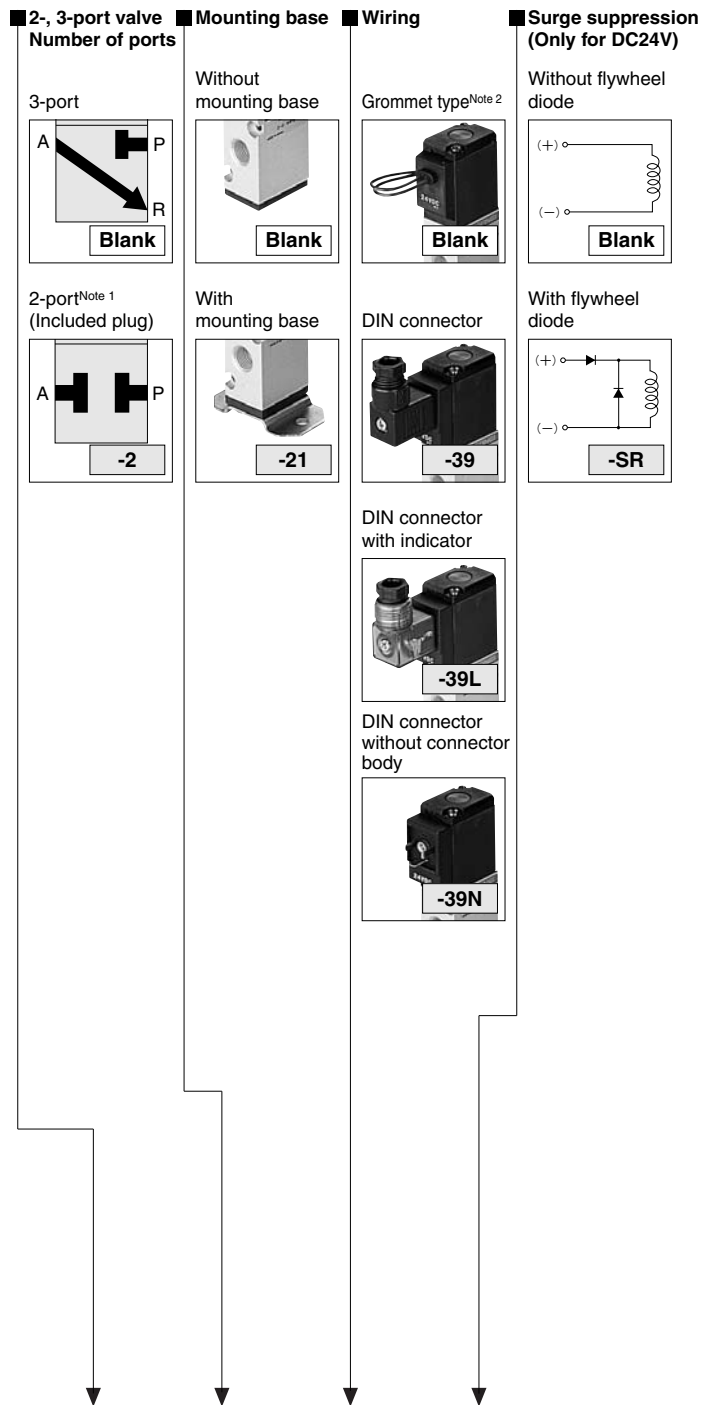
How to read the graph

Exhaust time: Time required for chamber inside to convert from atmospheric pressure to vacuum.

Air supply time: Time required for chamber inside to convert from -100kPa to atmospheric pressure state.



130 Series Solenoid Valve Order Code



| | | Basic model | 2-, 3-port valve Number of ports | Mounting base | Wiring | Surge suppression | Voltage | | |
|---------------------|------------------|--|-------------------------------------|-----------------|-----------------------------|--|--|------------------------------|------------------------------|
| Direct piping | Standard type | For positive pressure | 2-, 3-port single solenoid | 130E1 | -2 ^{Note 1} | -39 -39L -39N | DC24V AC100V AC200V | | |
| | | For vacuum | 2-, 3-port single solenoid | V130E1 | | | | -21 | -SR ^{Note 3} |
| | | For both vacuum and positive pressure | 2-, 3-port single solenoid | SV130E1 | | | | | |
| Low current type | | For positive pressure | 2-, 3-port single solenoid | 130LE1 | -21 | -39 -39L -39N | DC24V | | |
| | | For vacuum | 2-, 3-port single solenoid | V130LE1 | | | | -SR ^{Note 3} | |
| | | For both vacuum and positive pressure | 2-, 3-port single solenoid | SV130LE1 | | | | | |

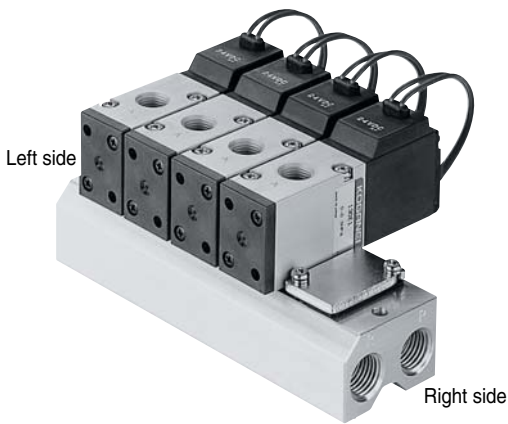
Notes: 1. Before use, always attach the included plug. For details, see the 2-, 3-port valves valve functions and connection port configurations on p. 139.

● Only for DC24V.

2. Indicators not available for the grommet type.

3. Enter this code when voltage is DC24V and surge suppression is used. Entering the **-SR** code is not necessary for AC100V and AC200V, since surge suppression is already incorporated.

