Nova Series **Valve Selection Guide**

Nova Series - Air Operated

The NOVA-AOP Series diaphragm valves is a combination 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.

operating conditions

Vacuum to 250 psig (AOP 1 NC, AOP 3 NC)
Vacuum to 500 psig (AOP 2 NC, AOP NO)
Temperature . . . . . -40°F to +400°F
(-40°C to +204°C)
Maximum Actuation Pressure . . . . . .
75 psig (AOP2 NC), 40 psig (AOP3 NC)
65 psig (AOP1 NC), 50 psig (AOP NO)

design leakage

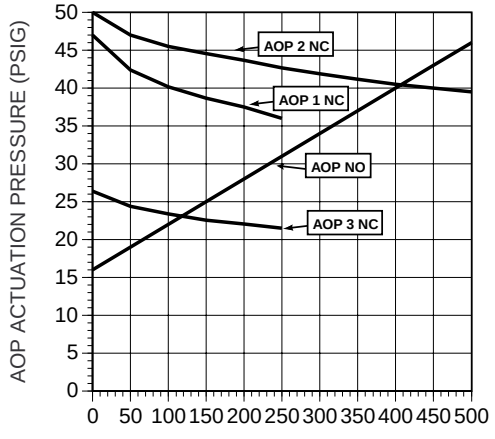
Outboard/Inboard . . . . . Less than
1×10^{-8} scc/sec

flow capacity

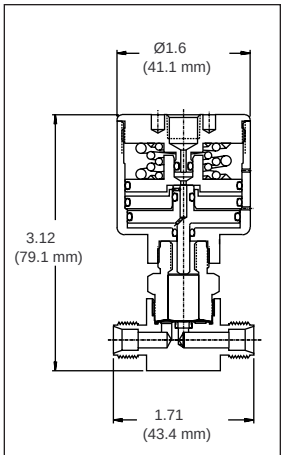
Cv = 0.17

Flow Curve

NOVA AOP SERIES
AOP ACTUATION PRESSURE vs NOVA INLET PRESSURE



Dimensional Drawing



AOP 2 NC

Ordering Information

NOVA-AOP 1 S 44TT VESP

BASIC SERIES
NOVA-AOP = 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 = Stainless Steel
M = Monel

OPTIONS
VESP = Vespel®
NP = Nickel Plating
MH = Mounting Holes
G = Gauge Port

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.

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Version #2 5/97

Nova Series

Valve Selection Guide

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technological leadership by design an ISO 9001 certified company

Nova Series Diaphragm Valve

The Nova Series Valve is an on/off device with no packing, springs, O-rings, bellows or lubricants in the flow path. Seals to environment are metal to metal, ideal to help eliminate fugitive emissions in instrument systems. Available actuation includes multiple-turn (handwheel), indicating handwheel, quarter turn lever and air-operated actuators.

The Nova Series Valve is an economical, general purpose diaphragm valve combining an uncomplicated design with precise fabrication from the leading manufacturer of precision pressure control products. The result is an accurate diaphragm valve with a wide range of applications.

applications

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

features

- Low internal volume
- No packing or O-rings in wetted areas
- Clean for O_2 service
- Compact size
- High cycle life
- Positive, consistent shut off
- Low actuation torque
- Metal to metal seal to environment
- Closed position does not vary with the life of the product

materials of construction

Wetted

Body	316L Stainless Steel or Brass
Seat	PCTFE (formerly known as Kel-F81®)
Diaphragms	Elgiloy® or Equivalent
Seals	Metal to metal with Viton® O-ring backup

