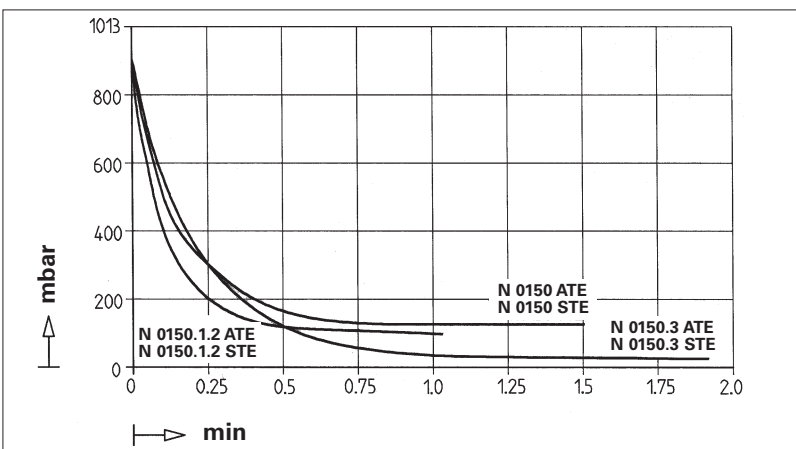
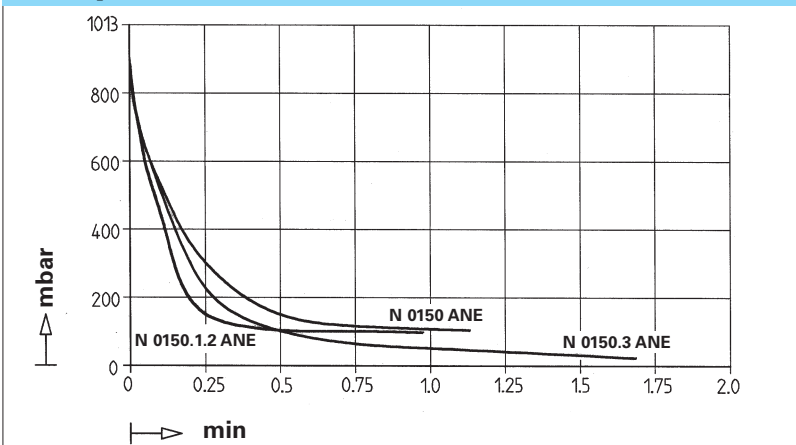


Pump down time for 20 l receiver



MODEL CODE FOR EASY ORDERING

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

N 0150	.3	AN	E	230 V/50 Hz, IP 54
--------	----	----	---	--------------------

- Base model
- Head connections
- Head materials
- Version with ac (E)
- Other motor data eg.

In addition the motor data must be given in the purchase order (voltage, frequency, and protection class). In our extensive program you can be 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.

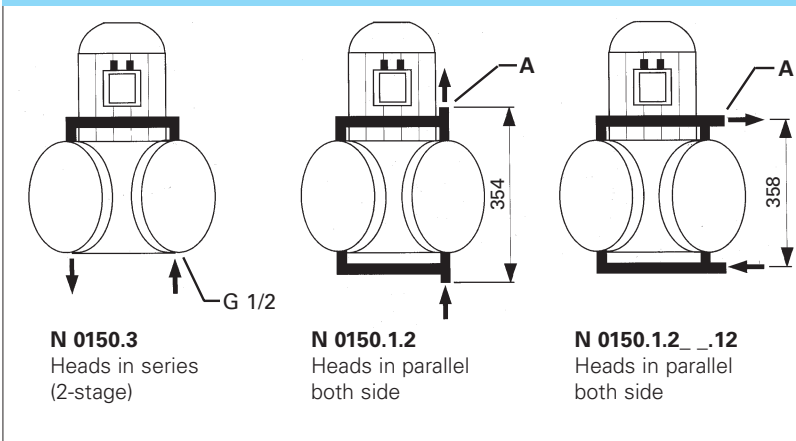
Motors with other voltages, frequencies and protection classes on request.

