

Balon Flow Data

Carbon Steel Flanged Valves

Cv Ratings of Regular Port Valve

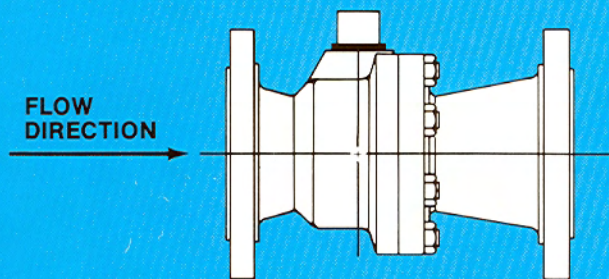
Balon valves are designed with the ball center offset from the valve center. This permits optimum castability of the body and the adapter, and results in better castings. The longer taper in the

adapter also improves flow characteristics. The direction in which the valve is installed in the line has an effect on flow capacity.

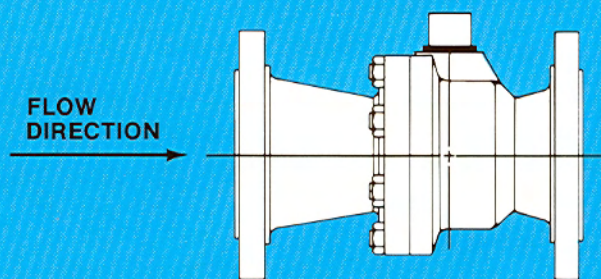
The calculated figures listed below illustrate this effect. It should be noted

that actual performance cannot be expected to duplicate tabulated figures due to the effects of adjacent fittings, flange alignment, pipe size and roughness, etc.

BODY SECTION UPSTREAM



BODY SECTION DOWNSTREAM



FLANGED VALVE Cv

| SIZE | CLASS 150 | CLASS 300 | CLASS 400 | CLASS 600 | CLASS 900 | CLASS 1500 |
|--------|-----------|-----------|-----------|-----------|-----------|------------|
| 2 x 1½ | 139 | 128 | SEE CLASS | 116 | 117 | 117 |
| 2½ x 2 | 256 | 240 | 600 | 202 | - | - |
| 3 x 2 | 235 | 215 | 512 | 200 | 274 | - |
| 4 x 3 | 518 | 537 | - | 482 | - | - |
| 6 x 4 | 821 | 987 | - | 1170 | - | - |
| 8 x 6 | 2469 | 3162 | - | 3396 | - | - |

FLANGED VALVE Cv

| SIZE | CLASS 150 | CLASS 300 | CLASS 400 | CLASS 600 | CLASS 900 | CLASS 1500 |
|--------|-----------|-----------|-----------|-----------|-----------|------------|
| 2 x 1½ | 118 | 119 | SEE CLASS | 107 | 114 | 114 |
| 2½ x 2 | 212 | 208 | 600 | 191 | - | - |
| 3 x 2 | 178 | 190 | 509 | 180 | 255 | - |
| 4 x 3 | 451 | 462 | - | 430 | - | - |
| 6 x 4 | 741 | 802 | - | 964 | - | - |
| 8 x 6 | 2360 | 2732 | - | 2933 | - | - |

Cv Ratings of Full Bore Valve

Depending upon pipe schedule with which they are used, Balon full bore valves have bore sizes exceeding or nearly equaling the pipe inside diameter. The best method of computing system pressure losses is to consider the valve an equivalent length of pipe as shown below.

Using the Cv method of rating full bore valves does not provide good accuracy. The reason for this is that Cv tests do not provide valid data until the measured pressure drop equals at least 2 psi. In the relatively short length involved in a valve, extremely high velocities are required to generate that pressure drop. At these high velocities

(which are well beyond those used in industry) other effects, such as vibration and pulsation are then created by "super turbulent" flow. The net results are Cv ratings which are lower than would be derived if pressure losses could be consistently measured at velocities in the usable range.

EQUIVALENT LENGTH OF PIPE - FEET

| SIZE | CLASS 150 | CLASS 300 | CLASS 600 | CLASS 900 | CLASS 1500 |
|------|-----------|-----------|-----------|-----------|------------|
| 1 | .42 | - | .71 | .83 | .83 |
| 1½ | .53 | .62 | .79 | - | - |
| 2 | .58 | .71 | .96 | 1.21 | 1.21 |
| 2½ | .62 | .79 | 1.09 | - | - |
| 3 | .66 | .93 | 1.17 | - | - |
| 4 | .75 | 1.00 | 1.42 | - | - |
| 6 | .88 | 1.32 | 1.83 | - | - |