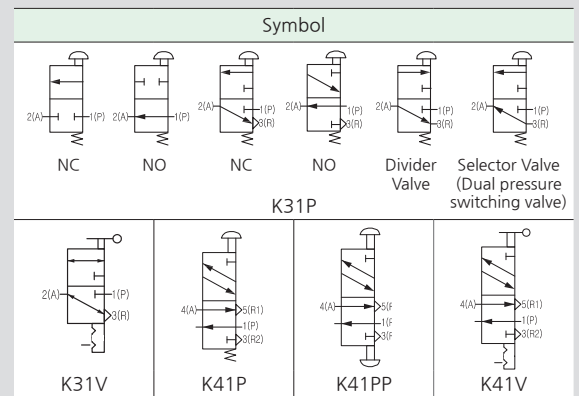
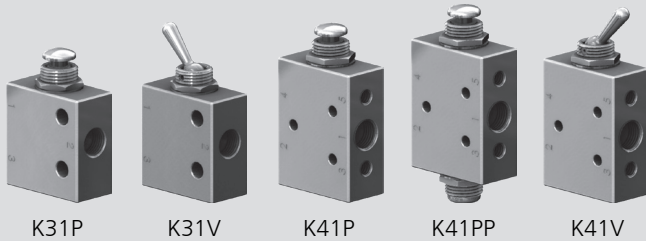


# K31, K41 series



## How to Order



### ① Series

K31	3 Port
K41	5 Port

### ② Operating

P	Push button (Spring return)
PP	Push button (Double action holding type) ※ Only for K41 5 port type
V	Pin lever (Holding type)

### ② Valve operator (Only for Push Button type)

Standard	Air Pilot type				Manual, Mechanical type	
	Nil	34A (High pressure)	341A (Medium pressure)	34AL (Low pressure)	34AR (Self return)	34B (Ball cam)

※ For details information about valve operator please refer to Page [3]-148.

## Specifications

Model	K31P	K41P	K41PP	K31V	K41V
Fluid	Air, Inert gas				
Port size	Rc(PT)1/8				
Effective sectional area S <sub>mm</sub> (Cv)	5.5mm <sup>2</sup> (0.08)				
Operating pressure	0.5~9kgf/cm <sup>2</sup> (0.05~0.9MPa)				
Proof pressure	13.5kgf/cm <sup>2</sup> (1.35MPa)				
Max. operating frequency	5 cycle/sec				
Lubrication	Not required (When refueling, turbine oil ISO VG32 or equivalent)				
Type of actuator	Push button (Spring return)		Push button (Double action holding)	Pin lever (Holding)	
Number of port	3 Port (NC/NO)	5 Port	5 Port	3 Port	5 Port
Stroke	2.4mm (Spare 0.8mm, basic 0.8mm, over 0.8mm)			-	
Operating angle	-			80°	
Ambient & fluid temperature	0°C ~ 60°C				
Weight	55g	70g	75g	55g	70g

**Usage Example (Different Piping Procedure)**

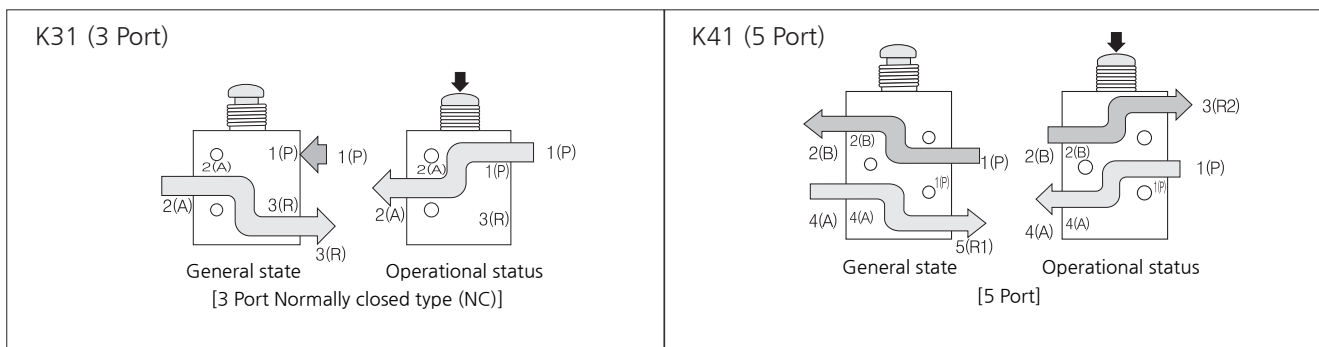
**K31P, K31V**

- 2-port, normally closed (3(R) port plugged)
- 2-port, normally open (1(P) port plugged)
- 3-port, normally closed (1(P) port used as IN)
- 3-port, normally open (3(R) port used as IN)
- Divider valve  
[Use the 2(A) port as IN, the 1(P) port and 3(R) port as OUT.]
- Selector valve (Dual-pressure switching valve)  
[Use the 1(P) port and 3(R) port as IN ports with different pressures.]

