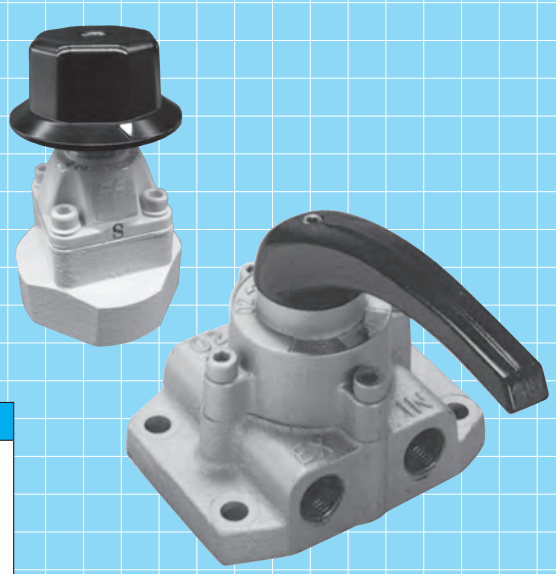
Four-Port, Controled Valves

PVT1	Standard type	RC 1/4 ~ 1/2
PVT406K		RC 3/4
PVT410K		RC 1
PVT1M	With lock mechanism type	RC 3/8 · 1/2
PVT1L	Bottom-port type	RC 3/8 · 1/2
PVT406L		RC 3/4
PVT410L		RC 1

These are 3 position control valves which operated manually.



JIS Symbol

See Model Code section.

Specifications

Model code	Standard type	PVT1			PVT406K	PVT410K
	Type with lock mechanism		PVT1M			
	Bottom-port type	※	PVT1L		PVT406L	PVT410L
Port size		8A	10A	15A	20A	25A
		Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1
Effective sectional area		5.7㎟	50㎟	60㎟	100㎟	
Operating angle		90°	120°			
Operating pressure		0 ~ 0.7MPa				
Proof pressure		1.05MPa				
Allowable valve leakage		50㎤/min (ANR) . [at 0.5MPa]				
Operating temperature		− 20 ~ 60℃	5 ~ 60℃			
Mass		2.0kg	2.6kg		7.2kg	8.0kg

- For specifications other than those listed above, please contact us.
- ※ Note that size 8A or PVT1 is of the bottom pipe type.
- In the event of use in high dry air above dew point − 40℃ , please contact us.

Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/4	PVT1 ① ② –8A ① Handle shape ② Valve type
Rc 3/8 ~ 1/2	PVT1 ② – ⑤ ② Valve type ⑤ Port size
Rc 3/4	PVT406K ③ – 20A ③ Valve type
Rc 1	PVT410K ③ – 25A ③ Valve type

Type with lock mechanism

Rc 3/8 ~ 1/2	PVT1M ③ – ④ – ⑤ ③ Valve type ④ Stopper position ⑤ Port size

Bottom-port type

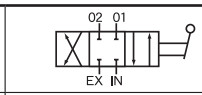
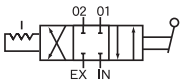
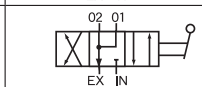
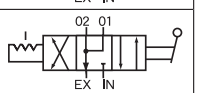
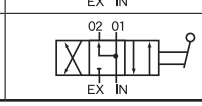
Rc 3/8 ~ 1/2	PVT1L ③ – ⑤ ③ Valve type ⑤ Port size
Rc 3/4	PVT406L ③ –20A ③ Valve type
Rc 1	PVT410L ③ –25A ③ Valve type

① Handle shape

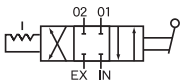
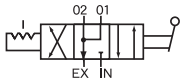
Round handle	No entry
Rod handle	B

● Round handle is not available for 10A and 15A.

② Valve type

Closed center	8A		No entry
	10A・15A		
Open center	8A		R
	10A・15A		
Exhaust Block	8A		E

