



Model UNMP50KNDC shown with DC motor

Type: UNMP50

Micro-Diaphragm Pump and Compressor

Single Stage OEM Installation Model with DC or Brushless DC Motor

Free-Flow Capacity: 4.0 liters/min. (0.14 SCFM)

Maximum Vacuum: 400 mbar abs. (18 in. Hg)

Maximum Continuous Pressure: 0.5 bar (7.3 psig)

Description

KNF's UNMP50 miniature diaphragm pump is capable of transferring the largest volume of air or gases in this size range. Featuring high efficiency and contamination-free operation, it is ideal for use in portable, battery operated equipment where performance, power consumption, minimal weight, and size are important. New Ryton® engineered plastic is used on this pump, along with ball-bearings to produce the highest-quality product available.

Pump Features

- **Flexibility for the OEM Designer** - KNF's "OEM Project Pump" program provides a variety of cost reductions and affordable modifications. We can easily optimize this pump to fit your design rather than force a compromise with a standard product. For example, we routinely reposition component parts or change mounting methods. We can alter standard performance limits or recommend other materials of construction that are more suitable or economical for your application. This pump is available with a variety of motors, including brushless DC with internal drive electronics for longer lifetime and lower EMI/RFI.
- **Fits into the Smallest Devices** - KNF's engineers combined high performance with precision miniature packaging to produce a compact unit for portable devices where space is at a premium. Optimally placed mounting holes in the compressor housing allow for flexibility in mounting this pump in any position within your device without affecting performance.
- **Excellent Stability and Corrosion-Resistance** - Head parts made from Ryton® exhibit solid, consistent performance throughout the life of the pump and have excellent chemical-resisting properties. The contamination-free design retains medium purity and increasing system reliability as they are maintenance-free and have no sliding seals to wear away.
- **Quality Construction** - An enclosed compressor housing minimizes noise transmission and keeps dirt away from critical components. Sealed ball-bearings provide long life. The DC motor housing is sealed to retain brush dust and prevent external contamination.

Applications

- Asbestos Particle Counters
- Gas or Odor Leak Detectors
- Gas Chromatography
- Blood Pressure Monitors
- Organic Vapor Analyzers
- Respiration Monitors
- Portable Dosimeters
- Air Quality Sampling Monitors
- Portable Analytical Instruments
- Medical Diagnostic Equipment
- Pick & Place Tools for IC Wafers
- Pneumatic Air Supply

KNF Performance Specifications

Model Number	UNMP50KNDC	UNMP50KNDC BLDC
Maximum Free Flow	4.0 liters/min. (0.14 SCFM)	4.0 liters/min. (0.14 SCFM)
Maximum Continuous Vacuum	400 mbar (18 in. Hg)	400 mbar (18 in. Hg)
Maximum Continuous Pressure	0.5 bar (7.3 psig)	0.5 bar (7.3 psig)
Maximum End Pressure	1.14 bar (16.5 psig)	1.14 bar (16.5 psig)

Electrical

Motor Voltage	6 VDC	12 VDC	24 VDC	12 VDC	24 VDC
Motor Current @ Free Flow	570 mA	250 mA	120 mA	400 mA	210 mA
Motor Type	Permanent Magnet Brush Type DC			Brushless DC/internal Controller	

Environmental

Maximum Ambient Temperature	40°C (105°F)
Maximum Medium Temperature	40°C (105°F)
Net Weight	180 grams (0.4 lb.)

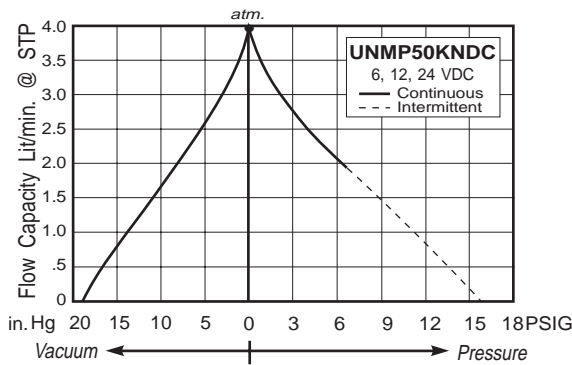
Materials of Construction

Model Number	Head	Diaphragm	Valves	Clamping Disk/Screw
UNMP50KNDC	Ryton® (PPS)	Neoprene	Neoprene	Grilon® PV5H/Stainless Steel
UNMP50KVDC	Ryton® (PPS)	Viton®	Viton®	Grilon® PV5H/Stainless Steel

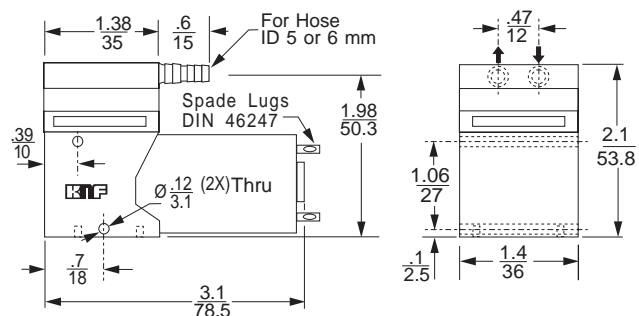
Notes: *Flow capacity reduced by 15% for Teflon models. Standard continuous performance ratings are based on technical data and test results of nominal units at sea level with an ambient temperature of 70° F (21° C) and nominal electrical supply are listed above. Dimensions and performance characteristics given are for reference only. Higher performance models, cost efficient OEM modifications, a wide variety of motor options and different materials of construction are available. Viton® is a registered trademark of DuPont Dow. Ryton® is a registered trademark of the Phillips 66 Company. Grilon® is a registered trademark of EMS-American Grilon Inc. Specifications subject to change without notice.

Accessories: Noise & Dust Filters, Shock Mounts, Pressure Control Valves

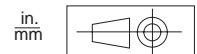
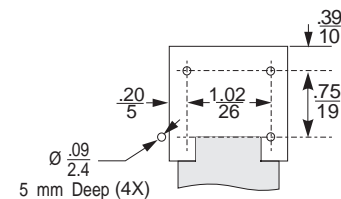
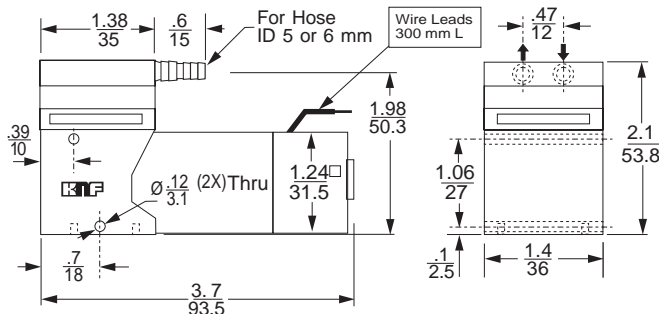
Performance Characteristics/Outline Dimensions:



UNMP50 (DC)



UNMP50 (Brushless DC)



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