

DIAPHRAGM LIQUID PUMPS

NF 600, NF 1.600



NF 600 KPDCB



NF 1.600 KPDC

Concept

KNF diaphragm liquid pumps are based on the principle of the oscillating displacement pump which is remarkably simple in design.

The rotating power from the motor is converted into vertical movement by an eccentric. This motion is then transferred to 4 diaphragms by means of a special connecting rod which in conjunction with the inlet and outlet valves creates a smooth pumping action.

The KNF modular system contains a wide standard range of materials, motors, voltages and frequencies to enable the selection of an optimal solution for your application.

Features

Four diaphragm technology

- Smoother pumping action
- Less vibration
- Quieter running
- Maximum efficiency

High chemical resistance

Different head materials are available.

Self priming

Pumps either liquids, gases or mixtures.

Long term stability

Stable pumping characteristics over pump lifetime.

Compact size

NF 600 DCB = 135x111x105 mm

NF 1.600 DC = 191x111x105 mm

Long life and low maintenance

Areas of use

- Medical diagnostics
- Industrial dosing systems
- Fuel cells
- Semiconductor industry
- Water analysis

PERFORMANCE DATA

Type	Flow rate (l/min)	Suction height (mWg)	Pressure head (mWg)
NF 600	6	3	10
NF 1.600	6	3	60

THE KNF MODULAR CONCEPT OF SELECTION

General note

This data sheet provides an overview of the options of our NF 600 pumps. Certain standard options will be explained in more detail where necessary.

Flow curves

The flow curves illustrate how the flow rate alters in relation to the pressures before and after the pump. In the case of a combination of both we can advise what the expected flow rate will be.

The values given in the curves are dependant upon the liquid, choice of head materials and the type of hose being used. Therefore a certain deviation is to be expected. The flow rate is measured with water at 20°C.

KNF modular concept

Our versatile self-selection program allows you to personally determine the optimum characteristics that you require from your pump. Select your diaphragm pump from the following characteristics:

1 MATERIALS OF HEAD COMPONENTS		
KP	Head Valves Diaphragm	PP EPDM PTFE covered
KT	Head Valves Diaphragm	PP FFKM PTFE covered
TT	Head Valves Diaphragm	PVDF FFKM PTFE covered

2 MOTORS	
DC	Direct current motor
DCB	Brushless direct current motor
AA	Capacitor motor (AC)

3 VOLTAGES AND FREQUENCIES	
24V	Direct current motors
24V	Brushless direct current motor
230V/50 Hz 100V/50-60 Hz	Capacitor motor (AC)

TYPE DESCRIPTION			
Basic model	1	2	3
NF 600			
NF 1.600			
Example	KP	DC	24V

1 Materials of head components

KNF offers a wide range of different materials for those parts which come in contact with the liquid thus allowing the possibility of pumping most liquids.

2 Motors

- **DC** Brush motor
- **DCB** Brushless direct current motor This type of motor has no brushes which can wear down thus giving it a lifetime comparable with an AC motor. The small size, the flow rate adjustability and the impulse generator are some more advantages to the other DC motors.
- **AA** Capacitor motor (AC)

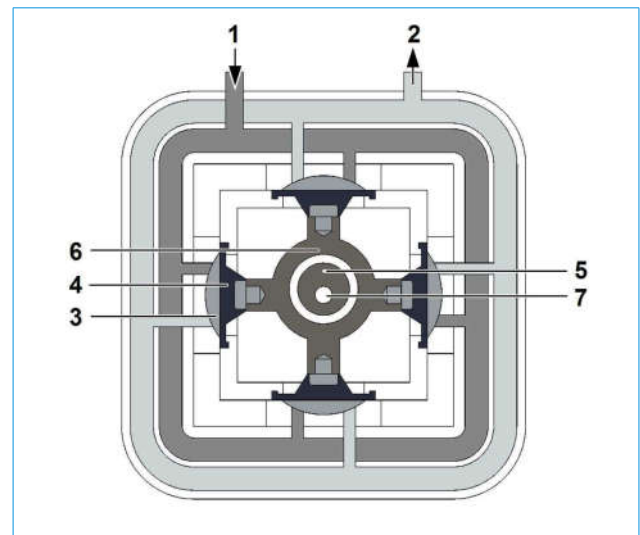
3 Voltages and frequencies

The pumps can be delivered with the standard voltages and frequencies as seen in the performance charts. Other voltages are available on request.

