

QUANTUM 945 Valve



Parker Hannifin Corporation's Veriflo Division presents the Quantum 945 Valve. The 945 was designed specifically for semiconductor process control and have all of the features and benefits of the 944 Series with reduced internal volume and body size.

A unique feature of the 945 is the machined-on tube stubs, which allows for improved dimensional control.



features

- ▶ "VeriClean", low sulfur high purity 316L Stainless Steel™ enhances electropolishing, welding and corrosion resistance.
- ▶ Standard Surface Finish is 5 micro inch Ra.
- ▶ Machined on tube stubs or fixed male Face Seal connections.
- ▶ Fully field serviceable seat can be replaced without special tools.
- ▶ Interchangeable actuators without breaking into wetted area.
- ▶ Internally threadless and springless.
- ▶ NO (normally open) or NC (normally closed) actuator available.
- ▶ Fully functional under vacuum conditions.
- ▶ Unique patented compression member which loads the seal uniformly without the need for threaded components or crimping operations.

materials of construction

Wetted

Body . . . "VeriClean", Veriflo's custom high purity type 316L Stainless Steel™, optional Hastelloy C-22®
 Seat PCTFE, optional Vespel®
 Diaphragm Elgiloy® or equivalent
 Compression member "VeriClean", Veriflo's custom high purity type 316L Stainless Steel, optional Hastelloy C-22®

Non-wetted

Nut 316L Stainless Steel
 Cap 316L Stainless Steel

operating conditions

Maximum operating pressure:
 AOPHP and Manual 3500 psig (240 barg)
 AOPLP and Toggle 125 psig (8.6 barg)
 For oxygen Refer to CGA G-4.4 Industrial Practices for Gaseous Oxygen

Minimum operating pressure Vacuum

Actuation pressure:

AOPLP 60 to 120 psig (4 barg to 8.3 barg)
 AOPHP 75 psig nominal (5 barg)
 Temperature -40°F to 150°F (-40°C to 66°C)
 Bakeout 250°F (121°C) in the open position

functional performance

Flow capacity:

AOP,G,S,I $C_v = 0.25$
 Lever $C_v = 0.18$
 (SEMI Flow Coefficient Test #F-32-0998)

Design Leak Rate:

Outboard 1×10^9 scc/sec He
 Inboard 2×10^{10} scc/sec He
 Across Seat 4×10^9 scc/sec He

Design Proof Pressure:

AOPHP and Manual 5250 psig (362 barg)
 AOPLP and Toggle 188 psig (13 barg)

Design Burst Pressure:

AOPHP and Manual 10500 psig (724 barg)
 AOPLP and Toggle 375 psig (26 barg)

standard connections

Any combination of FS male and / or female fittings or tube stubs including as many as five ports.

See Valve Selection Guide

internal volume

1.26 cc (no glands); 2.7 cc (including glands)

surface finishes

5 micro inch Ra (.13 micro meter) or less

approximate weight

0.9 lbs (0.42 kgm)

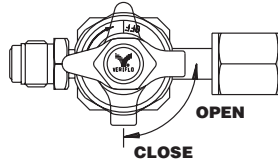
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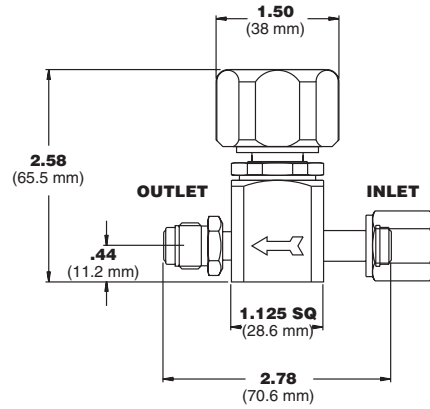
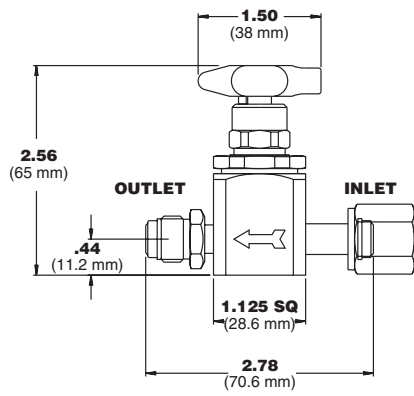
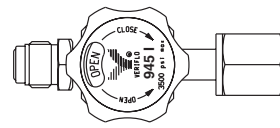
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Dimensional Drawing

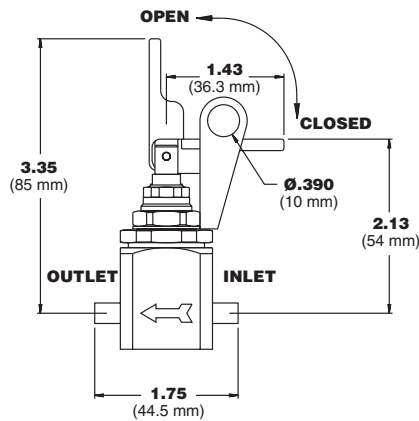
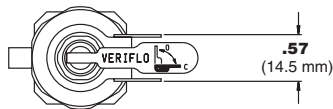
945M



