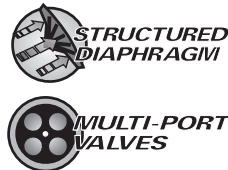


## Types: N813.3/.4/.5ANI

### Diaphragm Vacuum Pump and Compressor



N813.4ANI Model shown



**Two, Three or Four-Stage  
Deep Vacuum, High Flow  
OEM Installation Model  
with AC TENV Motor**

Max Free-Flow Capacity (.5 model): 19 liters/minute (.67 SCFM)  
Maximum End Vacuum (.4 model): <0.5 mbar (.375 Torr)  
Maximum Continuous Pressure: 1 bar (15 psig)

#### Description

The N813 series deep vacuum diaphragm pumps from KNF are optimized for efficiency and durability using the latest CAD/FEA methods. Featuring KNF's patented, structured diaphragm and multi-port valve system, they provide the best vacuum performance and reliability available in their size range. The four-head model is configured for either deeper vacuum (.4) or greater flow (.5). These pumps will restart under full vacuum load.

#### Features

- **Advanced Multi-Port Valve System** - KNF's new multi-port valve system consists of a circle of smaller holes covered by an elastomeric disk. Pump capacity is increased, and tolerance to occasional condensate droplets is greatly improved.
- **Patented, Structural Molded Diaphragm** - Using computer analysis, KNF engineers molded a structure into the diaphragm that distributes mechanical stresses over a wide area. This provides precision control of flexibility and power, thus improving performance and life-time. There is no metal clamping disk, eliminating a source of leaks and corrosion.
- **Flexible Design** - KNF's engineers combine high performance with a small physical package to produce an efficient, compact standard unit. In addition, with KNF's Project Pump program, we can suggest a variety of inexpensive modifications to meet your OEM design requirements. NPT port threads are available. Talk to us about your design requirements.
- **Medium Transfer is Contamination-Free** - KNF's diaphragm design is oil-free and has no sliding seals to wear away. Your pumped medium always stays analytically pure.
- **Low Noise Level** - The enclosed compressor housing minimizes noise transmission and keeps dirt away from critical components. The pump is extremely quiet and smooth running. The totally enclosed (IP-44), non-ventilated (TENV) motor is equipped with ball bearings to assure quiet, trouble-free operation and will restart under full vacuum load.
- **Factory-Mounted & Wired Motor Capacitor** - Unlike others who leave these details to you, KNF pumps are tested completely assembled and install quickly.
- **Variety of Accessories** - Available accessories include mufflers and hose connectors. Contact KNF applications department for details.

#### Applications

- High Vacuum Roughing Pump
- Mass Spectrometers
- Vacuum Drying
- De-gassing of Liquids
- Vacuum Filtration
- Dental Vacuum Ovens
- Residual Gas Analyzers
- Ion Milling Operations

# N813.3/.4/.5ANI

## KNF Performance Specifications

Model Number	N813.3ANI	N813.4ANI	N813.5ANI
Feature	Moderate End Vacuum	Deep End Vacuum	High Flow, Moderate Vacuum
Head Configuration	Two-Stage	Four-Stage	Three-Stage/Parallel Head
Maximum Flow	13 liters/min. (0.46 SCFM)	13 liters/min. (0.46 SCFM)	19 liters/min. (0.67 SCFM)
Maximum Vacuum	3 mbar abs. (2.25 Torr)	<0.5 mbar (0.375 Torr)	<1 mbar (0.75 Torr)
Maximum Continuous Pressure	1 bar (15 psig)	1 bar (15 psig)	1 bar (15 psig)

## Electrical/Mechanical

Motor Voltage & Frequency	115 VAC (60 Hz)	230 VAC (50 Hz)
Full Load Motor Current	0.8 Amps	0.5 Amps
Motor Type	Totally-Enclosed, Non-Ventilated, Permanent Split-Capacitor Motor	
Motor Protection	Thermal Reset (IP-44)	

## Environmental

Maximum Medium Temperature	40°C (105°F)
Maximum Ambient Temperature	40°C (105°F)
Net Weight	5.9 kg (13 lbs.)      7.5 kg (17 lb.)      7.5 kg (17 lb.)

