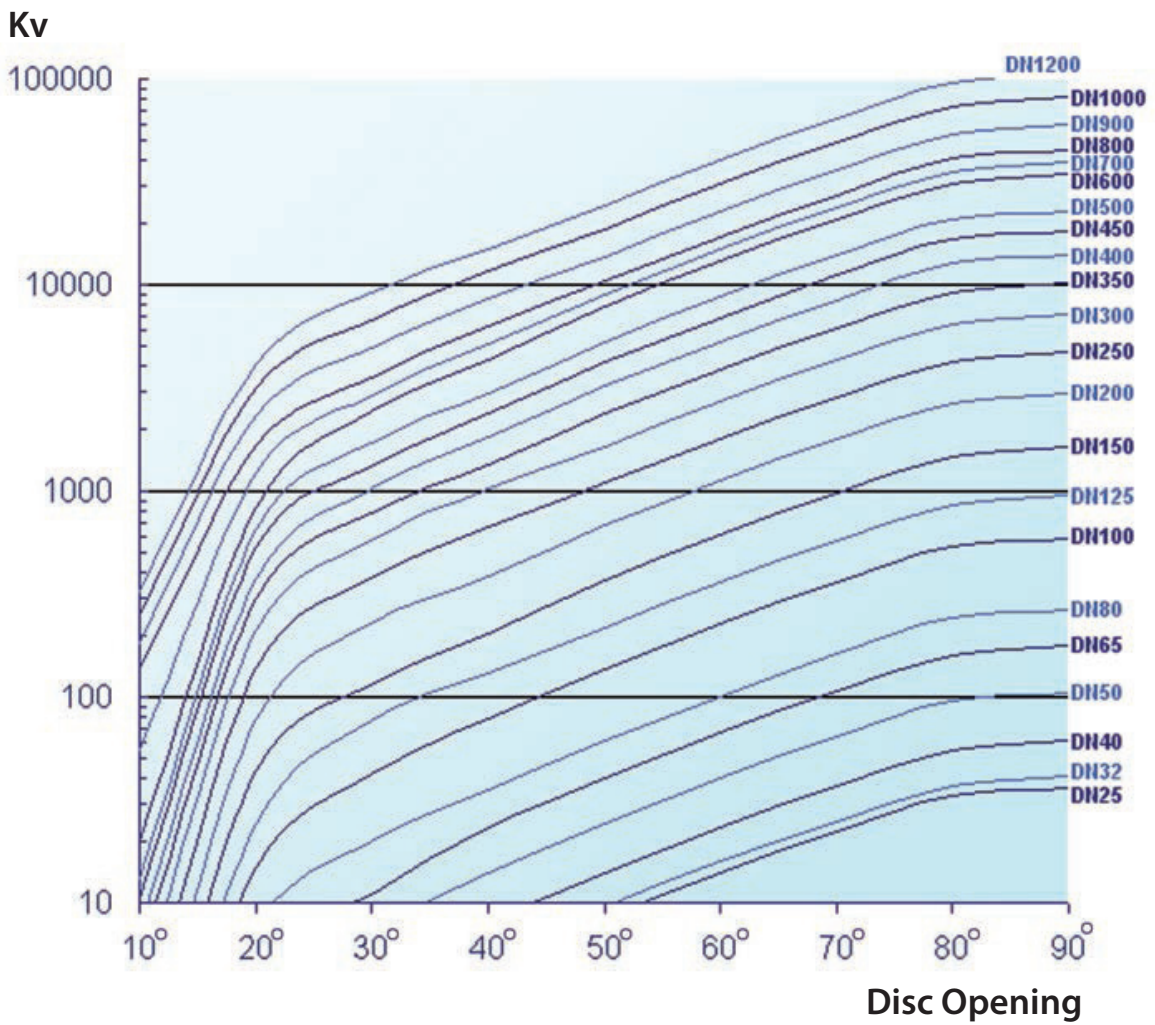

DN	INCH	10°	20°	30°	40°	50°	60°	70°	80°	90°
25	1"	-	-	1,5	5	8,3	14	22	33	36
32	1 1/4"	-	0,8	1,7	5,3	9,5	16	25	37	41
40	1 1/2"	-	1,5	3,5	8	14	23	37	55	61
50	2"	-	2,5	7	14	24	40	64	95	105
65	2 1/2"	-	5	11	23	40	67	107	159	176
80	3"	-	9	20	35	61	101	161	240	265
100	4"	-	16	38	78	137	226	360	538	594
125	5"	0,5	26	69	129	219	361	576	860	950
150	6"	0,8	44	105	205	373	617	983	1468	1622
200	8"	1,3	82	205	387	680	1124	1792	2676	2957
250	10"	2,1	138	345	669	1084	1791	2855	4263	4711
300	12"	3,7	210	534	1028	1639	2707	4318	6449	7126
350	14"	5,5	305	750	1326	2347	3778	6184	9236	10205
400	16"	7,4	388	935	1813	3208	5301	8454	12625	13950
450	18"	9,7	550	1212	2370	4193	6929	11049	16500	18232
500	20"	13	658	1595	2981	5275	8716	13900	20758	22937
600	24"	20	962	2246	4431	7919	13083	20864	31158	34429

A valve flow coefficient represents the standard flow rate which flows through the valve at a given opening, referred to pre-established conditions:

- **Kv value** is the volume of water at 20ºC, in cubic meters per hour (m3/h), that will flow through the valve at a static pressure drop of 1 bar across the valve.
- **Cv value** is the volume of water at 60ºF, in gallons per minute (gpm), that will flow through the valve at a static pressure drop of 1 psi across the valve.

Conversion from **Kv** to **Cv** can be roughly calculated by means of the following expression:

Cv = Kv x 1,17

Flow rate through the valve with other liquids can be calculated with the following expressions (*for gases please consult us*):

Kv = q (SG / dp)1/2	**Cv = q (SG / dp)1/2**
where *q = water flow (m3/h)* *SG = specific gravity (1 for water)* *dp = pressure drop (bar)*	where *q = water flow (US gallons per minute)* *SG = specific gravity (1 for water)* *dp = pressure drop (psi)*

It is common practice to size the valves on the basis of pipe DN for on-off application. Nevertheless, butterfly valves used for control purpose should be calculated on the basis of operating conditions.

First step is to calculate the Kv values for the different working conditions and then choose the DN with such Kv values in the region of 20º to 70º valve opening angle.

As a general guideline, flow velocities should under certain limits, so as to avoid valve excessive noise, vibration and cavitation:

Liquids: < 4,5 m/s
Gases: < 100 m/s

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