



LPI11– Self-Operated Pressure Control Valve



Code	Actuator	Action	Air Fail Position	Control	Structure	Body Material	Sealing Material	Core Material	Connection	DN	PN
LPI11-	<div>0</div> Others	<div>A</div> Outlet pressure control	<div>0</div> Others	<div>B</div> Self-regulating	<div>7</div> Normal	<div>A</div> CF3M	<div>P</div> PTFE	<div>A</div> CF3M	<div>1</div> Flange	<div></div>	<div></div>
		<div>B</div> Inlet pressure control		<div>0</div> Others		<div>0</div> Others	<div>B</div> CF8M	<div>Y</div> FEP(F46)			
					<div>C</div> CF8	<div>R</div> BODY	<div>C</div> CF8				
					<div>D</div> WCB	<div>S</div> Stellite	<div>I</div> CF3				
					<div>I</div> CF3	<div>3</div> Gr	<div>L</div> CE3MN				
					<div>L</div> CE3MN	<div>4</div> WC	<div>2</div> Ti				
					<div>2</div> Ti	<div>0</div> Others	<div>0</div> Others				
					<div>5</div> WCC						
					<div>0</div> Others						

Overview

LPI11 self-operated (inlet/outlet) pressure control valve is composed of the control valve, actuator and a spring used for pressure setting.

It is suitable for controlling after-valve pressure in the pipes of non-corrosive liquids, gases and steams. When the after-valve pressure rises, the control valve is closed.

The main features are as follows:

1. It has the pressure balancing function with high sensitivity.
2. Low noise, reliable performance, free of maintenance.
3. The standard modular design is adopted.
4. Various combined controls can be carried out through the assemblies.



Working Principle

A. Self-Operated Inlet Pressure Regulating Valve

After throttling by the plug and seat, the before-valve pressure P1 of the process medium is changed into the after-valve pressure P2. Through the control pipeline, P1 is input to the upper diaphragm chamber of the actuator and acts on the top disc. The acting force produced balances the reacting force of the spring, determining relative positions of the plug and seat and controlling the before-valve pressure. When the before-valve pressure P1 increases, the acting force of P1 that acts on the top disc will increase accordingly. At the time, the acting force on the top disc is higher than the reacting force of the spring to make the plug move away from the seat, until the acting force on the top disc balances the reacting force of the spring. At the time, the flow area between the plug and seat is increased, the flow resistance becomes lower and P1 is reduced to the set value. Likewise, when the before-valve pressure P2 decreases, the acting direction is reverse to the above. This is the working principle during the control of before-valve pressure.

When it is necessary to change the set value of before-valve pressure P1, please adjust the adjusting nut.

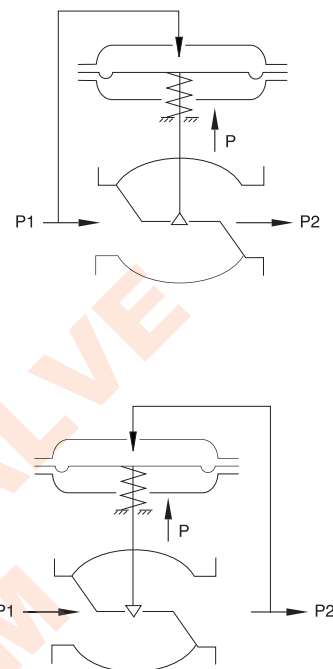


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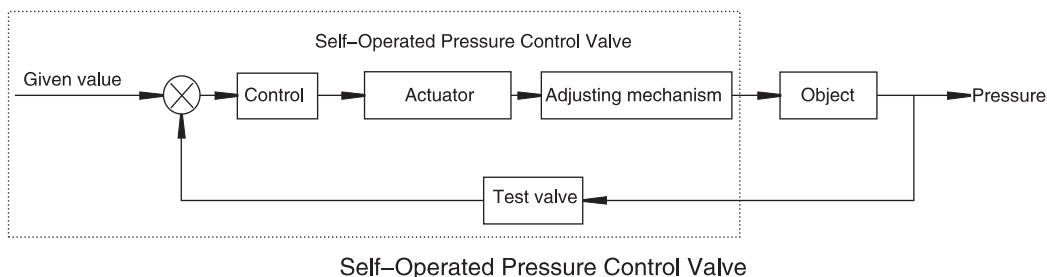
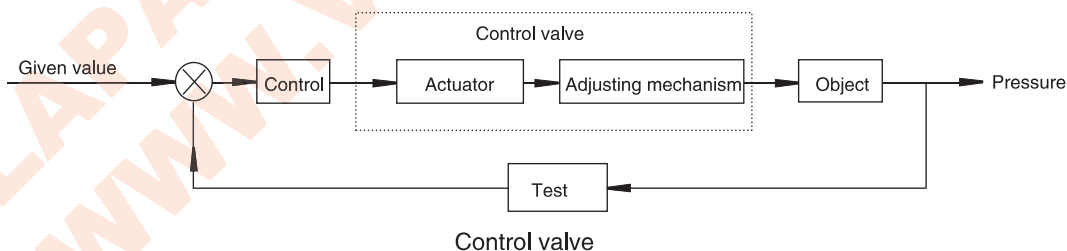
B. Self-Operated Outlet Pressure Regulating Valve

