

Block valve

# FPV Series

● Port size: (Rc or R) 1/4 to 1/2

JIS symbol



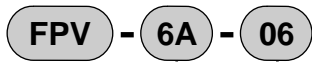
## Features

- Compact valve ideal for preventing dropping and for cylinder braking.
- Compact and lightweight  
The body has been greatly downsized compared to CKD conventional parts, with an average volume of 75% and average mass of 50%.
- Wide range of choices  
Series variations from M5 to R1/2 bore sizes enable direct cylinder installation.

## Specifications

Descriptions	FPV-M5	FPV-6A			FPV-8A			FPV-10A			FPV-15A		
Port size	M5	R1/8			R1/4			R3/8			R1/2		
Main side applicable tube O.D.	φ 6	φ 6	φ 8	Rc1/8	φ 6	φ 8	Rc1/4	φ 8	φ 10	Rc3/8	φ 10	φ 12	Rc1/2
Pilot side applicable tube O.D.		φ 4		M5	φ 4		M5	φ 4		Rc1/8	φ 4		Rc1/8
Working fluid	Compressed air												
Max. working pressure MPa	1.0												
Min. working pressure MPa	0												
Withstanding pressure MPa	1.5												
Pilot air pressure MPa	* Refer to a separate table on page 927.												
Fluid temperature °C	5 to 60												
Ambient temperature °C	0 to 60 (no freezing)												
Product weight g	28	26	36	50	51	68	90	93	120	143	145	192	
Effective sectional area mm <sup>2</sup>	1.3	5			10			17			27		

## How to order



A Port size

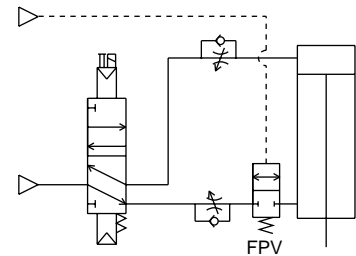
B Applicable tube outer diameter

A Port size		B Applicable tube outer diameter				
		A Port size				
		M5	6A	8A	10A	15A
M5	M5	●	●	●		
6A	R1/8		●	●	●	
8A	R1/4			●		
10A	R3/8				●	●
15A	R1/2					●

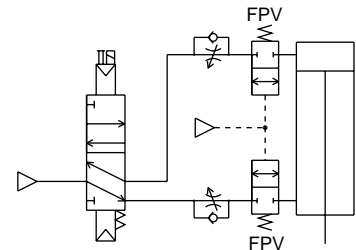
not available.

## Applications

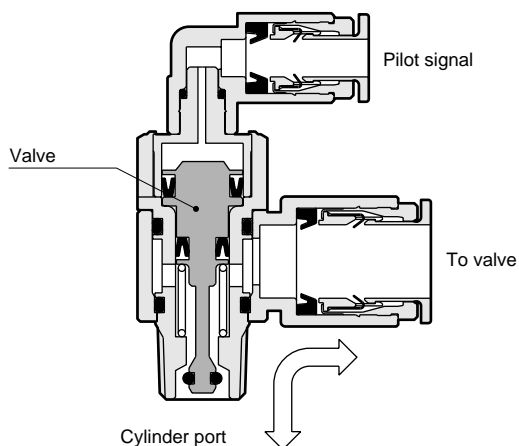
- Used for cylinder position locking circuit



