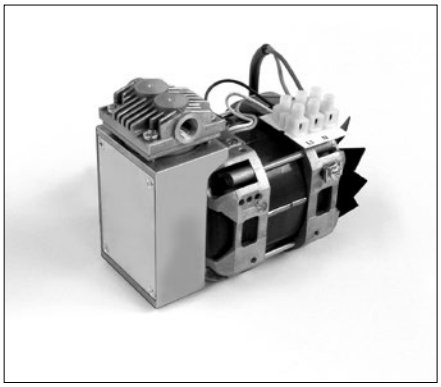
SWING PISTON VACUUM PUMPS AND COMPRESSORS FOR AIR

DATA SHEET E 308



NPK 09 AC

NPK 09 DC

NPK 09.1.2 AC

Concept

The swing piston pumps from KNF are based on a simple principle: As it rises and falls the piston tilts first to one side, then the other. The compression forces act along the axis of the connecting rod, so that there is no component of force acting against the cylinder wall to cause wear. Thanks to the sealing lip on the piston seal the swing piston pump runs dry and 100% oil-free. KNF swing piston pumps evacuate, transfer and compress air without contamination.

For customers with specific requirements the KNF project team produces specially tailored solutions. Use our experience to your advantage and talk to our application engineers.

Features

No contamination of the air due to oil-free operation

Maintenance-free

High level of flow-rate

Excellent ultimate vacuum

Very quiet and little vibration

Ready for installation

Can operate in any installed position

Areas of use

The swing piston pumps offer a high level of performance despite their small size, as well as an excellent price performance ratio. They are used especially in the fields of medicine, environmental and production technology.

These pumps are used for transferring, compressing and evacuating air, taking samples, evacuating vessels and compressing air in process systems and vessels.

PERFORMANCE DATA

Type	Delivery (l/min)	Vacuum (mbar absolute)	atm. pressure	Pressure (bar g)	Weight (kg)
NPK 09 AC	12	100		7	1.8
NPK 09 DC	15	100		7	1.6
NPK 09.1.2 AC	24	100		7	2.4

NPK 09 AC

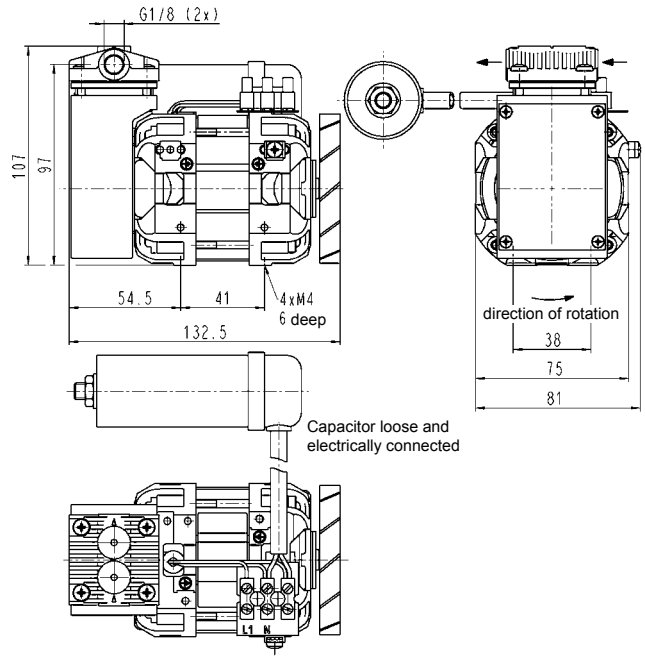
PERFORMANCE DATA

Type	Delivery at atm. pressure (l/min)[1]	Max. operating pressure (bar g)[2]	Ultimate vacuum (mbar abs.)
NPK 09 AC	12	7	100

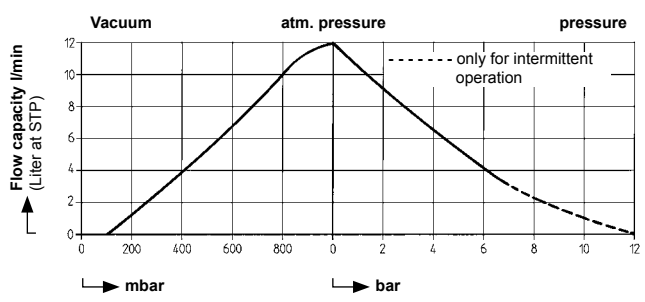
[1] Liter at STP
[2] continuous running

MOTOR DATA

Protection class	IP 00
Voltage (V)	230
Frequencies (Hz)	50
Power P_1 (W)	100
I_{max} (A)	0.6



NPK 09 AC



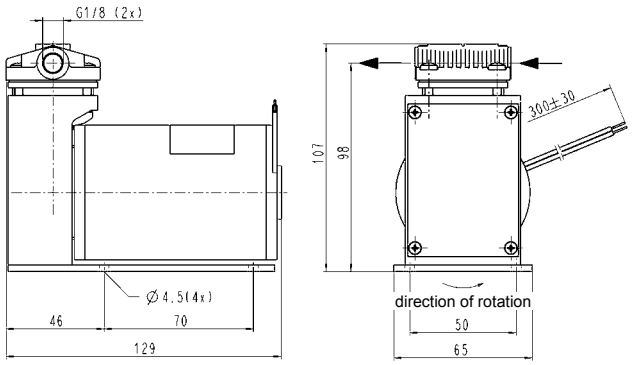
NPK 09 DC

PERFORMANCE DATA

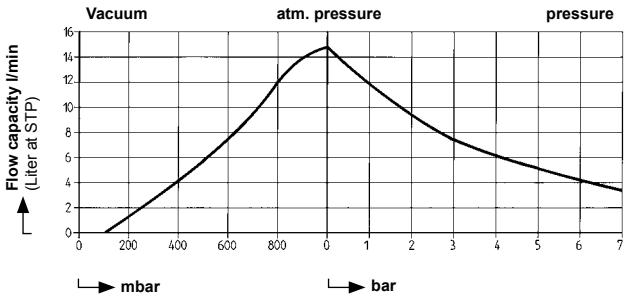
Type	Delivery at atm. pressure (l/min)[1]	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
NPK 09 DC	15	7	100

