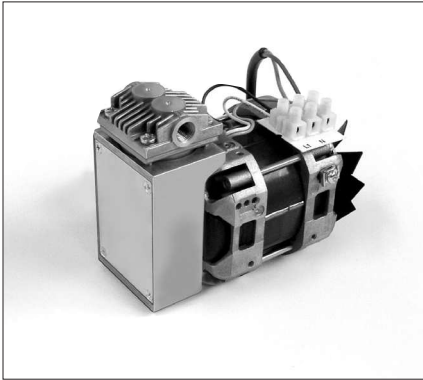


## SWING PISTON VACUUM PUMPS AND COMPRESSORS FOR AIR

## 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 principal: 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. They will evacuate, transfer and compress air without contamination.

For customers with unusual requirements the KNF Project Team produces specially tailored solutions. Use our experience to your advantage and talk to our applications 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 evacuation air, taking samples, evacuating vessels and compressing air in process systems and vessels.

## PERFORMANCE DATA

Type	Delivery (l/min)	Vacuum (mbar absolute)	atm. Press.	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 and Order No. <sup>2)</sup>	Delivery at atm. pressure (l/min) <sup>1)</sup>	Max. operating pressure (bar g) <sup>3)</sup>	Ultimate vacuum (mbar abs.)
<b>NPK 09 AC</b>	12	7	100

<sup>1)</sup> Litre at STP    <sup>3)</sup> continuous running

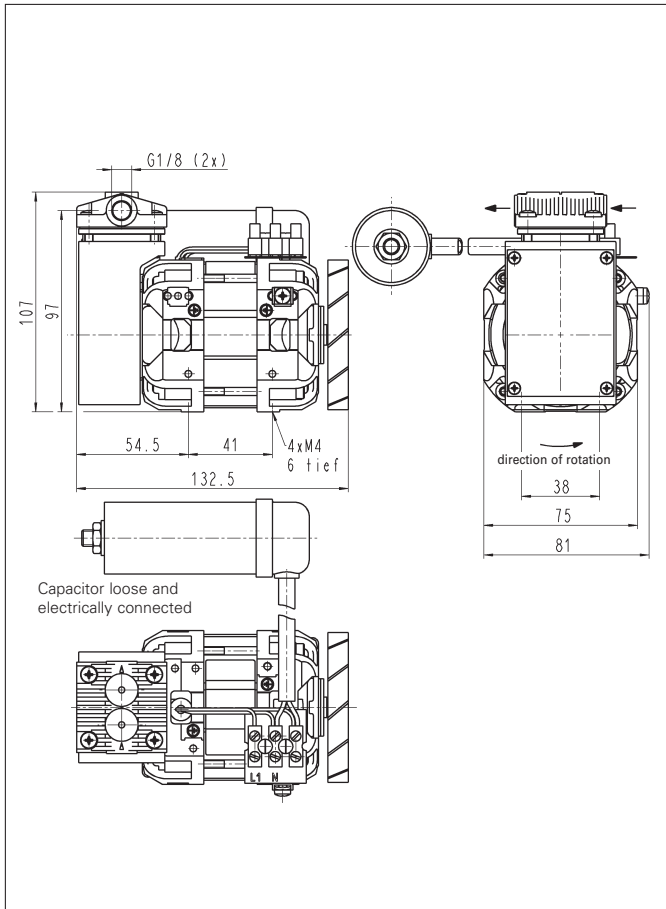
## MOTOR DATA <sup>4)</sup>

Protection class	<b>IP 00</b>		
Voltage/Frequencies (V/Hz)	230/50		
Power P <sub>1</sub> (W)	100		
Operating current (A)	0.6		

<sup>2)</sup> See also „MODEL CODES FOR EASY ORDERING“

<sup>4)</sup> Motors with other voltages, frequencies and protection classes on request.

