

# Type D2 FloPro™ Control Valve

The Type D2 FloPro™ control valve (figure 1) is a compact, rugged valve designed for on-off control. This valve is ideal for use as a dump valve on gas separators and scrubbers. It is also well suited for other high pressure applications in natural gas production, compression, and processing. The Type D2 FloPro valve has threaded end connections and is available in a 1-inch globe style or angle style body.

## Note

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## Features

- **Field-Selectable Flow Rates**—The FloPro feature allows easy setting of 0.25, 0.375, and 0.5 inch flow rates, eliminating the need for more than one port size. See figure 3.
- **Two Valve Body Styles**— The Type D2 FloPro control valve is available in both globe and angle style construction, see figure 1. The angle style allows for direct tank mounting.
- **Erosive Service Trim**—The valve plug and seat ring are constructed from solid R30006 (Alloy 6), providing excellent wear capability for erosive service and longer trim life.
- **ENVIRO-SEAL® D2 Packing System**— The ENVIRO-SEAL D2 packing system provides an improved stem seal to prevent the loss of valuable or hazardous process fluids or gases. It features live-loading, providing reduced packing maintenance.



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GLOBE STYLE

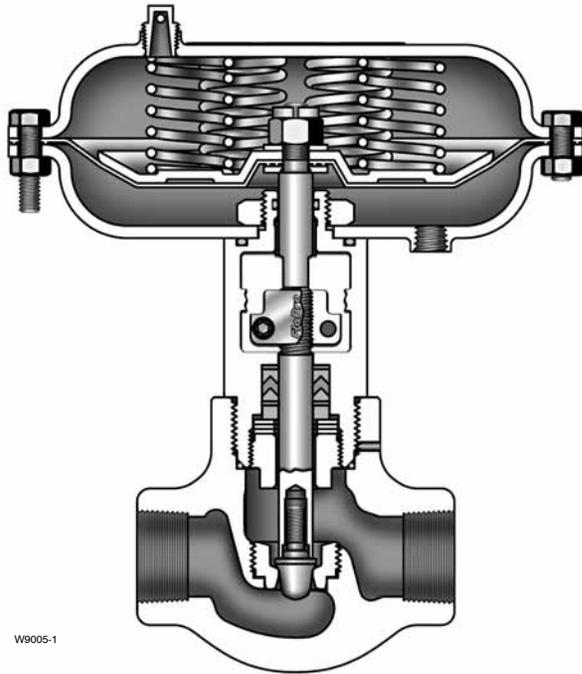


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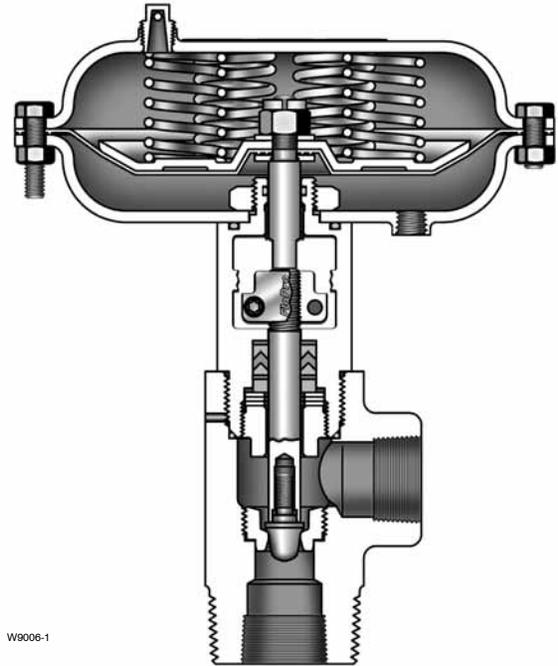
ANGLE STYLE

Figure 1. Type D2 FloPro Control Valve





GLOBE STYLE AIR-TO-OPEN



ANGLE STYLE AIR-TO-OPEN

Figure 2. Type D2 FloPro Constructions

- **NACE MR0175 Service-Ready**—NACE trim is the standard construction for the D2 FloPro control valve. The valve body, bonnet, and trim materials comply with the recommendations of NACE MR0175.

- **ASME Class 900**—Valve assembly is designed and specified for ASME B16.34 Class 900 service.

- **Low Temperature Materials**—Valve and actuator construction materials allow use in low temperature applications of  $-46^{\circ}\text{C}$ .

- **Field-Reversible Actuator**—The Type D2 FloPro actuator can be converted in the field from

Air-to-Open to Air-to-Close actuator action. (Conversion to Air-to-Close actuator action requires removing four springs from the actuator casing configuration.) (Conversion to Air-to-Open actuator action requires adding four springs to the actuator casing configuration.)

- **Easy Installation**—Compact design allows installation where space is at a premium.

- **Easy Maintenance**—Screwed bonnet/body joint allows repair or maintenance with a minimum of tools and without removing the valve body from the piping system.

