

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

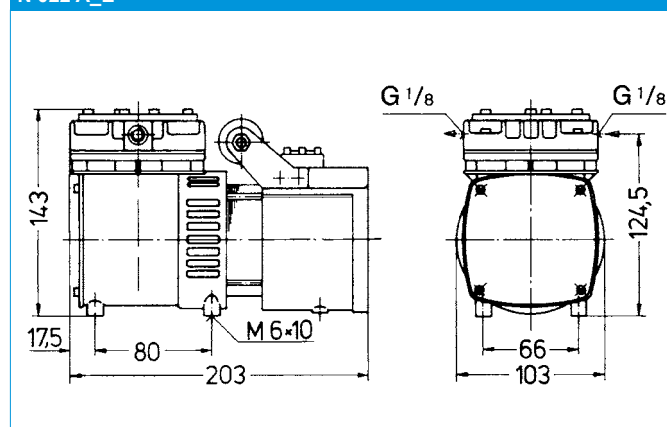
MOTOR DATA

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

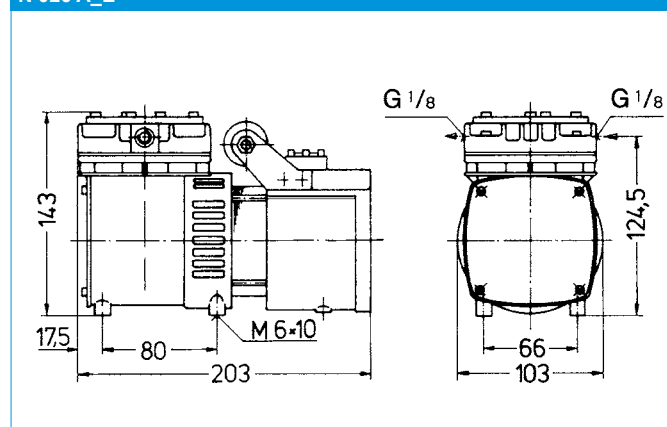
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For slightly aggressive or corrosive gases and vapors			
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N 026 ATE	Aluminum	PTFE-coated	Stainless steel
N 026 SNE	Stainless steel	CR	CR
N 026 SVE	Stainless steel	FPM	FPM
N 026 STE	Stainless steel	PTFE-coated	PTFE