Dimensions mm (All dimensional tolerances conform to DIN ISO 2768-1, Tolerance Class V)



# NPK 09 DC

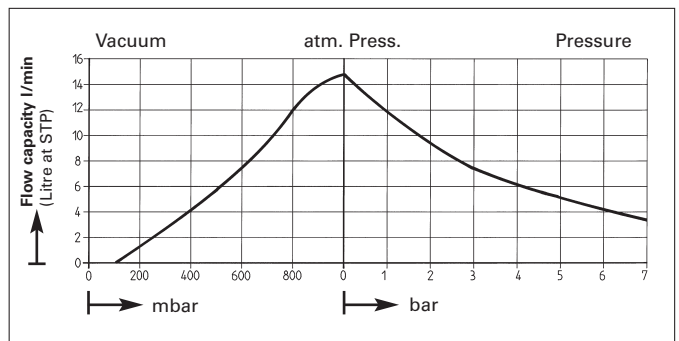
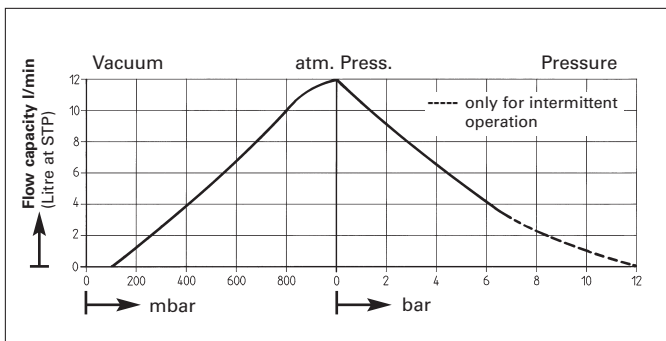
## PERFORMANCE DATA

Type and Order No. <sup>2)</sup>	Delivery at atm. pressure (l/min) <sup>1)</sup>	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
<b>NPK 09 DC</b>	15	7	100

<sup>1)</sup> Litre at STP

## MOTOR DATA <sup>4)</sup>

DC Motor	<b>12 V</b>	<b>24 V</b>	
Operating current (A)	5.2	2.6	



# NPK 09.1/.2/.1.2 AC

# TECHNICAL INFORMATIONS

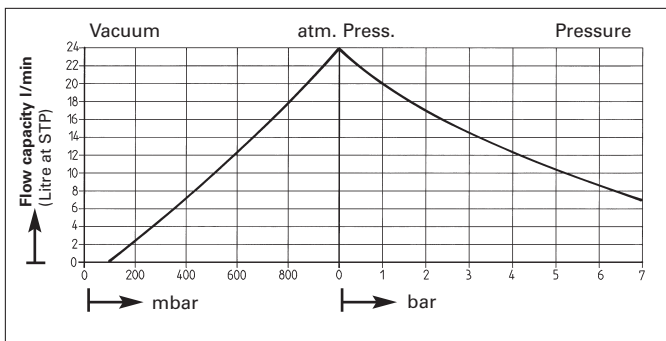
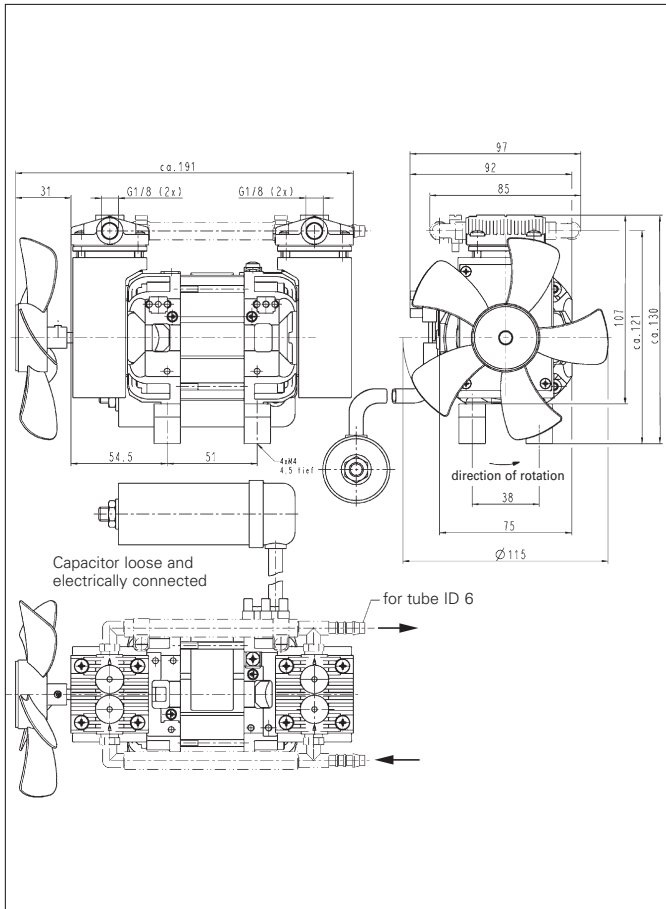
## PERFORMANCE DATA

