

Globe Control Valve	
Industrial/Marine Application	Model: <b>GCV Series</b>

## Feature & Function

- Easy maintenance
- Excellent anti-vibration structure
- Simple zero and span adjustment
- ½" split range by simple adjustment without changing parts
- Reversible operating direction
- Corrosion-resistant material
- Easy to attached small diaphragm actuators
- Sensitive and correct response for high performance
- Economical energy saving
- Stable operation
- Orifice with filter available
- Optional visual dome indicator
- Can be coupling with EQ-ball valve, 3-way ball, High performance butterfly valve, globe valve, Segment Ball Valve or specify by user.
- Stainless steel coupling bracket provided.



## Mini-type pneumatic diaphragm single seat (sleeve) control valve

Pneumatic single seat (sleeve) control valve is made up of pneumatic multi spring diaphragm actuator and lower flow resistance straight single seat valve (sleeve). The single valve is connected directly with its guiding structure on the cap; with its core is ram structure, which is smaller and lighter than normal single seat valve and its flux are bigger than normal sleeve valve. It is widely applied in industry process and automatic controlling system.

### 1. Body

Body type: Straight line single seat (sleeve) foundry valve S style

D N: DN1/2"~12"

PN: PN150LB 300LB 600LB

Connecting way: Flange style JB78-59 JB/T79.2-94 concave style

Material: HT200 ZG230—450 ZG1Cr18Ni9Ti ZG0Cr18Ni12Mo2Ti

Back cover: Normal temperature -20~+200°C

Heat elimination type -40~+450°C

Packing: V-pattern PTFE, soft graphite, stainless steel bellows

### 2. Inside groupware

Corn type: Upper-operated single seat (sleeve) ram core

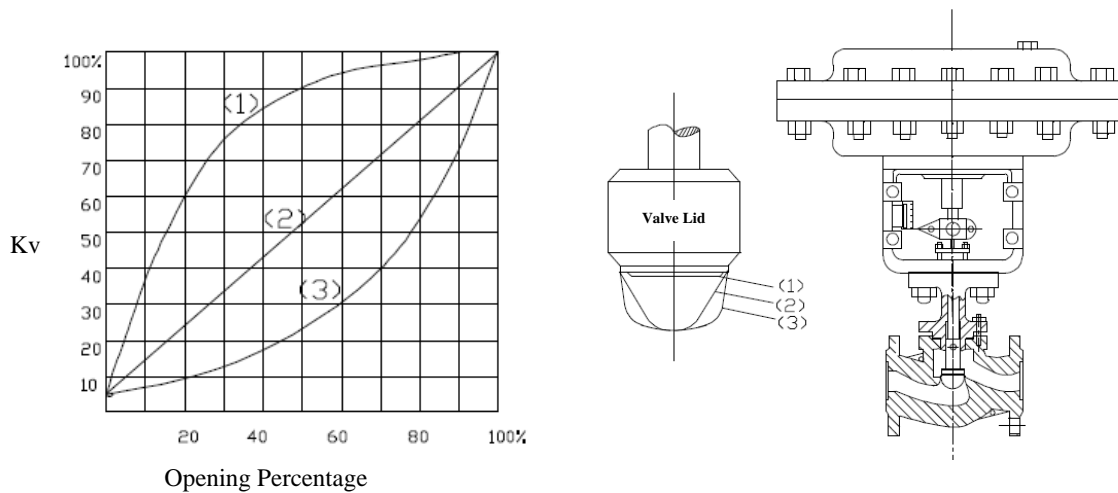
Flow characteristics: linearity, percentage character or quick opening character

Material : 1Cr18Ni9Ti 0Cr18Ni12Mo2Ti

### 3. Flow characteristics

(1) Quick opening characteristics (2) Linearity line character (3)

Percentage character good flux character



## 4. Actuator

Style: multi spring diaphragm actuator Gasket: rubber asbestos board, 1Cr18Ni9Ti  
 Film material: nitride rubber Dacron Spring range: 20-100(40-200、 80-240 、 20-60 Compress  
 Spring: 60Si2Mn 60-100) KPa  
 Handspike: 2Cr13 Air pressure: 0.14 0.16 0.28Mpa  
 Film cap: A3 Air supply tie-in: inner worm M10X1  
 Liner cap: 2Cr13 Valve function type: ON/OFF

## 5. Technical parameter

DN (Inch)	Seat dia. (m m)	Rating flow rate Kv		Rated stroke (mm)	Film effective area cm <sup>2</sup>	Fixed adjust able	Environme nt temperature ℃	Basic error	Back differe nce	Dead zone	Rati ng flo w rate Kv	Lea kag e		
		Straig ht line	Percen tage											
1/2	3	0.08		10	220	50:1	-40~+85				± <b>10%</b>	Single seat 10 <sup>-4</sup> rated capability (single 10 <sup>-3</sup> rated capability)		
	4	0.12												
	5	0.20												
	6	0.32												
	7	0.50												
3/4	10	1.8	1.6	10	350					with localizer ± <b>5%</b>			with localizer ± <b>3%</b>	with localizer ± <b>3%</b>
	12	2.8	2.5											
	15	4.4	4											
	20	6.9	6.3											
1	25	11	10	16										
1-1/2	32	17.6	16	25	560					with localizer ± <b>1%</b>			with localizer ± <b>1%</b>	with localizer ± <b>0.4%</b>
	40	27.5	25											
2	50	44	40											
2-1/2	65	69	63											
3	80	110	100											
4	100	176	160	40										
	125	275	250											
6	150	440	400	60		900								
	200	690	630											
8	250	1000	900											
10	300	1600	1440	100			1400							

