



F-Series

Standard Bellows Shut-Off Valve



Features

Body Design

Multiport configurations, offering wide range of use.
Various fitting configuration with standard Moduline dimensions.
Rigid mechanical connection between stem tip and actuator.
All tube connections are TIG orbital welded.
¼" Flat metallic gasket fittings.

Materials

Standard Process..... electropolished, Ra < 0.4 µm (16 µin)
Q+ Process..... electropolished, Ra < 0.15 µm (6 µin)

Body and bellows..... 316L VAR Stainless Steel
Bellows..... Hastelloy® for corrosive gases (option)
Non rotating stem tip..... Kel-F®
O-ring (body / actuator)..... Silvered 316L Stainless Steel

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.
Welding photo from boroscope for Q+ process.
Warranty and leak test certificate for Q+ process.
Vacuum sealed double packaging with N₂ purge.

Options & Accessories

Medium pressure for manual actuators.
Hastelloy® bellows for corrosive gases.
Position indicators for pneumatic operators, two positions.
Position indicators for ¼ turn operators, two positions.
Security locker for manual toggle.
Special mounting plates.

Ratings

Specifications

Dead volume..... 1.4 cm³ with butt weld ends (0.085in³)
Flow coefficient..... Cv = 0.34
Orifice size..... 4.5 mm (0.177in)

Temperature

Operating..... -23°C to 60°C (-9.4°F to 140°F)

Pressure Ratings

Valve..... Vacuum to 15 bar (200 psi)
Pneumatic operator..... 5-7 bar (72-100 psi)
Manual actuator (option)..... 100 bar (1500 psi)

FLOW DATA

Max flow / ΔP

ΔP (bars)	N ₂ flow (L/mn) at 21°C
0.1	45
0.5	120
1	180
2	240

Valve Life Expectancy

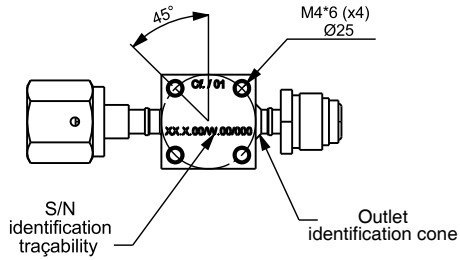
> 1,000,000 cycles with non-corrosive gas.
> 500,000 cycles with corrosive gas and Hastelloy® bellows (option).

Helium Leak Rate

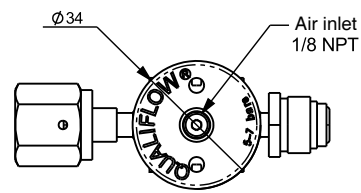
External..... < 5.10⁻¹⁰ atm cm³/s
Across seat..... < 2.10⁻⁹ atm cm³/s

Dimensions

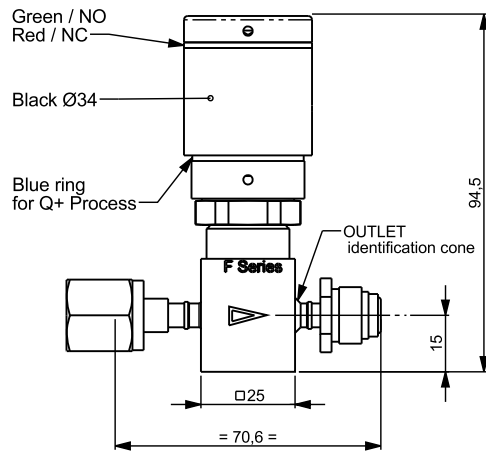
STANDARD VCR MODULINE



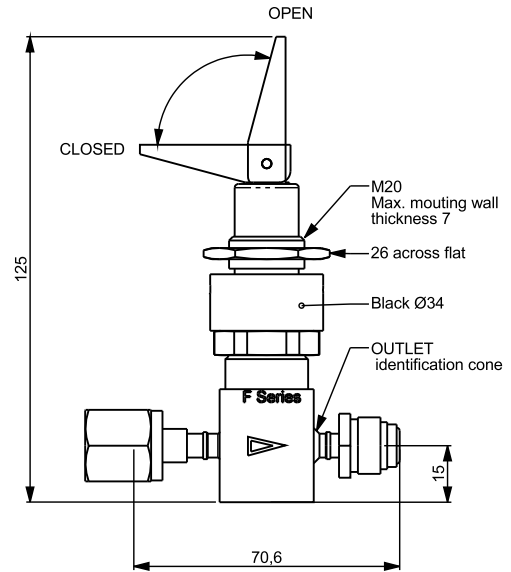
VCR CONFIGURATION



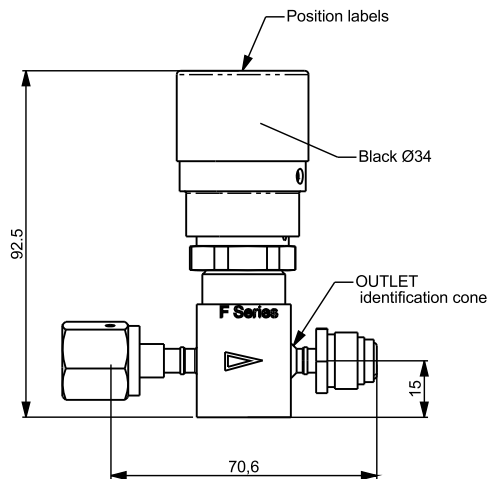
PNEUMATIC NO or NC



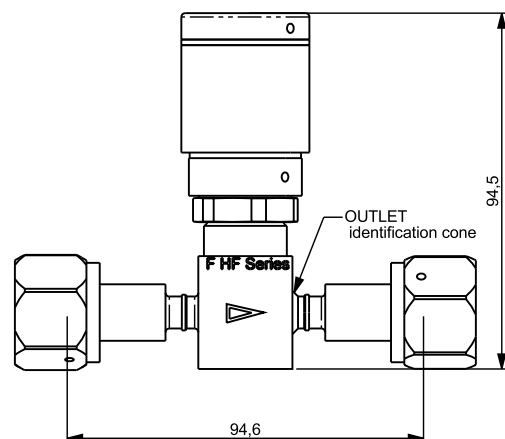
MANUAL TOGGLE



1/4 TURN MANUAL



3/8" CONFIGURATION



PITCH	Welded ends	VCR 1/4"	VCR 3/8"	Swagelok 1/4"
mm	44.2	70.6		75.6
inch	1.74	2.78		2.97