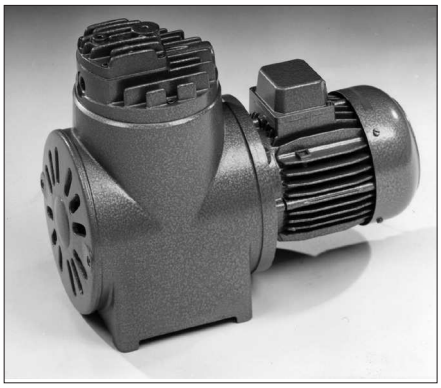
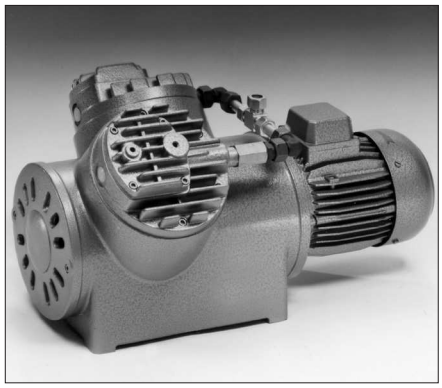
DIAPHRAGM VACUUM PUMPS AND COMPRESSORS

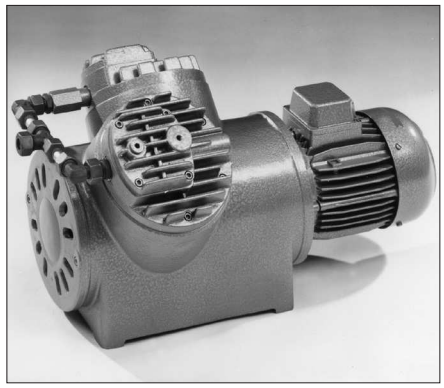
DATA SHEET E 060



N 1200 ANE



N 1400.1 ANE



N 1400.2 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 tranfer the gases can be made from materials with varying degrees of durability. Several different drive motors are available. Please contact us for more information.

ATEX versions available upon request.

Features

Uncontaminated flow
No contamination of the media due to oil-free operation

Maintenance-free

Corrosion resistant models

High level of gas tightness

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)	atmospheric pressure	Pressure (bar g)	Weight (kg)
N 1200 ANE	150	100		6	30
N 1400.3 ANE	150	20			35
N 1400.1 ANE	300	100			35
N 1400.2 ANE	300	100		6	35
N 2400.15 ANE	150			12	52

N 1200 ANE | N 1200 ATE

Performance data

Type	Delivery at atm. pressure (l/min)[1]	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 1200 ANE	150	6	100
N 1200 ATE	128	6	100

[1] Liter at STP

Motor data

Protection class	IP 44	IP 44
Voltage (V)	1~ 230	3~ 230/400
Frequencies (Hz)	50	50
Power P_1 (W)	900	900
I_{max} (A)	4.0	6.8/3.2

Pump material

Type	Pump head	Diaphragm	Valves
N 1200 ANE	Aluminum	CR	Stainless steel
For slightly aggressive and corrosive gases and vapors			
N 1200 ATE	Aluminum	PTFE-coated	Stainless steel

N 1400.1 ANE | N 1400.1 ATE

Performance data

Type	Delivery at atm. pressure (l/min)[1]	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 1400.1 ANE	300	-	100
N 1400.1 ATE	255	-	100

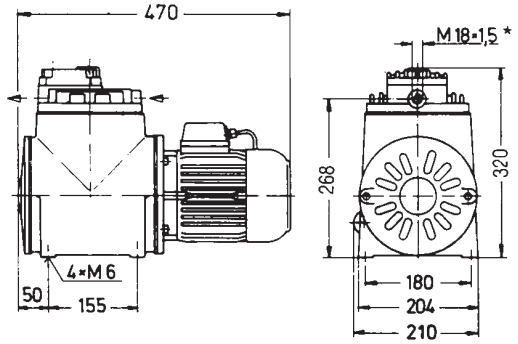
Motor data

Protection class	IP 44
Voltage (V)	3~ 230/400
Frequencies (Hz)	50
Power P_1 (W)	1700
I_{max} (A)	6.8/3.4