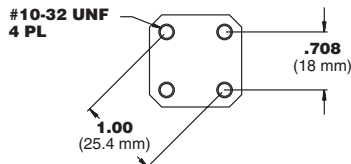
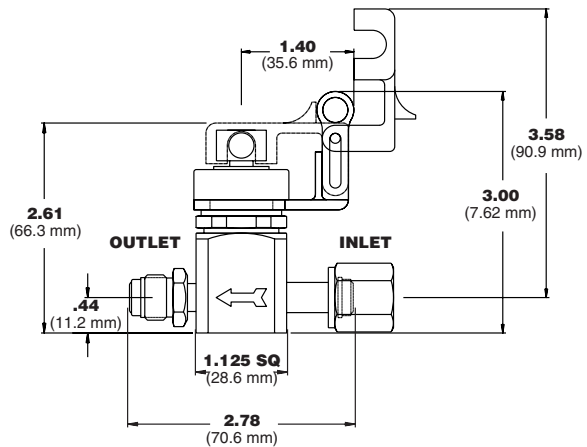
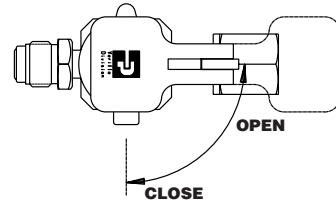
945I



945GLK BRACKET



945MLK CLAMP

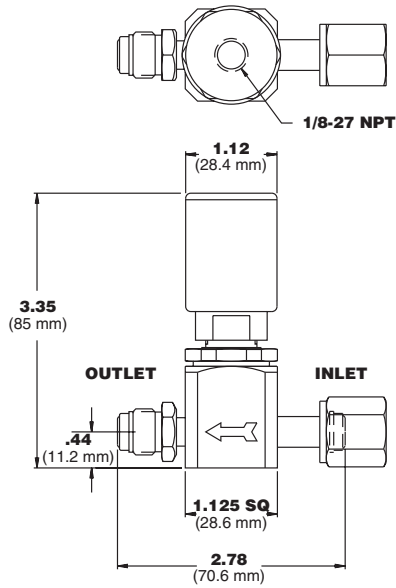


Standard Mounting Hole Pattern

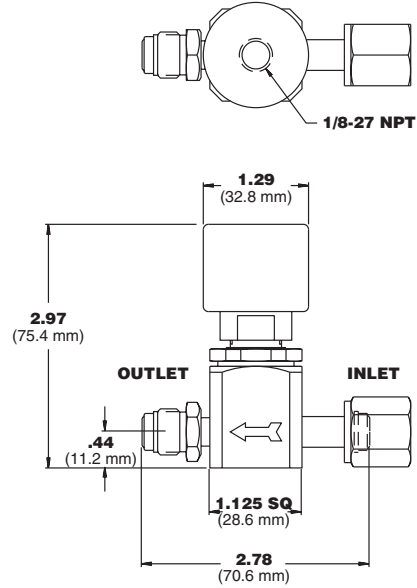
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Dimensional Drawing

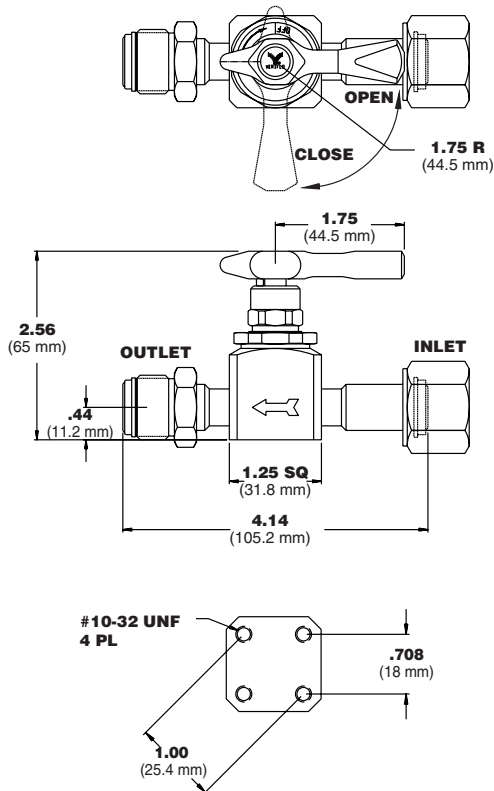
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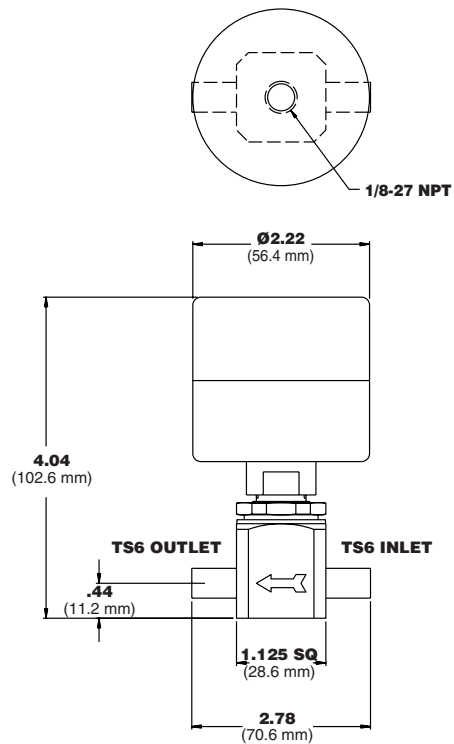
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945LSFS8FM



