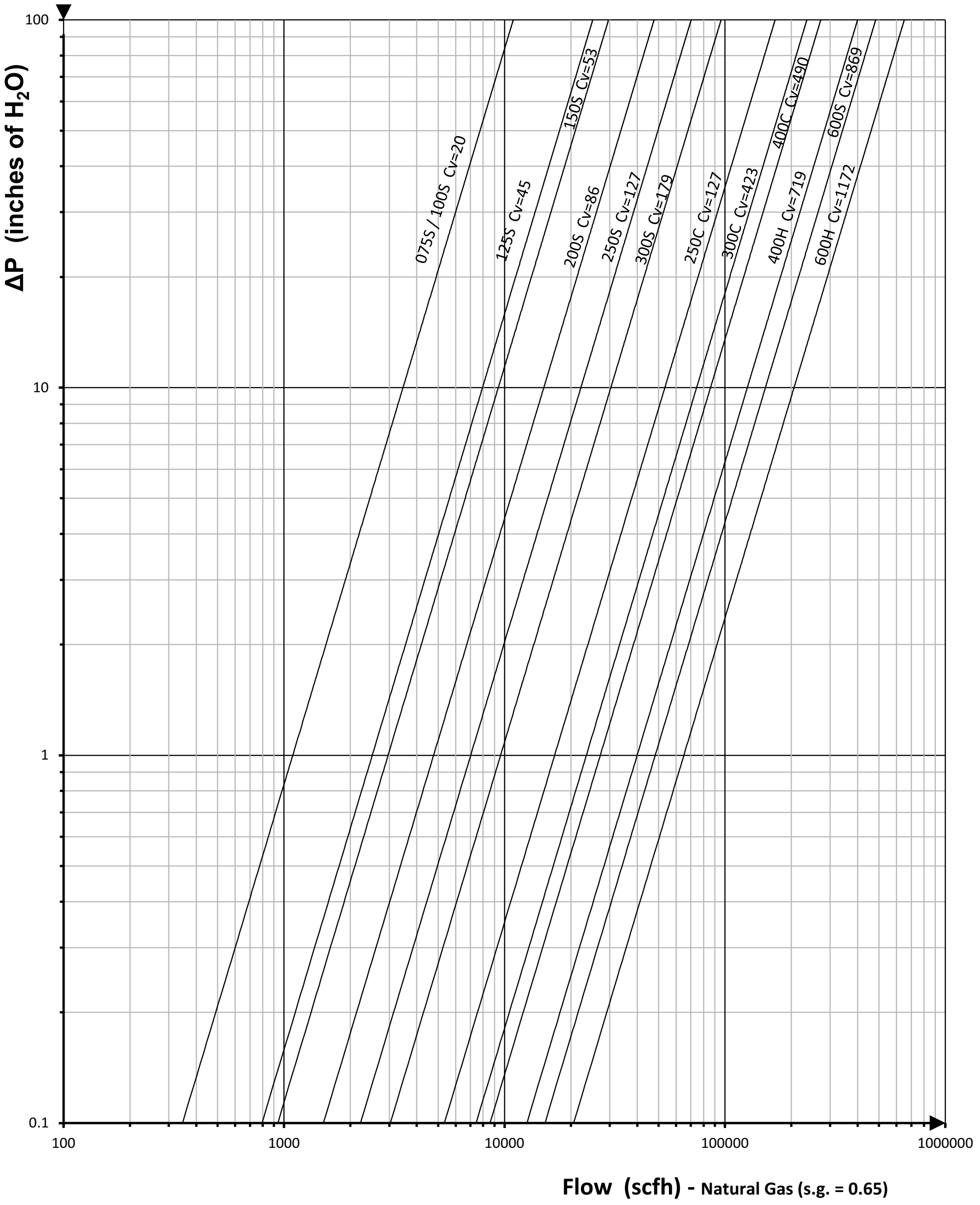
Valve sizing charts

Approximate pressure drops for various valve sizes and flows may be determined by using this graph.



$$Q_2 = Q_1 \times \sqrt{\frac{\Delta P_2}{\Delta P_1} \times \frac{P_2}{P_1} \times \frac{(T_1 + 459.67)}{(T_2 + 459.67)} \times \frac{S.G._1}{S.G._2}}$$