130 Series Manifold Order Code



Configuration example
130M5T stn.1~4 -130E1 DC24V
stn.5 -BP

| | | | | |
|---|--|--|--|--|
| Manifold form T Manifold for 2-, 3-port | 2-, 3-port valve Number of ports 3-port Blank 2-port -2 | 2-, 3-port valve Valve function Blank Normally closed (NC) -11 Normally open (NO) If -11 normally open (NO) is specified, the valve facing is reversed, and mounted on the manifold. For details, see dimensions. | Wiring Grommet type ^{Note 1} Blank DIN connector -39 DIN connector with indicator -39L DIN connector without connector body -39N | Surge suppression (Only for DC24V) Without flywheel diode Blank With flywheel diode -SR |
|---|--|--|--|--|

| | Number of units | Manifold form | Station | Basic model | 2-, 3-port valve Number of ports | 2-, 3-port valve Valve function | Wiring | Surge suppression | Voltage | |
|------------------|-------------------------------|-----------------------------|---------|-------------------------------|----------------------------------|---------------------------------|--------|-------------------|-----------------------|---------------------------|
| | Manifold model | | | Mounted valve type | | | | | | |
| Standard type | 130M | 2 · · · 10 | T | stn. <input type="checkbox"/> | -130E1 ^{Note 2} | -2 | -11 | -39 | -SR ^{Note 5} | DC24V AC100V AC200V |
| | | | | stn. <input type="checkbox"/> | -V130E1 ^{Note 3} | | | | | |
| | | | | stn. <input type="checkbox"/> | -SV130E1 ^{Note 4} | | | | | |
| Low current type | | | | stn. <input type="checkbox"/> | -130LE1 ^{Note 2} | -2 | -11 | -39 | -SR ^{Note 5} | |
| | stn. <input type="checkbox"/> | -V130LE1 ^{Note 3} | | | | | | | | |
| | stn. <input type="checkbox"/> | -SV130LE1 ^{Note 4} | | | | | | | | |

- Notes: 1. Indicators not available for the grommet type.
 2. Cannot be combined with **V130(L)E1** and **SV130(L)E1** on the manifold.
 3. Cannot be combined with **130(L)E1** and **SV130(L)E1** on the manifold.
 4. Cannot be combined with **130(L)E1** and **V130(L)E1** on the manifold.
 5. Enter this code when voltage is DC24V and surge suppression is used. Entering the **-SR** code is not necessary for AC100V and AC200V, since surge suppression is already incorporated.
- A made to order can handle up to 20 units.
 - Specify the valve type for each station.
 - Enter **-BP** when closing a station with a block-off plate without mounting a valve.
 - Only for DC24V.
 - Valve mounting location from the left-hand side when facing A, B port.

130 Series Additional Parts Order Code

● Block-off plate (10 set unit)



130T-BP

(Block-off plate, gasket and 2 block-off plate mounting screws) × 10

● Parts for mounting valves (10 set unit; for mounting on manifold)



130T-GS

(Gasket, 2 mounting screws) × 10

● Mounting base (10 set unit)



130Z-21

(Mounting base and 2 base mounting screws) × 10

● DIN connector (1 set unit)



130Z-39 (Without indicator)

130Z-39L-DC24V (For DC24V with indicator)

130Z-39L-AC100V (For AC100V with indicator)

130Z-39L-AC200V (For AC200V with indicator)

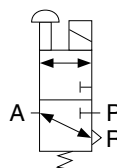
(DIN connector body, 1 mounting screw, gasket)

Operating Principle and Symbol

Major Parts and Materials

| | Parts | Materials |
|----------|-----------------|---------------------------|
| Valve | Body | Aluminum alloy (anodized) |
| | Stem | Aluminum alloy (anodized) |
| | Lip seal | Synthetic rubber |
| | Plunger | Synthetic rubber |
| | Column | Magnetic stainless |
| | Mounting base | Steel (zinc plated) |
| Manifold | Body | Aluminum alloy (anodized) |
| | Block-off plate | Steel (nickel plated) |
| | Seal | Synthetic rubber |

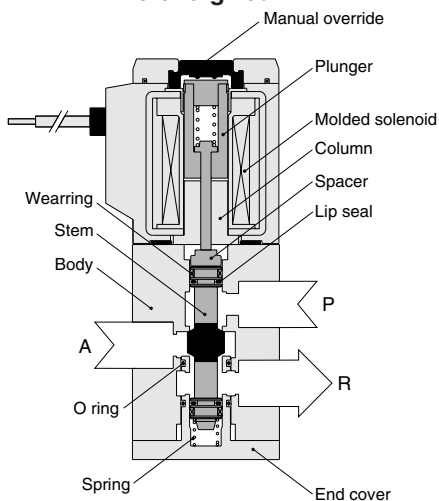
Symbol



3-port

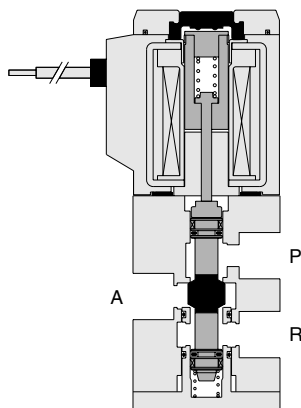
130E1 (For positive pressure)

De-energized



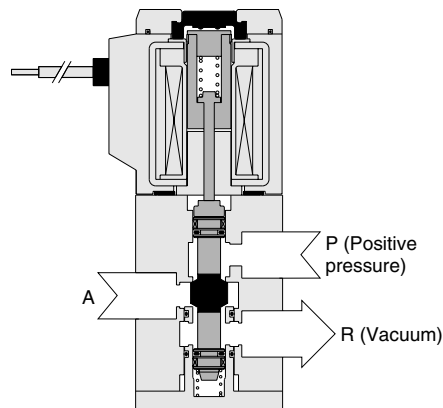
V130E1 (For vacuum)

De-energized



SV130E1 (For both vacuum and positive pressure)

De-energized



Remark: For details about valve functions and connection port configurations, see the 2-, 3-port valves valve functions and connection port configurations, and application examples on p. 139.

