PACKLESS VALVES

Instrument/Analyzer Products

Catalog 4515/USA

April 2003

VERIFLO

ISO 9001 Certified

PACKLESS VALVES

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NV55 Series

High Flow Diaphragm Valve

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the NV55. This high flow diaphragm valve is a high quality industrial-grade diaphragm valve based on the 955 valve.

The high flow NV55 valve, with its aero-dynamic passages, is ideally suited for use when flowing large volumes of corrosive and non-corrosive liquids and gases.

features

- .55 C_V flow capacity.
- .48 C_V flow capacity for lever versions.
- Ideal for high flow applications.
- Fully functional from vacuum to 125 psig for AOP valve and 250 psig for manual valves.
- O_2 Cleaned.
- No springs in wetted area.
- High cycle life (including corrosive service).
- 100% leak tested.
- Metal-to-metal seal to atmosphere. integrity.
- Positive shut off.

materials of construction

Wetted

Body . . . . . 316L Stainless Steel
Seat . . . . . PCTFE, optional PEEK™, Vespel®
Diaphragm . . . . . Elgiloy® or equivalent

Non-wetted

Nut . . . . . 316L Stainless Steel
Cap . . . . . 316L Stainless Steel
Actuation . . . . . AOP, Indicator knob - Aluminum
All Levers - Zinc, Handwheel - ABS

operating conditions

Maximum operating pressure:
AOP, Indicator Knob, Handwheel . . . . . 125 psig (8.6 barg)
Lever versions . . . . . 250 psig (17.2 barg)
Minimum operating pressure . . . . . Vacuum

Temperature . . . . . -40°F to 150°F (–40°C to 66°C)

Bake out in the open position . . . . . 250°F (121°C)
Actuator pressure . . . . . 60-120 psig (4-8 barg)

functional performance

Flow capacity:
AOP, Indicator Knob, Handwheel . . . . . C_V= .55
Lever Versions . . . . . C_V = .48
(SEMI Flow Coefficient Test# F-32-0998)

Design Proof Pressure . . . . . 375 psig (26 barg)
Design Burst Pressure . . . . . 750 psig (52 barg)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

standard connections

1/4" Compression, Male NPT, Female NPT
3/8" Compression, Male NPT, Female NPT
1/2" Compression, Male NPT, Female NPT

internal volume

3.29 cc

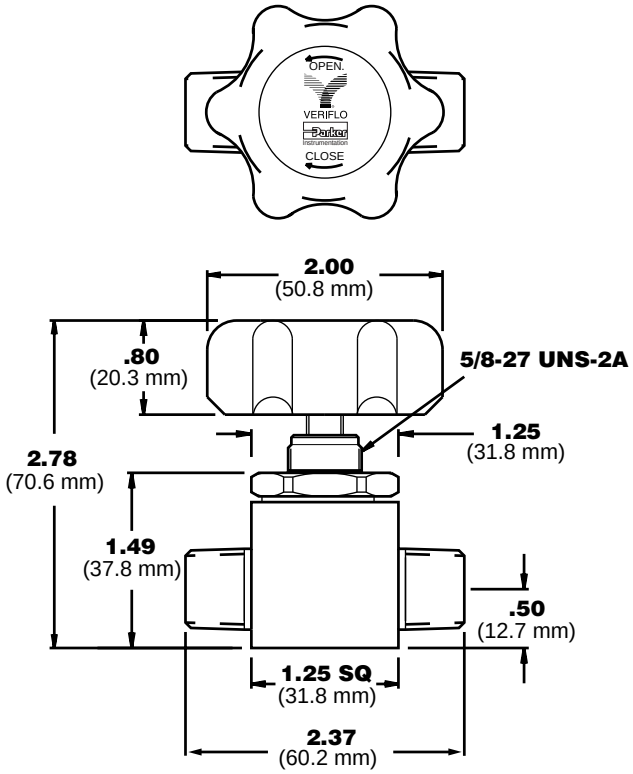
approximate weight

.81 lbs (.36 kg)

