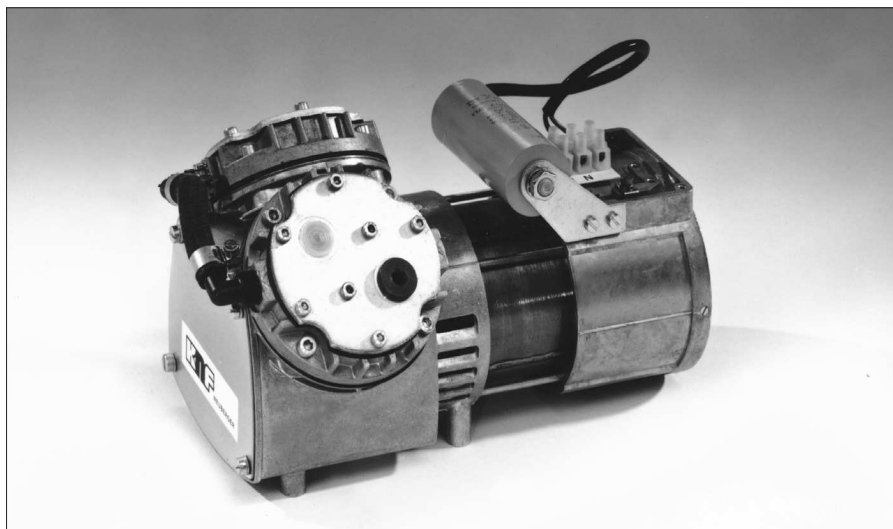


DIAPHRAGM VACUUM PUMPS AND COMPRESSORS

DATA SHEET E 023



N 026.1 ANE

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.

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.

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 vacuum 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, compressing and sucking air, gases and vapors, 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 026.1 ANE	39	100			5.6
N 026.2 ANE	39			2	5.6
N 026.3 ANE	22	20			5.6

N 026.1 __ E

Performance data

Type	Delivery at atm. pressure (l/min) ¹⁾	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 026.1 ANE	39	-	100
N 026.1 AVE	35	-	100
N 026.1 ATE	33.2	-	100
N 026.1 SNE	39	-	100
N 026.1 SVE	35	-	100
N 026.1 STE	33.2	-	100

¹⁾ Liter at STP

Motor data

Protection class	IP 20	IP 44
Voltage (V)	230	230
Frequencies (Hz)	50	50
Power P ₁ (W)	170	180
I _{max} (A)	0.85	1.0

Pump material

Type	Pump head	Diaphragm	Valves
N 026.1 ANE	Aluminum	CR	Stainless steel
For slightly aggressive or corrosive gases and vapors			
N 026.1 AVE	Aluminum	FPM	Stainless steel
N 026.1 ATE	Aluminum	PTFE-coated	Stainless steel
N 026.1 SNE	Stainless steel	CR	CR
N 026.1 SVE	Stainless steel	FPM	FPM
N 026.1 STE	Stainless steel	PTFE-coated	PTFE

N 026.2 __ E

Performance data

Type	Delivery at atm. pressure (l/min) ¹⁾	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 026.2 ANE	39	2	-
N 026.2 AVE	35	2	-
N 026.2 ATE	31.2	2	-
N 026.2 SNE	39	2	-
N 026.2 SVE	35	2	-
N 026.2 STE	31.2	2	-

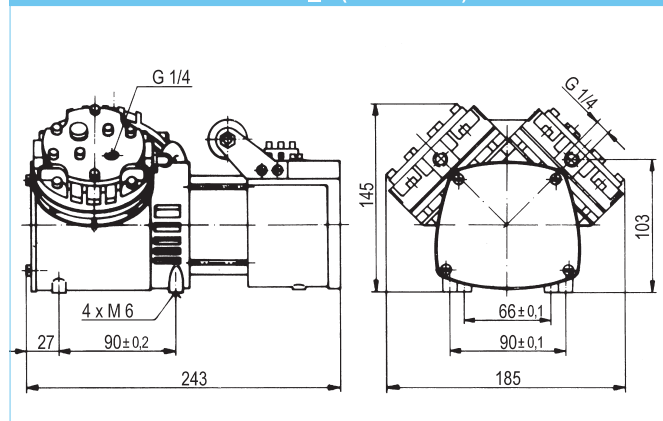
Motor data

Protection class	IP 20	IP 44
Voltage (V)	230	230
Frequencies (Hz)	50	50
Power P ₁ (W)	170	180
I _{max} (A)	0.85	1.0