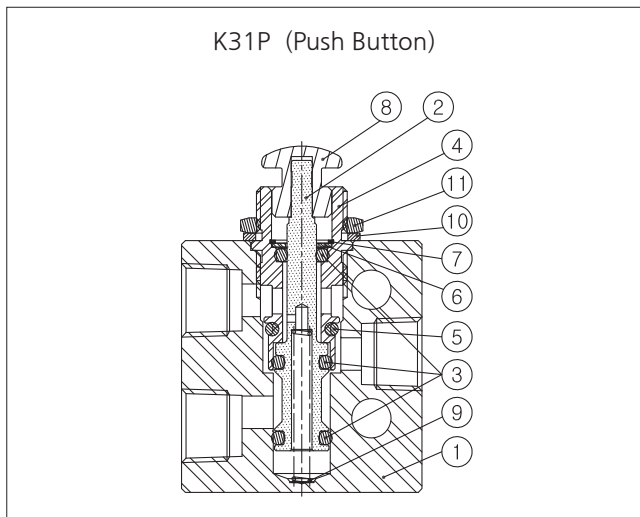
**K41P, K41PP, K41V**

- Plugging the 2(B) port makes a 3 port NC (normally closed) type
- Plugging the 4(A) port makes a 3 port NO (normally open) type
- 4(A), 2(B) port used as IN  
- Analog Output : Refer to analog output of each model

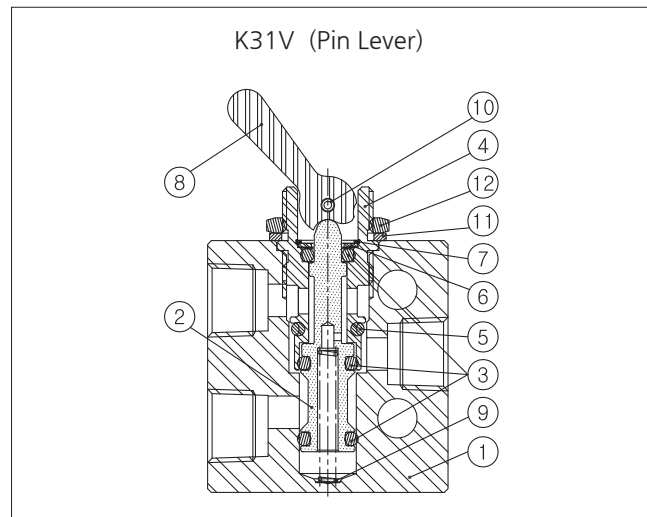
**Operating Pricipal**



**Structure**



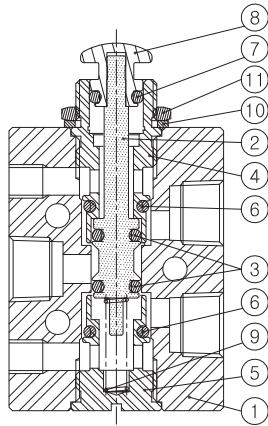
Part no.	Parts	Material
1	BODY	AL
2	STEM	BRASS
3	O-RING-B	RUBBER
4	ADAPTER	BRASS
5	O-RING-A	RUBBER
6	FLAT WASHER	METAL
7	C-RING (HOLE)	METAL
8	BUTTON	METAL
9	SPRING	SUS
10	SPECIAL WASHER (INNER TOOTH)	METAL
11	NUT	METAL



Part no.	Parts	Material
1	BODY	AL
2	STEM	AL
3	O-RING-B	RUBBER
4	ADAPTER	BRASS
5	O-RING-A	RUBBER
6	FLAT WASHER	METAL
7	C-RING (HOLE)	METAL
8	LEVER	SUS
9	SPRING	SUS
10	SPRING PIN	METAL
11	SPECIAL WASHER (INNER TOOTH)	METAL
12	NUT	METAL

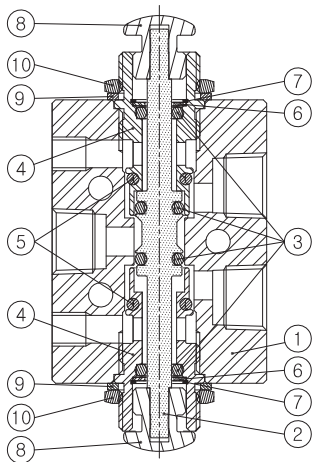
**Structure**

K41P (Push Button)



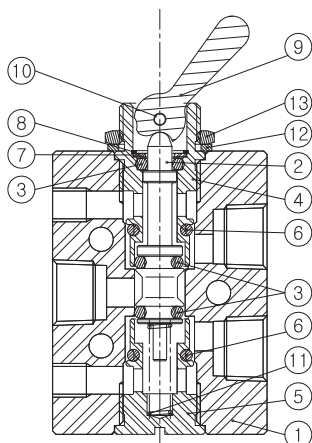
Part no.	Parts	Material
1	BODY	AL
2	STEM	BRASS
3	O-RING-C	RUBBER
4	ADAPTER	BRASS
5	PLUG	BRASS
6	O-RING-A	RUBBER
7	O-RING-B	RUBBER
8	BUTTON	METAL
9	SPRING	SUS
10	SPECIAL WASHER (INNER TOOTH)	METAL
11	NUT	METAL

K41PP (Push Button Double Action)



Part no.	Parts	Material
1	BODY	AL
2	STEM	BRASS
3	O-RING-B	RUBBER
4	ADAPTER	BRASS
5	O-RING-A	BRASS
6	WASHER	RUBBER
7	C-RING(HOLE)	RUBBER
8	BUTTON	METAL
9	SPECIAL WASHER (INNER TOOTH)	SUS
10	NUT	METAL

