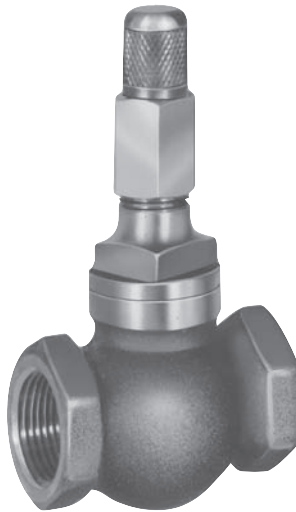




# Adjustable Limiting Orifice Valves

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 195cfh to 16,900 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.

## Capacities

(CFH of 0.65 SG. Gas\*)

Catalog Number	Pipe Size	Flow Coeff. (Cv) Full Open	Inches W.C. Drop**								PSIG Drop**				
			.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"	4.88	195	356	504	617	715	786	874	1435	2040	2500	2885	3220	
ALO-4	1"	6.52	261	476	674	809	955	1062	1170	1920	2720	3345	3860	4320	
ALO-5	1-1/4"	12.81	512	935	1321	1620	1873	2085	2285	3770	5350	6560	7580	8460	
ALO-6	1-1/2"	14.56	583	1062	1505	1842	2130	2375	2610	4280	6070	7450	8610	9600	
ALO-8	2"	25.60	1025	1870	2505	3070	3555	3960	4350	7530	10700	13100	15120	16900	

\*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.

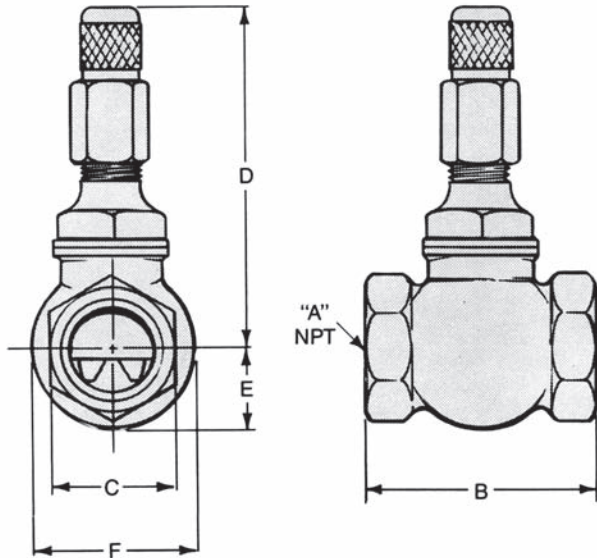
$$\text{FOR GAS: } Q = 1360 C_v \frac{\sqrt{(P_1 - P_2) P_2}}{\sqrt{GT}}$$

Q = SCFH  
 C<sub>v</sub> = Flow Factor  
 P<sub>1</sub> = Inlet Pressure PSIA  
 P<sub>2</sub> = 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<sub>v</sub> = Flow factor  
 ΔP = Pressure differential  
 S.G. = Specific Gravity of liquid

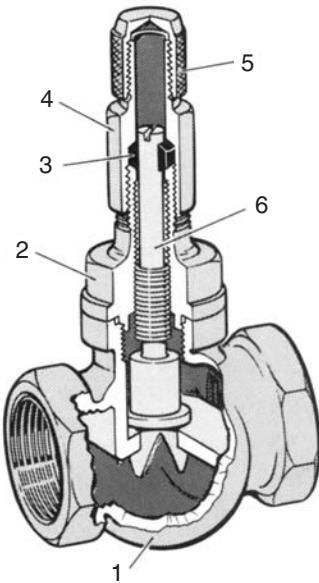
## Dimensions



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

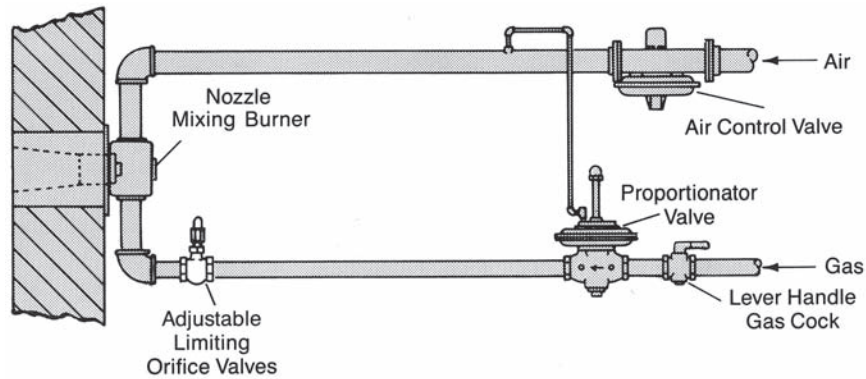
NOTE: All dimensions are in inches.

## 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



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