

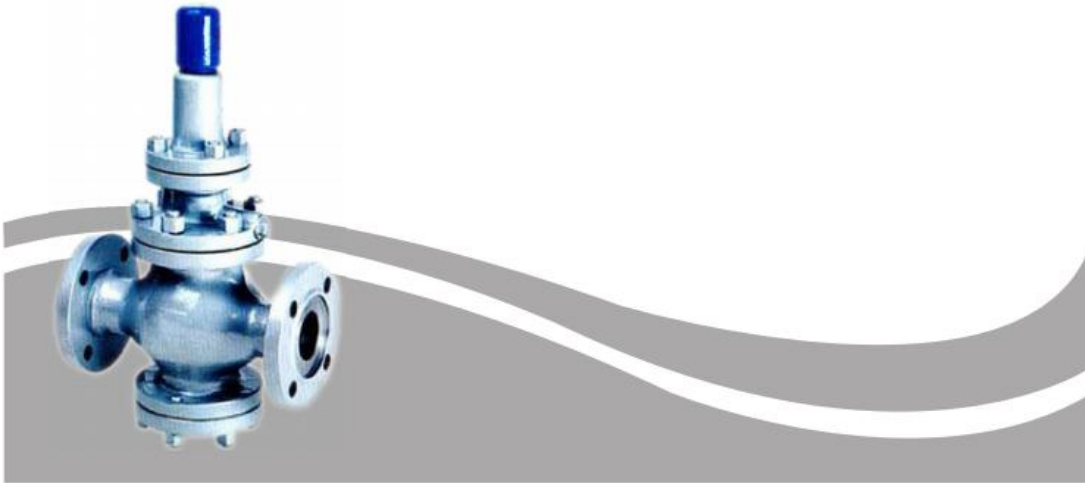
# PRESSURE REDUCING VALVE MANUAL

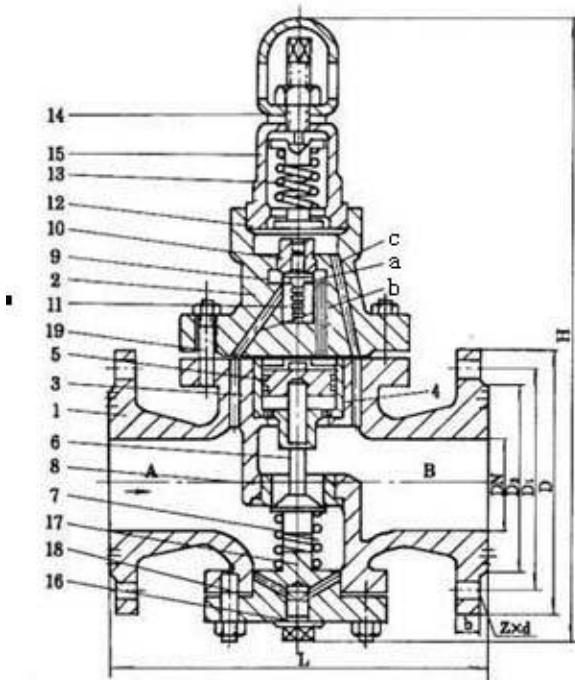


**Y43H**  
16  
25  
40  
64

## 活塞式减压阀

使用说明书





Piston pressure regulator

16  
Y43H 25  
40  
64

- 1. valve body
- 2. Upper cap
- 3. Piston
- 4. Cylinder
- 5. Piston ring
- 6. Main valve
- 7. Main spring
- 8. Main valve seat
- 9. Subsidiary valve
- 10. Subsidiary valve seat
- 11. Subsidiary spring
- 12. Gasket
- 13. Adjusting spring
- 14. Adjusting bolt
- 15. Nut
- 16. Screw plug
- 17. Lower cap
- 18. seal
- 19. seal

## FUNCTIONS AND PERFORMANCE

Y43H is mainly used for steam pipeline, Y43F is mainly used for Oxygen pipeline, to adjust the inlet pressure to a set outlet pressure. When inlet pressure and flow rate is changed, this valve can adjust the outlet pressure in a reasonable pressure ranges. Yet the difference between inlet pressure and outlet pressure should be more than 0.2MPa/cm<sup>2</sup>.

### Y43H -16

Nominal pressure (MPa)	Testing Pressure (MPa)		Pressure Adjusting range (MPa)			Temperature °C
	Strength	Sealing	Inlet Pressure	Outlet pressure	Outlet Pressure difference	
1.6	2.4	1.76	0.25~1.6	0.05~1	≤±0.05	≤200

### Y43H -25

Nominal pressure (MPa)	Testing Pressure (MPa)		Pressure Adjusting range (MPa)			Temperature °C	
	Strength	Sealing	Inlet Pressure	Outlet pressure	Outlet Pressure difference		
2.5	3.8	2.5	2.5	0.1~1.6	≤±0.07	200	≤200
			2.3			250	
			1.8			350	