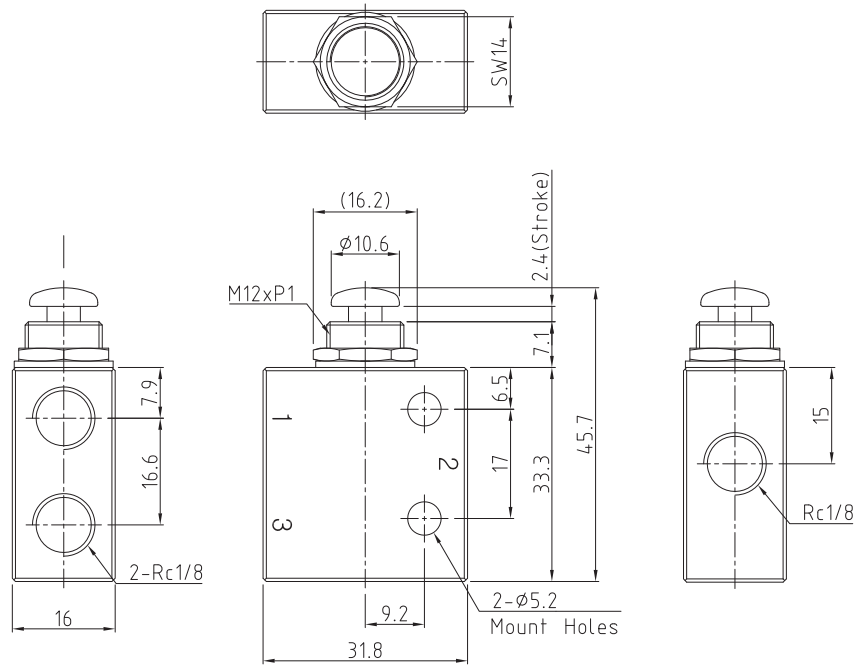
K41V (Pin Lever)



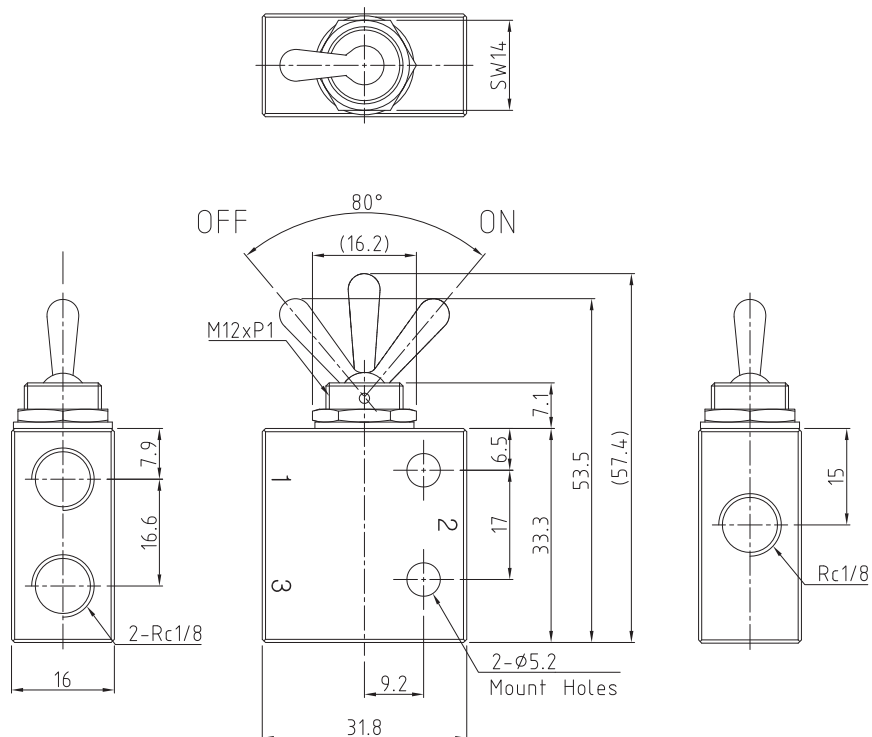
Part no.	Parts	Material
1	BODY	AL
2	STEM	SUS
3	O-RING-B	RUBBER
4	ADAPTER	BRASS
5	PLUG	BRASS
6	O-RING-A	RUBBER
7	WASHER	METAL
8	C-RING(HOLE)	METAL
9	LEVER	SUS
10	SPRING PIN	METAL
11	SPRING	SUS
12	SPECIAL WASHER (INNER TOOTH)	METAL
13	NUT	METAL

