

# YK43X/F

# Air Pressure Reducing Valve

## Instructions

### I . Application

YK43X/F series reducing valve is pilot piston type reducing valve, mainly composed of main valve and pilot valve. The main valve consists of valve seat, main valve disc, piston, cylinder sleeve, and spring. The piston valve consists of valve seat, valve flap, membrane, spring and adjusting spring.

Set the outlet pressure through adjusting spring, sense the change of pressure of outlet with membrane, adjust the flow area of throttling part of main valve through open and close of pilot valve and drive the piston to realize the function of reducing and regulating valve. The product is mainly applied on gas piping, such as air, nitrogen, oxygen, hydrogen, liquefied gas, and natural gas.

**The pressure difference between the valve inlet and outlet pressure must  $\geq 0.15$ MPa.**

### II . Main Technical Parameters&Indexes of Performance

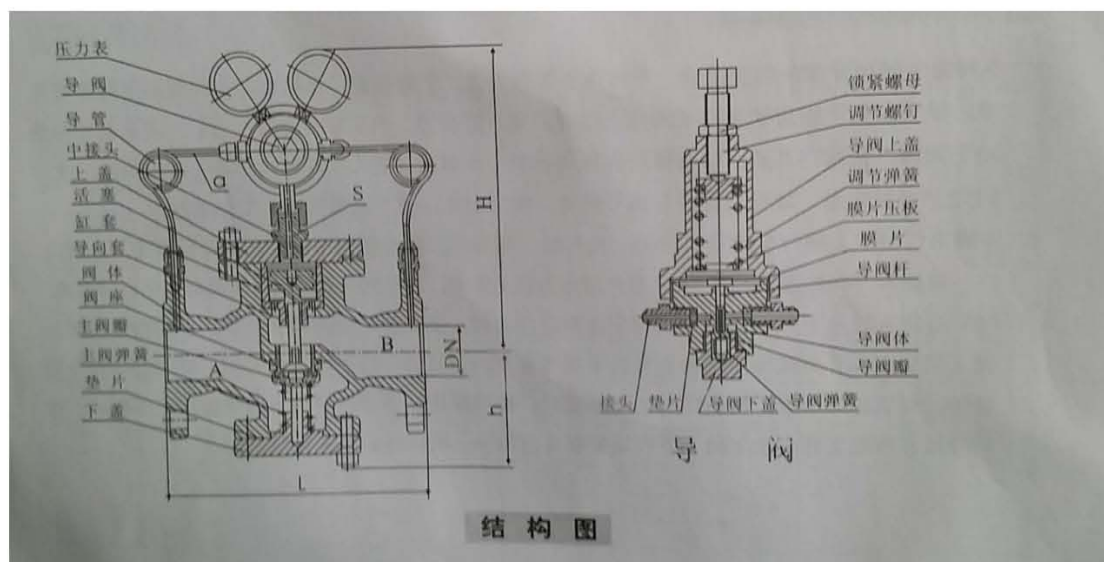
Nominal pressure(Mpa)	1.6	2.5	4.0	6.4	10.0	16.0
Tested pressure of shell(Mpa)*	2.4	3.75	6.0	9.6	15.0	24
Sealing test pressure(Mpa)	1.6	2.5	4.0	6.4	10.0	16.0
Maximum upstream pressure P1(Mpa)	$\leq 1.6$	$\leq 2.5$	$\leq 4.0$	$\leq 6.4$	$\leq 10.0$	$\leq 16.0$
Pressure range of outlet P2 (Mpa)	0.1-1.0	0.1-1.6	0.1-2.5	0.5-3.5	0.5-3.5	0.5-4.5
Pressure characteristic deviation(Mpa) $\Delta P2P$	GB12246-1989					
Flow Characteristics deviation(Mpa) $P2G$	GB12246-1989					
Minimum differential pressure (Mpa)	0.15	0.15	0.2	0.4	0.8	1.0
Leakage	X/F(PTFE / rubber): O Y(Hard seal): GB12245-1989					
Medium	Air, gas, liquefied petroleum gas, ammonia, nitrogen, oxygen, argon, helium, hydrogen, natural gas, etc.					
Operating temperature (°C)	-10~80/150°C (Rubber / PTFE)					

\*: the shell test does not include membrane and top cover.

### III . Flow Coefficient (Cv):

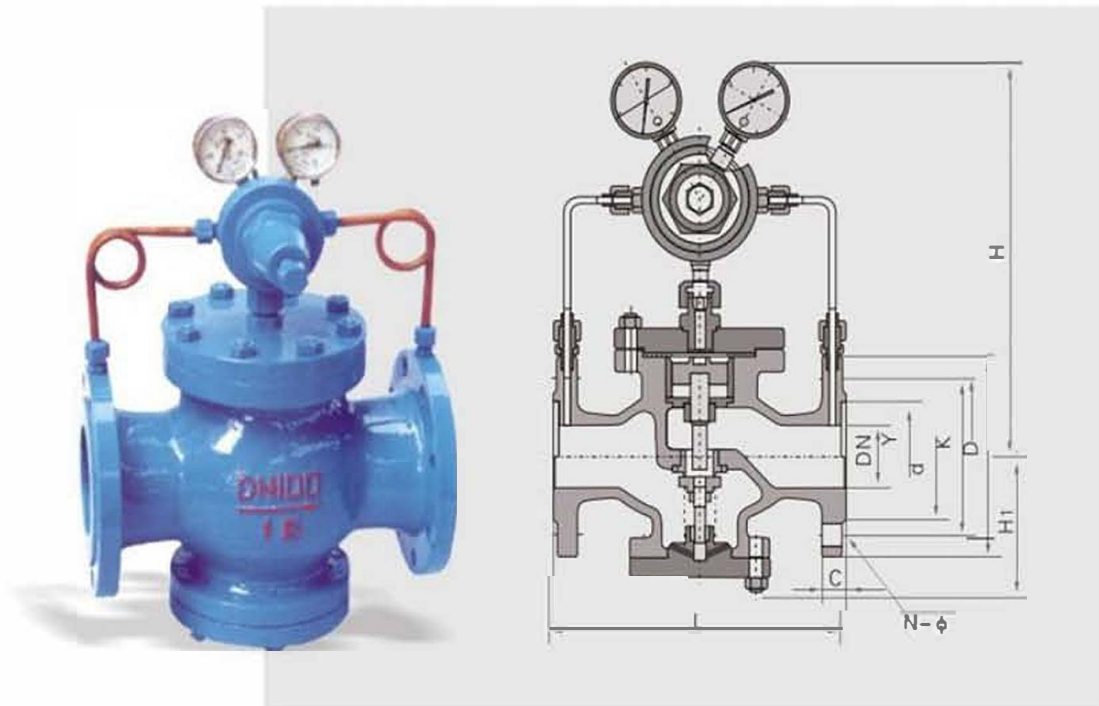
DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	500
Cv	1	2.5	4	6.5	9	16	25	36	64	100	140	250	400	570	780	1020	1500

