

EN NEEDLE VALVE** See Page 2.10.1

EF FLOW CONTROL** See Page 2.25.1

FLOW RATING

PRESSURE DROP VS. NUMBER TURNS OPEN

(Controlled Flow)

Test Medium: 150 SSS Oil @ 140°F

FOR LIQUID

$$C_v \sqrt{(P_1 - P_2)}$$

Flow in GPM =

$$\sqrt{G_f}$$

FOR GAS

$$Q(\text{scfh}) = 42.2 C_v \sqrt{(P_1 - P_2)(P_1 + P_2)}$$

$$\sqrt{G_f}$$

When P_2 is less than

$$\frac{P_1}{2}$$

the Expression

$$\sqrt{(P_1 - P_2)(P_1 + P_2)}$$

becomes $0.87P_1$.

C_v = flow coefficient

Q = std. cubic feet per hour at 14.7 PSIA and 60°F

P_1 = inlet pressure (PSIA)

P_2 = outlet pressure (PSIA)

G_f = specific gravity of media at operating temperature (air = 1.0)

Pressures are absolute pressures.

**FLOW CONTROL
CO-EFFICIENT
(C_v FACTOR)**
(Fully Open-Controlled)

**NEEDLE
CO-EFFICIENT
(C_v FACTOR)**
(Fully Open-Controlled)

**CHECK FLOW
CO-EFFICIENT
(C_v FACTOR)**
(Return Flow)

1/8"	.275	1/8"	.254	1/8"	.750
1/4"	.525	1/4"	.506	1/4"	1.470
3/8"	.756	3/8"	.917	3/8"	3.300
1/2"	.927	1/2"	1.200	1/2"	3.600
3/4"	1.430	3/4"	1.840	3/4"	5.410
1"	8.000	1"	9.600	1"	9.600

How to Adjust

From the closed position, open the valve by turning metal knob counter-clockwise until the desired flow volume is obtained.

The colored band on the stem and the numerical readout indicate to what extent the valve is opened or closed. Each color on the color band represents one full turn.

Find the scribe mark on the upper surface of the valve body. The number on the knob in proximity to the scribe mark will indicate 10ths of a turn the valve is opened.

Record the information for future reference.

Note: Curves shown are graphical representations of Flow and Needle Valve meterability. Do not use as engineering data.

FLOW CURVES

