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D200 Multi-Stage Vacuum Pumps



- Multiple-Venturi High Efficiency
- Lightweight (180 grams)
- Low Profile (30mm high)
- Integral Muffler and Filter Screen
- Push-to-Connect Input Connection
- Manifold Mountable

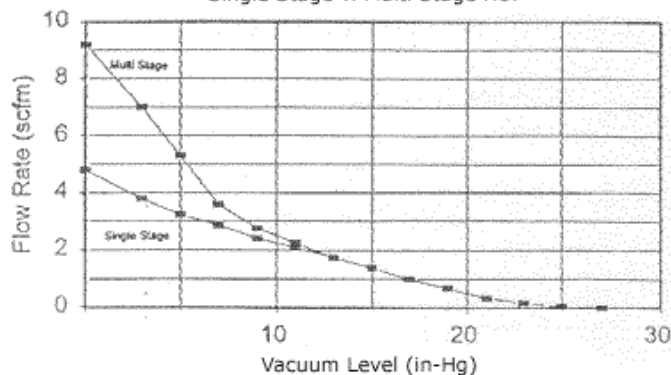
This new D200 series brings together the high performance expected from a multiple stage generator and great pricing to provide unprecedented value.

Multiple-stage generators harness the energy of the discharge exhaust to provide additional vacuum flow in the mid- to low-vacuum ranges. This additional performance requires no additional air consumption, and the advantage is clearly illustrated in the graph below. Smart design makes this D200 generator low in profile, high in efficiency, and lightweight. The light construction makes it the smart choice for remote or point-of-application use due to the low mass and low profile characteristics. The multi-stage design provides impressive flow rates for rapid evacuation.

The fitting-ready inlet port, integral muffler and filter screen provide great value by leaving nothing else to buy and eliminates clumsy looking assemblies. These advantages do not compromise performance. PVI's multi-stage generators, with the full circle generation feature, deliver impressive performance. All D200 models have identical envelope dimensions and are easily interchanged.

FLOW CHARACTERISTICS

Single Stage v. Multi Stage H07



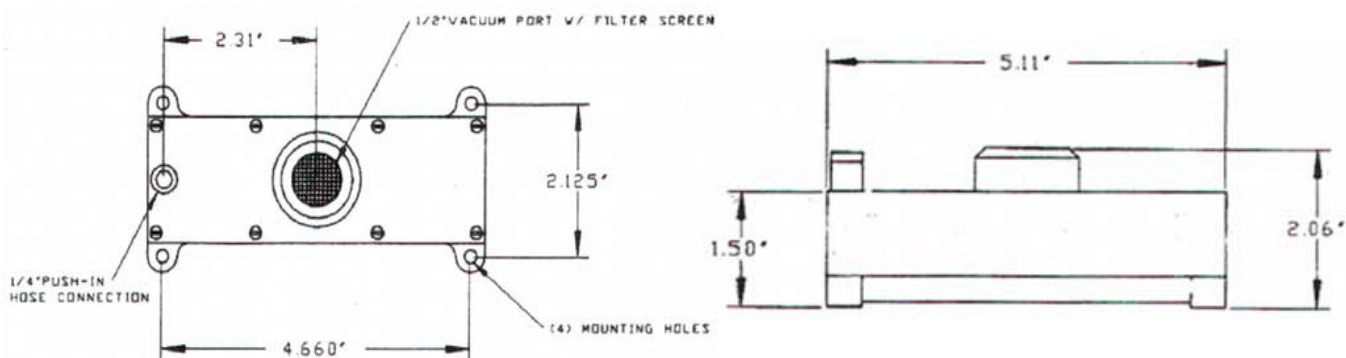
Multi-Stage Vacuum Generator Models

Part#	Air Consumption	Vacuum Level @ 72psi(5 BAR)
D200-H05	3.1 scfm	27 in-Hg
D200-M05	3.1 scfm	20 in-Hg
D200-H06	3.7 scfm	27 in-Hg
D200-M06	3.7 scfm	20 in-Hg
D200-H07	4.9 scfm	27 in-Hg
D200-M07	4.9 scfm	20 in-Hg
D200-H08	6.4 scfm	27 in-Hg
D200-M08	6.4 scfm	20 in-Hg

