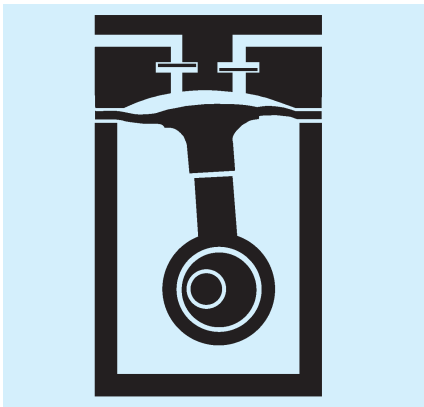


HINTS ON FUNCTION, INSTALLATION AND SERVICE

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, gases and vapours at temperatures between +5 °C and +40 °C. Versions for higher temperature on request
- Permissible ambient temperature: between +5 °C and +40 °C
- The 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
- The pumps are not designed to start against pressure or vacuum; when a pump is switched on the pressure in the suction and pressure lines must be atmospheric. Pumps that start against pressure or vacuum are available on request
- 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 - that prolongs working-life.

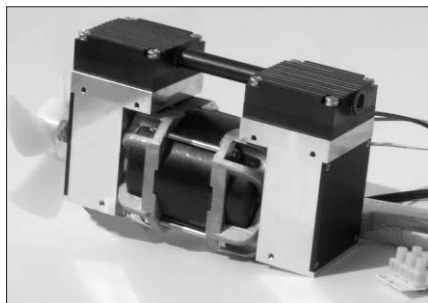
HINTS ON SERVICE

The diaphragm and valve plates 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 below for contact telephone number).

DIAPHRAGM VACUUM PUMPS FOR AUTOCLAVES

DATA SHEET E012



N 816.3 KPE



N 816.6 KPE

Concept

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 the patented stress-optimised structured diaphragm, 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.

Thanks to the KNF modular system, the parts used to transfer the gases can be made from materials with varying degrees of durability and compatibility. The customer has a choice of pump drives ranging from a selection of motors. Please contact us for further details.

Features

Uncontaminated flow

No contamination of the media due to oil-free operation

Specially developed for sterilisation and drying processes

Optimal flow characteristics for fast drying

Condensate-repellent surfaces in the flow area

Efficient condensate removal through inclined or wall mounting

Compact and powerful

Vacuum down to 10 mbar abs.

Maintenance free

High level of gas tightness

Can operate in any installed position

Areas of use

These pumps are specially designed to satisfy the requirements of steam sterilisation and vacuum drying, leading to very reliable operation.

The pump heads are made of Ryton²⁾ and in the supply area have a condensate-repellent surface with optimised flow paths. This technology, combined with inclined mounting (e.g. using KNF fixing brackets, see drawing from the N 816.3 KPE) or wall mounting, facilitates good condensate removal and fast drying.

PERFORMANCE DATA

Type	Delivery (l/min)	Vacuum (mbar absolute)	atm. press.	Pressure (bar g)	Weight (kg)
N 816.3 KPE	16	15		0,5	3,0
N 816.6 KPE	28	10		0,5	3,15

N 816.3 KPE

PERFORMANCE DATA

Type and Order No.	Delivery at atm. Pressure (l/min) ¹⁾	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 816.3 KPE	16	0.5	15