130 Series Dimensions (Scale 1/4, Unit mm)

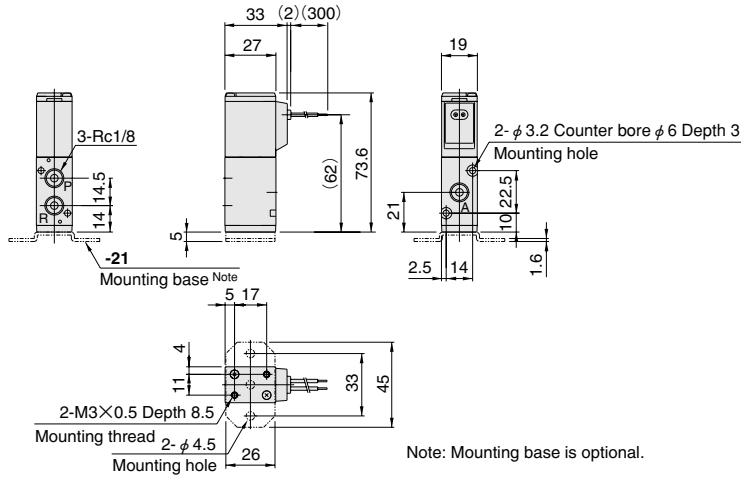
Dimensions of Solenoid Valve

2-, 3-port

130E1

130LE1

Grommet type

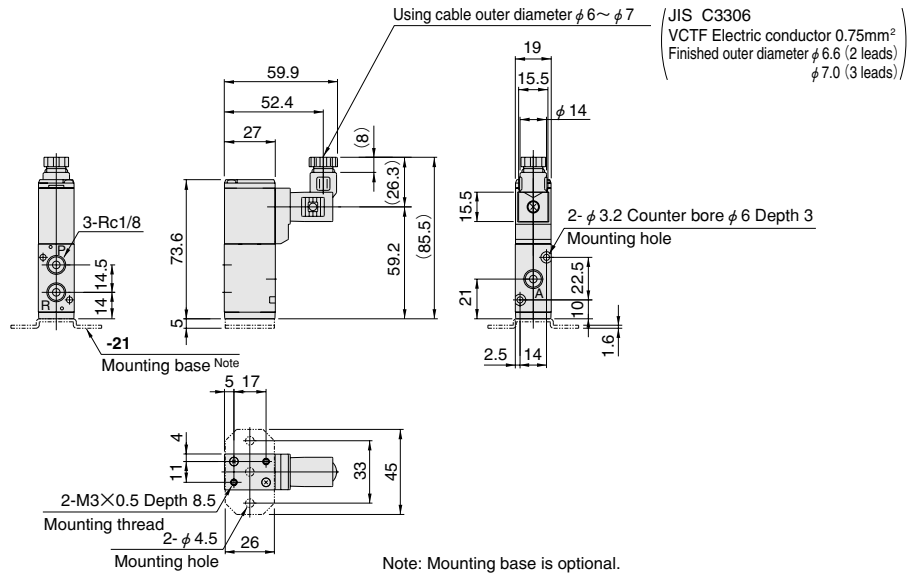
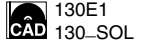


2-, 3-port

130E1-39 (L)

130LE1-39 (L)

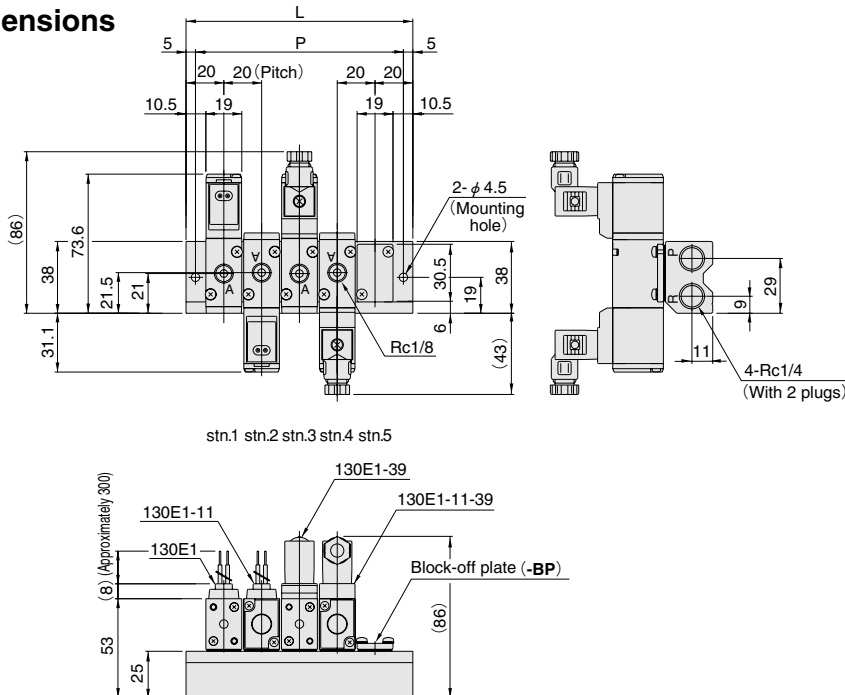
DIN connector



Manifold Dimensions

For 2-, 3-port

130M□ T



Unit dimensions

| Number of units | L | P |
|-----------------|-----|-----|
| 2 | 60 | 50 |
| 3 | 80 | 70 |
| 4 | 100 | 90 |
| 5 | 120 | 110 |
| 6 | 140 | 130 |
| 7 | 160 | 150 |
| 8 | 180 | 170 |
| 9 | 200 | 190 |
| 10 | 220 | 210 |
| 11 | 240 | 230 |
| 12 | 260 | 250 |
| 13 | 280 | 270 |
| 14 | 300 | 290 |
| 15 | 320 | 310 |
| 16 | 340 | 330 |
| 17 | 360 | 350 |
| 18 | 380 | 370 |
| 19 | 400 | 390 |
| 20 | 420 | 410 |