TS3 Series Three-Stage Vacuum Pumps



The TS3 is a three-stage vacuum generator that comes in a small classically styled package. PVI was able to significantly reduce the size required for triple stage generation through an innovative method of harnessing the vena contracta phenomenon. This new smaller package packs a lot of punch. At 130 mm long and weighing only 340 grams, it still provides all the impressive flow characteristics expected from a triple-stage generator. The TS3 exhaust is routed through internal sound damping chambers, eliminating the need for a protrusive muffler. Since the exhaust does not pass through any filter media, it is very clog resistant. You can get all this without the traditional bulky body styles and the associated weight.



TS3 Series Vacuum Generator Models

Part#	Air Consumption	Vacuum Level @ 72psi (5 BAR)
TSM04	1.8 scfm	20 in-Hg
TSH05	3.0 scfm	27 in-Hg
TSM05	3.0 scfm	20 in-Hg
TSH06	4.0 scfm	27 in-Hg
TSM06	4.0 scfm	20 in-Hg
TSH07	5.1 scfm	27 in-Hg
TSM07	5.1 scfm	20 in-Hg
TSH08	6.0 scfm	27 in-Hg
TSM08	6.0 scfm	20 in-Hg
TSH09	8.0 scfm	27 in-Hg
TSM09	8.0 scfm	20 in-Hg

PM Series Multi-Stage Vacuum Pump

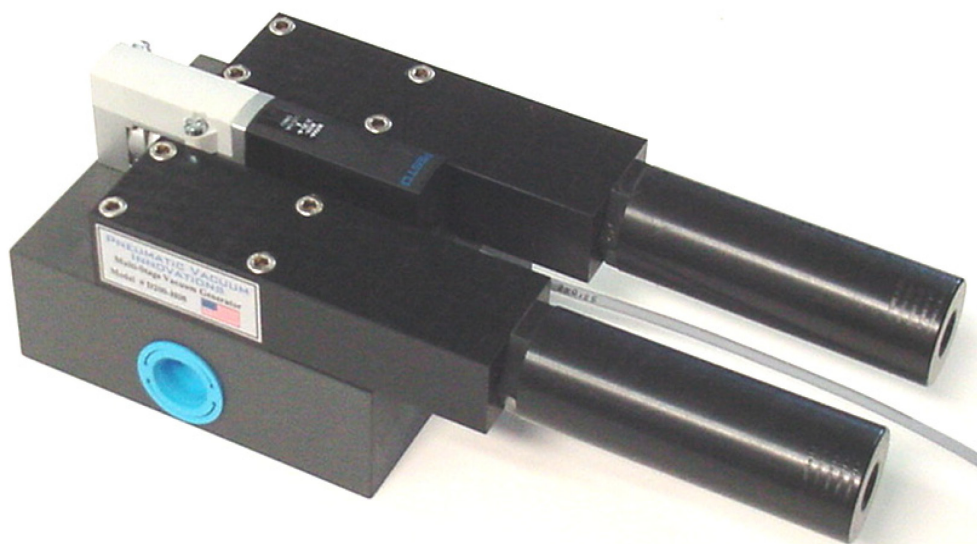


The PM is a multi-stage vacuum generator that comes in a rugged, classically-styled package. The billet top plate has large port connections for maximum efficiency thus providing all the impressive flow characteristics expected from a multi-stage generator. The exhaust is routed through internal sound damping chambers and exits through the lower end slot, thus eliminating the need for a protrusive muffler. Since the exhaust does not pass through any filter media, it is very clog resistant. The PM's vacuum port contains an internal filter assuring exceptional long life, especially when compared to competitive designs that do not have internal filtration. The port and mounting screw patterns on the PM Series provide precise OEM replacement capability.

