DIAPHRAGM LIQUID PUMPS

NF 1.11

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Concept

KNF diaphragm liquid pumps are based on the principle of the oscillating displacement pump which is remarkably simple in design. The circular power from the motor is converted into vertical movement by an eccentric. This motion is then transferred to a diaphragm by means of a connecting rod which in conjunction with an inlet and outlet valve creates a pumping action.

The NF 1.11 liquid pump can be mounted in any position. It delivers up to 100 ml/min and will operate against pressures of up to 60mWg.

The use of a high quality ironless DC motor ensures a low power consumption, a very high durability and an extremely compact size.

Features

Small and powerful
Micro design and maximum performance resulting from built-in technology are the outstanding characteristics of this product.

Self-priming and excellent for pressure
Sophisticated diaphragm technology and precise valve structures enable performances from 3 mWg suction and 60 mWg pressure.

Extreme chemical resistance
The use of the materials PP, PVDF, PTFE, EPDM and FFKM for the parts which come in contact with the liquid allows many neutral or corrosive liquids to be pumped.

Dry running, durable and maintenance free
The carefully considered design of these pumps allows them to run dry and ensures safe operation and a long life even under the most severe conditions.

Areas of use

The versatility of KNF pumps allows a wide field of applications to be covered. Over many years our pumps have proved themselves in the following areas:

Analysers
- Medical/pharmaceutical
- Environmental/water treatment
- Food/toxicology

Laboratory
- Filtration
- Chromatography

Cleaning industry
- Cuvette cleaning
- Sterilizers
- Industrial washing machines

Printing
- Ink jet printing
- Photographic/film development

Other applications for diaphragm liquid pumps include: fuel cells, hydrogen generators, semiconductor industry, dental technology, textiles and many more.

PERFORMANCE			
Type	**Flow rate (ml/min)**	**Suction height (mWg)**	**Pressure head (mWg)**
NF 1.11	100	3	60

COMPONENTS

General note

This Data Sheet provides an overview of the options with the NF 1.11 and explains all components in detail.

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 would be very happy to advise what the expected flow rate would be.

1 Materials of head components

KNF Flodos 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

The NF 1.11 is driven by a high quality ironless DC motor. This provides the following advantages compared to a conventional DC motor: higher durability, less power consumption and smaller size.

3 Voltages

The ironless DC motor is available for voltages of 12V and 24V.

TYPE DESCRIPTION			
Type	**Components**		
	1	**2**	**3**
e.g. NF 1.11	**KP**	**DC**	**12V**

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

2 MOTORS	
DC	Direct current motor

3 VOLTAGES	
12 / 24V	for direct current motor

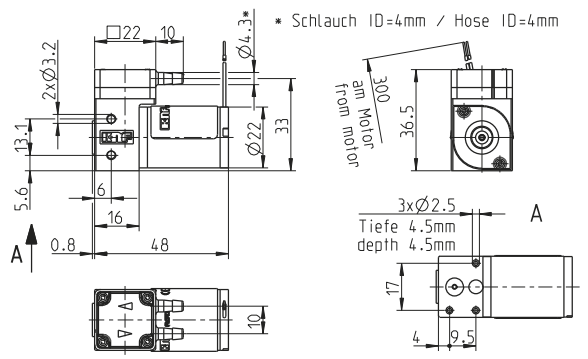
PERFORMANCE

PERFORMANCE

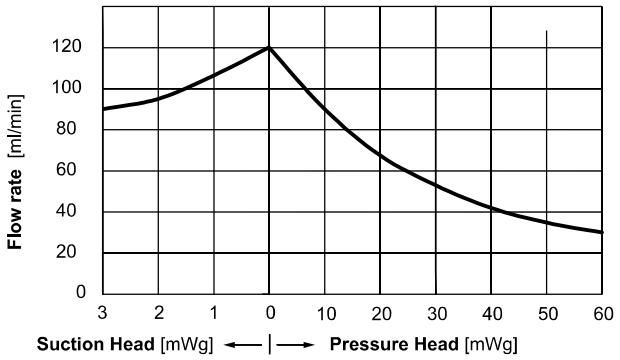
Basic model	Flow rate at atmos. pressure (ml/min)	Max. suction height (mWg)	Max. pressure head (mWg)
NF 1.11	100	3	60

Motor selection	DC
Voltage (V)	12 / 24
Power rating (W)	2.5 / 2.3
I max. load (A)	0.21 / 0.09
I max. (A)	0.21 / 0.09
EMC guideline	EN 55022 / EN 55011
Motor protection factor	IP 33
Weight	70 g

NF 1.11



FLOW CURVE



Further options:

- Other connections (M5, UNF 1/4”-28, compression fittings for 4/6mm hose)
- Molex / AMP connector
- The incorporation of customers special requirements