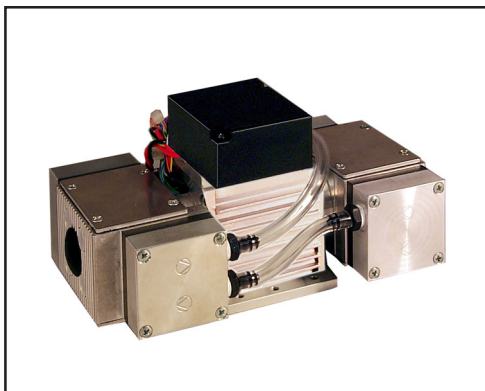
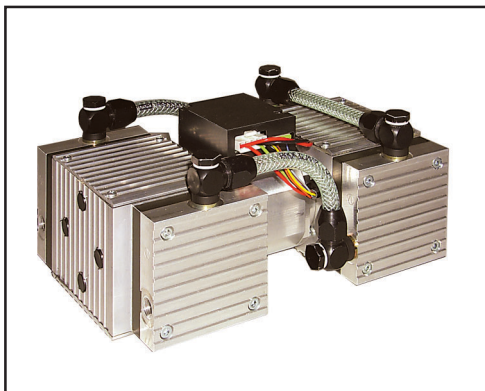


Backing/Roughing Pumps for the OEM Diaphragm Vacuum Pumps

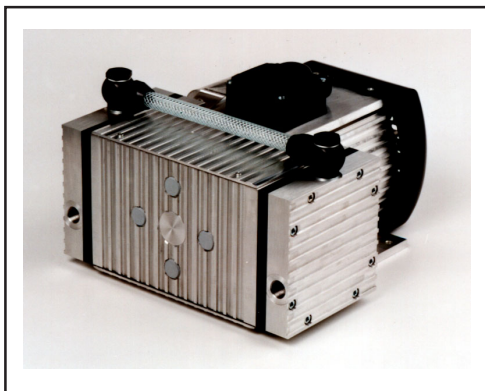
**Twin and Four-Head Designs
OEM Installation Models
with AC, DC or compact BLDC Motor**



N84.4ANDC with BLDC motor



N813.4ANI with BLDC motor



N880.3AN.22I with IP-44 AC motor

Description

These models represent a new generation of diaphragm pumps from KNF. They are optimized for efficiency and durability using the latest CAD/FEA methods. Featuring KNF's BLDC motors and patented, structured diaphragm and multi-port valve system, they provide the best performance and reliability available.

Features

- **Now available with compact Brushless DC** - New choices in motor technology include KNF's efficient BLDC motor and feature-packed controller. On-off and speed logic signals provide control of pump performance in direct response to your system requirements. In addition, pump size and heat generation are dramatically reduced in comparison to AC models.
- **Exclusive multi-port valve system** - KNF's new multi-port valve system consists of a circle of smaller holes sealed by an elastomeric disk. This enhances the efficiency and tolerance to condensate droplets.
- **Patented, structural molded diaphragm** - KNF molds a unique structure into the diaphragm to distribute stress over a wide area. This precision control of flexibility improves efficiency and lifetime. The traditional metal clamping disk, a potential source of corrosion, is eliminated.
- **Flexible OEM Design** - With KNF's Project Pump program, standard products are optimized with a variety of inexpensive modifications or materials of construction to meet your exact OEM requirements. The end product will result in a perfect fit based on your design, and may be more economical.
- **Low Noise Level** - The enclosed compressor housing minimizes ambient noise and keeps dirt away from critical components.
- **Dynamic Mass Balancing (.22)** - For applications that demand exceptionally smooth-running throughout the entire dynamic range of the pump, KNF has developed an exclusive, patented system that automatically dampens small, out-of-balance vibrations in response to changing external conditions. Available on N843.3 and standard on N880.3 models.