PM Series Multi-Stage Vacuum Pump			
Part #	Air Pressure	Air Consumption	Ultimate Vacuum
PM-150	65psi	5.5 scfm	27 in-Hg
PM-225	65psi	8.2 scfm	27 in-Hg
PM-300	65psi	11.0 scfm	27 in-Hg
PM-450	65psi	16.4 scfm	27 in-Hg

Induced Flow At Various Vacuum Levels										
Part #	0 in-Hg	3 in-Hg	6 in-Hg	9 in-Hg	12 in-Hg	15 in-Hg	18 in-Hg	21 in-Hg	24 in-Hg	27 in-Hg
PM-150	14 scfm	8.0 scfm	5.8 scfm	3.5 scfm	2.0 scfm	1.5 scfm	1.1 scfm	0.7 scfm	0.3 scfm	0 scfm
PM-225	21 scfm	12 scfm	8.7 scfm	5.2 scfm	3.0 scfm	2.2 scfm	1.6 scfm	1.0 scfm	0.4 scfm	0 scfm
PM-300	27 scfm	16 scfm	11 scfm	7.0 scfm	4.0 scfm	3.0 scfm	2.2 scfm	1.5 scfm	0.6 scfm	0 scfm
PM-450	40 scfm	23 scfm	17 scfm	10 scfm	6.0 scfm	4.5 scfm	3.1 scfm	1.5 scfm	0.8 scfm	0 scfm