Dimensions

K31P  
Push Button type

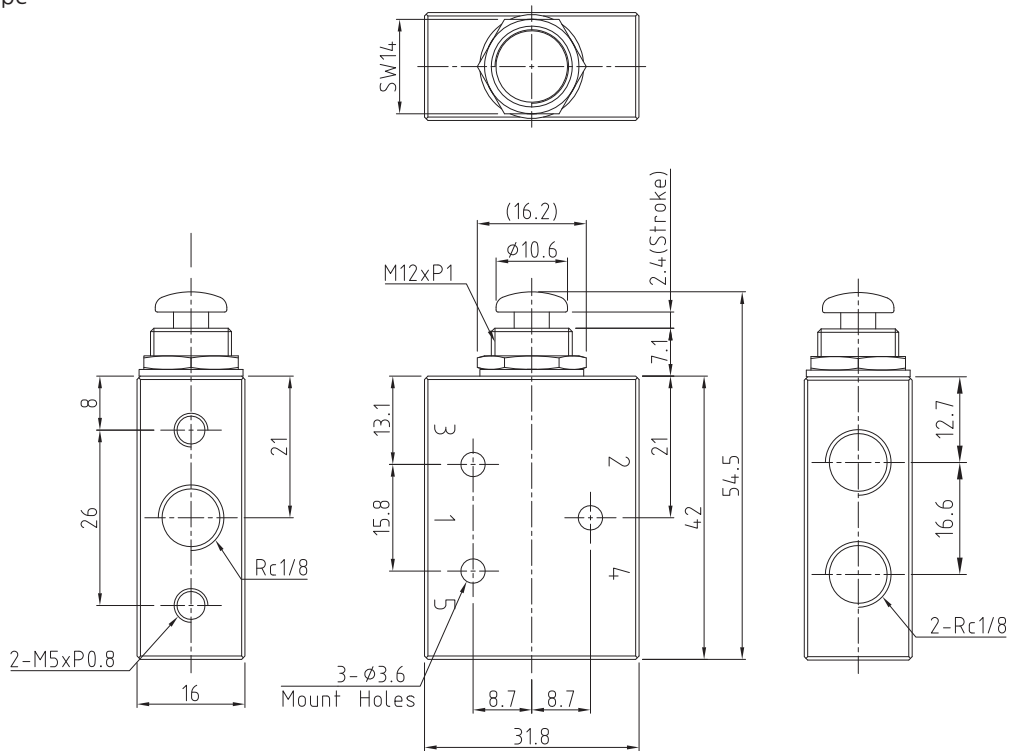


K31V  
Pin Lever type

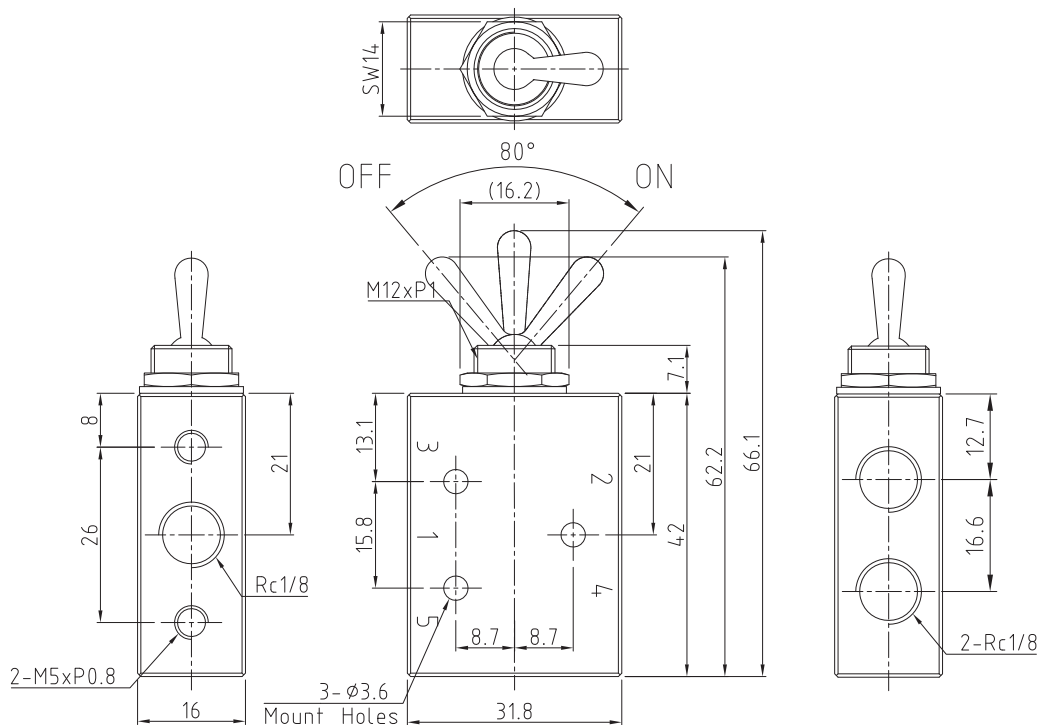


Dimensions

K41P  
Push Button type

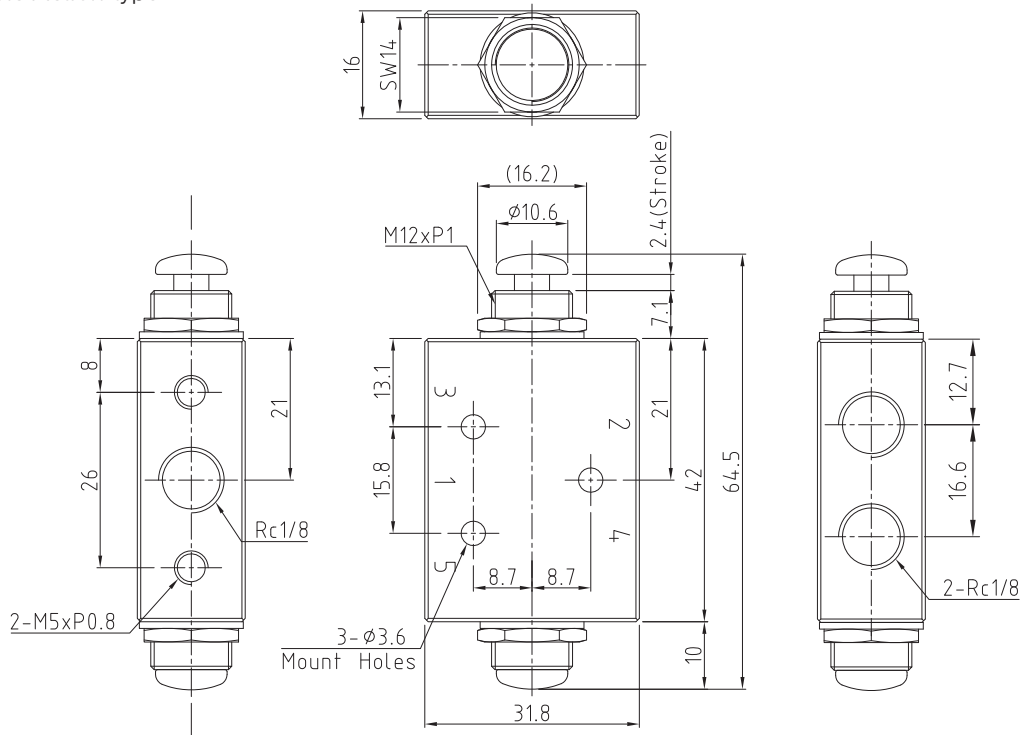


K41V  
Pin Lever type



Dimensions

K41PP  
Pin Lever Double Action type



### Applicable Valve for Different Actuator

#### Air Pilot type

- 34A(High pressure) : K2P, K3P, K4P, K4PP, K31P, K41P, K41PP
- 341A(Medium pressure) : K2P, K3P, K4P, K4PP, K31P, K41P, K41PP
- 34AL(Low pressure) : K2P, K3P, K4P, K4PP, K31P, K41P, K41PP
- 34AR(Self return) : K2P, K3P, K4P, K4PP, K31P, K41P, K41PP

#### Manual, Mechanical type

- 34B(Ball cam) : K2P, K3P, K4P, K4PP, K31P, K41P, K41PP
- 34C(Roller cam) : K2P, K3P, K4P, K4PP, K31P, K41P, K41PP

### Actuator (Push Button Operating type)

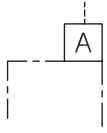
Air Pilot Type				Manual, Mechanical Type	
34A (High Pressure)	341A (Medium Pressure)	34AL (Low Pressure)	34AR (Self Return)	34B (Ball Cam)	34C (Roller Cam)

