



D-Series

Diaphragm Manifold W-Valve



Features

Body Design

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

Materials

Body..... 316L Stainless Steel
Q+ Process..... electropolished, Ra \leq 0.15 μ m (6 μ in)
Diaphragm..... NiCo Alloy (Elgiloy[®])
Seat..... PCTFE (Voltalef[®])
Weight..... < 300g (0.66 lbs)

Options :

Body..... 316L VAR
Seat..... Vespel[®] for "Middle Temperature" (MT)

Actuator Design

Interchangeable actuators : ¼ turn manual 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 N₂ purge.

Options & Accessories

Middle Temperature (MT) option.
Position indicators for pneumatic operators, two positions.
Position indicators for ¼ turn operators, two positions.

Ratings

Specifications

Dead volume..... 1.2 cm³ (0.073in³)
for body only, with configuration 11, between port 1 & 4
Flow coefficient..... Cv = 0.24
Orifice size..... 4.5 mm (0.177in)

Temperature

Operating..... -10°C to 60°C (14°F to 140°F)
MT option..... -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)

Valve Life Expectancy

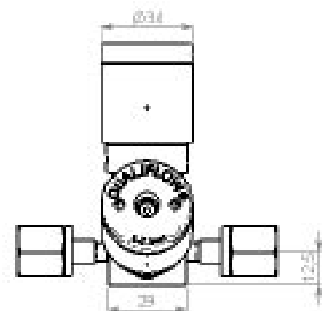
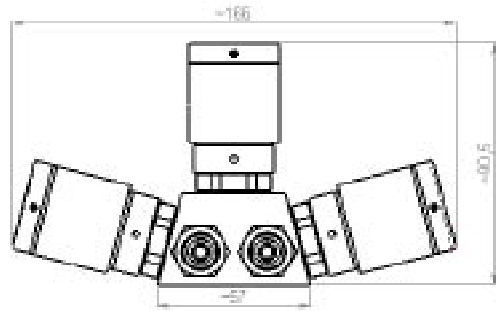
Standard..... > 2,000,000 cycles with non-corrosive gas
MT option..... > 200,000 cycles

Helium Leak Rate

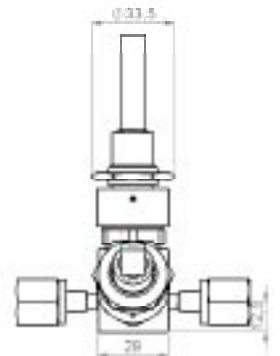
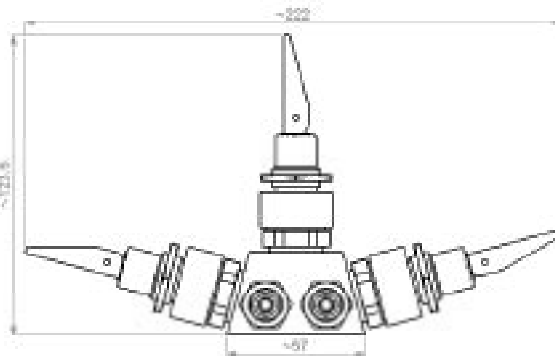
External :
Standard..... < 5.10⁻¹⁰ atm cm³/s
MT option..... < 2.10⁻⁹ atm cm³/s
Across seat :
Standard..... < 2.10⁻⁹ atm cm³/s
MT option..... < 1.10⁻⁸ atm cm³/s

Dimensions

PNEUMATIC CONFIGURATION

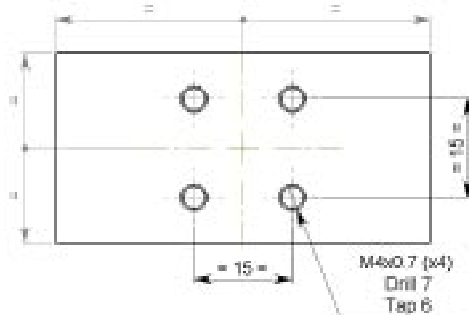


TOGGLE CONFIGURATION

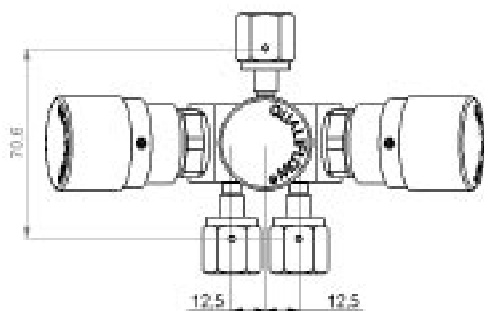


MOUNTING DIMENSIONS

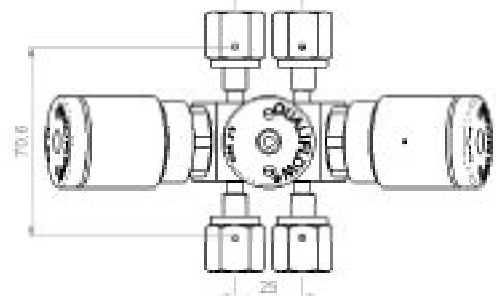
BOTTOM VIEW



3-WAYS TOP VIEW



4-WAYS TOP VIEW





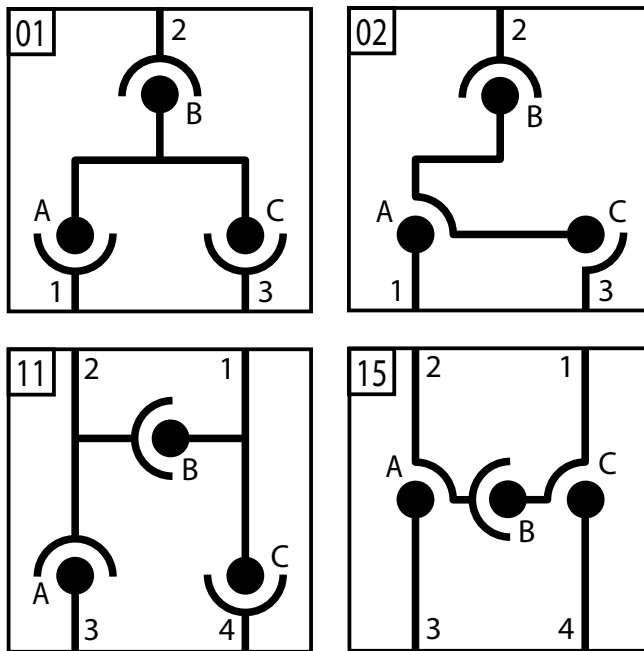
D-Series Diaphragm Manifold W-Valve

Part Number Description

MD [b][r][s][A, B, C] - [1, 2, 3, 4]

[b] - Body Configuration Number

Standard configurations (top view)



Special configurations upon request

[r] - Process Configuration

- [S] Standard
- [T] Middle Temperature (180°C)

[s] - Surface Finish

- [Q] Q+ Electropolished (Ra 0.15 μm)

[A, B, C] - Actuator Type

- [Q] Manual ¼ Turn
- [T] Manual Toggle
- [O] Pneumatic Normally Open
- [C] Pneumatic Normally Closed

[1, 2, 3, 4] - Fitting Type

- [F] ¼" VCR Female
- [M] ¼" VCR Male
- [C] Swagelok ¼"
- [G] Swagelok 6mm
- [W] Welded butt ends