DIAPHRAGM PUMPS FOR EXCELLENT SUCTION SPEED

DATA SHEET E 041

NEW

N 950.50 KNDCB - with brushless DC Motor

N 950.50 KNE-W with multi-voltage power supply input

Concept

The Diaphragm Vacuum Pumps from KNF are based on a simple principal - an elastic diaphragm, fixed on its edge, moves up and down its central point by means of an eccentric. In this way the medium is transferred using automatic valves.

The pumps are equipped with a parallel and series connection for the pump heads - resulting in a high pneumatic performance, a durable product and compact size. Special valves ensure that the product can cope easily with vapour and condensation.

A control cable (see Accessories) can be used to change the motor speed and thereby the flow rate by varying the control voltage. This allows for example the flow rate to be adapted to the process requirements.

The vacuum pumps are optionally available with a gas ballast valve.

Features

Transferring and evacuation of air and gases
No contamination of the media due to oil-free operation

High level of gas tightness

Quiet running

Cool and efficient brushless motor

Optional with gas ballast valve (Ultimate vacuum down to 4 mbar abs.) and signal input for external control (motor speed)

Multi-voltage power supply input (N 950.50 KNE-W)

Can operate in any installed position

Areas of use

The N 950.50 series of diaphragm vacuum pumps offer a high level of performance in a compact unit size. The pumps are used for transferring gases, taking samples (even liquids in a vacuum), evacuating vessels and systems.

The N 950.50 vacuum pumps are used for example in the semiconductor and pharmaceutical industries, in chemical engineering, analytical instruments, in surface finishing, equipment for seal testing or in various procedures and processes carried out under vacuum conditions.

PERFORMANCE DATA

Type	Delivery (l/min)	Vacuum (mbar absolute)	atm. Press.	Pressure (bar g)	Weight (kg)
N 950.50 KNDCB	55	2		0.5	6.5
N 950.50 KNE-W	55	2		0.5	7.4

N 950.50 KNDC B

PERFORMANCE DATA

Type and Order No.	Delivery **(l/min)**[1] at atm. pressure	Max. operating pressure **(bar g)**	Ultimate vacuum **(mbar abs.)**
N 950.50 KNDCB	55	0.5	2

[1] Litre at STP

MOTOR DATA

Motor type:brushless DC motor		
Protection class	IP 20	
Voltage/Frequencies (V)	24	
Power P_1 (W)	120	
Operating current (A)	5	

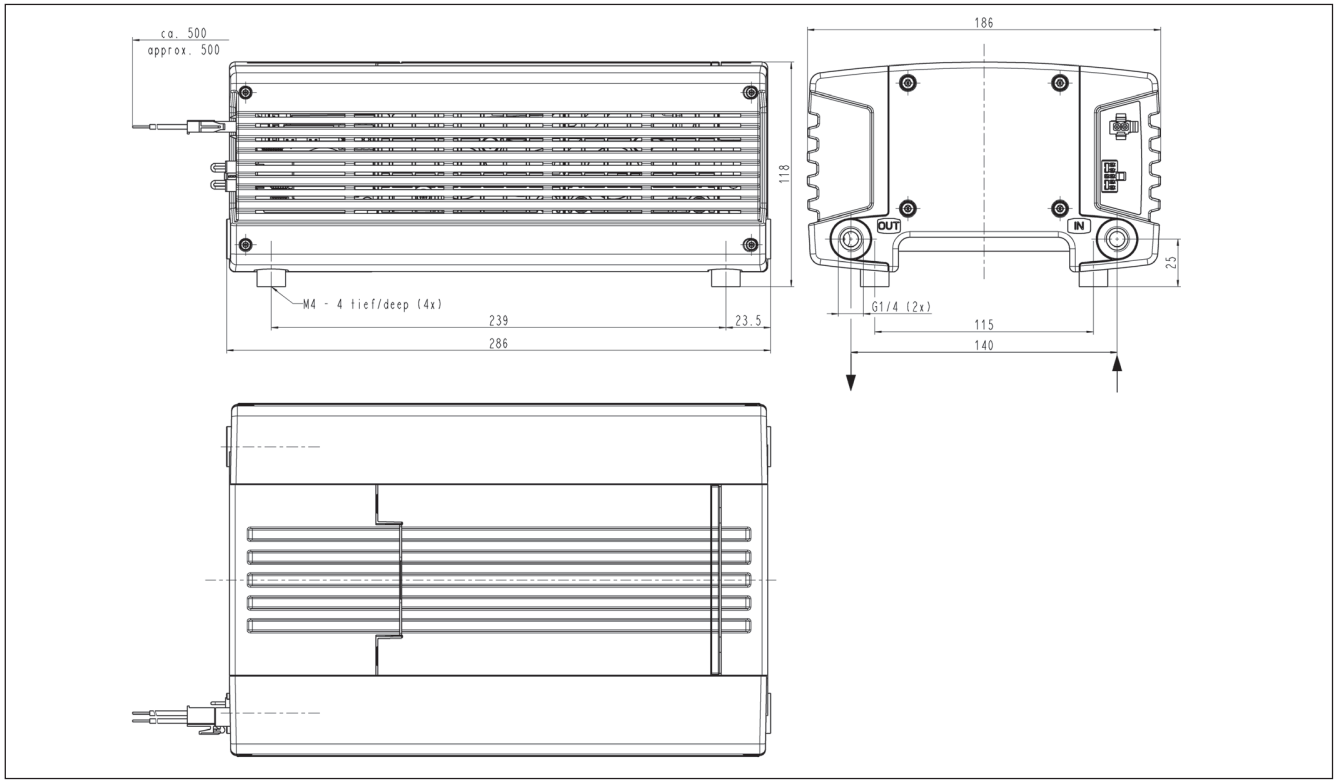
Motors with other voltages, frequencies and protection classes on request.