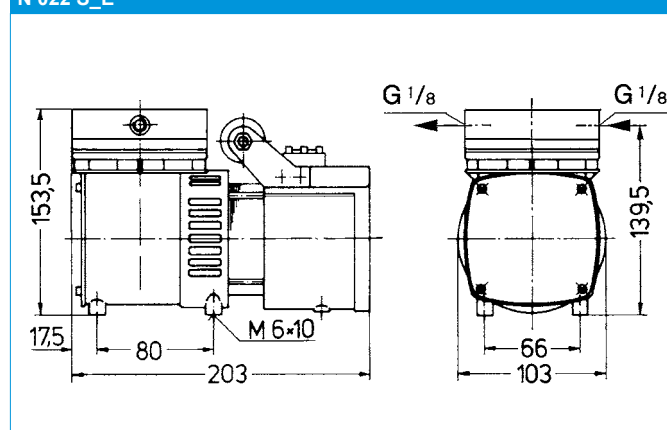
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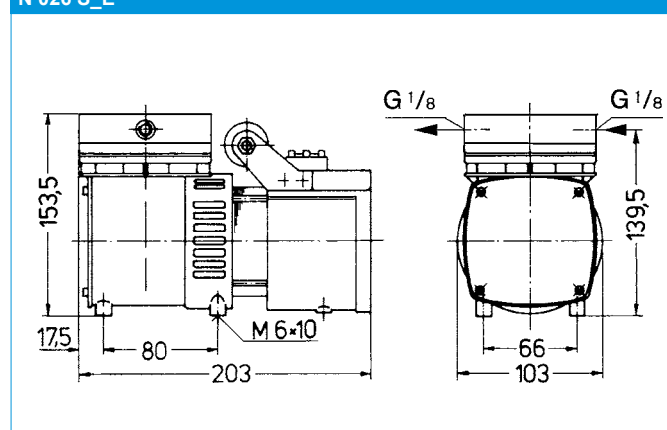
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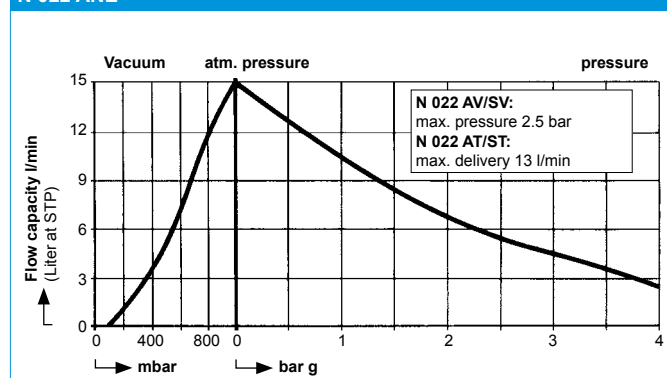
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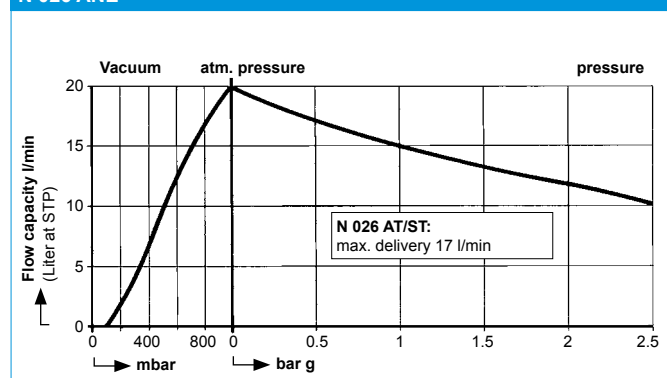
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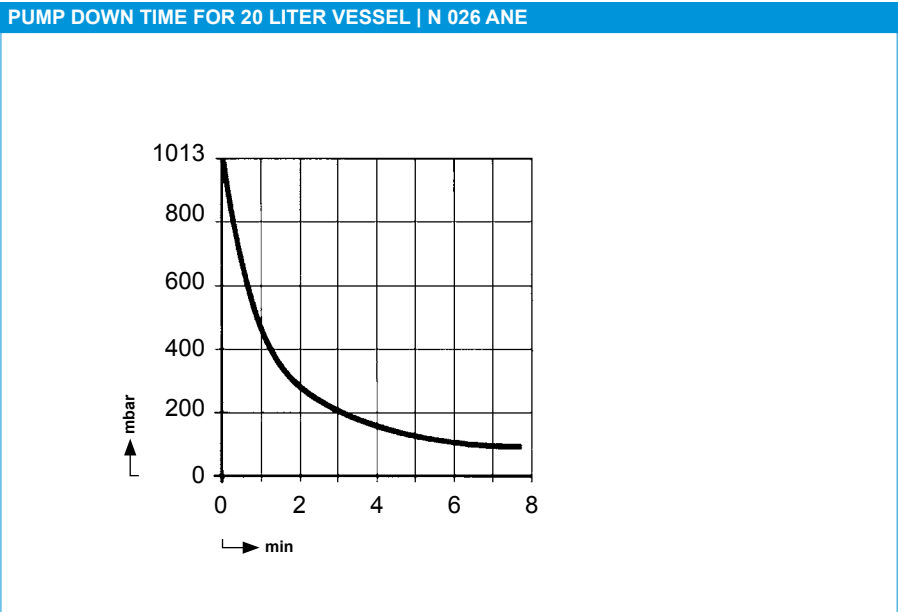
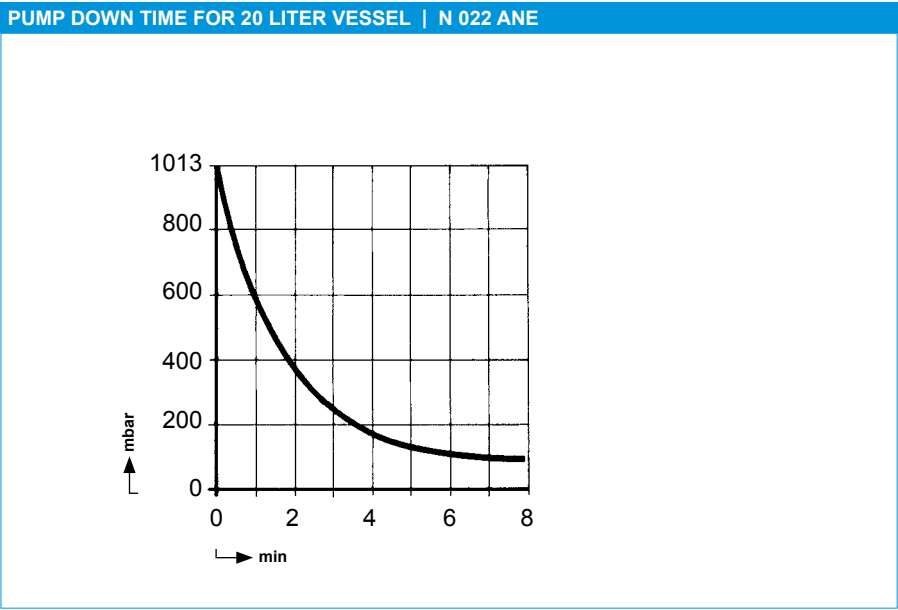
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N 026 ANE