DX400 Vacuum Manifold Assembly

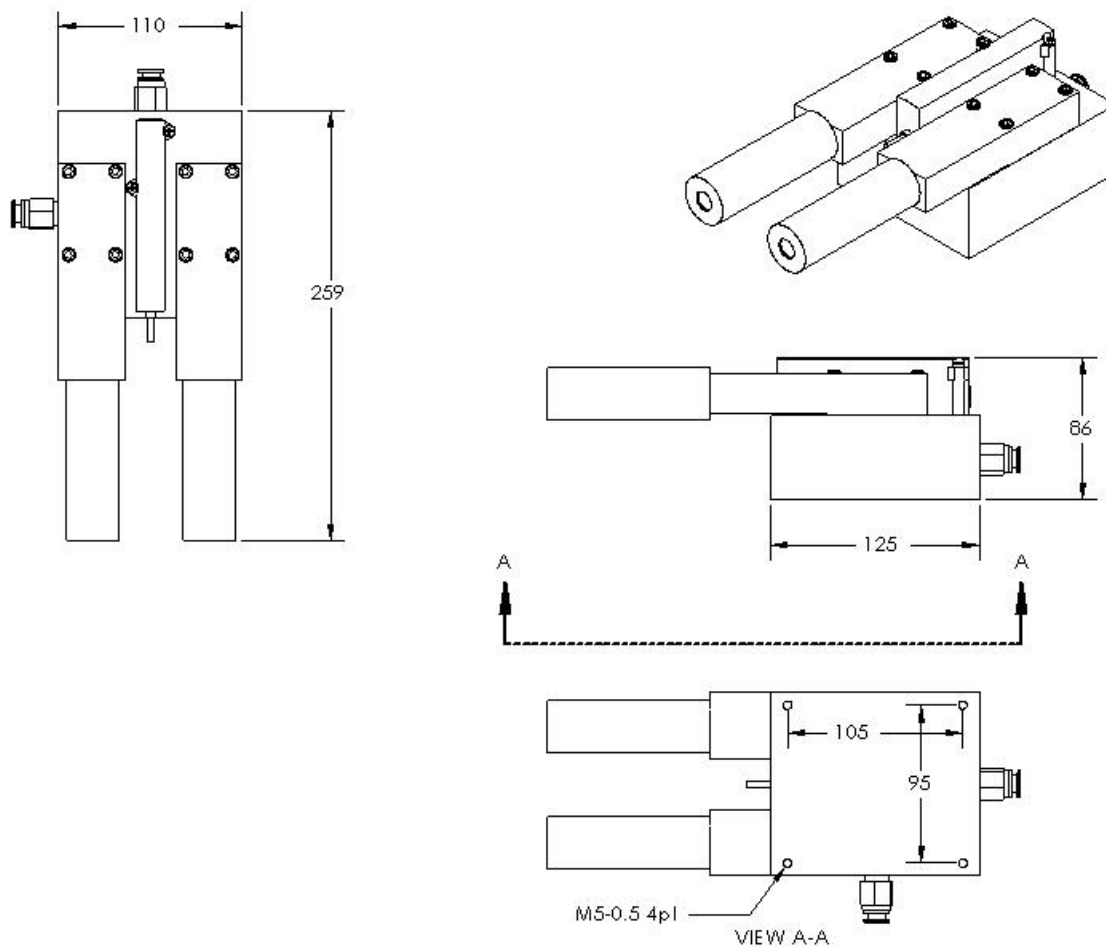


The DX400 Vacuum Manifold Assembly has been designed to address industry's varied vacuum demands. The manifold contains two tandem vacuum generators that are actuated by a single adjacent valve. The attached direct acting solenoid valve provides external electrical control. There are two tandem non-return vacuum valves built into the manifold body. All components are direct mounted utilizing O ring connections thus allowing servicing to be performed easily with simple tools.

DX400 Vacuum Manifold Assembly Specifications	
Quantity generators	2
Generator types	D200-H08 Multi-stage D200-H08 Multi-stage
Ultimate Vacuum	27 in-Hg
Induced Flow	24 scfm
Air consumption	12.8 scfm @ 60 psi
Operating pressure	60 -75 psi
Noise Level	62 db (open flow) / 55 db (closed flow)
Valve	24 VDC, 5.6 W, N.C., IP95, Manual Override
Materials	Acetal, PVC, Stainless steel, Aluminum
Ports	12 mm Vacuum, 8 mm Pressure (tubing)
Mounting	95 mm by 105 mm 5mm treads F
Mass	1.75 Kg

DX400 Vacuum Manifold Assembly

Dimensional data



Note: All Dimensions in Millimeters

Saturn-II Series Vacuum Pumps



above with top port option 1/8" NPT

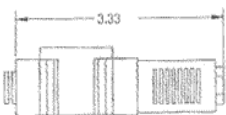
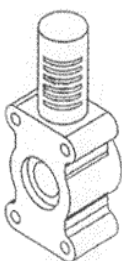
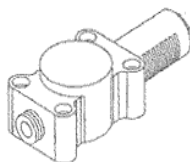
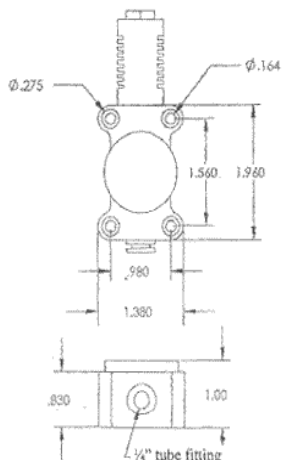
In the spirit of innovation, PVI introduces the new SATURN-II vacuum generator. The SATURN-II is a direct descendent of the popular Saturn Series and still offers all of the same great traditional characteristics within a smaller and more versatile platform. All of the features of the traditional Saturn generator are still found. You still get direct mounting capability, a built-in push-to-connect inlet port and high efficiencies. The new SATURN-II offers an aesthetically appealing body that weighs a mere 80 grams*. The low mass characteristics combine with the above features to make the SATURN-II the ultimate choice for point-of-application use.

- Choice of materials (Delrin, Acetal, Aluminum)
- Upper Gauge Port or Lower Gauge Port
- 80 psi operation

* aluminum version weighs 110 grams

The SATURN-II SERIES of generators are small and lightweight. The light construction makes them the smart choice for reciprocating and point-of-application uses due to their low mass and low profile characteristics.

The manifold mounting feature, integral muffler, and removable filter screen provide great value by leaving nothing else to buy and eliminates clumsy assemblies. These advantages do not compromise performance. PVI's SATURN-II SERIES generators, with the full circle generation feature, deliver impressive performance. All models have identical envelope dimensions and are easily interchangeable.