Typical Performance Data

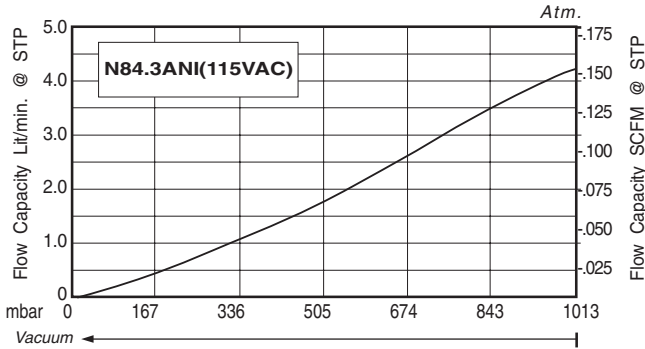
Type	Free Flow	Suction	Exhaust	Weight
N84.3ANI	4.2 l/min. (0.15 SCFM)	7 mbar (5.25 Torr)	4.5 psig	1.35 kg
N84.3ANDC	5.0 l/min. (0.18 SCFM)	5 mbar (3.75 Torr)	4.5 psig	0.9 kg
N84.4ANDC	4.8 l/min. (0.17 SCFM)	2 mbar (1.5 Torr)	4.5 psig	1.4 kg
N813.3ANI	13 l/min. (0.46 SCFM)	3 mbar (2.25 Torr)	15 psig	5.9 kg
N813.4ANI	13 l/min. (0.46 SCFM)	<0.5 mbar (0.375 Torr) ...	15 psig	7.5 kg
N813.5ANI	19 l/min. (0.67 SCFM)	<1 mbar (0.75 Torr)	15 psig	7.5 kg
N880.3AN.22E	80 l/min. (2.82 SCFM)	2 mbar (1.5 Torr)	15 psig	18.0 kg

Conversion Factors

1 m ³ /Hr	16.7 l/min	0.28 l/sec
2 m ³ /Hr	33.3 l/min	0.56 l/sec
1 m ³	1000 liters	35.31 ft ³
10 mbar	7.5 Torr	1Kpa

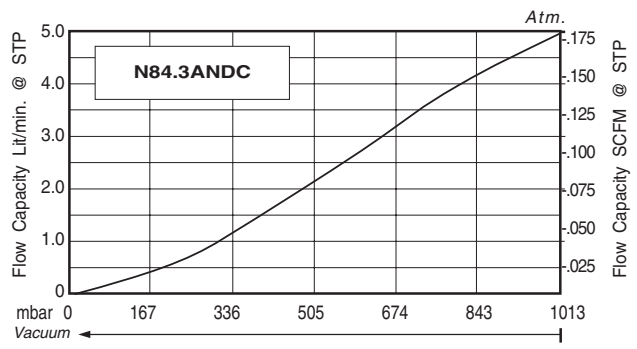
N84.3ANI

Head Configuration	Two-Stage		
Free-flow rate	4 l/min.		
End Vacuum	7 mbar (5.25 Torr)		
Motor Voltage/Hz	115 VAC (60 Hz) / 230 VAC (50 Hz)		
Full Load Amps	1.2 Amps / 0.6 Amps		
Motor Type	IP00 Shaded Pole, BLDC avail.		
Motor Protection	Thermal Reset		
Materials	Head: Aluminum	Diaphragm: EPDM	Valves: NBR