¹⁾ Litre in STP

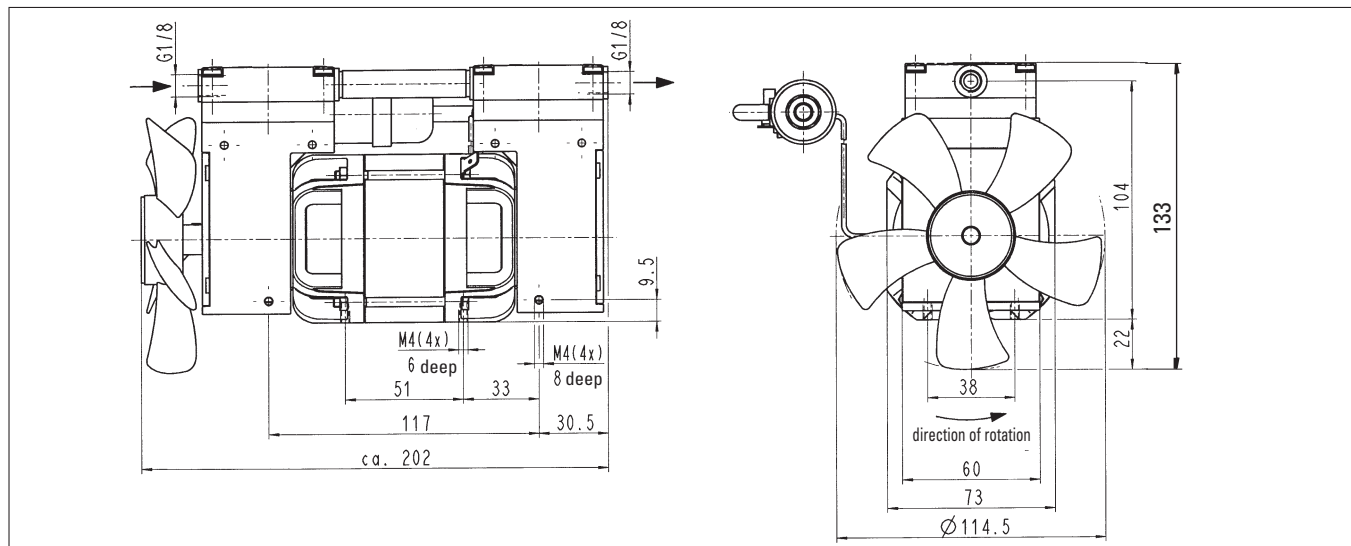
MODEL CODES AND MATERIALS

Type and Order No.	Pump head	Diaphragm	Valves
N 816.3 KPE	Ryton ²⁾	EPDM	EPDM

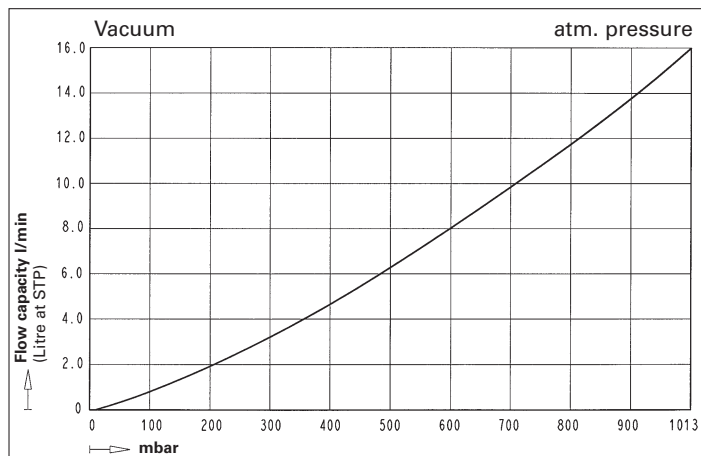
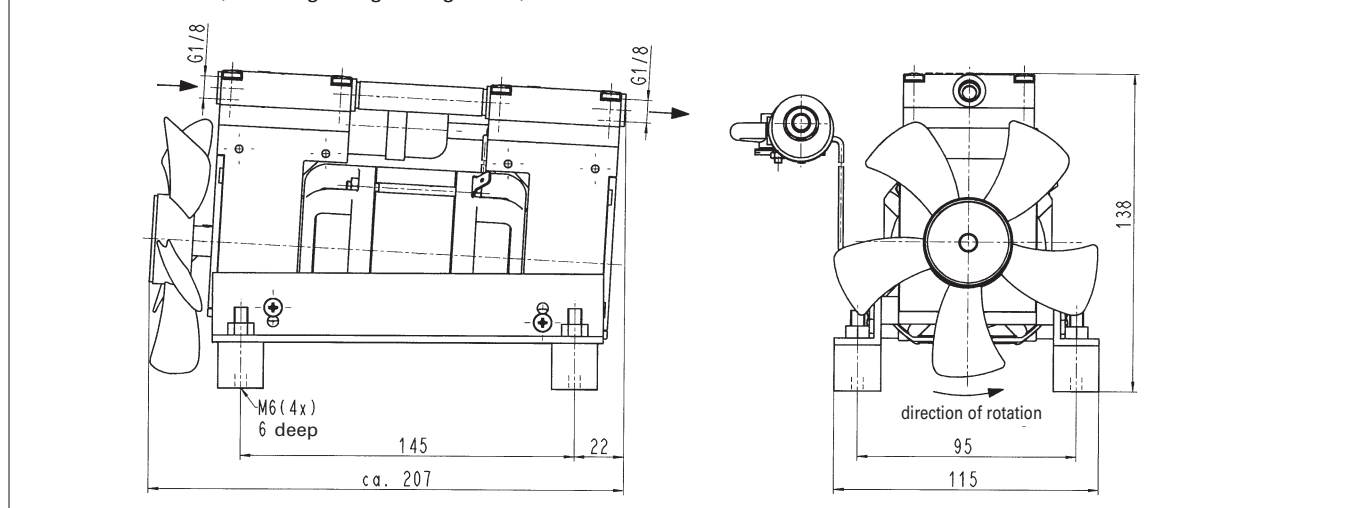
MOTOR DATA

