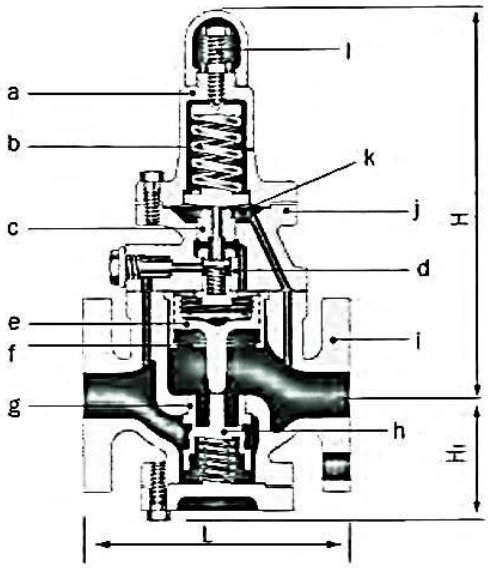
PRESSURE REDUCING VALVE

Model: P1.0701



MAIN FUNCTIONS AND FEATURES

Pressure Reducing Valve is suitable for medium such as steam and air in a pipelines. Through adjustment, the inlet pressure will be reduced to a certain required outlet pressure. When the inlet pressure and flow rate has changed, it can automatically keep the outlet pressure within a certain range, but the difference between the inlet pressure and the outlet pressure must be greater than 2 bar.

MATERIAL

Item	Name	Material	Item	Name	Material
a.	Spring Case	WCB	g.	Main Valve Seat	Stainless Steel
b.	Spring	WCB	h.	Main Valve Disc	Stainless Steel
c.	Pilot Valve Seat	Stainless Steel	i.	Body	Carbon Steel
d.	Pilot Valve Disc	Stainless Steel	j.	Top Cover	Carbon Steel
e.	Piston	Stainless Steel	k.	Diaphragm	Stainless Steel
f.	Cylinder	Stainless Steel			

SPECIFICATION

DESIGN	Pilot Operated Diaphragm Type
PRESSURE RATING RANGE	PN16 / PN25/ PN40 / PN64 / PN100
TEMP RANGE	Max 200℃ / 350℃ / 400℃ / 450℃
CONNECTION	Flange end to PN16 / PN25 / PN40 / PN64 / PN100

MAINTAINENCE AND REPAIR

1. The pressure reducing valve should be stored in dry place, the two ends of the passage must be blocked with blind plates, and storage is not allowed
2. The long stored pressure reducing valve should be checked regularly, clean the dirt, coated with anti-rust on the moving and processing surface to prevent rust
3. The pressure reducing valve should be installed in a place that is convenient for operation and maintenance, and it must be installed upright on a horizontal pipeline (see installation diagram). It should be noted that the flow direction of the medium in the pipeline is consistent with the direction indicated by the arrow on the valve body.
4. When the pressure reducing valve is installed and used, the stop valve on the bypass pipeline should be opened first to remove the condensate and steam-water mixture in the pipeline to prevent water hammer from damaging the pressure reducing valve when the pressure valve is opened. Then, slowly adjust the screw clockwise to adjust the outlet pressure to the required pressure (according to the gauge pressure behind the valve). After adjustment, the lock nut and screw on the protective cover.
5. A filter should be installed before the pressure reducing valve to prevent impurities in the medium from entering the pressure reducing room and affecting its performance
6. There is a straight pipe before and after the installed pressure reducing valve, the length of the straight pipe before the valve is about 600 mm, and the length of the straight pipe after the valve is about 1,000 mm