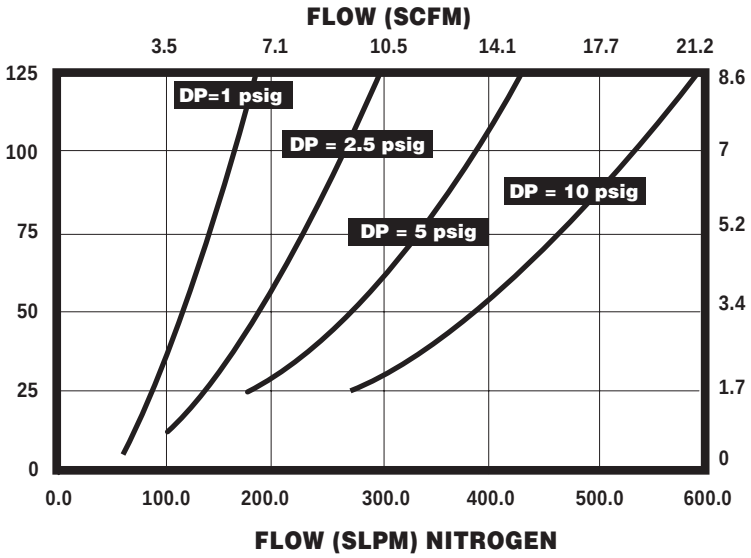
Parker Instrumentation

NV55 Series

Dimensional Drawing



Flow Curve



Ordering Information

NV55 S S 44MM PM

BASIC SERIES
NV55

TYPE
AOPLPNC = Air Operated Low Pressure, Normally Closed
I = Indicator Knob
L = Lever
LL = Locking Lever
M = Mini Lever
S = Handwheel

MATERIALS
S = 316L Stainless Steel

OPTIONAL FEATURES
PM = Panel Mount*
PEEK = PEEK™ Seat
VESP = Vespel® Seat**

For optional color Levers or Handwheels consult factory

CONNECTIONS
44MM = 1/4" Male NPT In and 1/4" Male NPT Out
44FF = 1/4" Female NPT In and 1/4" Female NPT Out
44TT = 1/4" Compression In and 1/4" Compression Out†
66MM = 3/8" Male NPT In and 3/8" Male NPT Out
66FF = 3/8" Female NPT In and 3/8" Female NPT Out
66TT = 3/8" Compression In and 3/8" Compression Out†
88MM = 1/2" Male NPT In and 1/2" Male NPT Out
88FF = 1/2" Female NPT In and 1/2" Female NPT Out
88TT = 1/2" Compression In and 1/2" Compression Out†

*** Not available with Indicating Handwheel (I) or AOP units**
**** Recommended for Nitrous Oxide (N_2O) Service**
† Compression Ends include Nuts and Ferrules.

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PEEK™ is a registered trademark of Victrex plc.

Parker Instrumentation

Nova Series

Diaphragm Valve

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the NOVA. The NOVA Diaphragm valve is an economical, general purpose diaphragm valve. Available in 316L Stainless Steel or Brass. Standard construction includes an Elgiloy® diaphragm and an outboard metal-to-metal seal.

applications

- Pressure regulator outlet valve
- Laboratory shut-off valve
- Gas control panels
- Sampling systems and gas analyzers
- Research facilities

features

- High cycle life.
- Positive, consistent shutoff.
- The closed position does not vary with the life of the product.
- O_2 Cleaned.
- Low internal volume.
- Metal-to-metal seal to atmosphere.
- Available in a variety of connection options.

materials of construction

Wetted

Body. . . . . 316L Stainless Steel or Brass
Seat. . . . . PCTFE, optional Vespel®
Diaphragm . . . . . Elgiloy® or equivalent
Seal . . . . . Metal-to-metal