- Used for cylinder braking circuit



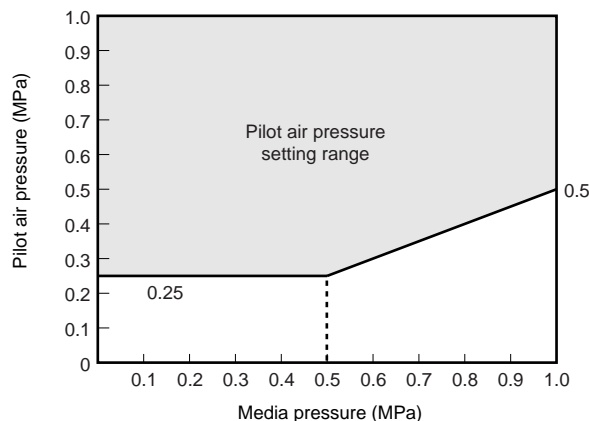
### Operational principle



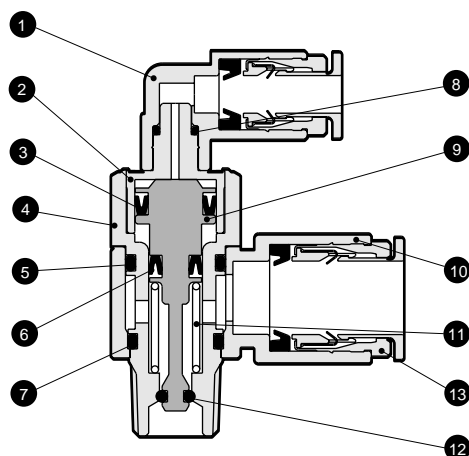
The valve opens if there is a pilot signal, but closes if the pilot signal is cut off.

### Pilot air pressure

Set pilot air pressure within the specified range.



### Internal structure and parts list



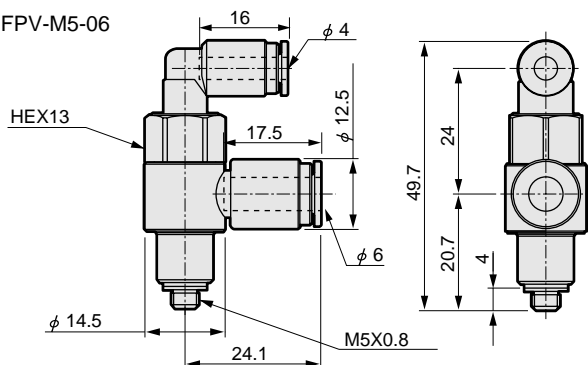
No.	Parts name	Material
1	Joint body	PBT (flame resistance resin)
2	Rotary shaft A	Brass (electroless nickeling)
3	Packing seal	Nitrile rubber
4	Rotary shaft B	Brass (electroless nickeling)
5	O ring	Nitrile rubber
6	Packing seal	Nitrile rubber
7	O ring	Nitrile rubber
8	O ring	Nitrile rubber
9	Valve	Brass (electroless nickeling)
10	Body	PBT (flame resistance resin) Note 1
11	Spring	Stainless steel
12	O ring	Nitrile rubber
13	Push-in joint	

Note 1: Zinc alloy die-casting is applied for female thread type.