SOLENOID VALVES 130, 230 SERIES

230 SERIES SPECIFICATIONS

Specifications

Basic Models and Functions

| Item | Basic model | Standard type | 230E1 (For positive pressure) | V230E1 (For vacuum) | SV230E1 (For both vacuum and positive pressure) |
|---------------------|---|----------------------------------|--------------------------------|----------------------|---|
| | | Low current type ^{Note} | 230LE1 (For positive pressure) | V230LE1 (For vacuum) | SV230LE1 (For both vacuum and positive pressure) |
| Number of positions | 2 positions | | | | |
| Number of ports | 2, 3 ports | | | | |
| Valve function | Normally closed (NC) or Normally open (NO) Single solenoid | | | | |

Note: Voltage is DC24V only.

Specifications

| Item | Basic model | Standard type | 230E1 | V230E1 | SV230E1 |
|--|--|------------------|--|-----------------------------|-------------------|
| | | Low current type | 230LE1 | V230LE1 | SV230LE1 |
| Media | | | Air | Vacuum | Vacuum, air |
| Operation method | Direct acting type | | | | |
| Effective area [Cv] | mm ² | | 8.0 (0.45) / Low current type 4.5 (0.25) | | |
| Port size | Rc1/4 | | | | |
| Lubrication | Not required | | | | |
| Operating pressure range | (Positive pressure) MPa {kgf/cm ² } | 0~0.9 {0~9.2} | | — | 0~0.7 {0~7.1} |
| | (Vacuum) kPa {mmHg} | — | | -100~0 {-750.1~0} | -100~0 {-750.1~0} |
| Proof pressure | MPa {kgf/cm ² } | 1.35 {13.8} | | — | 1.05 {10.7} |
| Response time ^{Note} ms | DC24V | Max. 15/35 | | Low current type Max. 20/40 | |
| | AC100V, AC200V | Max. 20/40 | | | |
| Maximum operating frequency | Hz | 10 | | | |
| Operating temperature range (atmosphere and media) | °C | 0~50 | | | |
| Shock resistance m/s ² {G} | Lateral direction | 1373.0 {140.0} | | | |
| | Axial direction | 392.3 {40.0} | | | |
| Mounting direction | Any | | | | |

Note: Values when air pressure is 0.5MPa {5.1kgf/cm²}. In addition, the values of DC24V at OFF are those with solenoid with surge suppression -SR.

Remark: Conversion to psi., 1MPa=145psi., 1kgf/cm²=14.2psi., e.g. 0.9MPa=131psi.

Solenoid Specifications

| Item | Rated voltage | DC24V | | AC100V | | AC200V | |
|---|--|--|--|-------------------------|----|------------------------|----|
| | | Standard type | Low current type | | | | |
| Type | | DC type | | Full-wave rectification | | | |
| Operating voltage range | V | 21.6~26.4 (24 ± 10%) | | 90~110 (100 ± 10%) | | 180~220 (200 ± 10%) | |
| Current (When rated voltage is applied) | Frequency | — | | 50 | 60 | 50 | 60 |
| | Energizing ^{Note 2} mA(r.m.s) | 178 (4.3W) [170 (4.1W)] ^{Note 1} | 80 (1.9W) [77 (1.8W)] ^{Note 1} | 45 | 43 | 22 | 21 |
| Maximum allowable leakage current | mA | 10 | | 4 | | 2 | |
| Insulation resistance | MΩ | 10 | | | | | |
| Wiring and lead wire length | Standard | Grommet type: 300mm | | | | | |
| | Option | With DIN connector | | | | | |
| Color of lead wire | | Red Red (+), Black (-) ^{Note 3} | | Yellow | | White | |
| Indicator (For DIN connector -39L) | | LED (Red) | | Neon bulb | | | |
| Surge suppression | Standard | — | | Bridge diode | | | |
| | Option | Flywheel diode | | — | | | |

Notes: 1. Figures in brackets [] are for solenoids with surge suppression -SR.

2. Since the AC types have built-in bridge diodes, the starting current value and energizing current value are virtually the same.

3. For solenoids with surge suppression -SR.

Manifold Connection Port Size

| Manifold model | Port | Location of piping connection | Port size |
|----------------|------|-------------------------------|-----------|
| 230M□T | P | Manifold | Rc 1/4 |
| | A | Valve | |
| | R | Manifold | |

Mass

Valve Mass

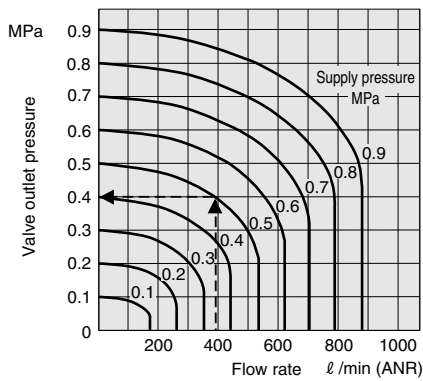
| Basic model | Mass | |
|-------------|-------------------------------------|--------------|
| | 230□E1, V230□E1, SV230□E1 | Grommet type |
| | DIN connector type -39 | 225 |
| | Mounting base -21 (additional mass) | 21 |

