



## World Class Clampseal® Throttling Valves

- *Replaceable Seat/Venturi*
- *Low Velocity Across Main Seat*
- *Precise Flow Control*
- *Pressure Seal Bonnet*



**Conval Clampseal® Throttling Valves** are designed for a wide range of severe service applications requiring repeatable flow control and dependable shutoff.



**STANDARD SIZES**

1/2" through 4"

**PRESSURE RATING**

ASME Class 900 through 4095

**STANDARD MATERIALS**

Forged Alloy Steel 182 F22

Other materials available upon request

**STANDARD ACCESSORIES**

Actuators - Air, Motor, Hydraulic



**DESIGN FEATURES**

***Replaceable 4400 Stainless Steel Seat/Venturi***

The venturi is an integral part of the removable seat. It is readily changed in-line should different flow characteristics be required or replacement be necessary from excessive wear. The orifice is sized to keep fluid velocity across the seat below damaging levels. The exit orifice angle is designed to minimize down stream piping erosion and noise. Several erosion-resistant materials are available. Consult factory.

***Position Indicator***

The position indicator is easy to read and an accurate indication of valve stem position.

***Axially-loaded Packing System***

The packing is uniformly axially loaded. The bonnet cartridge packing chamber with a secure leakproof bonnet allows rapid access to valve trim for ease of inspection and maintenance.

***Mated Stem Assembly***

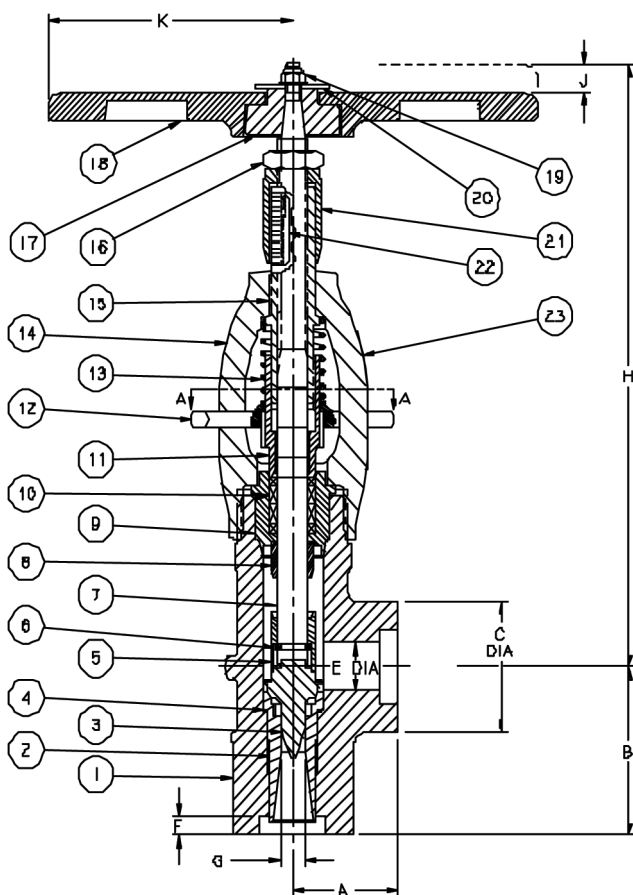
The stem assembly is mated to the orifice for proper control. Like the orifice seat assembly, it is readily changeable should different flow characteristics be required or excessive erosion or corrosion be a problem.

***Pressure Seal Bonnet***

A secure, leakproof bonnet allows rapid access to valve trim for inspection and maintenance. The pressure boundary is sealed at the smallest diameter possible to ensure maximum sealing capability.

***Two-Year Warranty***

Conval is committed to unsurpassed quality. We are so confident of the quality of our product, that we offer a two-year warranty.



## LIST OF MATERIALS

| NO. | NAME             | QTY | MATERIAL            | SPECIFICATIONS         |
|-----|------------------|-----|---------------------|------------------------|
| 1   | BODY             | 1   | *FORGED ALLOY STEEL | SA182 F22              |
| 2   | SEAT/ORIFICE     | 1   | STAINLESS 440C      | AMS 5352               |
| 3   | NEEDLE DISC      | 1   | STELLITE NO. 6      | AMS 5387               |
| 4   | O-RING           | 1   | STAINLESS           | MFR. STD.              |
| 5   | RETAINER         | 1   | STAINLESS           | ASTM A582-416          |
| 6   | SPLIT RING       | 2   | STAINLESS           | ASME SA479-316         |
| 7   | STEM             | 1   | STAINLESS           | ASTM A 582-416         |
| 8   | BACKSEAT         | 1   | NITRONIC 60         | ASME SA479 UNS S 21800 |
| 9   | BONNET CHAMBER   | 1   | STAINLESS           | ASME SA479-410         |
| 10  | PACKING RING     | 2   | END/WIPER RINGS     | BRAIDED CARBON YARN    |
|     |                  | 2   | DIE FORMED RINGS    | FLEXIBLE GRAPHITE      |
| 11  | GLAND            | 1   | STAINLESS           | ATSTM A582-416         |
| 12  | IGW              | 1   | CAST STAINLESS      | AMS 5360               |
| 13  | SPRING           | 1   | STAINLESS           | MFR. STD.              |
| 14  | YOKE             | 1   | *FORGED ALLOY STEEL | SA 182 F22             |
| 15  | YOKE BUSHING     | 1   | ALUMINUM BRONZE     | ASME SB-150 UNS C64200 |
| 16  | CHECK NUT        | 1   | STEEL               | MFR. STD.              |
| 17  | ADAPTER          | 1   | MALLEABLE IRON      | ASTM A47 GR. 32510     |
| 18  | HANDLE           | 1   | MALLEABLE IRON      | ASTM A47 GR. 32510     |
| 19  | LOCKNUT          | 1   | STEEL               | MFR. STD.              |
| 20  | WASHER           | 1   | STEEL               | MFR. STD.              |
| 21  | INDICATOR SLEEVE | 1   | STEEL               | MFR. STD.              |
| 22  | INDICATOR TAG    | 1   | ALUMINUM            | MFR. STD.              |
| 23  | I.D. PLATE       | 1   | STAINLESS           | ASME SA240-304         |
| 24  | CLAMPBOLT        | 1   | STAINLESS           | MFR. STD.              |

\* A105, and SA 182 F3 16 Material combinations available upon request.

