FLOW DATA

The purpose of a butterfly valve as a regulator is to correct a flow process by changing the resistance with different valve settings.

The unit used is the KV value which can be defined as follows:

$$KV(gas) = \frac{Q}{457} \times \sqrt{\frac{G \times Ti}{(P1 - P2) \times P1}}$$

$$KV(liquids) = Q \times \sqrt{\frac{\rho/\rho 0}{P1 - P2}}$$

The KV value equals the total volume of water at 20°C that will pass through the valve in one hour at a differential pressure of 1 bar, measured in m3/hr.

Q = Flow [m3/hr]

ρ = Specific gravity [kg/m3]

ρ0 = Specific gravity of water under normal conditions (ρ0= 1000kg/m3 at 288K)

P1 = Inlet pressure [bar]

P2 = Outlet pressure [bar]

G = Relative specific gravity in relation to air (G =ρ/ρ air) under normal conditions

Ti = Inlet temperature [K]

KV VALUES TABLE BONDED LINER VALVES

rev.01 dd 04-05-2009

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°
DN40	0	0,2	0,6	2	9	22	36	56	81	110
DN50	0	0,4	0,9	3,4	14	35	57	88	126	172
DN65	0	0,6	1,4	5,1	21	53	86	132	189	258
DN80	0	1	1,9	7,8	31	78	128	197	283	388
DN100	0	1,7	3,5	14	55	138	228	352	504	690
DN125	0	2,7	5,3	22	86	216	355	549	786	1078
DN150	0	3,9	7,8	31	124	310	512	791	1133	1552
DN200	0	6,9	14	55	221	552	918	1407	2014	2759
DN250	0	10	22	86	345	862	1422	2198	3147	4310
DN300	0	15	31	124	497	1241	2048	3166	4531	6207
DN350	0	21	42	151	676	1513	2496	3858	5522	7565
DN400	0	27	55	200	883	2004	3307	5110	7316	10022
DN450	0	35	70	256	1117	2565	4231	6540	9360	12823
DN500	0	43	86	319	1379	3194	5270	8144	11658	15970
DN550	0	55	110	405	1765	4058	6696	10347	14789	20291
DN600	0	62	124	466	1986	4660	7688	11881	17054	23297
DN700	0	79	157	891	2528	6321	10429	16118	23071	31605
DN750	0	88	175	832	2812	7030	11600	17927	25661	35152
DN800	0	96	194	774	3096	7740	12771	19737	28251	38700
DN900	0	129	259	1038	4828	10380	17127	26469	37844	51901
DN1000	0	161	324	1295	5179	12948	21365	33018	47261	64742
DN1100	0	201	405	1619	6474	16185	26706	41273	59076	80928
DN1200	0	252	506	2023	8092	20231	33383	51591	73845	101159