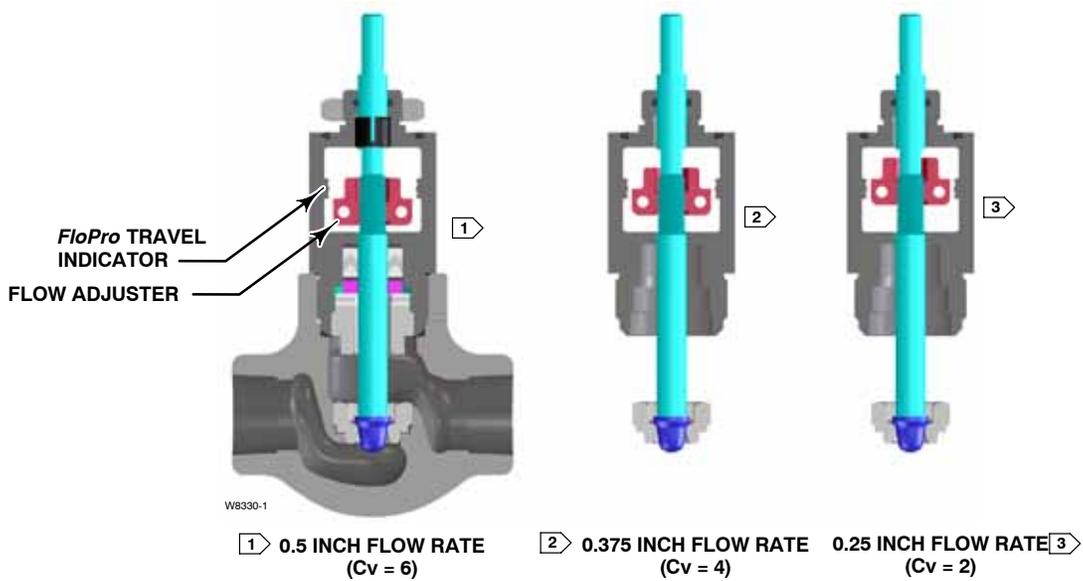


Figure 3. Travel and Flow Coefficients

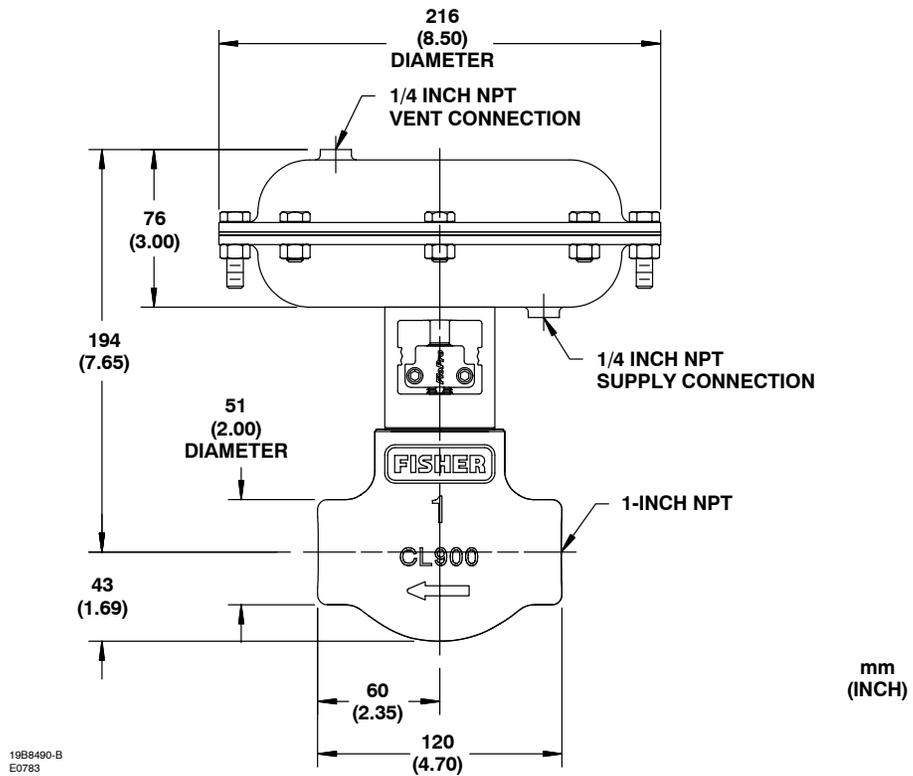
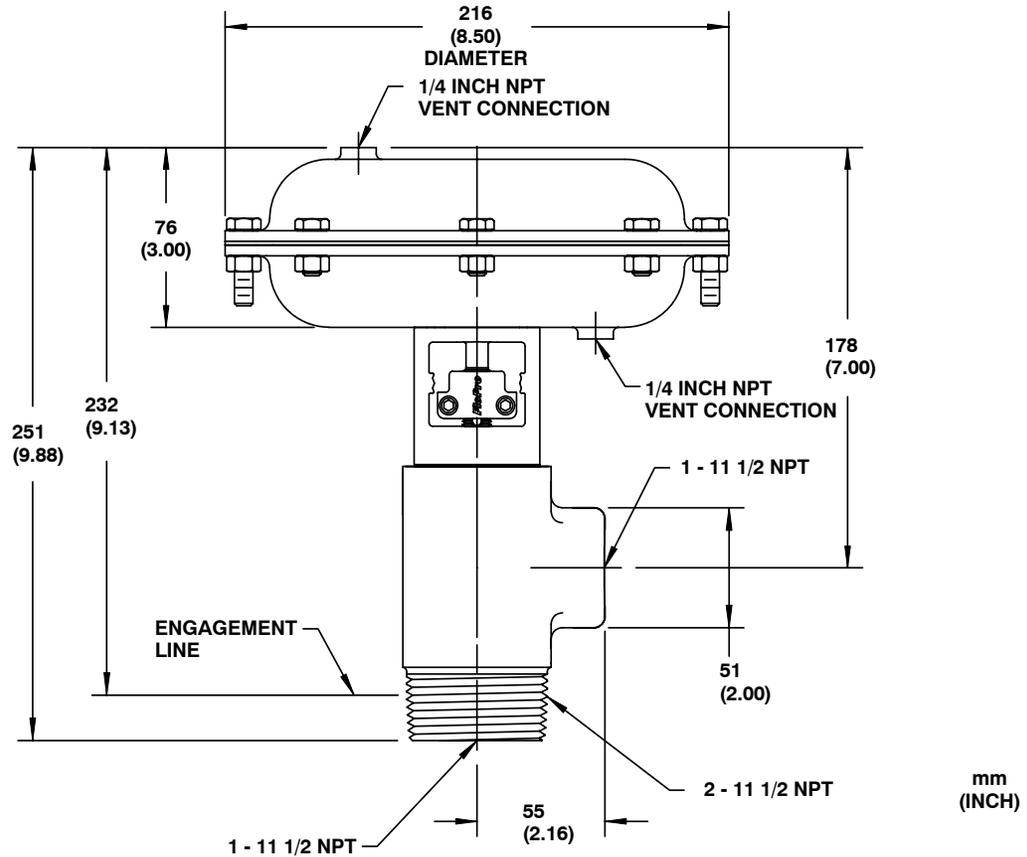