③ Valve type

Closed center		No entry
Open center		R

④ Stopper position

Neutral	1
Both ends	2
All positions	3

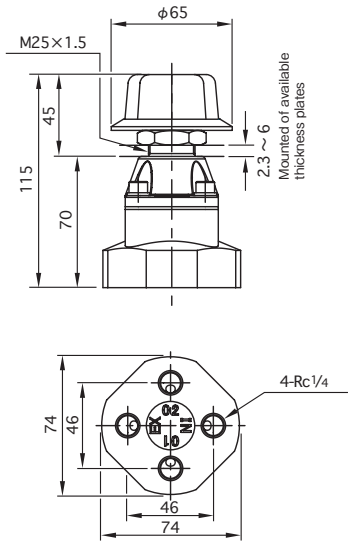
⑤ Port size

Rc3/8	10A
Rc1/2	15A

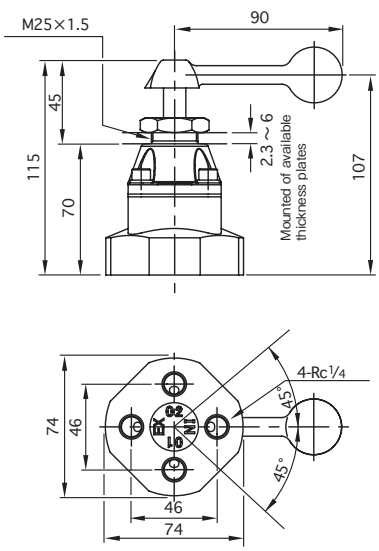
Outside Dimensions

Standard type

PVT1-8A



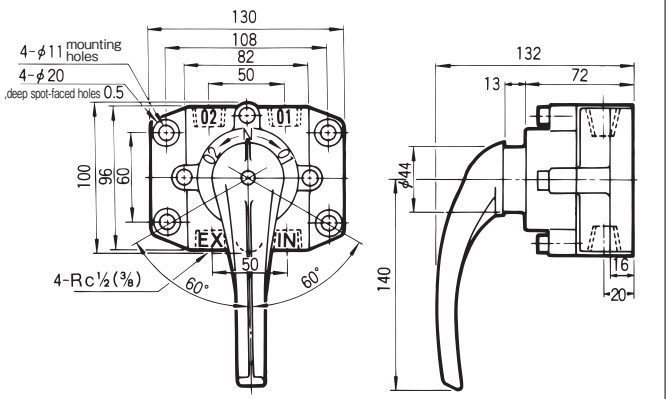
PVT1B-8A



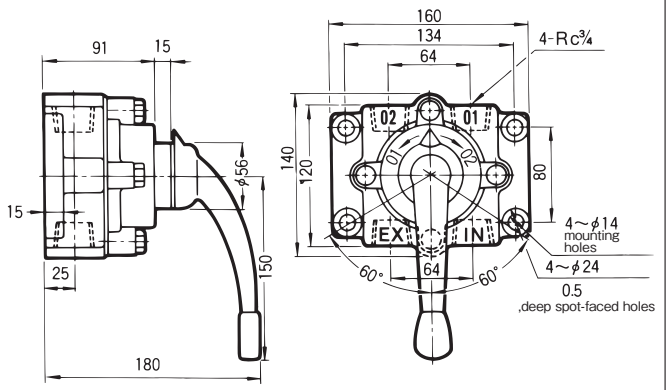
Outside Dimensions

Standard type

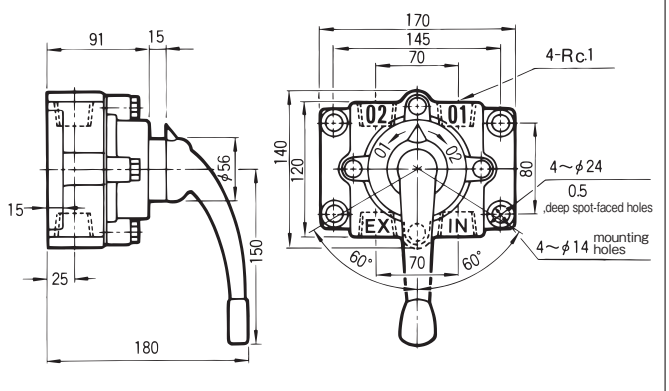
PVT1-10A・15A



PVT406K-20A

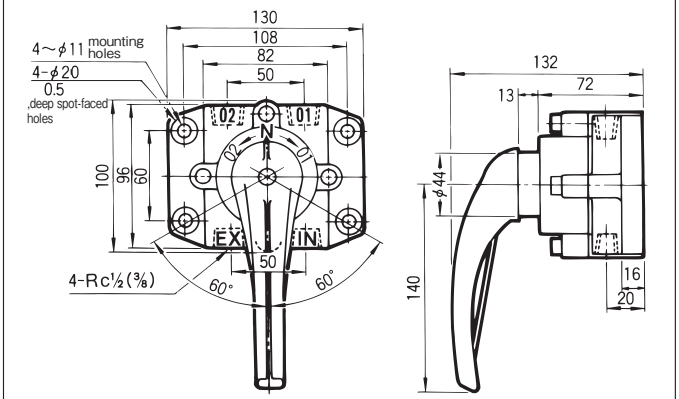


PVT410K-25A



Type with lock mechanism

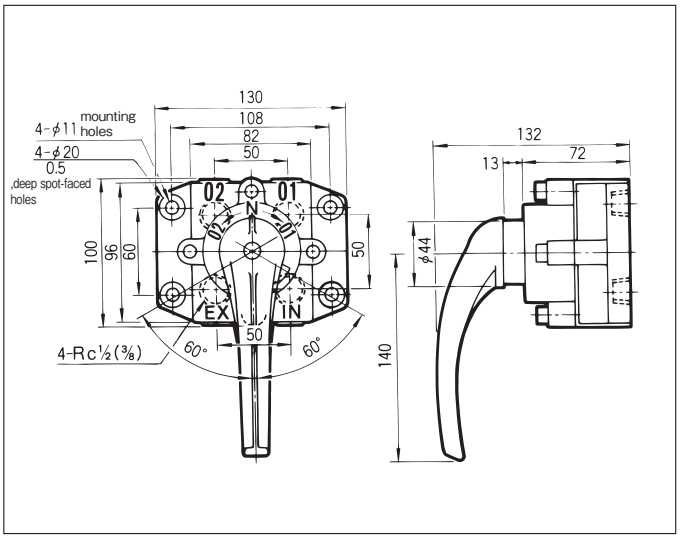
PVT1M-10A・15A



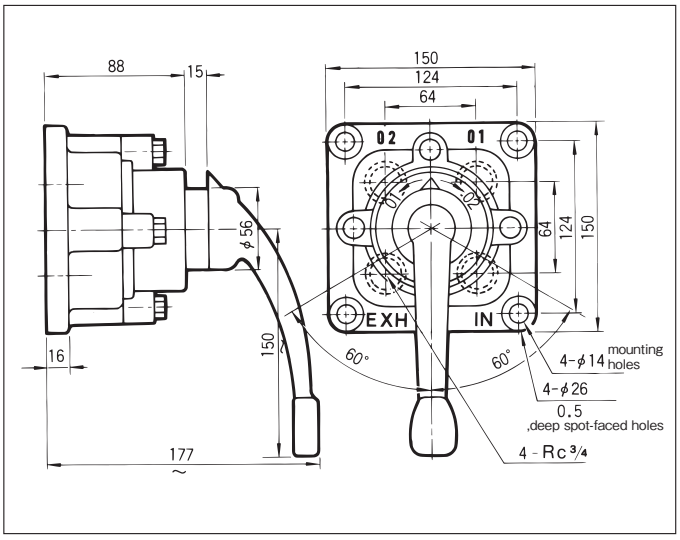
Outside Dimensions

Bottom-port type

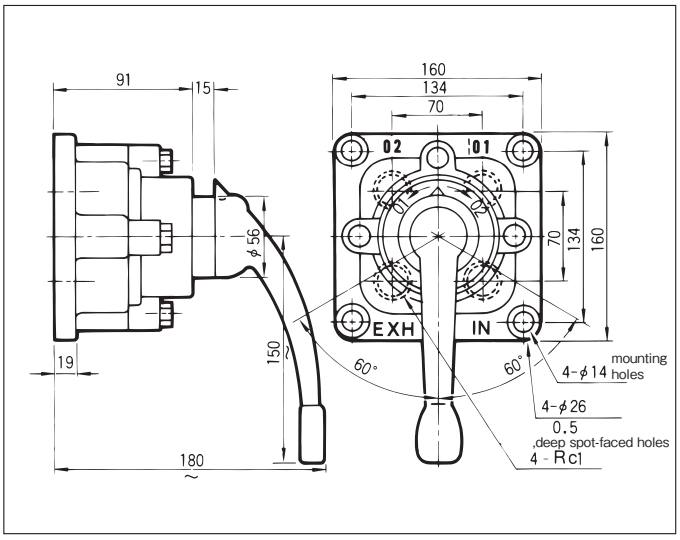
PVT1L-10A・15A



PVT406L-20A



PVT410L-25A

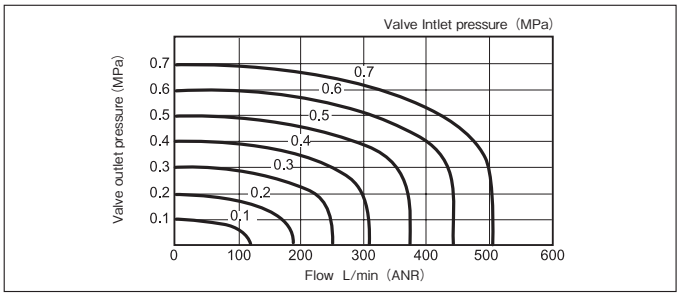


Performance Tables

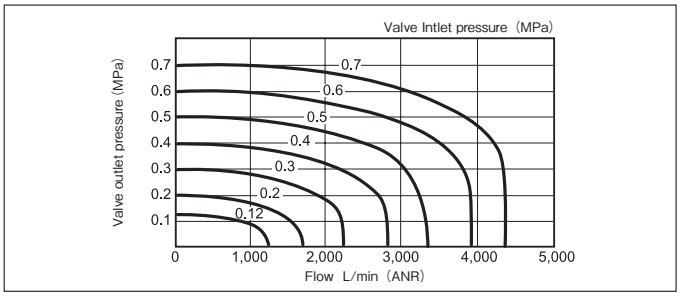
Flow characteristics graphs

Standard and With lock mechanism , Bottom-port type

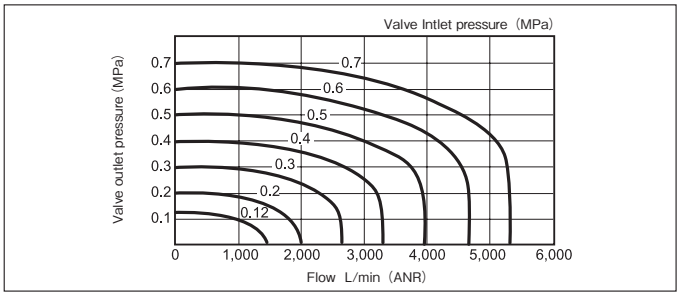
PVT1-8A



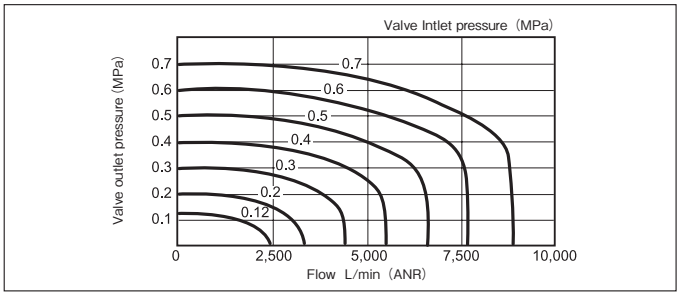
PVT1-10A



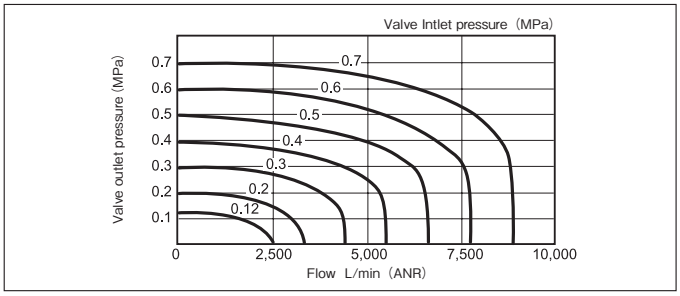
PVT1-15A



PVT406K-20A



PVT410K-25A

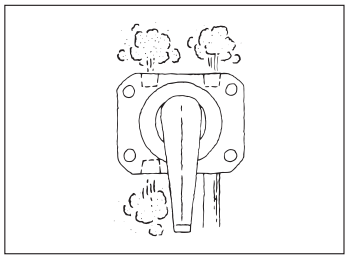


Operating Instructions

1 Installation

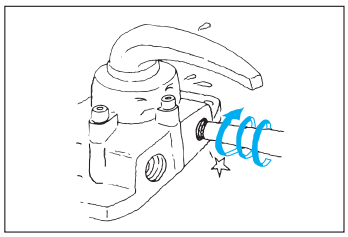
● Clean the piping.

Flash the piping thoroughly after laying.Use pipes with an inside surface plated with zinc.



● Fluid.

Since dirt and wastes in the fluid hinder proper functioning of the valve and shorten its service life,use clean air as the fluid.



● Do not force port.

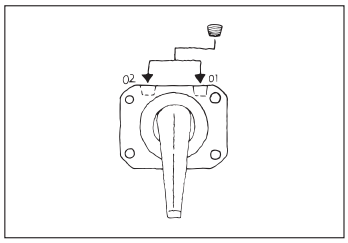
Lirnit the number of pipe threads screwed into the valve to four or five for any of sizes 8A to 25A (Rc1/4 "to 1") .
If the pipe is forced to enter the valve beyond that point,the valve body may be cracked,and leakage or malfunctioning result.

● If valves other than the type with a lock mechanism are to be installed and used vertically,please contact us.

2 Before use

● Conversion to a threeport valve.

If either of the two OUT ports is plugged,the valve can be used as a threeway,directional control valve.



● Leakage from the disc.

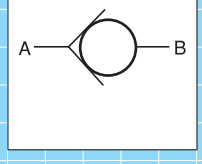
