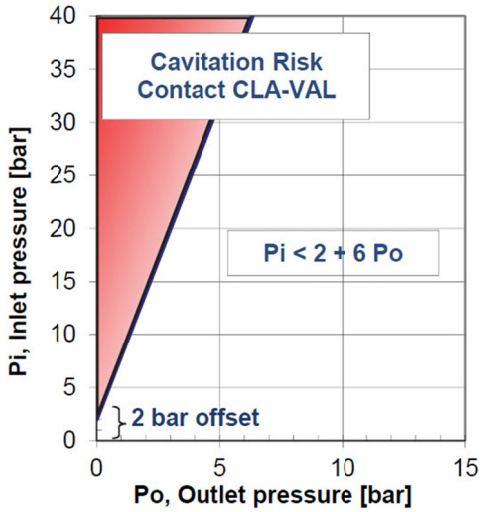
Cavitation / Head loss Chart

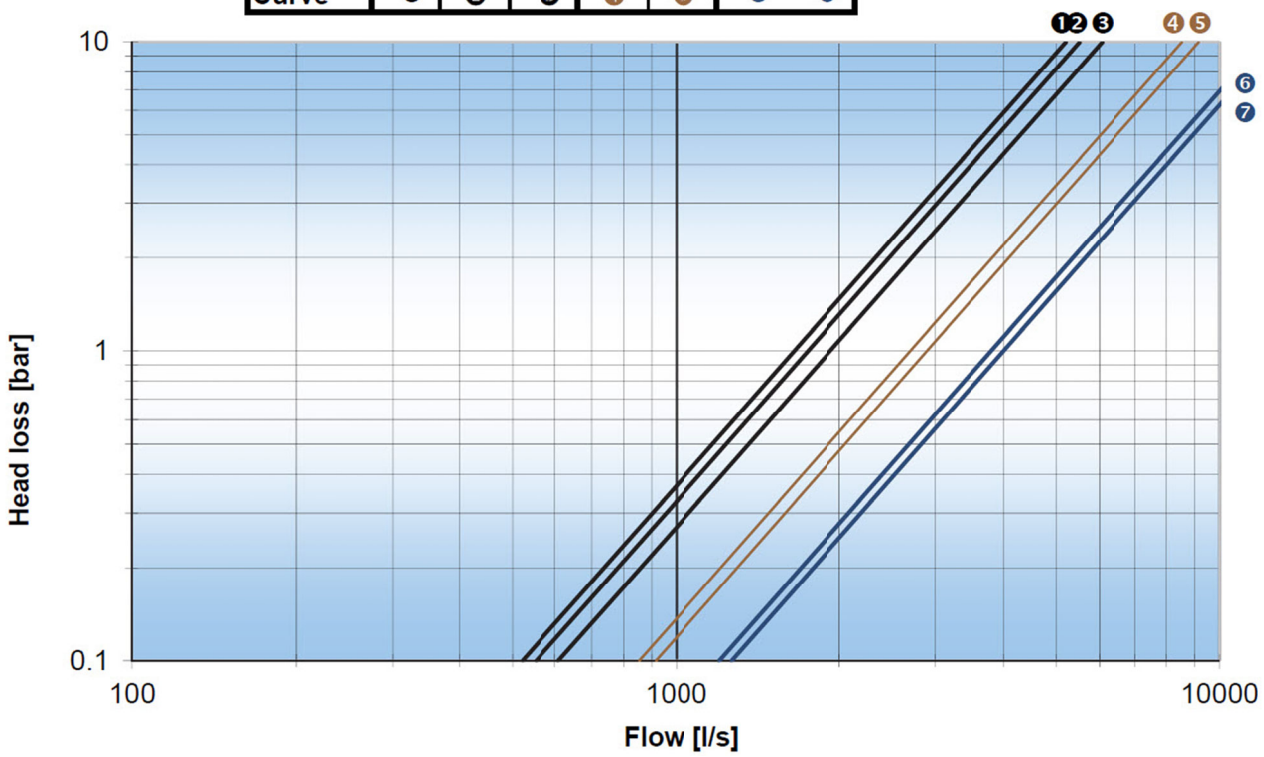


Valve sizing example

Pipe diameter : 1000 [mm]
Peak flow : 2220 [l/s]
→ **TYTAN DN 1000 [mm]**

Inlet pressure : 15 [bar]
Outlet pressure : 5 [bar]
→ **Below 'Cavitation risk"**