Protection class	IP 00		
Voltage/Frequencies (V/Hz)	~230/50		
Power P ₁ (W)	100		
Operating current (A)	0.6		

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



Dimensions in mm (including fixing arrangement)



N 816.6 KPE

PERFORMANCE DATA

Type and Order No.	Delivery at atm. Pressure (l/min) ¹⁾	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 816.6 KPE	28	0.5	10

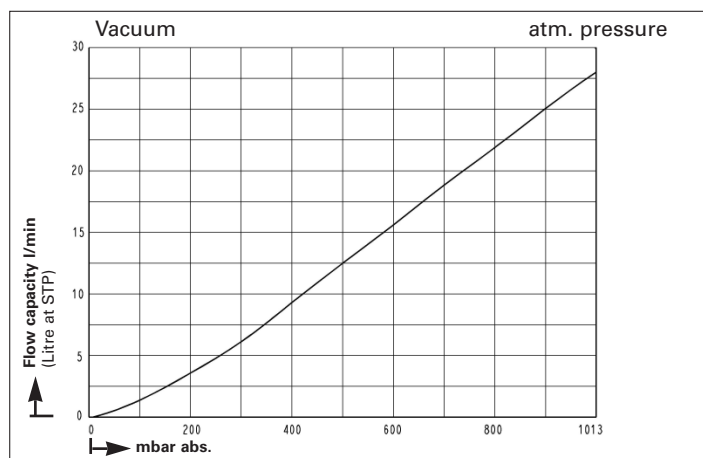
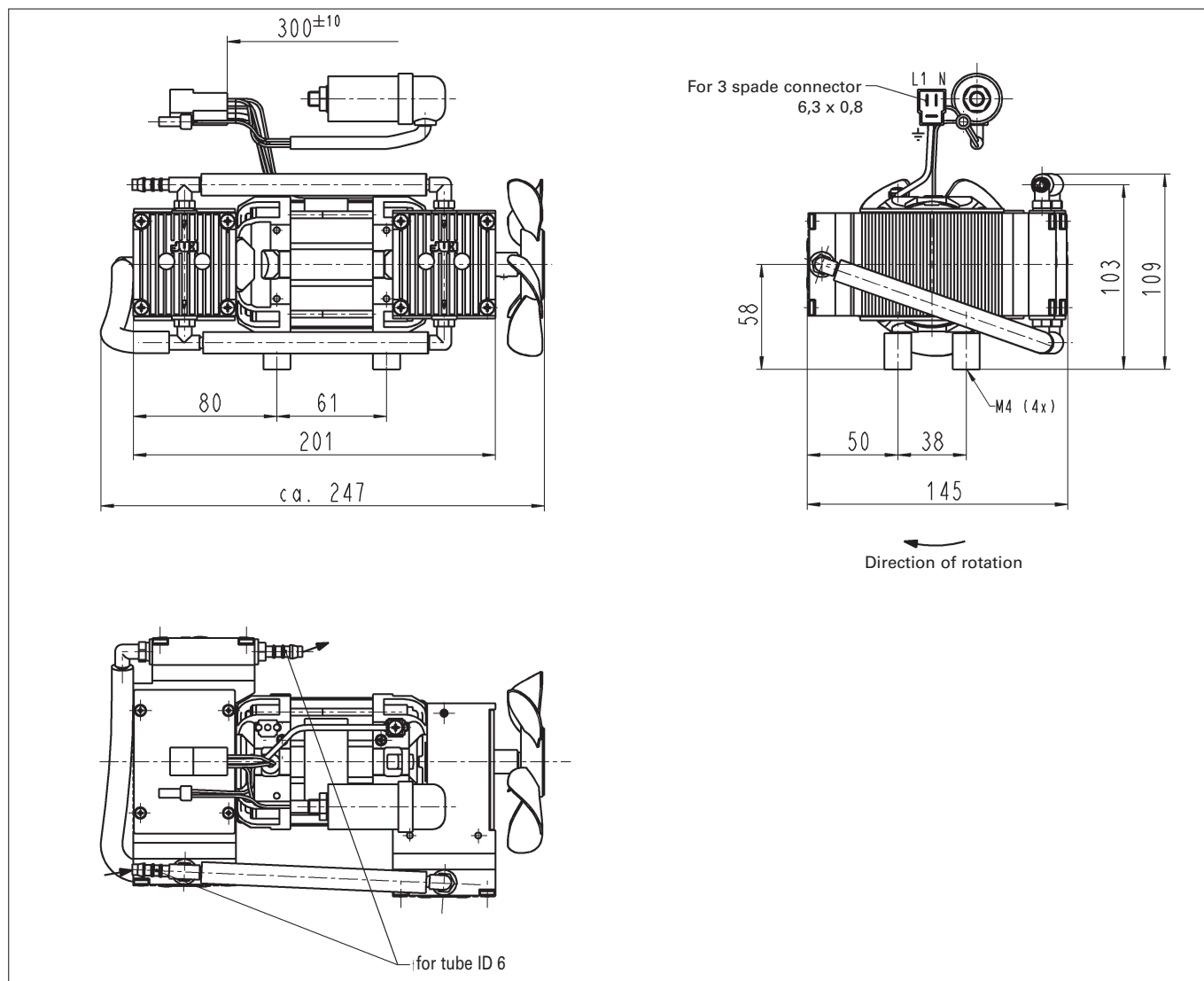
¹⁾ Litre in STP

MODEL CODES AND MATERIALS

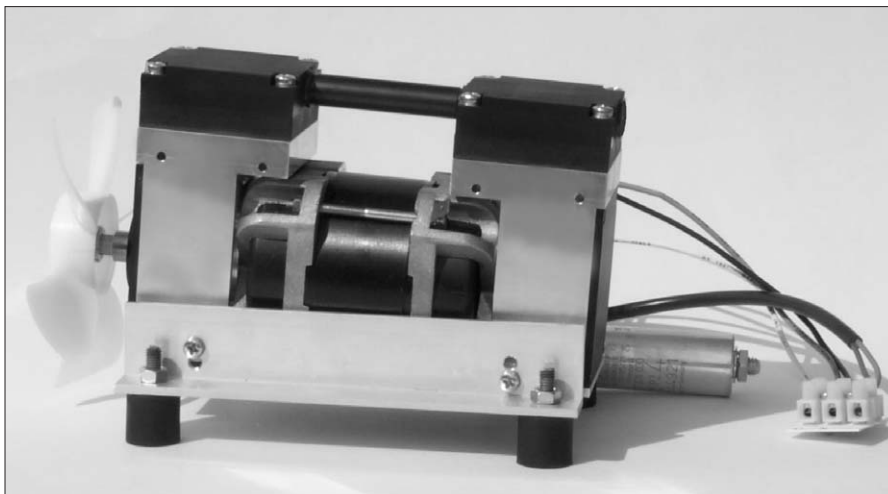
Type and Order No.	Pump head	Diaphragm	Valves
N 816.6 KPE	Ryton ²⁾	EPDM	EPDM