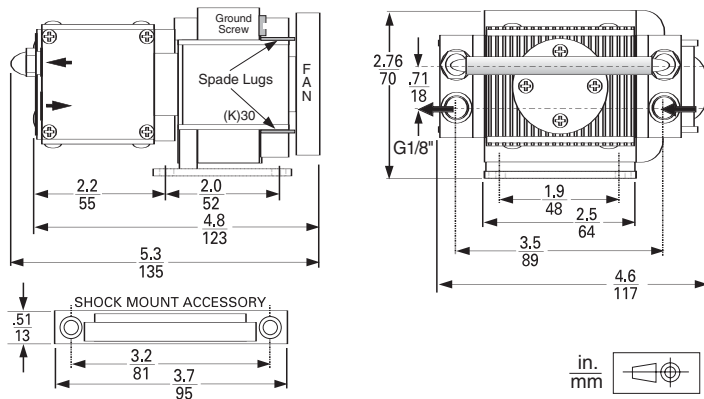


N84.3ANDC

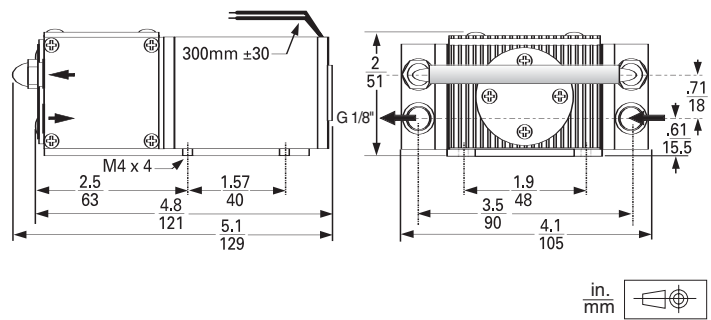
Head Configuration	Two-Stage		
Free-flow rate	5 l/min.		
End Vacuum	7 mbar (5.25 Torr)		
Motor Volts DC	6 VDC	12 VDC	24 VDC
Full Load Amps	3 Amps	1.5 Amps	0.75 Amps
Motor Type	PM Brush Type, BLDC avail.		
Motor Protection	None		
Materials	Head: Aluminum	Diaphragm: EPDM	Valves: NBR



N84.3ANI (AC)

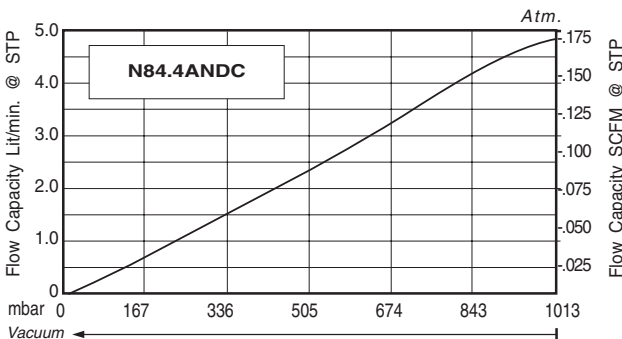


N84.3ANDC

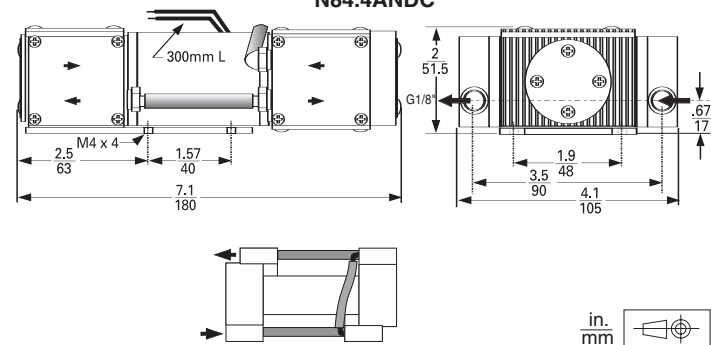


N84.4ANDC

Head Configuration	Four-Stage		
Free-flow rate	4.8 l/min.		
End Vacuum	2 mbar (1.5 Torr)		
Motor Volts DC	6 VDC	12 VDC	24 VDC
Full Load Amps	5.8 Amps	3.6 Amps	1.8 Amps
Motor Type	PM Brush Type, BLDC avail.		
Motor Protection	None		
Materials	Head: Aluminum	Diaphragm: EPDM	Valves: NBR

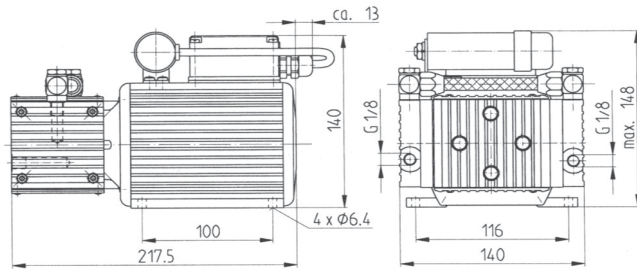
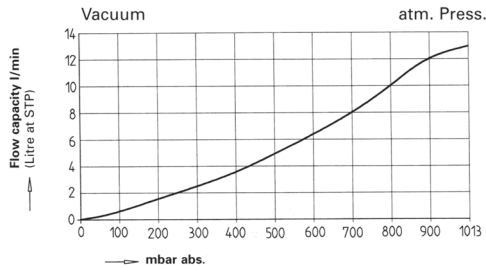


