Table PTC-268-1. Selection Formulas

C_V Value and Calculation	K_V Value and Calculation (K_V = 0,86 C_V)
1. For Saturated Steam / Q = kg/h, P = bar (a) When $P_2 > \dfrac{P_1}{2}$ $Q = C_v \, 13{,}5 \sqrt{\Delta P \,(P_1 + P_2)}$ When* $P_2 < \dfrac{P_1}{2}$ $Q = C_v \, 11{,}7 \, P_1$ 2. For Liquid / Q = m³/h, ΔP = bar, G = kg/dm³ $Q = 0{,}86 \, C_v \, \dfrac{\sqrt{\Delta P}}{\sqrt{G}}$ 3. For Air / Q = Nm³/h, P = bar (a) When $P_2 > \dfrac{P_1}{2}$ $Q = C_v \, 22{,}4 \sqrt{\Delta P \times P_2}$ When* $P_2 < \dfrac{P_1}{2}$ $Q = C_v \, 11{,}2 \, P_1$ P_1 = Inlet pressure in bar (a) P_2 = Outlet pressure in bar (a) ΔP = Differential Pressure ($P_1 - P_2$) Q = Maximum flow capacity G = Specific gravity C_v = Valve flow coefficient	1. For Saturated Steam / Q = kg/h, P = bar (a) When $P_2 > \dfrac{P_1}{2}$ $Q = K_v \, 15{,}88 \sqrt{\Delta P \,(P_1 + P_2)}$ When* $P_2 < \dfrac{P_1}{2}$ $Q = K_v \, 13{,}76 \, P_1$ 2. For Liquid / Q = m³/h, ΔP = bar, G = kg/dm³ $Q = K_v \, \dfrac{\sqrt{\Delta P}}{\sqrt{G}}$ 3. For Air / Q = Nm³/h, P = bar (a) When $P_2 > \dfrac{P_1}{2}$ $Q = K_v \, 26{,}36 \sqrt{\Delta P \times P_2}$ When* $P_2 < \dfrac{P_1}{2}$ $Q = K_v \, 13{,}18 \, P_1$ * Formula applies to **piloted valves only**. With direct acting valves, at critical flow or sonic flow, capacities decrease with greater differential pressure.

Ordering Information

Table PTC-268-2. Cv Values

Model	Connection Size														
	8	10	15	20	25	32	40	50	65	80	100	125	150	200	250
GD-30	—	—	1,3	1,5	2,5	—	5,6*	8,5*	—	—	—	—	—	—	—
GD-2000K	—	—	5,0	7,2	10,9	14,3	18,8	32,0	60,0	78,0	120,0	—	—	—	—
GP-2000 series	—	—	5,0	7,2	10,9	14,3	18,8	32,0	60,0	78,0	120,0	—	250,0	—	—

Note: 50% reduced ports are available for all 2000 Series - capacities and Cv are reduced by 50%
* GD-30 only

When ordering please specify:
1. Model number
2. Connection size and type
3. Quantity
4. Service fluid
5. Specific gravity (if other than steam, air, water)
6. Fluid temperature
7. Maximum inlet pressure
8. Desired reduced pressure or controlled temperature
9. Flow rate
10. Special conditions (if any)

Armstrong International SA • Parc Industriel des Hauts-Sarts (2e Avenue) • 4040 Herstal • Belgium
Tel.: +32 (0)4 240 90 90 • Fax: +32 (0)4 240 40 33
www.armstronginternational.eu • info@armstronginternational.eu

PTC-268