Four diaphragm technology

KNF diaphragm liquid pumps are based on the principle of the oscillating displacement pump.

The circular motion of the motor shaft (7) is converted into a vertical movement by an eccentric (5). This motion is then transferred to 4 separate diaphragms (4) by means of a special connecting rod (6) which in conjunction with the inlet (1) and outlet (2) valves creates a smooth pumping action.



The advantages of using four diaphragms are:

- Low pulsation
- Compact size
- Higher efficiency
- Quiet running

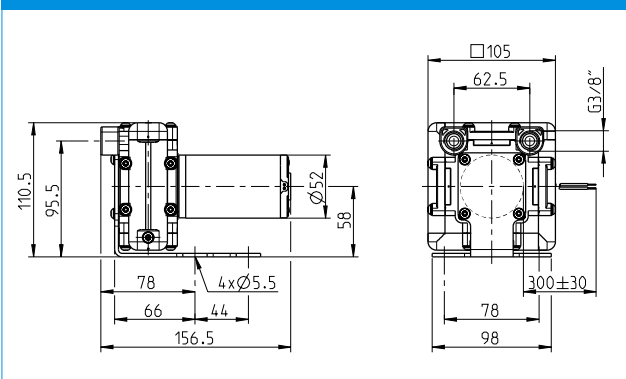
NF 600 DC/DCB

PERFORMANCE DATA

Type	Flow rate at atmos. pressure (l/min)	Max. suction height (mWg)	Max. pressure head (mWg)
NF 600 DC	6.0	3	10
NF 600 DCB	6.0	3	10

Motor selection	DC	DCB
Voltage (V)	24	24
Power rating (W)	34	44
current (A)	1.4	1.8
I max. (A)	1.5	2
Motor protection class	IP 50	IP 54
Allowed ambient temp. (°C)	+5....+40	+5.....+40
Allowed liquid temp. (°C)	+5....+80	+5.....+80
Max. viscosity (cSt)	150	150
Connections	G 3/8"	G 3/8"
Hose ID (mm)	min. 10	min. 10
Weight (kg)	1.5	1.5
EMI standards	EN 55011	EN 55014

NF 600 DC



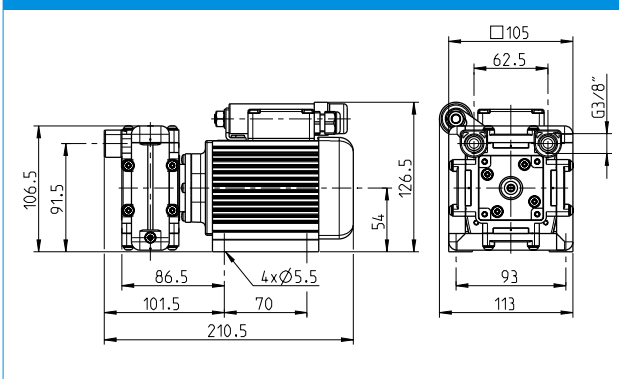
NF 600 AA

PERFORMANCE DATA

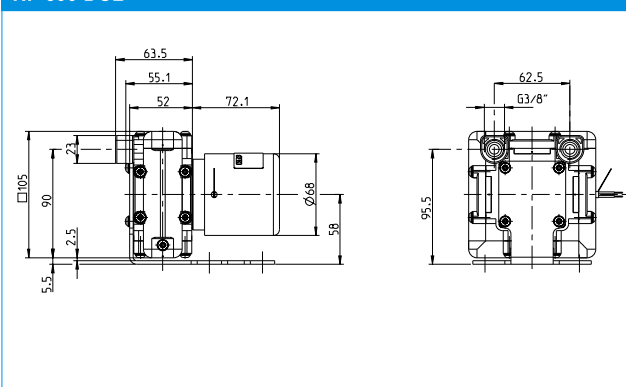
Type	Flow rate at atmos. pressure (l/min)	Max. suction height (mWg)	Max. pressure head (mWg)
NF 600 AA	6.0	3	10