## DIMENSIONS

| PRESSURE CLASS | Size Code    | Pipe Size | A      | B     | C       | D      | E   | Wgt |
|----------------|--------------|-----------|--------|-------|---------|--------|-----|-----|
| 900            | NOMINAL      | 5E 1/2    | 2 5/16 | 4     | 3 5/16  | 9 3/4  | 8   | 13  |
|                |              | 15 59     | 100    | 84    | 248     | 200    | 59  |     |
|                |              | 5E 3/4    | 2 5/16 | 4     | 3 5/16  | 9 3/4  | 8   | 13  |
|                | INTERMEDIATE | 20 59     | 100    | 84    | 248     | 200    | 59  |     |
|                |              | 5E 1      | 2 5/16 | 4     | 3 5/16  | 9 3/4  | 8   | 13  |
|                |              | 25 59     | 100    | 84    | 248     | 200    | 59  |     |
|                | NOMINAL      | 7G 1      | 2 3/4  | 4 1/4 | 3 1/4   | 13 3/8 | 12  | 26  |
|                |              | 25 70     | 108    | 88    | 340     | 300    | 118 |     |
|                |              | 7G 1 1/4  | 2 3/4  | 4 1/4 | 3 1/4   | 13 3/8 | 12  | 26  |
|                | INTERMEDIATE | 32 70     | 108    | 88    | 340     | 300    | 118 |     |
|                |              | 7G 1 1/2  | 2 3/4  | 4 1/4 | 3 1/4   | 13 3/8 | 12  | 26  |
|                |              | 40 70     | 108    | 88    | 340     | 300    | 118 |     |
| 1155           | NOMINAL      | 7G 2      | 2 3/4  | 4 1/4 | 3 1/4   | 13 3/8 | 12  | 26  |
|                |              | 50 70     | 108    | 88    | 340     | 300    | 118 |     |
|                |              | 8H 2      | 3      | 4 1/2 | 3 15/16 | 15 1/8 | 12  | 40  |
|                | INTERMEDIATE | 50 80     | 114    | 100   | 384     | 300    | 182 |     |
|                |              | 8H 2 1/2  | 3      | 4 1/2 | 3 15/16 | 15 1/8 | 12  | 40  |
|                |              | 65 80     | 114    | 100   | 384     | 300    | 182 |     |
|                | NOMINAL      | 10K 3     | 5      | 6     | 4 7/8   | 18 5/8 | 18  | 86  |
|                |              | 80 125    | 152    | 124   | 473     | 450    | 390 |     |
|                |              | 10K 4     | 5      | 6     | 4 7/8   | 18 5/8 | 18  | 86  |
|                | INTERMEDIATE | 100 125   | 152    | 124   | 473     | 450    | 390 |     |
|                |              | 5E 1/2    | 2 5/16 | 4     | 3 5/16  | 9 3/4  | 8   | 13  |
|                |              | 15 59     | 100    | 84    | 248     | 200    | 59  |     |
| 1500           | NOMINAL      | 5E 3/4    | 2 5/16 | 4     | 3 5/16  | 9 3/4  | 8   | 13  |
|                |              | 20 59     | 100    | 84    | 248     | 200    | 59  |     |
|                |              | 5E 1      | 2 5/16 | 4     | 3 5/16  | 9 3/4  | 8   | 13  |
|                | INTERMEDIATE | 25 59     | 100    | 84    | 248     | 200    | 59  |     |
|                |              | 7G 1      | 2 3/4  | 4 1/4 | 3 1/4   | 13 3/8 | 12  | 26  |
|                |              | 25 70     | 108    | 88    | 340     | 300    | 118 |     |
|                | NOMINAL      | 7G 1 1/4  | 2 3/4  | 4 1/4 | 3 1/4   | 13 3/8 | 12  | 26  |
|                |              | 32 70     | 108    | 88    | 340     | 300    | 118 |     |
|                |              | 8H 1 1/4  | 3      | 4 1/2 | 3 15/16 | 15 1/8 | 12  | 40  |
|                | INTERMEDIATE | 32 80     | 115    | 100   | 384     | 300    | 182 |     |
|                |              | 7G 1 1/2  | 2 3/4  | 4 1/4 | 3 1/4   | 13 3/8 | 12  | 26  |
|                |              | 40 70     | 108    | 88    | 340     | 300    | 118 |     |
| 2155           | NOMINAL      | 8H 1 1/2  | 3      | 4 1/2 | 4 7/8   | 15 1/8 | 12  | 40  |
|                |              | 40 80     | 115    | 124   | 384     | 300    | 182 |     |
|                |              | 8H 2      | 3      | 4 1/2 | 4 7/8   | 15 1/8 | 12  | 40  |
|                | INTERMEDIATE | 50 80     | 115    | 124   | 384     | 300    | 182 |     |
|                |              | 10K 2 1/2 | 5      | 6     | 4 7/8   | 18 5/8 | 18  | 86  |
|                |              | 65 125    | 150    | 124   | 473     | 450    | 390 |     |
|                | NOMINAL      | 10K 3     | 5      | 6     | 4 7/8   | 18 5/8 | 18  | 86  |
|                |              | 80 125    | 150    | 124   | 473     | 450    | 390 |     |
|                |              | 10K 4     | 5      | 6     | 4 7/8   | 18 5/8 | 18  | 86  |
|                | INTERMEDIATE | 100 125   | 150    | 124   | 473     | 450    | 390 |     |
|                |              | 5E 1/2    | 2 5/16 | 4     | 3 5/16  | 9 3/4  | 8   | 13  |
|                |              | 15 59     | 100    | 84    | 248     | 200    | 59  |     |
| 2500           | NOMINAL      | 5E 3/4    | 2 5/16 | 4     | 3 5/16  | 9 3/4  | 8   | 13  |
|                |              | 20 59     | 100    | 84    | 248     | 200    | 59  |     |
|                |              | 5E 1      | 2 5/16 | 4     | 3 5/16  | 9 3/4  | 8   | 13  |
|                | INTERMEDIATE | 25 59     | 100    | 84    | 248     | 200    | 59  |     |
|                |              | 7G 1 1/4  | 2 3/4  | 4 1/4 | 3 1/4   | 13 3/8 | 12  | 26  |
|                |              | 32 70     | 108    | 88    | 340     | 300    | 118 |     |
|                | NOMINAL      | 8H 1 1/4  | 3      | 4 1/2 | 3 15/16 | 15 1/8 | 12  | 40  |
|                |              | 32 80     | 115    | 100   | 384     | 300    | 182 |     |
|                |              | 7G 1 1/2  | 2 3/4  | 4 1/4 | 3 1/4   | 13 3/8 | 12  | 26  |
|                | INTERMEDIATE | 40 70     | 108    | 88    | 340     | 300    | 118 |     |
|                |              | 8H 1 1/2  | 3      | 4 1/2 | 3 15/16 | 15 1/8 | 12  | 40  |
|                |              | 40 80     | 115    | 100   | 384     | 300    | 182 |     |
| 3045           | NOMINAL      | 8H 2      | 3      | 4 1/2 | 3 15/16 | 15 1/8 | 12  | 40  |
|                |              | 50 80     | 115    | 100   | 384     | 300    | 182 |     |
|                |              | 10K 2     | 5      | 6     | 4 7/8   | 18 5/8 | 18  | 86  |
|                | INTERMEDIATE | 50 125    | 150    | 124   | 473     | 450    | 390 |     |
|                |              | 10K 2 1/2 | 5      | 6     | 4 7/8   | 18 5/8 | 18  | 86  |
|                |              | 65 125    | 150    | 124   | 473     | 450    | 390 |     |
|                | NOMINAL      | 10K 3     | 5      | 6     | 4 7/8   | 18 5/8 | 18  | 86  |
|                |              | 80 125    | 150    | 124   | 473     | 450    | 390 |     |
|                |              | 10K 4     | 5      | 6     | 4 7/8   | 18 5/8 | 18  | 86  |
|                | INTERMEDIATE | 100 125   | 150    | 124   | 473     | 450    | 390 |     |
|                |              | 5E 1/2    | 2 5/16 | 4     | 3 5/16  | 9 3/4  | 8   | 13  |
|                |              | 15 59     | 100    | 84    | 248     | 200    | 59  |     |

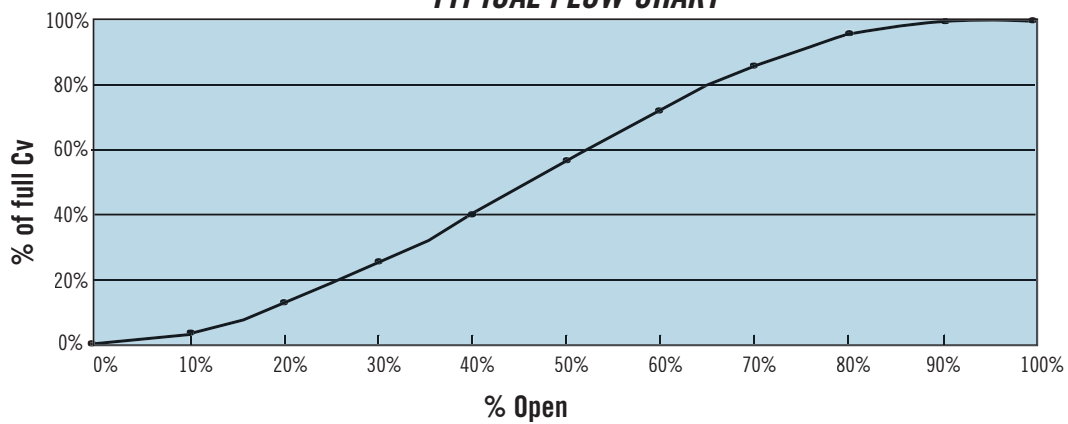
\* Socket Weld dimensions shown; Consult factory for Butt Weld dimensions.

Numbers shown in Black indicate dimensions in inches, weight in pounds. Numbers shown in blue indicate dimensions in mm, weight in kilograms.

Butt Weld dimensions determined by pipe schedule.

NOTE: All weights are approximate for shipping purposes only.

### TYPICAL FLOW CHART



### SPECIFICATIONS

| Size Code<br>Fig. No. | Pipe Size<br>(Inches)    | Cv                    |      |     |      |     |      |     |      |     |       |     |       |     |       |    | Wt.<br>(lbs.) |
|-----------------------|--------------------------|-----------------------|------|-----|------|-----|------|-----|------|-----|-------|-----|-------|-----|-------|----|---------------|
|                       |                          | Standard Orifice Size |      |     |      |     |      |     |      |     |       |     |       |     |       |    |               |
|                       |                          | 1/8                   | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 9/16 | 5/8 | 11/16 | 3/4 | 13/16 | 7/8 | 15/16 | 1  |               |
| 5E                    | 1/2<br>3/4<br>1          | 0.3                   | 0.6  | 1.1 | -    | -   | -    | -   | -    | -   | -     | -   | -     | -   | -     | -  | 12            |
| 7G                    | 1<br>1 1/4<br>1 1/2<br>2 | -                     | -    | 1.1 | 1.7  | 2.5 | 3.3  | 4.3 | 5    | -   | -     | -   | -     | -   | -     | -  | 26            |
| 8H                    | 1 1/4<br>1 1/2<br>2      | -                     | -    | -   | -    | -   | 3.5  | 4.6 | 6    | 7   | 9     | 10  | -     | -   | -     | -  | 40            |
| 10K                   | 2<br>2 1/2<br>3<br>4     | -                     | -    | -   | -    | -   | -    | -   | 6    | 7   | 9     | 10  | 12    | 14  | 16    | 19 | 86            |

\*Socket Weld Specifications Shown. Butt Weld Available. Other orifices available upon request.

| Size<br>Code<br>Fig. No. | Pipe<br>Size<br>(mm)  | Cv                    |     |     |     |     |     |     |    |    |    |    |    |    |    |    | Wt.<br>(kg.) |
|--------------------------|-----------------------|-----------------------|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|--------------|
|                          |                       | Standard Orifice Size |     |     |     |     |     |     |    |    |    |    |    |    |    |    |              |
|                          |                       | 3                     | 5   | 6   | 8   | 10  | 11  | 13  | 14 | 16 | 17 | 19 | 21 | 22 | 24 | 25 |              |
| 5E                       | 13<br>19<br>25        | 0.3                   | 0.6 | 1.1 | -   | -   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 5.4          |
| 7G                       | 25<br>32<br>38<br>51  | -                     | -   | 1.1 | 1.7 | 2.5 | 3.3 | 4.3 | 5  | -  | -  | -  | -  | -  | -  | -  | 11.8         |
| 8H                       | 32<br>38<br>51        | -                     | -   | -   | -   | -   | 3.3 | 4.6 | 6  | 7  | 9  | 10 | -  | -  | -  | -  | 18.2         |
| 10K                      | 51<br>64<br>76<br>102 | -                     | -   | -   | -   | -   | -   | -   | 6  | 7  | 9  | 10 | 12 | 14 | 16 | 19 | 39.0         |

### Example:

Given:

Steam

P1 = 1000 (psi) Super heat = 105(F deg)

P2 = 800 (psi)

T = 650 (deg.F)

Flow Rate = 20,000 (lbs/hr)

- 1) Calculate outlet pressure as % of inlet pressure

Since outlet pressure is greater than 55% of inlet pressure, we must multiply capacity by the correction factor. From the curve, the correction factor = .85.

