



Z Series Self-operated control valve

ZZY Type Self-Operated control valve

ZZY type self-operated control valve don't need extra power, but take controlled media energy as power supply. It brings in actuator to control valve disk position and change two ends different pressure and flow to make valve upstream and backstream pressure stability. It has agility, good sealing, pressure set point small fluctuations and other advantage and it is used widely in gas, liquid and steam medium to reduce and stable pressure or relieve pressure self-control. This series products have reduce pressure by backstream pressure control (B type) and relieve pressure by upstream pressure control (K type). Pressure phase control scope: 15~250 KPa . It can satisfy clients working condition requiremtn as per need assemble.



◆ Specification

- Body type : Straight casing ball type body
- Disk type : Quick open disk
- Nominal diameter : DN20—300 , NPS 3/4”---12”
- Nominal pressure :PN16—64 Class 150LB—300LB
- Connection : Flange , FF. RF. RTJ and so on
- Bonnet type : Bolted bonnet
- Packing:V type PTFE
- Sealing gasket : Metal clip graphite
- Actuator: Film slef type 、 Piston self type
- Surface painting :Green Acrylic polyurethane enamel

◆ Code

ZZY	Structure type	Nominal pressure	Body material	Mode of action	Conde nsator	Pressure control scope (KPa)	Nominal diameter
Z series self-operation control valve	P: Single seat M:Sleeve type	PN16=16 CL150LB= 150 LB	C=WCB	B:	No: without C: with condensator	15~50	DN50= DN50 NPS2” =NPS2”
			LC=LCB	Backstream		40~80	
			P=CF8	pressure		60~140	
			PL=CF3	control		120~220	
			R=CF8M	K:		160~220	
			RL=CF3M	Upstream		200~260	
			D=Special material	pressure control		240~300	
						280~350	
						330~400	
						380~450	
		480~560					
		540~620					
		600~700					
		680~800					
		780~900					
		880~1000					
		950~1500					
		1000~2500					

For example : Single self-operated control valve, Nominal pressure PN16,WCB material ,without condensator, pressure scope : 120—220KPa. Size DN50, Model : ZZYP-16C-B-120~220-DN50

◆ Performance and parameter chart

Nominal diameter (DN)	20	25	32	40	50	65	80	100	125	150	200	250	300
Rated KV	7	11	20	30	48	75	120	190	300	480	760	1100	1750
Rated travel (mm)	8		10		14	20		25	40		50	60	70
Nominal pressure	PN 16、40、64 CLASS150LB~300LB												
Pressure control scope (Kpa)	15~50		40~80		60~140		120~220		160~220		200~260		
	240~300		280~350		330~400		380~450		480~560		540~620		
	600~700		680~800		780~900		880~1000		950~1500		1000~2500		
	* Control pressure chosen among adjustment scope is better												
Flow characteristic	Quick open												
Accuracy of adjustment	±5-10												
Applicant temperature	-40℃≤without condenser≤200℃≤with condenser≤350℃												
allowable leakage	hard seal (1/h)	Single seat:≤10 ⁻⁴ valve rated capacity (IV) Sleeve: ≤5×10 ⁻⁴ (II) valve rated capacity											
	Soft seal (1/h)	0.15	0.30	0.45	0.60	0.90	1.7	4.0	6.75	11.10	16.0		
Pressure reducing ratio	Max.	10											
	Min.	1.25											
Minmum upstream pressure													
upstream pressure KPa	30	50	100	150	200	250	300	350	400				
Backstream pressure KPa	15-24	15-40	15-80	15-120	20-160	25-200	30-240	35-280	40-320				
upstream pressure KPa	450	500	550	600	650	700	750	800	850				
Backstream pressure KPa	45-360	50-400	55-440	60-480	65-520	170-560	75-600	80-640	85-680				
upstream pressure KPa	900	950	1000	1250	1500	2000	2500	3000					
Backstream pressure KPa	90-720	95-760	100-800	125-1000	150-1200	200-1600	250-2000	300-2400					

◆ Material and applicable temperature

Chart 1: Body, bonnet material applicable and presure scope(ANSI)