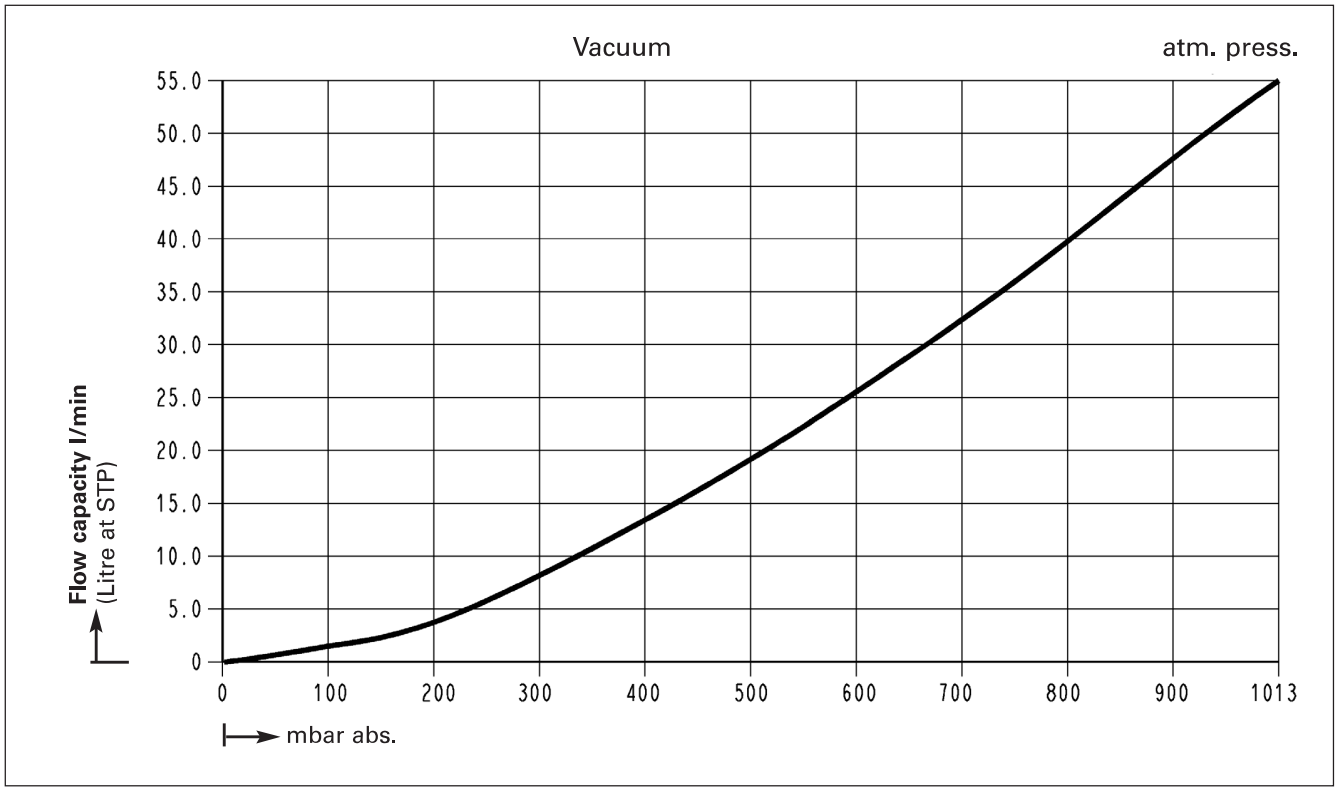
MODEL CODES AND MATERIALS

Type and Order No.	**Pump head**	**Diaphragm**	**Valves**
N 950.50 KNDCB	PPS	PTFE coated	FPM