.85 (20,000) = 17,000 (lbs/hr)

- 2) If steam is super heated, adjust capacity.

For 105 (F deg) Super Heated Steam:

Capacity = 17,000 [1 + .00065(105)] = 18,160 (lbs/hr)

- 3) Size Orifice from chart above using:

Inlet Pressure = 1,000 (psi)

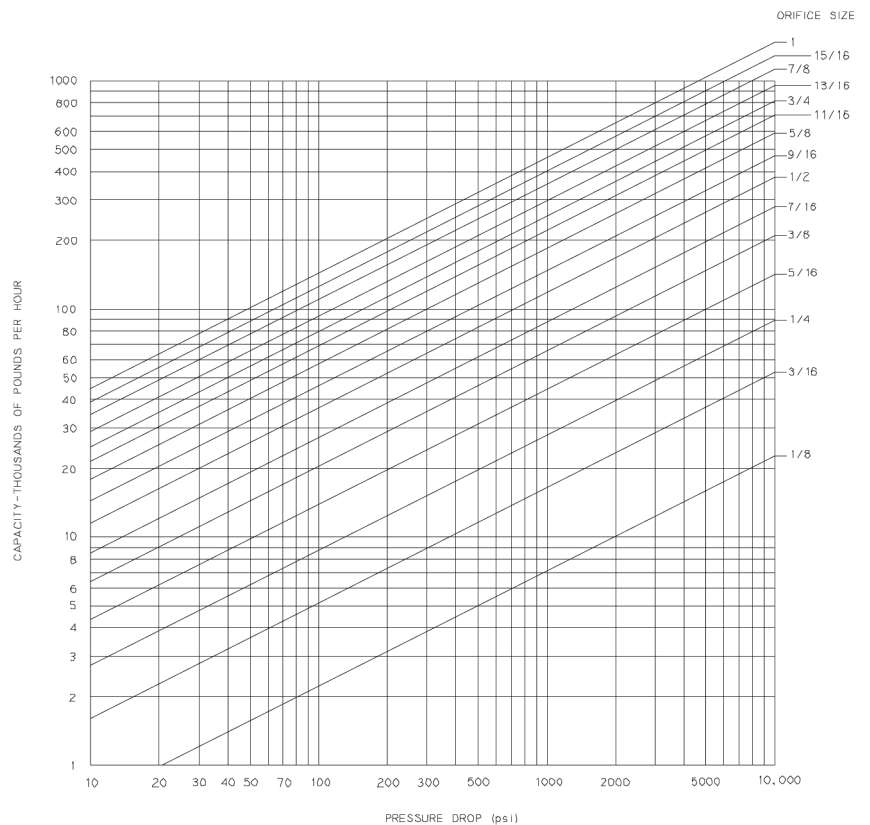
Flow Rate = 18,160 (lbs/hr)

Find the intersection point on chart.

Correct orifice size is directly above and to the left of the intersection point. In this case we would use an 11/16" orifice.

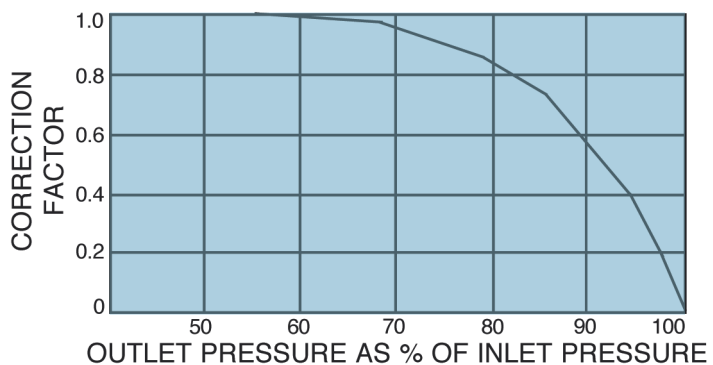
Adjust for superheat conditions by multiplying the required flow rate by (1 + .00065 x degrees superheat) prior to cross referencing.

### Saturated Steam



### Correction Factor

If outlet pressure is greater than 55% of the inlet pressure, multiply capacity by the correction factor below:



### Example:

Given:

Water

$P_1 = 1000$  (psi)

$\Delta P = 1000$  (psi)

$T = 350$  (deg.F)

Flow Rate = 10,000 (lbs/hr)

Vapor Pressure = 135 (psi)

- 1) Since  $T > 300$ , we must use a corrected max. pressure drop.

$$\Delta P = .9 \times (1000 - .83 \times 135)$$

$$\Delta P = 799.155$$

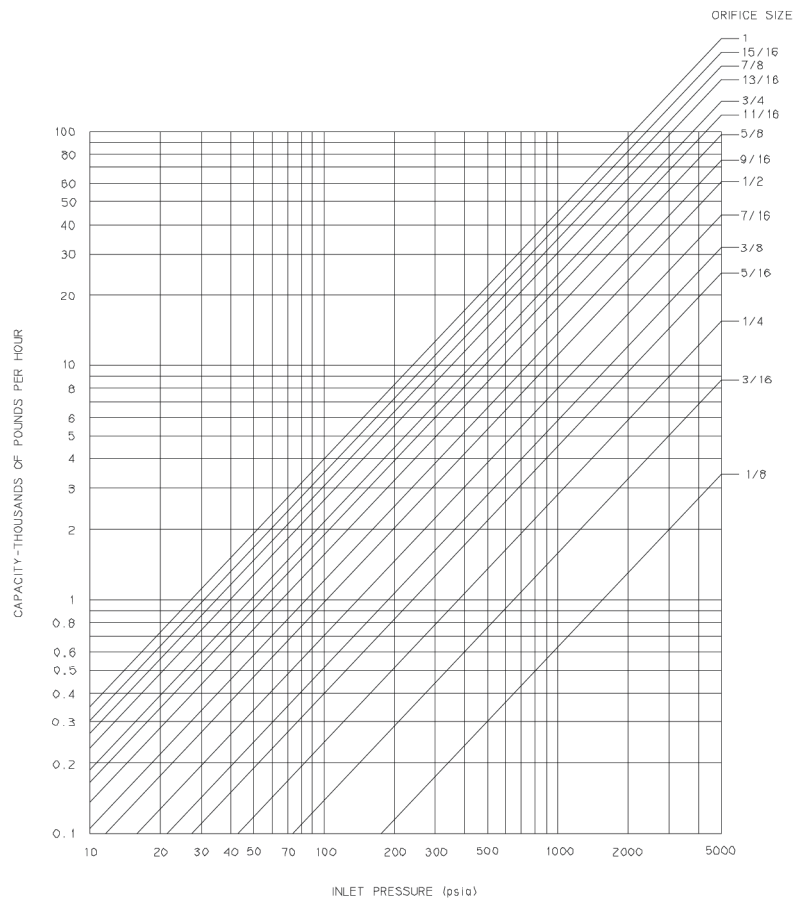
- 2) Size orifice from chart using:

$$\Delta P = 799.155$$

Flow Rate = 10,000

Find the intersection point on the chart. Correct orifice size is directly above and to the left of the intersection point. In this case we would use a 3/16" orifice.

### Liquid



### Correction Factor

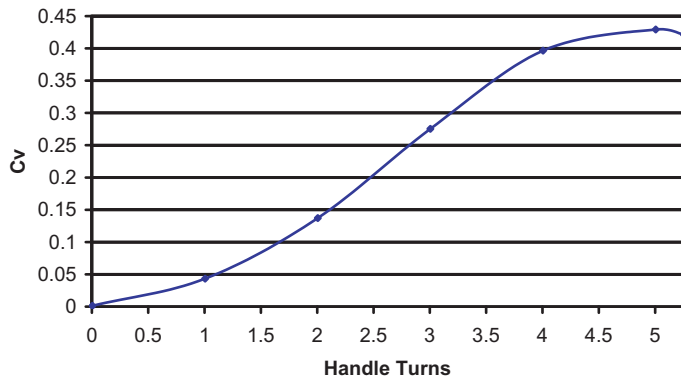
If temperature is greater than 300°F choked flow may occur.  
Therefore the maximum pressure drop used for sizing is given by:

$$P = .9 (P_1 - .83 \times P_v)$$

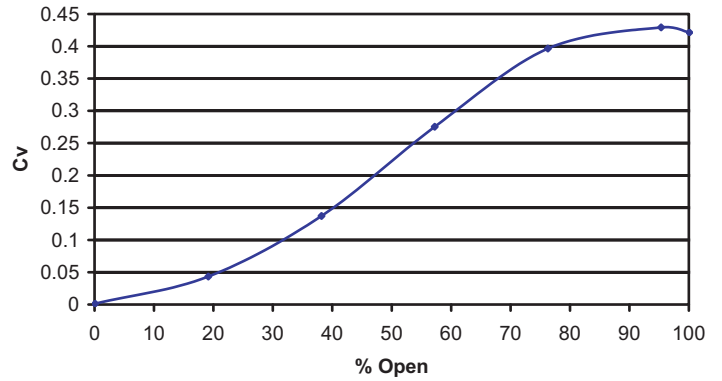
Where  $P_1$  = inlet pressure

$P_v$  = vapor pressure

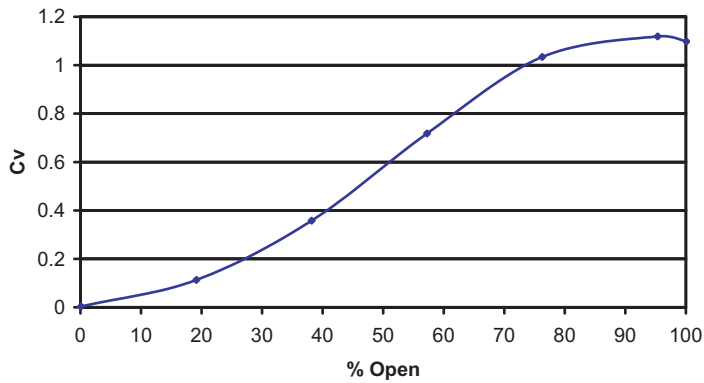
**Cv vs Handle Turns for a 5E Throttle Valve with 1/8" Orifice**



