

Pressure Reducing Valves

1. Description

Pressure reducing valve is a kind of directed operating and automatic pressure regulating valve, it is used widely in various kinds of industry field, such as the petroleum, chemical industry, metallurgy, spinning and weaving, printing and dyeing, paper-making, wood process, food, medicine, greenhouse, air-condition equipment etc.

The valves is a kind of modern pressure reducing valve, that we manufacture by introducing advanced technology overseas, it's quality is up to advanced level of international same line.

2. Features

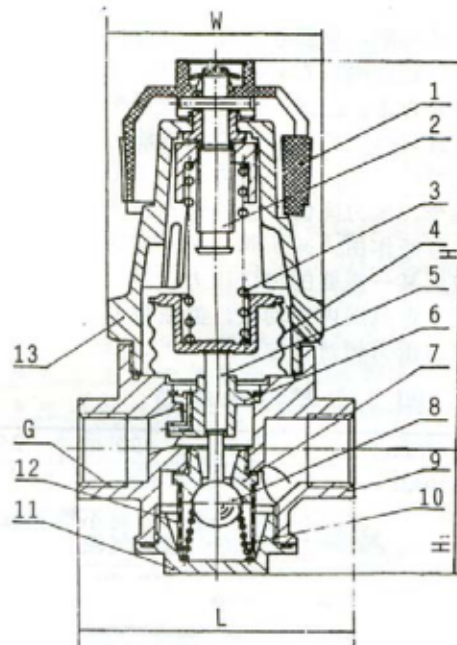
The valve feature:

- (1) Compact construction: the size and weight is a half of traditional products.
- (2) Convenient use: regulating hand wheel is made of anti-heat plastic, preventing trouble of regulating pressure for traditional product, with self-lock function.
- (3) High performance: high precision for regulating pressure, super seal, it can regulate continuously in 0.05~1.0Mpa.
- (4) Economic and save energy: small volume, heat loss is half of traditional products.

3. Construction

The pressure reducing valve is made of main spare parts as follows:

- | | | |
|-------------------------|-----------------------|------------------|
| 1. Handwheel | 6. Apron | 11. Bottom cover |
| 2. Regulating screw rod | 7. Valve seat | 12. Filter net |
| 3. Regulating spring | 8. Steel ball | 13. Valve cover |
| 4. Bellows parts | 9. Body | |
| 5. Valve rod | 10. Main valve spring | |



When the valves are leaving the factory, let regulating spring in free condition, then steel ball is close under spring force of main valves, at this time, the pressure reducing valve is in cut-off condition.

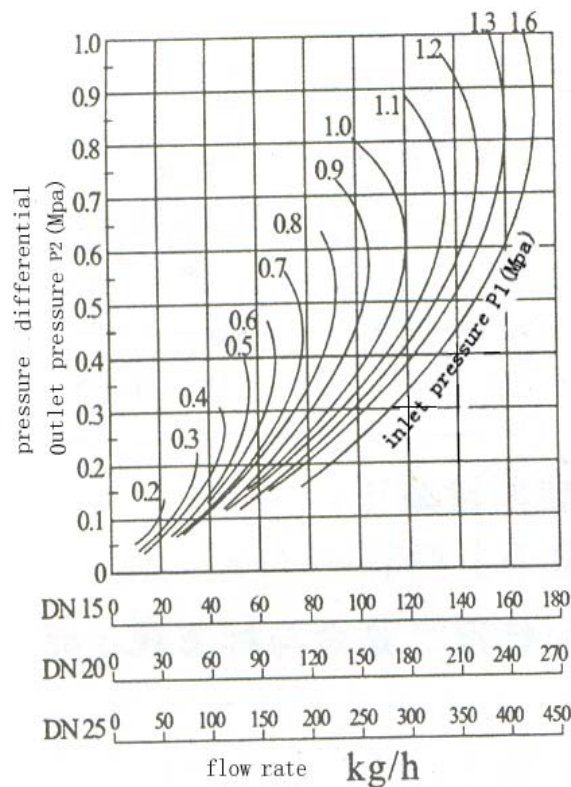
After installation according to drawing, enter into the medium in the inlet, then the medium enter

main cavity A by filter net, then test the valve and Pull gently the handwheel and screw slowly anticlockwise, steel ball is open under spring force, the medium is flowed from outlet to pipeline at the front of valve by reducing pressure, at the same time, a part of medium is flowed to pressure cavity via pressure check hole, the feedback force that get to corrugated pipe operate with regulating spring force, till outlet pressure raise expected pressure. This time, the pressure reducing valve is in balance working condition.

If inlet pressure become high, outlet pressure become high, medium force on corrugated pipe is higher than regulating spring force, opening range of steel ball become small, the pressure is drop, causing the expected pressure is in balance new. Opposition is like this.