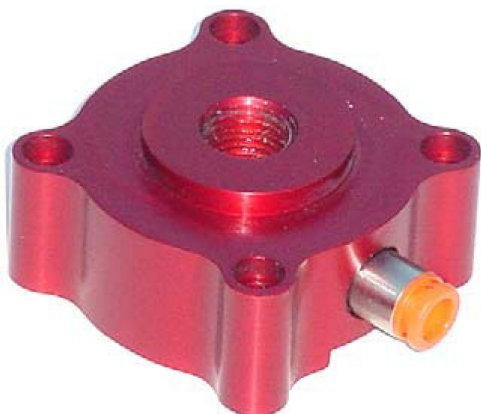


Saturn-II Series Vacuum Pump Models

Part#	Air Consumption	Vacuum Level @ 65psi
S2H04	2.0 scfm	27 in-Hg
S2M04	2.0 scfm	20 in-Hg
S2H05	3.1 scfm	27 in-Hg
S2M05	3.1 scfm	20 in-Hg
S2H06	3.7 scfm	27 in-Hg
S2M06	3.7 scfm	20 in-Hg
S2H07	4.9 scfm	27 in-Hg
S2M07	4.9 scfm	20 in-Hg

POD Series Vacuum Pump

Excellent for Point of Use applications



Red anodized aluminum (shown)



Shown with vacuum cup attached

The POD is a vacuum cup platform with a built-in vacuum generator. Efficiency is very high since the vacuum is generated at the point of application. Once bolted to your tooling plate, the POD performs two functions. The sturdy POD platform holds your cup and is capable of withstanding impressive loads. The internal vacuum generator creates vacuum efficiently, yet is stingy on air consumption. All that is needed to vacuum energize your cup is to connect a compressed air tube to the push-to-connect fitting on the POD. An array of these devices is a great substitute for costly centralized systems.

This flexible combination device delivers design simplicity and savings for your lifting needs.

POD Series Vacuum Pump and Vacuum Cup Platform Combination		
Part #	Air Consumption	Vacuum Level @ 65psi
POD-1	1.6 scfm	20 in-Hg

F-II Series Vacuum Generator



Shown with fittings installed

This generator is long, sleek and very efficient. The straight-thru design produces impressive flows for a single stage device. The large screw-on exhaust silencer provides convenient access for cleaning thus assuring reliability and long service life in demanding applications. The large 3/8npt ports are perfect for high flow action!

F-II Series Vacuum Generator Specifications

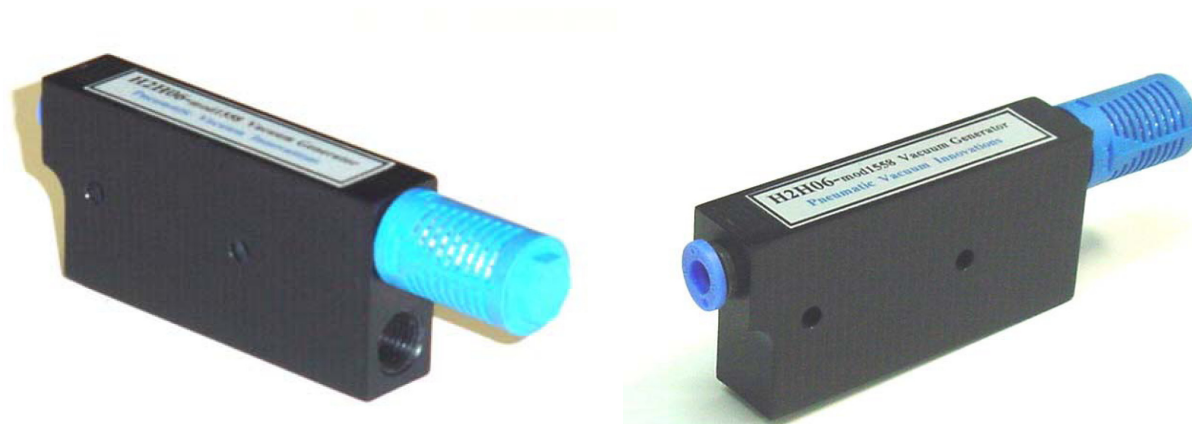
Diameter	1.25 in.
Length	9.0 in.
Ports	3/8 npt (all)
Material	Acetal Black

