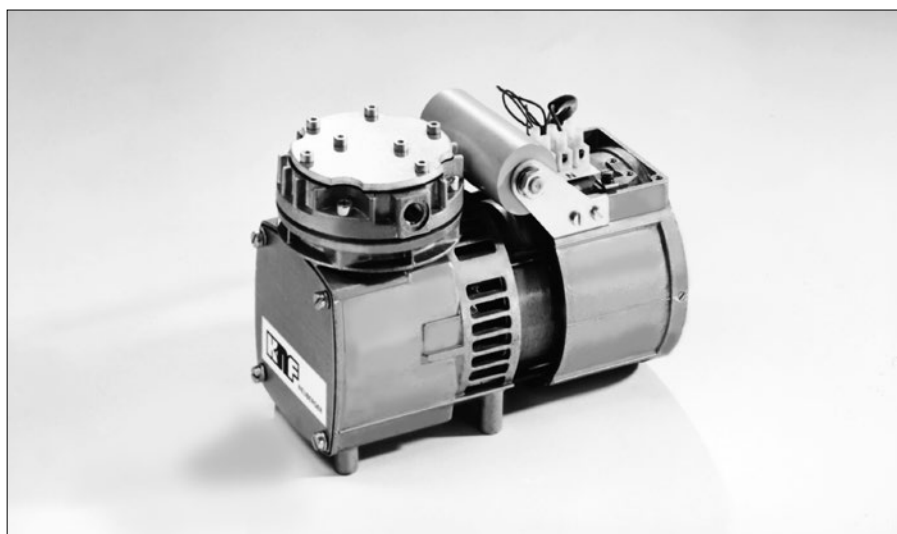


DIAPHRAGM VACUUM PUMPS AND COMPRESSORS



N 022 ANE

Concept

The diaphragm pumps from KNF are based on a simple principle – 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 resistance. The customer has a choice of pump drives ranging from a selection of motors to explosion-proof models.

Features

Pure transfer, evacuation and compression of air, gases and vapors

No contamination of the media due to oil-free operation

Maintenance-free

Corrosion resistant models

High level of gas tightness:

approx. 6×10^{-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 absolute) | 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 _ _ E

PERFORMANCE DATA

| Type | Delivery at atm. pressure (l/min) ¹⁾ | 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 | 15 | 2.5 | 100 |
| N 022 STE | 13 | 4 | 100 |

1) Liter at STP

MOTOR DATA

| Protection class | IP 20 | IP 44 |
|--------------------------|-------|------------|
| Voltage (V) | 230 | on request |
| Frequencies (Hz) | 50 | |
| Power P ₁ (W) | 100 | |
| I _{max} (A) | 0.7 | |

PUMP MATERIAL

| Type | Pump head | Diaphragm | Valves |
|---|-----------------|-------------|-----------------|
| N 022 ANE | Aluminum | CR | Stainless steel |
| For slightly aggressive or corrosive gases and vapors | | | |
| N 022 AVE | Aluminum | FPM | Stainless steel |
| N 022 ATE | Aluminum | PTFE-coated | Stainless steel |
| N 022 SNE | Stainless steel | CR | CR |
| N 022 SVE | Stainless steel | FPM | FPM |
| N 022 STE | Stainless steel | PTFE-coated | PTFE |

N 026 _ _ E

PERFORMANCE DATA

| Type | Delivery at atm. pressure (l/min) ¹⁾ | 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 |

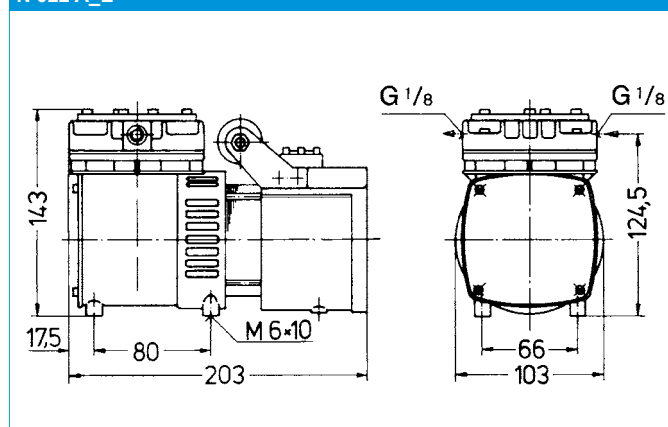
MOTOR DATA

| Protection class | IP 20 | IP 44 |
|--------------------------|-------|------------|
| Voltage (V) | 230 | on request |
| Frequencies (Hz) | 50 | |
| Power P ₁ (W) | 100 | |
| I _{max} (A) | 0.7 | |

