

Calculation and Selection - Pressure Reducing Valve

Initial data

3.00 m3/h	Estimated water flow rate	4.00 bar	Pressure before valve
15 °C	Maximum water temperature at the installation place	1.50 bar	Allowable pressure loss across valve
		2.50 bar	The pressure that will be maintained by the valve

Calculation results

$[3.00 \text{ m3/h}] / [1.50 \text{ bar}]^{0.5} = 2.45 \text{ [m3/h]}$	Required Kv value
Tmax 15°C <= 70°C	There will be no cavitation on the valve
$([G 3.00 \text{ m3/h}] / [Kvs 5.80 \text{ m3/h}])^2 = 0.27 \text{ [bar]}$	Pressure drop across a fully open valve with Kvs=5.80 [m3/h] with flow rate 3.00 [m3/h]
$[3.00 \text{ m3/h}] / \{3600 * 3.14 * ([DN25] * 0.001)^2 * 0.25\} = 1.7 \text{ [m/s]}$	The flow rate is within normal limits $V < 3.0 \text{ [m/s]}$

Selection result : Pressure reduction valve

Honeywell - Resideo : D06F

United States

maintains the set pressure at the regulator outlet

closes when the pressure increases

normally open

DN 25 [mm]	Nominal valve diameter
Kvs 5.80 [m3/h]	Flow coefficient
PN 25 [bar]	Nominal pressure
dP 1.5...6.0 [bar]	Pressure setting range
dT 2 ... 70°C	Operating temperature
brass	Body material
42 %	The percentage of the opening of the valve gate at which $Kv=2.45 \text{ [m3/h]}$, and the pressure loss on the valve will be 1.50 [bar] when passing the calculated flow rate 3.00 [m3/h]

