

## 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.

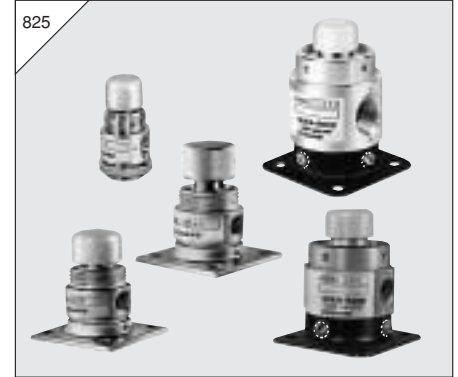
- **Any mounting direction is acceptable.**

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)

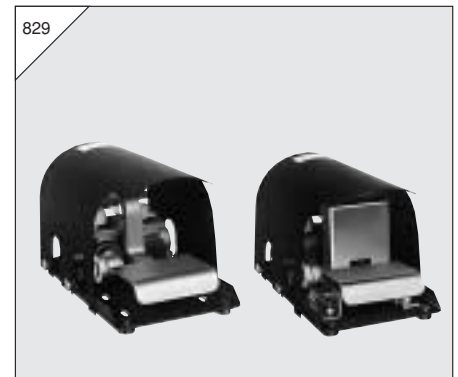


- Using nuts enables compact installation on panels (125P, 125HO types).
- Can also hold the pressed-down condition (125HO type).
- A vacuum valve with a non-leakage structure is also available.

#### 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

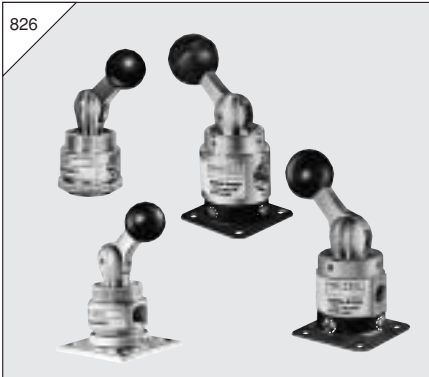


- A holding mechanism maintains the unit in an operating condition, which can then be released by pushing a foot-operated latch located back of the pedal (250FL, 250-4FL, 25034FL).

#### 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)**

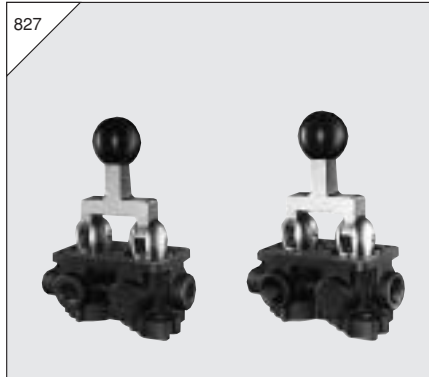


- Using nuts enables compact installation on panels (125V).
- A vacuum valve with a non-leakage structure is also available.

**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)**

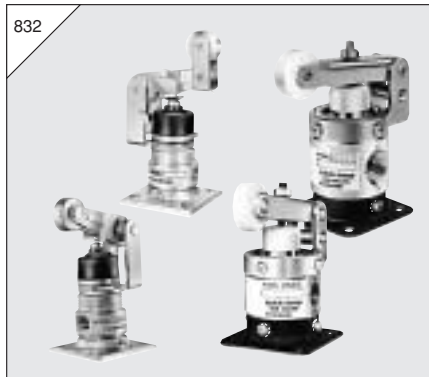


- Using nuts enables compact installation on panels (125B).
- A vacuum valve with a non-leakage structure is also available.

**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)**

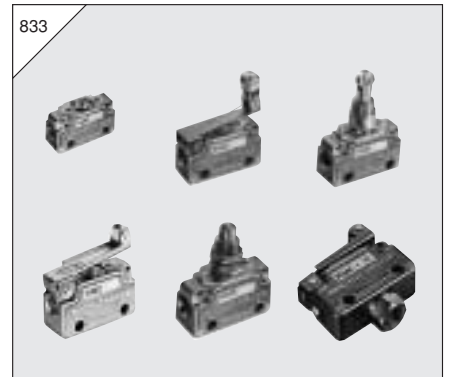


- Sturdy structure capable of withstanding harsh operation.
- Offers smooth pilot air switching.