MOTOR DATA

Protection class	IP 00		
Voltage/Frequencies (V/Hz)	~230/50		
Power P ₁ (W)	130		
Operating current (A)	0.8		



TECHNICAL INFORMATION



N 816.3 KPE with fixing arrangement

Easily mounted in equipment; with vibration damping and pump inclined to facilitate draining condensate (also suitable for wall mounting).

TECHNICAL DETAILS

Maximum permissible gas and ambient temperature: between +5°C and +40°C.

Versions for higher gas temperature and with motors for other voltages, frequencies and protection classes on request.

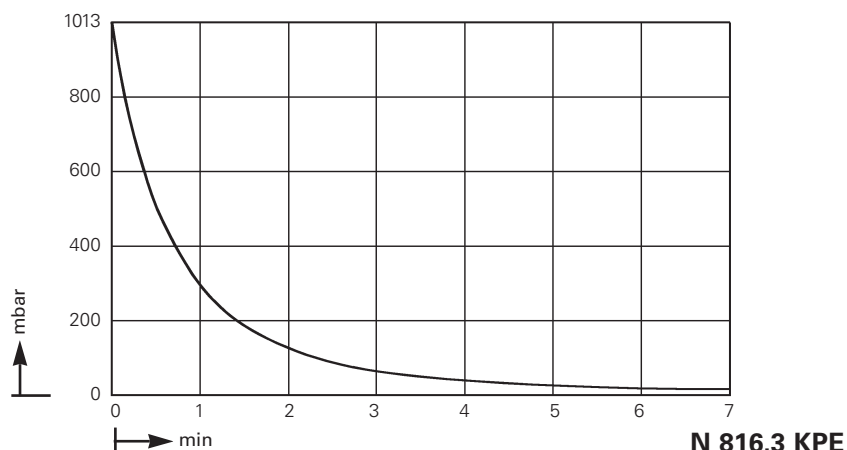
Versions for higher pressure and working contra pressure discuss with KNF sales engineers.

2) Phillips Petroleum registered trade mark

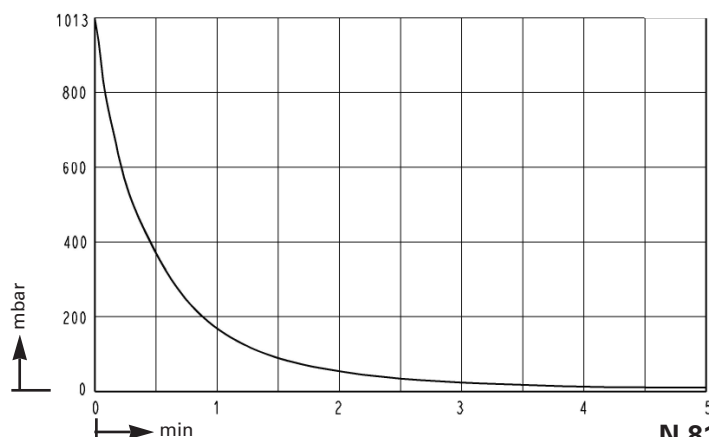
Accessories

Description	Order No.	Details
Fixing Kit	052074	for N 816.3 KPE

Pump down time 10 l receiver



N 816.3 KPE



N 816.6 KPE

KNF - the competent partner for vacuum and compressor technology. Especially for unusual problems. Call us and talk to our sales engineers.

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