### Example of Valve with Different Actuators

K31P-34A	K31P-341A	K31P-34AL	K41P-34AR	K41P-34B	K41P-34C

### 34A-Air Pilot(High Pressure Type)

Symbol



Max. operating pressure	0.9MPa
Proof pressure	1.35MPa
Lubrication	Not required
Weight	29g

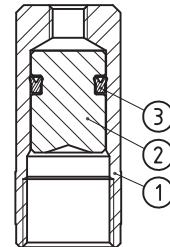
#### Min Pilot Pressure (MPa)

Air Pressure Valve model	0.2MPa	0.4MPa	0.7MPa
K2P	0.4 (0.25)	0.54 (0.26)	0.72 (0.29)
K3P	0.24	0.26	0.34
K4P	0.24	0.25	0.25
K4PP	0.08	0.08	0.08

※ ( ) shows the figure when port 2(A) is open to the atmosphere.

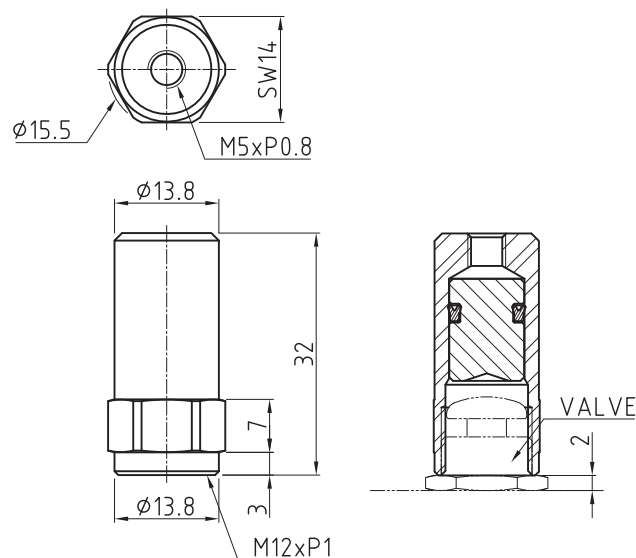
Air Pressure Valve model	0.1MPa	0.3MPa	0.5MPa	0.7MPa
K31P	0.3	0.34	0.35	0.39
K41P	0.46	0.48	0.5	0.52
K41PP	0.13	0.14	0.18	0.21

### Structure



Part no.	Parts	Material
1	BODY	BRASS
2	PISTON	PLASTIC
3	PISTON SEAL	RUBBER

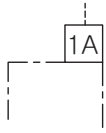
### Dimensions





### 341A-Air Pilot (Medium Pressure Type)

Symbol

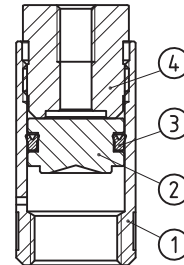


Max. operating pressure	0.9MPa
Proof pressure	1.35MPa
Lubrication	Not required
Weight	30g