Since a disc is fitted in the valve,a small amount of leakage may occur due to deformation at installation or from long periods of use,etc.However,this will cause no problem in normal use of the valve.

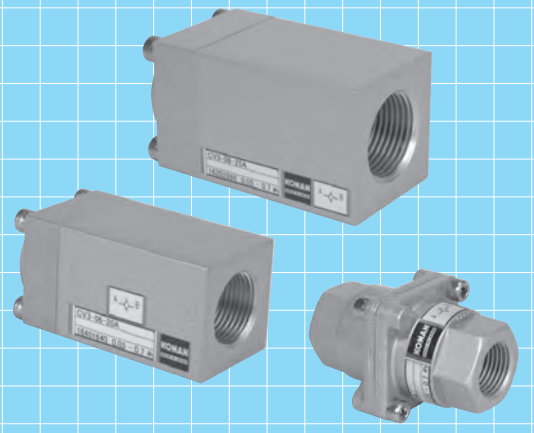
CHECK VALVES

CV3・CV1	Standard type	RC 1/4 ～ 2

The check valve permits only one-way air flow and prevents reverse flow.Konan's check valves are designed for low cracking pressure and very low resistance to air.

JIS Symbol





Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/4 ～ 1/2 — CV3 ❶ –04– ❷ – ❹

- ❶ Corrosion-resistant
- ❷ Port size
- ❹ Operating temperature range

Rc 3/4 — CV3 ❶ –06– 20A – ❹

- ❶ Corrosion-resistant
- ❹ Operating temperature range

Rc 1 — CV3 ❶ –08– 25A – ❹

- ❶ Corrosion-resistant
- ❹ Operating temperature range

Rc 1_1/4 ～ 2 — CV1 – ❸

- ❸ Port size

❶ Corrosion-resistant

- Portions that are exposed to outside weather conditions are corrosion-resistant coating and the exposed bolts and nuts are stainless steel.

Standard	No entry
Corrosion-resistant type	S

❷ Port size

Rc1/4	8A
Rc3/8	10A
Rc1/2	15A

❸ Port size

Rc1_1/4	32A
Rc1_1/2	40A
Rc 2	50A

❹ Operating temperature range

General purpose	– 20 ～ 60℃	No entry
Heat-resistant	5 ～ 100℃	HT
Freeze-resistant	– 40 ～ 45℃	LT

- For corrosion.freeze resistant type,allow some margin for delivery.
- In operating temperatures of 5℃ or less, provide adequate measures against freezing.

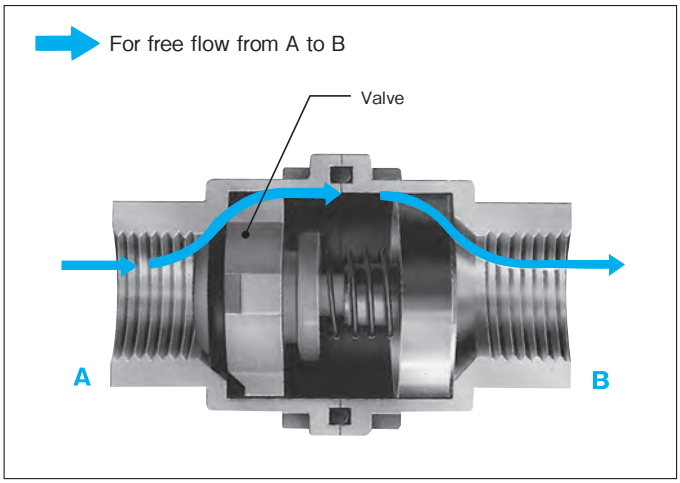
Specifications

Model code	CV3-04			CV3-06	CV3-08	CV1		
Port size	8A	10A	15A	20A	25A	32A	40A	50A
	Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1	Rc1 1/4	Rc1 1/2	Rc2
Effective sectional area	40㎟	63㎟	94㎟	155㎟	210㎟	528㎟		1,007㎟
Operating pressure	0.05 ～ 0.7MPa					0.1 ～ 0.7MPa		
Cracking pressure	0.01MPa or less							
Proof pressure	1.05MPa							
Operating temperature	General purpose – 20 ～ 60℃ Heat-resistant 5 ～ 100℃ Freeze-resistant – 40 ～ 45℃					5 ～ 60℃		
Mass	0.13kg			0.27kg	0.45kg	1.0kg		2.2kg

- For specifications other than those listed above,please contact us.
- In the event of use in high dry air above dew point – 40℃ ,please contact us

Operation

Standard type CV3 — 04 — 15A



● For flow from ports A to B (free flow)

When air entering at port A exceeds the cracking pressure of the valve,the air forces the valve open and flows to port B.