Manifold Mass

| Manifold model | Mass calculation of each unit n=number of units | Block-off plate |
|----------------|---|-----------------|
| 230M□T | (102×n)+93 | 22 |

Flow Rate

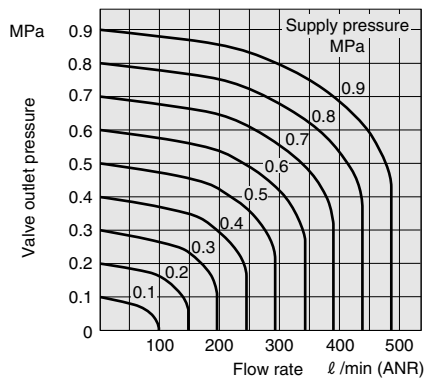
● 230E1



How to read the graph

If supply pressure is 0.5MPa and flow rate is 390 l/min (ANR), the valve outlet pressure becomes 0.4MPa.

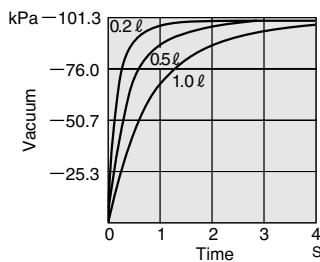
● 230LE1



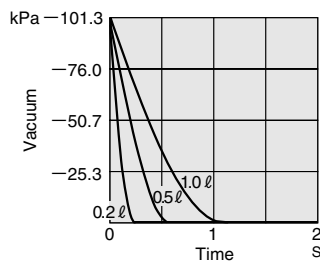
Time to Exhaust and Supply Air

● V230E1, SV230E1

Exhaust time



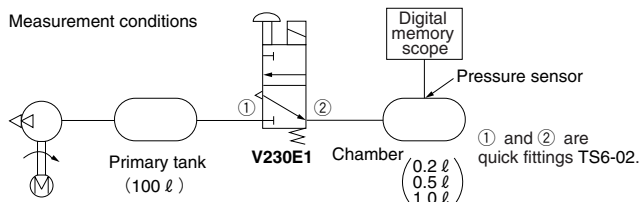
Air supply time



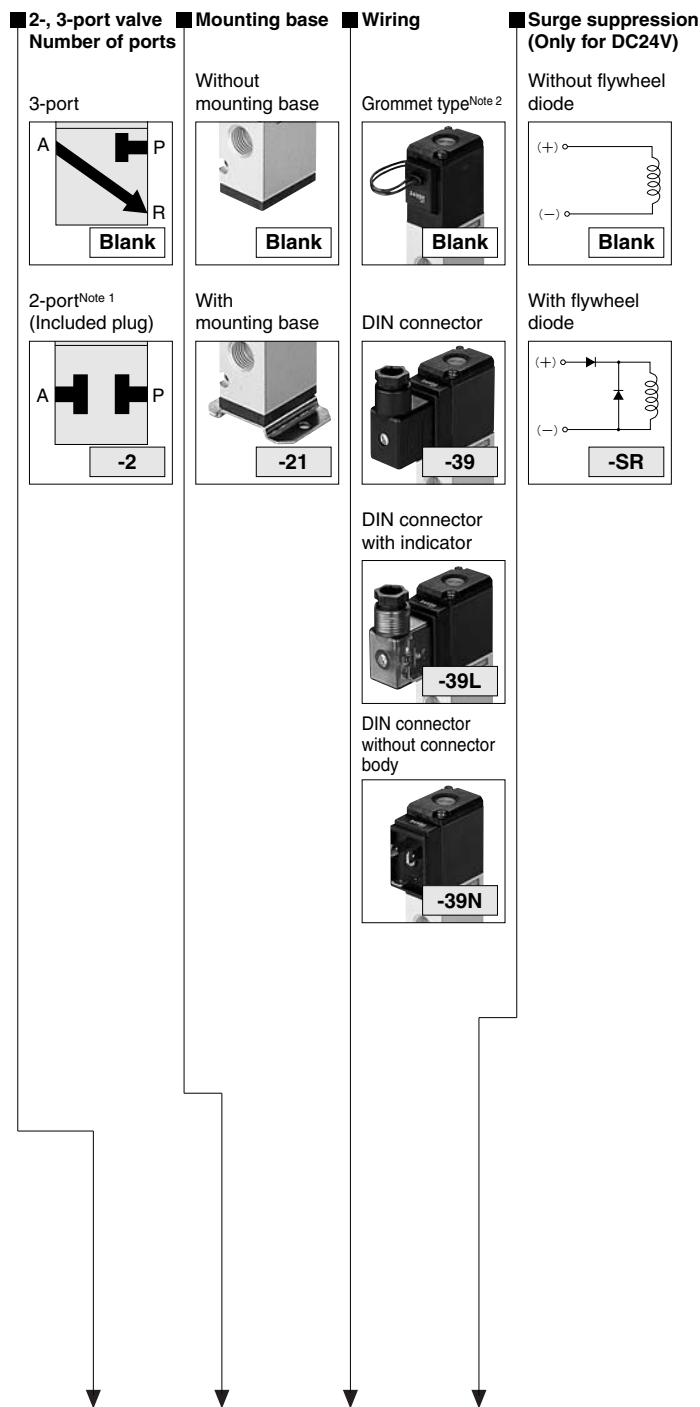
How to read the graph

Exhaust time: Time required for chamber inside to convert from atmospheric pressure to vacuum.

Air supply time: Time required for chamber inside to convert from -100kPa to atmospheric pressure state.



