

## Flow Data Cv Values for Valves

Size (mm.)	4	8	10	15	20	25	32	40	50	65	80	90	100	125	150	
Size (In.)	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	
<b>Gates</b>																
S/T-29	0.5	2	4.9	9.1	22	40	65	95	175							
S/T-111, 113, 131, 133 134, 135, 136, 154, 174, 176	-	5.6	10.7	17.6	32	54	97	135	230	337	536	710	960	1,525	2,250	
T/F-617, 619, 667, 669, 607, 609 F-637, 639									215	335	510	710	945	1,525	2,250	
<b>Globes</b>																
S/T-211, 235, 256 275-Y	0.61	1.16	2.2	3.64	6.65	11.1	20	28	48	70	111	1	198			
T-275-B	-	1.16	2.21	3.64	6.65	11.1	20	28	48	70	111					
F-718, F-738								45	70	105	-	195	315	465		
<b>Check</b>																
S/T-413, 433, 473 (Swing)	-	1.3	2.5	4.8	14.3	24	43	60	102	150	238	315	435	675	1,000	
S/T-480 (Poppet)	-	-	3.70	6.86	16.3	30	49	72	130							
F-908 (Swing)									150	243	356	-	665	1,073	1,584	
T/F-918, 968, 938 (Swing)									137	221	327	-	605	975	1,440	
KW-900-W									48	77	135	-	270	450	720	
F-910, 960 (Poppet)											155	-	278	431	625	
W-910, 960 (Poppet)									66	88	130	-	228	350	520	
W-920-W									71	108	178	-	330	560	840	
<b>Ball</b>																
F-510, 530	-	-	-	11	25	45	-	137	217	-	482	-	790	-	1,144	
F-515, 535	-	-	-	25	50	85	-	259	440	840	1,400	-	2,350	-	5,200	
F-565	-	-	-	-	-	75	-	235	400	-	1,180	-	2,040	-	-	
T-560-BR/CS/S6	-	4.0	4.0	5	12	22	35	52	95	-	-					
T-570	-	-	-	7	12	25	38	52	95	-	-					

T/S-580	-	-	-	5.8	13.9	27	44	64	100	-	-				
T/S-580-70	-	-	-	-	-	-	38.5	76	101.4	183	390				
T/S-585-70	-	4.2	6.2	15.3	30.4	48.8	103	143	245	-	-				
TM-585-70-66	-	-	-	15.3	30.4	48.8	103	143	245	-	-				
AT-585-70-66	-	-	-	-	-	-	-	-	-	183	-				
T-580-70-W3	-	-	-	-	-	-	21.6	38	48.5	-	-				
T/S-585-70-W3	-	-	-	6	12	19.5	-	-	-	-	-				
T-580 (CS-S6)	-	6	12	15	23	36	44	64	114	-	-				
T/S-590-Y	-	-	-	-	-	-	44	64	100	183	390				
T/S-595-Y	-	5.9	11.4	18.7	34	57	103	143	245	310	-				
TM/KM-595 (CS-S6)	-	6	12	19	37	64	103	143	245	-	-				
T/K-595 (CS-S6)	-	6	12	19	37	64	103	143	245	-	-				
<b>Butterfly</b>															
LD/WD-1000, 2000, 3000									166	247	340	-	660	1,080	1,613
GD-4765, 4775 FC-2700, FD-5700									145	195	290	-	600	930	1,600

NOTE: Flow data for angle valves use globe Cv times 1.25:

Bronze Angles – 311, 335, 375, 376-AP

Iron Angles – 818, 869, 831

## Flow Data Cv Values for Valves (2)

<p><b>Liquid Flow:</b></p> $Q = C_v \sqrt{\frac{\Delta P}{S}} \quad \text{or} \quad \Delta P = S \left( \frac{Q}{C_v} \right)^2$ <p>where... Q = flow rate (gallons per minute)  <math>\Delta P</math> = pressure drop across valve (psi)                      S = specific gravity of media</p>	<p><b>Gas Flow:</b></p> $Q = 1360 C_v \sqrt{\frac{\Delta P \times P_1}{S T}}$ <p>where ... Q = gas flow (SCFH--std.cu.ft/hr)                      S = specific gravity of gas (air = 1.0)</p>
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This equation is good for turbulent flow and for liquids with viscosities near that of water.  
 (Cv is defined as the flow in GPM that a valve will carry with a pressure drop of 1.0 psi when the media is water at 60°F.) (The specific gravity of water is 1 (one).)