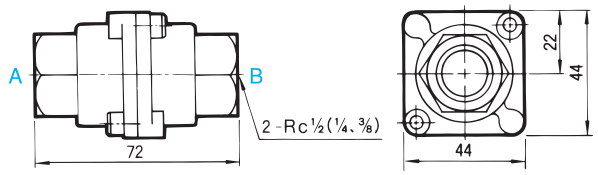
● For flow from ports B to A (controlled flow)

The air pressure,together with the spring force,moves the valve in the closing direction,and th air entering port B is blocked.

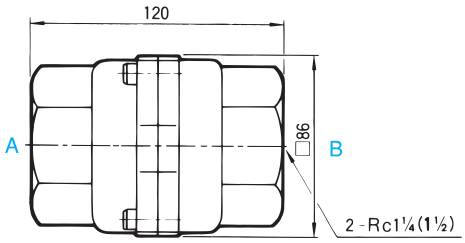
Outside Dimensions

Standard type

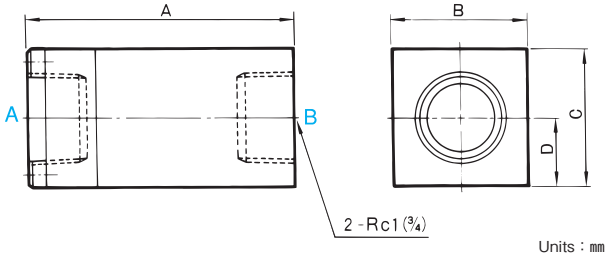
CV3-04-8A・10A・15A



CV1-32A・40A



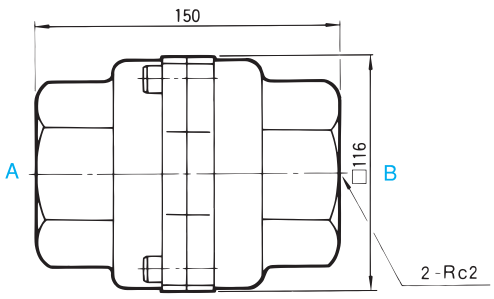
CV3-06-20A CV3-08-25A



Units : mm

Size	20A	25A
A	80	95
B	40	50
C	40	50
D	20	25

CV1-50A

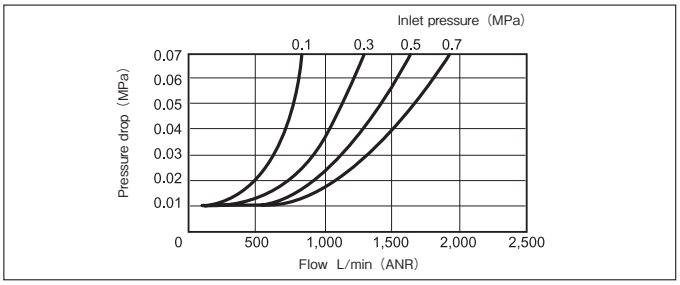


Performance Tables

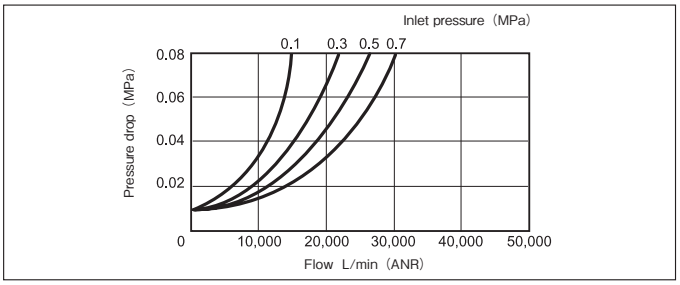
Flow characteristics graphs (from ports A to B)