230 Series Solenoid Valve Order Code



| | | Basic model | 2-, 3-port valve Number of ports | Mounting base | Wiring | Surge suppression | Voltage | | |
|---------------------|------------------|--|-------------------------------------|-----------------|----------------------|----------------------|---------------------|-----------------------|---------------------------|
| Direct piping | Standard type | For positive pressure | 2-, 3-port single solenoid | 230E1 | -2 ^{Note 1} | -21 | -39 -39L -39N | -SR ^{Note 3} | DC24V AC100V AC200V |
| | | For vacuum | 2-, 3-port single solenoid | V230E1 | | | | | |
| | | For both vacuum and positive pressure | 2-, 3-port single solenoid | SV230E1 | | | | | |
| Low current type | | For positive pressure | 2-, 3-port single solenoid | 230LE1 | -2 ^{Note 1} | -21 | -39 -39L -39N | -SR ^{Note 3} | DC24V |
| | | For vacuum | 2-, 3-port single solenoid | V230LE1 | | | | | |
| | | For both vacuum and positive pressure | 2-, 3-port single solenoid | SV230LE1 | | | | | |

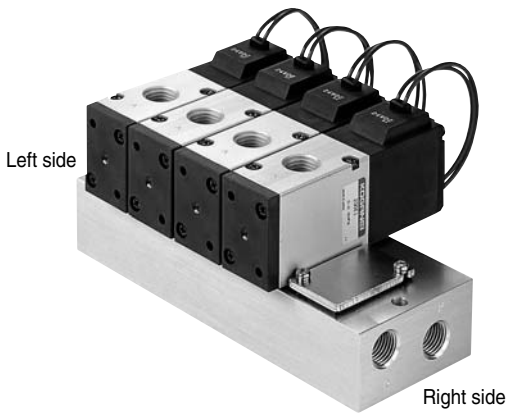
Notes: 1. Before use, always attach the included plug. For details, see the 2-, 3-port valves valve functions and connection port configurations on p. 139.

2. Indicators not available for the grommet type.

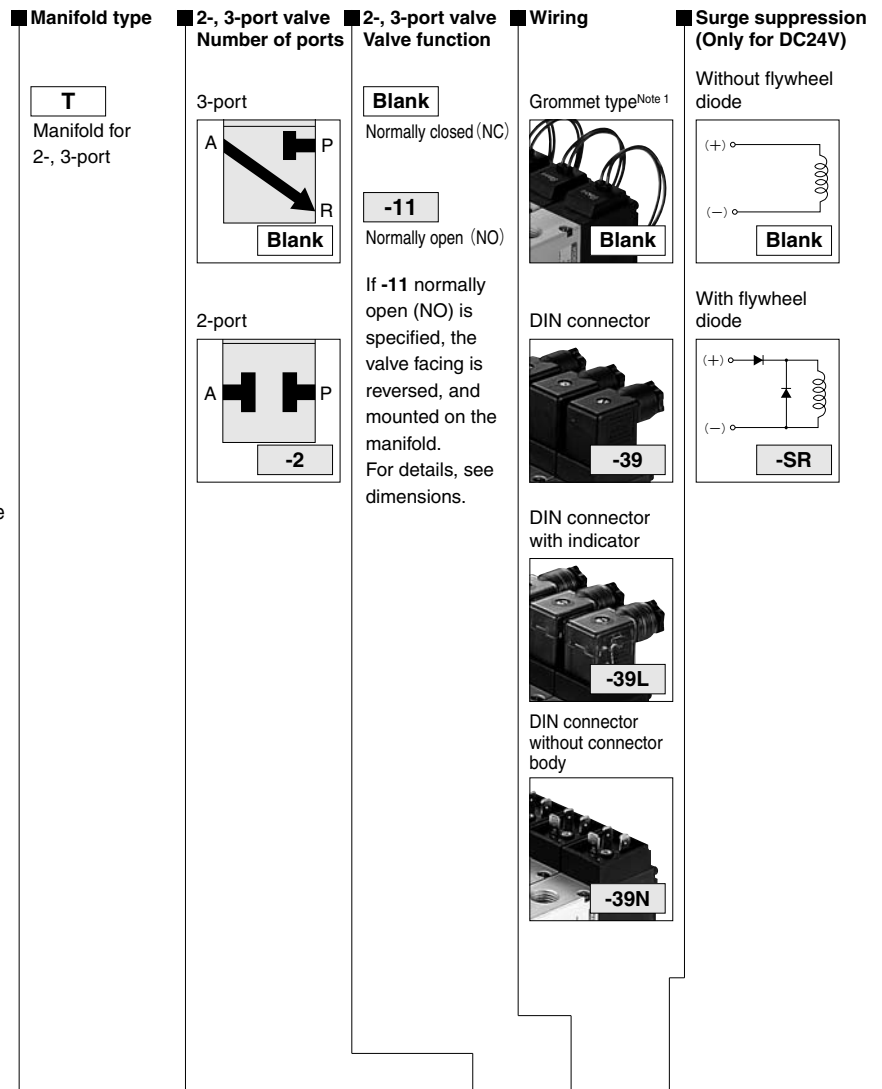
3. Enter this code when voltage is DC24V and surge suppression is used. Entering the -SR code is not necessary for AC100V and AC200V, since surge suppression is already incorporated.

● Only for DC24V.

