KV AND CV VALUES DOUBLE ECCENTRIC

World-Valve
MANUFACTURED IN THE NETHERLANDS

our type
NOVA/ISOLEX
Control characteristics
The Kv values* are stated in m^3/h at a pressure drop of 0.1 MPa across the valve.

DN	Size	Kv 60°°	Kv 90°°	Cv 60°°	Cv 90°°
65	2 1/2	130	220	150	260
80	3	170	360	200	420
100	4	250	540	290	620
125	5	410	870	470	1000
150	6	570	1270	660	1470
200	8	990	2350	1150	2720
250	10	1580	3920	1830	4540
300	12	2280	6030	2640	6990
350	14	3130	8590	3630	9960
400	16	4000	11700	4600	13500
500	20	6970	20600	8080	23900
600	24	10350	22600	12100	26300
700	28	13500	29760	15700	34600

*Kv = 0.86 Cv Cv = 1.16 Kv
We recommend butterfly valves to be sized at 60^0 opening of the valves. Up to 60^0 the valve charateristic is nearly equal percentage, while from 60^0 to 90^0 it is linear or "quick opening".

FORMULAS

Liquid flow

$$K_v = Q\sqrt{\frac{SG}{\Delta P}} \qquad \Delta P = SG\left(\frac{Q}{Kv}\right)^2 \qquad Q = K_v\sqrt{\frac{\Delta P}{SG}}$$

Q = Flow m^3/h
SG = Specific Gravity (water 1) kg/dm^3
ΔP = Pressure drop bar

Gasflow

$$K_v = \frac{Q}{28,5}\sqrt{\frac{SG}{P2.\Delta P}} \qquad \Delta P = \frac{SG}{P2}\left(\frac{Q}{28,5.K_v}\right)^2 \qquad Q = 28,5.K_v\sqrt{\frac{P2.\Delta P}{SG}}$$

P2 = Outlet bar
SG - Specific Gravity (air1)
ΔP = Pressure drop bar

Steam flow

$$K_v = \frac{W}{22,5\sqrt{P2.\Delta P}} \qquad \Delta P = \frac{1}{P2}\left(\frac{W}{22,5.K_v}\right)^2 \qquad W = 22,5\,K_v\sqrt{P2.\Delta P}$$

W = Flow kglh
P2 = Outlet bar
ΔP = Pressure drop bar

Note: for gas steam When P2 is less than 50% of P1, use a value of 50% of Pa as P2 in the above equation and also for calculating ΔP.

Cv = 1,16 Kv Kv = 0,86 Cv

v (
Liquid - 3 - 6m/s
Gas - 30 -60 m/s
Steam - 30 -60 m/s
Oil - 0,5- 2m/s

$$v = \frac{4Q}{\pi\, Di^2\, 3600}$$

Q = Capacity m^3/h
Di = Inside diameter of the pipe in m.
v = velocity in m/s