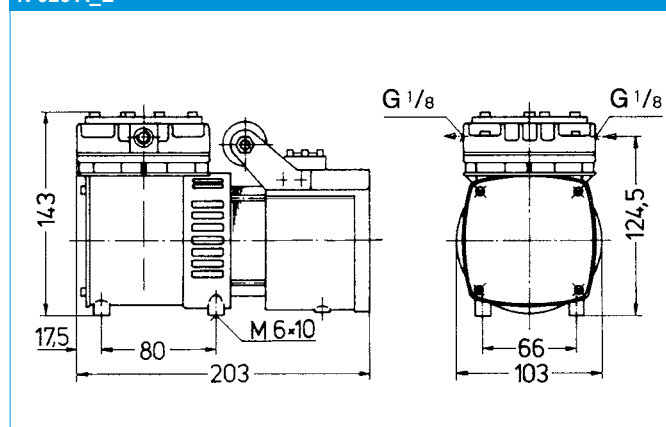
PUMP MATERIAL

| Type | Pump head | Diaphragm | Valves |
|---|-----------------|-------------|-----------------|
| N 026 ANE | Aluminum | CR | Stainless steel |
| For slightly aggressive or corrosive gases and vapors | | | |
| N 026 AVE | Aluminum | FPM | Stainless steel |
| N 026 ATE | Aluminum | PTFE-coated | Stainless steel |
| N 026 SNE | Stainless steel | CR | CR |
| N 026 SVE | Stainless steel | FPM | FPM |
| N 026 STE | Stainless steel | PTFE-coated | PTFE |

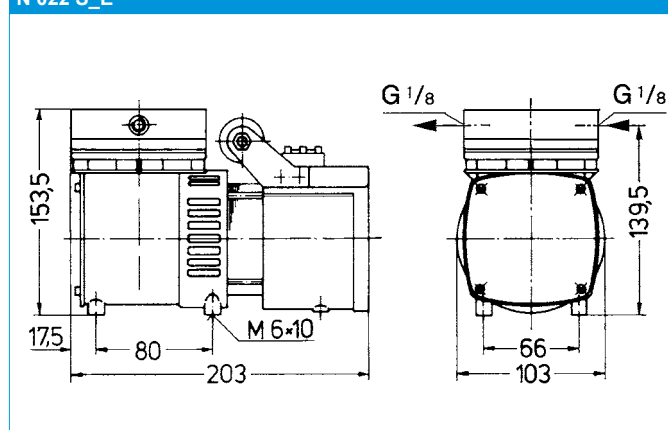
N 022 A_E



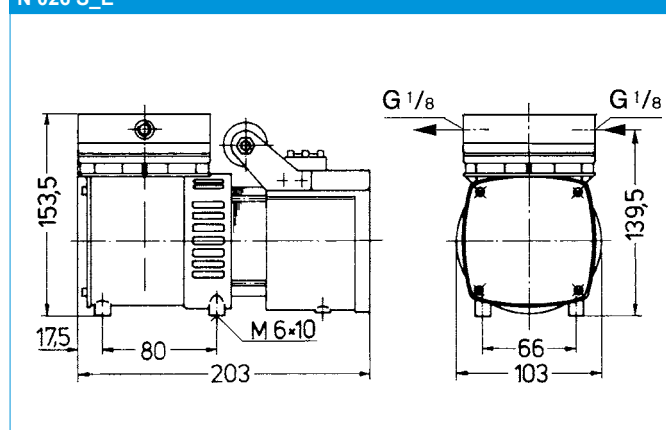
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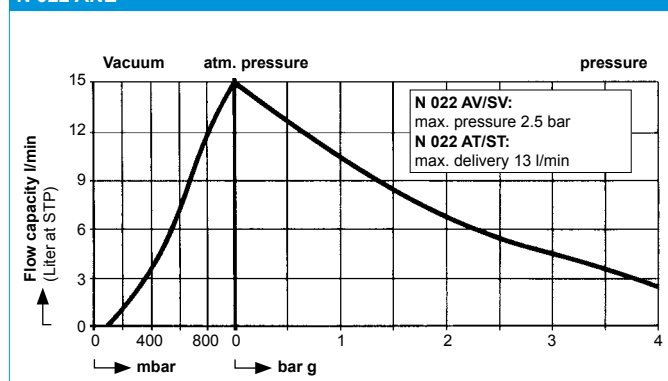
N 022 S_E



