



# FLOW, KV VALUES AND ZETA VALUES FOR BUTTERFLY VALVES SERIES 756 / PLATE DISC

756 APPENDIX 1

Calculated flow (m<sup>3</sup>/hr) going through a nominal valve size (DN 200 = inside dia of 200 mm) at different flow velocities

Water velocity (m/sec)	DN 200	DN 250	DN 300	DN 350	DN 400	DN 450	DN 500	DN 600	DN 700	DN 800	DN 900	DN 1000	DN 1200	DN 1400	DN 1500	DN 1600	DN 1800	DN 2000	DN 2200	DN 2400	DN 2800
1	113	177	254	346	452	573	707	1018	1385	1810	2290	2827	4072	5542	6362	7238	9161	11310	13685	16286	22167
1,5	170	265	382	520	679	859	1060	1527	2078	2714	3435	4241	6107	8313	9543	10857	13741	16965	20527	24429	33251
2	226	353	509	693	905	1145	1414	2036	2771	3619	4580	5655	8143	11084	12723	14476	18322	22619	27370	32572	44334
2,5	283	442	636	866	1131	1431	1767	2545	3464	4524	5726	7069	10179	13854	15904	18096	22902	28274	34212	40715	55418
3	339	530	763	1039	1357	1718	2121	3054	4156	5429	6871	8482	12215	16625	19085	21715	27483	33929	41054	48858	66501
3,5	396	619	891	1212	1583	2004	2474	3563	4849	6333	8016	9896	14250	19396	22266	25334	32063	39584	47897	57001	77585
4	452	707	1018	1385	1810	2290	2827	4072	5542	7238	9161	11310	16286	22167	25447	28953	36644	45239	54739	65144	88668
4,5	509	795	1145	1559	2036	2576	3181	4580	6234	8143	10306	12723	18322	24938	28628	32572	41224	50894	61581	73287	99752
5	565	884	1272	1732	2262	2863	3534	5089	6927	9048	11451	14137	20358	27709	31809	36191	45804	56549	68424	81430	110835

## Hydraulic values, fully open valve

	DN 200	DN 250	DN 300	DN 350	DN 400	DN 450	DN 500	DN 600	DN 700	DN 800	DN 900	DN 1000	DN 1200	DN 1400	DN 1500	DN 1600	DN 1800	DN 2000	DN 2200	DN 2400	DN 2800
<b>Kv</b> (m <sup>3</sup> /hr - 1 bar)	2460	4360	6120	10195	13335	17320	22460	34330	37845	57665	69930	90720	13345	196585	207335	247675	332095	432320	524915	533425	798585
<b>Cv</b> (Usg/min - 1 psi)	2878	5101	7160	11928	15602	20264	26278	40166	44279	67468	81818	106142	15614	230004	242582	289780	388551	505814	614151	624107	934344
<b>Zeta (K)</b>	0,42	0,33	0,33	0,23	0,23	0,22	0,20	0,18	0,27	0,20	0,21	0,19	0,19	0,16	0,19	0,17	0,15	0,14	0,14	0,19	0,15

NOTE: Hydraulic figures are based on tests or calculations, depending on size. Value uncertainty as per ref EN1267

### Definitions / formulas:

**Kv-value:** Actual flow of water (m<sup>3</sup>/ hr) creating pressure loss of 1 bar.

**Pressure loss coefficient Zeta (K)** value: Ratio of static to dynamic pressure loss.

Zeta (K) = Diff pressure / (500 X V<sup>2</sup>)

Diff pressure (Pa)

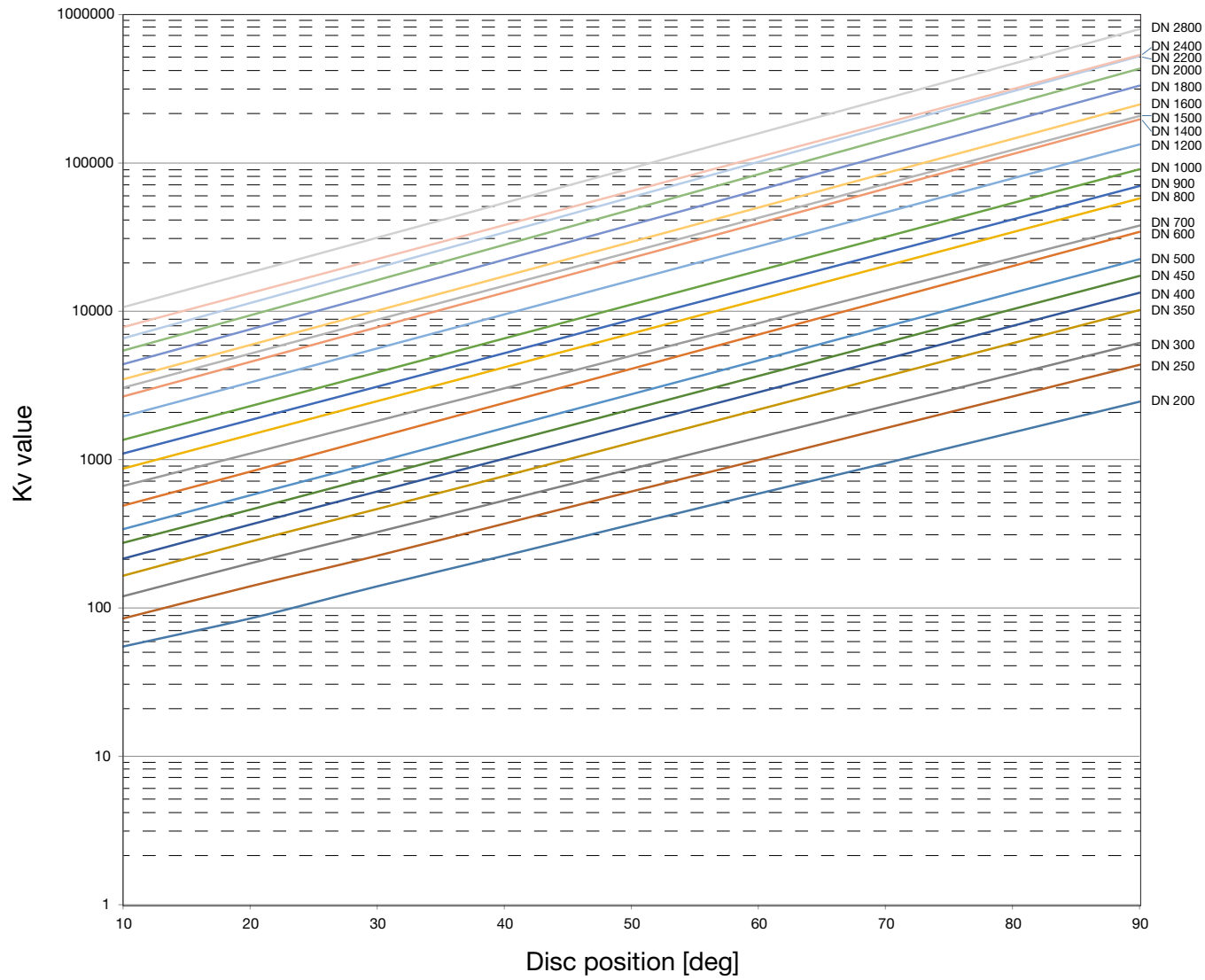
V: Water flow velocity (m/sec)

