

Rated Flow Coefficient (Cv) ABZ Valve Figure *090/929, *909/919 & 201/202

Valve Size	Angle of Disc Opening								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
1 1/2"	0.22	1.7	6	12	23	41	71	109	155
2"	1.67	7.7	17	29	49	76	121	184	263
2 1/2"	2.50	11.0	25	44	70	112	186	321	445
3"	3.33	15.7	37	64	107	170	290	492	701
4"	5.00	27.7	63	111	180	286	499	926	1321
5"	8.33	43.7	99	178	280	456	794	1473	2123
6"	13.33	58.7	136	243	391	634	1129	1950	2826
8"	20.00	107.3	247	436	697	1127	1940	3604	5272
10"	31.67	174.0	394	699	1108	1823	3132	5733	8395
12"	47.00	251.7	578	1007	1690	2734	4618	8309	12214
14"	61.30	326.0	765	1380	2216	3497	5999	10397	15105
16"	81.70	426.0	1000	1792	2858	4629	7934	13728	19950
18"	106.00	549.0	1294	2290	3668	5952	10243	17874	25970
20"	124.00	684.0	1598	2876	4648	7396	12787	22343	32465

*Sized for Stainless Disc, does not cover encapsulated disc trims

Rated Flow Coefficient (Cv) ABZ Valve Figure 101/102/108 & 396/397

Valve Size	Angle of Disc Opening								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
2"	1.67	7.7	17	29	48	74	115	145	195
2 1/2"	2.50	11.0	25	44	69	109	174	237	307
3"	3.33	15.7	37	64	105	165	276	377	487
4"	5.00	27.7	63	110	177	278	472	671	827
5"	8.33	43.7	99	177	276	443	752	1083	1325
6"	13.33	58.7	136	242	385	616	1075	1521	1883
8"	20.00	107.3	247	434	687	1094	1821	2671	3239
10"	31.67	174.0	394	696	1092	1770	2983	4288	5210
12"	47.0	251.7	578	1002	1665	2654	4398	6466	8026
14"	61.3	326	765	1373	2183	3395	5713	8337	10179
16"	81.7	426	1000	1783	2816	4494	7556	10981	13322
18"	106	549	1294	2279	3614	5779	9755	14148	17738
20"	124	684	1598	2862	4579	7181	12178	17906	22113
24"	233	1009	2329	4081	6587	10347	17078	25218	31051
30"	364.7	1537	3757	6571	10568	16861	27767	39752	50783
36"	575	2498	5495	9437	15261	24002	39806	56834	74958
42"	706	3134	7402	12597	20447	23940	53421	77711	99617
48"	921.7	4229	9659	16598	26524	42297	68972	100984	128561

Cv is defined as the volume of water in U.S.G.P.M. that will flow through a given restriction or valve opening with a pressure drop of one (1) p.s.i. at room temperature. Recommended control angles are between 25°-70° open. Preferred angle for control valve sizing is 60°-65° open.

BASIC SIZING FORMULA		
Liquid	Gas	Steam
$C_v = Q \sqrt{\frac{S.G.}{\Delta p}}$	$C_v = \frac{Q}{61} \sqrt{\frac{S.G.}{P_2 \Delta p}}$	$C_v = \frac{W}{3 \sqrt{P_2 \Delta p}}$
Where: Q = Flow Through Valve (USCPM) S.G. = Specific Gravity (Water = 1) Δ p = Pressure Drop Across Valve (PSI)	Where: Q = Flow Through Valve (SCFH) S.G. = Specific Gravity (Air = 1) Δ p = Pressure Drop Across Valve (PSI) [less than ½ Inlet Pressure (PSIA)] P ₂ = Outlet Pressure (PSIA)	Where: W = Flow Through Valve (LBS./HR.) Δ p = Pressure Drop Across Valve (PSI) [less than ½ Inlet Pressure (PSIA)] P ₂ = Outlet Pressure (PSIA)