Non-Wetted

Cap Nut . . . . . 316L Stainless Steel
Handwheel (black) . . . . . ABS Plastic
Indicator Knob (black) . . . . . Aluminum Powder Coated

operating conditions

Operating Pressure. . . . . Vacuum to 3500 psig (241 barg)
Proof Pressure . . . . . 5250 psig (362 barg)
Burst Pressure. . . . . 10,500 psig (724 barg)
Temperature . . . . . -40°F to 150°F (-40°C to 66°C)

functional performance

Flow capacity . . . . . C_V = 0.17
(SEMI Flow Coefficient Test# F-32-0998)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

internal volume

Less than 1.0 cc

standard configurations

1/4 inch NPT male and female, compression fitting

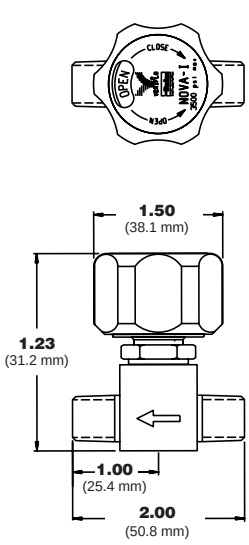
approximate weight

9 0z. (.26 kg)

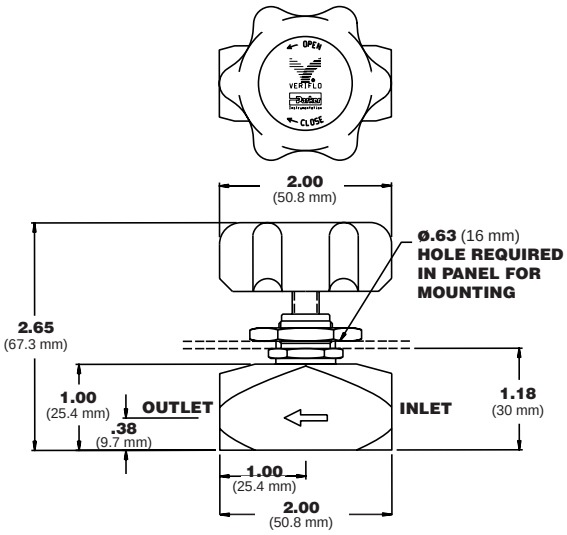
Parker Instrumentation

Nova Series

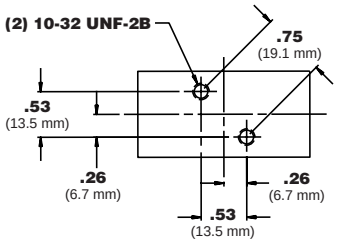
Dimensional Drawings



NOVA I 44MM

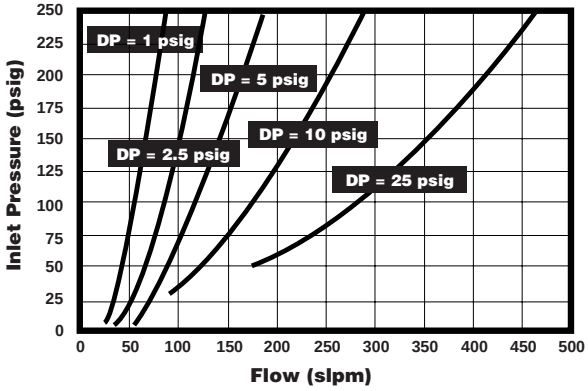


NOVA S 44FF



BOTTOM VIEW
(Mounting Holes Optional)

Flow Curve



Ordering Information

NOVA S 44FF PM

BASIC SERIES

NOVA = Multi-turn Handwheel
NOVAI = Indicating Knob

MATERIALS

S = 316L Stainless Steel
B = Brass
M = Monel®

*** Contact factory for location of gauge port(s).**
**** Not available with Indicating Handwheel (I).**
***** Recommended for Nitrous Oxide (N_2O) Service.**

† Compression Ends include Nuts and Ferrules.

OPTIONAL FEATURES

G = Gauge Port(s)*
MH = Mounting Holes
NP = Nickel Plate (Brass Body)
PM = Panel Mount**
PEEK = PEEK™ Seat
VESP = Vespel® Seat***

For optional color Levers or Handwheels consult factory

CONNECTIONS

44TM = 1/4" Compression In and 1/4" NPT Male Out†
44TT = 1/4" Compression In and Out†
44FF = 1/4" Female NPT In and Female NPT Out
44MM = 1/4" Male NPT In and Male NPT Out
44MF = 1/4" Male NPT In and Female NPT Out

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Parker Instrumentation

NovaAOP Series

Air Actuated Diaphragm Valve

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the NOVA AOP general purpose air actuated diaphragm valve. Standard construction includes an Elgiloy® diaphragm and an outboard metal-to-metal seal for leak integrity.