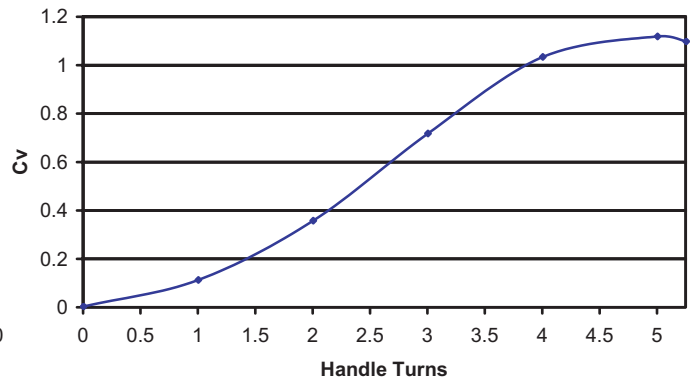
**Cv vs % Open for a 5E Throttle Valve with 1/8" Orifice**



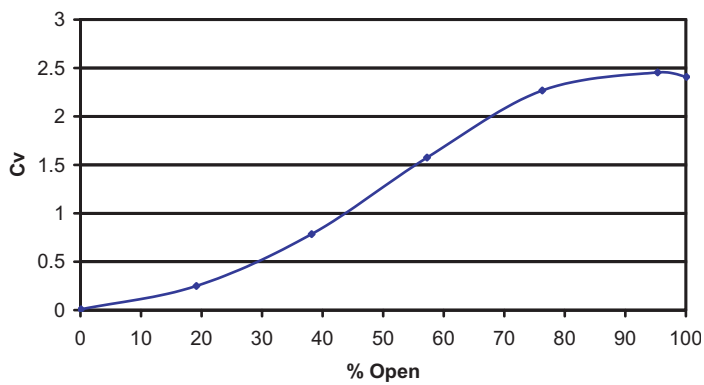
**Cv vs % Open for a 5E Throttle Valve with 3/16" Orifice**



**Cv vs Handle Turns for a 5E Throttle Valve with 3/16" Orifice**



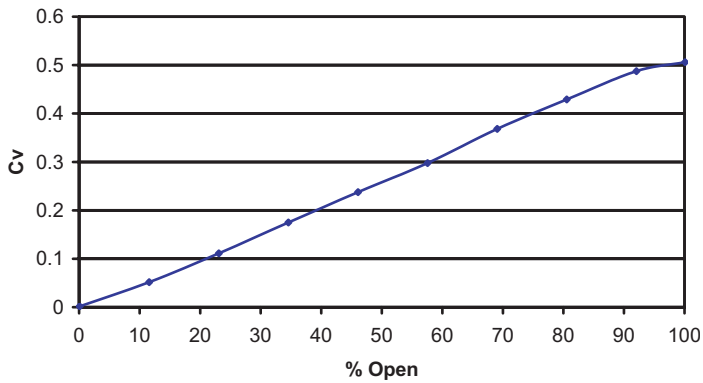
**Cv vs % Open for a 5E Throttle Valve with 1/4" Orifice**



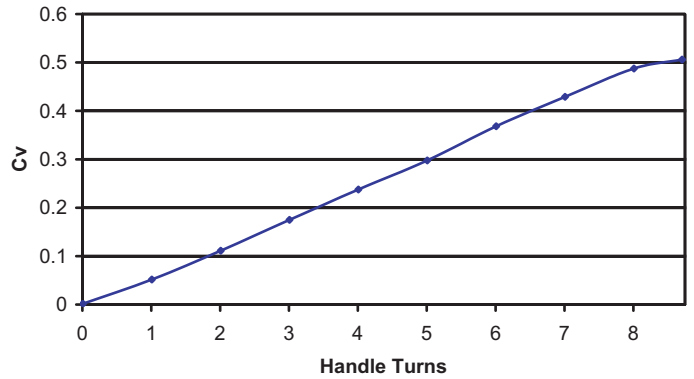
**Cv vs Handle Turns for a 5E Throttle Valve with 1/4" Orifice**



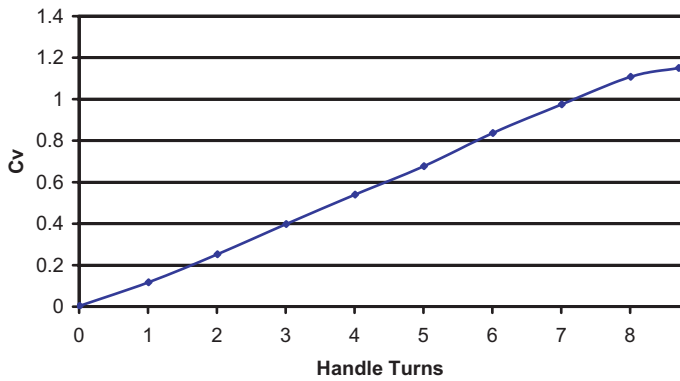
**Cv vs % Open for a 7G Throttle Valve with 1/8" Orifice**



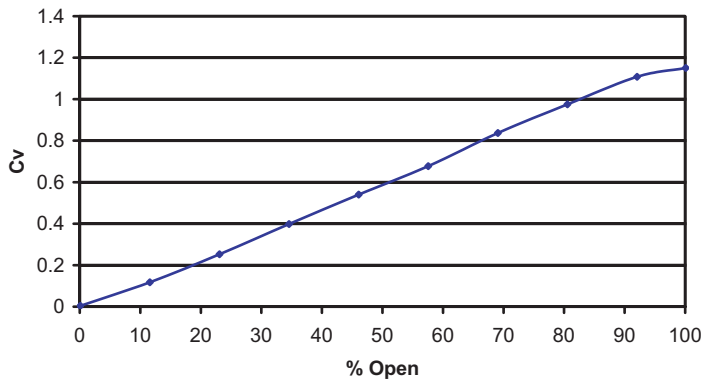
**Cv vs Handle Turns for a 7G Throttle Valve with 1/8" Orifice**



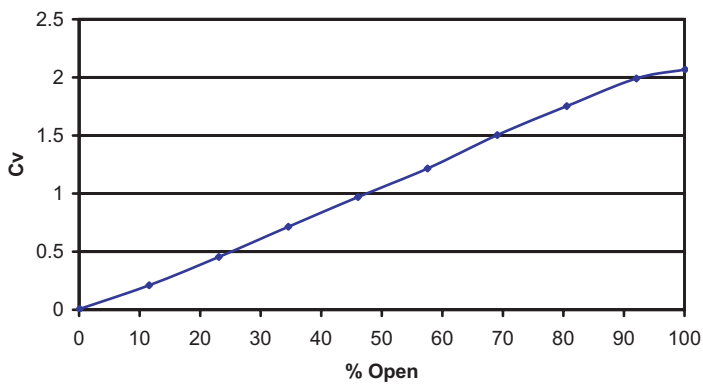
**Cv vs Handle Turns for a 7G Throttle Valve with 3/16" Orifice**



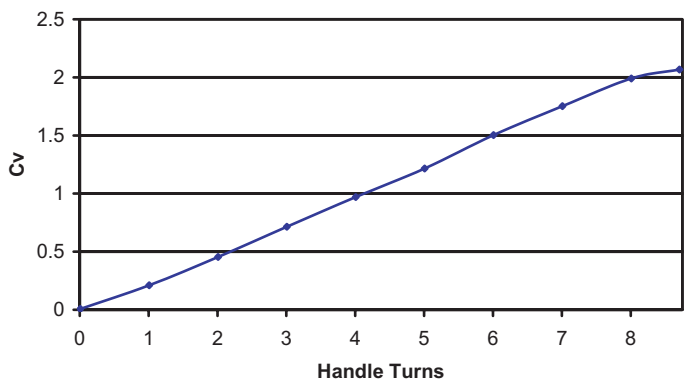
**Cv vs % Open for a 7G Throttle Valve with 3/16" Orifice**



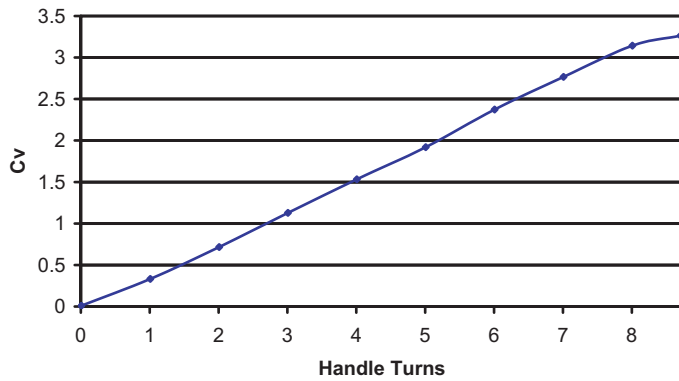
**Cv vs % Open for a 7G Throttle Valve with 1/4" Orifice**