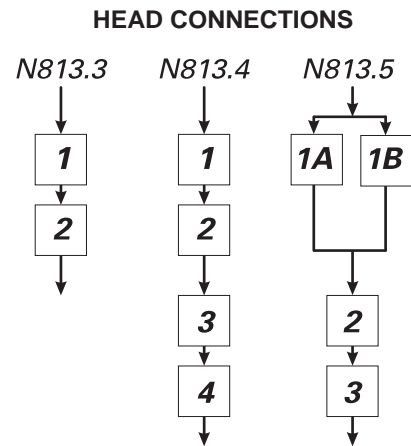
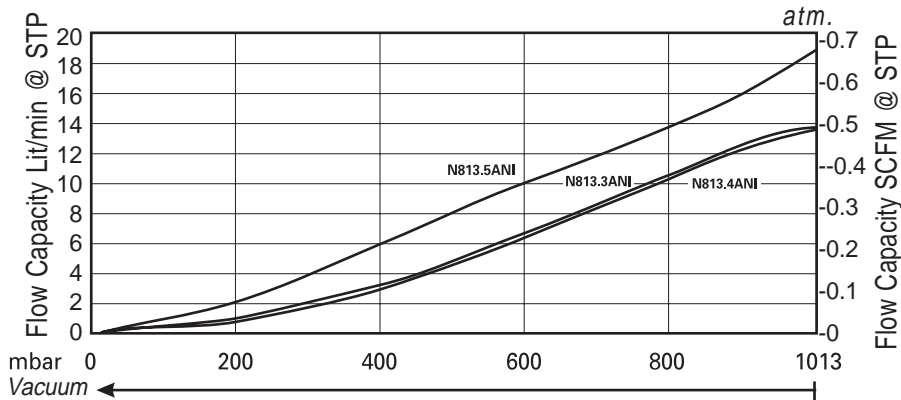
## Materials of Construction

Head	Aluminum
Valves	EPDM
Diaphragm	Neoprene

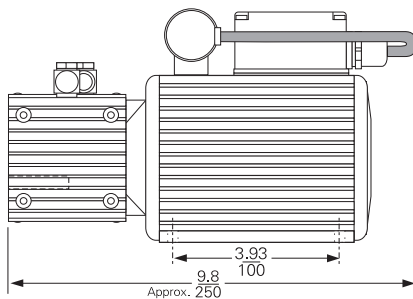
**Notes:** Standard continuous performance ratings are based on technical data and test results of nominal units at sea level with an ambient temperature of 70°F (21°C) and nominal electrical supply are listed above. Dimensions and performance characteristics given are for reference only. Higher performance models, cost efficient OEM modifications, motor options and different materials of construction may be available. Specifications subject to change without notice.

**Accessories:** Hose Connectors, Silencer, Shock Mounts, NPT port threads available.

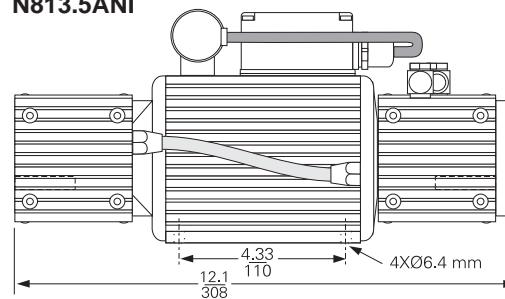
## Performance Characteristics/Outline Dimensions:



N813.3ANI

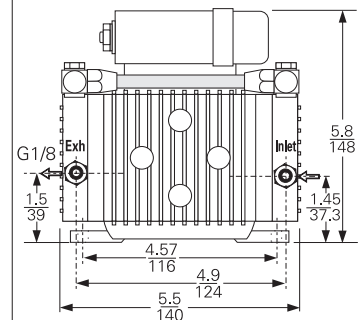


N813.4ANI  
N813.5ANI



N813.4ANI 4-stage connections shown

in.  
mm



N813.3ANI 2-stage connections shown

## KNF NEUBERGER, INC.

Two Black Forest Road  
Trenton, New Jersey 08691-1810  
Fax: 609-890-8323 · Phone: 609-890-8600