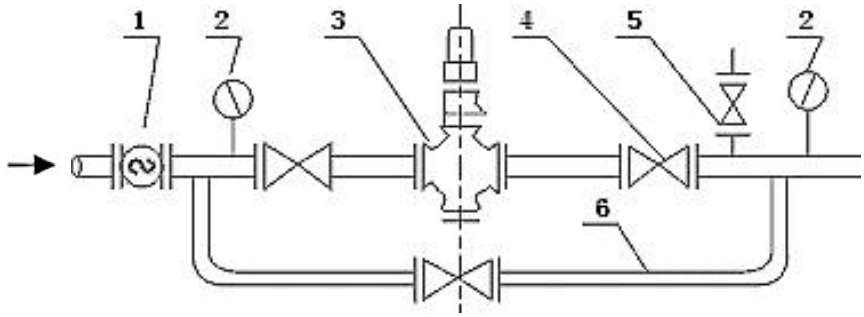
OPERATING THEORY AND STRUCTURE

When the pressure reducing valve leaves the factory, the adjusting spring is in an uncompressed state. At this time, the main valve flap and the pilot valve flap are in the closed state. When using, turn the adjusting screw clockwise to compress the adjusting spring, so that the diaphragm moves downward and opens the auxiliary valve flap. The medium enters above the piston from hole A through hole B of the auxiliary valve seat. Under the action of medium pressure, the piston moves downward to push the main valve disc away from the main valve seat, so that the medium flows to the valve and enters below the diaphragm from hole C. When the pressure behind the valve exceeds the set pressure, push the diaphragm upward. When the pressure reducing valve leaves the factory, the adjusting spring is in an uncompressed state. At this time, the main valve and the auxiliary valve are in the closed state. Turn the adjusting screw clockwise during use. Compress the adjusting spring to move the diaphragm downward and open the auxiliary valve disc. The medium enters above the piston from hole A through hole B of the auxiliary valve seat. Under the action of the medium pressure, the piston moves downward to push the main valve disc away from the main valve seat to make the medium. After flowing to the valve, it enters below the diaphragm from hole C at the same time. When the pressure behind the valve exceeds the set pressure, the diaphragm is pushed up to compress the adjustment spring, and the auxiliary valve flap moves in the closing direction to reduce the medium flowing above the piston. , The pressure also drops. At this time, the main valve disc moves up and down under the spring force of the main valve disc, so that the gap between the main valve disc and the main valve seat is reduced, and the medium flow is reduced, so that the pressure after the valve drops. To the new balance, on the contrary, when the pressure after the valve is lower than the set pressure, the gap between the main valve disc and the main valve seat increases, and the medium flow increases, so that the pressure after the valve increases up to the new balance.

TROUBLESHOOTING

Circumstances	Reason	Solution
Pressure reducing valve does not reduce pressure or fails to reduce pressure	1.Dirt on the sealing surface of the main valve or pilot valve 2.Damage on the sealing surface of the main valve or pilot valve 3. Pilot, main valve disc's spring damage 4.Blockage in C steel channel 5. Diaphragm fatigue or damage 6.Piston cylinder worn out or corrosion 7.Stuck in piston ring groove and piston ring 8.The valve body is filled with condensate	1.Clean the dirt 2.Replace or repair the sealing surface 3.Replace with new disc's spring 4. Remove dirt from the channel 5. Replace diaphragm 6. Correction or replace piston ring 7. Remove the piston for cleaning 8.Loosen the screw plug to drain the condensate
No steam	1.Valve cover is misplaced during cleaning 2.The upper gasket shifts to block the inlet and outlet holes 3.The passage hole of the pilot valve is blocked	1.Remove the valve cover and install it after positioning 2.Align the gasket hole with the inlet and outlet holes 3.Remove the valve cover to clear the channel dirt

INSTALLATION GRAPH



1. Filter
2. Pressure gauge
3. Pressure reducing valve
4. Shut-off valve
5. Safety valve
6. Bypass

DIMENSION

Class PN16

DN	L	D	D_1	D_2	b	f	H_1	H_2	Z - Ø	Weight(Kg)
20	160	105	75	55	16	2	89	312	4-14	11.5
25	180	115	85	65	16	2	101	315	4-14	15.5
32	200	135	100	78	18	2	107	320	4-18	18.7
40	220	145	110	85	18	3	113	325	4-18	22.7
50	250	160	125	100	20	3	120	335	4-18	26.5
65	260	180	145	120	20	3	125	340	4-18	30
80	310	195	160	135	22	3	140	360	8-18	40
100	350	215	180	155	24	3	150	390	8-18	48
125	400	245	210	185	26	3	190	415	8-18	80
150	450	280	240	210	28	3	205	440	8-23	95
200	500	335	295	265	30	3	220	475	12-23	125
250	600	405	355	320	34	4	270	545	12-25	270
300	800	460	410	375	36	4	335	575	12-25	445
350	850	520	470	435	40	4	390	650	16-25	680
400	900	580	525	485	44	4	430	705	16-30	850
500	950	705	650	608	44	4	495	780	20-34	1000
600	1000	840	770	718	48	5	495	780	20-41	1100