Optional with gas ballast valve (Ultimate pressure down to 4 mbar abs.) and signal input for external control (motor speed). Please contact us for further information.

Dimensions mm (All dimensional tolerances conform to DIN ISO 2768-1, Tolerance Class V)





N 950.50 KNE-W

PERFORMANCE DATA

Type and Order No.	Delivery (l/min)[1] at atm. pressure	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 950.50 KNE-W	55	0.5	2

[1] Litre at STP

MOTOR DATA

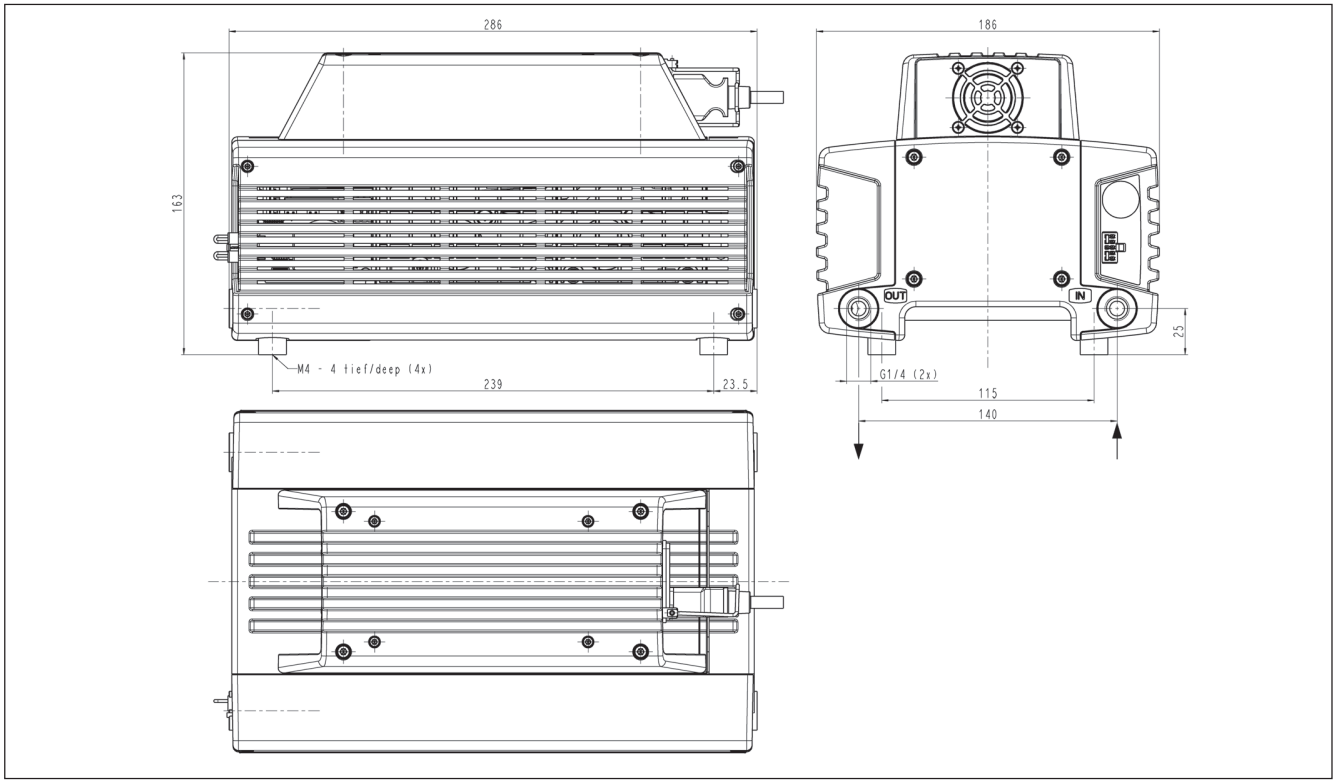
Motor type: AC motor (multi-voltage power supply input)	
Protection class	IP 20
Voltage (V)	~100-240/50-60
Power P_1 (W)	140
Operating current (A)	1.9