ACCESSORIES

Silencer for G1/2
Order No. 046104

Wrench for retainer plate
Order No. 018816

Head connections



A = taper bush type pipe union for pipe OD 18

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.

KNF Neuberger GmbH Diaphragm Pumps + Systems

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DATA SHEET E 059

DIAPHRAGM

GAS SAMPLING PUMPS

THE KNF PRODUCT RANGE - A SOUND CONCEPT

KNF Neuberger offers an extensive standard program of OEM pumps on a modular basis. It is easy to choose an efficient, economical pump for your application.

The diaphragm pumps are capable of uncontaminated evacuation, transfer and compression of air, gases, and vapours. In many pumps KNF uses the patented KNF Structured Diaphragm. Thanks to the low diaphragm stretch inherent in this concept, the performance and working life of these products far exceed those of conventional diaphragm systems.

The applications for KNF pumps range from installation in plant and equipment for industry, chemical and medical technology to use in environmental protection and research. For customers with unusual requirements the KNF Project Team produces specially tailored solutions. Use our experience to your advantage and talk to our application engineers.

SMALL AND COMPACT

The demands made on OEM pumps have become ever more severe. Features such as minimum size, simple installation in equipment, light weight, long life and high performance are expected, just as is a favourable price/performance ratio. KNF diaphragm pumps fulfil all these requirements.

CONTAMINATION-FREE HANDLING OF GASES

The diaphragm hermetically seals the pump from its drive components. The gases being handled remain in a closed system - clean and uncontaminated. For the special properties of diaphragm pumps, see reverse.

MAINTENANCE-FREE - OIL-FREE

OEM pumps are integrated into apparatus, plant and equipment and are thus inaccessible for maintenance. KNF diaphragm pumps operate 100 % oil-free and so are maintenance-free. This eliminates the high costs of oil-changes, for example, and keeps operating costs low.

SIMPLE INSTALLATION AND START-UP

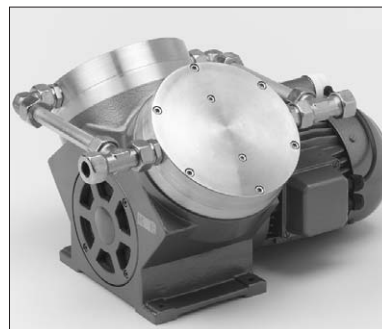
OEM models from KNF are supplied ready to install. Installation of the pump and making the necessary pneumatic and electrical connections are simple tasks.

THE N 0150 RANGE OF PUMPS IN BRIEF

- Gas-sampling and chemical pumps for handling and evacuating neutral or aggressive gases and vapours (depending on version selected)
- Suitable for vacuum and pressure
- All pumps available with 3-phase or single phase motors
- Protection class IP 54, ex version on request
- Leak rate from $< 6 \times 10^{-3}$ mbar l/s (normal models) to $< 6 \times 10^{-6}$ mbar l/s (standard models with double diaphragm system)
- Sizes significantly reduced compared with previous models
- Pumps with the double diaphragm system available for the first time in chemically-resistant versions
- For performance data, see below.



N 0150 ANE



N 0150.1.2 ANE



N 0150 AN.12 E

PERFORMANCE DATA

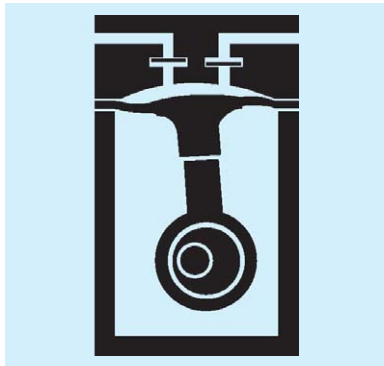
Type	Delivery (l/min)	Vacuum (mbar absolute)	atm. Press.	Pressure (bar g)	Weight (kg)
N 0150 ANE	150	100		2	21.5
N 0150.3 ANE	150	20			28.5
N 0150.1.2 ANE	280	100		2	28.5
N 0150 AN.12 E	150	100		2	22.0
N 0150.3 AN.12 E	150	20			30.0
N 0150.1.2 AN.12 E	280	100		2	30.0

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



FEATURES AND ADVANTAGES

The diaphragm vacuum pumps and compressors in the N 0150 type range have the following features and advantages:

- 100 % oil-free transfer and evacuation
- Excellent gastightness
- Pure transfer
- Maintenance-free
- High performance and compact dimensions
- Long working life.