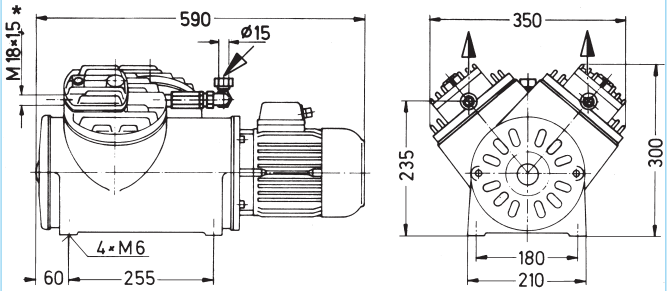
Pump material

Type	Pump head	Diaphragm	Valves
N 1400.1 ANE	Aluminum	CR	Stainless steel
For slightly aggressive and corrosive gases and vapors			
N 1400.1 ATE	Aluminum	PTFE-coated	Stainless steel

N 1200 ANE | N 1200 ATE



N 1400.1 ANE | N 1400.1 ATE



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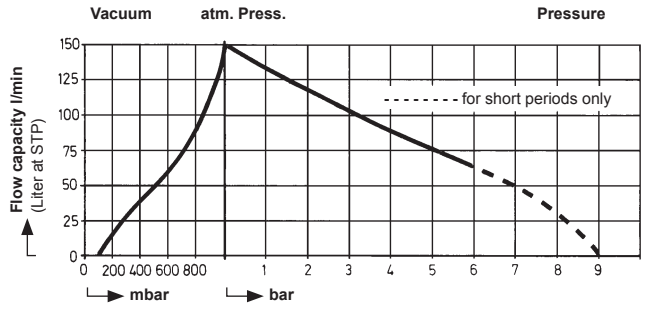

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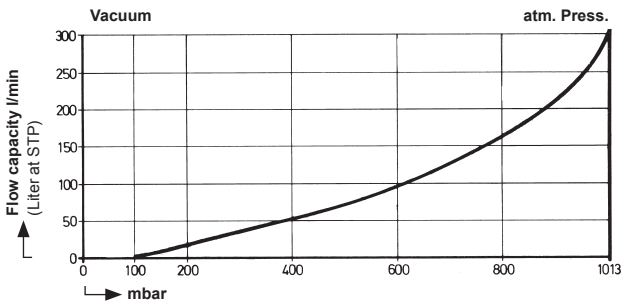
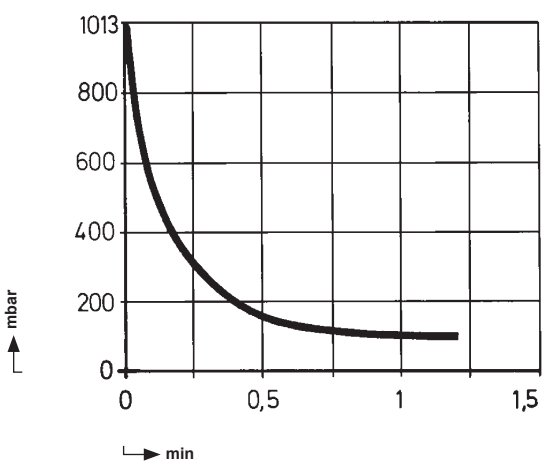
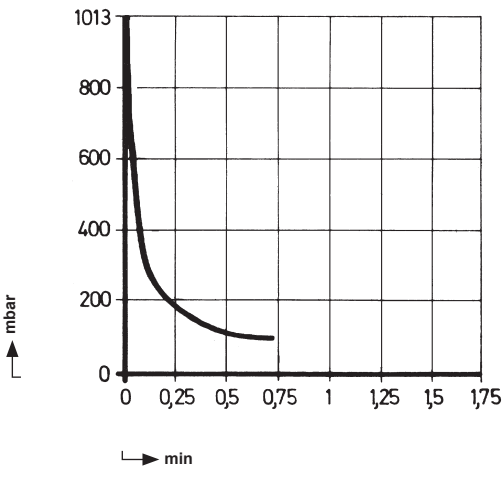


Pump down time 20 l receiver | N 1200 ANE



Pump down time 20 l receiver | N 1400.1 ANE



N 1400.2 ANE | N 1400.2 ATE

Performance data

Type	Delivery at atm. pressure (l/min)[1)]	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 1400.2 ANE	300	6	100
N 1400.2 ATE	255	6	100

