

Eclipse Adjustable Limiting Orifice Valves

Series ALO



Eclipse Adjustable Limiting Orifice Valves are recommended for installation in gas lines feeding nozzle mix burners as a means of gas flow adjustment for the

desired air / gas ratio. The unique V-port design allows for extremely fine ratio adjustment.

Adjustable Limiting Orifice Valves are available in five sizes from 3/4" to 2". Capacities when using natural gas range from 213 cfh to 16,469 cfh depending on valve size and pressure drop taken (see Capacity Table). Maximum inlet pressure is 40 psi.

Valve adjustment is readily accomplished by removing the cap and turning the stem assembly clockwise for reduced flow and counterclockwise for increased flow. Once adjustment has been made, replace the cap to prevent tampering with the adjustment and to protect the threads of the packing nut.

"ALO" Valves are designed for use as limiting orifices and should not be used as a substitute for a normal shut off valve. They should be preceded in the gas line by a suitable manual shut off valve such as a lubricated plug cock. For a right angle version of the Adjustable Limiting Orifice Valve, series "ALO-R", see Bulletin 728. Contact Eclipse for applications below -20F (-28C).

Capacities

(CFH of 0.60 SG. Gas*)

Catalog Number	Pipe Size (inch)	Flow Coeff. (Cv) Full Open	Inches w.c. Drop**							PSIG Drop**				
			0.5	1.5	3.5	5.0	7.0	8.5	10.0	1.0	2.0	3.0	4.0	5.0
ALO-3	3/4	4.70	213	322	479	575	683	757	826	1396	1974	2418	2792	3122
ALO-4	1	6.54	203	345	468	574	682	756	823	1393	1970	2412	2786	3115
ALO-5	1-1/4	12.24	514	856	1277	1514	1808	1984	2160	3828	5413	6630	7656	8559
ALO-6	1-1/2	13.79	584	964	1427	1718	2027	2225	2442	4095	5791	7092	8189	9156
ALO-8	2"	24.81	1030	1675	2813	3052	3622	3981	4329	7365	10,416	12,757	14,731	16,469

*When using other than natural gas, apply multifactor to above capacities

Gas—Sp. Gr.	0.4	0.6	0.8	1.0	1.5	2.0
Multifactor	1.22	1.00	0.866	0.77	0.632	0.547

**Above capacities assume a secondary pressure of atmospheric to 1/2 psi. For other pressures use the following equations for gases or for liquids near the viscosity of water.

$$\text{FOR GAS: } Q = 1360 C_v \sqrt{\frac{(P_1 - P_2) P_2}{GT}}$$

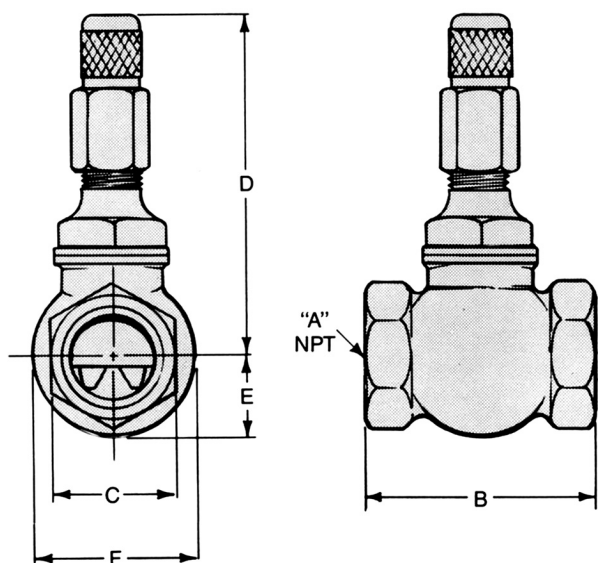
Q = SCFH
 C_v = Flow Factor
 P_1 = Inlet Pressure PSIA
 P_2 = Outlet Pressure PSIA
 G = Specific Gravity of gas
 T = Flowing temperature absolute ° F.

$$\text{FOR LIQUIDS: } Q = C_v \sqrt{\frac{\Delta P}{S.G.}}$$

Q = Flow in G.P.M.
 C_v = Flow factor
 ΔP = Pressure differential
 S.G. = Specific Gravity of liquid

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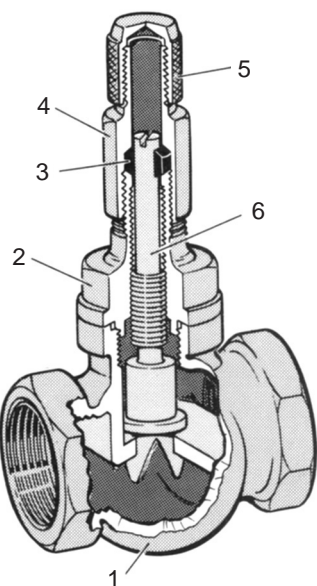
Dimensions



Catalog Number	Part Number	Dimensions					
		A	B	C	D	E	F
ALO-3	500605	3/4	2-17/32	1-3/8	3-15/16	7/8	1-3/4
ALO-4	500606	1	2-7/8	1-5/8	3-3/4	1-1/16	2-1/8
ALO-5	500607	1-1/4	3-5/8	2	4-5/8	1-1/4	2-1/2
ALO-6	500608	1-1/2	3-3/4	2-1/4	5	1-1/2	3
ALO-8	500609	2	4-1/4	2-3/4	5-7/8	1-7/8	3-3/4

NOTE: All dimensions are in inches.

Parts List



Item No.	Description	No. Req'd.	Part Numbers				
			ALO-3	ALO-4	ALO-5	ALO-6	ALO-8
1	Body, Globe Valve	1	4395-11	4396-11	4397-11	4398-11	4399-11
2	Bonnet, Brass	1	4161-11	4162-11	4163-11	4164-11	4165-11
3	Packing	1	10004	10004	10006	10006	10014
4	Nut, Packing, Brass B-16 H.H.	1	19914	19914	19934	19934	19935
5	Cap, Brass B-16 H.H.	1	19938	19938	10000	10000	10000
6	Stem Assembly	1	500610	500611	500612	500613	500614

Typical Application