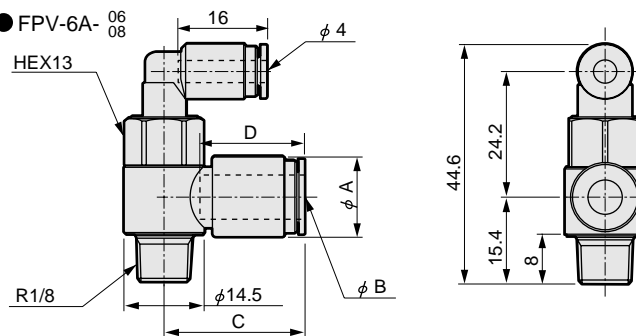
### Dimensions



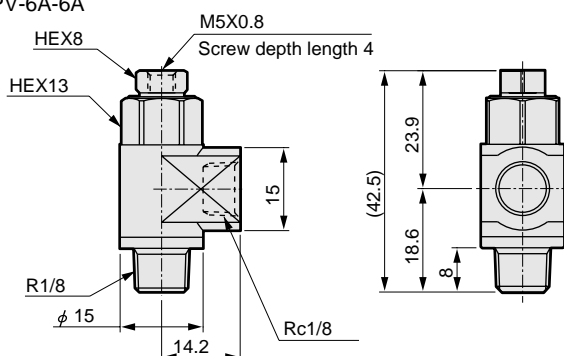
#### ● FPV-M5-06



#### ● FPV-6A-<sup>06</sup>/<sub>08</sub>



#### ● FPV-6A-6A



Model no.	A	B	C	D
FPV-6A-06	φ 12.5	φ 6	24.1	17.5
FPV-6A-08	φ 14.5	φ 8	25.3	19.0

Refrigerating type dryer  
Desiccant type dryer  
High polymer membrane dryer  
Air filter  
Auto. drain / others  
F.R.L. (Module unit)  
F.R.L. (Separate)  
Compact F.R.  
Precise regulator  
F.R.L. (Related products)  
Clean F.R.  
Electro pneumatic regulator  
Air booster  
Speed control valve  
Silencer  
Check valve / others  
Joint / tube  
Vacuum filter  
Vacuum regulator  
Suction plate  
Magnetic spring buffer  
Mechanical pressure SW  
Electronic pressure SW  
Contact / close contact cont. SW

Air sensor  
Pressure SW for coolant  
Small flow sensor  
Small flow controller  
Flow sensor for air  
Flow sensor for water  
Total air system  
Total air system (Gamma)

Ending

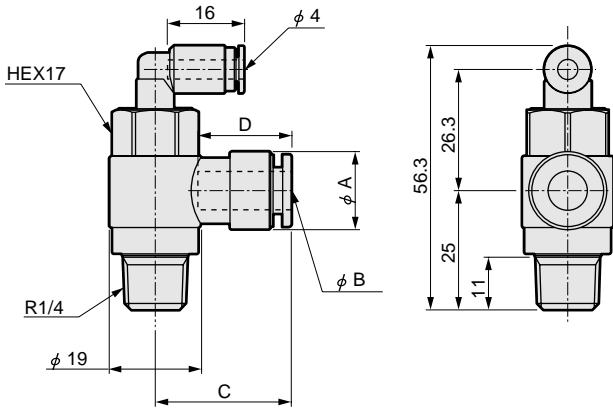
Auxiliary valve  
Block valve

## Dimensions

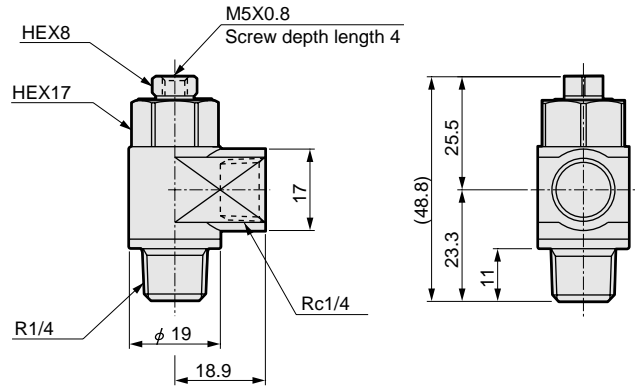


- Refrigerating type dryer
- Desiccant type dryer
- High polymer membrane dryer
- Air filter
- Auto. drain / others
- F.R.L (Module unit)
- F.R.L (Separate)
- Compact F.R.
- Precise regulator
- F.R.L (Related products)
- Clean F.R.
- Electro pneumatic regulator
- Air booster
- Speed control valve
- Silencer
- Check valve / others
- Joint / tube
- Vacuum filter
- Vacuum regulator
- Suction plate
- Magnetic spring buffer
- Mechanical pressure SW
- Electronic pressure SW
- Contact / close contact conf. SW
- Air sensor
- Pressure SW for coolant
- Small flow sensor
- Small flow controller
- Flow sensor for air
- Flow sensor for water
- Total air system
- Total air system (Gamma)
- Ending