Non Wetted

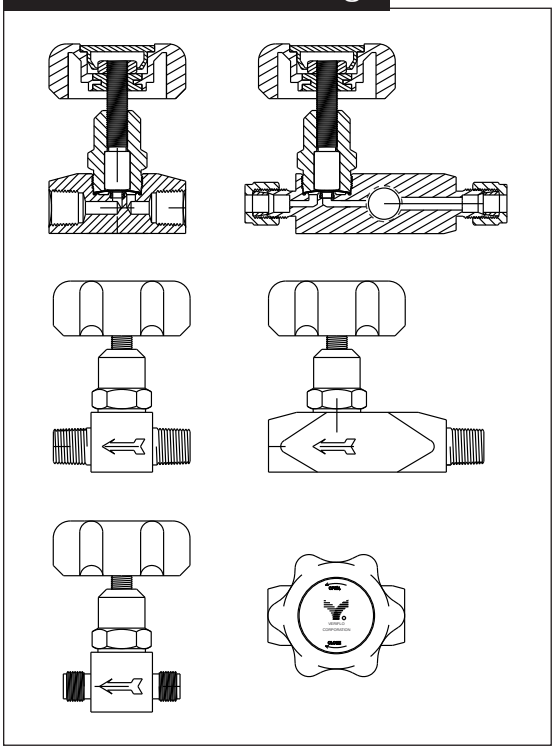
Nut	316L Stainless Steel or Brass
Stem	416 Stainless Steel
Cap	316 L Stainless Steel or Brass

Nova Series

Valve Selection Guide

Nova Series - Handwheel

Cross Sectional Drawings



operating conditions

Operating pressure . . . . . Vacuum to 3000 psig
Proof Pressure . . . . . 4500 psig
Burst Pressure . . . . . 9000 psig
Temperature . . . . . -40°F to +400°F (-40°C to +204°C)
Indicator. . . . . -40°F to +150°F

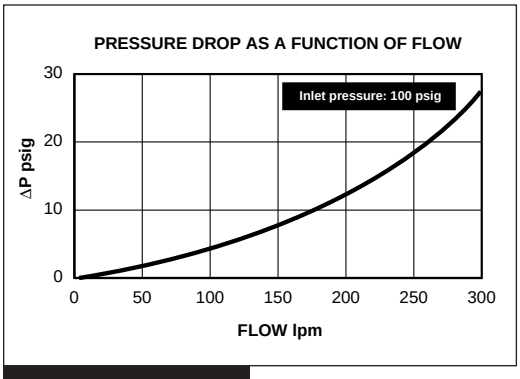
functional performance

Leakage

Outboard . . . . . Less than 1×10^{-8} scc/sec
Inboard . . . . . Less than 1×10^{-8} scc/sec
Inline . . . . . Less than 1×10^{-8} scc/sec

flow capacity

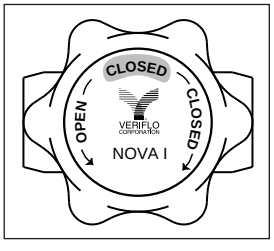
Cv = 0.17



Flow Curve

Nova I - Indicating Handwheel

The Nova I features an open/close indicator on 3/4 turn, 1.5 ” diameter handwheel for accurate valve position identification.



Nova L - 1/4 Turn, Lever-Actuated

Responding to the industry needs for visual identification of valves in the open or closed position, Veriflo introduced the NOVA L, a 1/4 turn, lever actuated diaphragm valve, to compliment its time-proven NOVA multi-turn handwheel.

The NOVA L offers fast operation in a simple reliable design. 1/4 turn provides fully open to fully closed actuation. The NOVA L is closed by turning the lever to actuate the piston which is compressed against the diaphragm, causing it to move downward and seal against the seat. The NOVA L has a minimum number of parts in the wetted area. The only wetted moving part is the lower diaphragm.