- To prevent the maximum operating pressure being exceeded, restriction or regulation of the gas 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 can not collect in the head of the pump.

HINTS ON INSTALLATION AND OPERATION

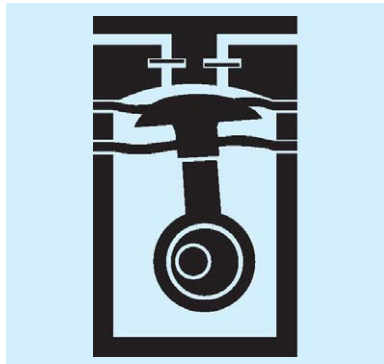
- Range of use: Transferring air and gases at temperatures between +5°C and +40°C.
- Use chemically resistant versions for aggressive gases and vapours.
- Permissible ambient temperature: between +5°C and +40°C.
- The standard pumps are not suitable for use in areas where there is a risk of explosion.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

HINTS ON SERVICE

The diaphragm and valve plates 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).

Double diaphragm pump



THE KNF DOUBLE DIAPHRAGM SYSTEM FOR INCREASED SAFETY

A second diaphragm is located underneath the working diaphragm. This second diaphragm is under less mechanical stress when the pump is operating. If gas should leak at the working diaphragm, it will still remain inside the pump space. The space between both diaphragms can be monitored so that any damage to the working diaphragm will be noted immediately.

Pumps with the KNF Double Diaphragm System are employed for expensive and dangerous gases.

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N 0150 _ _ E

PERFORMANCE DATA

Type and Order No. ²⁾	Delivery at atm. pressure (l/min) ¹⁾	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 0150 ANE	150	2	100
N 0150 ATE	120	2	115
N 0150 STE	120	2	115

¹⁾ Litre at STP

MOTOR DATA

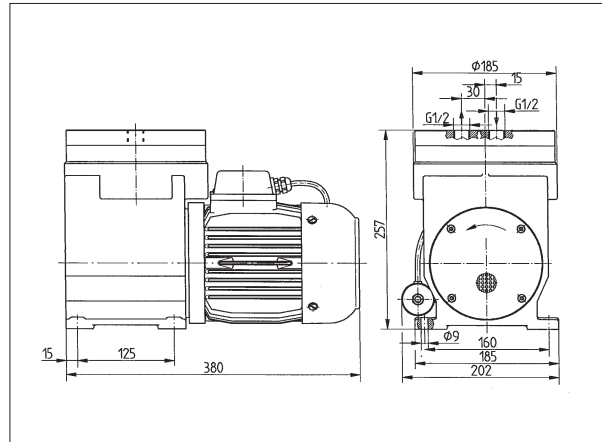
Protection class	IP 54	IP 54	Ex version
Voltage/Frequency (V/Hz)	~230/50	3~230/400/50	on request
Power P ₁ (W)	650	650	
Operating current (A)	3.3	4,8/2.7	

MODEL CODES AND MATERIALS

Type and Order No. ²⁾	Pump head	Diaphragm	Valves
N 0150 ANE	Aluminium	Neopren	Stainless steel
N 0150 ATE	Aluminium	PTFE coated	Stainless steel
Chemically resistant version			
N 0150 STE	Stainless steel	PTFE coated	Stainless steel

²⁾ See also „MODEL CODE FOR EASY ORDERING“

Dimensions ³⁾ (mm)



³⁾ All dimensional tolerances conform to DIN ISO 2768-1, Tolerance Class V

N 0150.3 _ _ E

PERFORMANCE DATA

Type and Order No. ²⁾	Delivery at atm. pressure (l/min) ¹⁾	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 0150.3 ANE	150	-	20
N 0150.3 ATE	120	-	25
N 0150.3 STE	120	-	25