[1)] Liter at STP

Motor data

Protection class	IP 44
Voltage (V)	3~ 230/400
Frequencies (Hz)	50
Power P_1 (W)	1700
I_{max} (A)	6.8/3.4

Pump material

Type	Pump head	Diaphragm	Valves
N 1400.2 ANE	Aluminum	CR	Stainless steel
For slightly aggressive and corrosive gases and vapors			
N 1400.2 ATE	Aluminum	PTFE-coated	Stainless steel

N 1400.3 ANE | N 1400.3 ATE

Performance data

Type	Delivery at atm. pressure (l/min)[1)]	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 1400.3 ANE	150	-	20
N 1400.3 ATE	128	-	20

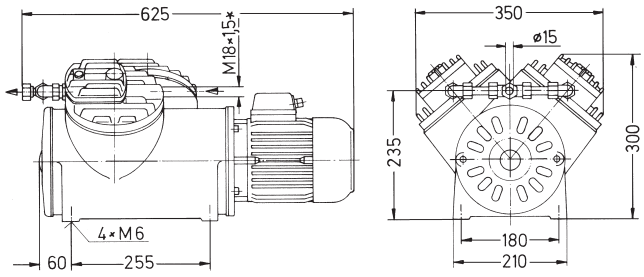
Motor data

Protection class	IP 44
Voltage (V)	3~ 230/400
Frequencies (Hz)	50
Power P_1 (W)	1700
I_{max} (A)	6.8/3.4

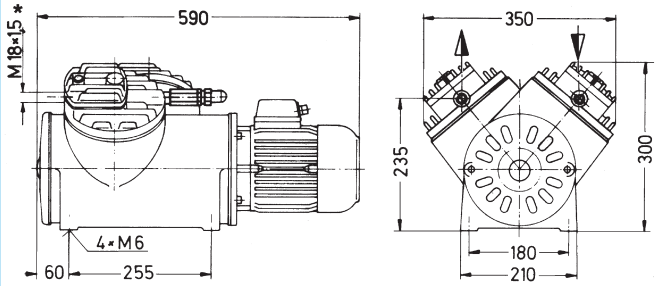
Pump material

Type	Pump head	Diaphragm	Valves
N 1400.3 ANE	Aluminum	CR	Stainless steel
For slightly aggressive and corrosive gases and vapors			
N 1400.3 ATE	Aluminum	PTFE-coated	Stainless steel

