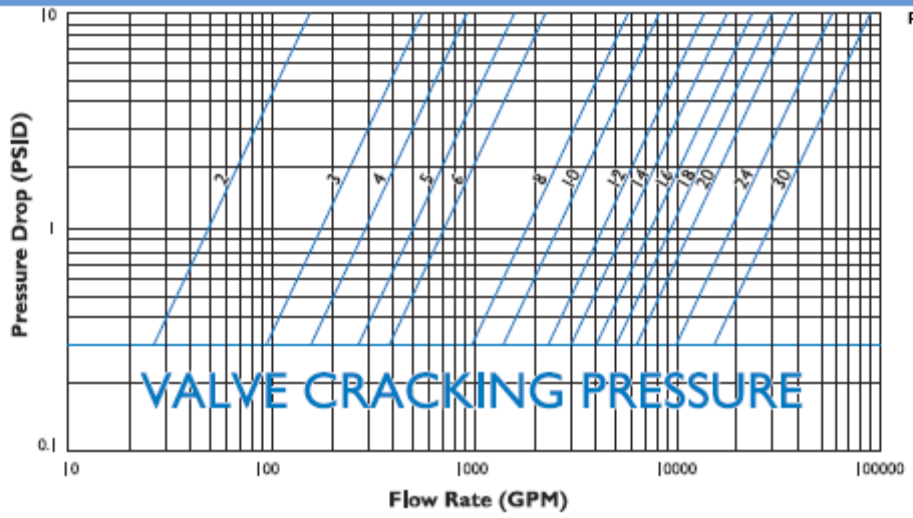
Dual Disc Check Valve Pressure Drop – Liquids (Sizes 2"-30")

FIGURE 9



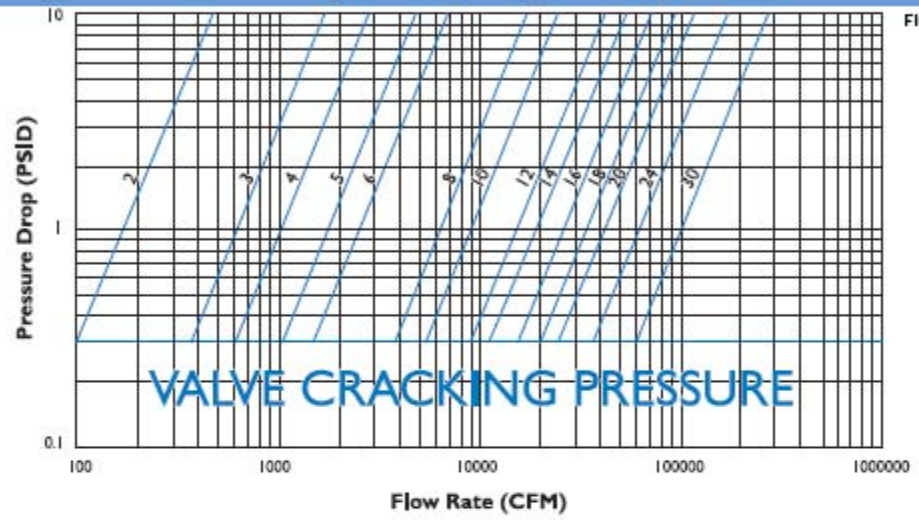
Notes:
1. Pressure drop curves are based on water flow.
2. Valve cracking pressure is equal to or less then 0.3 psid.
3. Valve cracking pressure increases to between 0.75 and 1.25 psid when installed vertically with flow upwards.

Cv Values (US-GPM @ 1 PSID)

Valve Size - in *(mm)*	Cv	Valve Size - in *(mm)*	Cv
2" *(50mm)*	48	12" *(300mm)*	4295
3" *(75mm)*	171	14" *(350mm)*	5463
4" *(100mm)*	291	16" *(400mm)*	7355
5" *(125mm)*	494	18" *(450mm)*	9537
6" *(150mm)*	705	20" *(500mm)*	12004
8" *(200mm)*	1795	24" *(600mm)*	17804
10" *(250mm)*	2563	30" *(750mm)*	28660

Dual Disc Check Valve Pressure Drop–Air @ 60°F, 1 ATM (Sizes 2" - 30")

FIGURE 10



Notes:

1. Pressure drop curves are based on air flow at 60°F and 1 ATM pressure.
2. Valve cracking pressure is equal to or less then 0.3 psid.
3. Valve cracking pressure increases to between 0.75 and 1.25 psid when installed vertically with flow upwards.

Method of Calculating Flow

Liquid Flow

$$C_V = Q\sqrt{\frac{G}{\Delta P}} \qquad Q = C_V\sqrt{\frac{\Delta P}{G}} \qquad \Delta P = G\left(\frac{Q}{C_V}\right)^2$$

Gas Flow

$$C_V = \frac{Q}{963}\sqrt{\frac{GT}{\Delta P(P_1 + P_2)}} \qquad Q = 963C_V\sqrt{\frac{\Delta P(P_1 + P_2)}{GT}}$$

Saturated Vapour

$$C_V = \frac{W}{K}\sqrt{\frac{1}{\Delta P(P_1 + P_2)}} \qquad W = C_V K\sqrt{\Delta P(P_1 + P_2)}$$

Superheated Vapour

$$C_V = \frac{W(1+0.0007T_{SH})}{K}\sqrt{\frac{1}{\Delta P(P_1 + P_2)}} \qquad C_V = \frac{C_V K}{(1+0.0007T_{SH})}\sqrt{\Delta P(P_1 + P_2)}$$

Variables

Cv	=	Valve Coefficient
ΔP	=	$(P_1 - P_2)$ Pressure Drop
P_1	=	Inlet Pressure (PSIA)
P_2	=	Outlet Pressure (PSIA)
G	=	Specific Gravity
Water	=	1.0 at 60°F and 1 ATM
Air	=	1.0 at 60°F and 1 ATM

Q	=	Flow
Liquid	=	USGPM
Gas	=	SCFH
T	=	Absolute Temperature (°F + 460)
T_{SH}	=	Superheat (°F) Total Temperature Minus Saturation Temperature
W	=	lbs. Per Hour (LB/H)
K	=	Constant For Vapours

Tel. 905-335-8777 Fax. 905-335-0977 Toll Free Tel. 1-866-872-0072 Toll Free Fax. 1-866-872-0073