MOTOR DATA

DC motor	12 V	24 V
I_{max} (A)	5.2	2.6



NPK 09 DC



NPK 09.1/.2/.1.2 AC

TECHNICAL INFORMATION

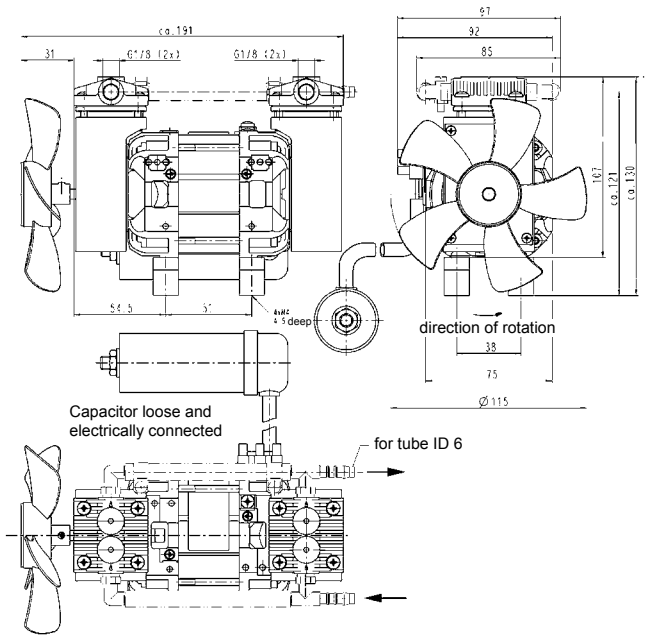
PERFORMANCE DATA

Type	Delivery at atm. pressure (l/min)[1]	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
NPK 09.1 AC	24		100
NPK 09.2 AC	24	7	
NPK 09.1.2 AC	24	7	100

[1] Liter at STP

MOTOR DATA

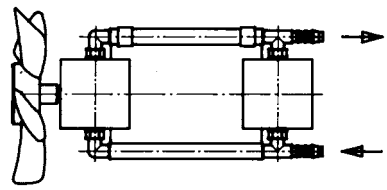
Protection class	IP 00
Voltage (V)	230
Frequencies (Hz)	50
Power P_1 (W)	180
I_{max} (A)	0.8



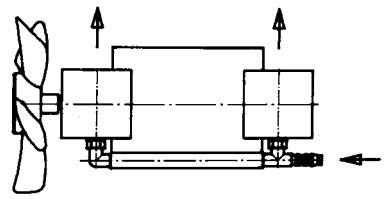
CONNECTIONS

Description	Order No.	Details
NPK 09.1, NPK 09.1.2 (suction side)	026178	Polyamide/rubber
NPK 09.2, NPK 09.1.2 (pressure side)	026179	Polyamide/rubber

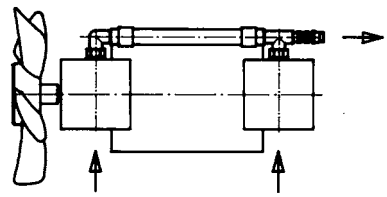
HEAD CONNECTIONS



NPK 09.1.2
Heads in parallel both sides

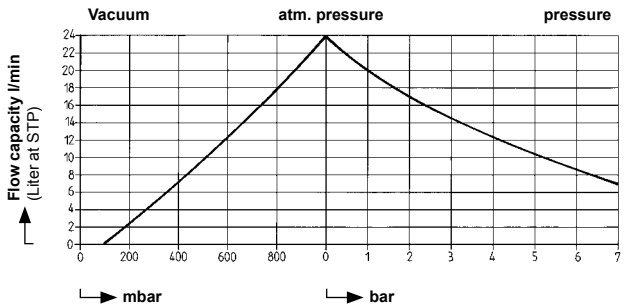


NPK 09.1
Heads with suction side in parallel



NPK 09.2
Heads with pressure side in parallel

NPK 09.1/.2/.1.2 AC



ACCESSORIES

Description	Order No.	Details
Silencer/Filter G 1/8	007005	G 1/8
Hose connector for tube ID 6	005148	G 1/8
Gasket	026906	

HINTS ON FUNCTION AND INSTALLATION

Function of KNF swing piston vacuum pumps and compressors

As it rises and falls the piston tilts first to one side, then the other (see figure 1). Just as with the diaphragm pump, the compression forces act along the axis of the connecting rod, so that there is no component of force acting against the cylinder wall to cause wear. In contrast to the diaphragm pump (see figure 2), the swing piston pump has a sealing lip. Thanks to the sealing lip on the piston seal the swing piston pump runs dry and 100% oil-free.

SYSTEMS

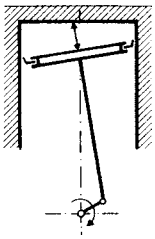


Fig. 1:
swing piston

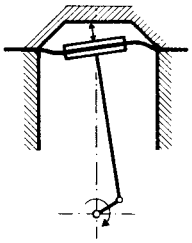


Fig. 2:
diaphragm pump

Hints on installation and operation

- Range of use: Transferring, evacuating and compressing of air at temperatures between +5 °C and +40 °C.
- Permissible ambient temperature: +5 °C ... +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.

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