

Gas Pressure Regulating Valves

Model: ZZVMP

STONE

◆ Introduction



ZZVMP self-regulating type nitrogen seal valve is composed of control valves, actuators and pilot, is a kind of no extra energy, using the pressure as power source, modulated medium itself to automatically adjust the pressure constant of energy-saving products, the valve control is twice precise as general self-reliance type pressure regulating valve, suitable for requiring higher control precision

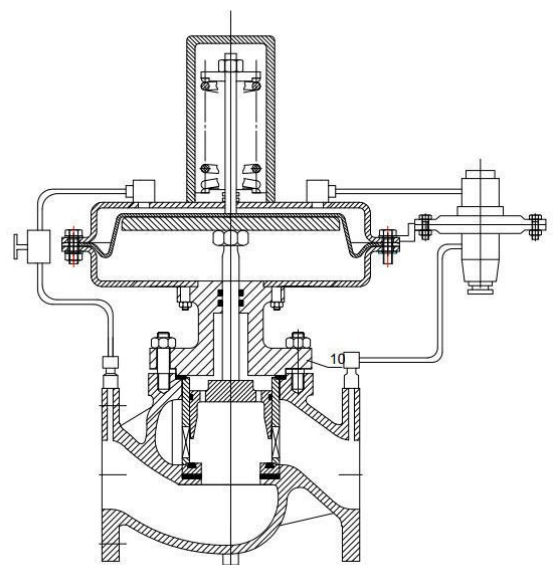
FEATURES

Self-operated pressure regulator applies with the quick-opening flow characteristic, which is quickly acted and highly accurate adjusted, so it can be widely used in many fields like petroleum, chemical, electricity, metallurgy, food, textile, machinery and civilian building and so on to reduce/release or stabilize the pressure of the gas, steam and liquid and so on.

Cage guided self-operated pressure regulator use self-balancing double sealing surface as a throttle member, to prevent from unauthorized change in gas pressure and the medium needs to be cleaned without particulate impurities, which is suitable for large pressure drop, to keep the manifold velocity bellow 150 msec, prevent vibration and reduce excessive noise emission.

◆ Technical Specification

This type is a **FAIL TO OPEN** type pressure regulator, which means that the main valve will move to the fully open position in the event of diaphragm rupture of main valve or supply pressure is not available.



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Size	DN20 ~ DN100
Pressure Rating	PN1.6 ~ PN6.4MPa, 150 ~ 300LB Flange
Standard	JB/T79.1-94, 79.2-94, ANSI B16.5
Material	Body Material: Cast iron, cast steel, stainless steel Seat: Stainless steel + PTFE Diaphragms: NBR, EPDM, fiber-reinforced rubber, oil resistant rubber Diaphragm Cover: Teflon coated A3, A4 steel sheet Cage guided Stem: Stainless steel Noted: Regulator has a rust proof exterior finish
Pressure balancing	Stainless steel bellows
Minimum differential pressure	Not less than the 20% of the valve set pressure
Flow characteristic	Quick open
Plug type	Single seated, double-seat
Working temperature	-29 ~+150°C
Accuracy class	AC 10% up to 100 mbar AC 5% from 100 mbar to 1 bar AC 2.5% over 1 bar

◆ Actuator

Pressure Setting Range: 0.4~0.5, 5~10, 9~14, 13~19, 18~24, 22~28, 27~33, 36~44, 42~51, 49~58,

Spring adjustment screw cap required to protect screw against tempering. Cover with threads protected against corrosion; valve linkage are corrosion resistant.

Spring screw are protected against tampering by means of a suitable screwed seat cap or cover and that can be removed without damage

Rated Kv Value · Rated Travel · Adjusting Pressure Range (Sheet 1)

Nominal Diameter DN(mm)		20	25	32	40	50	65	80	100	125	150	200	250	300
Rated Flow Characteristic Kv	Single-Seated	7	11	20	30	48	75	120	190	300	480	760	-	-
	Cage Type	7	11	20	30	48	75	120	190	300	480	760	-	-
	Double-Seated	-	-	22	33	53	83	132	209	330	528	836	1210	1925
Rated Travel (mm)		8		10		14	20		25	40		50	60	70
Adjusting Pressure Range (kPa)		15~50, 40~80, 60~100, 80~140, 120~180, 160~220, 200~260, 240~300, 280~350, 330~400, 380~450, 430~500, 480~560, 540~620, 600~700, 680~800, 780~900, 880~1000, 950~1100, 1080~1250, 1230~1400, 1380~1550, 1530~1800, 1780~2000, 1980~2300, 2280~2500												

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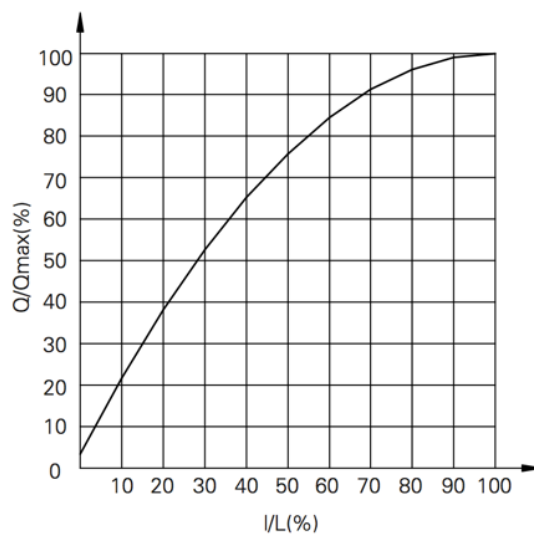
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Main Parameters For Micro-Flow, Single-Seated (Sheet 2)

Nominal Diameter DN(mm)	20, 25												
Seat Diameter(mm)	6								7	8	10	12	15
Rated Flow Characteristic Kv	0.01	0.02	0.048	0.06	0.08	0.12	0.2	0.32	0.5	0.8	1.8	2.8	4.4
Rated Travel (mm)	5												

Flow Characteristic



FLOW COEFFICIENT (CG): ZZVMP

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Size (mm)	25	50	80	100	150	200
CG	428	1629	3645	5359	13718	19291

Allowable velocity:

This type using the balancing hole design, which is used for control velocity and noise. Velocity of gas at regulator outlet flange shall be calculated using the following formula:

$$V=Q/A=Q/(\pi D^2/4)$$

V is the average fluid velocity in the pipe in ft/sec.

Q is volumetric flow rate (cfs)

A is cross-sectional area of flow= $\pi D^2/4$

D is the diameter of the pipe in ft

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Valve Size	Maximum Allowable Velocity v [m/s]
2"	120
3"	125
4"	150

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