**Y43H -40**

Nominal pressure (MPa)	Testing Pressure (MPa)		Pressure Adjusting range (MPa)			Temperature ℃	
	Strength	Sealing	Inlet Pressure	Outlet pressure	Outlet Pressure difference	Y43H	Y43F
<b>4</b>	<b>6</b>	<b>4.4</b>	<b>4</b>	<b>0.1~2.5</b>	<b>≤±0.07</b>	<b>200</b>	<b>&lt; 200</b>
			<b>3.3</b>			<b>300</b>	
			<b>2.8</b>			<b>400</b>	

**Y43H -64**

Nominal pressure (MPa)	Testing Pressure (MPa)		Pressure Adjusting range (MPa)			Temperature ℃	
	Strength	Sealing	Inlet Pressure	Outlet pressure	Outlet Pressure difference	Y43H	Y43F
<b>6.4</b>	<b>9.6</b>	<b>7.04</b>	<b>6.4</b>	<b>0.1~3</b>	<b>&lt; ±0.07</b>	<b>200</b>	<b>&lt; 200</b>
			<b>5.2</b>			<b>300</b>	
			<b>2.9</b>			<b>450</b>	

## WORKING PRINCIPLE AND THE CONSTRUCTION

When the pressure regulator is shipped, adjusting spring is in non-compressed condition, at this time the valve disc and subsidiary valve disc is in closed situation, please rotate the adjusting bolt in clockwise direction to compress adjusting spring, making the gasket down-moved to open the subsidiary valve disc. The liquid is moving from A hole through subsidiary valve seat to B hole into above the piston, and meantime, the piston is making the main valve disc further from main valve seat, and the media is flowed into the outlet valve, at the same time, C hole is going below gasket. When outlet valve pressure is higher then adjusting pressure, the gasket is moving up to compress the spring. Subsidiary valve disc is moving to the closed direction, and this makes the upper side of piston is reduced and pressure is also reduced. At this time, main valve disc is moving above to make the distance between main valve disc and main valve seat shorter, media flow rate is reduced, to make the outlet valve pressure is reduced to new balance. In the opposite way, when outlet pressure is lower than adjusting pressure, distance between main valve disc and main valve seat is increased, and media flow rate is increased, to make outlet pressure higher to reach new balance.

## Main dimensions and connection dimensions

### Y43H -16

公称通径 DN	L	D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	b	f	H <sub>1</sub>	H <sub>2</sub>	Z-φ	重量 Kg
	mm										
20	160	105	75	55	100	16	2	89	312	4-14	11.5
25	180	115	85	65	115	16	2	101	315	4-14	15.5
32	200	135	100	78	130	18	2	107	320	4-18	18.7
40	220	145	110	85	145	18	3	113	325	4-18	22.7
50	250	160	125	100	155	20	3	120	335	4-18	26.5
65	260	180	145	120	170	20	3	140	340	4-18	30
80	310	195	160	135	200	22	3	150	360	8-18	40
100	350	215	180	155	200	24	3	150	390	8-18	48
125	400	245	210	185	245	28	3	180	415	8-18	80
150	450	280	240	210	245	28	3	180	440	8-23	95
200	500	335	295	265	335	30	3	225	475	12-23	125
250	640	405	355	320	420	34	4	250	545	12-25	270
300	795	460	410	375	425	36	4	265	575	12-25	445
350	850	520	470	435	510	40	4	390	650	16-25	680
400	900	580	525	485	580	44	4	430	705	16-30	850

### Y43H -64

公称通径 DN	L	D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>6</sub>	b	f	f <sub>1</sub>	H <sub>1</sub>	H <sub>2</sub>	Z-φ	重量 Kg
	mm												
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	310	210	170	140	208	121	30	3	4	170	445	8-23	71
100	380	250	200	168	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

## Y43H -25

公称通径 DN	L	D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	b	f	H <sub>1</sub>	H <sub>2</sub>	Z-φ	重量 Kg
	mm										
25	180	115	85	65	115	16	2	101	315	4-14	17
32	200	135	100	78	125	18	2	107	320	4-18	20
40	220	145	110	85	140	18	3	113	325	4-18	22.8
50	250	160	125	100	140	20	3	120	335	4-18	26
65	260	180	145	120	160	22	3	125	340	8-18	27.5
80	310	195	160	135	180	22	3	140	360	8-18	42.5
100	350	230	190	160	200	24	3	150	390	8-23	52
125	400	270	220	188	260	28	3	190	425	8-25	90
150	450	300	250	218	275	30	3	210	445	8-25	103
200	500	360	310	278	340	34	3	245	485	12-25	144
250	640	425	370	332	420	36	3	270	545	12-30	305
300	795	485	430	390	425	40	4	335	575	16-30	498
350	850	550	490	448	510	44	4	390	660	16-34	720
400	900	610	550	505	580	48	4	430	710	16-34	890