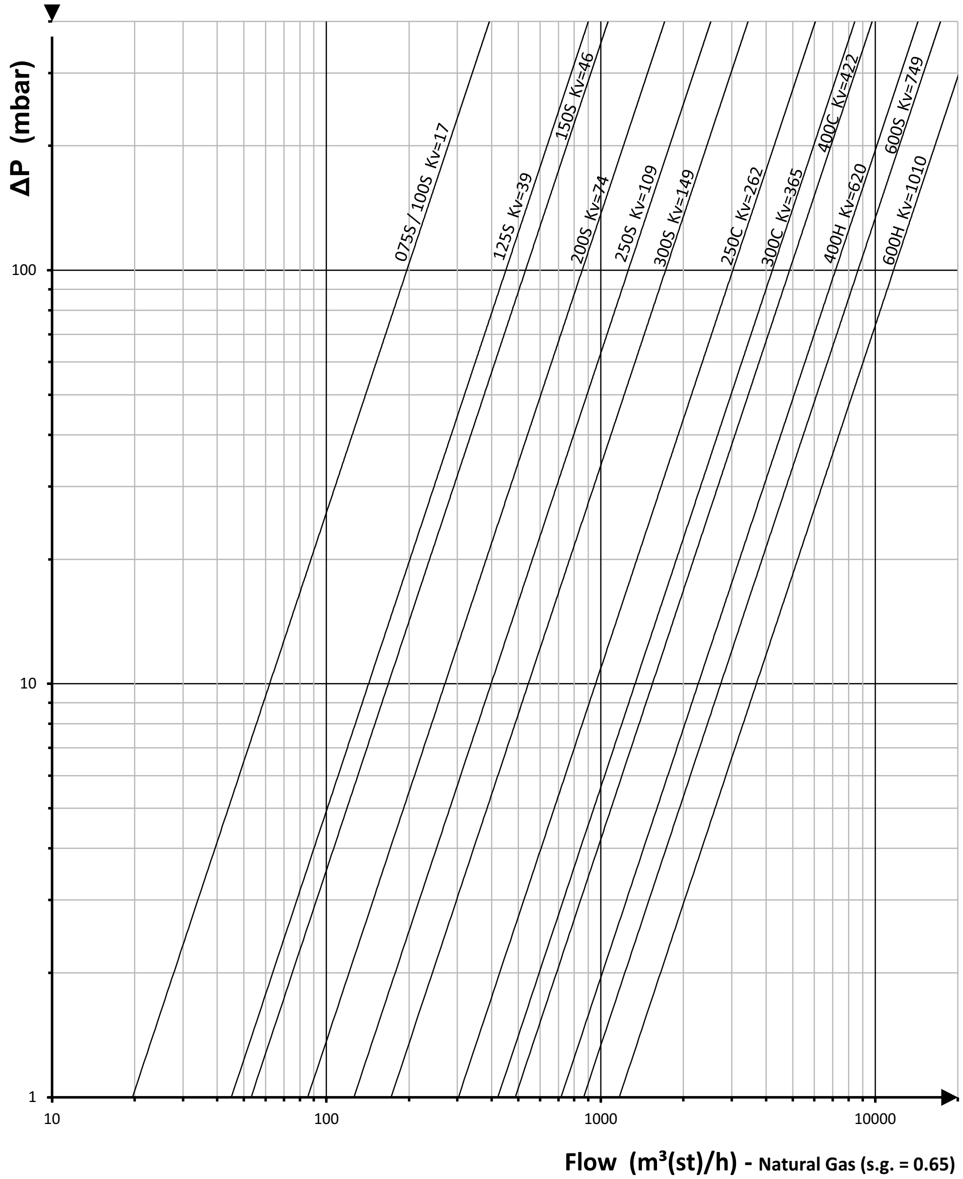
Key:

Q_1 = Given Flow from Chart (scfh)
ΔP_1 = Pressure Drop from Chart ("wc)
P_1 = 14.7 psia
T_1 = 70°F
$S.G._1$ = 0.65 (Natural Gas)

Q_2 = Flow (scfh)
ΔP_2 = Pressure Drop ("wc)
P_2 = Outlet Pressure (psia)
T_2 = Outlet Flowing Temperature (°F)
$S.G._2$ = Specific gravity of gas when related to air at 70°F and 14.7 psia (Air = 1.0)

Valve sizing charts

Approximate pressure drops for various valve sizes and flows may be determined by using this graph.



$$Q_2 = Q_1 \times \sqrt{\frac{\Delta P_2}{\Delta P_1} \times \frac{P_2}{P_1} \times \frac{(T_1 + 273)}{(T_2 + 273)} \times \frac{S.G._1}{S.G._2}}$$

Key:

Q_1 = Given Flow from Chart (m^3(st)/h)	Q_2 = Flow (m^3(st)/h)
ΔP_1 = Pressure Drop from Chart (mbar)	ΔP_2 = Pressure Drop (mbar)
P_1 = 1 bar absolute	P_2 = Outlet Pressure (bar absolute)
T_1 = 21.1°C	T_2 = Outlet Flowing Temperature (°C)
$S.G._1$ = 0.65 (Natural Gas)	$S.G._2$ = Specific gravity of gas when related to air at 70°F and 14.7 psia (Air = 1.0)