Standard type

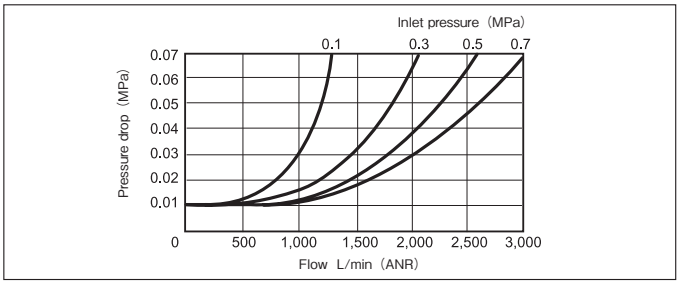
CV3-04-8A



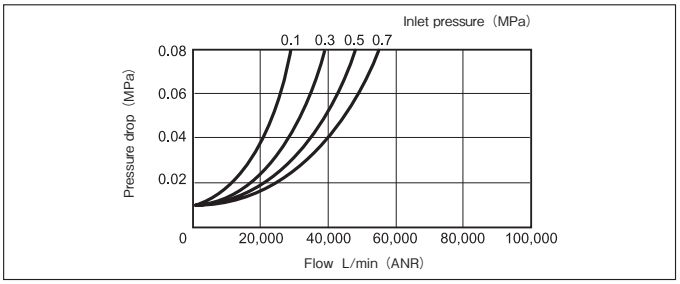
CV1-32A・40A



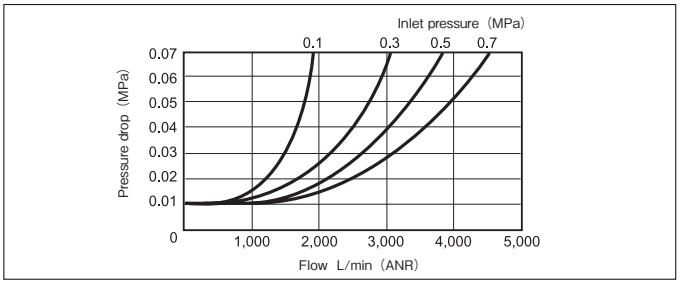
CV3-04-10A



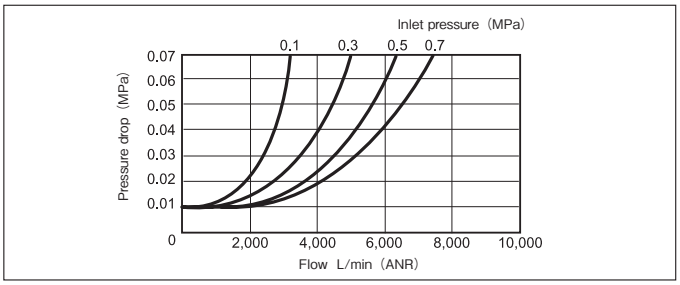
CV1-50A



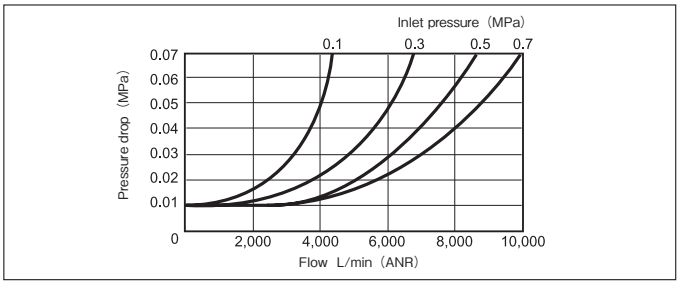
CV3-04-15A



CV3-06-20A



CV3-08-25A



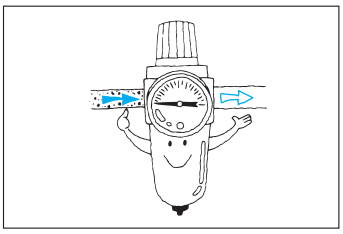
Operating Instructions

1 Varying pressures

- Note that for a low operating pressure,the flow is very small,and that for fluids that are subject to great pressure fluctuations, the valve may vibrate noticeably.

2 Fluid

- Dirt,wastes,etc. in the fluid may cause malfunctioning.Use only with clean fluids.

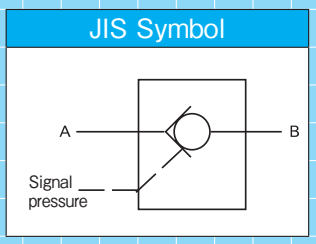


Pilot-Operated
CHECK VALVES

CVP2	Standard type	RC 3/8 ~ 1

This is a check valve with a check release (reverse flow) mechanism that is operated by a signal pressure.

JIS Symbol



Model Code

When ordering,specify the model as follows:

Standard type

Rc 3/8 ~ 1/2 **CVP2 – 04 – ①**
● ① Port size

Rc 3/4 ~ 1 **CVP2 – 08 – ②**
● ② Port size

① Port size	
Rc3/8	10A
Rc1/2	15A

② Port size	
Rc3/4	20A
Rc1	25A

Specifications

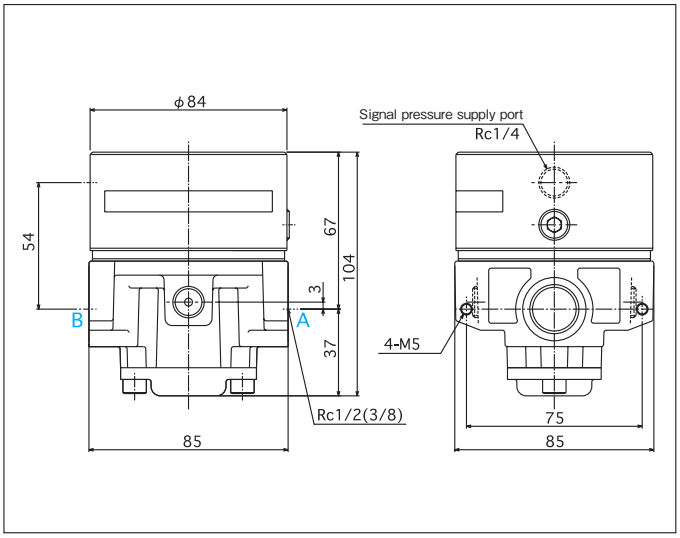
Model code	CVP2-04		CVP2-08	
Port size	10A	15A	20A	25A
	Rc3/8	Rc1/2	Rc3/4	Rc1
Effective sectional area	30㎟	49㎟	83㎟	137㎟
Operating pressure	0.1 ~ 0.7MPa			
Signal pressure	0.12 ~ 0.7MPa Signal pressure ≧ Pressure of the fluid × 1/2			
Cracking pressure	0.01MPa or less			
Proof pressure	1.05MPa			
Operating temperature	–20 ~ 60℃ (For use below 5℃ ,provide adequate measures against freezing.)			
Mass	1.4kg		2.9kg	

● For specifications other than those listed above,please contact us.
● In the event of use in high dry air above dew point – 40℃ ,please contact us.

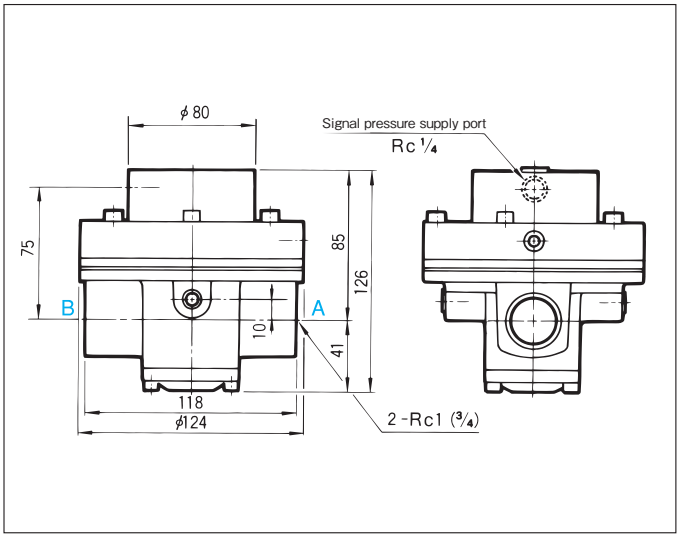
Outside Dimensions

Standard type

CVP2-04-10A・15A



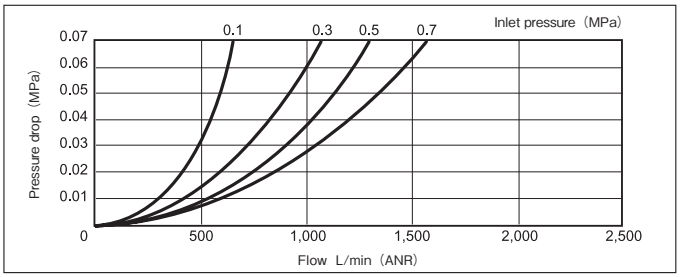
CVP2-08-20A・25A



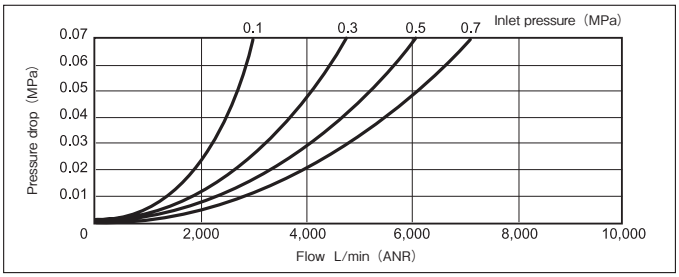
Performance Tables

Flow characteristics graphs (from ports A to B)

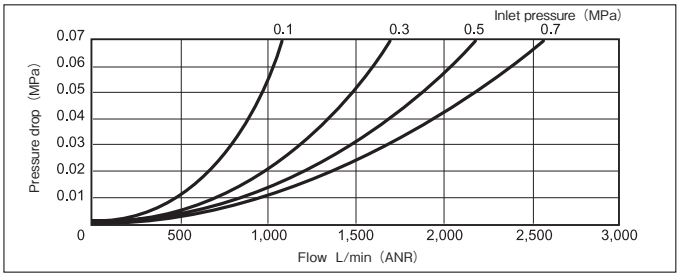
CVP2-04-10A



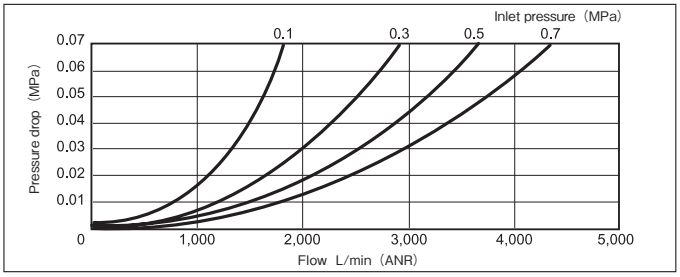
CVP2-08-25A



CVP2-04-15A



CVP2-08-20A



Operating Instructions

1 Varying pressures

- Note that for a low operating pressure,the flow is very small,and that for fluids that are subject to great pressure fluctuations, the valve may vibrate noticeably.