## Y43H -40

公称 通径 DN	L	D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>6</sub>	b	f	f <sub>1</sub>	H <sub>1</sub>	H <sub>2</sub>	Z-φ	重量 Kg
	mm												
25	180	115	85	65	115	58	16	2	4	101	315	4-14	19
32	200	135	100	78	130	66	18	2	4	107	320	4-18	22
40	220	145	110	85	145	76	18	3	4	113	325	4-18	26
50	250	160	125	100	155	88	20	3	4	120	335	4-18	31
65	260	180	145	120	170	110	22	3	4	140	365	8-18	40
80	310	195	160	135	200	121	22	3	4	150	385	8-18	58
100	350	230	190	160	200	150	24	3	4.5	150	385	8-23	64
125	400	270	220	188	247	176	28	3	4.5	185	425	8-25	100
150	450	300	250	218	275	204	30	3	4.5	210	445	8-25	122
200	500	375	320	282	340	260	38	3	4.5	245	485	12-30	190

## MAIN SPARES MATERIAL

Spare name	Material	Spare name	Material
Valve body, valve cap, lower valve cap	Gray cast iron stainless steel, casting steel	Subsidiary spring, main spring	Chrome vanadium steel
Subsidiary valve disc, subsidiary valve seat, main valve disc, main valve seat, gasket, piston	Stainless steel	Adjusting spring	Manganese steel
		Piston ring	Alloy cast iron

## Install and applications

Please do clean the pipeline system before install pressure regulator to avoid welding slag and Oxide things to flow into the valve

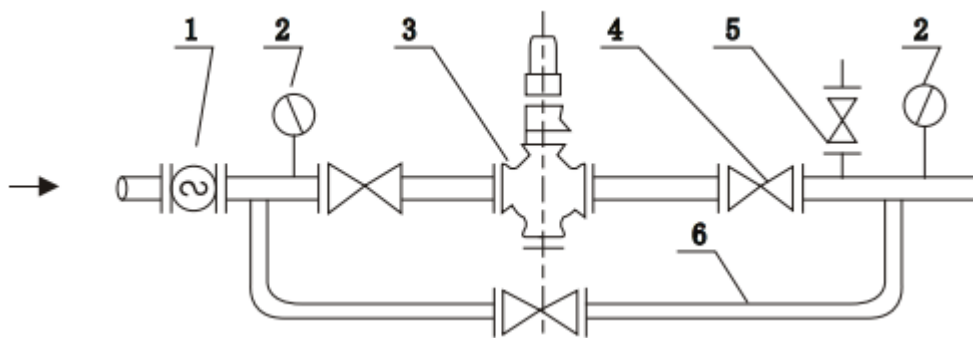
Please do install the valve in horizontal pipelines and take care that the valve flow direction is the same as pipeline flows.

Please open the gate valve nearby the pipelines and remove the condensation water and steam mixture before valve is installed. This is to avoid the phenomenon of water hammer to damage the pressure regulator. When there is no abnormal phenomenon, please rotate the adjusting bolt in clockwise direction slowly to set the outlet pressure to required pressure. After adjusting, please lock the nut and cover the cap.

Please install the filter before pressure regulator is installed to avoid there is some impurity to come into the valve.

Before and after the valve, there is be some straight pipes, the pipes before valve is around 600MM and the pipes after the valve is around 1000MM.

Here is the installing picture



1. Filter

2. Pressure gauge

3. Pressure regulator

4. Gate valve

5. Safety valve

6. Side way pipeline

### Maintenance and inspection

1. Pressure regulator should be placed in dry and clean room. The two ports should be covered with blind plate.
2. If the pressure regulator is placed for long time, we shall need to inspect the valve after some regular time. Clean the valve and cover the valve with antirust.

### FAULTS AND SOLUTIONS

Fault	Reason	Solution
The regulator is not perform and not reducing the pressure normally	<ol style="list-style-type: none"> <li>1. There is dirt in the seal of main valve or subsidiary valve</li> <li>2. the seal of main valve or subsidiary valve is damaged</li> <li>3. Spring of main valve or subsidiary valve is damaged or bend and break</li> <li>4. C hole is jammed</li> <li>5. Gasket is damaged</li> <li>6. Cylinder is damaged or corrosion</li> <li>7. piston cylinder and piston ring is getting stuck</li> <li>8. So much condensation liquid in the valve cavity</li> </ol>	<ol style="list-style-type: none"> <li>1. clean the dirt</li> <li>2. please exchange the seal</li> <li>3. Exchange the spring</li> <li>4. clean the dirt in the channel</li> <li>5. exchange the gasket</li> <li>6. exchange the piston ring</li> <li>7. clean the piston</li> <li>8. release the screw plug to remove the condensation liquid</li> </ol>
Steam can not pass	<ol style="list-style-type: none"> <li>1. valve cap is wrong placed</li> <li>2. The upper seal is moving to stuck the passing hole</li> <li>3. The subsidiary valve channel is stucked</li> </ol>	<ol style="list-style-type: none"> <li>1. Please cover the valve cap in correct placed</li> <li>2. Please make the seal to the correct hole</li> <li>3. Disassemble the valve cap, and clean the channel</li> </ol>

If you have any problem to use the valve, please contact with us.