The NOVA AOP Series diaphragm valve is a derivative of the NOVA manually operated valve and Veriflo's time-proven air actuated valves. The AOP is available in normally open (NO) or normally closed (NC) configurations. A choice of two line pressures are available, 250 psig and 500 psig.

features

- Compact Size.
- High Cycle Life.
- O_2 Cleaned.
- Metal-to-metal seal to atmosphere.
- Choice of Normally Closed (NC) or Normally Opened (NO) Actuator for Design Flexibility.
- Low Actuation Pressure.

materials of construction

Wetted

Body . . . . . 316L Stainless Steel or Brass
Seat . . . . . PCTFE, optional Vespel®
Diaphragm . . . . . Elgiloy® or Equivalent
Seal. . . . . Metal-to-Metal

Non-Wetted

Cap . . . . . 316L Stainless Steel or Brass
Nut . . . . . 316 Stainless Steel, or Brass
Actuator . . . . . Aluminum

operating conditions

Operating Pressure . . . . . Vacuum to 250 psig (AOP1 NC, AOP3 NC) or 500 psig (AOP2 NC, AOP NO)
Temperature . . . . . -40°F to 150°F (-40°C to 65°C)
Actuation Pressure . . . . 75 psig min. (AOP2 NC)
40 psig min. (AOP3 NC)
65 psig min. (AOP1 NC)
50 psig min. (AOP NO)
@ 500 psig inlet. (3.4 barg @ 34.5 barg)

Internal Volume . . . . . Less than 1.0 cc

functional performance

Flow capacity . . . . . C_V = .17
(SEMI Flow Coefficient Test# F-32-0998)