Motor selection	AA	AA
Voltage (V)	230V/50Hz	100V/50-60Hz
Power rating (W)	99	115/85
current (A)	0.43	1.15/0.85
I max. (A)	0.55	1.70
Motor protection class	IP 54	
Allowed ambient temp. (°C)	+5.....+40	
Allowed liquid temp. (°C)	+5.....+80	
Max. viscosity (cSt)	150	
Connections	G 3/8"	
Hose ID (mm)	min. 10	
Weight (kg)	3.0	
EMI standards	EN 55014	

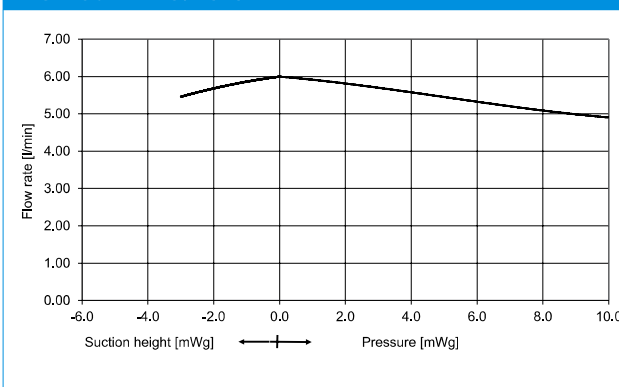
NF 600 AA



NF 600 DCB



FLOW CURVE DC/DCB/AA

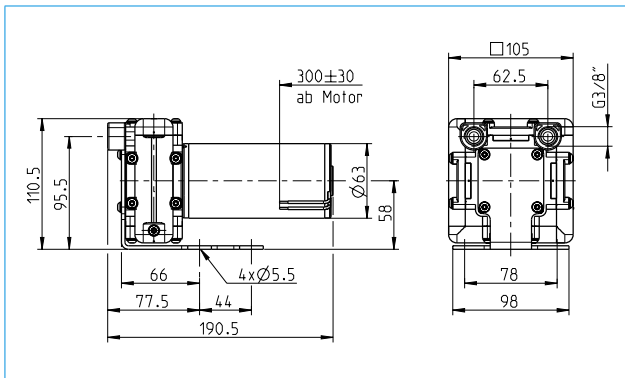


NF 1.600 DC

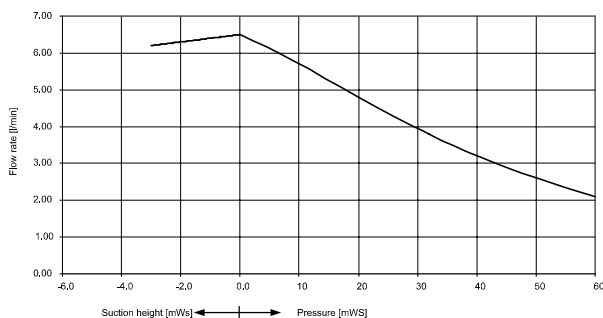
PERFORMANCE DATA

Type	Flow rate at atmos. pressure (l/min)	Max. suction height (mWg)	Max. pressure head (mWg)
NF 1.600 DC	6.0	3	60

Motor	DC
Voltage (V)	24
Power rating (W)	75
current (A)	3.1
I max. (A)	4.9
Motor protection class	IP 50
Allowed ambient temp. (°C)	+5...+40
Allowed liquid temp. (°C)	+5...+80
Max. viscosity (cSt)	150
Connections	G 3/8"
Hose ID (mm)	min. 10
Weight (kg)	2.5
EMI standards	EN 55011



NF 1.600 DC



ACCESSORIES

Diaphragm pressure control valve

The pressure control valve can be used for a more accurate control of flow against a fluctuating back pressure, metering into a vacuum and from a pressurized system. Used correctly it can prevent damage to pumps, plumbing and other fittings.



Pulsation damper

This versatile pulsation damper reduces the vibration in hoses and pipes and helps to remove pulsation which might prevent the system from functioning correctly. It also protects instrumentation connected after the pump.



Other accessories

- Hoses
- Hose connections