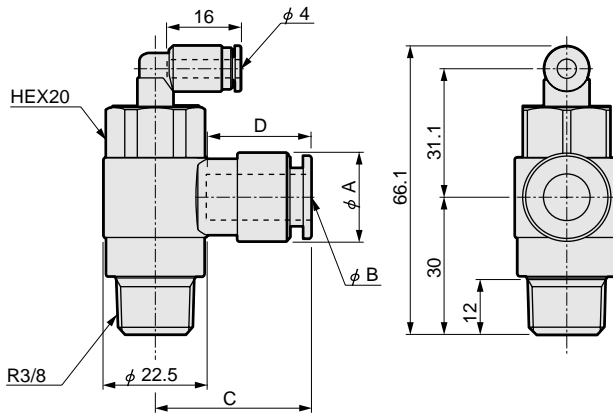
● FPV-8A-06  
08



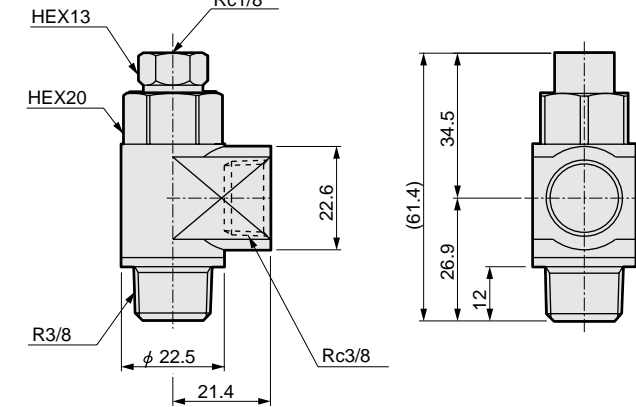
● FPV-8A-8A



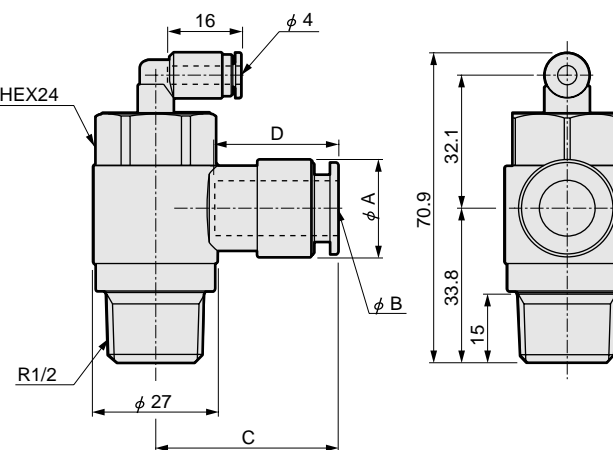
● FPV-10A-08  
10



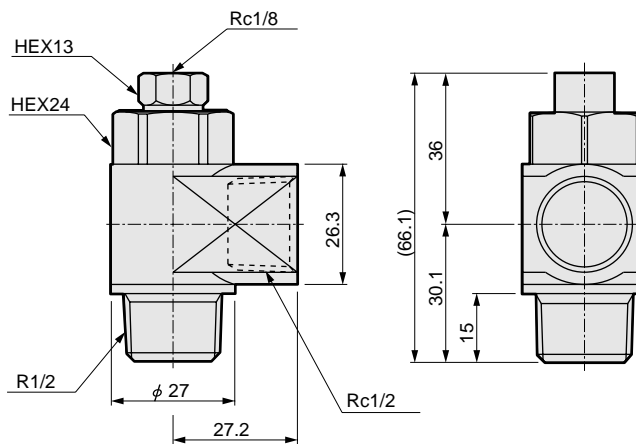
● FPV-10A-10A



● FPV-15A-10  
12



● FPV-15A-15A



Model no.	A	B	C	D
FPV-8A-06	φ 13.8	φ 6	26.7	18.0
FPV-8A-08	φ 16.3	φ 8	28.5	19.0
FPV-10A-08	φ 16.3	φ 8	30	19.5
FPV-10A-10	φ 19.3	φ 10	34	23
FPV-15A-10	φ 19.3	φ 10	36.4	23
FPV-15A-12	φ 21.3	φ 12	39.9	27

### Safety precautions

#### ■ Design & Selection

- Confirm that PTFE and be used.
  - The sealant contains PTFE (polytetrafluoroethylene resin) powder. Check that this poses no problem during use.

#### ■ Installation & Adjustment

(Piping)

- When supplying compressed air after connecting pipes, check for air leaks at all piping connections and actuator sections.
  - Cases may occur when position locking or braking do not function correctly.
- Set pilot and main pressure within the specified pressure.
  - If actuator load is high, main pressure increases and cannot be maintained.

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Total air system
Total air system (Gamma)

**Auxiliary valve**  
**Block valve**

Ending