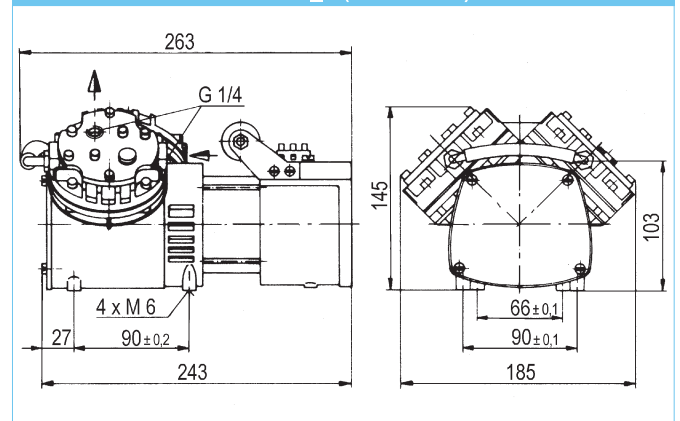
Pump material

Type	Pump head	Diaphragm	Valves
N 026.2 ANE	Aluminum	CR	Stainless steel
For slightly aggressive or corrosive gases and vapors			
N 026.2 AVE	Aluminum	FPM	Stainless steel
N 026.2 ATE	Aluminum	PTFE-coated	Stainless steel
N 026.2 SNE	Stainless steel	CR	CR
N 026.2 SVE	Stainless steel	FPM	FPM
N 026.2 STE	Stainless steel	PTFE-coated	PTFE

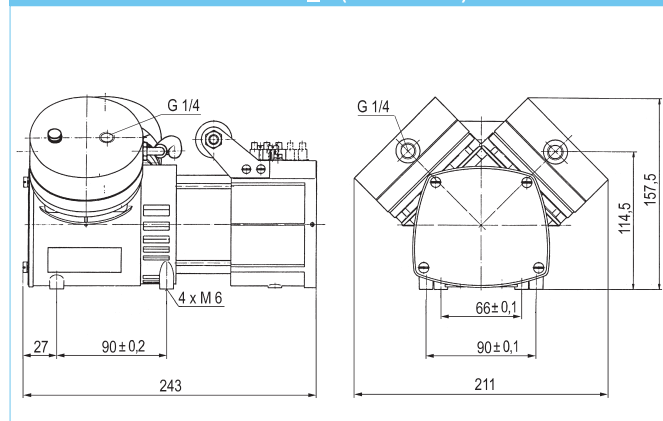
N 026.1 A_E (IP 20 Motor)



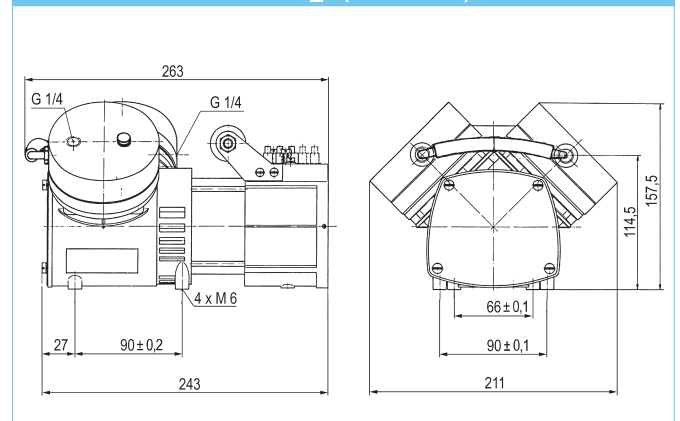
N 026.2 A_E (IP 20 Motor)