Class PN25

DN	L	D	D_1	D_2	b	f	H_1	H_2	Z - Ø	Weight(Kg)
25	200	115	85	65	16	2	101	315	4-14	17
32	200	135	100	78	18	2	107	320	4-18	20
40	220	145	110	85	18	3	113	325	4-18	22.8
50	250	160	125	100	20	3	120	335	4-18	26
65	260	180	145	120	22	3	125	340	8-18	27.5
80	310	195	160	135	22	3	140	360	8-18	42.5
100	350	230	190	160	24	3	150	390	8-23	52
125	400	270	220	188	28	3	190	425	8-25	90
150	450	300	250	218	30	3	210	445	8-25	103
200	500	360	310	278	34	3	245	485	12-25	144
250	600	425	370	332	36	3	270	545	12-30	305
300	800	485	430	390	40	4	335	575	16-30	496
350	850	550	490	448	44	4	390	660	16-34	720
400	900	610	550	505	48	4	430	710	16-34	890
500	950	730	660	610	52	4	495	780	20-41	1050
600	1000	840	770	780	56	5	495	780	20-41	1200

Class PN40

DN	L	D	D_1	D_2	D_3	D_6	b	f	f_1	H_1	H_2	Z - Ø	Weight(Kg)
25	200	115	85	65	115	58	16	2	4	101	315	4-14	19
32	220	135	100	78	130	66	18	2	4	107	320	4-18	22
40	240	145	110	85	140	76	18	3	4	113	325	4-18	26
50	270	160	125	100	140	88	20	3	4	120	335	4-18	31
65	280	180	145	120	160	110	22	3	4	140	365	8-18	40
80	330	195	160	135	200	121	22	3	4	150	385	8-18	58
100	380	230	190	160	200	150	24	3	4.5	150	385	8-23	64
125	440	270	220	188	260	176	28	3	4.5	190	425	8-25	100
150	500	300	250	218	275	204	30	3	4.5	210	445	8-25	122
200	560	375	320	282	340	260	38	3	4.5	245	485	12-30	190

Class PN64

DN	L	D	D_1	D_2	D_3	D_6	b	f	f_1	H_1	H_2	Z - Ø	Weight(Kg)
25	200	135	100	78	130	58	22	2	4	110	370	4-18	16
32	220	150	110	82	135	66	24	2	4	125	380	4-23	26
40	240	165	125	95	150	76	24	3	4	130	395	4-23	32
50	270	175	135	105	160	88	26	3	4	135	405	4-23	42
65	280	200	160	130	180	110	28	3	4	145	410	8-23	56
80	330	210	170	140	208	121	30	3	4	170	445	8-23	71
100	350	250	200	165	208	150	32	3	4.5	175	455	8-25	80
125	440	295	240	202	295	176	36	3	4.5	245	504	8-30	130
150	500	340	280	240	350	204	38	3	4.5	280	555	8-34	165
200	560	405	345	300	408	260	44	3	4.5	310	581	12-34	220

Class PN100

DN	L	D	D_1	D_2	D_6	b	f	f_1	H_1	H_2	Z-Ø
25	200	135	100	78	58	22	2	4	110	370	4-18
32	220	150	110	82	66	24	2	4	125	380	4-23
40	240	165	125	95	76	24	3	4	130	395	4-23
50	270	195	145	112	88	26	3	4	135	405	4-25
65	280	220	170	138	110	32	3	4	145	410	8-25
80	330	230	180	148	121	34	3	4	170	445	8-25
100	380	265	210	172	150	38	3	4.5	175	455	8-30
125	440	310	250	210	176	40	3	4.5	245	504	8-34
150	500	350	290	250	204	46	3	4.5	280	555	12-34
200	560	430	360	312	260	54	3	4.5	310	581	12-41