



# DIAPHRAGM VACUUM PUMPS AND COMPRESSORS

## N022, N026



N 022 ANE

### Concept

The Diaphragm 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.

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

### Features

- Pure transfer, evacuation and compression of air, gases and vapours
- No contamination of the media due to oil-free operation
- Maintenance-free
- Corrosion resistant models
- High level of gas tightness: approx.  $6 \times 10^{-3}$  mbar x l/s (not tested in serial production)
- Long product life
- Very quiet and little vibration
- Cool running motor even when in constant use
- Ready for assembly
- Can operate in any installed position

### Areas of use

The Diaphragm Pumps offer a high level of performance despite their small size, as well as an excellent price performance ratio. They are required especially in the fields of analysis, medicine and production technology.

The pumps are used for transferring and sucking gases, taking samples (even liquids in a vacuum), evacuating vessels and compressing gases in process systems and vessels.

PERFORMANCE DATA					
Type	Delivery (l/min)	Vacuum (mbar abs.)	atm. Press.	Pressure (bar g)	Weight (kg)
N 022 ANE	15	100		4	4.0
N 026 ANE	20	100		2.5	4.1

# N 022 ...

## PERFORMANCE DATA

Type and Order No. <sup>2)</sup>	Delivery at atm. pressure (l/min) <sup>1)</sup>	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 022 ANE	15	4	100
N 022 AVE	15	2,5	100
N 022 ATE	13	4	100
N 022 SNE	15	4	100
N 022 SVE <sup>1)</sup>	15	2,5	100
N 022 STE	13	4	100

<sup>1)</sup> Litre at STP

## MOTOR DATA

Protection class	IP 20	IP 44	
Voltage/Frequencies (V/Hz)	~230/50	on request	
Power P <sub>1</sub> (W)	100		
Operating current (A)	0.7		

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

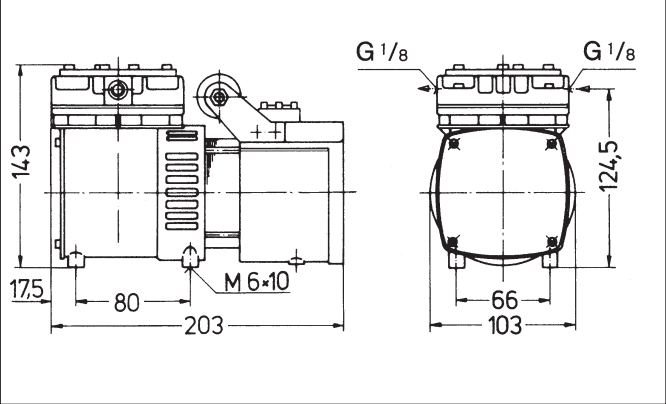
## MODEL CODES AND MATERIALS

Type and Order No. <sup>2)</sup>	Pump head	Diaphragm	Valves
N 022 ANE	Aluminium	Neoprene	Stainless steel
For slightly aggressive and corrosive gases and vapours			
N 022 AVE	Aluminium	Viton	Stainless steel
N 022 ATE	Aluminium	PTFE-coated	Stainless steel
N 022 SNE	Stainless steel	Neoprene	Neoprene
N 022 SVE	Stainless steel	Viton	Viton
N 022 STE	Stainless steel	PTFE-coated	PTFE

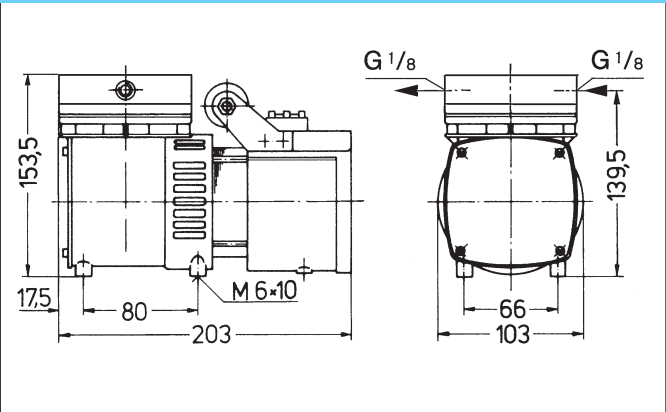
<sup>2)</sup> See also „MODEL CODES FOR EASY ORDERING“

