



# D-Series

## Middle Temperature (180°C) Diaphragm Shut-Off Valve

### Features

#### Body Design

Fully customizable configuration, offering wide range of use.  
Various fitting configurations with standard Moduline dimensions.  
Metal / metal sealing between diaphragm and valve's body.  
All tube connections are TIG orbital welded.  
Extremely low internal volume and wetted area.

#### Materials

Body..... 316L VAR Stainless Steel  
Q+ Process..... electropolished, Ra $\leq$ 0.15  $\mu$ m (6  $\mu$ in)  
Diaphragm..... NiCo Alloy (Elgiloy®)  
Seat..... Polyamide (Vespel®)

#### Actuator Design

Interchangeable actuators: manual ¼ turn or toggle,  
pneumatic NO or NC.  
Permanent color identification for NO or NC.  
Black anodized actuator in aluminum.  
Actuator O-ring in Viton®.

#### Verification & Packaging

100% inspection with boroscope.  
Warranty and leak test certificate.  
Vacuum sealed double packaging with N<sub>2</sub> purge.

#### Options & Accessories

Special mounting plates.  
Surface mounting (C-seal, others upon request).



### Ratings

#### Specifications

Dead volume..... 1.12 cm<sup>3</sup> with butt weld ends (0.068in<sup>3</sup>)  
Flow coefficient..... Cv = 0.24  
Orifice size..... 4.5 mm (0.177in)

#### Temperature

Operating..... -10°C to 180°C (14°F to 356°F)

#### Pressure Ratings

Valve..... Vacuum to 10 bar (145 psi)  
Pneumatic operator..... 5-7 bar (72-100 psi)

#### FLOW DATA

##### Max flow / $\Delta$ P

| $\Delta$ P ( bars ) | N <sub>2</sub> flow (L/mn)<br>at 21°C |
|---------------------|---------------------------------------|
| 0.1                 | 30                                    |
| 0.5                 | 100                                   |
| 1                   | 170                                   |
| 2                   | 220                                   |

#### Valve Life Expectancy

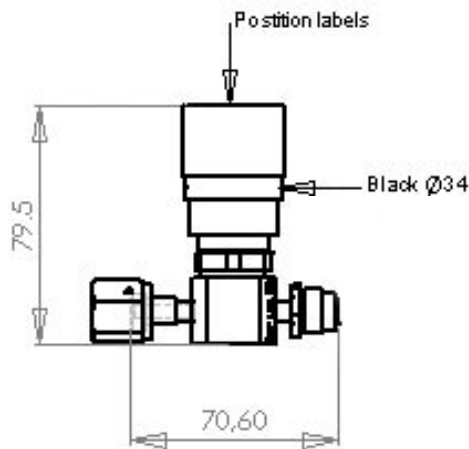
..... > 200,000 cycles

#### Helium Leak Rate

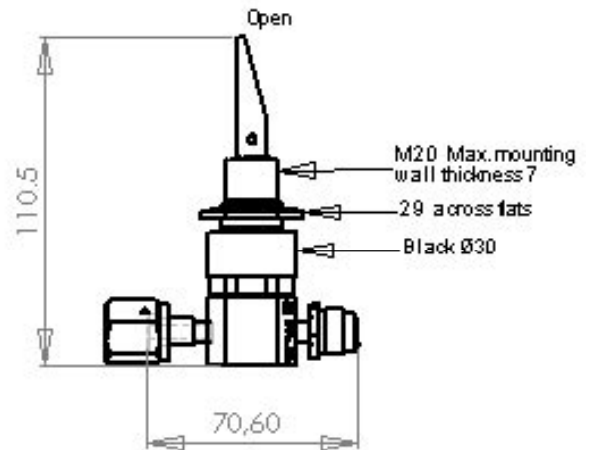
External..... < 5.10<sup>-10</sup> atm cm<sup>3</sup>/s  
Across seat..... < 1.10<sup>-8</sup> atm cm<sup>3</sup>/s

# Dimensions

## MANUAL ¼ TURN

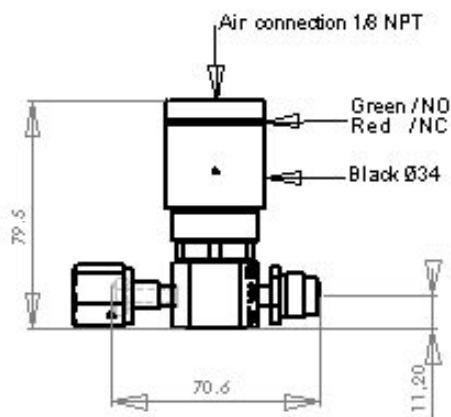


## MANUAL TOGGLE

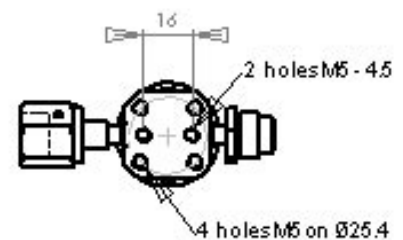


| PITCH | VCR ¼" | Swagelok ¼" | Welded ends |
|-------|--------|-------------|-------------|
| mm    | 70.6   | 70.6        | 44.2        |
| inch  | 2.78   | 2.78        | 1.74        |

## PNEUMATIC NO or NC



## MOUNTING DIMENSIONS



**qualiflow therm**