

# Nova Series

## Valve Selection Guide

### Nova Series - Air Operated

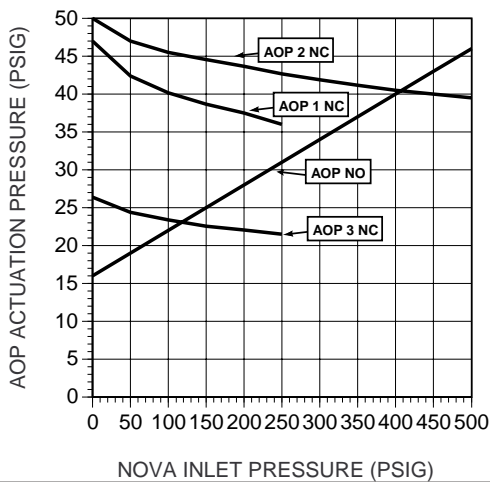


The NOVA-AOP Series diaphragm valves is a combination of the NOVA manually operated valve and Veriflo's time-proven air actuated valves. The AOP is available in normally open (NO) or normally closed (NC) configurations. A choice of two line pressures are available, 250 psig and 500 psig.

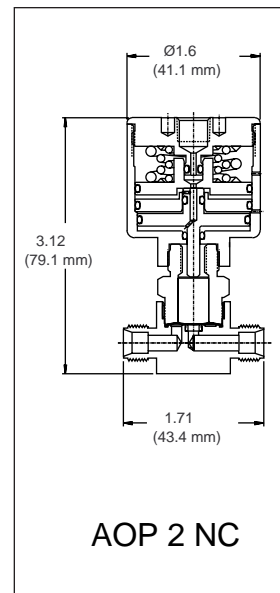
- ▶ **operating conditions**  
 Vacuum to 250 psig (AOP 1 NC, AOP 3 NC)  
 Vacuum to 500 psig (AOP 2 NC, AOP NO)  
 Temperature . . . . . -40°F to +400°F  
 (-40°C to +204°C)  
 Maximum Actuation Pressure . . . . .  
 75 psig (AOP2 NC), 40 psig (AOP3 NC)  
 65 psig (AOP1 NC), 50 psig (AOP NO)
- ▶ **design leakage**  
 Outboard/Inboard . . . . . Less than  
 1 x 10<sup>-8</sup> scc/sec
- ▶ **flow capacity**  
 Cv = 0.17

#### Flow Curve

NOVA AOP SERIES  
AOP ACTUATION PRESSURE vs NOVA INLET PRESSURE



#### Dimensional Drawing



#### 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.

PTFE (formerly known as Kel-F 81®) is a registered trademark of 3M Company.  
 Viton® is a registered trademark of DuPont Company.  
 Elgiloy® is a registered trademark of Elgiloy Company.





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### *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<sub>2</sub> 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**

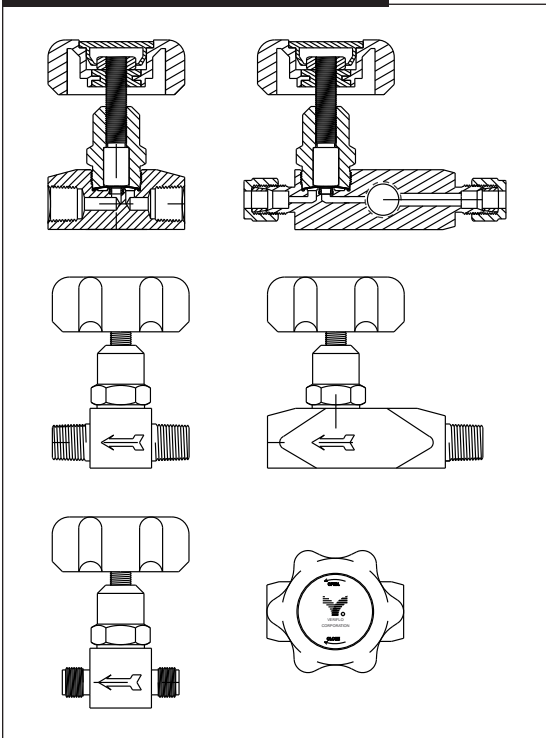
Nut . . . . . 316L Stainless Steel or Brass  
Stem . . . . . 416 Stainless Steel  
Cap . . . . . 316 L Stainless Steel or Brass