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

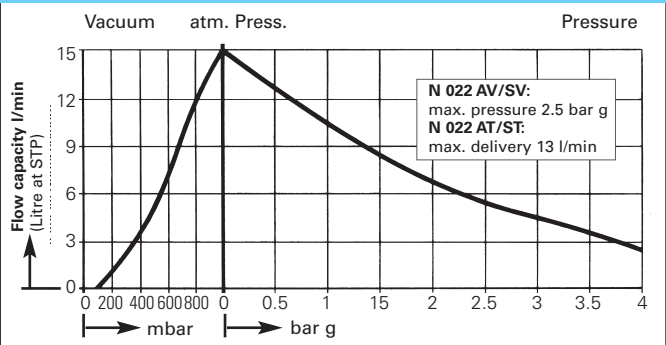
### N 022 A\_E



### N 022 S\_E



### N 022 ANE



# N 026 ...

## PERFORMANCE DATA

Type and Order No. <sup>2)</sup>	Delivery at atm. pressure (l/min) <sup>1)</sup>	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 026 ANE	20	2,5	100
N 026 AVE	20	2,5	100
N 026 ATE	17	2,5	100
N 026 SNE	20	2,5	100
N 026 SVE	20	2,5	100
N 026 STE	17	2,5	100

<sup>1)</sup> Litre at STP

## MOTOR DATA

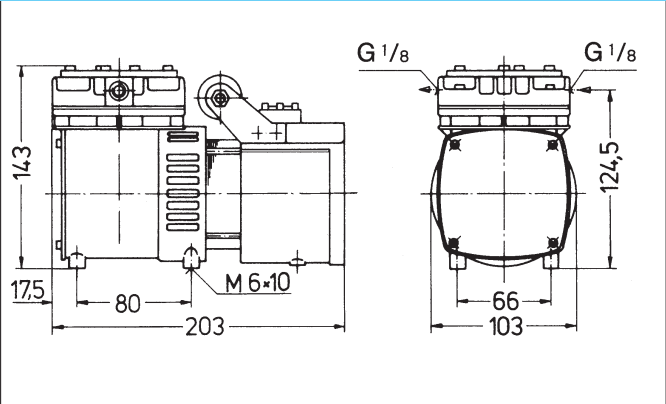
Protection class	IP 20	IP 44	
Voltage/Frequencies (V/Hz)	~230/50	on request	
Power P <sub>1</sub> (W)	100		
Operating current (A)	0.7		

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

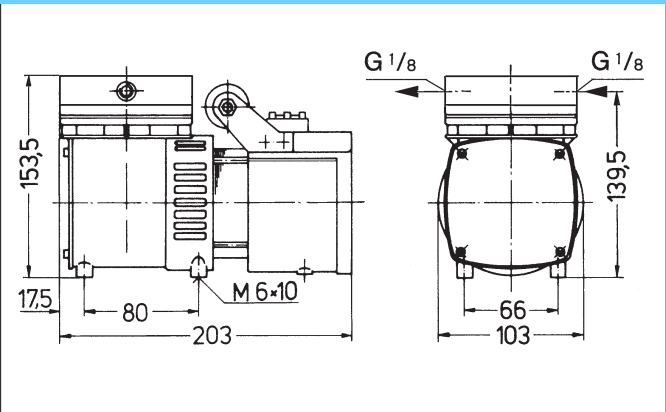
## MODEL CODES AND MATERIALS

Type and Order No. <sup>2)</sup>	Pump head	Diaphragm	Valves
N 026 ANE	Aluminium	Neoprene	Stainless steel
For slightly aggressive and corrosive gases and vapours			
N 026 AVE	Aluminium	Viton	Stainless steel
N 026 ATE	Aluminium	PTFE-coated	Stainless steel
N 026 SNE	Stainless steel	Neoprene	Neoprene
N 026 SVE	Stainless steel	Viton	Viton
N 026 STE	Stainless steel	PTFE-coated	PTFE