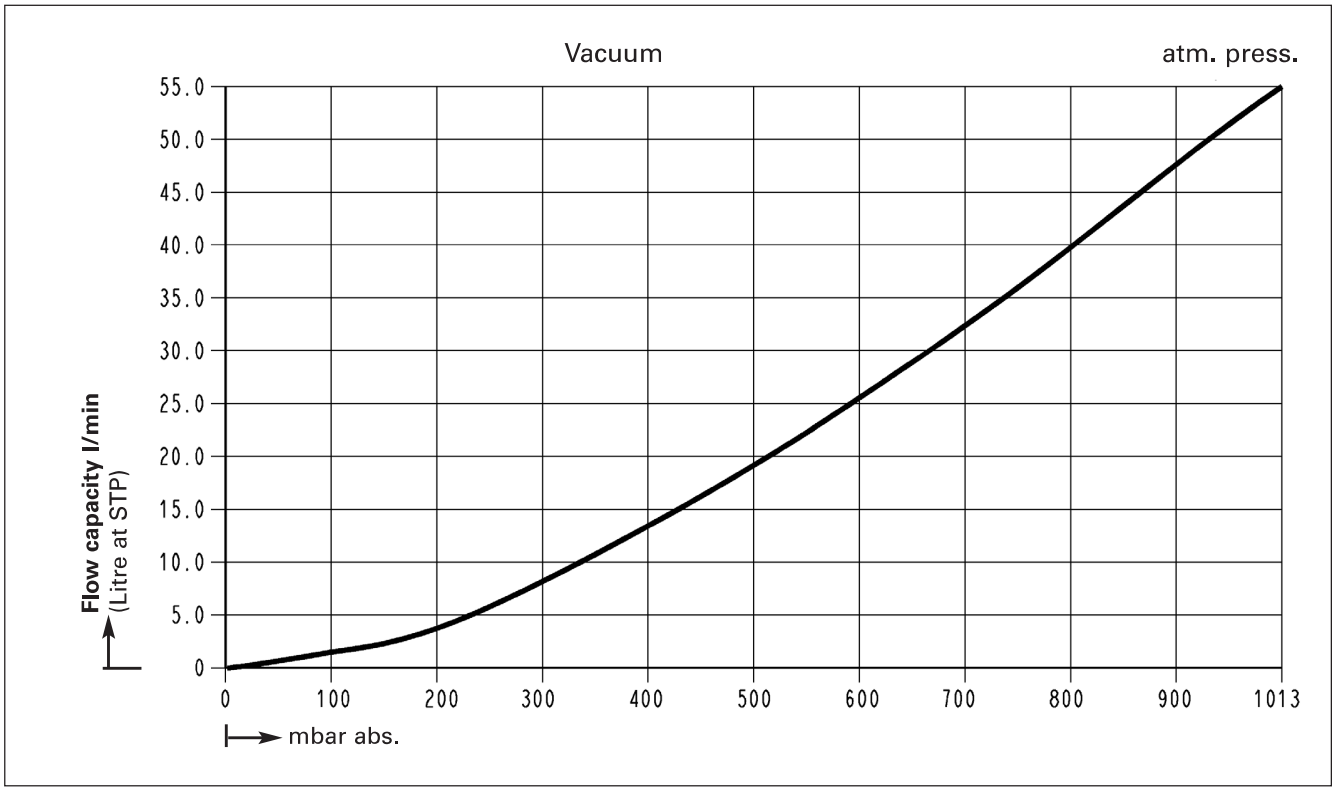
MODEL CODES AND MATERIALS

Type and Order No.	**Pump head**	**Diaphragm**	**Valves**
N 950.50 KNE-W	PPS	PTFE coated	FPM

Optional with gas ballast valve (Ultimate pressure down to 4 mbar abs.) and signal input for external control (motor speed). Please contact us for further information.