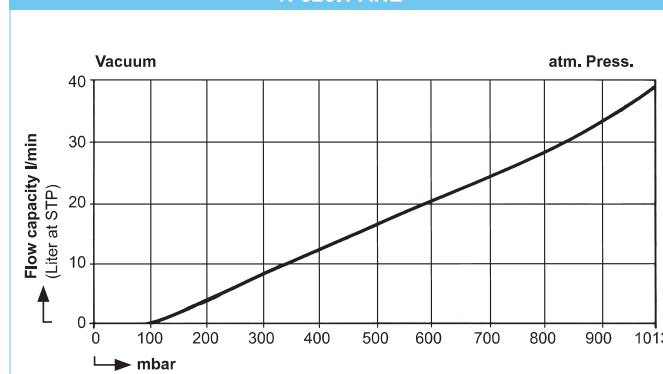
N 026.1 S_E (IP 20 Motor)



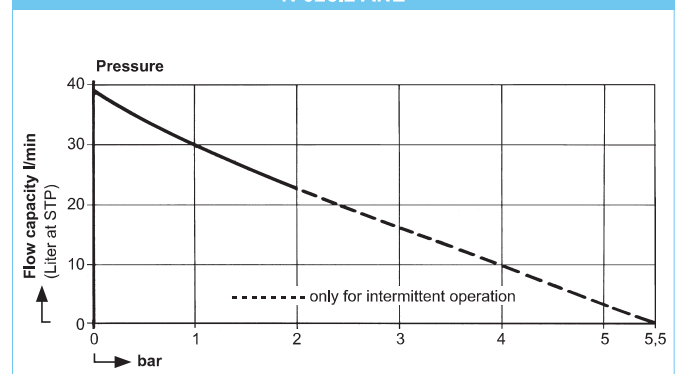
N 026.2 S_E (IP 20 Motor)



N 026.1 ANE



N 026.2 ANE



Performance data

Type	Delivery at atm. pressure (l/min) ¹⁾	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 026.3 ANE	22	-	20
N 026.3 AVE	19.8	-	25
N 026.3 ATE	18.7	-	25
N 026.3 SNE	22	-	20
N 026.3 SVE	19.8	-	25
N 026.3 STE	18.7	-	25

¹⁾ Liter at STP

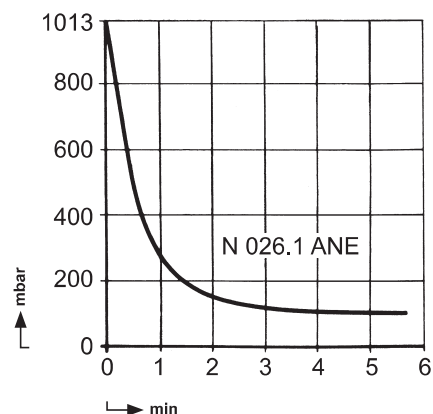
Motor data

Protection class	IP 20	IP 44
Voltage (V)	230	230
Frequencies (Hz)	50	50
Power P ₁ (W)	170	180
I _{max} (A)	0.85	1.0

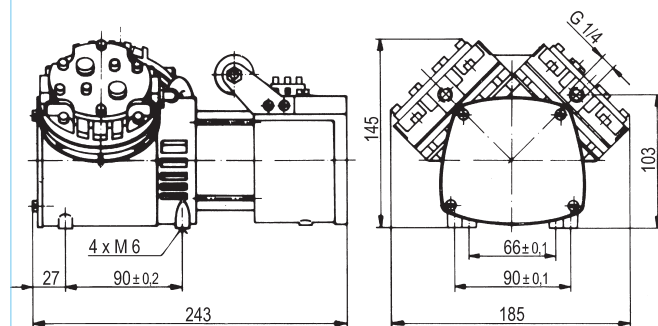
Pump material

Type	Pump head	Diaphragm	Valves
N 026.3 ANE	Aluminum	CR	Stainless steel
For slightly aggressive or corrosive gases and vapors			
N 026.3 AVE	Aluminum	FPM	Stainless steel
N 026.3 ATE	Aluminum	PTFE-coated	Stainless steel
N 026.3 SNE	Stainless steel	CR	CR
N 026.3 SVE	Stainless steel	FPM	FPM
N 026.3 STE	Stainless steel	PTFE-coated	PTFE