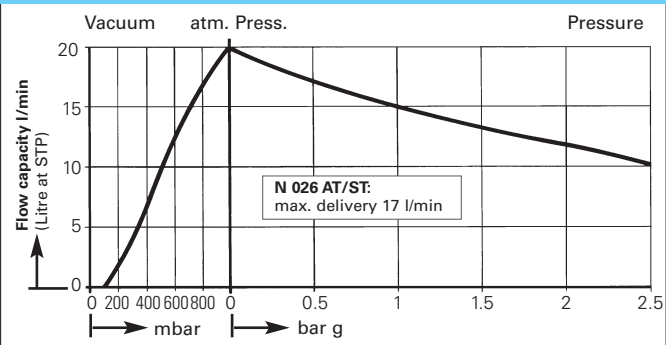
### N 026 A\_E



### N 026 S\_E

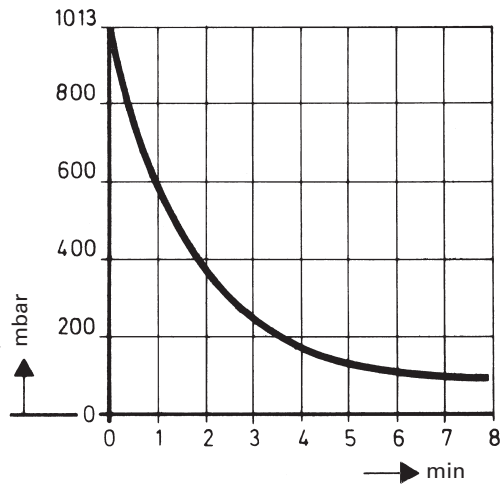


### N 026 ANE

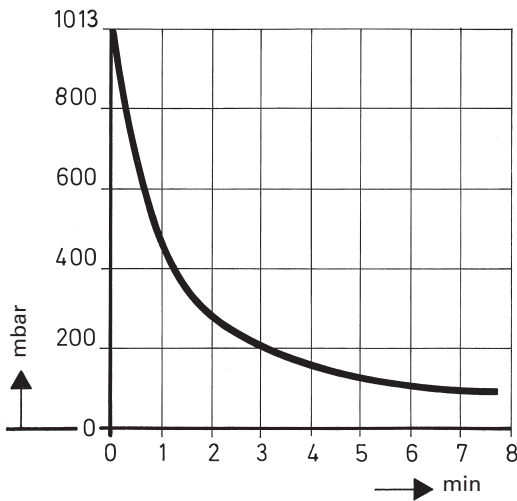


Pump down time for 20 l receiver

N 022 ANE

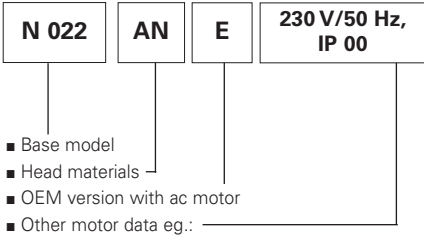


N 026 ANE



MODEL CODE FOR EASY ORDERING

The model code is identical to the order number. It is made up as follows:



In addition the motor data must be given in the purchase order (voltage, frequency, and protection class). In our extensive program you are sure to find the pump you need for your particular application.

TECHNICAL DETAILS

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

**Option N 022/026\_..9**  
Pump head guaranteed gas-tight: leakage rate less than  $6 \times 10^{-3}$  mbar x l/s in the material combinations AN, AV, SN, SV, ST.

Accessories

Description	Order No.	Details
Silencer/filter	000346	G 1/8
Fine control valve, pressure side	000349	with pressure gauge
Fine control valve, suction side	000350	with vacuum gauge
Pressure relief valve	000351	4 bar for N 022
Pressure relief valve	000351	2.5 bar for N 026
Hose connector	000360	G 1/8
Hose connector, stainless steel	020233	G 1/8
Connection box cover	008637	

Hints on function, installation, and service: see back side

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

### Work in Progress

For North American specifications, please contact the U.S. KNF office at (609) 890-8600 or [knfusa@knf.com](mailto:knfusa@knf.com)

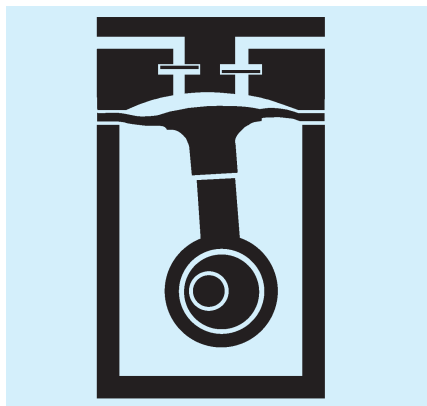


## HINTS ON FUNCTION, INSTALLATION AND SERVICE

### 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 and gases at temperatures between +5°C and +40°C
- Permissible ambient temperature: between +5°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.
- 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 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 below for contact telephone number).

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## Diaphragm Pumps + Systems



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KNF Neuberger, INC.



KNF Micro AG



KNF Neuberger S.A.



KNF FLODOS AG

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