Nova L - 1/4 Turn, Lever-Actuated (cont'd.)

operating conditions

Operating conditions . . . . . Vacuum to 3000 psig (207 bar)
Proof Pressure . . . . . 4500 psig (301 bar)
Burst Pressure . . . . . 9000 psig (612 bar)
Temperature . . . . . -40°F to +400°F (-40°C to +204°C)

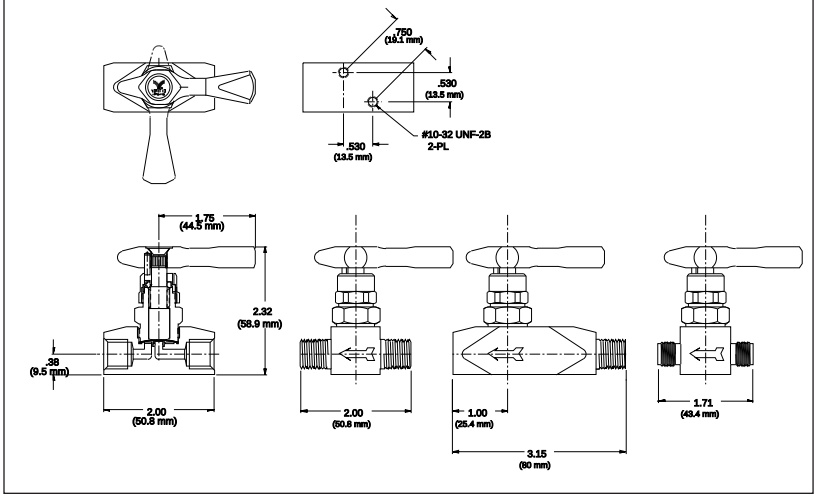
design leakage

Outboard . . . . . Less than 1 x 10^{-8} scc/sec
Inboard . . . . . Less than 1 x 10^{-8} scc/sec
Inline . . . . . Less than 1 x 10^{-8} scc/sec

flow capacity

Cv = .15

Dimensional Drawings



Ordering Information

NOVA L B 44FF PM

BASIC SERIES
NOVA (multi-turn handwheel)
NOVA L (1/4 turn lever)
NOVA I (indicator)
NOVA LL (lever lock)

OPTIONS
PM = Panel Mount
MH = Mounting Holes
NP = Nickel Plating (Brass Only)
V = Vespel® Seat

MATERIAL
B = Brass
S = Stainless Steel

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 fitting x 1/4" Compression fitting

Nova ACF - Filtered Valve

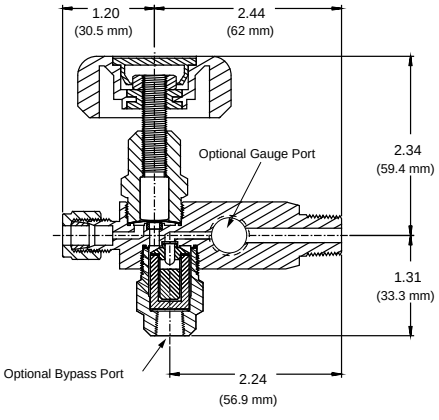
The NOVA-ACF Series filter valve combines the time-proven design of the NOVA valve with that of the ACF series "T" filter.

This compact new design provides a space-saving module allowing faster system assembly with the benefits of low internal volume.

features

- Designed to allow the user to shut off the valve section of the module before changing the in line "T" filter section.
- Module with a diaphragm valve design has high leak integrity to help eliminate fugitive emissions in instrument systems (bypass is also an optional feature for filter section).
- Compact product which reduces fitting requirements.
- High outboard leak integrity eliminates fugitive emissions.
- Optional gauge port feature allows operator to verify that pressure has been shut off before removing the element.
- Filter bypass available.
- Meets NACE standard MR-01-75.

Dimensional Drawing



Ordering Information

NOVA-ACF S 2 44MM G

BASIC SERIES

MATERIALS
S = 316L Stainless Steel
B = Brass

MICRON RANGE
1 = 0.5 micron
2 = 5 micron
3 = 10 micron
4 = 40 micron
5 = 100 micron

OPTIONS
B = Bypass Port
G = Gauge Port
HT = Machine Knob and Vespel® Seat
NP = Nickel Plating

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 1/4" Female NPT Out
44MM = 1/4" Male NPT In and 1/4" Male NPT Out