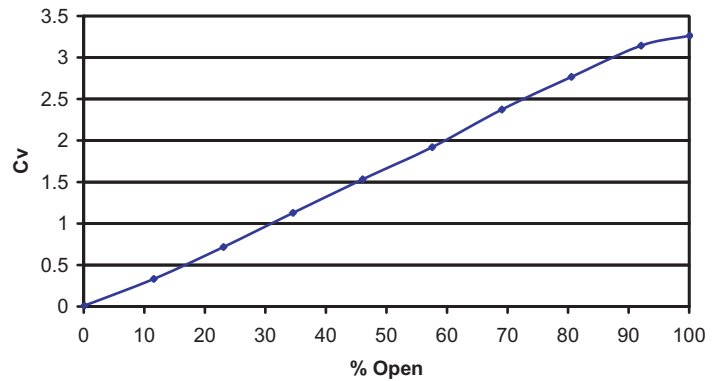
**Cv vs Handle Turns for a 7G Throttle Valve with 1/4" Orifice**



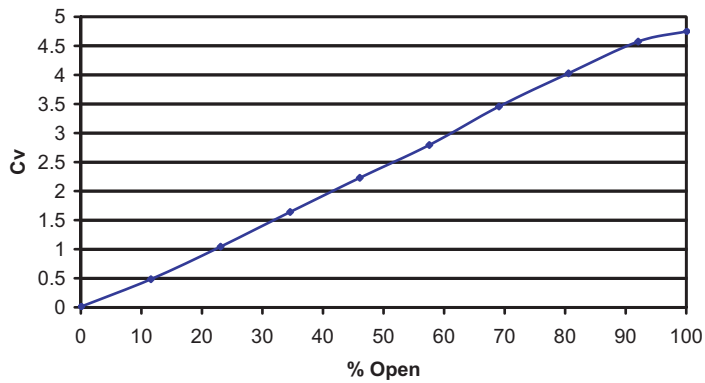
**Cv vs Handle Turns for a 7G Throttle Valve with 5/16" Orifice**



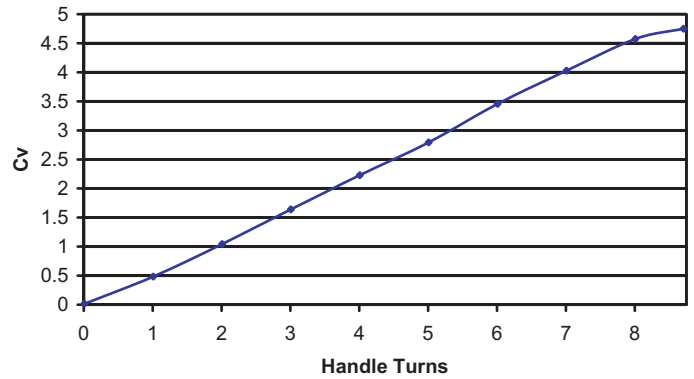
**Cv vs % Open for a 7G Throttle Valve with 5/16" Orifice**



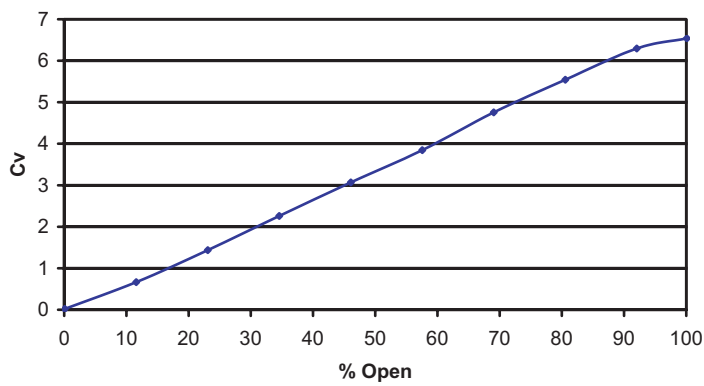
**Cv vs % Open for a 7G Throttle Valve with 3/8" Orifice**



**Cv vs Handle Turns for a 7G Throttle Valve with 3/8" Orifice**



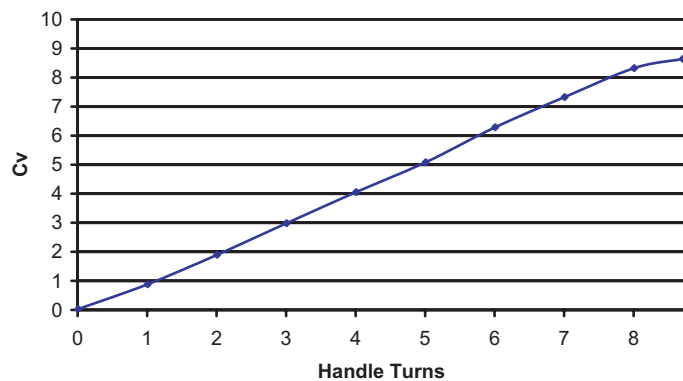
**Cv vs % Open for a 7G Throttle Valve with 7/16" Orifice**



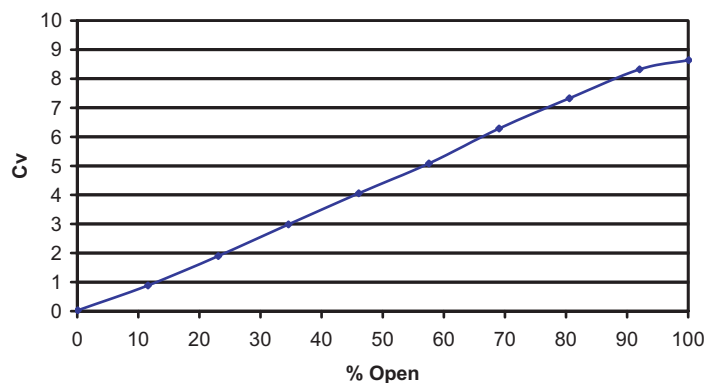
**Cv vs Handle Turns for a 7G Throttle Valve with 7/16" Orifice**



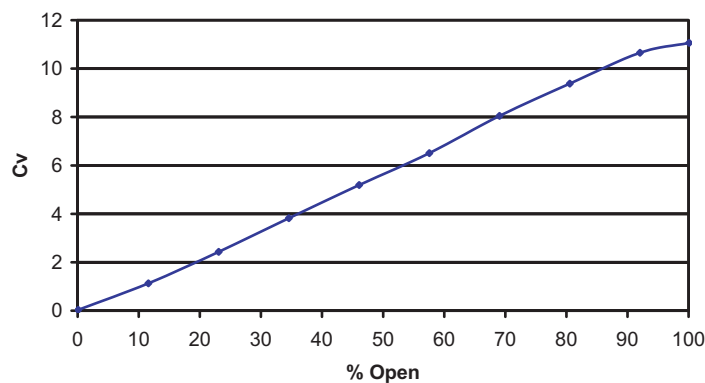
**Cv vs Handle Turns for a 7G Throttle Valve with 1/2" Orifice**



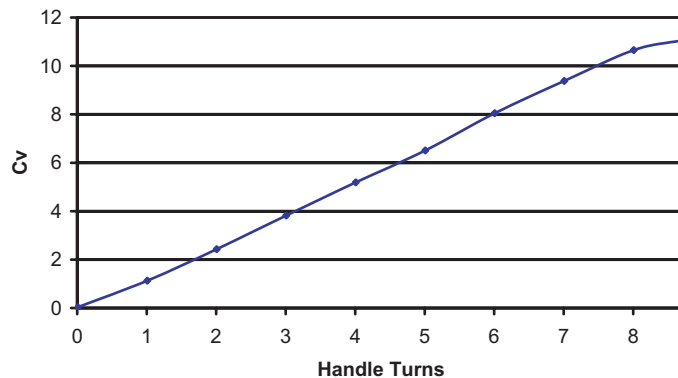
**Cv vs % Open for a 7G Throttle Valve with 1/2" Orifice**



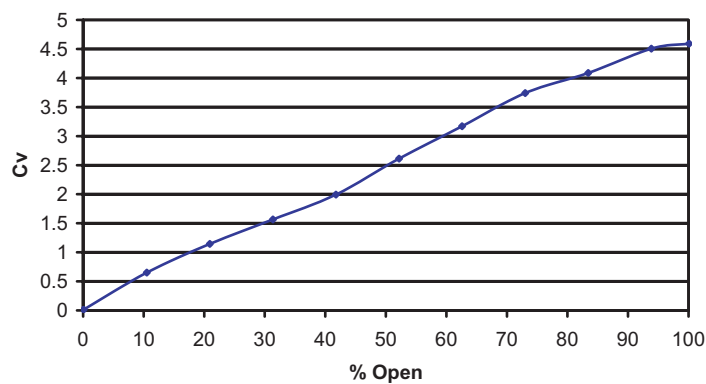
**Cv vs % Open for a 7G Throttle Valve with 9/16" Orifice**



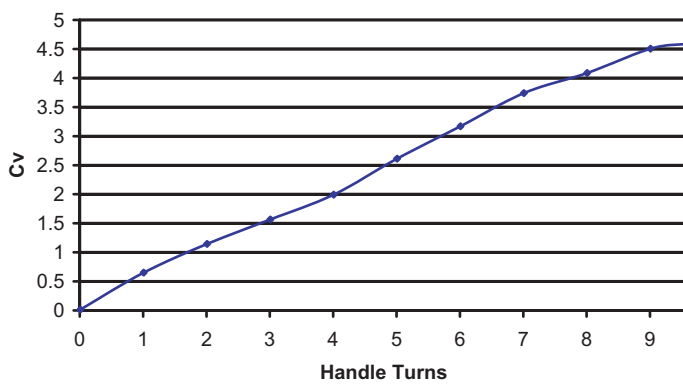
**Cv vs Handle Turns for a 7G Throttle Valve with 9/16" Orifice**