4. Technical Specification

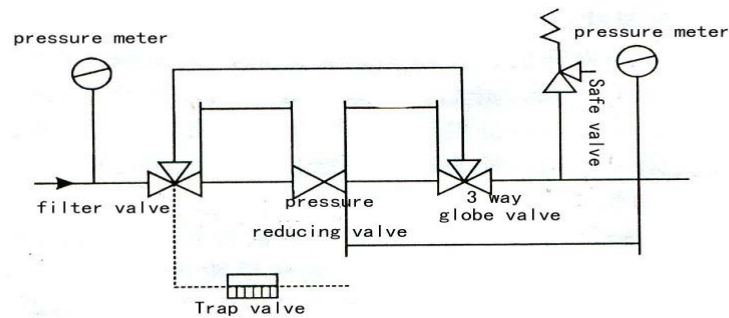
Orifice size (mm)	15	20	25
Medium	Steam, Nitrogen, Inert gases, air		
Medium Temp. (°C)	≤ 220		
Ambient temperature (°C)	-10~40		
Inlet Pressure P1 (MPa)	0.1~1.6		
Outlet Pressure P2 (MPa)	0.05~1.0		
Max (P1-P2)(MPa)	10:1		
Min. (P1-P2)(MPa)	≥ 0.07		
Flow rate (KV)	0.9	1.6	2.6
Port size NPT, G or BSP	1/2"	3/4"	1"
Sealing	After closing the valves, the pressure increase value ≤ 0.07 MPa.		



STEAM FLOW RATE VS. PRESSURE DIFFERENTIAL

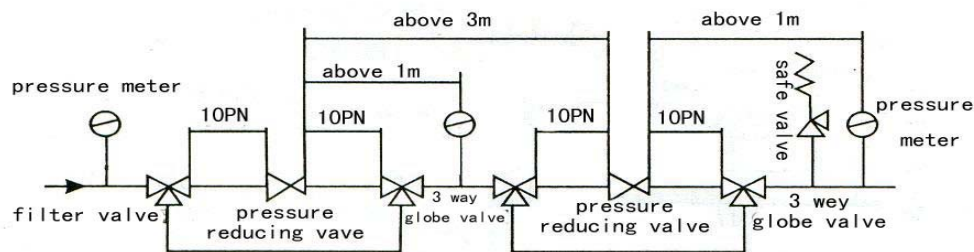
5. Installation and test

①. Installation drawing of No. one reducing pressure:



Remark: Need to install trap valve in steam pipeline.

②. Installation drawing of No. two reducing pressure:



Remark: Rate of reducing pressure { Max. $(P_1 - P_2)(\text{MPa})$ } is over 10:1, it must be reduce pressure twice.

③. Installation

- Check if the spot condition is in accordance with the using condition of the valve before installation
- The valve only can be installed in horizontal pipeline, but the handwheel be installed upwards. The direction of the arrow marking on the valve body is in accordance with flow direction of the medium.
- The pipeline and parts must be clear completely before installation.

④. Test:

- After installing, we close the cut-off valve at the front & back of pressure reducing valve, and open the bypass valve, then let medium into and wash completely before regulating pressure.
- Then close the bypass valve, check if the cut-off valve at the front & back of pressure reducing valve is close or not.
- Pulling the handwheel in hand and screw clockwise, let regulating spring in free condition, this time, screw easy the handwheel.
- Open slightly cut-off valve of outlet, then open slowly the cut-off valve of inlet, till open completely.
- Pulling gently the handwheel in hand and screw anticlockwise, check pressure meter of outlet, and screw slowly the handwheel, till the pressure is up to pressure expected, then put down the handwheel and check if the handwheel is locked or not.
- Open completely cut-off valve of outlet.
- When stopping to use the valve, should close firstly the cut-off valve of outlet, then close cut-off valve of inlet.

6. Maintenance and maintain

Once the valve used, it should be inspected and maintained regularly:

- Check whether regulating spring and main valve were damaged or not.
- Check if filter net was blocked or not. Should often wash filter net.
- Check whether corrugated pipe was wore out and damaged or not.
- Should re-test the valve after check.

7. Notices

- For the sake of preventing steam-freezing water from entering into valve and then result in shake, we must install the trap valve at the front of pressure reducing valve.
- The space is over 3 meter between pressure reducing valve and solenoid valve of the same pipe.
- For the sake of preventing outlet pressure from rising abnormally, we must install the safe valve.
- When installing at the first time or no using for a long time, the impurity and remaining medium inside pipeline are washed and removed by bypass pipeline.
- Suggest installing filter valve at the front of pressure reducing valve, so that the medium can be washed in time.

8. Sizes and Dimension

Model \ Size	DN	NPT, G or BSP	L	W	H1	H
CY14H-15	15	1/2"	90	64	64	137
CY14H-20	20	3/4"	90	64	44	137
CY14H-25	25	1"	100	64	57	137