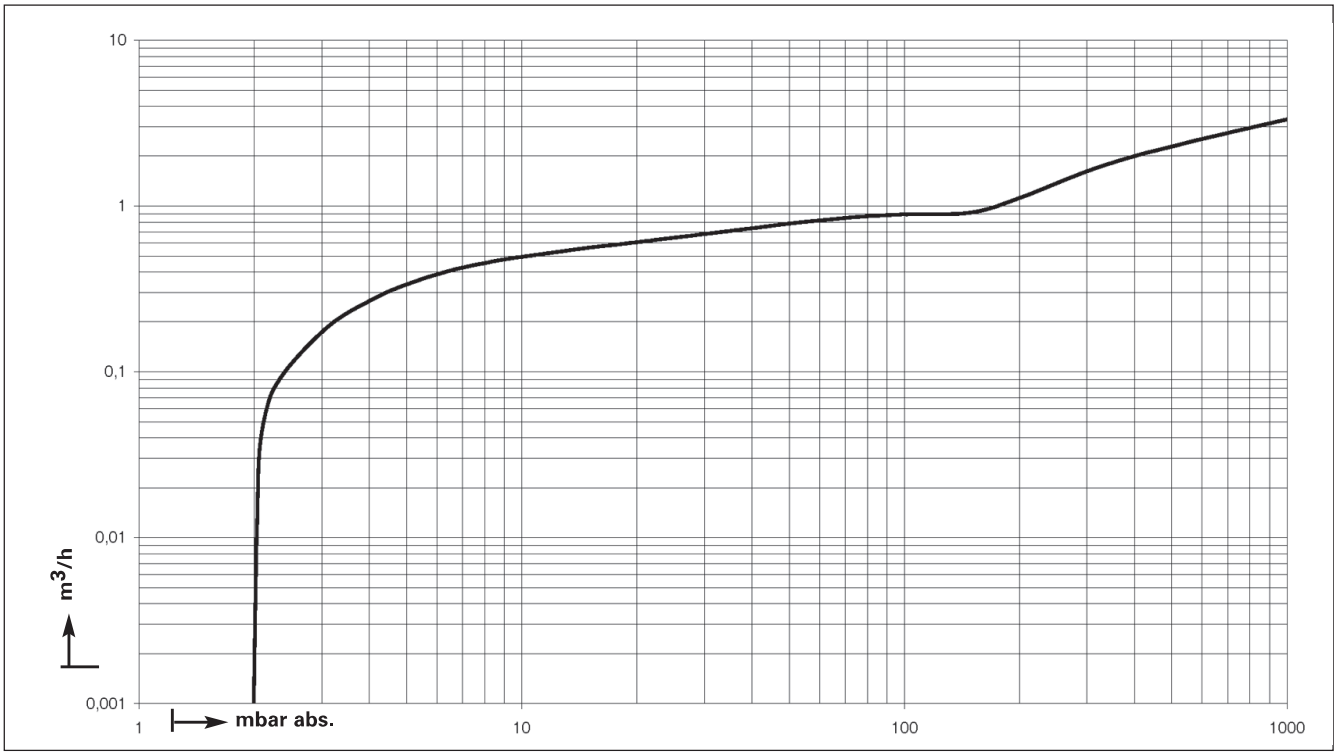
Dimensions mm (All dimensional tolerances conform to DIN ISO 2768-1, Tolerance Class V)