Maximum Inboard Design
Leak Rate. . . . . < 2 x 10^{-8} scc/sec HE

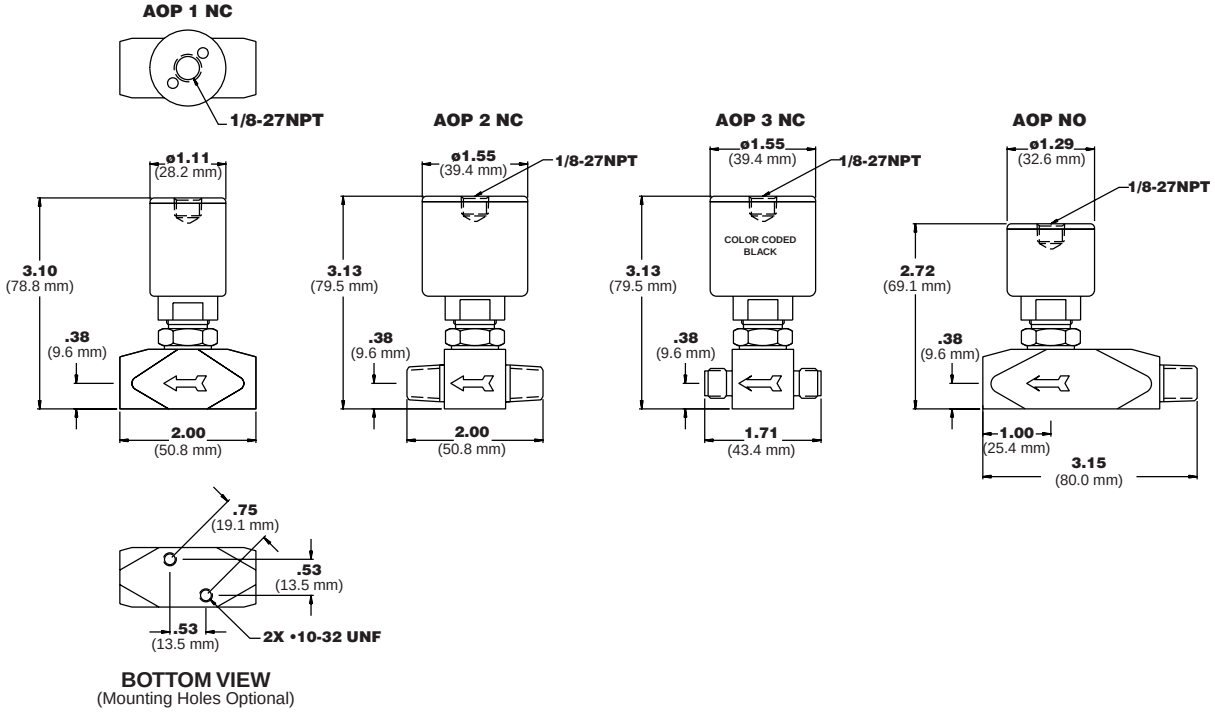
connections

1/4 " NPT male or female, compression fittings

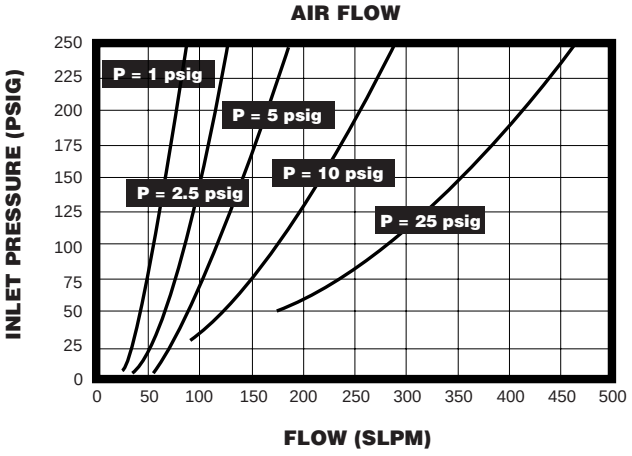
Parker Instrumentation

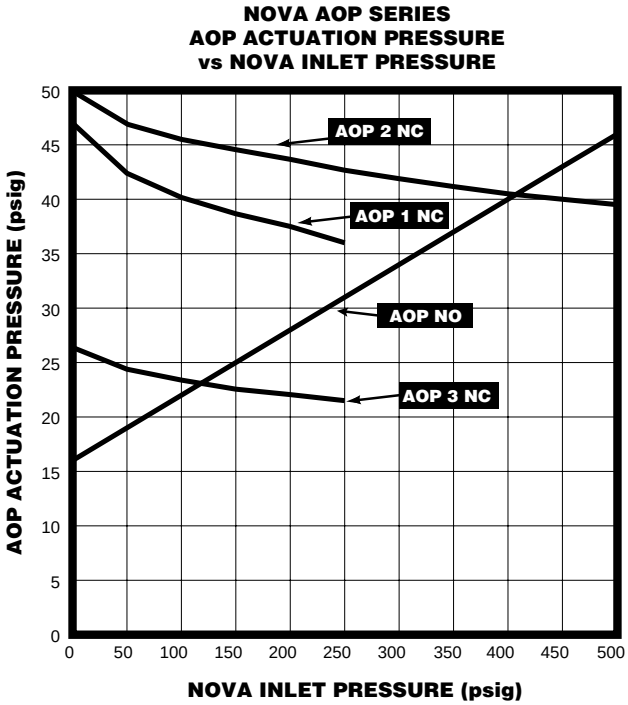
NovaAOP Series

Cross Sectional Drawing



Flow Curve





Ordering Information

NOVAAOP 1 S 44TT VESP

BASIC SERIES
NOVAAOP = Air Operated

STYLE
1 = Normally Closed - 250 psig*
2 = Normally Closed - 500 psig**
3 = Normally Closed - 250 psig***
NO = Normally Open - 500 psig****

MATERIAL
B = Brass
S = 316L Stainless Steel
M = Monel®

OPTIONS
G = Gauge Port
MH = Mounting Holes
NP = Nickel Plate (Brass Body)
PEEK = PEEK™ Seat
VESP = Vespel® Seat♦

CONNECTION (Inlet & Outlet)
44FF = 1/4" NPT Female In x 1/4" NPT Female Out
44MM = 1/4" NPT Male In x 1/4" NPT Male Out
44MF = 1/4" NPT Male In x 1/4" NPT Female Out
44TT = 1/4" Compression In x 1/4" Compression Out†

* **Minimum Actuation Pressure 65psig**
** **Minimum Actuation Pressure 75 psig**
*** **Minimum Actuation Pressure 40 psig**
**** **Minimum Actuation Pressure 50 psig at 500 psig inlet.**
♦ **Recommended for Nitrous Oxide (N_2O) Service.**
† **Compression Ends include Nuts and Ferrules.**

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Monel® is a registered trademark of International Nickel Company.