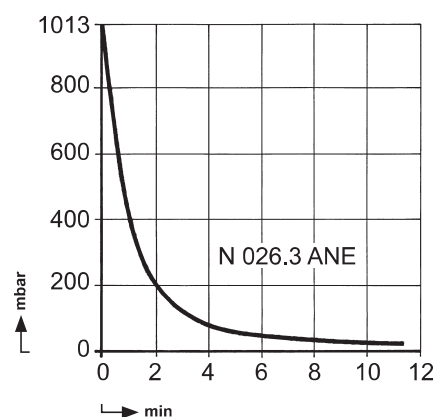
Pump down time for 20 l receiver



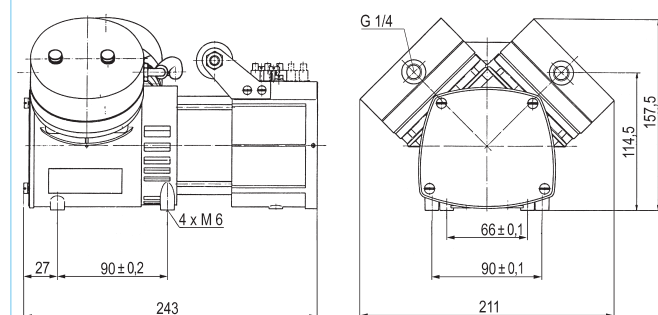
N 026.3 A_E (IP 20 Motor)



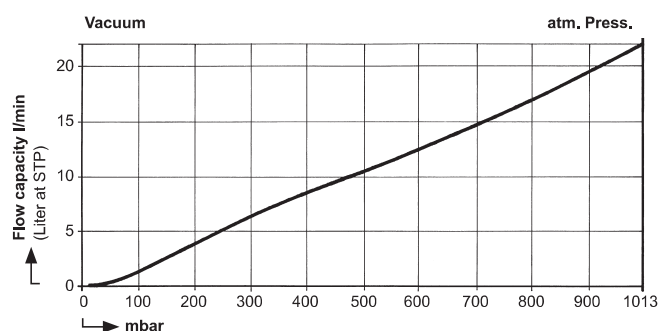
Pump down time for 20 l receiver



N 026.3 S_E (IP 20 Motor)



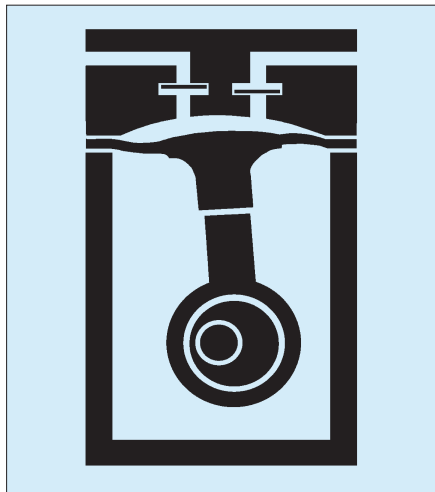
N 026.3 ANE



HINTS ON FUNCTION, INSTALLATION AND SERVICE

Function of KNF diaphragm vacuum pumps and compressors

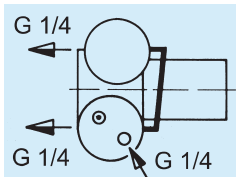
An elastic diaphragm is moved up and down by an eccentric (see illustration). On the down-stroke it draws the air or gas being handled through the inlet valve. On the up-stroke the diaphragm forces the medium through the exhaust valve and out of the head. The compression chamber is hermetically separated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



Hints on installation and operation

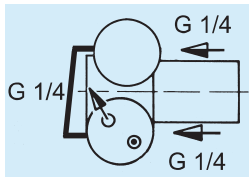
- Range of use: Transferring air and gases at temperatures between +5 °C and +40 °C.
- Permissible ambient temperature: between +5° C and +40 °C.
- The standard pumps are not suitable for use in areas where there is a risk of explosion. In these cases there are other products in the KNF program - please 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.

Head connections



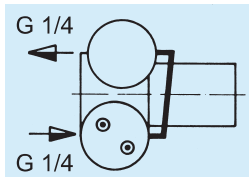
N 026.1

Heads with suction side in parallel



N 026.2

Heads with pressure side in parallel



N 026.3

Heads in series

Accessories

Description	Order No.	Details
Silencer/filter	000352	G 1/4
Fine control valve, pressure side	011867	with pressure gauge
Fine control valve, suction side	011868	with vacuum gauge
Pressure relief valve	003074	2 bar for N 026.2
Hose connector	000362	G 1/4
Hose connector, stainless steel	020234	G 1/4
Connection box cover	008637	