Temp °C	Class150					Class300				
	SCPL1 LCB	SCPH2 WCB	SCPH21 WC6	SCS13A CF8	SCS14A CF8M	SCPL1 LCB	SCPH2 WCB	SCPH21 WC6	SCS13A CF8	SCS14A CF8M
-45~38	1.84	-	-	1.90	1.90	4.78	-	-	4.95	4.95
-5~38	1.84	1.96	1.99	1.90	1.90	4.78	5.10	5.16	4.95	4.95
50	1.81	1.92	1.92	1.84	1.84	4.72	5.00	5.10	4.77	4.80
100	1.72	1.76	1.76	1.56	1.56	4.51	4.63	4.88	4.08	4.21
150	1.57	1.57	1.57	1.39	1.39	4.40	4.51	4.63	3.62	3.85
200	1.40	1.40	1.40	1.25	1.25	4.26	4.38	4.54	3.27	3.56
250	1.20	1.20	1.20	1.16	1.16	4.05	4.16	4.44	3.04	3.34
300	1.01	1.01	1.01	1.01	1.01	3.76	3.87	4.23	2.91	3.15
350	0.84	0.84	0.84	0.84	0.84	3.59	3.69	4.01	2.81	3.03
375		0.73	0.73	0.73	0.73		3.64	3.88	2.77	2.96
400		0.64	0.64	0.64	0.64		3.44	3.65	2.74	2.91

Chart 2: Body, bonnet material applicable and pressure scope(GB)

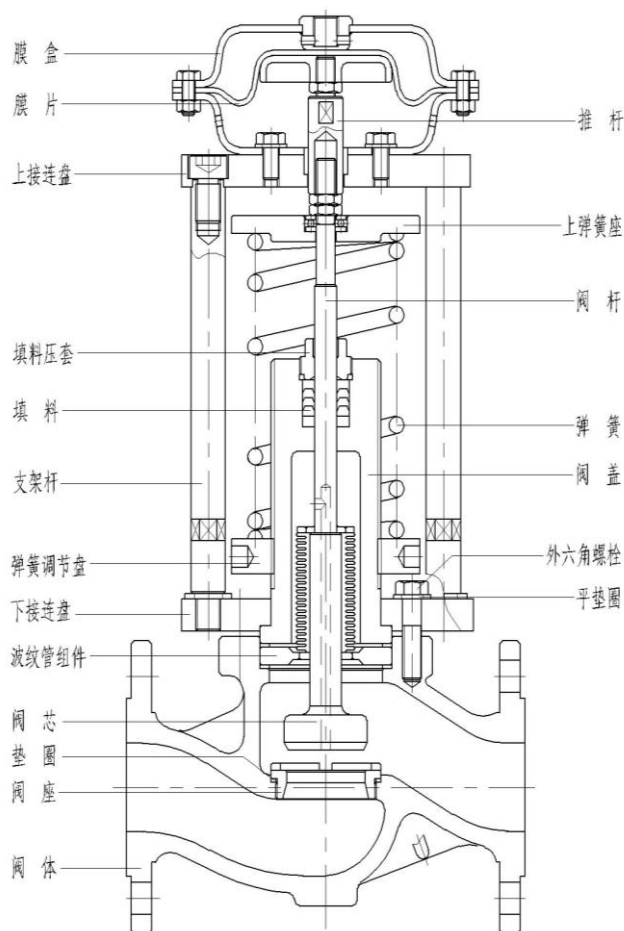
Temp. ℃	PN16					PN25					PN40				
	LCB	WCB	WC6	CF8	CF8M	LCB	WCB	WC6	CF8	CF8M	LCB	WCB	WC6	CF8	CF8M
-29~38	1.5	1.6	1.6	1.5	1.5	2.4	2.5	2.5	2.4	2.4	3.9	4.1	4.1	4.0	3.9
93	1.4	1.4	1.4	1.4	1.3	2.2	2.3	2.3	2.1	2.0	3.8	3.7	4.0	3.3	3.4
149	1.3	1.3	1.3	1.3	1.2	2.1	2.1	2.1	1.9	1.9	3.7	3.6	3.8	3.0	3.1
204	1.1	1.1	1.1	1.1	1.1	1.9	1.9	1.9	1.7	1.7	3.5	3.4	3.7	2.8	2.8
260	0.8	1.0	1.0	1.0	1.0	1.7	1.7	1.7	1.5	1.6	3.3	3.2	3.5	2.6	2.6
315	0.7	0.8	0.8	0.8	0.8	1.4	1.4	1.5	1.3	1.3	3.0	2.8	3.1	2.3	2.4
343	0.6	0.7	0.7	0.7	0.7	1.3	1.3	1.4	1.2	1.2	2.9	2.7	3.0	2.3	2.3
371	0.5	0.6	0.6	0.6	0.6	1.2	1.2	1.3	1.1	1.1	2.8	2.7	2.9	2.2	2.2
399	0.5	0.5	0.5	0.5	0.5	1.1	1.1	1.2	1.0	1.0	2.5	2.6	2.7	2.1	2.2