After throttling by the plug and seat, the before-valve pressure P_1 of the process medium is changed into the after-valve pressure P_2 . Through the control pipeline, P_2 is input to the lower diaphragm chamber of the actuator and acts on the top disc. The acting force produced balances the reacting force of the spring, determining relative positions of the plug and seat and controlling the after-valve pressure. When the after-valve pressure P_2 increases, the acting force of P_2 that acts on the top disc will increase accordingly. At the time, the acting force on the top disc is higher than the reacting force of the spring to make the plug close towards the seat, until the acting force on the top disc balances the reacting force of the spring. At the time, the flow area between the plug and seat is reduced, the flow resistance becomes higher and P_2 is reduced to the set value. Likewise, when the after-valve pressure P_2 decreases, the acting direction is reverse to the above. This is the working principle during the control of after-valve pressure.

When it is necessary to change the set value of after-valve pressure P_2 , please adjust the adjusting nut.



For the difference between the pressure regulating valve and control valve:





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Specifications

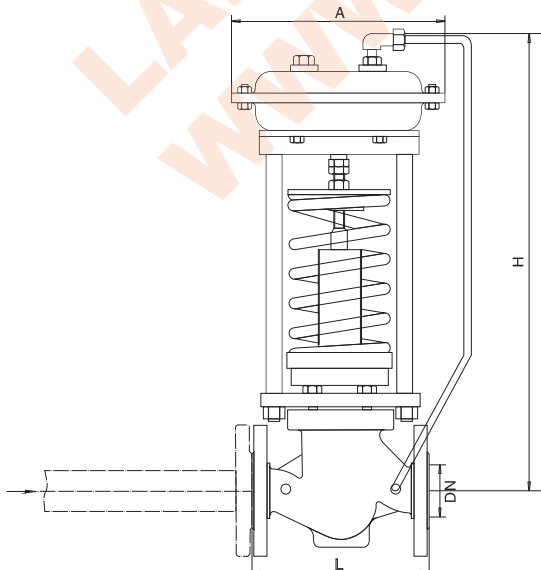
Kv≥3.2

DN		15	20	25	32	40	50	65	80	100	125	150	200	250	300	
KV		3.2	5	8	12.5	20	32	50	80	125	190	280	420	500	710	
PN		1.6、2.5、4.0、6.4、10、15														
Pressure setting range		10~60、20~120、80~250、200~500、450~1000、800~1600、1000~2200、2000~2800														
Pressure balance devices		Bellows									Cage					
Allowable differential pressure (MPa)	PN1.6	1.6								1.5		1.2		1.0		
	PN2.5~PN15	2.0(Single) / 3.5 (Double)								1.5		1.2		1.0		
Medium temperature		Gas≤80℃，Liquid≤140℃，With tank≤350℃														
Characterisics		Quick opening														
Connection		JIS B2201—1984，ANSI B16.5—1981，GB/T 9112~9124—2000														
Signal interface		M14×1.5														
Action		Inlet control (K type) 、 Outet control (B type)														
Reducing ratio		10:1~1.25:1														

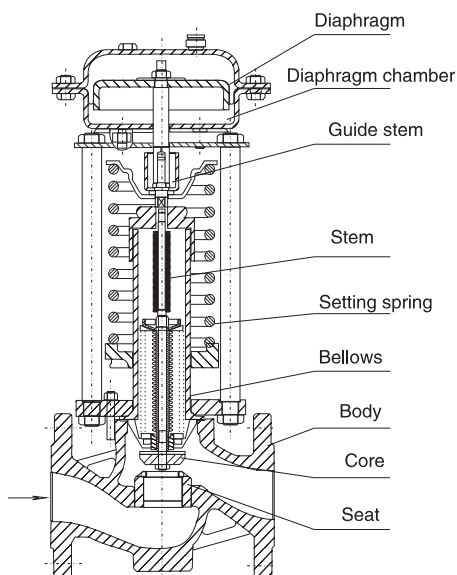
Kv≥3.4

DN	20、25、40											
Diameter	6				8				11		14	
KV	0.01	0.03	0.09	0.14	0.21	0.34	0.54	0.85	1.4	2.1	3.4	

Dimensions and Weight



Exploded View





LPI11—