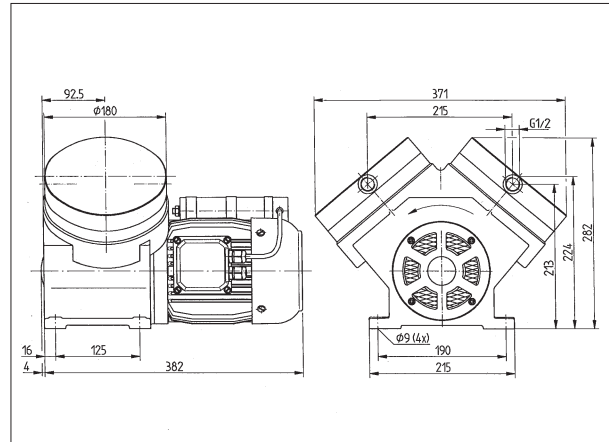
¹⁾ Litre at STP

MOTOR DATA

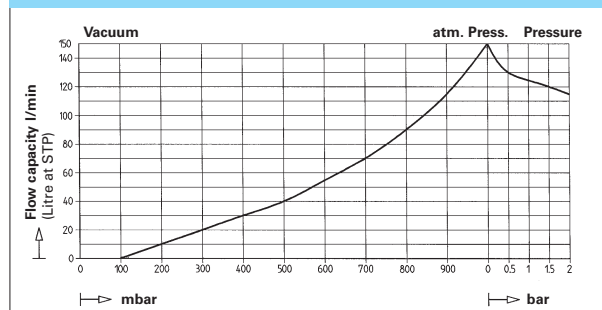
Protection class	IP 54	IP 54	Ex version
Voltage/Frequency (V/Hz)	~230/50	3~230/400/50	on request
Power P ₁ (W)	950	650	
Operating current (A)	4.2	4,8/2.7	

MODEL CODES AND MATERIALS

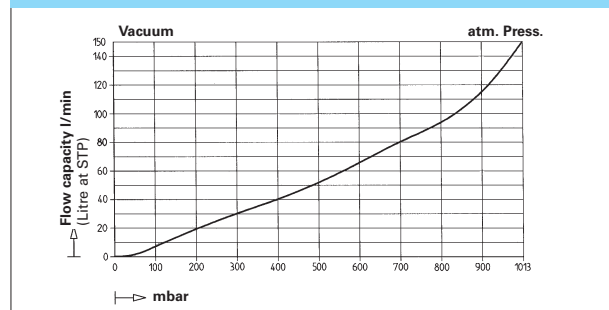
Type and Order No. ²⁾	Pump head	Diaphragm	Valves
N 0150.3 ANE	Aluminium	Neoprene	Stainless steel
N 0150.3 ATE	Aluminium	PTFE coated	Stainless steel
Chemically resistant version			
N 0150.3 STE	Stainless steel	PTFE coated	Stainless steel



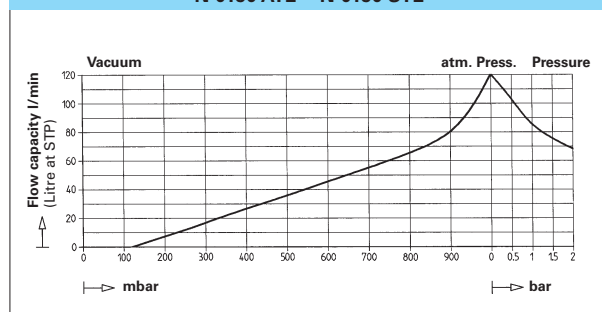
N 0150 ANE



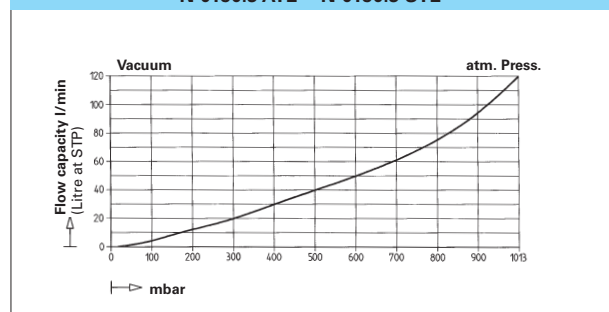
N 0150.3 ANE



N 0150 ATE N 0150 STE



N 0150.3 ATE N 0150.3 STE



N 0150.1.2 _ _ E

PERFORMANCE DATA

Type and Order No. ²⁾	Delivery at atm. pressure (l/min) ¹⁾	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 0150.1.2 ANE	280	2	100
N 0150.1.2 ATE	220	2	115
N 0150.1.2 STE	220	2	115