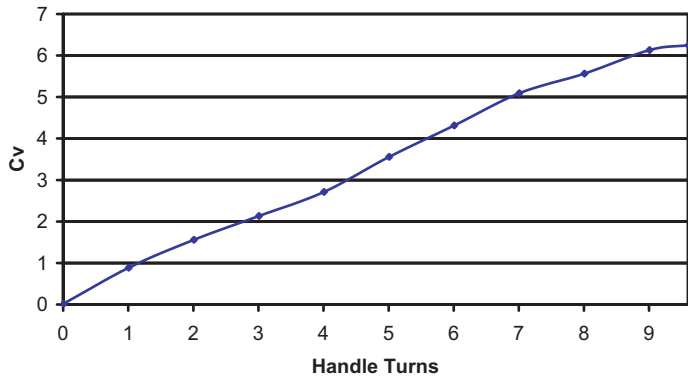
**Cv vs % Open for a 8H Throttle Valve with 3/8" Orifice**



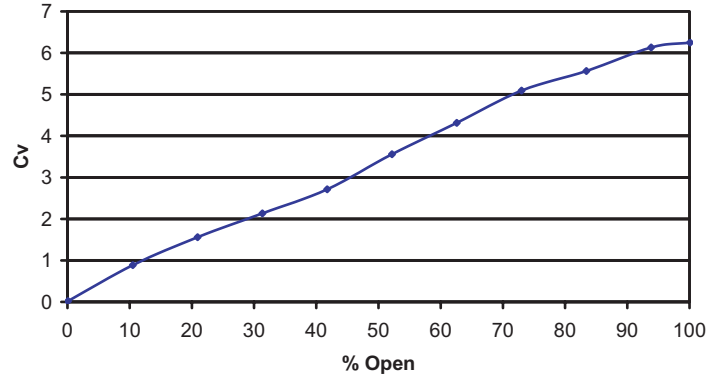
**Cv vs Handle Turns for a 8H Throttle Valve with 3/8" Orifice**



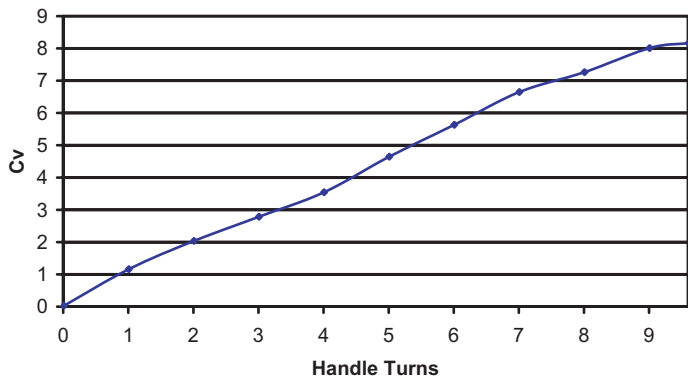
**Cv vs Handle Turns for a 8H Throttle Valve with 7/16" Orifice**



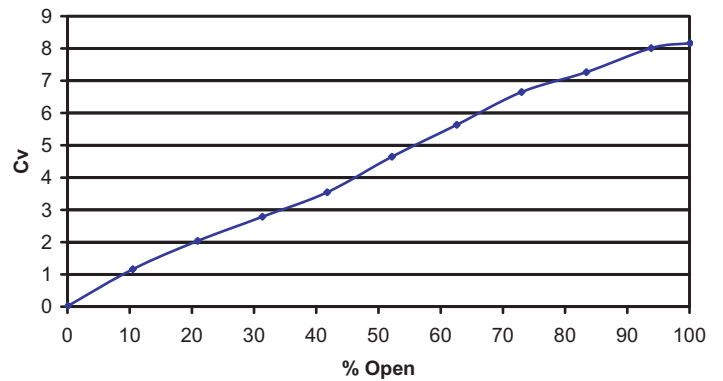
**Cv vs % Open for a 8H Throttle Valve with 7/16" Orifice**



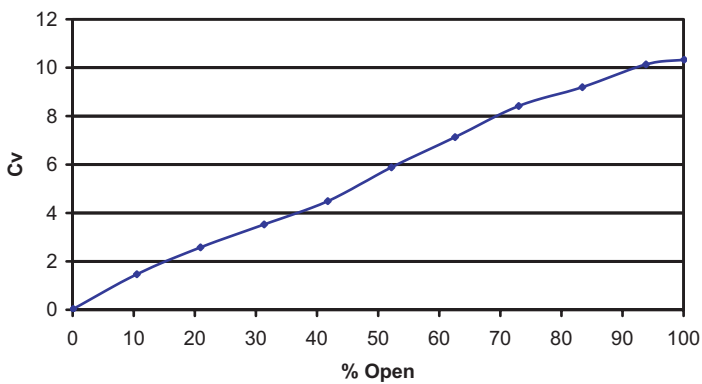
**Cv vs Handle Turns for a 8H Throttle Valve with 1/2" Orifice**



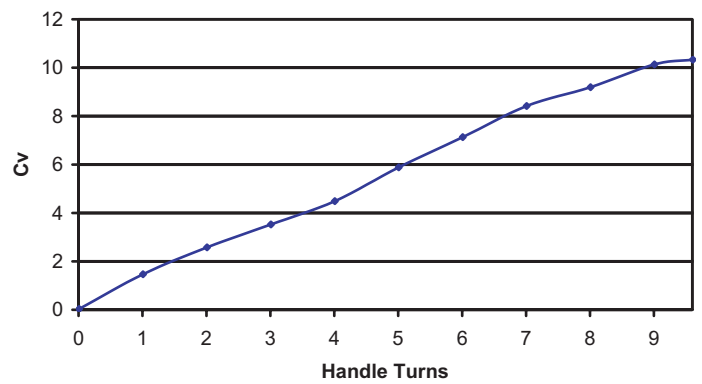
**Cv vs % Open for a 8H Throttle Valve with 1/2" Orifice**



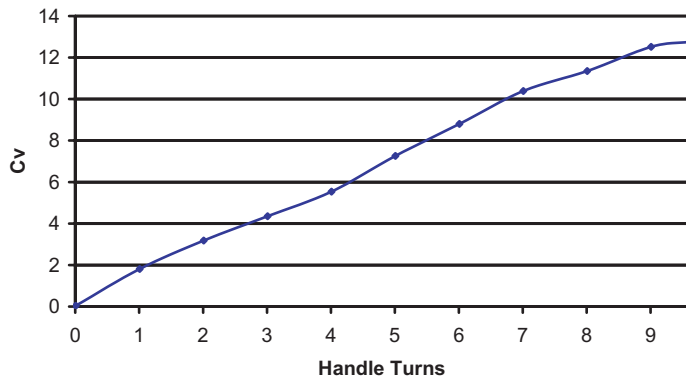
**Cv vs % Open for a 8H Throttle Valve with 9/16" Orifice**



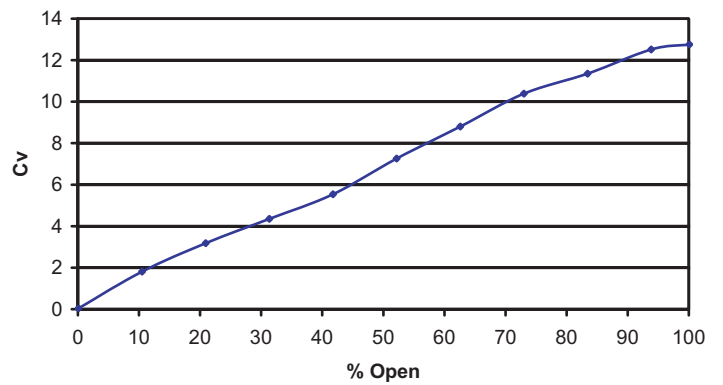
**Cv vs Handle Turns for a 8H Throttle Valve with 9/16" Orifice**



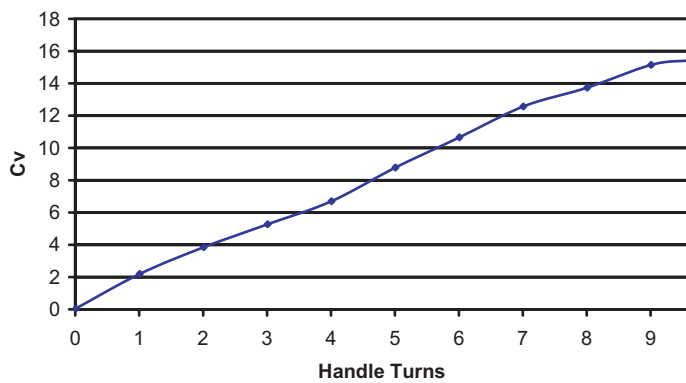
**Cv vs Handle Turns for a 8H Throttle Valve with 5/8" Orifice**



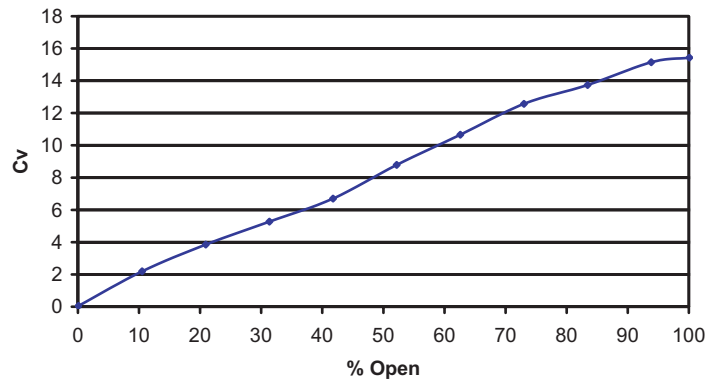
**Cv vs % Open for a 8H Throttle Valve with 5/8" Orifice**