	TYTAN-S			TYTAN-M		TYTAN-L	
DN [mm]	600	700	800	900	1000	1200	1400
Curve	❶	❷	❸	❹	❺	❻	❼



Notes

- Diagram to be used as a guide only.
- To obtain a more accurate calculation please contact CLA-VAL

CLA-VAL 100-01 TYTAN

Quick Valve Selection

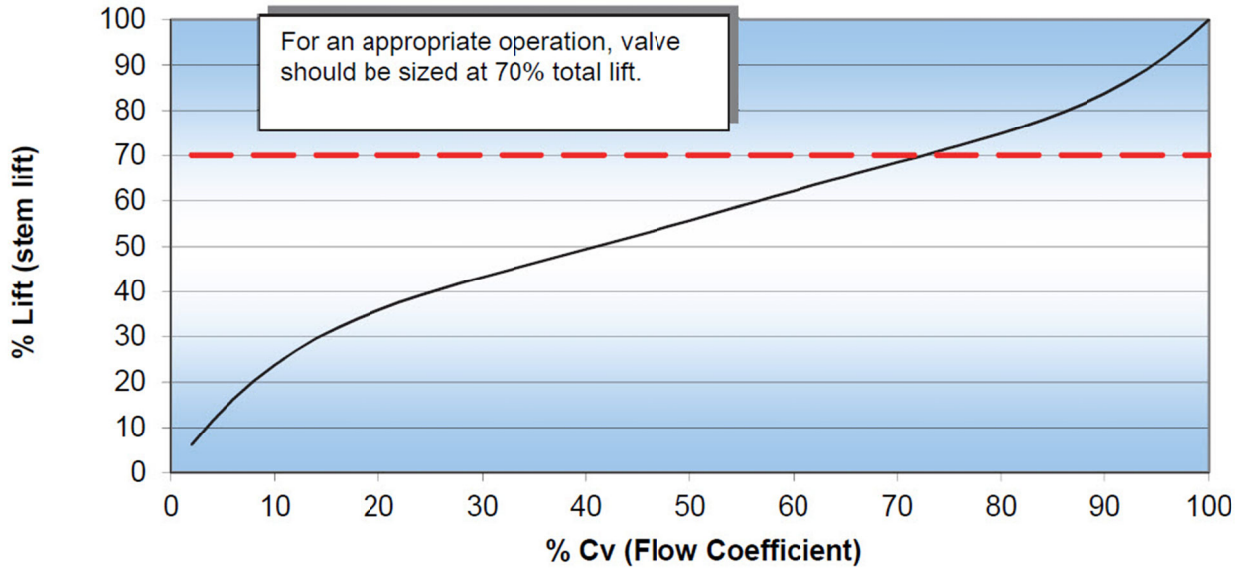
Performance Chart

	TYTAN-S			TYTAN-M		TYTAN-L			
DN [mm]	**600**	**700**	**800**	**900**	**1000**	**900**	**1000**	**1200**	**1400**
Kv (m3/h)	5940	6293	6922	9720	10440	11520	12600	13680	14400
Cv (l/s)	1650	1748	1923	2700	2900	3200	3500	3800	4000
ζ (-)	5.9	9.7	13.7	11.1	14.7	7.9	10.1	17.7	29.6
Flow (l/s)									
@ velocity 1 m/s	283	385	503	636	786	636	786	1131	1540
	to	to	to	to	to	to	to	to	to
@ velocity 3 m/s	849	1155	1509	1909	2357	1909	2357	3394	4620
Max. Flow (l/s)									
@ velocity 4 m/s	1131	1540	2011	2546	3143	2546	3143	4526	6160
Exceptional @ v = 5.5 m/s	1556	2117	2766	3500	4321	3500	4321	6223	8470

$$Q = Kv\sqrt{\Delta p}$$
$$Q = Cv\sqrt{\Delta p}$$
$$\Delta H = \zeta \frac{v^2}{2g}$$

Q : rate of flow (m3/h)
Kv : flow coefficient (m3/h)
Cv : flow coefficient (l/s)
Δp

ΔH : head loss (m)
v : average pipe velocity (m/s)
g : gravitational constant (9.81m/s2)
ζ : resistance coefficient (-)



Notes

- Kv or Cv = m3/h or l/s @ 100kPa (1 bar) head loss with 15°C water (valve totally open).
- Minimum Opening Pressure: 0.2 [bar].
- Minimum Differential Pressure: 0.5 [bar].
- For lower opening pressure or differential pressure or more precise dimensioning curves, contact CLA-VAL