## 6. Pneumatic single seat controlling valve plan unit: Mpa

	Actuator model	Spring range KPa	Air supply pressure MPa	DN (seat dia.) mm												
				20				25	40	50	65	80	100	150	200	
				10	12	15	20									
C l o s e	ZHA-22	20-100	0.14	6.4	6.19	3.96	2.2	1.4								
		20-100	0.25	6.4	6.4	6.4	6.4	6.4								
		40-200	0.4	6.4	6.4	6.4	6.4	6.4								
	ZHA-23	20-100 20-100 40-200	0.14 0.25 0.4							0.56 3.64 5.04	0.35 2.30 3.18					
ZHA-34	20-100 20-100 40-200	0.14 0.25 0.4									0.34 2.21 3.06	0.22 1.43 1.98	0.14 0.91 1.26			
ZHA-45	20-100 20-100 40-200	0.14 0.25 0.4												0.10 0.66 0.92	0.06 0.37 0.52	
O p e n	ZHB-22	20-100	0.14	4.64	3.09	1.98	1.11	0.7								
		40-100	0.25	6.4	6.4	5.94	3.3	2.1								
		80-240	0.4	6.4	6.4	6.4	6.4	4.9								
	ZHB-23	20-100 40-100 80-240	0.14 0.25 0.4							0.28 0.84 1.95	0.18 0.53 1.25					
ZHB-34	20-100 40-100 80-240	0.14 0.25 0.4									0.17 0.51 1.18	0.11 0.33 0.78	0.07 0.21 0.5			
ZHB-45	20-100 40-100 80-240	0.14 0.25 0.4												0.05 0.15 0.36	0.03 0.09 0.21	

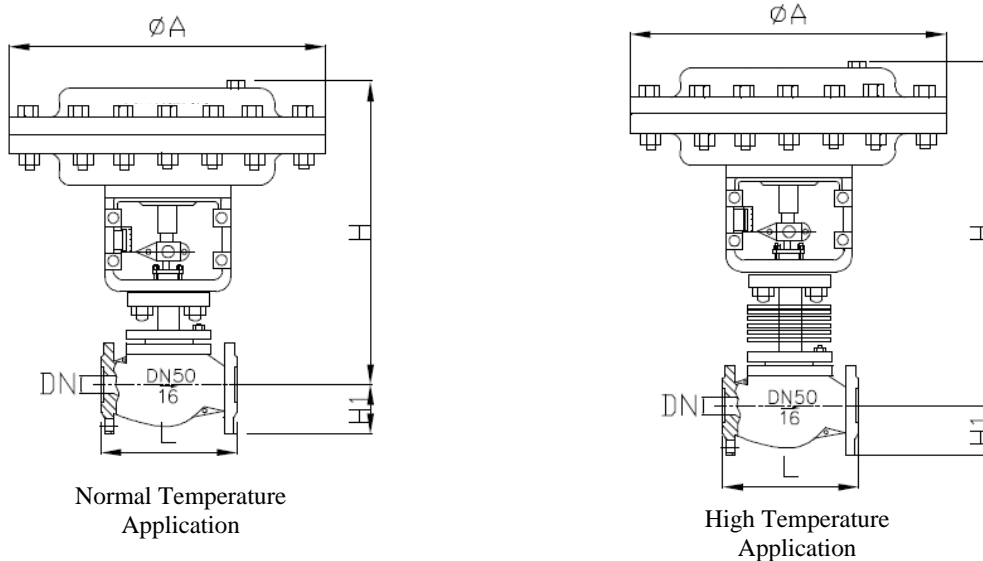
### Explanation:

1. This plan is based on the standard actuator .let us know if the big work pressure difference exceed plan range.
2. This plan is based on valve close position. So that there will be more permitted pressure difference.