T = temp--degrees Rankine (°F + 460)  
 $\Delta P$  = pressure drop across valve (psi)  
 P<sub>1</sub> = upstream pressure (psia) absolute

NOTE:  $\Delta P$  must be less than 0.5 P<sub>1</sub> (Flow is critical when  $\Delta P$  is greater than 0.5 P<sub>1</sub>.)

Valve Sizes											(THROTTLING FACTORS)											
Size (mm.)	200	250	300	350	400	450	500	600	750	900	For throttling use with disc partially open. Multiply Cv by factor.											
Size (In.)	8	10	12	14	16	18	20	24	30	36	0	10	20	30	40	50	60	70	80	90	100	
<b>Gates</b>																						
S/T-29																						
S/T-111, 113, 131, 133, 134, 135, 136, 154, 174, 176																						
T/F-617, 619, 667, 669, 607, 609 F-637, 639	4,150	6,700	9,925	13,800	18,375	23,600	29,600	43,570														
<b>Globes</b>																						
S/T-211, 235, 256 275-Y											0	0.35	0.65	0.90	0.93	0.96	0.98	0.99	1.00	1.00	1.00	1.00
T-275-B											0	0.03	0.035	0.06	0.1	0.16	0.24	0.32	0.47	0.68	1.00	
F-718, F-738																						
<b>Check</b>																						
S/T-413, 433, 473 (Swing)	860	1,390									0	0.35	0.65	0.90	0.93	0.96	0.98	0.99	1.00	1.00	1.00	
S/T-480 (Poppet)																						
F-908 (Swing)																						
T/F-918, 968, 938 (Swing)	2,937	4,730	6,985																			
KW-900-W	2,670	4,300	6,350																			

**WARNING**  
 The Fluid Flow factors contained herein are calculated values. They are, therefore, approximations and cannot be used for highly critical flow or pressure drop calculations. For very precise flow measurements, tests must

F-910, 960 (Poppet)	2,200	3,550	5,250									be conducted on any valve mentioned within this catalog. Throttling of ball valves is not recommended when valves are less than 45° open.										
W-910, 960 (Poppet)	500	1,450	2,500	3,400	4,400																	
W-920-W																						
<b>Ball</b>												<b>0</b>	<b>10</b>	<b>20</b>	<b>30</b>	<b>40</b>	<b>50</b>	<b>60</b>	<b>70</b>	<b>80</b>	<b>90</b>	<b>100</b>
F-510, 530	2,164	3,507	5,516									0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
F-515, 535	10,200	14,400	25,300									0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
F-565												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
T-560-BR/CS/S6												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
T-570												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
T/S-580												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
T/S-580-70												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
T/S-585-70												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
TM-585-70-66												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
AT-585-70-66												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
T-580-70-W3												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
T/S-585-70-W3																						
T-580 (CS-S6)												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
T/S-590-Y												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
T/S-595-Y												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
TM/KM-595 (CS-S6)												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
T/K-595 (CS-S6)												0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
LD/WD-1000, 2000, 3000	3,759	5,300	7,969	11,917	16,383	21,705	27,908	43,116	60,922	86,375		0	0.01	0.05	0.16	0.30	0.37	0.45	0.58	0.71	0.87	1.00
GD-4765, 4775 FC-2700, FD-5700	3,450	5,800	8,950																			

NOTE: Flow data for angle valves use globe Cv times 1.25:

Bronze Angles – 311, 335, 375, 376-AP

Iron Angles – 818, 869, 831

依耐泵阀

ENINE PUMP VALVE

