

Product Range

Features (Diaphragm Type)

● **Reliable operation**

Uses diaphragm construction that enables quick and sharp switching peculiar to this type. The valve seat is also reliable.

● **Trouble free structure**

An extremely simple structure and a poppet-type seat method ensures freedom from galling, even if a certain amount of dust intrudes inside.

Moreover, it will not stick even after being left unused for long periods.

● **Can be used without lubrication.**

No sliding parts, and lubrication is unnecessary, and no breakdown problems due to inadequate lubrication.

● **Any mounting direction is acceptable.**

This structure ensures operations without a hitch, no matter what the mounting direction is.

● **Compact and lightweight**

An original compact design, and a light aluminum alloy body.

■ Manual valves (push button type)



- Using nuts enables compact installation on panels (125P, 125HO types).
- Can also hold the pressed-down condition (125HO type).
- A vacuum valve with a non-leakage structure is also available.

Applications

- ON/OFF for pilot air
- Operation for single acting air cylinders and air grippers
- Filling or exhausting of air tank
- ON/OFF for air supply (125HO)
- ON/OFF for air jet and air blowing

■ Foot valves

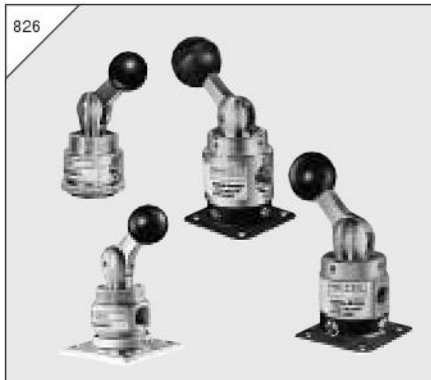


- A holding mechanism maintains the unit in an operating condition, which can then be released by pushing a foot-operated latch located back of the pedal (250FL, 250-4FL, 25034FL).

Applications

- Operation for double acting air cylinders and air grippers
- ON/OFF for pilot air (Double air-piloted valve)

**Manual valves
(lever-operated type 2-, 3-port)**



- Using nuts enables compact installation on panels (125V).
- A vacuum valve with a non-leakage structure is also available.

Applications

- ON/OFF for pilot air
- Operation for single acting air cylinders and air gripper
- Filling or exhausting of air tank
- ON/OFF for air supply
- ON/OFF for air jet and air blowing

**Manual valves
(lever-operated type 3-position, 5-port)**



- Operation of double acting air cylinders and air grippers (In the neutral position, the air cylinder and air gripper are in the free condition, and can be operated manually).
- A vacuum valve with a non-leakage structure is also available.

Applications

- Switching of pilot air
- Switching of air supply

Manual valves



- Sliding valve construction, and manually switched 4-port valve.
- Rotary type (swing lever) for reliable switching.

Applications

- For switching air cylinders

Mechanical valves (ball-cam type)

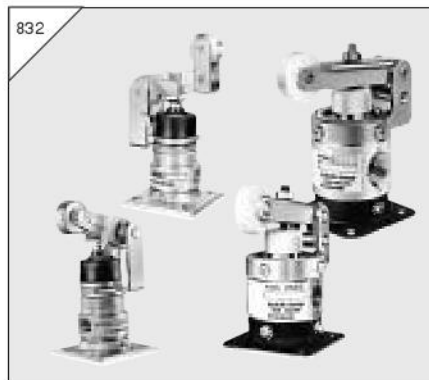


- Using nuts enables compact installation on panels (125B).
- A vacuum valve with a non-leakage structure is also available.

Applications

- ON/OFF for pilot air
- Operation for single acting air cylinders and air gripper
- Filling or exhausting of air tank
- ON/OFF for air jet and air blowing

Mechanical valves (roller-cam type)

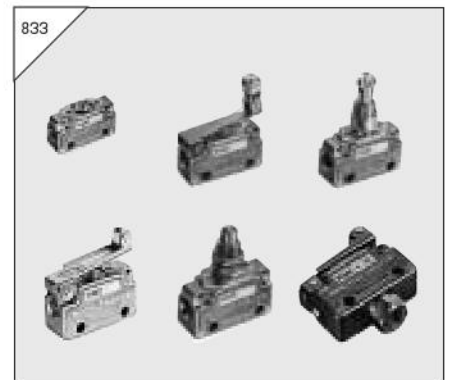


- Sturdy structure capable of withstanding harsh operation.
- Offers smooth pilot air switching.