Note:1. If temperature or pressure is at middle of showed figure , we can use interpolation to get Max working pressure or temperature.

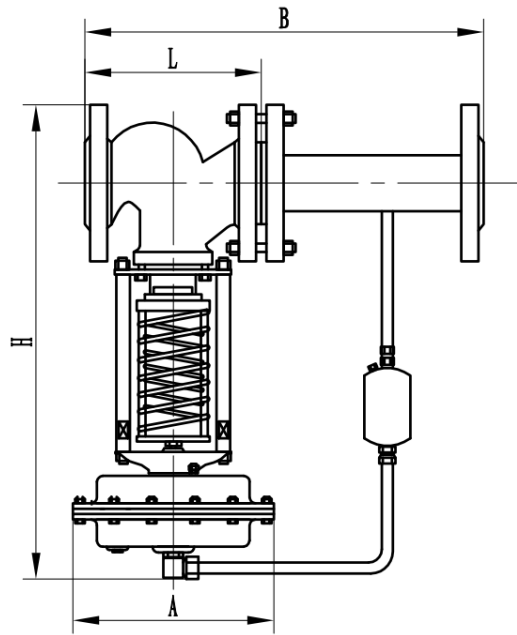
2. The pressure in chart are all gauge pressure.

◆ Standard material and inside structure

1	Body	WCB	CF8	CF8M
2	Seat	304	304	316
3	Disk	304	304	316
4	Gasket	316+ graphit/PTEF		
5	Bellows combination	304	304	316
6	Connection plate	20	CF8	CF8M
7	Spring adjustment plate	304	304	316
8	Bonnet	WCB	CF8	CF8M
9	York	304	304	304
10	Packing	PTFE/ Flexible graphit		
11	Packing gasket	304	304	316
12	Spring	60Si2Mn		
13	Stem	304	304	316
14	Upper spring seat	304	304	304
15	Connection plate	20	304	304
16	Capsule	A3	304	316
17	Diaphragm	Nitrile rubber clamp polyester		
18	Push rod	304	304	316
19	Hex bolt	45	304	316



◆ Dimension and weight



Nominal diameterDN		20	25	32	40	50	65	80	100	125	150	200	250	300
Face to face (L)		150	160	180	200	230	290	310	350	400	480	600	730	850
Flange connection size (B)		383		512		603	862		1023	1380		1800	2000	2200
Pressure control scope (Kpa)	15-140	H	475	520		540	710		780	840	880	915	940	1000
		A	280	308										
	200-500	H	455	500		520	690		760	800	870	880	900	950
		A	230											
	120-300	H	450	490		510	680		750	790	860	870	890	940
		A	176				194			280				
	480-1000	H	445	480			670		740	780	850	860	880	930
		A	176				194			280				
	600-1500	H	445	570		600	820		890	950		1000	1100	1200
		A	85	96										
	1000-2500	H	445	570		600	820		980	950		1000	1100	1200
		A	85	96										
Weight (Kg)		26	37		42	72	90	114	130	144	180	200	250	
Connecting pipe joint thread		M1.6×1.5												

※ Weight in chart is standard data without accessory. Matched export connection pipe and condensator are provide according to requirement.

※ As produce improved and technology innovation, size maybe be changed, plase contact Datian Valve technology department to get new product information.