

Cv Value of Valtorc Series Butterfly Valves

The valve Cv is the flow rate (in US gal/min) of pure water at 60F passing through the valve when the valve disc is fully opened and the pressure differential between the two ends of the valve is 1 Lbf/in²

$$Cv = V \sqrt{\frac{G}{P_1 - P_2}}$$

- V: Max. Flow (in us gal/min)
- G: Specific gravity (1 for water)
- P1: Inlet side pressure (Lbf/in²)
- P2: Outlet side pressure (Lbf/in²)
- Cv = 1.17C



Conversion of flow resistance coefficient and Cv value

$$Cv = 29.9 \frac{d^2}{\zeta}$$

- d: Valve bore size or valve seat bore size (in)
- ζ: Flow resistance coefficient (no unit)

Size		Flow in Gpm@ 1PSI P@ Various Disc Angles								Full 90
inch	DN	10 °	20 °	30 °	40 °	50 °	60 °	70 °	80 °	° open
2"	50	0.1	5	12	24	45	64	90	125	135
2.5"	65	0.2	8	20	37	65	98	144	204	220
3"	80	0.3	12	22	39	70	116	183	275	302
4"	100	0.5	17	36	78	139	230	364	546	600
5"	125	0.8	29	61	133	237	392	620	930	1022
6"	150	2	45	95	205	366	605	958	1437	1579
8"	200	3	89	188	408	727	1202	1903	2854	3136
10"	250	4	151	320	94	1237	2047	3240	4859	5340
12"	300	5	234	495	1072	1911	3162	5005	7507	8250
14"	350	6	338	715	1549	2761	4568	7230	10844	11917
16"	400	8	464	983	2130	3971	6282	9942	14913	16388
18"	450	11	615	1302	2822	5028	8320	13168	19752	21705
20"	500	14	791	1674	3628	6465	10698	16931	25396	27903
24"	600	22	1222	2587	5606	9989	16538	26157	39236	43116
28"	700	36	1813	3639	6636	10000	14949	22769	34898	49500
32"	800	45	2387	4791	8736	13788	20613	31395	48117	68250
36"	900	60	3021	3063	11055	17449	26086	39731	60895	86375
40"	1000	84	4183	8395	15307	24159	36166	55084	84425	119750