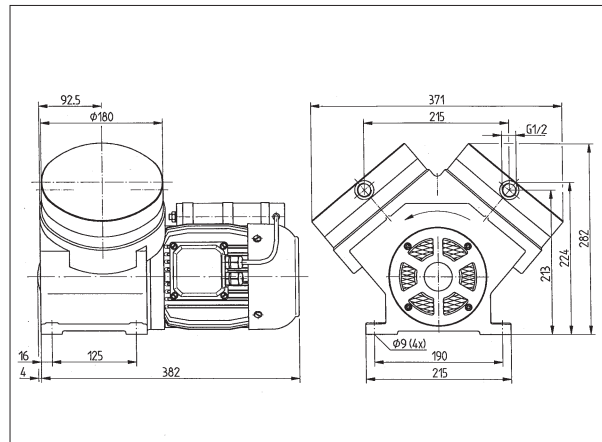
¹⁾ Litre at STP

MOTOR DATA

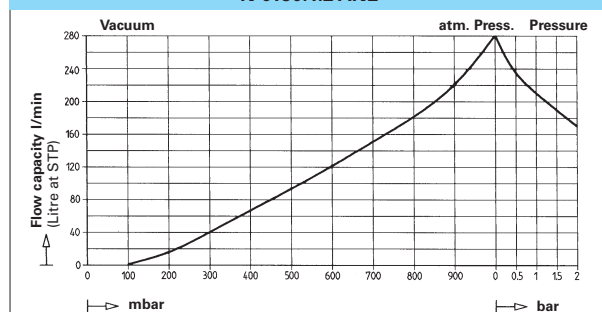
Protection class	IP 54	IP 54	Ex version
Voltage/Frequency (V/Hz)	~230/50	3~230/400/50	on request
Power P ₁ (W)	950	650	
Operating current (A)	4.2	4.8/2.7	

MODEL CODES AND MATERIALS

Type and Order No. ²⁾	Pump head	Diaphragm	Valves
N 0150.1.2 ANE	Aluminium	Neoprene	Stainless steel
N 0150.1.2 ATE	Aluminium	PTFE coated	Stainless steel
Chemically resistant version			
N 0150.1.2 STE	Stainless steel	PTFE coated	Stainless steel



N 0150.1.2 ANE



N 0150 AN.12 E

Pumps with double diaphragm system:
increased safety and gas-tightness
(leak rate: $< 6 \times 10^{-6}$ mbar l/s).

PERFORMANCE DATA

Type and Order No. ²⁾	Delivery at atm. pressure (l/min) ¹⁾	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 0150 AN.12 E	150	2	100