Actual diff pressure (bar) = (Q / Kv)<sup>2</sup>

Q: Actual water flow (m<sup>3</sup>/hr)

Expect... **AVR**

Kv values for butterfly valves DN 200 - 2800



# FLOW, KV VALUES AND ZETA VALUES FOR BUTTERFLY VALVES, SERIES 756 / PLATE DISK

## APPENDIX 7

	Dimension	Angle								
		10°	20°	30°	40°	50°	60°	70°	80°	90°
Kv	200	55	85	140	225	365	590	945	1525	2460
Zeta (K)		845	354	130	50	19	7	3	1	0.42
Kv	250	85	140	225	370	610	995	1630	2665	4360
Zeta (K)		863	318	123	46	17	6	2	0.88	0.33
Kv	300	120	200	325	530	865	1410	2300	3750	6120
Zeta (K)		898	323	122	46	17	7	2	0.92	0.35
Kv	350	165	280	465	775	1300	2175	3640	6090	10195
Zeta (K)		880	306	111	40	14	5	2	0.65	0.23
Kv	400	215	365	610	1015	1700	2845	4765	7970	13335
Zeta (K)		884	307	110	40	14	5	2	0.64	0.23
Kv	450	275	460	775	1300	2180	3665	6150	10320	17320
Zeta (K)		866	309	109	39	14	5	2	0.61	0.22
Kv	500	340	575	965	1635	2760	4660	7870	13295	22460
Zeta (K)		863	302	107	37	13	5	2	0.56	0.20
Kv	600	490	830	1415	2410	4095	6970	11860	20175	34330
Zeta (K)		862	300	103	36	12	4	1	0.51	0.18
Kv	700	665	1100	1825	3025	5015	8315	13780	22835	37845
Zeta (K)		867	317	115	42	15	6	2	0.74	0.27
Kv	800	870	1470	2480	4190	7080	11960	20205	34135	57665
Zeta (K)		864	303	106	37	13	5	2	0.56	0.20
Kv	900	1100	1850	3105	5220	8770	14740	24765	41615	69930
Zeta (K)		866	306	109	38	14	5	2	0.60	0.21
Kv	1000	1360	2295	3880	6565	11100	18765	31730	53655	90720
Zeta (K)		863	303	106	37	13	5	2	0.55	0.19
Kv	1200	1955	3315	5620	9525	16150	27375	46405	78665	133345
Zeta (K)		866	301	105	36	13	4	2	0.54	0.19
Kv	1400	2665	4560	7805	13365	22880	39175	67065	114825	196585
Zeta (K)		864	295	101	34	12	4	1	0.47	0.16
Kv	1500	3055	5180	8775	14860	25175	42650	72250	122390	207335
Zeta (K)		866	301	105	37	13	4	2	0.54	0.19
Kv	1600	3480	5930	10105	17220	29350	50025	85260	145315	247675
Zeta (K)		864	298	102	35	12	4	1	0.50	0.17
Kv	1800	4400	7555	12975	22270	38235	65640	112685	193445	332095
Zeta (K)		866	294	100	34	11	4	1	0.45	0.15
Kv	2000	5435	9390	16230	28050	48475	83770	144760	250170	432320
Zeta (K)		865	290	97	32	11	4	1	0.41	0.14
Kv	2200	6575	11370	19660	33985	58755	101580	175620	303620	524915
Zeta (K)		865	289	97	32	11	4	1	0.41	0.14
Kv	2400	7825	13265	22490	38120	64615	109525	185655	314695	533425
Zeta (K)		865	301	105	36	13	4	2	0.53	0.19
Kv	2800	10655	18275	31345	53770	92235	158215	271400	465550	798585
Zeta (K)		864	294	100	34	12	4	1	0.45	0.15

NOTE: Above hydraulic figures are based on tests or CFD calculations, depending on size. Value uncertainty as per ref EN1267