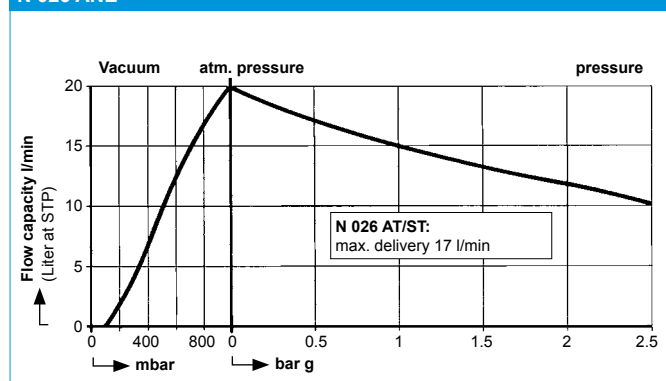
N 026 S_E



N 022 ANE

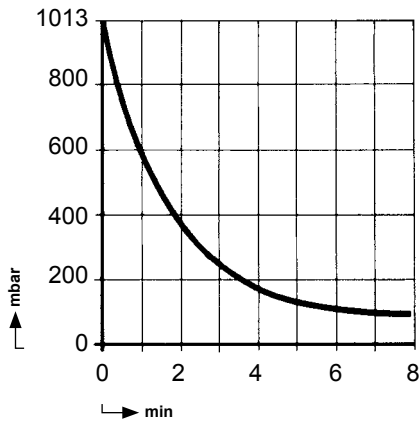


N 026 ANE

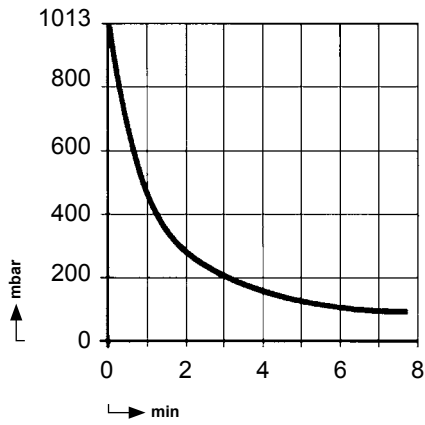


TECHNICAL INFORMATION

PUMP DOWN TIME FOR 20 LITER VESSEL | N 022 ANE



PUMP DOWN TIME FOR 20 LITER VESSEL | N 026 ANE



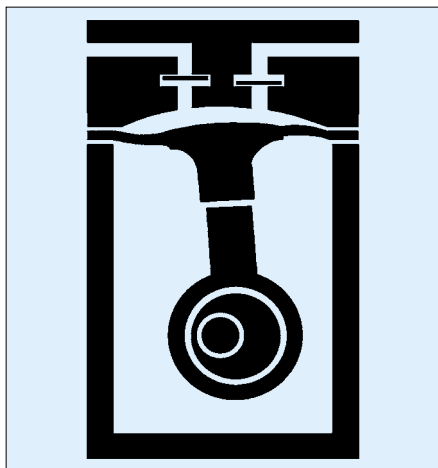
ACCESSORIES

| 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 g for N 022 |
| Pressure relief valve | 000351 | 2.5 bar g for N 026 |
| Hose connector | 000360 | G 1/8 |
| Hose connector, stainless steel | 020233 | G 1/8 |
| Connection box cover | 008637 | |

HINTS ON FUNCTION AND INSTALLATION

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.



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.

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