F-II Series Vacuum Generator Models

Part#	Air Consumption	Vacuum Level @ 65psi (5 BAR)
F2M05	2.6 scfm	20 in-Hg
F2H05	2.6 scfm	27 in-Hg
F2M06	3.6 scfm	20 in-Hg
F2H06	3.6 scfm	27 in-Hg
F2M07	4.9 scfm	20 in-Hg
F2H07	4.9 scfm	27 in-Hg
F2M08	6.8 scfm	20 in-Hg
F2H08	6.8 scfm	27 in-Hg
F2M09	8.2 scfm	20 in-Hg
F2H09	8.2 scfm	27 in-Hg

H-II Vacuum Pump Series

Tandem Capable



Vacuum Port in Front

One-Touch Pressure Port in Back

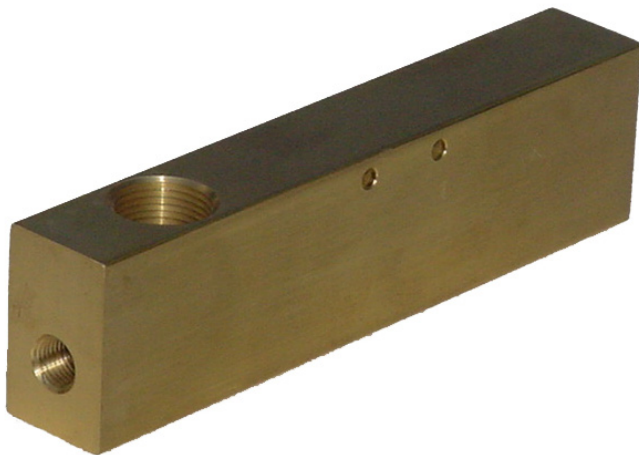
The H-II generator is sleek in design and high in performance. It has the capability of being horizontally stacked in a row in order to provide multiple independent vacuum sources... a pair of common threaded rods is all that is required. The width of each H-II is only 20mm, so plenty of vacuum capacity can be placed in a limited space. The threaded front vacuum port is a uniquely handy feature.

Options include bottom vacuum port and internal filter.

H-II Series Vacuum Pump Models

Part #	Air Consumption	Vacuum Level @ 65psi
H2M04	2.0 scfm	20 in-Hg
H2H04	2.0 scfm	27 in-Hg
H2M05	2.6 scfm	20 in-Hg
H2H05	2.6 scfm	27 in-Hg
H2M06	3.6 scfm	20 in-Hg
H2H06	3.6 scfm	27 in-Hg
H2M07	4.9 scfm	20 in-Hg
H2H07	4.9 scfm	27 in-Hg

D100 Series Vacuum Pump



- All Brass Construction
- High Efficiency
- No Moving Parts
- Oversized Porting for Maximum Flow

D100 is the result of continuing evolution of the popular D Series. It is a single-venturi device designed and manufactured for the most demanding applications where reliability and environmental concerns are critical.

The D100 Series of generators is rugged and dependable. The all brass construction is perfect for harsh environments. The single-stage design has no moving parts, thus provides impressive reliability and longevity. High performance is here, too. PVI's unique full circle generation feature, coupled with oversized porting and a series of multiple internal expansion chambers, maximize flow performance. The D100 gives the maximum performance available for single-stage generation.

Vacuum Ejector Models

Part#	Air Consumption	Vacuum Level 72psi(5 BAR)
D100-H10-80-B	11.5 scfm	25 in-Hg
D100-M10-80-B	11.5 scfm	18 in-Hg
D100-H12-80-B	18.6 scfm	25 in-Hg
D100-M12-80-B	18.6 scfm	18 in-Hg
D100-H14-80-B	25.5 scfm	25 in-Hg
D100-M14-80-B	25.5 scfm	18 in-Hg

Stainless Steel construction available as a -S option.
60 psi operation available. Substitute 80 with 60 in part number.