**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

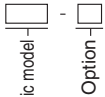
### Symbols

Spring return				Spring return with holding mechanism			
2-port		3-port		2-port		3-port	
NC	NO	NC	NO	NC	NO	NC	NO
(Normally closed)	(Normally open)	(Normally closed)	(Normally open)	(Normally closed)	(Normally open)	(Normally closed)	(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		

### Specifications

Item	Operation type	Spring return			Spring return with holding mechanism
		Basic model	125P	250P	2503P
Port size		Rc1/8	Rc1/4	Rc3/8	Rc1/8
Media		Air			
Operating pressure range	MPa [kgf/cm <sup>2</sup> ] [psi.]	0 ~ 0.9 [0 ~ 9.2] [0 ~ 131]			
Proof pressure	MPa [kgf/cm <sup>2</sup> ] [psi.]	1.35 [13.8] [196]			
Operating temperature range	(atmosphere and media) °C [°F]	5 ~ 60 [41 ~ 140]			
Effective area	mm <sup>2</sup>	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-port .....2 Normally open .....11 With lock nuts for panel mounting .....22	2-port .....2 Normally open .....11	2-port .....2 Normally open .....11	2-port .....2 Normally open .....11 With lock nuts for panel mounting .....22
	..... Order codes				

### Order Codes

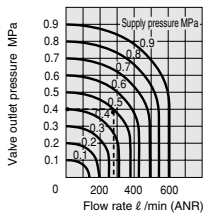


Basic model		Option	
Basic model	Port size	Code	Specifications
125P	Rc1/8	Blank	3-port, normally closed
250P	Rc1/4	2	2-port
2503P	Rc3/8	11	Normally open
125HO	Rc1/8 (with holding mechanism)	22	With lock nuts for panel mounting (125P, 125HO only)

Examples:  
125P-2-11-22  
250P  
2503P-11

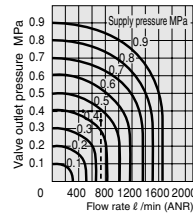
### Flow Rate

#### 125 series



1MPa = 145psi.  
1 ℓ /min = 0.0353ft<sup>3</sup>/min.

#### 250 series



**How to read the graph**  
When the supply pressure is 0.5MPa [73psi.] and the flow rate is 275 ℓ /min [9.71ft<sup>3</sup>/min.] (ANR), the valve outlet pressure becomes 0.4MPa [58psi.].

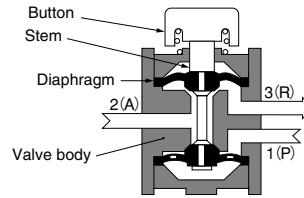
**How to read the graph**  
When the supply pressure is 0.5MPa [73psi.] and the flow rate is 740 ℓ /min [26.1ft<sup>3</sup>/min.] (ANR), the valve outlet pressure becomes 0.4MPa [58psi.].

### Button Pushing Down Force

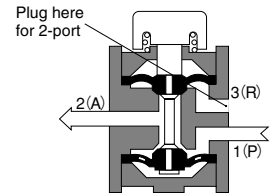
Model	Main pressure MPa [psi.]	N [lb.f.]				
		0	0.2	0.4	0.6	0.8
125P	Normally closed	14.7 [3.30]	21.6 [4.86]	28.4 [6.38]	36.3 [8.16]	43.2 [9.71]
	Normally open		30.4 [6.83]	44.1 [9.91]	58.8 [13.22]	72.6 [16.32]
125HO	Normally closed	6.9 [1.55]	14.7 [3.30]	21.6 [4.86]	28.4 [6.38]	36.3 [8.16]
	Normally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

### Inner Construction, Major Parts and Materials

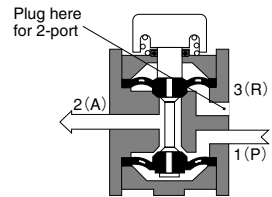
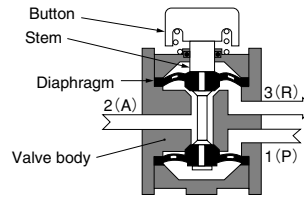
#### 125 series Normal condition



#### Operating condition



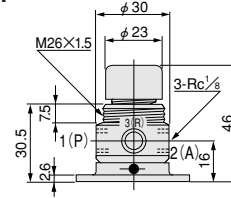
#### 250, 2503 series



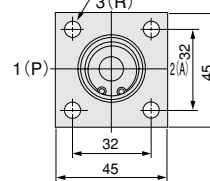
Parts	Materials
Body	Aluminum alloy (anodized)
Stem	Brass
Diaphragm	Synthetic rubber
Button	Nylon (Steel in 125HO)

### Dimensions (mm)

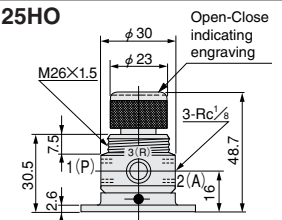
#### 125P



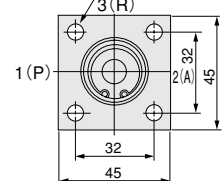
4-φ5.5 Mounting hole



#### 125HO



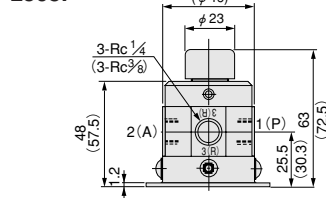
4-φ5.5 Mounting hole



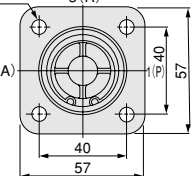
Note: For the normally open type, the exhaust port 3(R) is on the opposite side.

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

#### 250P 2503P



4-φ5.5 Mounting hole



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.