2 Fluid

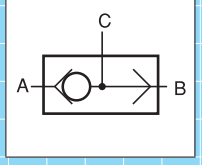
- Dirt,wastes,etc. in the fluid may cause malfunctioning.Use only with clean fluids.

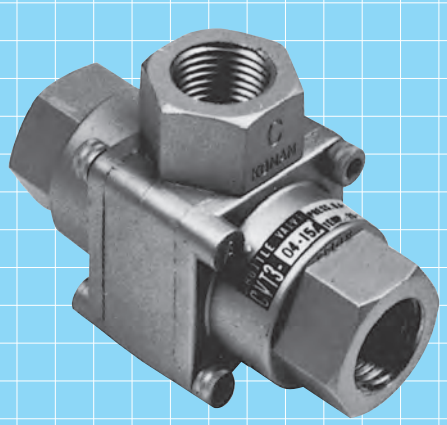
SHUTTLE VALVES

CVT3	Standard type	RC 1/4 ~ 1 1/2

A shuttle valve has two supply ports and one discharge port.When air pressure is admitted through one supply port,the other supply port is closed and the air pressure is transferred to the discharge port.

JIS Symbol





Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/4 ~ 1/2

CVT3 ① –04– ② – ④ – ⑤

① Corrosion-resistant ② Port size ④ Operating temperature range ⑤ Bracket

Rc 3/4

CVT3 ① –06– 20A – ④

① Corrosion-resistant ④ Operating temperature range

Rc 1

CVT3 ① –08– 25A – ④

① Corrosion-resistant ④ Operating temperature range

Rc 1_1/4 ~ 1_1/2

CVT3 ① –14– ③

① Corrosion-resistant ③ Port size

① Corrosion-resistant

- Portions that are exposed to outside weather conditions are corrosion-resistant coating and the exposed bolts,nuts and brackets* are stainless steel.
  * The bracket is an option of only 04 size.

Standard	No entry
Corrosion-resistant type	S

② Port size

Rc1/4	8A
Rc3/8	10A
Rc1/2	15A

③ Port size

Rc1_1/4	32A
Rc1_1/2	40A

④ Operating temperature range

General purpose	– 20 ~ 60℃	No entry
Heat-resistant	5 ~ 100℃	HT
Freeze-resistant	– 40 ~ 45℃	LT

- For corrosion.freeze resistant type,allow some margin for delivery.
- In operating temperatures of 5℃ or less, provide adequate measures against freezing.

⑤ Bracket

Without	No entry
With	BR

- Bracket is not mounted but appended with valves.

Specifications

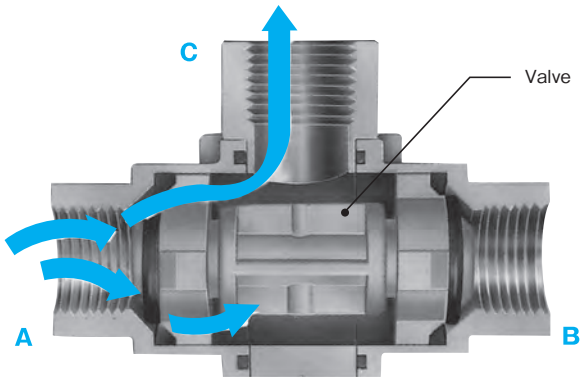
Model code	CVT3-04			CVT3-06	CVT3-08	CVT3-14	
Port size	8A	10A	15A	20A	25A	32A	40A
	Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1	Rc1 1/4	Rc1 1/2
Effective sectional area	44㎟	65㎟	95㎟	116㎟	185㎟	350㎟	400㎟
Operating pressure	0.04 ~ 0.7MPa						
Proof pressure	1.05MPa						
Minimum operating pressure differential	0.01MPa					0.02MPa	
Operating temperature	-20 ~ 60℃						
Mass	0.22kg			0.31kg	0.52kg	1.5kg	

- For specifications other than those listed above,please contact us.
- In the event of use in high dry air above dew point – 40℃ ,please contact us.

Operation

Standard type CVT3 — 04 — 15A

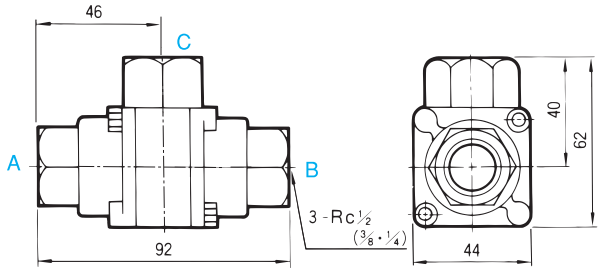
For a A to C flow



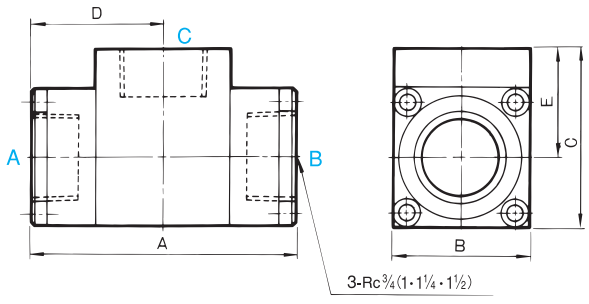
1. When air enters port A, it moves the valve and closes port B and then flows to port C.
2. When air enters port B,the air pressure from port B moves the valve and closes port A and then flows to port C.
   Be sure to place ports A and B in a discharge condition when air pressure is furnished via ports B and A,respectively.

Outside Dimensions

CVT3-04-8A · 10A · 15A



CVT3-06-20A
CVT3-08-25A
CVT3-14-32A · 40A



Units : mm

Size	20A	25A	32A	40A
A	80	100	140	140
B	40	50	70	70
C	55	65	85	85
D	40	50	70	70
E	35	40	50	50

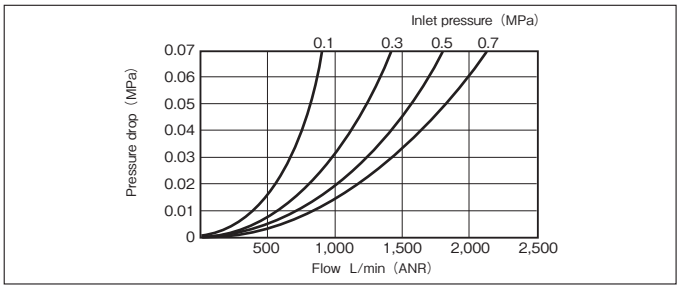
Performance Tables

● Performance more than Rc1_1/4, contact us.