#### Min Pilot Pressure (MPa)

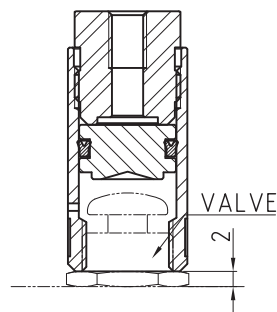
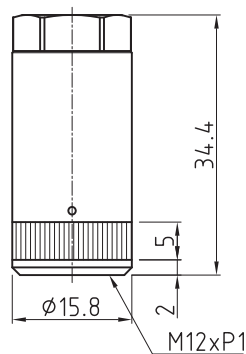
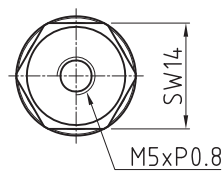
Air pressure Valve Model	0.1MPa	0.3MPa	0.5MPa	0.7MPa
K31P	0.18	0.2	0.22	0.25
K41P	0.29	0.3	0.31	0.33
K41PP	0.09	0.11	0.13	0.15

### Structure



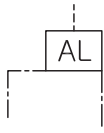
Part no.	Parts	Material
1	BODY	BRASS
2	PISTON	PLASTIC
3	PISTON SEAL	RUBBER
4	ADAPTER	BRASS

### Dimensions



### 34AL-Air Pilot (Low Pressure Type)

Symbol



Max. operating pressure	0.9MPa
Proof pressure	1.35MPa
Lubrication	Lubricated
Weight	90g

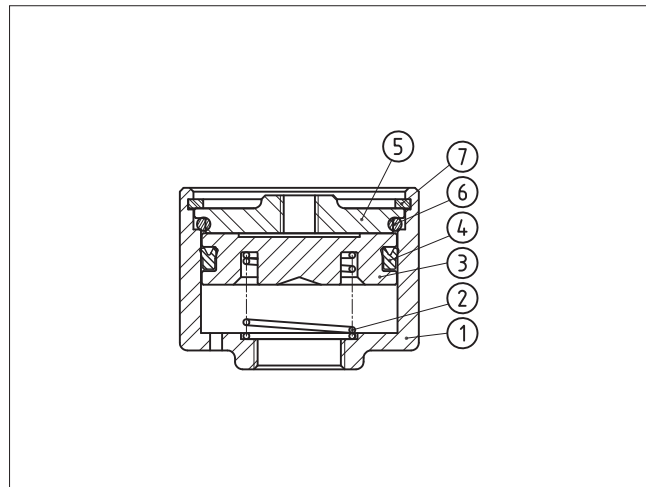
#### Min Pilot Pressure (MPa)

Air pressure Valve Model	0.2MPa	0.4MPa	0.7MPa
K2P	0.07(0.05)	0.1(0.05)	0.12(0.06)
K3P	0.05	0.05	0.06
K4P	0.05		
K4PP	0.03		

※ ( ) shows the figure when port 2(A) is open to the atmosphere.

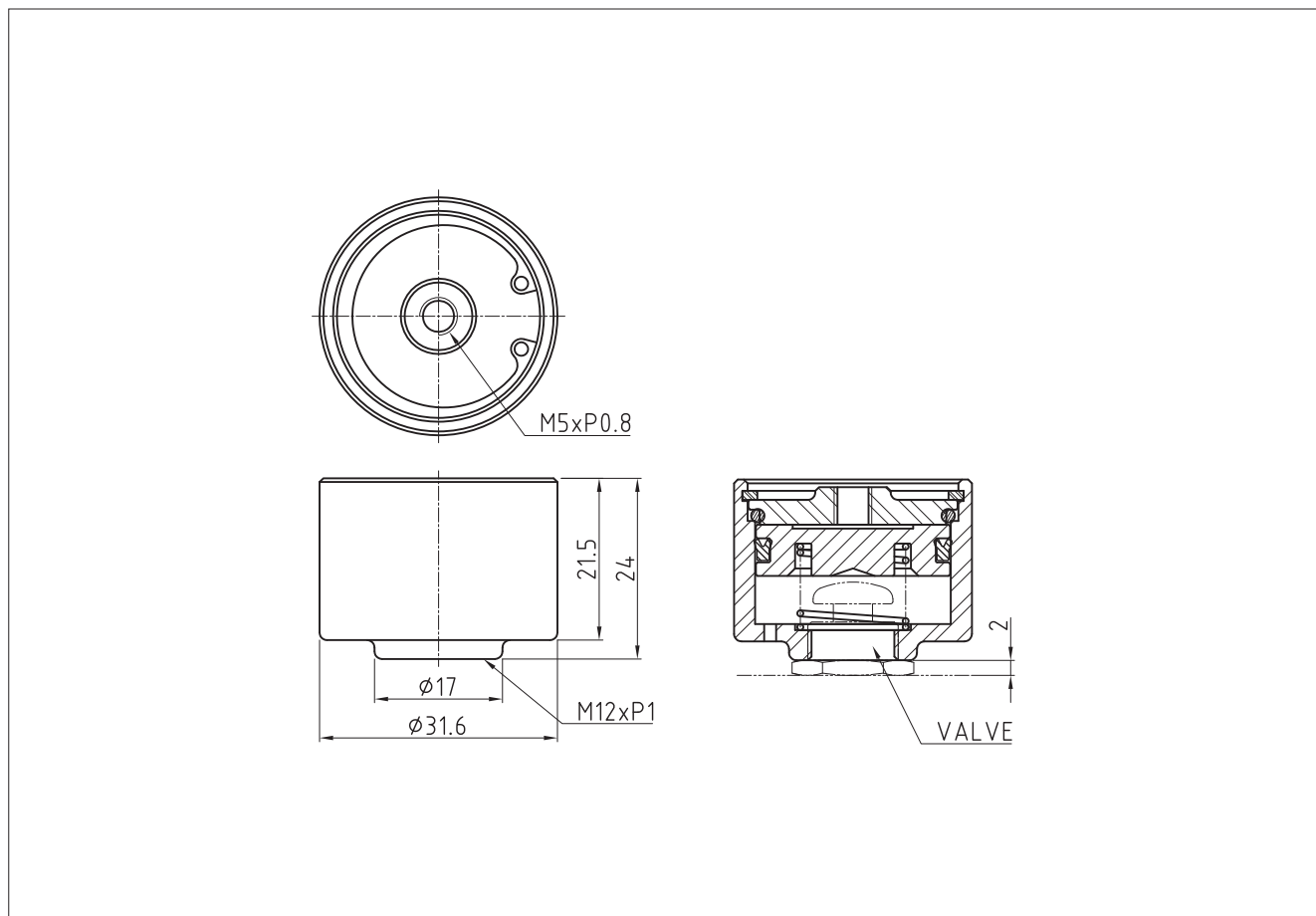
Air pressure Valve Model	0.1MPa	0.3MPa	0.5MPa	0.7MPa
K31P	0.07	0.07	0.08	0.09
K41P	0.09	0.1	0.1	0.11
K41PP	0.04	0.05	0.05	0.06