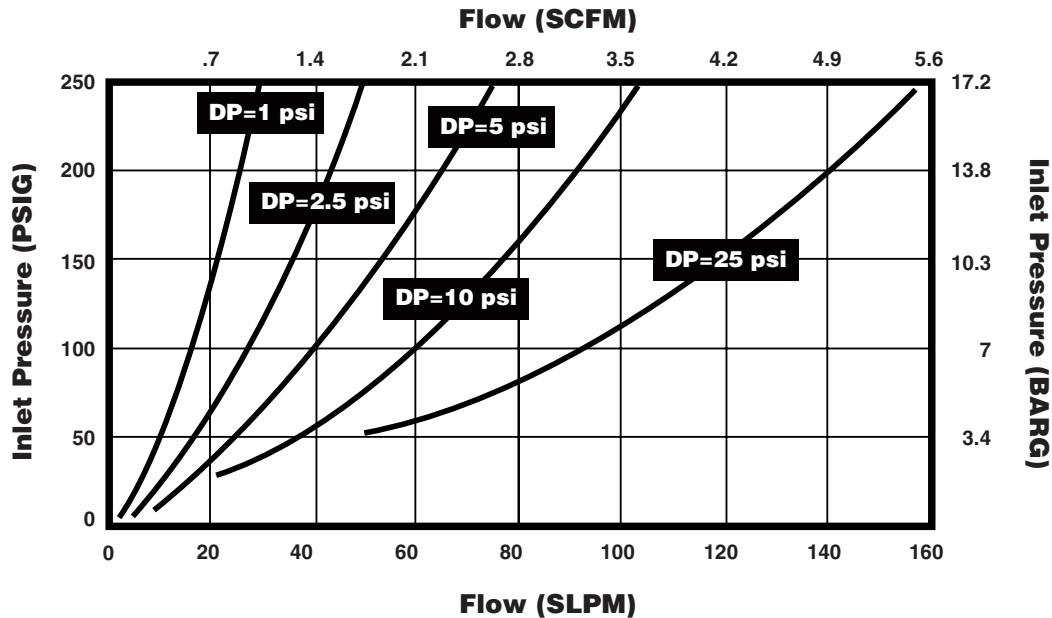
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Standard Mounting Hole Pattern

QUANTUM 945 Valve

Flow Curve



Ordering Information

945 L S FSMM VESP

BASIC SERIES

945

TYPE

- AOPHPNC = Air Operated, High Pressure, Normally Closed
- AOPLPNC = Air Operated, Low Pressure, Normally Closed
- AOPLPNO = Air Operated, Low Pressure, Normally Open
- G = Toggle
- I = Indicating Handwheel
- L = Lever
- M = Mini Lever
- S = Handwheel

MATERIAL

- S = 316L Stainless Steel
- H = Hastelloy C-22[®]*

* Includes Hastelloy C-22[®] body and compression member

** LockOut-TagOut Clamp for M Type Valves

LockOut-TagOut Bracket for G Type Valves

*** Not available with Indicating Handwheel (I) or AOP Type Valves

**** Recommended for Nitrous Oxide (N₂O) Service

◆ 1/2" Connections Use Larger Body Size, Please See Dimensional Drawings

OPTIONAL FEATURES

- LK = LockOut-TagOut**
- PM = Panel Mount***
- TH = Hastelloy C-22[®] Trim (Compression Member)
- VESP = Vespel[®] Seat****
- BK = Black Lever or Handwheel
- BU = Blue Indicating Handwheel
- 2.3 = 1/4" Fixed Male Face Seals (2 ported only)

CONNECTIONS

- FSMM = 1/4" Face Seal, Male in-Male out
- FSFF = 1/4" Face Seal, Female in-Female out
- FSFM = 1/4" Face Seal, Female in- Male out
- FSMF = 1/4" Face Seal, Male in-Female out
- FS8MM = 1/2" Face Seal, Male in-Male out
- FS8FF = 1/2" Face Seal, Female in-Female out
- FS8FM = 1/2" Face Seal, Female in- Male out
- FS8MF = 1/2" Face Seal, Male in-Female out
- TS = 1/4" Tube Stubs
- TS6 = 3/8" Tube Stubs
- TS8 ◆ = 1/2" Tube Stubs

Note: See Valve Selection Guide for multiple porting selections.

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PEEK[™] is a registered trademark of Victrex plc.

Elgiloy[®] is a registered trademark of Elgiloy Company.

Hastelloy C-22[®] is a registered trademark of Haynes International, Inc.