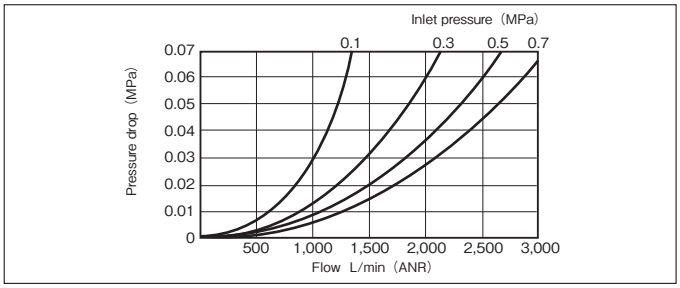
Flow characteristics graphs

Standard type

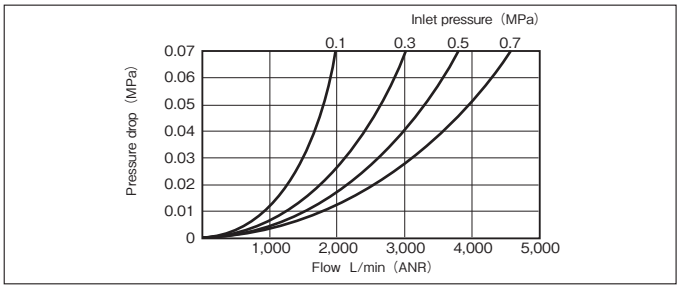
CVT3-04-8A



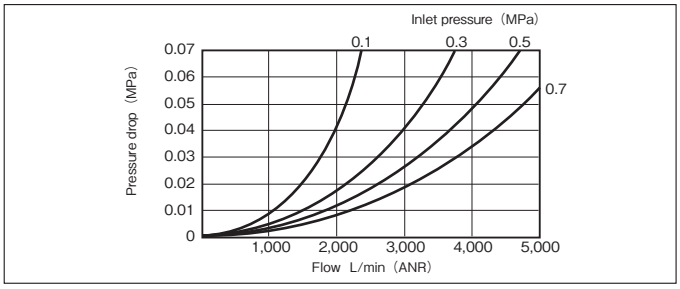
CVT3-04-10A



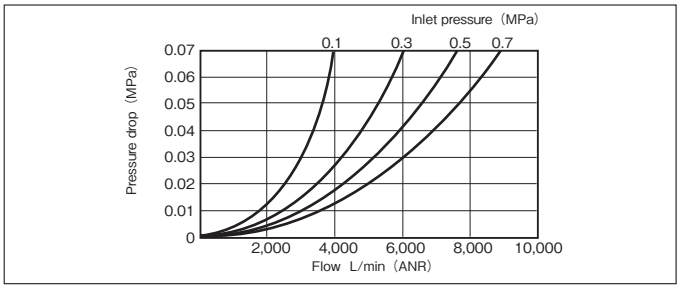
CVT3-04-15A



CVT3-06-20A

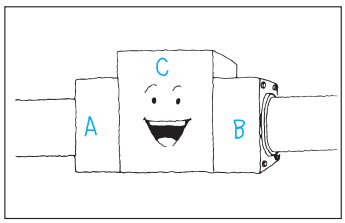


CVT3-08-25A



Operating Instructions

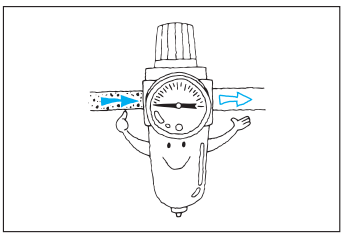
1 Varying pressures



● Take care that ports A and B are level.

2 Fluid

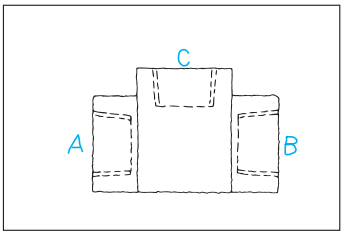
● Use only with clean fluids,as,dirt,wastes,etc.in the fluid may cause malfunctioning.



3 Piping

● Take care not to confuse the ports :

A····· Supply port
B····· Supply port
C····· Discharge port

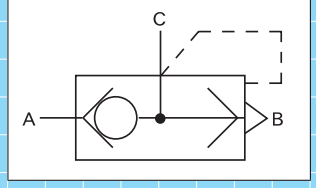


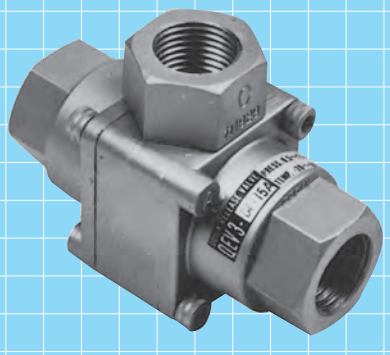
QUICK-RELEASE VALVES

QEV3・QEV3S	Standard type	RC 1/4 ～ 1

The quick-release valve is installed between directional control valves and actuators such as cylinders,and is operated by the discharge action of the directional control valve.It is used to further increase the discharge volume of the actuator for greater operating speed (up to 1.4 times).

JIS Symbol





Model Code

When ordering,specify the model as follows:

Standard type

QEV3 ① -04- ②

- ① Corrosion-resistant
- ② Port size

QEV3 ① -06-20A- ③

- ① Corrosion-resistant
- ③ Operating temperature range

QEV3 ① -08-25A- ③

- ① Corrosion-resistant
- ③ Operating temperature range

① Corrosion-resistant

- Portions that are exposed to outside weather conditions are corrosion-resistant coating and the exposed bolts and nuts are stainless steel.

Standard	No entry
Corrosion-resistant type	S

② Port size

Rc 1/4	8A
Rc 3/8	10A
Rc 1/2	15A

③ Operating temperature range

General purpose	− 20 ～ 60℃	No entry
Heat-resistant	5 ～ 100℃	HT
Freeze-resistant	− 40 ～ 45℃	LT

- For corrosion.freeze resistant type,allow some margin for delivery.
- In operating temperatures of 5℃ or less, provide adequate measures against freezing.

Specifications

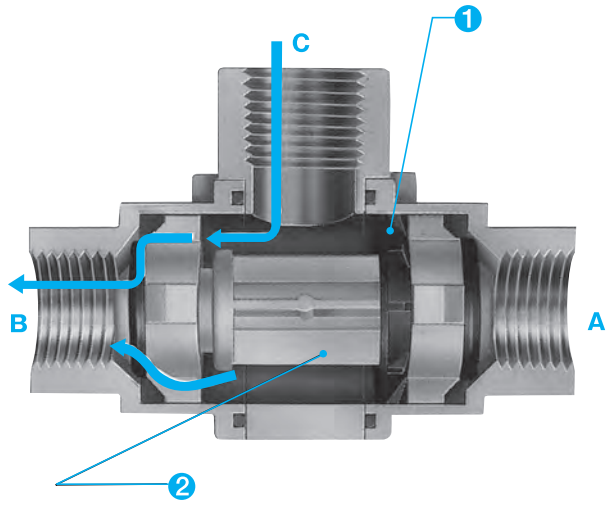
Model code		QEV3-04			QEV3-06	QEV3-08
Port size		8A	10A	15A	20A	25A
		Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1
Effective sectional area	A → C	36㎟	59㎟	72㎟	133㎟	193㎟
	C → B	57㎟	81㎟	95㎟	150㎟	224㎟
Operating pressure		0.05 ～ 0.7MPa				
Proof pressure		1.05MPa				
Operating temperature		-20 ～ 60℃			General purpose: − 20 ～ 60℃ Heat-resistant: 5 ～ 100℃ Freeze-resistant: − 40 ～ 45℃	
Mass		0.22kg			0.4kg	0.7kg

- For specifications other than those listed above,please contact us.
- In the event of use in high dry air above dew point − 40℃ ,please contact us.