### Structure



Part no.	Parts	Material
1	BODY	BRASS
2	SPRING	SUS
3	PISTON	PLASTIC
4	PISTON SEAL	RUBBER
5	COVER	BRASS
6	O-RING	RUBBER
7	C-RING	METAL

### Dimensions



### 34AR-Air Pilot (Self Return)

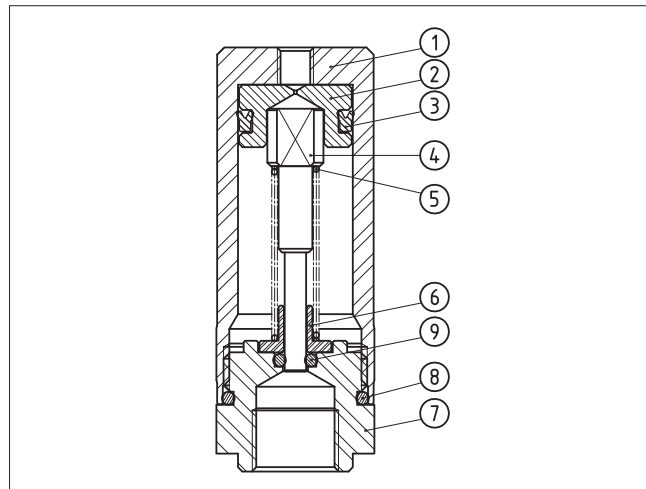
Symbol		
	Max. operating pressure	0.27~0.9MPa
	Operating pressure	0.27MPa
	Proof pressure	1.35MPa
	Lubrication	Lubricated
	Weight	122g

- ※ Operates immediately when an air pilot of 0.27 MPa or more is received and returns after about 0.5 seconds even if there is a pilot pressure.
- ※ When combined with a maintenance valve (PP), the valve can be returned to its original position even with one side of the air pilot.
- ※ It is mainly used for one-shot circuits.
- ※ How to pressurize slowly is not possible. Supply with a sufficient margin.

### Min Pilot Pressure (MPa)

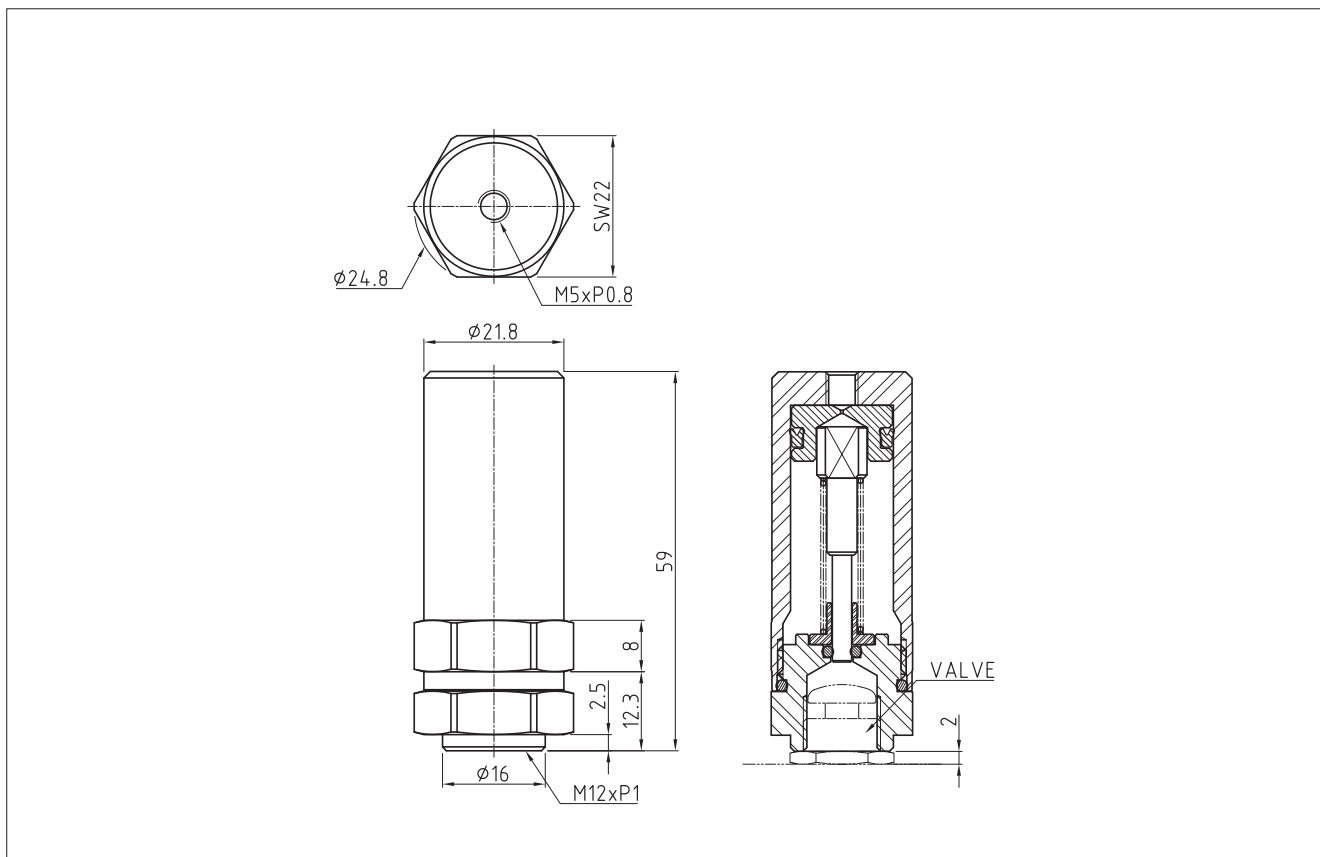
Air pressure Valve Model	0.1MPa	0.3MPa	0.5MPa	0.7MPa
K31P	0.32	0.34	0.36	0.39
K41P	0.33	0.34	0.36	0.39
K41PP	0.25	0.25	0.25	0.25

