

Specifications | 1008A Valve

Valves for Gases, Oils, Steam, Compressed Air, Water. (For low pressure air valves, see Specifications 1004/1014.) All valves are for throttling control--not tight shutoff.

Valve	Pipe size	Max inlet pressure (PSI)	Maximum Temp°F.	Minimum Temp°F.	Body	Materials of Construction ■			
						Core and Curtain	Shaft	Shaft Grease	Seal
1008A Valves	3/8", 1/2"	125	350	-20	BRS	316L SST	SST	Litium #2	Viton
	3/4" thru 2"	125	350	-20	DI	316L SST	SST	Litium #2	Viton
	2-1/2" thru 6" ●	125	350	-20	DI	316L SST	SST	Litium #2	Viton
1008A-S (steam)	3/8", 1/2"	125	350	-20	BRS	316L SST	SST	Silicone compound	EP
	3/4" thru 2"	125	350	-20	DI	316L SST	SST	Silicone compound	EP
	2-1/2" thru 6" ●	125	350	-20	DI	316L SST	SST	Silicone compound	EP
1010A-S (steam)	3/4" thru 3"	125	350	-20	BRS	Monel	SST	Silicone compound	EP

Valves must be properly lubricated. See Sheet 1008A Instructions.

- 2½", 3" and 4" valves have ANSI flat face flanges cast into the body. 6" valves are furnished with ductile iron companion flanges.
- Materials abbreviations: BRS = brass, DI = ductile iron, SST = stainless steel.

SELECTION

Fluid	Pressure	Valve	Refer to
Air	0-3 psig 0-125 psig	1004, 1014 1008A	Specifications 1004/1014 example below
Gas, Oil Water	0-125 psig	1008A	example below
Steam (saturated)	0-125 psig	1008A-S 1010A-S	example below

SIZING

Air, 3-125 psig. Subtract desired high flow pressure drop from absolute upstream of the valve to get absolute pressure downstream of the valve. Divide this by upstream absolute pressure. If the result is 0.7 or more, refer to Chart A of this bulletin. Multiply the desired maximum air flow, scfm, by the appropriate density correction factor from the inset on Chart A, and locate the intersection of lines corresponding to corrected flow and pressure drop. The first diagonal line above this point indicates the correct valve size. If the ratio of downstream absolute pressure to upstream absolute pressure is 0.69 or less, read the intersection, on Chart B, of lines corresponding to upstream absolute pressure and flow, scfm (**do not** multiply by the density correction factor). The first diagonal line above this point represents the correct size valve.

Example: Select a valve to control 1225 scfm air in a 35 psig line. Maximum pressure drop across the wide open valve should be 10 psi. Pressure downstream of the valve will be (35 - 10) = 25 psig. Ratio of absolute pressures is (25 + 15) psia ÷ (35 + 15)

psia = 0.8. Use Chart A. Density correction factor for 50 psia upstream pressure is 0.53 (from inset, Chart A). Corrected flow is 1225 scfm × 0.53 = 650 cfm. First diagonal line above intersection of 10 psi pressure drop and 650 cfm lines on Chart A represents a 2" valve.

Gas, 2 psig and up. Follow the same procedure as with 3-125 psig air, using Chart A for absolute pressure ratios of 0.7 and higher and Chart B for ratio of 0.69 or less. In either case, multiply flow, scfm, by the appropriate gas gravity correction factor from the two-line table across the top of the inset on Chart A.
Steam (saturated), up to 125 psig. (Specify "-S" model.) When ratio of downstream absolute pressure to upstream absolute pressure is 0.7 or greater, use same selection method as with 3-125 psig air, but select valve from Chart C. When pressure ratio is 0.69 or less, follow procedure for 3-125 psig air, but select valve from Chart D.