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ACV Sizing Guide

Size Selection Table

Valve Size		40 (1½")	50 (2")	65 (2½")	80 (3")	100 (4")	150 (6")	200 (8")	250 (10")	300 (12")	350 (14")	400 (16")	450 (18")	500 (20")	600 (24")	700 (28")	800 (32")
Max. recommended flow rate for continuous operation (m^3/h)		25	40	40	100	160	350	620	970	1400	1900	2500	3100	3600	5600	7600	8135
Max. recommended flow rate for continuous operation (Gpm)		110	180	180	440	700	1600	2800	4300	6200	8400	11000	13660	15800	24700	33500	35840
Min. recommended flow rate		<1m^3/h (<5 gpm)															
Globe Type																	
Flow Rate Factor:	Kv (Metric)	43	43	43	103	167	407	676	1160	1600	1600	3000	3150	3300	7000	7000	7000
	Cv (US)	50	50	50	120	195	475	790	1360	1900	1900	3500	3700	3860	8200	8200	8200
Head Loss Factor K (dimensionless)		2.2	5.4	15.4	6.7	5.6	4.8	5.5	4.5	5	9	3.8	6	5.9	4.2	7.8	13.4
Angle Type																	

For head Loss of fully open valves use the following equations:

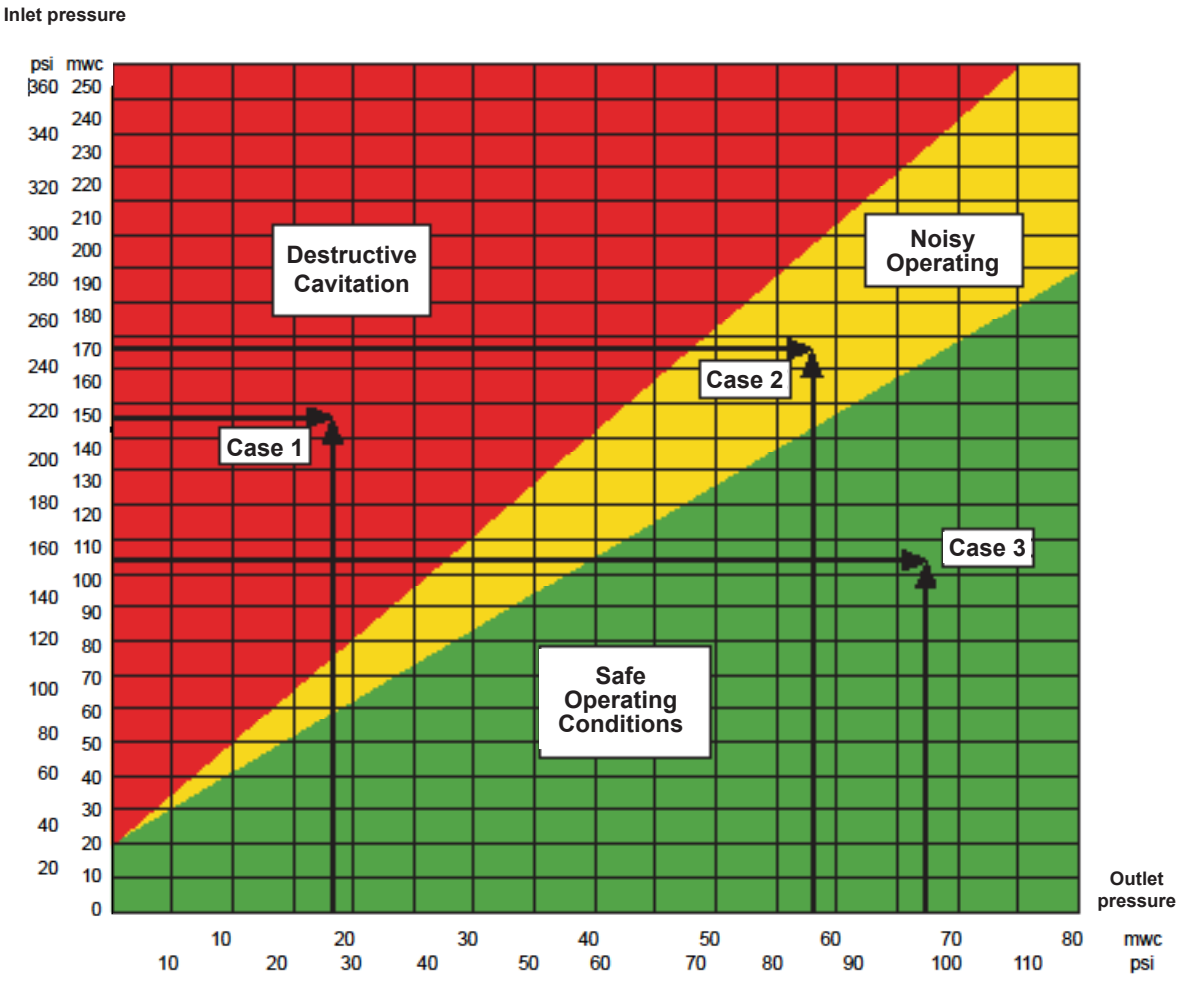
$H\,(Bar) = \left(\frac{Q\,[m^3/h]}{Kv}\right)^2$ | $H\,(Psi) = \left(\frac{Q\,[gpm]}{Cv}\right)^2$ | $H = K\,\frac{V^2}{2g}$

Size Selection Table

Valve Size		80 (3")	100 (4")	150 (6")	200 (8")	250 (10")	300 (12")	350 (14")	400 (16")	450 (18")	500 (20")	600 (24")
Max. recommended flow rate for continuous operation (m^3/h)		60	145	225	510	970	1400	1900	2030	3100	3600	3600
Max. recommended flow rate for continuous operation (Gpm)		265	640	990	2250	3990	6200	8400	8940	13660	15860	15860
Min. recommended flow rate		>1 m^3/h (>1 GPM)										
Flow rate factor	Kv	43	115	165	345	663	1160	1600	1600	3000	3000	3000
	Cv	50	133	192	400	770	1360	1900	1900	3500	3500	3500

Note: The Beeco ACV valves in all sizes, meet the USA amendment for reducing lead in drinking water marked as S.3874 dated 01.05.2010.

Cavitation Data



Cavitation Chart

Limits of operating conditions

The chart above sets the safe limits for valves that are supposed to operate at a considerable pressure differential. Such conditions generate noise and possible cavitation damages to the valve body.
How to use the chart:
i. Determine the maximal dynamic pressure that may be applied in the inlet of the valve.
ii. Draw an horizontal line from the pressure scale at the left side of the chart
iii. Find the requested outlet pressure in the pressure scale at the bottom of the chart.
iv. Draw an upward line at this point.
v. The intersection of the two lines defines the cavitation characteristics of the valve operation.
- In the case that it falls in the RED zone (case I)- the valve may be damaged in a fairly short time.
- In the case that it falls in the YELLOW zone (case II)- the valve may generate a noise that exceeds 80db.
- In the case that the intersection is within the GREEN zone (case III)- the valve will perform safely and quietly

General remark: The cavitation and noise data are based on tests done by the Utah State University, US, and Delft Hydraulic Laboratories, Holland.