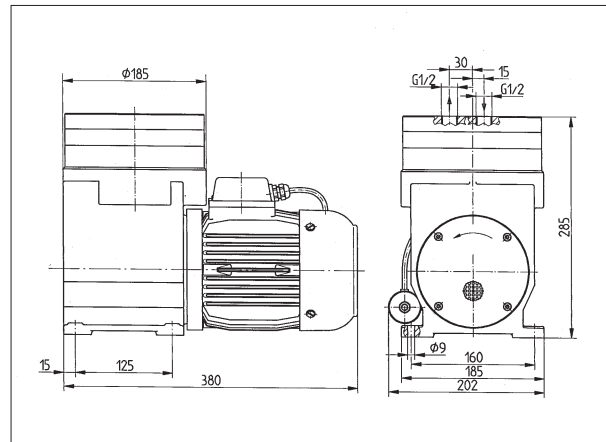
¹⁾ Litre at STP

MOTOR DATA

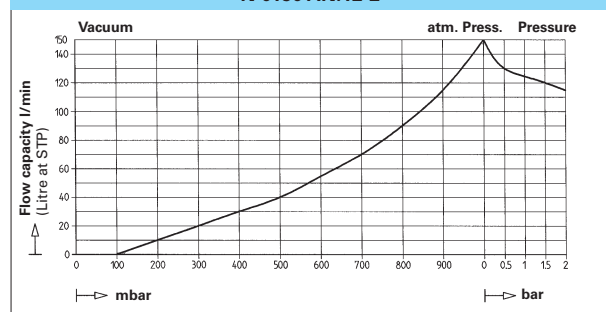
Protection class	IP 54	IP 54	Ex version
Voltage/Frequency (V/Hz)	~230/50	3~230/400/50	on request
Power P ₁ (W)	650	650	
Operating current (A)	3.3	4.8/2.7	

MODEL CODES AND MATERIALS

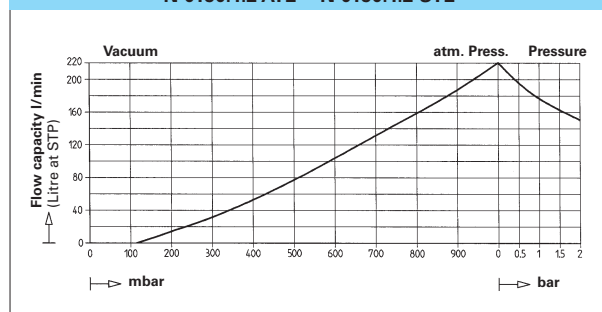
Type and Order No. ²⁾	Pump head	Diaphragm	Valves
N 0150 AN.12 E	Aluminium	Neoprene	Stainless steel
Chemically resistant version			
see below			



N 0150 AN.12 E



N 0150.1.2 ATE N 0150.1.2 STE



Chemically resistant versions with double diaphragm system

Pumps with the double diaphragm system are available for the first time in chemically resistant versions. Increased safety can be combined with high resistance to chemicals. The properties of the new pumps:

- Pump head and valves of stainless steel, working diaphragm PTFE-coated
- Delivery: 120 l/min at atm. pressure (Litre at STP)
- Ultimate vacuum: 115 mbar abs.
- Maximum permissible operating pressure: 2 bar g
- Leak rate: $< 1 \times 10^{-5}$ mbar l/s.

For further information contact your KNF application engineers.

N 0150.3 AN.12 E

Pumps with double diaphragm system:
increased safety and gas-tightness
(leak rate: $< 6 \times 10^{-6}$ mbar l/s).

PERFORMANCE DATA

Type and Order No. ²⁾	Delivery at atm. pressure (l/min) ¹⁾	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 0150.3 AN.12 E	150	-	20

¹¹ Litre at STP

MOTOR DATA

Protection class	IP 54	IP 54	Ex version
Voltage/Frequency (V/Hz)	~230/50	3~230/400/50	on request
Power P ₁ (W)	950	650	
Operating current (A)	4.2	4,8/2,7	

MODEL CODES AND MATERIALS

Type and Order No. ¹⁾	Pump head	Diaphragm	Valves
N 0150.3 AN.12 E	Aluminium	Neoprene	Stainless steel
Chemically resistant version see below			

N 0150.1.2 AN.12 E

Pumps with double diaphragm system:
increased safety and gas-tightness
(leak rate: $< 6 \times 10^{-6}$ mbar l/s).

PERFORMANCE DATA

Type and Order No. ²⁾	Delivery at atm. pressure (l/min) ¹⁾	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
N 0150.1.2 AN.12 E	280	2	100