Parker Instrumentation

NovaL Series

Diaphragm Valve

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the NOVAL, an economical, general purpose diaphragm valve. Available in 316L Stainless Steel or Brass. Standard construction includes an Elgiloy® diaphragm and an outboard metal-to-metal seal. Actuation is by a 1/4 turn lever.

applications

- Outlet valve for a pressure regulator.
- Laboratory shut-off valve.
- Gas control panels.
- Sampling systems and gas analyzers.
- Research facilities.
- Sample container shut-off valve.

features

- High cycle life.
- Positive, consistent shutoff.
- The closed position does not vary with the life of the product.
- Low internal volume.
- Metal-to-metal seal to atmosphere.
- Available in a variety of connection options.

materials of construction

Wetted

Body. . . . . 316L Stainless Steel or Brass
Seat. . . . . PCTFE, optional Vespel®
Diaphragm . . . . . Elgiloy® or equivalent
Seal . . . . . Metal-to-metal

Non-Wetted

Cap Nut . . . . . 316L Stainless Steel
Lever (blue) . . . . . Aluminum Powder Coated

operating conditions

Operating Pressure. . . . . Vacuum to 3500 psig (241 barg)
Proof Pressure . . . . . 5250 psig (362 barg)
Burst Pressure. . . . . 10,500 psig (724 barg)
Temperature . . . . . -40°F to 150°F (-40°C to 66°C)

functional performance

Flow capacity . . . . . C_V = 0.17
(SEMI Flow Coefficient Test# F-32-0998)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

internal volume

Less than 1.0 cc

standard configurations

1/4 inch NPT male and female, compression fitting

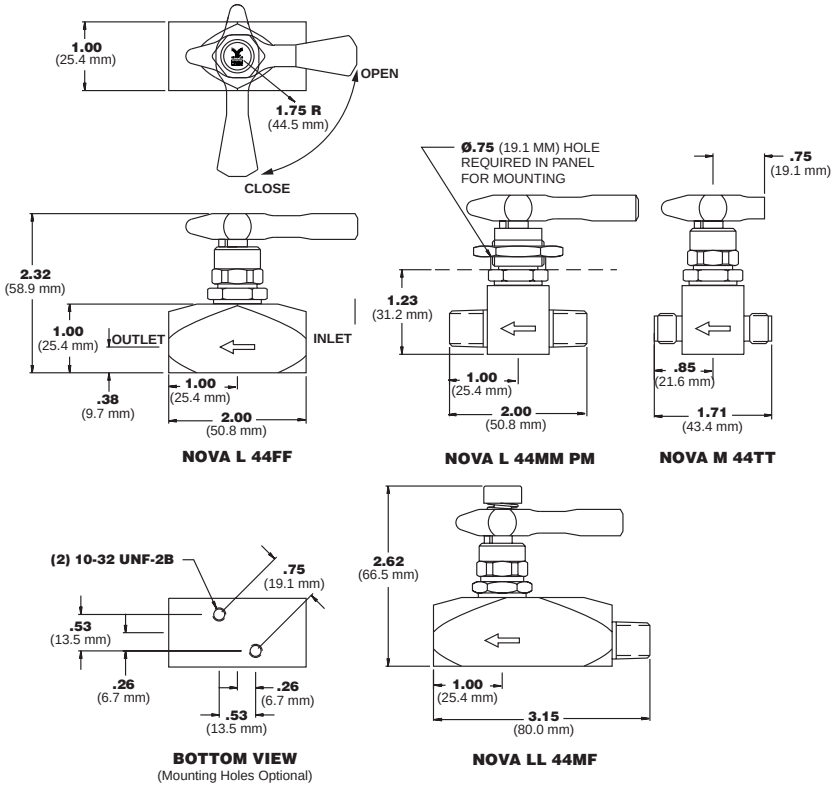
approximate weight

9 0z. (.26 kg)