N84.4ANDC



N813.3ANI

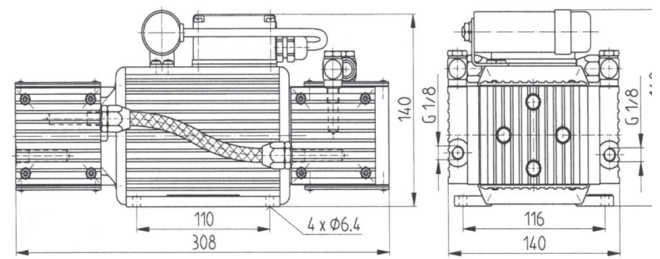
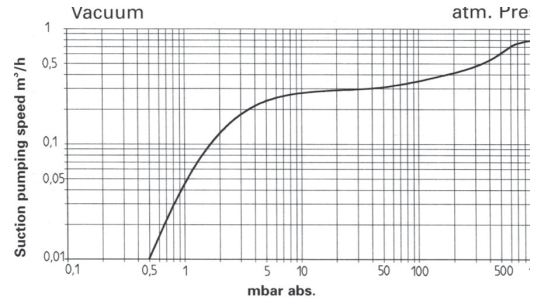
Head Configuration	Two-Stage	
Free-flow rate	13 l/min.	
End Vacuum	3 mbar (2.25 Torr)	
Motor Voltage/Hz	115 VAC (60 Hz) / 230 VAC (50 Hz)	
Full Load Amps	0.9 Amps / 0.5 Amps	
Motor Type	IP-44 TENV Split-Capacitor, BLDC avail.	
Motor Protection	Thermal Reset	
Materials	Head: Aluminum	Diaphragm: EPDM Valves: EPDM



Brushless DC model 5.7" (144.5 mm) L overall.

N813.4ANI

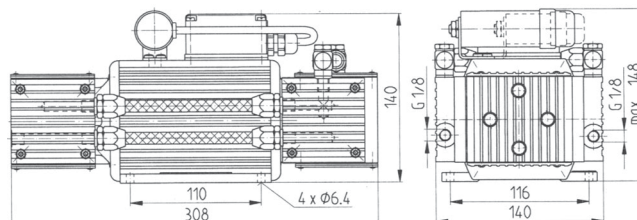
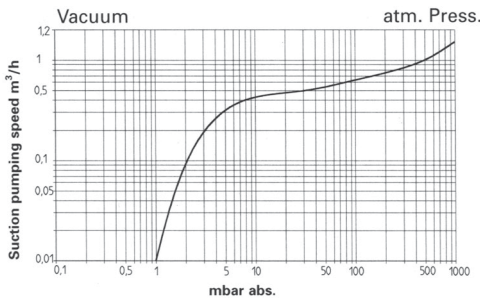
Head Configuration	Four-Stage	
Free-flow rate	13 l/min.	
End Vacuum	<0.5 mbar (<0.375 Torr)	
Motor Voltage/Hz	115 VAC (60 Hz) / 230 VAC (50 Hz)	
Full Load Amps	0.9 Amps / 0.5 Amps	
Motor Type	IP-44 TENV Split-Capacitor, BLDC avail.	
Motor Protection	Thermal Reset	
Materials	Head: Aluminum	Diaphragm: Neoprene Valves: EPDM



Brushless DC model 9.0" (230 mm) L overall. See picture on front page.

