

# CHECK VALVES

## IN-LINE CHECK VALVES

### CHECK VALVE PART NUMBERING SYSTEM – BALL CONE CHECK MODELS

6 X	- X	X	X	- XX
TYPE	CHECK	SPRING TYPE	SIZE (IN.)	OPTIONS
1 = Bronze	1 = Ball Cone (NPT-F x F)	0 = .5 psig Cracking Pressure	1 = 1/4"	01 = Standard
1LF = Lead Free Bronze	2 = Ball Cone (NPT-M x F)	2 = .2 psig Cracking Pressure	2 = 3/8"	P01 = BSPP Thread
2 = Stainless Steel	0 = Ball Cone Repair Kit		3 = 1/2"	T01 = BSPT Thread
			4 = 3/4"	17 = Satin Chrome Plated
			5 = 1"	57 = Oxygen Cleaned
			6 = 1-1/4"	A1 = Less Spring
			7 = 1-1/2"	E05 = 5 psig Opening Pressure*
			8 = 2"	E10 = 10 psig Opening Pressure*
			9 = 2-1/2"	
			0 = 3"	

\*Available in 1/4" through 1" Only.

(Note: Not all combinations are available. Contact Customer Service for verification.)

**NOTE:** The Cv (Valve Constant) is the gallons of water per minute that the valve will pass with a 1 PSIG pressure drop across the valve.

#### FLOW OF LIQUID

$$Q = C_v \sqrt{\frac{\Delta P}{SpGr}}$$

$$\text{or } \Delta P = \frac{(Q)^2 (SpGr)}{(C_v)^2}$$

#### WHERE:

Q = flow in US gpm  
 $\Delta P$  = pressure drop (PSI)  
 SpGr = specific gravity at flowing temperature  
 Cv = valve constant

#### FLOW OF GAS

$$Q = 1360 C_v \sqrt{\frac{\Delta P (P_2)}{(SpGr) (T)}}$$

$$\text{or } \Delta P = \frac{5.4 \times 10^{-7} (SpGr) (T) (Q)^2}{(C_v)^2 (P_2)}$$

#### WHERE:

Q = flow in SCFH  
 $\Delta P$  = pressure drop (PSI)  
 SpGr = specific gravity (based on air - 1.0)  
 $P_2$  = outlet pressure - psia (psig + 14.7)  
 T = (temp. °F + 460)  
 Cv = valve constant

#### **PRECAUTIONARY NOTE:**

Not recommended for use with reciprocating pumps and similar applications which may induce repetitious vibrations. Low flow rates which do not fully open the valve, may result in undesirable noise and premature valve failure. Upstream flow disturbances, which create turbulence, may also result in rapid wear. Therefore, it is recommended that a minimum of 10 diameters of straight pipe be provided between the check valve and any upstream flow disturbances such as pumps, control valves, elbows, etc.