High-Flow Series Vacuum Pump



- Air Amplification for Cooling, Purging or Blow-off
- Porous Material Pickup
- Contaminated Material Pickup
- Small Material Transfer

In the spirit of continuing innovation, PVI introduces the new HIGH-FLOW (HF) vacuum generator. The HIGH-FLOW is a straight-through design where the induced air proceeds to the exhaust port in a straight and unimpeded fashion. Through the use of an innovative radial venturi, the compressed air port connection is located on the side of the unit. The induced airflow is free to travel through a large diameter passage. This design produces a large induced air amplification factor. This means you get impressive flows for very little air consumed. The large diameter through-passage design is very clog resistant and can even handle small particle transfer.

The HF series is currently available in two models. Both models have identical envelope dimensions and are easily interchanged.

High-Flow Series Vacuum Pump Models			
Model	Vacuum Level	Induced Flow	Air Consumption
	@ 65psig	@ 65psig	@ 65 psig
HF-009	20 in-Hg	9.7 scfm	5.5 scfm
HF-011	27 in-Hg	11.5 scfm	6.5 scfm

High-Flow Ejector Particle Transfer Device



For particle transfer, air amplification or high-flow vacuum.

High Flow Ejector - Particle Transfer Device Specifications @ 5 bar (72psi)

Model	HF1100
Air Consumption	67 scfm
Vacuum Level	5.5 in-Hg
Induced Air Flow	288 scfm
Host Type	1.25" I.D.
Media Max. Diameter	1.12"
External Material	Aluminum
Internal Material	Aluminum/Steel
Body Diameter	2.00"
OAL	8.85"
Port Connection	3/8" NPT

NRVBR Series Vacuum Check Valve

*For vacuum or pressure
For gas or liquid*



All Brass
Series NRVBR50
1/2 inch nominal

This Non-Return Valve (NRV) device allows high vacuum flow in one direction while preventing return flow in the other direction. This device can be used as a non-return valve for maintaining vacuum or low-to-medium pressures in vessels. It can also be used as a directional fluid control device for low-to-medium pressure liquid systems. Brass construction allows the NRV device to be used in even very corrosive environments. The large 1/2" NPT porting and the large internal orifice provide impressive flow rates. The low mass gate allows any mounting position. This unit can be rebuilt using simple tools.

NRVBR Series Vacuum Check Valve Specifications	
Outside Diameter	38 mm (1.50")
Overall Length	50 mm (2.00")
Porting (2)	1/2" NPT Female
Flats	30 mm (1-1/8")
Orifice Diameter	12 mm (1/2")
Maximum Vacuum	10 torr (29.5 in-Hg)
Minimum Vacuum	730 torr (1 in-Hg)
Maximum Pressure	7 bar (100psi)
Cracking Pressure	Approaching Zero
Body Material	Naval Brass
Check Gate Material	Fiber reinforced neoprene
Seat Material	Brass

NRVSS Series Vacuum Check Valve



All Stainless Steel
Series NRVSS75
¾ inch nominal
(also available in ½ npt, p/n NRVSS50)

This device allows high vacuum flow in one direction while preventing return flow in the other direction. Can be used as a non-return valve for maintaining vacuum in vessels. The stainless steel construction allows the device to be used in very corrosive environments. The large 3/4 NPT porting and the large internal orifice provide impressive flow rates. The low mass gate allows any mounting position.

NRVSS Series Vacuum Check Valve Specifications	
Outside Diameter	42 mm (1.63")
Overall Length	75 mm (2.90")
Porting (2)	3/4 NPT Female
Flats	36 mm (1-7/16")
Orifice Diameter	18 mm (0.70")
Maximum Vacuum	10 torr (29.5 in-Hg)
Minimum Vacuum	730 torr (1 in-Hg)
Cracking Vacuum	Approaching Zero
Body Material	304 Stainless Steel
Check Gate Material	Fiber reinforced neoprene
Seat Material	304 Stainless Steel

NRVSS Series Vacuum Check Valve

Dimensional Data