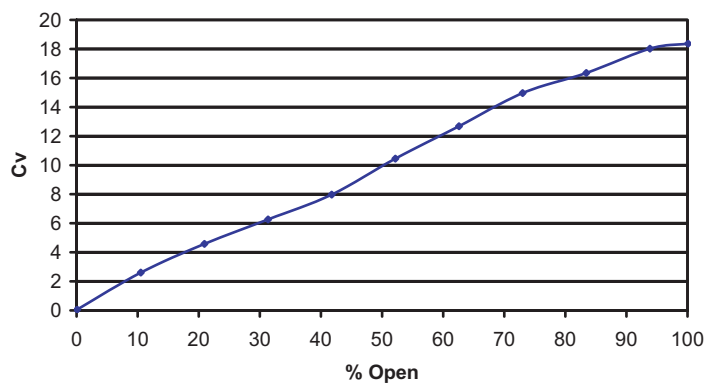
**Cv vs Handle Turns for a 8H Throttle Valve with 11/16" Orifice**



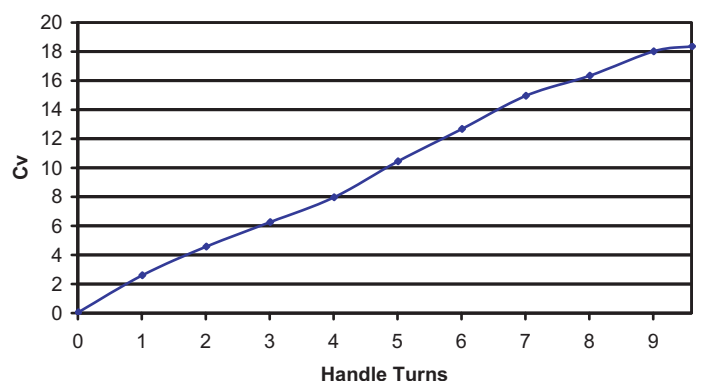
**Cv vs % Open for a 8H Throttle Valve with 11/16" Orifice**



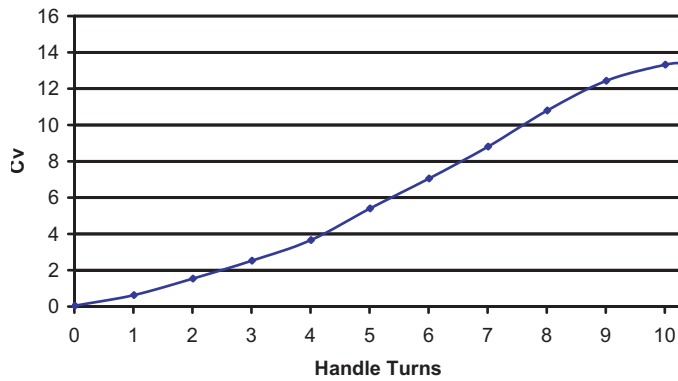
**Cv vs % Open for a 8H Throttle Valve with 3/4" Orifice**



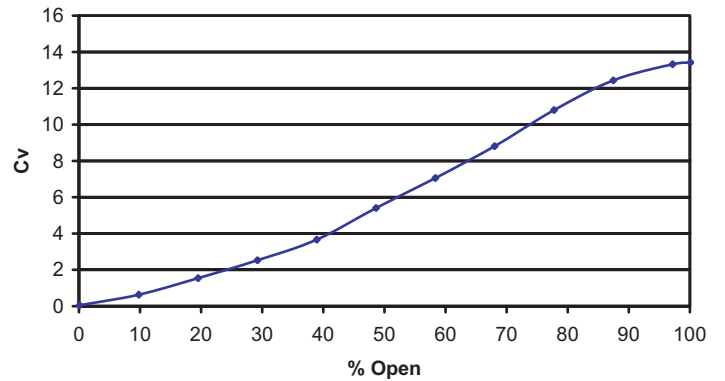
**Cv vs Handle Turns for a 8H Throttle Valve with 3/4" Orifice**



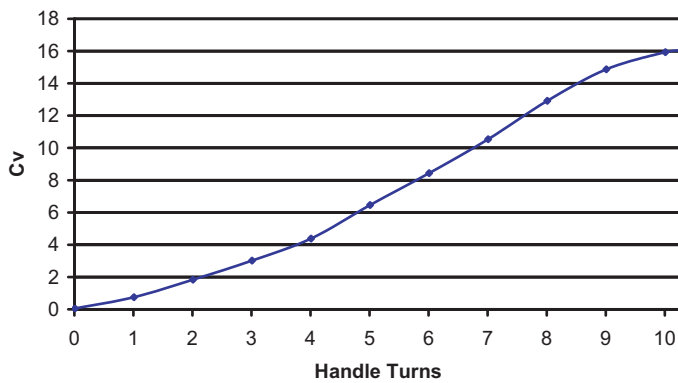
**Cv vs Handle Turns for a 10K Throttle Valve with 9/16" Orifice**



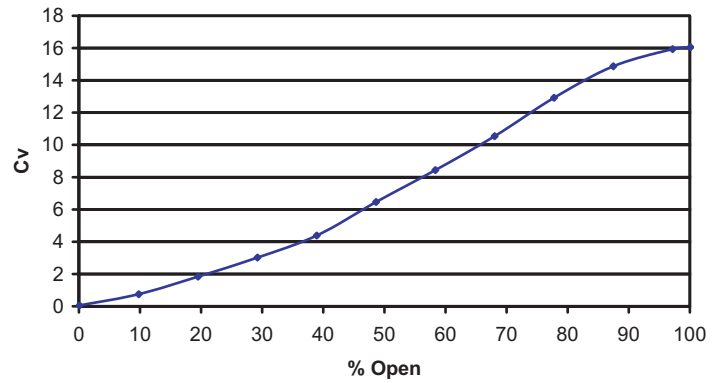
**Cv vs % Open for a 10K Throttle Valve with 9/16" Orifice**



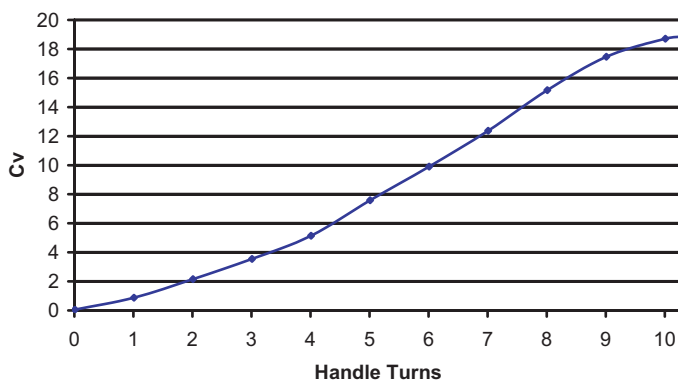
**Cv vs Handle Turns for a 10K Throttle Valve with 5/8" Orifice**



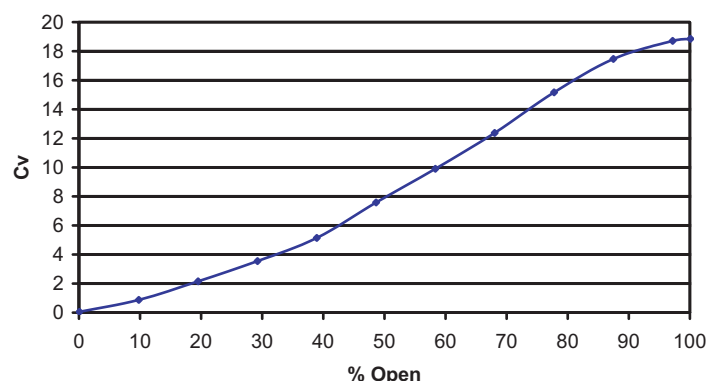
**Cv vs % Open for a 10K Throttle Valve with 5/8" Orifice**



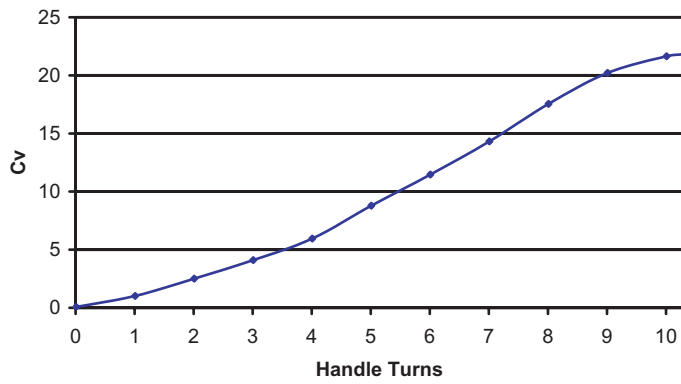
**Cv vs Handle Turns for a 10K Throttle Valve with 11/16" Orifice**



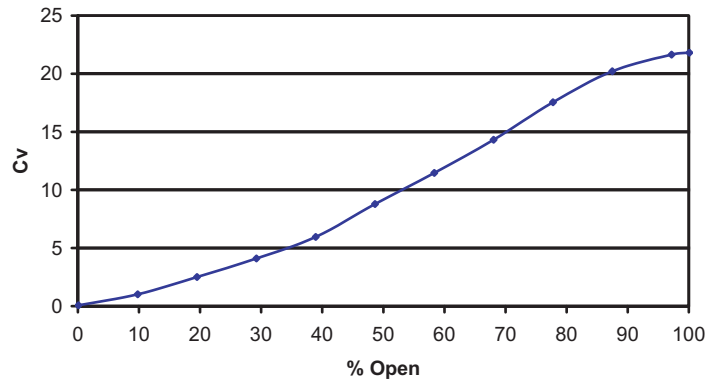
**Cv vs % Open for a 10K Throttle Valve with 11/16" Orifice**