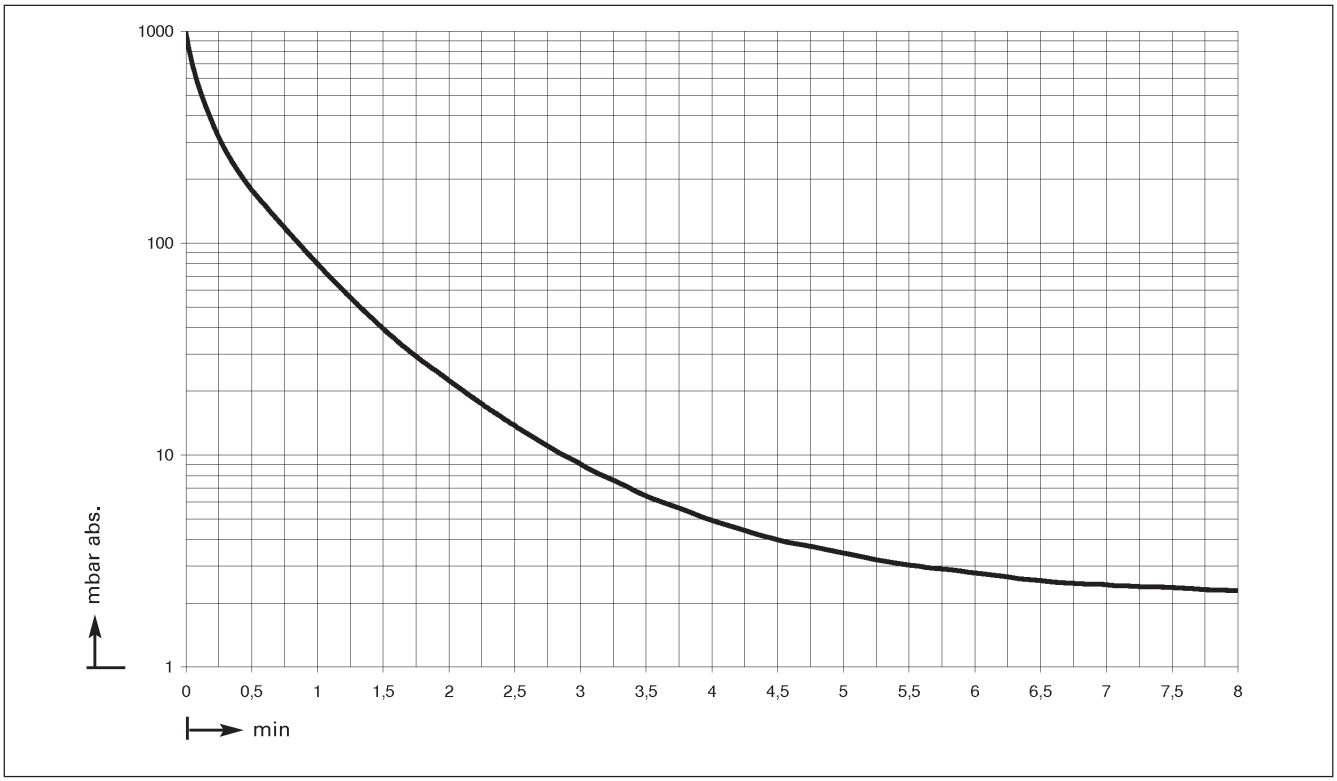


PERFORMANCE DATA

Suction pumping speed (1.500 1/min)



Pump down time for 10 litre receiver



Accessories

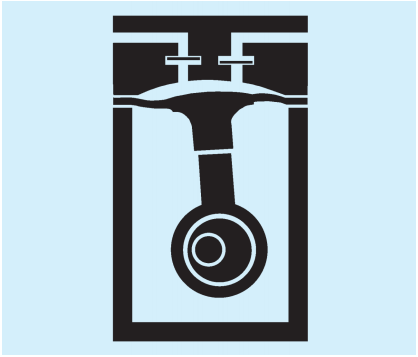
Description	Order No.	Details
Spare kit	125411	Diaphragm, valves, sealing ring
Control cable	125391	0,5 m long
Gas ballast	-	on request
Hose connector	004950	G 1/4, for tube ID 9
Sealing for hose connector	029112	G 1/4
Small flange, stainless steel	048116	G 1/4, KF 16

HINTS ON FUNCTION, INSTALLATION AND SERVICE

THE BASIC FUNCTION OF KNF DIAPHRAGM VACUUM PUMPS AND COMPRESSORS

An elastic diaphragm is moved up and down by an eccentric (see illustration). On the down-stroke it draws the air or gas being handled through the inlet valve. On the up-stroke the diaphragm forces the medium through the exhaust valve and out of the head. The compression chamber is hermetically separated from the drive mechanism by the diaphragm. The pumps transfer, evacuate and compress completely oil-free.

Diaphragm pump



HINTS ON INSTALLATION AND OPERATION

- Range of use: Transferring air and gases at temperatures between + 5 °C and + 40 °C
- Permissible ambient temperature: between + 10 °C and + 40 °C
- Please check the compatibility of the materials of the pump head, diaphragm and valves with the medium.
- The KNF product line contains pumps suitable for pumping aggressive gases and vapors - please contact us.
- Standard pumps are not suitable for use in areas where there is a risk of explosion. In these cases there are other products in the KNF program - please ask us for details
- To prevent the maximum operating pressure being exceeded, restriction or regulation of the air flow should only be carried out in the suction line
- Components connected to the pump must be designed to withstand the pneumatic performance of the pump
- Install the pump so that the fan can draw in sufficient cooling air
- Fit the pump at the highest point in the system, so that condensate cannot collect in the head of the pump.

HINTS ON SERVICE

The diaphragm and valves are the only parts of the KNF diaphragm pumps subject to wear. They are easy to change, as no special tools are needed.

If you have any questions, please call our application engineers (see back side for contact)

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O 10/2012 Produced in Germany