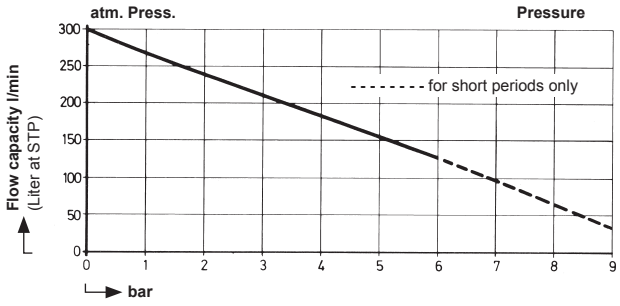
N 1400.2 ANE | N 1400.2 ATE



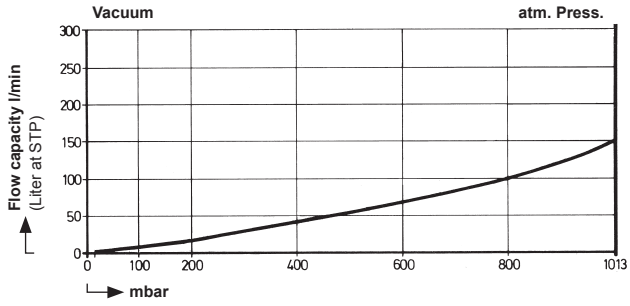
N 1400.3 ANE | N 1400.3 ATE



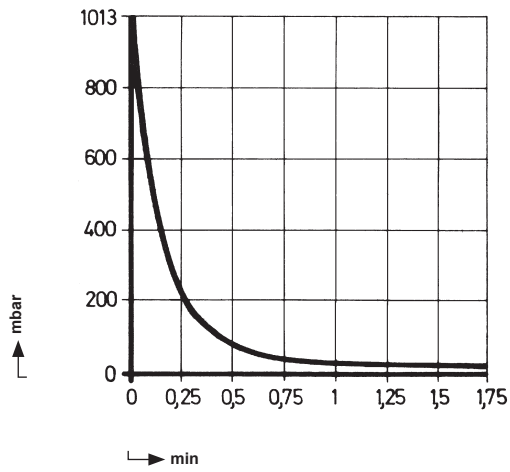
N 1400.2 ANE | N 1400.2 ATE



N 1400.3 ANE | N 1400.3 ATE



Pump down time 20 l receiver | N 1400.3 ANE



N 2400.15 ANE*

Performance data

Type	Delivery at atm. pressure (l/min)[1)]	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 2400.15 ANE	150	12	

[1)] Liter at STP

* This pump type is available as project pump only

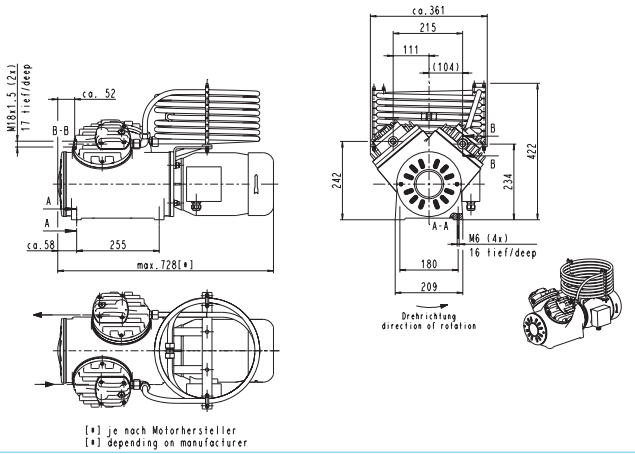
Motor data

Protection class	IP 44
Voltage (V)	3~ 230/400
Frequencies (Hz)	50
Power P_1 (W)	3000
I_{max} (A)	12.1/7.0

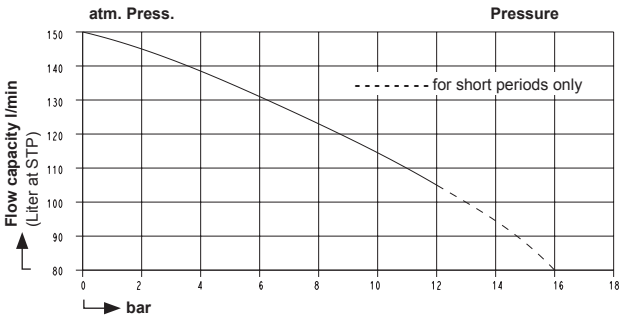
Pump material

Type	Pump head	Diaphragm	Valves
N 2400.15 ANE	Aluminum	CR	Stainless steel

N 2400.15 ANE



N 2400.15 ANE

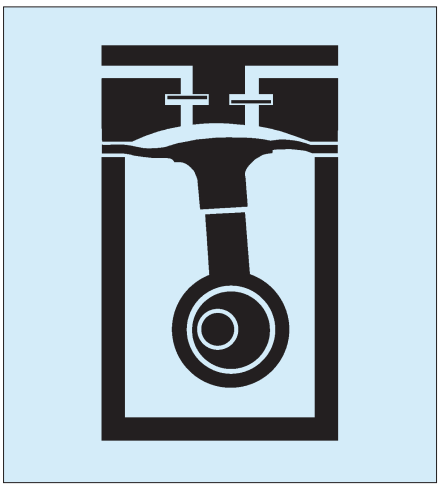


The flow capacity shown above refers to a sample configuration and may vary in case of different pump specification.

HINTS ON FUNCTION, INSTALLATION AND TECHNIQUE

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: Transfering air and gases at temperatures 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.
- 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.

Accessories		
Description	**Order No.**	**Details**
Pressure relief valve R 1/4“	047601	4 bar
Pressure relief valve R 1/4“	047602	7 bar
Plain fitting stainless steel (Ermeto)	002014	M18x1.5, tube OD 15
Gasket copper	001988	
Suction filter	000358	M18x1.5

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KNF 01/2015 (Produced in Germany)

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