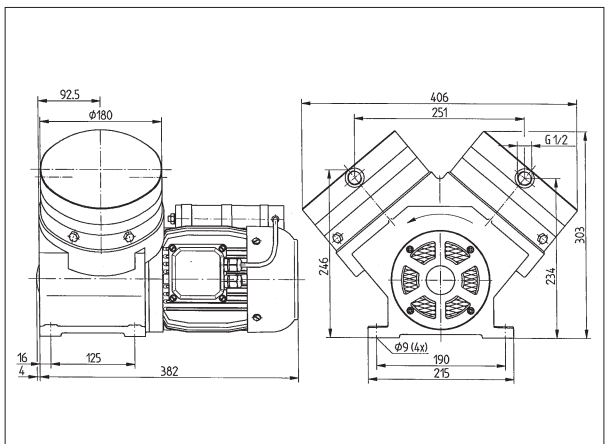
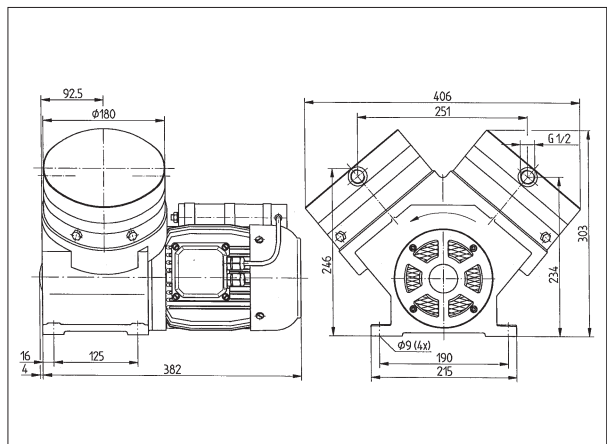
¹⁾ Litre at STP

MOTOR DATA

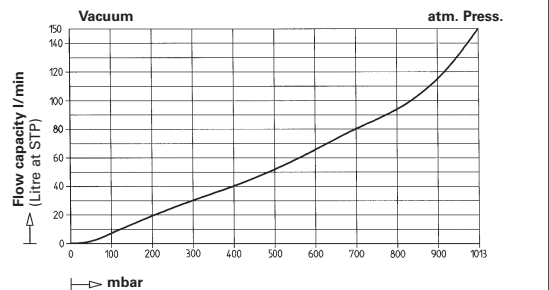
Protection class	IP 54	IP 54	Ex version
Voltage/Frequency (V/Hz)	~230/50	3~230/400/50	on request
Power P ₁ (W)	950	650	
Operating current (A)	4.2	4,8/2,7	

MODEL CODES AND MATERIALS

Type and Order No. ²⁾ N 0150.1.2 AN.12 E	Pump head Aluminium	Diaphragm Neoprene	Valves Stainless steel
Chemically resistant version see below			



N 0150.3 AN.12 E



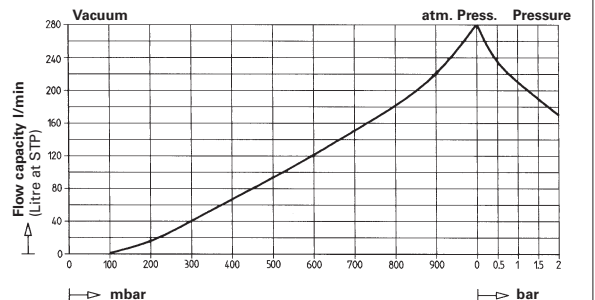
Chemically resistant versions with double diaphragm system

Pumps with the double diaphragm system are available for the first time in chemically resistant versions. Increased safety can be combined with high resistance to chemicals. The properties of the new pumps:

- Pump head and valves of stainless steel, working diaphragm PTFE-coated
- Delivery: 120 l/min at atm. pressure (Litre at STP)
- Ultimate vacuum: 25 mbar abs.
- Leak rate: $< 1 \times 10^{-5}$ mbar l/s.

For further information contact your KNF application engineers.

N 0150.1.2 AN.12 E



Chemically resistant versions with double diaphragm system

Pumps with the double diaphragm system are available for the first time in chemically resistant versions. Increased safety can be combined with high resistance to chemicals. The properties of the new pumps:

- Pump head and valves of stainless steel, working diaphragm PTFE-coated
- Delivery: 220 l/min at atm. pressure (Litre at STP)
- Ultimate vacuum: 115 mbar abs.
- Maximum permissible operating pressure: 2 bar g
- Leak rate: $< 1 \times 10^{-5}$ mbar l/s.

For further information contact your KNF application engineers.