N813.5ANI

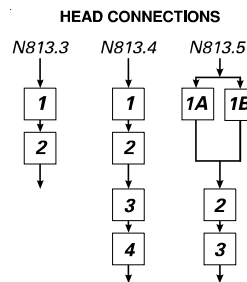
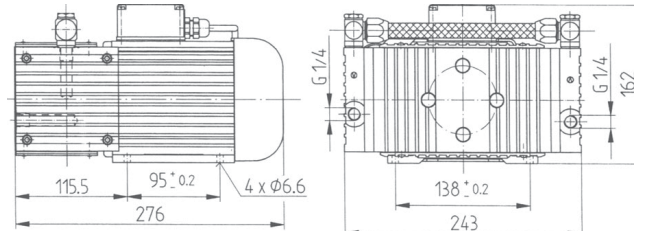
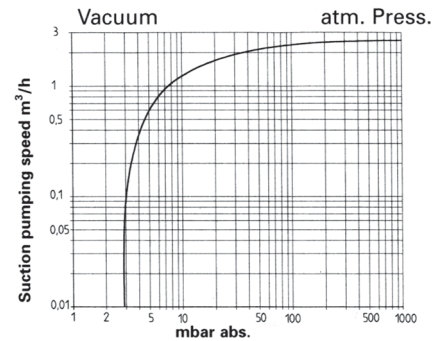
Head Configuration	Three-Stage/Parallel	
Free-flow rate	19 l/min.	
End Vacuum	<1 mbar (<0.75 Torr)	
Motor Voltage/Hz	115 VAC (60 Hz) / 230 VAC (50 Hz)	
Full Load Amps	0.9 Amps / 0.5 Amps	
Motor Type	IP-44 TENV Split-Capacitor, BLDC avail.	
Motor Protection	Thermal Reset	
Materials	Head: Aluminum	Diaphragm: EPDM Valves: EPDM



Brushless DC model is 9.0" (230 mm) L overall.

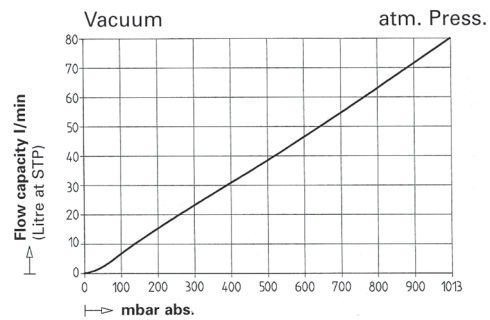
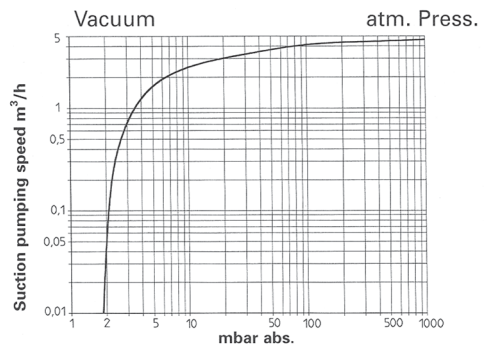
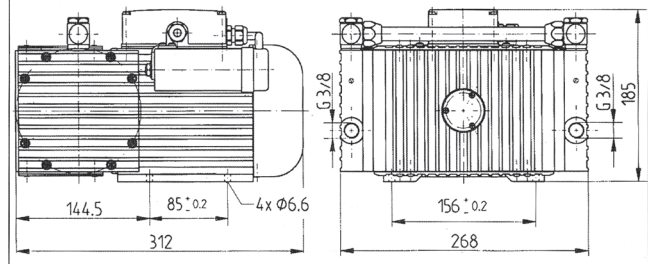
N843.3ANI

Head Configuration	Two-Stage	
Free-flow rate	43 l/min.	
End Vacuum	3 mbar (2.25 Torr)	
Motor Voltage/Hz	115 VAC (60 Hz) / 230 VAC (50 Hz)	
Full Load Amps	1.2 Amps / 0.6 Amps	
Motor Type	IP-44 TEFC	
Motor Protection	Thermal Reset	
Materials	Head: Aluminum	Diaphragm: EPDM Valves: CR



N880.3AN.22I

Head Configuration	Two-Stage	
Free-flow rate	80 l/min.	
End Vacuum	2 mbar (1.5 Torr)	
Motor Voltage/Hz	115 VAC (60 Hz) / 230 VAC (50 Hz)	
Full Load Amps	5 Amps / 2.6 Amps	
Motor Type	IP-44 TEFC	
Motor Protection	Thermal Reset	
Materials	Head: Aluminum	Diaphragm: EPDM Valves: FPM



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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, a wide variety of motor options and different materials of construction may be available. Teflon® and Kalrez® are registered trademarks of DuPont. Viton® is a registered trademark of DuPont Dow Elastomers, Ryton® is a registered trademark of Phillips 66. Specifications subject to change without notice.