### IV. Material Of Main Component:



Name of component	Material of component
Valve body, valve cover, seat cover	WCB/FCB*
Valve seat, valve disc	2Cr13/ <b>304</b> *
Cylinder sleeve	2Cr13/25((hard chrome plating)/ <b>304</b> *
Piston	2Cr13/ <b>copper alloy</b> *
Piston ring	Alloy cast iron/ <b>polyphenyl</b> *
Piston ring	2Cr13/ <b>304</b> *
Membrane	1Cr18Ni9Ti
Spring of main valve and pilot valve	50CrVA
Adjusting valve	60Si2Mn
Sealing gasket (X/F model)	Rubber/PTFE
Pilot valve body, pilot valve cover	25/ <b>304</b> *

## V. Dimension



### PN1.6~4.0MPa

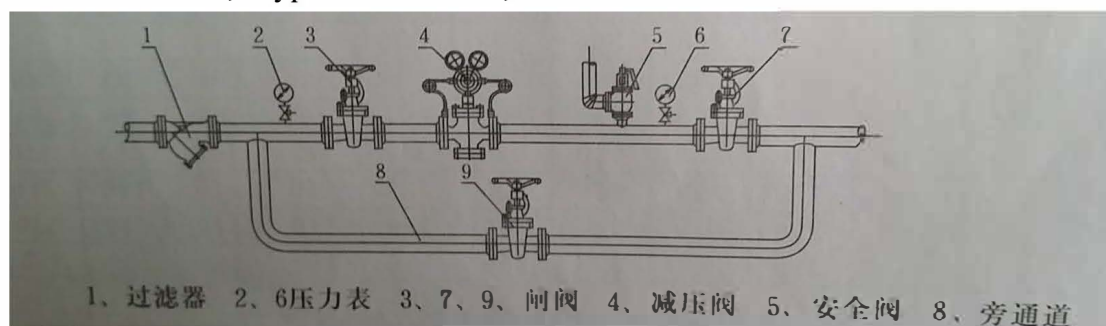
DN	External Dimension			
	L		H	H1
	1.6/2.5MPa	4.0MPa		
15	160	180	305	95
20	160	180	305	95
25	180	200	305	95
32	200	220	305	95
40	220	240	330	110
50	250	270	330	110
65	260	280	330	110
80	310	330	355	155
100	350	380	355	155
125	400	450	420	200
150	450	500	420	200
200	500	550	475	230
250	650		510	280
300	800		560	320

## PN6.4-16.0 MPa

DN	External Dimension			
	L		H	H1
	6.4MPa	10.0/16.0MPa		
15	180	180	305	95
20	180	200	<b>305</b>	95
25	200	220	<b>305</b>	95
32	220	230	<b>305</b>	95
40	240	240	<b>330</b>	<b>110</b>
50	270	300	<b>330</b>	<b>110</b>
65	300	340	330	<b>110</b>
80	330	360	355	<b>155</b>
100	380		355	<b>155</b>
125	450		420	<b>200</b>
150	500		420	<b>200</b>
200	560		<b>475</b>	<b>230</b>
250	650		<b>510</b>	<b>280</b>
300	800		<b>560</b>	<b>320</b>

## VI. Installation and Precautions

1. The valve should be carefully checked before installation whether the use of signs fixed match.
2. The valve installed in a horizontal pipeline, the valve body with the medium flow arrow as shown should be consistent.
3. Before and after the valve should have a straight pipe, valve before 0.6XDN above, the valve 10XDN above, a typical installation, as shown below:



4. Installation should be carried out the following work: (1) both ends of the valve cover removed; (2) Check the connecting bolts loose; (3) the valve before the pipeline must be flushed clean.
5. The valve in the pipeline only decompression, not off the role, the media must be filtered using a filter.
6. When using the adjustment screw clockwise slowly rotated so that the outlet pressure is reduced to the desired pressure, after adjustment screw locking

## **VII. Methods Regulator**

1. The gate valve to close before the open gate valve after manufacture downstream low pressure environment
2. According to the adjusting screw counter-clockwise to the uppermost position (relative to the lowest outlet pressure), then close the valve after the valve
3. Slowly open the gate valve before the valve to fully open
4. Slowly turn adjustment screw clockwise, the outlet pressure is adjusted to the desired pressure (gauge pressure in the valve subject); After adjustment, the lock nut, after opening valve gate valve
5. When adjusting the outlet pressure is higher than the set pressure, we shall commence from the first step to re-adjust, which can only be adjusted from low to high pressure