

Valve hand book

inherent characteristic, installed characteristic

pipe 영향이 없는 경우.

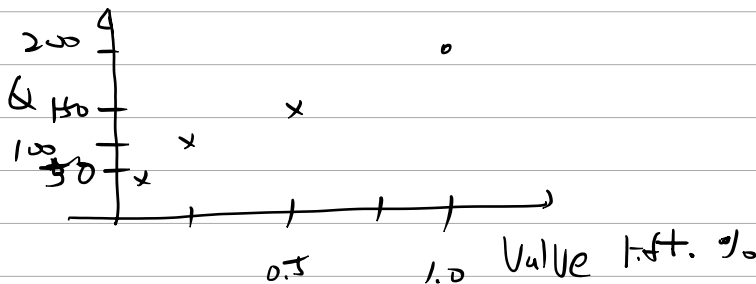
Q	Cv	ΔP	% Cv
50	5.2	90	0.11
100	12.0	40	0.20
150	22.0	15	0.49
200	45.0	20	1.0

$$C_v = Q \sqrt{SG / \Delta P} \quad C_v \text{ max} = 45$$

배관보다 linear characteristic의 경우

$Q = 1 < L$. Q 이 증가하면 L 이 증가

$$Q = C_v \sqrt{\Delta P / SG} \quad Q \text{와 } C_v \text{는 역비례 관계}$$



지표의 경우 $Q = Q_0 e^{nL} = C_v \sqrt{\frac{4P}{S_0}}$

$$Q \cdot e^{nL} = C_v \sqrt{\frac{4P}{S_0}} \quad e^{nL} = C_v / Q_0 \sqrt{\frac{4P}{S_0}}$$

$$\ln e^{nL} = \ln(C_v) + k(4P/S_0)$$

$$nL = \ln C_v + k \times \text{해상} \quad n=1 \text{으로 설정}$$

$$\ln(45) = 3.80 = L$$

$$\ln(22) = 3.09 = 0.81 L$$

$$\ln(12) = 2.48 = 0.65 L$$

$$\ln(5.2) = \quad = 0.43 L$$