230 Series Manifold Order Code



Configuration example
230M5T stn.1~4 -230E1 DC24V
stn.5 -BP



| | Manifold model | | | Mounting valve type | | | | | | |
|------------------|-----------------|---------------|---------|-------------------------------|----------------------------------|---------------------------------|--------|-------------------|-----------------------|---------------------------|
| | Number of units | Manifold type | Station | Basic model | 2-, 3-port valve Number of ports | 2-, 3-port valve Valve function | Wiring | Surge suppression | Voltage | |
| Standard type | 230M | 2 ⋮ 10 | T | stn. <input type="checkbox"/> | -230E1 ^{Note 2} | -2 | -11 | -39 | -SR ^{Note 5} | DC24V AC100V AC200V |
| | | | | stn. <input type="checkbox"/> | -V230E1 ^{Note 3} | | | | | |
| | | | | stn. <input type="checkbox"/> | -SV230E1 ^{Note 4} | | | | | |
| Low current type | 230M | 2 ⋮ 10 | T | stn. <input type="checkbox"/> | -230LE1 ^{Note 2} | -2 | -11 | -39 | -SR ^{Note 5} | DC24V |
| | | | | stn. <input type="checkbox"/> | -V230LE1 ^{Note 3} | | | | | |
| | | | | stn. <input type="checkbox"/> | -SV130LE1 ^{Note 4} | | | | | |

- Notes: 1. Indicators not available for the grommet type.
2. Cannot be combined with **V230(L)E1** and **SV230(L)E1** on the manifold.
3. Cannot be combined with **230(L)E1** and **SV230(L)E1** on the manifold.
4. Cannot be combined with **230(L)E1** and **V230(L)E1** on the manifold.
5. Enter this code when voltage is DC24V and surge suppression is used. Entering the **-SR** code is not necessary for AC100V and AC200V, since surge suppression is already incorporated.
- **A** made to order can handle up to 20 units.
- Specify the valve type for each station.
- Enter **-BP** when closing a station with a block-off plate without mounting a valve.
- Valve mounting location from the left-hand side when facing A, B port.
- Only for DC24V.

230 Series Additional Parts Order Code

● Block-off plate (10 set unit)



230T-BP

(Block-off plate, gasket and 2 block-off plate mounting screws) × 10

● Parts for mounting valves (10 set unit; for mounting on manifold)



230T-GS

(Gasket, 2 mounting screws) × 10

● Mounting base (10 set unit)



230Z-21

(Mounting base, 2 base mounting screws) × 10

● DIN connector (1 set unit)



230Z-39 (Without indicator)

230Z-39L-DC24V (For DC24V with indicator)

230Z-39L-AC100V (For AC100V with indicator)

230Z-39L-AC200V (For AC200V with indicator)

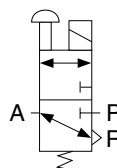
(DIN connector body, 1 mounting screw, gasket)

Operating Principle and Symbol

Major Parts and Materials

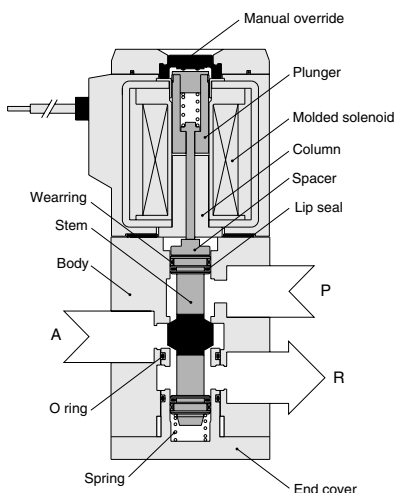
| | Parts | Materials |
|----------|-----------------|---------------------------|
| Valve | Body | Aluminum alloy (anodized) |
| | Stem | Aluminum alloy (anodized) |
| | Lip seal | Synthetic rubber |
| | Plunger | Synthetic rubber |
| | Column | Magnetic stainless |
| | Mounting base | Steel (zinc plated) |
| Manifold | Body | Aluminum alloy (anodized) |
| | Block-off plate | Steel (nickel plated) |
| | Seal | Synthetic rubber |

Symbol

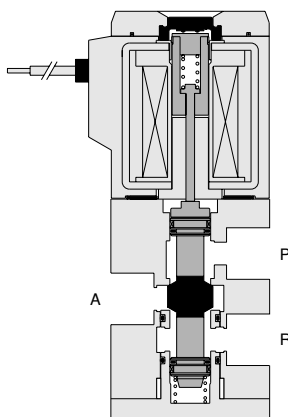


3-port

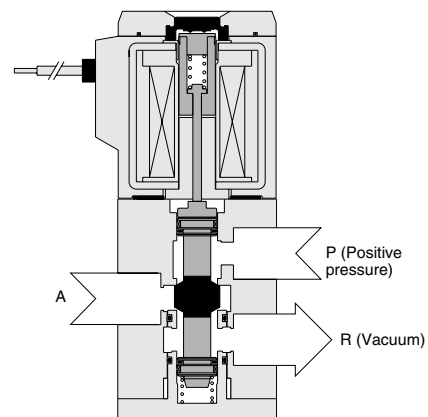
230E1 (For positive pressure) De-energized



V230E1 (For vacuum) De-energized



SV230E1 (For both vacuum and positive pressure) De-energized



Remark: For details about valve functions and connection port configurations, see the 2-, 3-port valves valve functions and connection port configurations, and application examples on p. 139.