Type and Order No. <sup>2)</sup>	Delivery at atm. pressure (l/min) <sup>1)</sup>	Max. operating pressure (bar g)	Ultimate vacuum (mbar abs.)
<b>NPK 09.1 AC</b>	24	7	100
<b>NPK 09.2 AC</b>	24	7	100
<b>NPK 09.1.2 AC</b>	24	7	100

<sup>1)</sup> Litre at STP

## MOTOR DATA <sup>4)</sup>

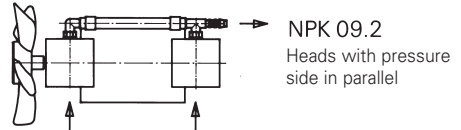
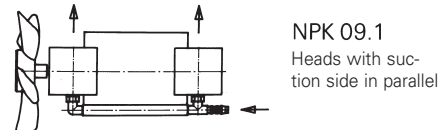
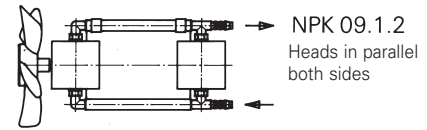
Protection class	<b>IP 00</b>		
Voltage/Frequencies (V/Hz)	230/50		
Power P <sub>1</sub> (W)	180		
Operating current (A)	0.8		



## Accessories

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

## Head connections



## Connections

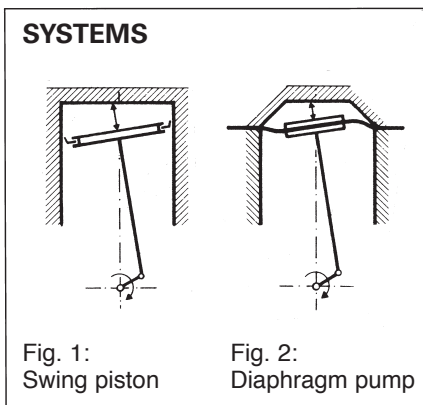
Description	Order No.	Detail
NPK 09.1, NPK 09.1.2 (suction side)	026178	Polyamide/rubber
NPK 09.2, NPK 09.1.2 (press. side)	026179	Polyamide/rubber

Hints on function, installation and service: see reverse

## HINTS ON FUNCTION, INSTALLATION AND SERVICE

### 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.



### 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: 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.

### HINTS ON SERVICE

The piston seal and valves are the only parts of the KNF swing piston pumps subject to wear. They are easy to change, as no special tools are needed.

### MODEL CODE FOR EASY ORDERING

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

<b>NPK 09</b>	<b>AC DC</b>	<b>230 V/50 Hz, IP 20 or 12 V</b>
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- Base model
- Versions with ac (AC) or dc motor (DC)
- Other motor data e.g.:

In addition the motor data must be given in the purchase order (voltage, frequency and protection class). In our extensive program you are sure to find the pump you need for your particular application.

KNF - the competent partner for vacuum and compressor technology. Especially for unusual problems. Call us and talk to our application engineers.

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