# Nova Series

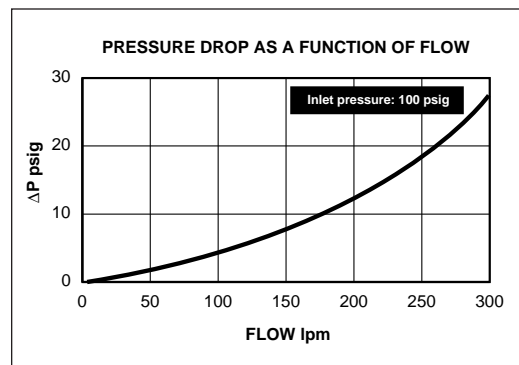
## Valve Selection Guide

### 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  $1 \times 10^{-8}$  scc/sec  
Inboard . . . . . Less than  $1 \times 10^{-8}$  scc/sec  
Inline . . . . . Less than  $1 \times 10^{-8}$  scc/sec
- ▶ **flow capacity**  
Cv = 0.17

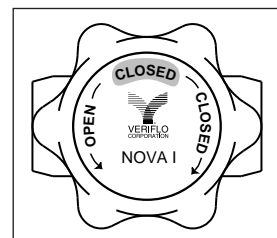


Flow Curve



### 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



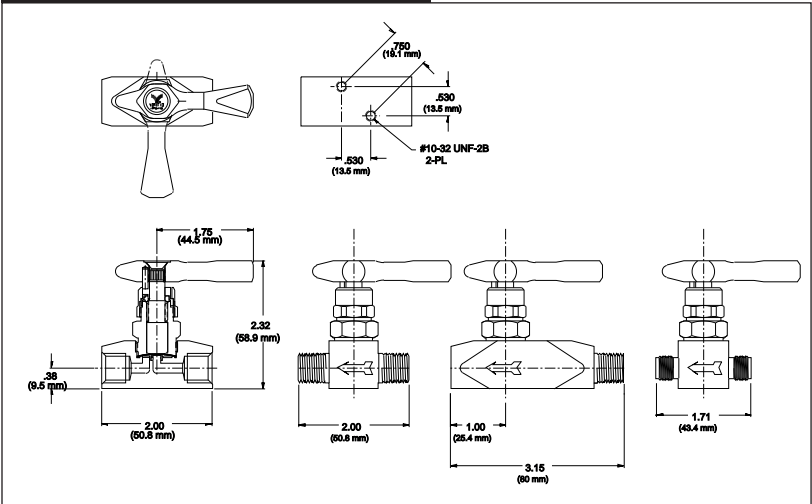
Responding to the industry needs for visual identification of valves in the open or closed position, Veriflo introduced the NOVA L, a 1/4 turn, lever actuated diaphragm valve, to compliment its time-proven NOVA multi-turn handwheel.

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  $1 \times 10^{-8}$  scc/sec  
 Inboard . . . . . Less than  $1 \times 10^{-8}$  scc/sec  
 Inline . . . . . Less than  $1 \times 10^{-8}$  scc/sec
- ▶ **flow capacity**  
 Cv = .15

## Dimensional Drawings



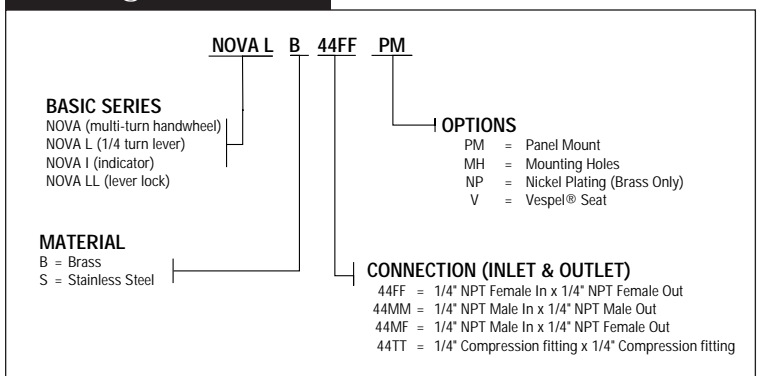
## Nova ACF - Filtered Valve



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.

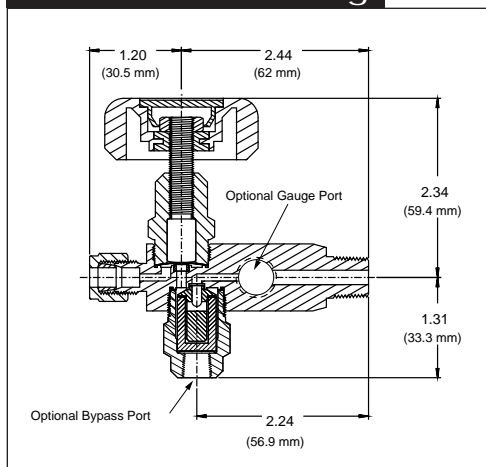
## Ordering Information



## 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