TECHNICAL INFORMATION

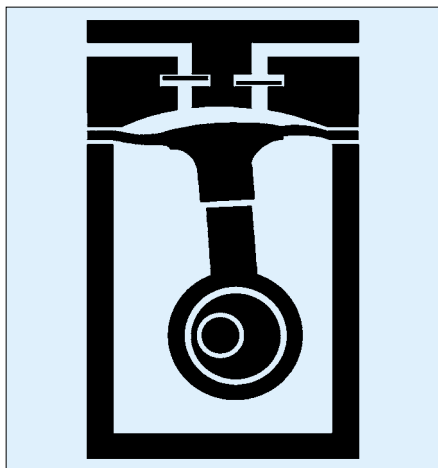


ACCESSORIES		
Description	Order No.	Details
Silencer/filter	000346	G 1/8
Fine control valve, pressure side	000349	with pressure gauge
Fine control valve, suction side	000350	with vacuum gauge
Pressure relief valve	000351	4 bar g for N 022
Pressure relief valve	000351	2.5 bar g for N 026
Hose connector	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.

KNF Neuberger GmbH
Alter Weg 3
D 79112 Freiburg
Tel. +49 7664 5909 0
Fax +49 7664 5909 99
info@knf.de
www.knf.de

YOUR LOCAL PARTNER AROUND THE WORLD

KNF SALES ORGANIZATION

Australia KNF Regional Office

Moreland West VIC 3055
Tel. +61 3 9386 4959
info@knf.com.au
www.knf.com.au

Benelux Netherlands KNF Verder B.V.

3451 GG Vleuten
Tel. +31 30 677 92 40
info@knf-verder.nl
www.knf-verder.nl

Benelux Belgium and Luxemburg

KNF Verder N.V.
2630 Aartselaar
Tel. +32 3 871 96 24
info@knf.be
www.knf.be

China KNF Technology (Shanghai) Co., Ltd.

Shanghai 201203
Tel. +86 21 5109 9695
info@knf.com.cn
www.knf.com.cn

France KNF Neuberger SAS

68128 Village-Neuf
Tel. +33 389 70 35 00
info@knf.fr
www.knf.fr

Germany KNF Neuberger GmbH

79112 Freiburg
Tel. +49 7664 5909 0
info@knf.de
www.knf.de

India KNF Pumps + Systems (India) Pvt. Ltd.

Hinjewadi Pune 411 057
Tel. +91 20 640 13 923
info@knfpumps.in
www.knfpumps.in

Italy KNF Italia S.r.l.

20063 Cernusco s. Naviglio (MI)
Tel. +39 02 929 04 91
info@knf.it
www.knf.it

Japan KNF Japan Co. Ltd.

Tokyo 104-0033
Tel. +81 3 3551 7931
info@knf.co.jp
www.knf.co.jp

Korea KNF Neuberger Ltd.

135-502 Seoul
Tel. +82 2 959 0255
knf@knfkorea.com
www.knfkorea.com

Latin America KNF Regional Office

Tel. +1 609 649 1010
gb@knf.com
www.knf.com/es

Morocco, Tunisia, Algeria

KNF Neuberger SAS
68128 Village-Neuf
Tel. +33 389 70 35 00
info@knf.fr
www.knf.fr

Singapore KNF Regional Office

Tel. +65 9722 1994
info@knf.com.sg
www.knf.com.sg

Sweden, Finland, Denmark, Norway

KNF Neuberger AB
117 43 Stockholm
Tel. +46 8 744 51 13
info@knf.se
www.knf.se

Switzerland KNF Neuberger AG

8362 Balzerswil
Tel. +41 71 973 99 30
knf@knf.ch
www.knf.ch

UK, Ireland KNF Neuberger U.K., Ltd.

Witney, Oxfordshire OX28 4FA
Tel. +44 1993 77 83 73
info@knf.co.uk
www.knf.co.uk

USA, Canada KNF Neuberger, Inc.

Trenton, NJ 08691-1810
Tel. +1 609 890 8600
knfusa@knf.com
www.knfusa.com

KNF PRODUCT CENTERS

Gas Pumps KNF Neuberger GmbH

DE-79112 Freiburg
info@knf.de
www.knf.de

Micro Gas Pumps KNF Micro AG

CH-6260 Reiden
info@knf-micro.ch
www.knf-micro.ch

Liquid Pumps KNF Flodos AG

CH-6210 Sursee
info@knf-flodos.ch
www.knf-flodos.ch