### Structure



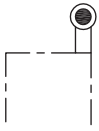
Part no.	Parts	Material
1	BODY	BRASS
2	PISTON	PLASTIC
3	PISTON SEAL	RUBBER
4	PLUNGER	METAL
5	SPRING	SUS
6	GUIDE	METAL
7	ADAPTER	BRASS
8	O-RING-A	RUBBER
9	O-RING-B	RUBBER

### Dimensions



### 34B-Manual Operating(Ball Cam Type)

Symbol



Weight 15g

※Stroke same as valve stroke.

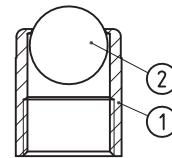
#### Min Pilot Pressure (MPa)

Air pressure Valve Model	0.2MPa	0.4MPa	0.7MPa
K2P	29.4(19.6)	44.1(21.6)	63.7(23.5)
K3P	19.6	24.5	29.4
K4P	19.6	21.6	23.5
K4PP	4.9	5.9	6.9

※ ( ) shows the figure when port 2(A) is open to the atmosphere.

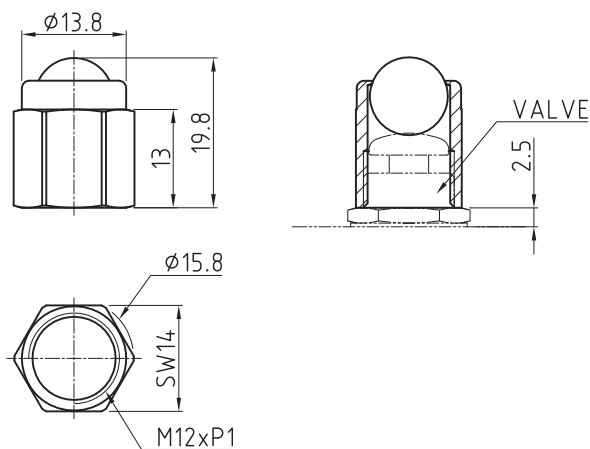
Air pressure Valve Model	0.1MPa	0.3MPa	0.5MPa	0.7MPa
K31P	26.5	27.5	29.4	32.4
K41P	37.3	38.2	41.2	44.1
K41PP	9.8	11.8	12.7	16.7

### Structure



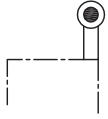
Part no.	Parts	Material
1	BODY	BRASS
2	BALL	SUS

### Dimensions



34C-Manual Mechanical type(Roller Cam)

Symbol



Weight 15g

※Stroke is 2 times of valve stroke.

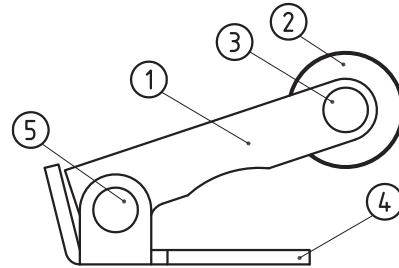
Min Pilot Pressure (MPa)

Air pressure Valve Model	0.2MPa	0.4MPa	0.7MPa
K2P	13.7(9.8)	19.6(11.8)	27.5(14.7)
K3P	9.8	12.7	14.7
K4P	9.8	11.8	13.7
K4PP	3.9	4.9	4.9

※ ( ) shows the figure when port 2(A) is open to the atmosphere.

Air pressure Valve Model	0.1MPa	0.3MPa	0.5MPa	0.7MPa
K31P	17.7	18.6	20.6	23.5
K41P	26.5	27.5	27.5	29.4
K41PP	5.9	6.9	7.8	9.8

Structure



Part no.	Parts	Material
1	MOVABLE LEVER	METAL
2	ROLLER	PLASTIC
3	ROLLER PIN	SUS
4	FIX LEVER	METAL
5	LEVER PIN	SUS

Dimensions