Applications

- ON/OFF for pilot air
- Operation for single acting air cylinders and air gripper
- Filling or exhausting of air tank
- ON/OFF for air jet

Micro valves



- Both normally closed and normally open types are available for 2-port and 3-port valves, to ensure applications of using every type of pneumatic signal.
- Virtually no change in operational force from low to high pressure range.
- No neutral position means smooth switching between the A port and R port.

Applications

- Confirms operations in pneumatic control circuits.
- Switches air pressure signals.
- Operation of air cylinder
- Filling or exhausting of air tank

MANUAL VALVES

Push Button Type

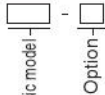
Symbols

| Spring return | | | | Spring return with holding mechanism | | | |
|-----------------------------|--------------------------------------|-------------------------|--------------------------------|--------------------------------------|-----------------------|-------------------------|-----------------------|
| 2-port | | 3-port | | 2-port | | 3-port | |
| NC (Normally closed) | NO (Normally open) | NC (Normally closed) | NO (Normally open) | NC (Normally closed) | NO (Normally open) | NC (Normally closed) | NO (Normally open) |
| | | | | | | | |
| 125P-2 250P-2 2503P-2 | 125P-2-11 250P-2-11 2503P-2-11 | 125P 250P 2503P | 125P-11 250P-11 2503P-11 | 125HO-2 125HO-2-11 | 125HO 125HO-11 | 125HO 125HO-11 | 125HO-11 |

Specifications

| Item | Operation type Basic model | Spring return | | | Spring return with holding mechanism |
|--|-------------------------------|---|--|---|---|
| | | 125P | 250P | 2503P | 125HO |
| Port size | | Rc1/8 | Rc1/4 | Rc3/8 | Rc1/8 |
| Media | | Air | | | |
| Operating pressure range MPa (kgf/cm ²) [psi.] | | 0 ~ 0.9 (0 ~ 9.2) [0 ~ 131] | | | |
| Proof pressure MPa (kgf/cm ²) [psi.] | | 1.35 (13.8) [196] | | | |
| Operating temperature range (atmosphere and media) °C [°F] | | 5 ~ 60 [41 ~ 140] | | | |
| Effective area mm ² | | 5.5 | 15 | 5.5 | |
| Flow coefficient Cv | | 0.27 | 0.76 | 0.27 | |
| Valve stroke mm [in.] | | 0.8 [0.031] | 1.6 [0.063] | 0.8 [0.031] | |
| Lubrication | | Not required | | | |
| Mass kg [lb.] | | 0.10 [0.22] | 0.20 [0.44] | 0.25 [0.55] | 0.10 [0.22] |
| Options | | 2-port2 Normally open11 With lock nuts for panel mounting22 | 2-port2 Normally open11 | 2-port2 Normally open11 With lock nuts for panel mounting22 | 2-port2 Normally open11 With lock nuts for panel mounting22 |
| Order codes | | | | | |

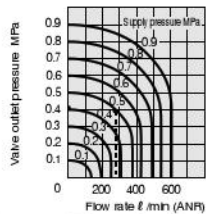
Order Codes



| Basic model | | Option | |
|-------------|--------------------------------|--------|--|
| Basic model | Port size | Code | Specifications |
| 125P | Rc1/8 | Blank | 3-port, normally closed |
| 250P | Rc1/4 | 2 | 2-port |
| 2503P | Rc3/8 | 11 | Normally open |
| 125HO | Rc1/8 (with holding mechanism) | 22 | With lock nuts for panel mounting (125P, 125HO only) |

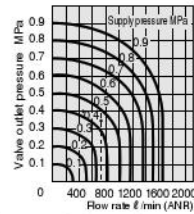
Flow Rate

125 series



1 MPa = 145 psi.
1 l / min = 0.0353 ft³ / min.

250 series



How to read the graph
When the supply pressure is 0.5 MPa [73 psi.] and the flow rate is 27.5 l / min [9.71 ft³ / min.] (ANR), the valve outlet pressure becomes 0.4 MPa [58 psi.].