Figure 4. Type D2 Globe Valve Dimensions (Air-to-Open Configuration Shown)



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E0972

Figure 5. Type D2 Angle Valve Dimensions (Air-to-Open Configuration Shown)

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## Specifications

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### Valve Assembly Pressure Class<sup>(1)</sup>

ASME B16.34 Class 900

### Temperature Range<sup>(1)</sup>

155 bar from -46 to 93°C, and 150 bar at 149°C.  
(2250 psig from -50 to 200°F, and 2185 psig at 300°F)

### Maximum Allowable Pressure Drop<sup>(1)</sup>

#### Flow Down<sup>(2)</sup>

*Maximum Inlet Pressure:* 155 bar (2250 psig)  
*Maximum Outlet Pressure:* 103 bar (1500 psig)

#### Flow Up

*Maximum Inlet Pressure:* 103 bar (1500 psig)  
*Maximum Outlet Pressure:* 103 bar (1500 psig)

### Shutoff Classification

ANSI Class IV ANSI/FCI 70-2 and IEC 60534-4

### Construction Materials

**Valve Body and Bonnet:** ASME SA 352 LCC  
Stress relieved

**Valve Plug and Seat:** (R0006) Alloy 6

**Valve Stem:** (S31600) 316 SST

**O-Rings:** (HNBR) Hydrogenated Nitrile

**Packing:** PTFE/Carbon PTFE

**Packing Springs:** (N07718) Inconel 718

**Stem Bushing:** (Ryton) PPS

**Actuator Diaphragm:** Nitrile/Polyester

**Actuator Springs:** Zinc-plated steel

### Flow Characteristic

*FloPro* Characterized

### Flow Coefficients

See figure 3

### Port Diameter

13 mm (0.5 inch)

### Maximum Travel

13 mm (0.5 inch)

### Valve Travel Indications

See figure 3

### Approximate Weight

**Globe Valve Body:** 7.7 kg (17 lb)

**Angle Valve Body:** 8.2 kg (18 lb)

### Dimensions

See figures 4 and 5

### Material Temperature Capabilities

**Valve Body Assembly:** -46 to 149°C  
(-50 to 300°F)

**Actuator Assembly:** -46 to 93°C (-50 to 200°F)

### Bonnet/Body Connection

Screwed with leakoff bleed

### Standard Actuator Configuration

The *D2 FloPro* actuator is an on-off spring-and-diaphragm.

**Globe Valve Body:** Supplied as either Air-to-Open or Air-to-Close.

**Angle Valve Body:** Supplied as Air-to-Open only

### Maximum Actuator Casing Pressure

2.8 bar (40 psig)

### Minimum Required Actuator Casing Pressure

2.1 to 2.4 bar (30 to 35 psig)

### Actuator Diaphragm Effective Area

194 cm<sup>2</sup> (30 square inches)

### Actuator Pressure Connections

1/4 inch NPT female; see figure 4 for locations

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1. The pressure or temperature limits in the referenced tables and any applicable ASME code limitations should not be exceeded.  
2. Standard flow direction.

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## Ordering Information

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