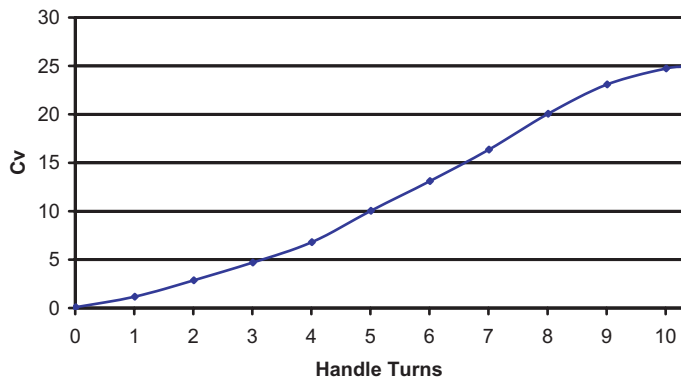
**Cv vs Handle Turns for a 10K Throttle Valve with 3/4" Orifice**



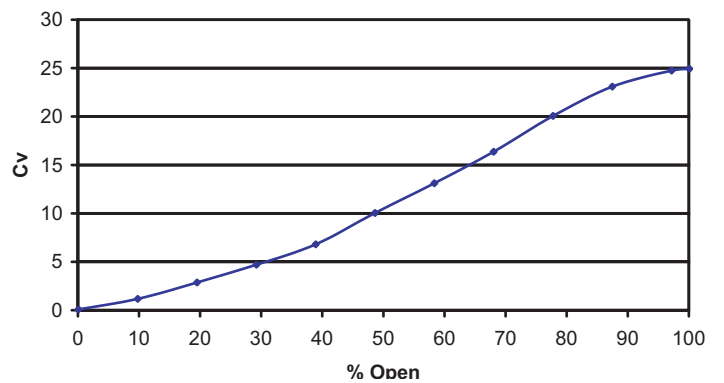
**Cv vs % Open for a 10K Throttle Valve with 3/4" Orifice**



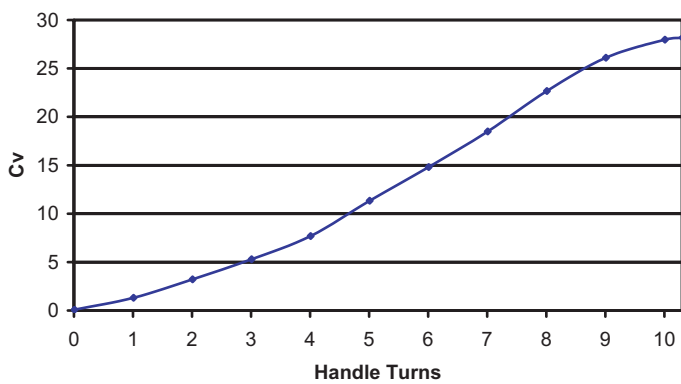
**Cv vs Handle Turns for a 10K Throttle Valve with 13/16" Orifice**



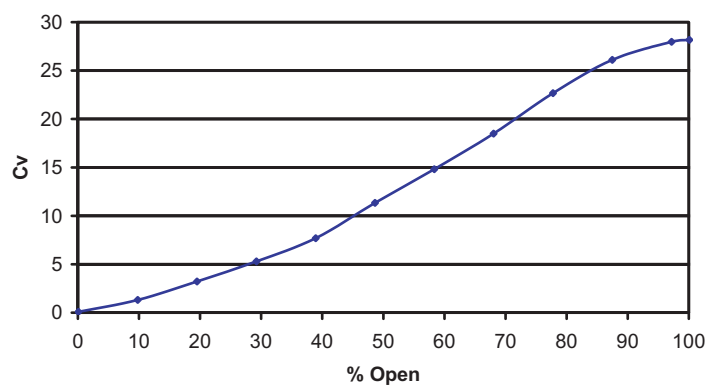
**Cv vs % Open for a 10K Throttle Valve with 13/16" Orifice**



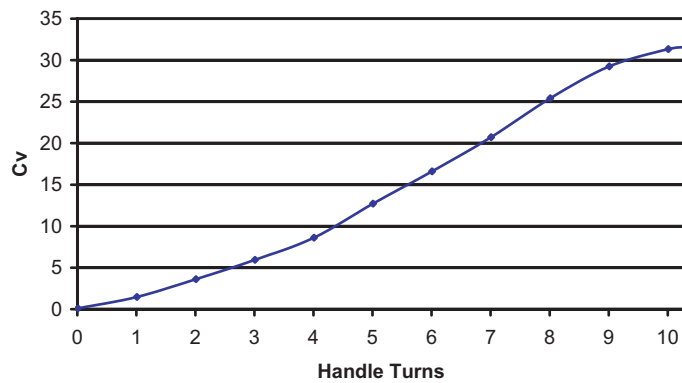
**Cv vs Handle Turns for a 10K Throttle Valve with 7/8" Orifice**



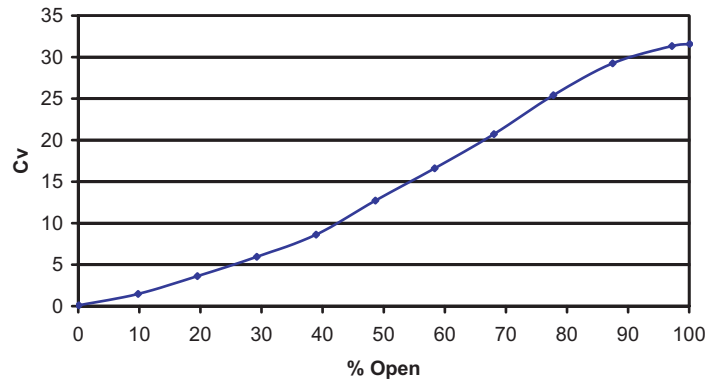
**Cv vs % Open for a 10K Throttle Valve with 7/8" Orifice**



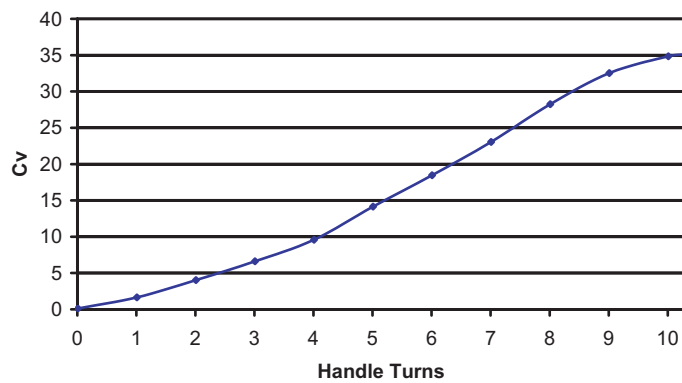
**Cv vs Handle Turns for a 10K Throttle Valve with 15/16" Orifice**



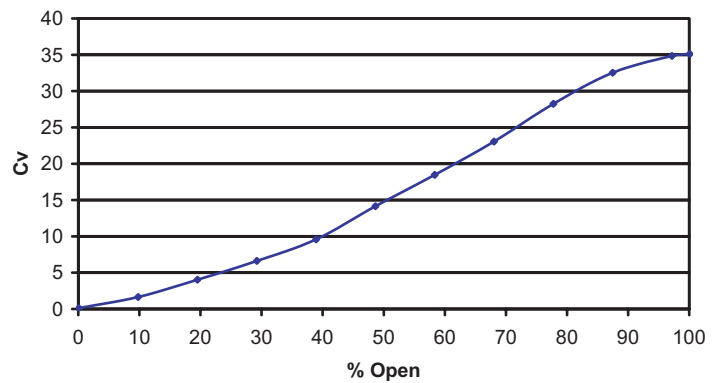
**Cv vs % Open for a 10K Throttle Valve with 15/16" Orifice**



**Cv vs Handle Turns for a 10K Throttle Valve with 1" Orifice**



**Cv vs % Open for a 10K Throttle Valve with 1" Orifice**



## The Conval Story

In 1962, Mr. Chester Siver completed designs for a revolutionary line of high-pressure, forged steel valves. Hamilton Standard (now Hamilton Sunstrand), a division of United Technologies Corporation, was asked to use their then-new Electron Beam Welding technology for joining of parts into valves for subassemblies. Hamilton Standard became intrigued with the valve as an ideal application of the Electron Beam Welding technique, and negotiated a contract for the rights to manufacture and sell the valve. Mr. Siver served as manager of the valve project.



The first CLAMPSEAL® valves were introduced to the market by Hamilton Standard in 1964. However, in the mid-1960's, growing demand for the firm's popular aerospace products forced Hamilton Standard to make the decision to abandon its industrial products projects. The rights to the CLAMPSEAL valve reverted back to Mr. Siver. Since CLAMPSEAL valves were born in Connecticut, Mr. Siver founded "Conval" (short for Connecticut Valve) in 1967. Today, the valves are still manufactured in Connecticut, a state with a longstanding reputation for technological innovation and manufacturing excellence.

Conval is celebrating its 40th anniversary in 2007 with the launch of the new Camseal Ball Valve. Conval has grown into a leader in valves for the world's most demanding applications. We have a global team of experts to help to meet your most challenging needs. We invite you to contact us today.

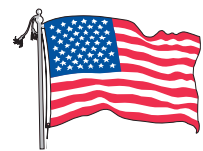
**High-pressure, high-temperature ball, bellows, bonnetless, check, gate, globe, throttling, and urea service valves for the world's most demanding applications.**



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