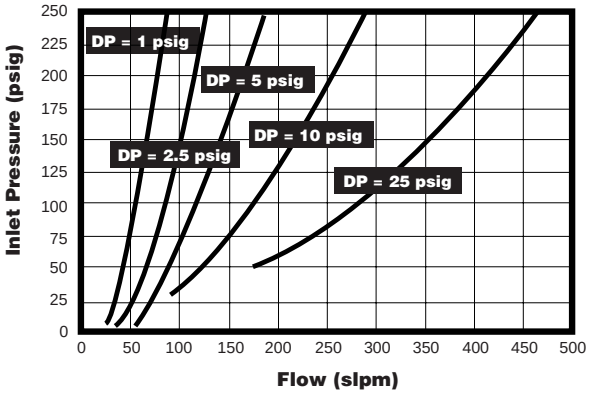
Parker Instrumentation

NovaL Series

Dimensional Drawings



Flow Curve



Ordering Information

NOVAL S 44FF PM

BASIC SERIES

NOVAL = 1/4 Turn Lever
NOVALL = 1/4 Turn Locking Lever
NOVAM = 1/4 Turn Mini Lever

MATERIALS

S = 316L Stainless Steel
B = Brass
M = Monel®

*** Contact factory for location of gauge port(s).**
**** Not Available on Noval Units.**
† Compression Ends include Nuts and Ferrules.

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Vespel® is a registered trademark of DuPont Company.
PEEK™ is a registered trademark of Victrex plc.
Monel® is a registered trademark of International Nickel Company·

OPTIONAL FEATURES

G = Gauge Port(s)*
MH = Mounting Holes
NP = Nickel Plate (Brass Body)
PM = Panel Mount**
PEEK = PEEK™ Seat
VESP = Vespel® Seat

For optional color Levers or Handwheels consult factory

CONNECTIONS

44TM = 1/4" Compression In and 1/4" NPT Male Out†
44TT = 1/4" Compression In and Out†
44FF = 1/4" Female NPT In and Female NPT Out
44MM = 1/4" Male NPT In and Male NPT Out
44MF = 1/4" Male NPT In and Female NPT Out

Parker Instrumentation

16 Series

High Flow, Packless Diaphragm Valve

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the 16 Series diaphragm valve. The 16 series valves provide a high-flow, positive shut off for high purity gas/fluid systems. This 1/2" and 3/8" spring type diaphragm valve offers superior leak integrity for Manually and Pneumatically Actuated applications with pressure ranges from vacuum to 3000 psig.

features

- Forged body design.
- Packless diaphragm seal design for high purity.
- Positive, consistent shutoff with minimum force.
- Available in a variety of end connections.
- Optional angle patterns available upon request.
- Optional panel mounting available upon request.
- Optional CGA connections available as the inlet or outlet, upon request.
- Pneumatic actuation available upon request.

Parker Instrumentation

materials of construction

Wetted

Body	316L Stainless Steel, Brass
Lower stem	316L Stainless Steel, Brass
Stem tip	PCTFE, Vespel®
Spring	316L Stainless Steel
Spring Support	316L Stainless Steel, Brass
Spring Retainer	316L Stainless Steel, Brass
Diaphragm assembly	Elgiloy®

Non-Wetted

Upper stem	Nitronic-60®
Button	Nitronic-60®
Bonnet	303 Stainless Steel
Handle	Aluminum

operating conditions

Operating pressure . . . . . Vacuum to 3,000 psig (206 barg)

Temperature

PCTFE seat . . . . -65°F to +150°F (-53°C to +65°C)

Vespel® seat . . -65°F to +250°F (-53°C to +121°C)

functional performance

Flow capacity:

Inline pattern . . . . . C_V = .30

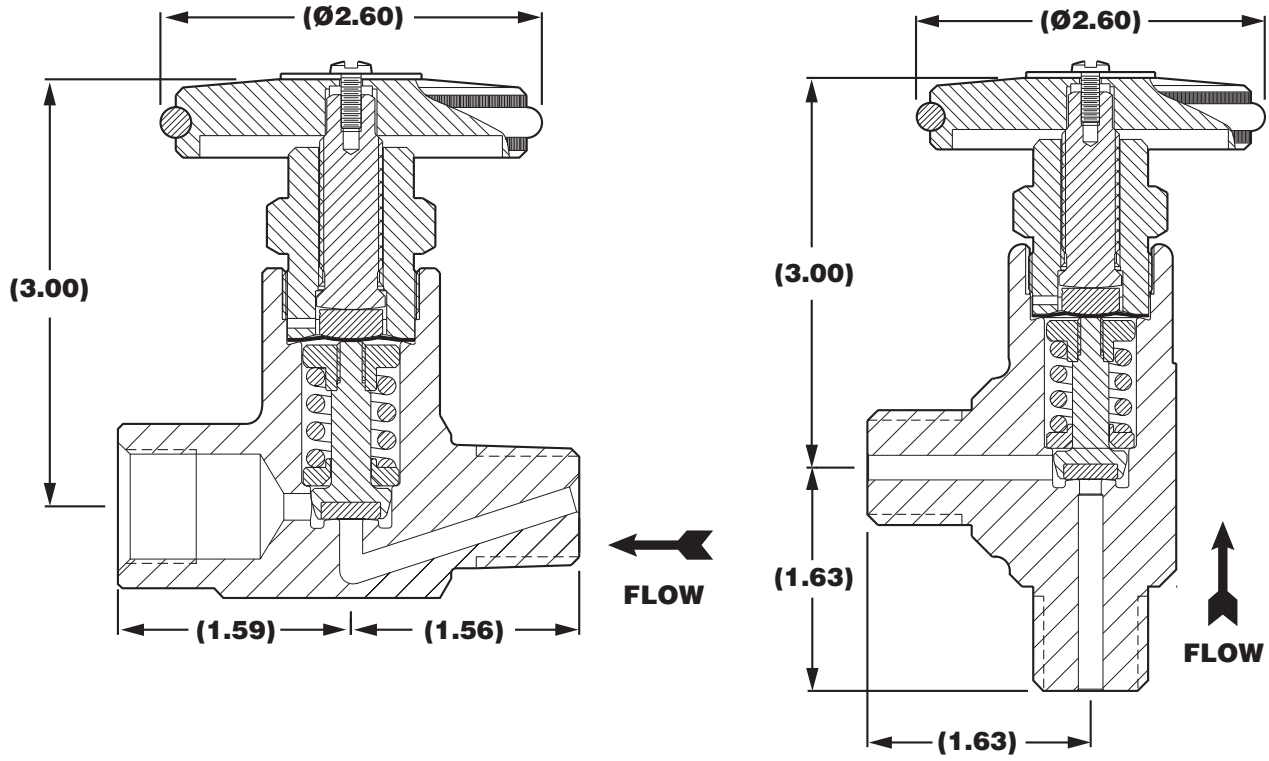
Angle pattern. . . . . C_V = .35

standard configurations

NPT male and female, tube weld, male and female faceseal fitting.

16 Series

Cross Sectional Drawing



16-881MF **16-881MMA**

Ordering Information

16 –

BASIC SERIES

INLET CONNECTION SIZE
6 = 3/8"
8 = 1/2"
12 = 3/4"

OUTLET CONNECTION SIZE
6 = 3/8"
8 = 1/2"
12 = 3/4"

BODY MATERIAL
1 = Brass
2 = 316L Stainless Steel

INLET CONNECTION TYPE
F = NPT Female
M = NPT Male
TW = Tube Weld
VF = Faceseal Female
VM = Faceseal Male

OPTIONS
-PI = Vespel® Stem Tip
PM = Panel Mountable

BODY STYLE
Blank = Inline
A = Angle Pattern

OUTLET CONNECTION TYPE
F = NPT Female
M = NPT Male
TW = Tube Weld
VF = Faceseal Female
VM = Faceseal Male

NOTE: For pneumatically actuated valves, see 91, 93 and 94 Series Pneumatic Actuators.

Vespel® is a registered trademark of Dupont Company.

Parker Instrumentation

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