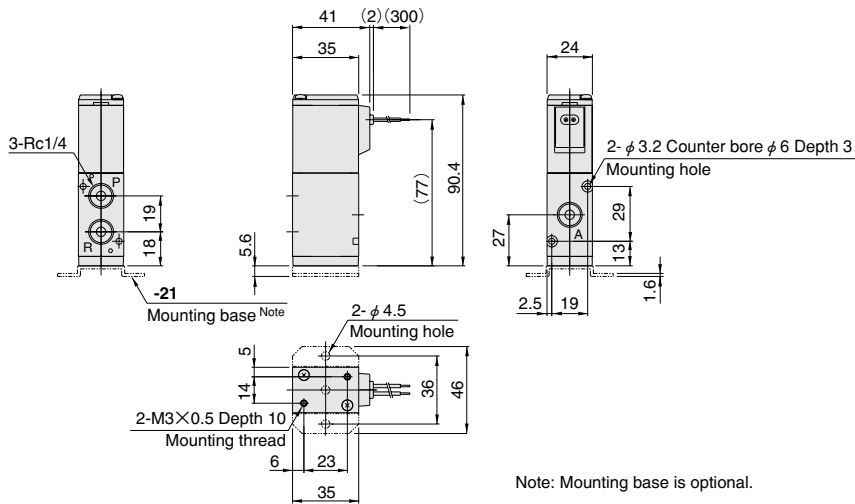
Dimensions of Solenoid Valve

2-, 3-port

230E1

230LE1

Grommet type



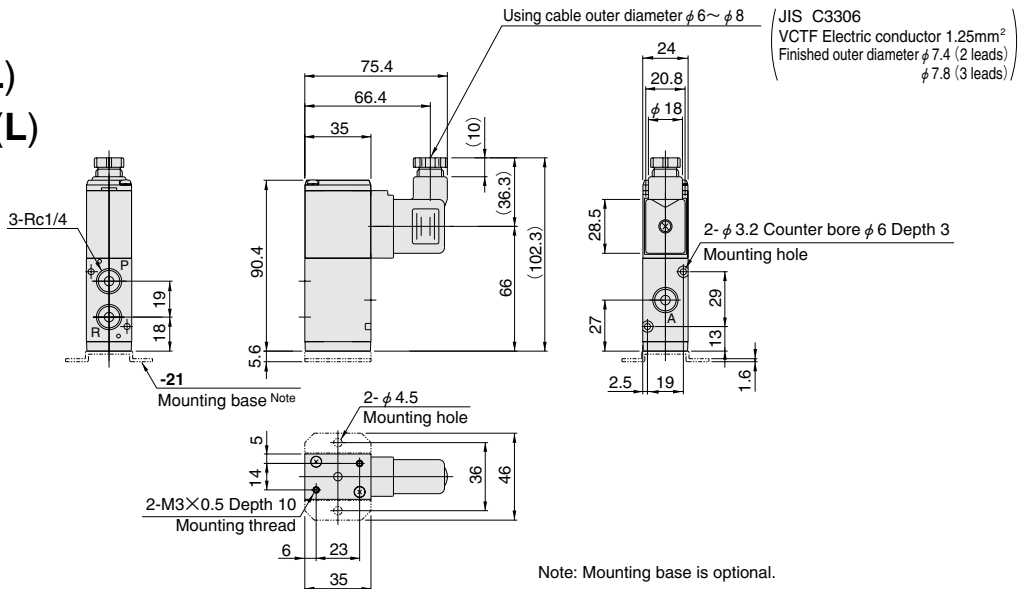
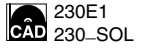
Note: Mounting base is optional.

2-, 3-port

230E1-39 (L)

230LE1-39 (L)

DIN connector

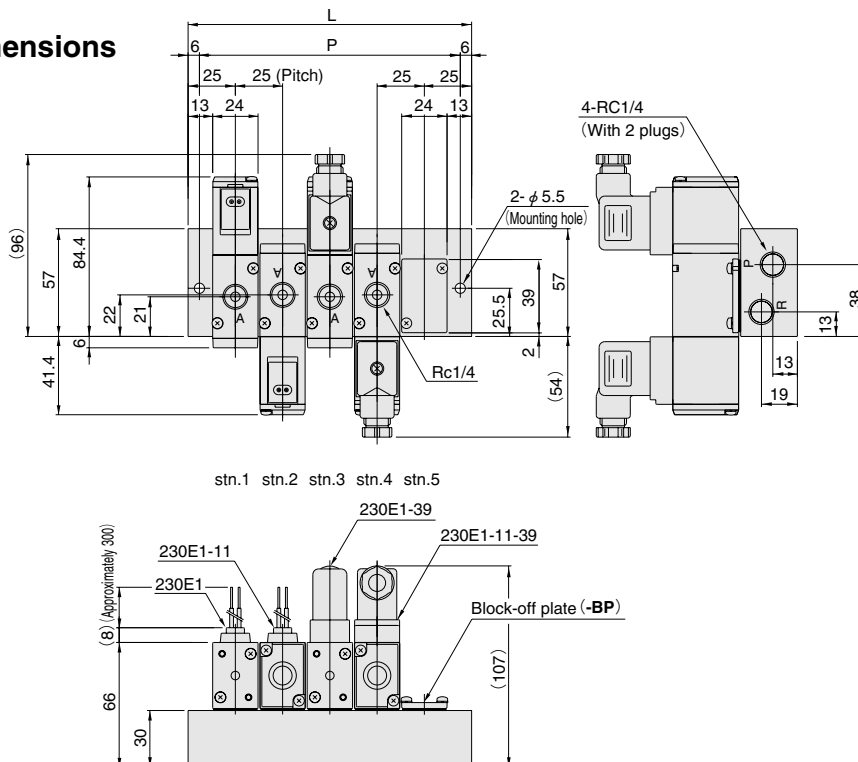


Note: Mounting base is optional.

Manifold Dimensions

For 2-, 3-port

230M □ T



Unit dimensions

| Number of units | L | P |
|-----------------|-----|-----|
| 2 | 75 | 63 |
| 3 | 100 | 88 |
| 4 | 125 | 113 |
| 5 | 150 | 138 |
| 6 | 175 | 163 |
| 7 | 200 | 188 |
| 8 | 225 | 213 |
| 9 | 250 | 238 |
| 10 | 275 | 263 |
| 11 | 300 | 288 |
| 12 | 325 | 313 |
| 13 | 350 | 338 |
| 14 | 375 | 363 |
| 15 | 400 | 388 |
| 16 | 425 | 413 |
| 17 | 450 | 438 |
| 18 | 475 | 463 |
| 19 | 500 | 488 |
| 20 | 525 | 513 |