Operation

Standard type QEV3 — 04 — 15A

For a C-to-B flow



❶ Back packing

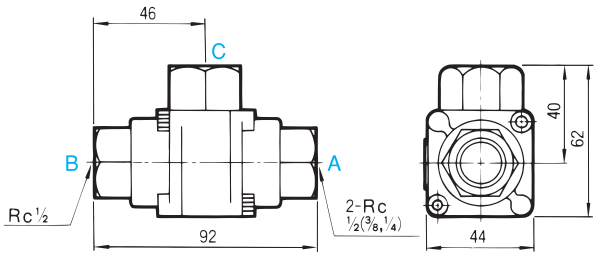
Air entering port A forces the back packing open and flows to port C.When the air from port A is discharged,air from port C closes the back packing and flows to port B.

❷ Valve

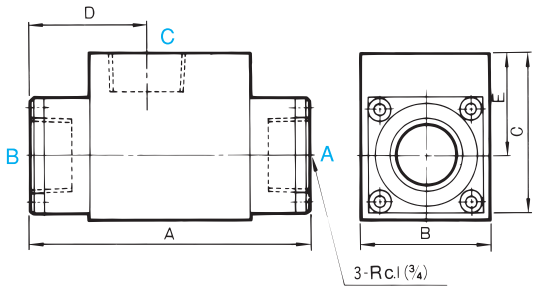
With an air pressure from port A, the valve is moved,closing port B, and the air flows to port C. When an pressure from port A is discharged through a directional control valve,the air pressure from port C pushes the back packing and moves the valve to port A. As a result, the air pressure from port C is quickly discharged through port B.

Outside Dimensions

QEV3-04-8A・10A・15A



QEV3-06-20A QEV3-08-25A



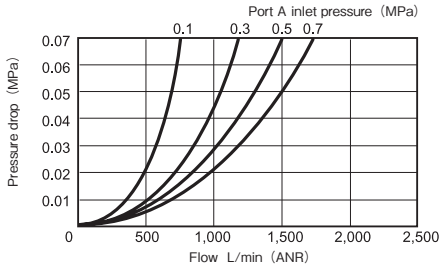
Units : mm

Size	20A	25A
A	100	120
B	46	56
C	60	70
D	40	50
E	37	42

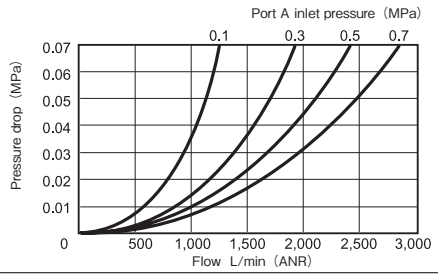
Performance Tables

Flow characteristics graphs (from ports A to C)

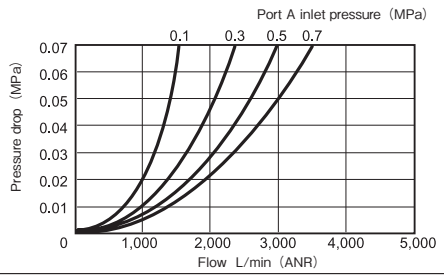
QEV3-04-8A



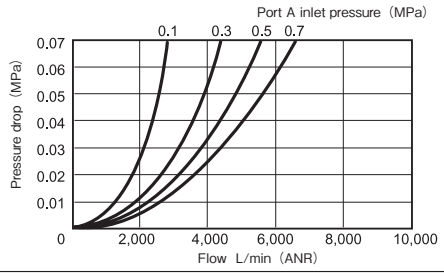
QEV3-04-10A



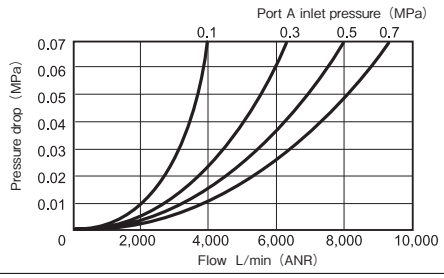
QEV3-04-15A



QEV3-06-20A

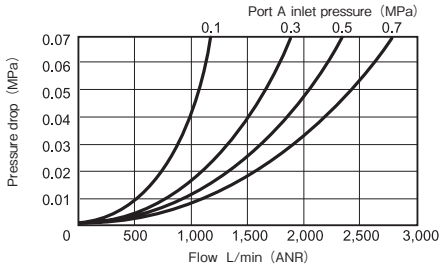


QEV3-08-25A

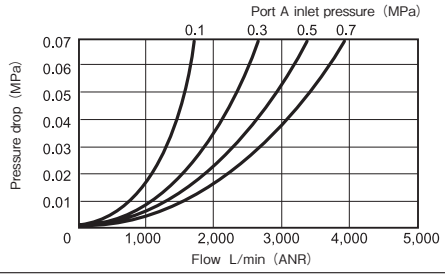


Flow characteristics graphs (from ports C to B)

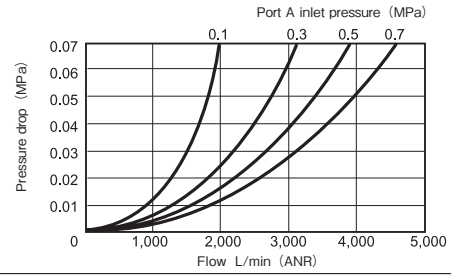
QEV3-04-8A



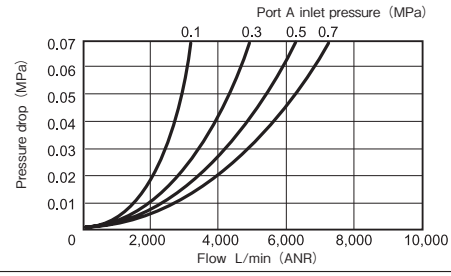
QEV3-04-10A



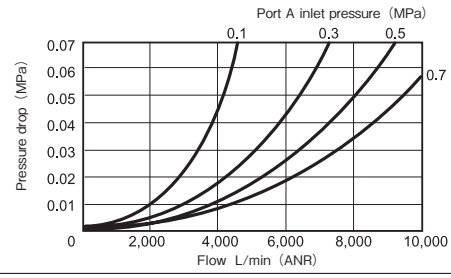
QEV3-04-15A



QEV3-06-20A



QEV3-08-25A



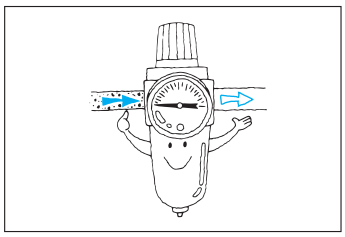
Operating Instructions

1 Installation

- Install as near to the actuator a possible.
- Use piping of as large a diameter as possible for the discharge pipe of the actuator.

2 Fluid

- Use only with clean fluids as dirt,wastes,etc. in the fluid may cause malfunctioning.



3 Piping

- Take care not to confuse the piping ports :

A····· For supply
B····· For discharge
C····· For actuator