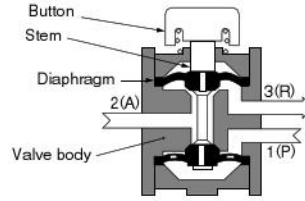
How to read the graph
When the supply pressure is 0.5 MPa [73 psi.] and the flow rate is 74.0 l / min [26.1 ft³ / min.] (ANR), the valve outlet pressure becomes 0.4 MPa [58 psi.].

Button Pushing Down Force

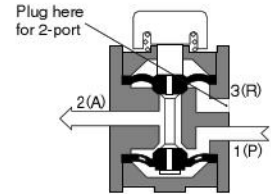
| Model | Main pressure MPa [psi.] | N [lbf.] | | | | |
|-------|--------------------------|-------------|-------------|--------------|--------------|---------------|
| | | 0 | 0.2 | 0.4 | 0.6 | 0.8 |
| 125P | Normally closed | 14.7 [3.30] | 21.6 [4.86] | 28.4 [6.38] | 36.3 [8.16] | 43.2 [9.71] |
| | Normally open | | 30.4 [6.83] | 44.1 [9.91] | 58.8 [13.22] | 72.6 [16.32] |
| 125HO | Normally closed | 6.9 [1.55] | 14.7 [3.30] | 21.6 [4.86] | 28.4 [6.38] | 36.3 [8.16] |
| | Normally open | | 21.6 [4.86] | 36.3 [8.16] | 50.0 [11.24] | 58.8 [13.22] |
| 250P | Normally closed | 26.5 [5.91] | 44.1 [9.91] | 64.7 [14.54] | 88.2 [19.83] | 116.7 [26.23] |
| 2503P | Normally open | [5.96] | 42.2 [9.49] | 53.0 [11.91] | 65.7 [14.77] | 85.3 [19.18] |

Inner Construction, Major Parts and Materials

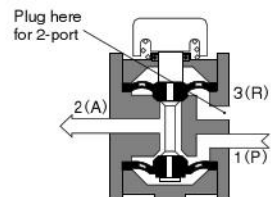
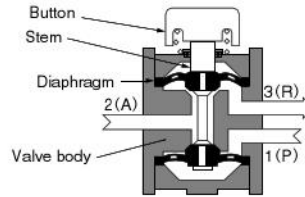
125 series Normal condition



Operating condition



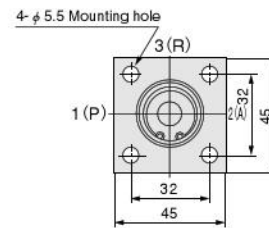
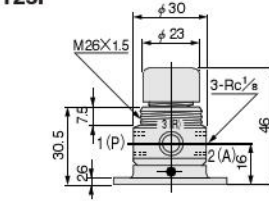
250, 2503 series



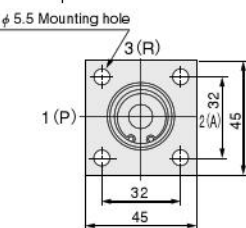
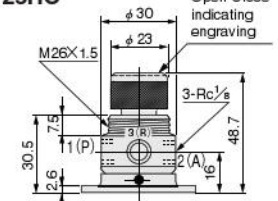
| Parts | Materials |
|-----------|---------------------------|
| Body | Aluminum alloy (anodized) |
| Stem | Brass |
| Diaphragm | Synthetic rubber |
| Button | Nylon (Steel in 125HO) |

Dimensions (mm)

125P



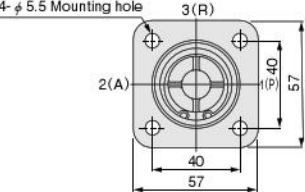
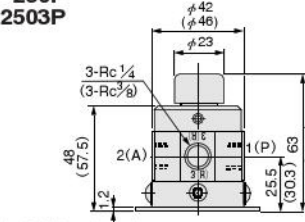
125HO



Note: For the normally open type, the exhaust port 3(R) is on the opposite side.

Note: For the normally open type, the exhaust port 3(R) is on the opposite side.

250P 2503P



Notes: 1. For the normally open type, the exhaust port 3(R) is on the opposite side.
2. Dimensions in parentheses () are for the 2503P.