## 7. Pneumatic sleeve control valve plan

ON/OFF	Actuator model	Spring range KPa	Air supply pressure MPa	DN (mm)								
				25	40	50	65	80	100	150	200	
OFF	ZHA-22	20-100 20-100 40-200	0.14 0.25 0.4	3.00								
				6.4								
				6.4								
	ZHA-23	20-100 20-100 40-200	0.14 0.25 0.4		2.25	1.95						
					6.4	6.4						
					6.4	6.4						
	ZHA-34	20-100 20-100 40-200	0.14 0.25 0.4				2.36	2.04	1.67			
							6.4	6.4	6.4			
							6.4	6.4	6.4			
	ZHA-45	20-100 20-100 40-200	0.14 0.25 0.4							1.41	1.14	
										6.4	6.4	
										6.4	6.4	
ON	ZHB-22	20-100 40-100 80-240	0.14 0.25 0.4	1.50								
				4.50								
				6.4								
	ZHB-23	20-100 40-100 80-240	0.14 0.25 0.4		1.13	0.98						
					3.38	2.93						
					6.4	6.4						
	ZHB-34	20-100 40-100 80-240	0.14 0.25 0.4				1.18	1.02	0.84			
							3.54	3.06	2.51			
							6.4	6.4	5.85			
	ZHB-45	20-100 40-100 80-240	0.14 0.25 0.4							0.71	0.57	
										2.12	1.71	
										4.94	4.00	

## 8. Pneumatic Control Valve Dimension



## 9. Pneumatic diaphragm Control Valve Size Table

DN	L(mm)			H(mm)		H1(mm)			Φ A (mm)	
	150LB	300LB	600LB	Normal	High T	150LB	300LB	600LB		
1/2"	120	120	120	253		31	31		236	
3/4"	181	194	206	398.5	548.5	45	52.5	65	285	
1"	184	197	210	410.5	560.5	50	57.5	70		
1-1/2"	222	235	251	455	620	65	75	85		
2"	254	267	286	457.5	627.5	70	82.5	90		
2-1/2"	276	292	311	610	790	80	92.5	102.5	360	
3"	298	317	337	622	87	95	100	107.5		
4"	352	368	394	640	850	105	110	117.5		125
6"	451	473	508	870	1130	132.5	142.5	150	172.5	470
8"	600	610	650	890	1150	160	170	187.5	207.5	
10"	730	730	775	1203	1523	202	225	225	235	580
12"	850	850	890	1234	1554	230	257	257	265	580

Note: 1. the flange of the valves according to ANSI B16.50

2. Face to face dimension according to ANSI B16.10

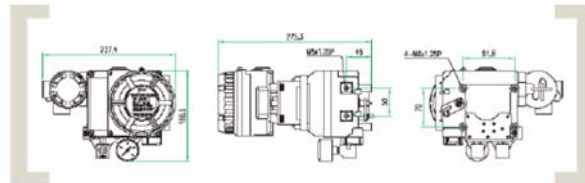
10. Model explanation							
Z	J	H	P	150/300/600	C	G	K
Self-controlling valve	Actuator :	multi spring pneumatic film actuator	: Valve structure type:	PN :	Body material:	Temperature type:	: Function way:
	J :		P :	150lb	C : C:	G :	K :
	J:		P: single		Carbon	G: middle	K: air
	mini-type		seat		steel	type normal	opening
						temperature omit	type
			N : N:	300lb	P : P:		B : B: Air close
			Double seat		stainless steel		
			M :	600lb	F46 :		
			M: sleeve valve		F46: body liner FI		

## 11. Ordering Information Require

<b>1. Product model and name</b>	<b>6. Rated flow rate</b>
<b>2. DN (mm)</b>	<b>7. Medium type and temperature range</b>
<b>3. PN</b>	<b>8. Valve pressure (back and front)(pressure difference)</b>
<b>4. Flow characteristics</b>	<b>9. Control single</b>
<b>5. Body material</b>	<b>10. Other special requirements</b>

## 12. ELECTRO-PNEUMATIC POSITIONER

Type	: Linear
Input signal	: 4-20mA DC
Input resistance	: 235 +/- 15 Ohm
Supply air pressure	: Max. 7Kgf/cm <sup>2</sup>
Standard stroke	: 60 ~ 100 degree
Air piping connection	: PT ¼" (NPT ¼")
Conduit connection	: PT ½" (NPT ½")
Explosion proof classification	: Exmd II BT6, Exmd II C(H2)T6, IP66, Exia II BT6
Ambient Temperature	: -20 ~ 70 °C
Pressure Gauge	: Stainless Steel
Output Characteristics	: Linear
Linearity	: +/- 1.5% % F.S.
Sensitivity	: 0.5% F.S.
Hysteresis	: 1.0% F.S.
Repeatability	: +/- 0.5% F.S.
Air consumption	: 5 LPM (Sup. 1.4 Kgf/cm <sup>2</sup> )
Flow capacity	: 80 LPM (Sup. 1.4 Kgf/cm <sup>2</sup> )
Material	: Aluminium Die cast Body
Weight	: 2.9 Kg (with a terminal Box)



## ORDERING INFORMATION

<b>CONTROL VALVE</b>			
	<u>CONTROL FUNCTION</u> MR : Modulating rotary control                      ML : Modulating lever control O : ON/OFF		
	<u>INPUT SIGNAL</u> A1 : 4 – 20mA DC    S : Specify D1 : 24 VDC A2 : 110 VAC A3 : 230 VAC		
	<u>VALVE SIZE</u> 1/2": DN12    3/4": DN20                      1": DN25                      1.1/2": DN40 2": DN50    2.1/2": DN65                      3": DN80                      4": DN100 6": DN150    8": DN200                      10": DN250                      12": DN300		
GCV – LK -			