

MICRO DIAPHRAGM LIQUID PUMPS

NF 1.30

SECTION 200.22



Concept

KNF micro 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.

NF 1.30 type liquid pumps can be mounted in any position and can deliver up to 0.17 l/min depending on the model and will operate against pressures of up to 87 PSIG.

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

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 of up to 14.5 inHg suction and 87 PSIG pressure.

Extreme chemical resistance

The use of chemically resistant materials such as PTFE, PVDF, FFPM or other material combinations for the parts which come in contact with the liquid allows almost all neutral or corrosive liquids to be pumped.

Dry running, durable and maintenance free

The carefully considered design of these pumps allows them to be 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

- Sterilisers
- Industrial washing machines

Printing

- Ink jet printing
- Photographic / film development

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

Performance Data			
Type	Flow rate (l/min)	Suction head (inHg)	Pressure head (PSIG)
NF 1.30	0.17	14.7	87

The KNF Modular Concept of Selection

General note

This Data Sheet provides an overview of the options with our NF 1.30 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 would be very happy to advise what the expected flow rate would be.

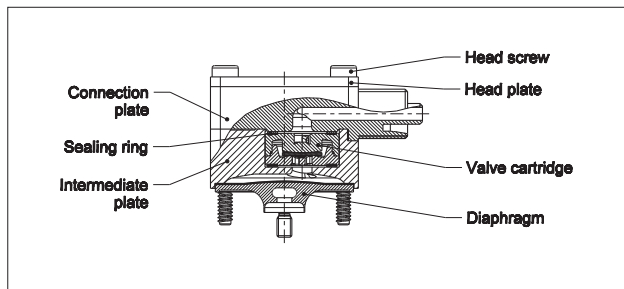
The values given in the curves are dependant upon the liquid, choice of head materials and the type of hoses being used. Therefore a certain deviation is to be expected.

Note: The flow rate is measured with water at 20°C

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.

The pump head of the NF 1.30 is made up of seven main parts. The diaphragm, intermediate plate, connection plate, valve cartridges and the sealing rings are the only parts which come in contact with the liquid. The materials which are available as standard can be seen in the table.



2 Motoren

DCG Direct current geared motor

In contrast to the rest of the NF series, this product is equipped with a geared motor ($n = 300$ rpm). Due to the relatively low stroke rate of the pump, the NF 1.30 is capable of pumping against high pressures and dosing small quantities

3 Voltages / Frequencies

Choose from the different electrical connection possibilities. Special variations are available.

Modules

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:

Pump type			
Basic model	Components		
	1	2	3
NF 1.30			

1	Werkstoffe (Kopfmaterien)	
KT	Head	PP
	Valve cartridges	PP / FFPM
	Diaphragm	PTFE
TT	Head	PVDF
	Valve cartridges	PVDF / FFPM
	Diaphragm	PTFE

2	Motors
DCG	Direct current geared motor

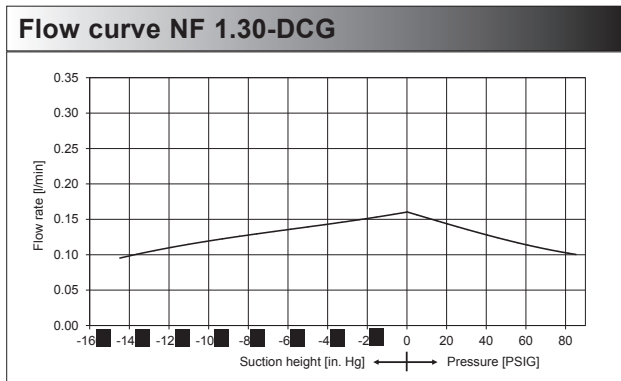
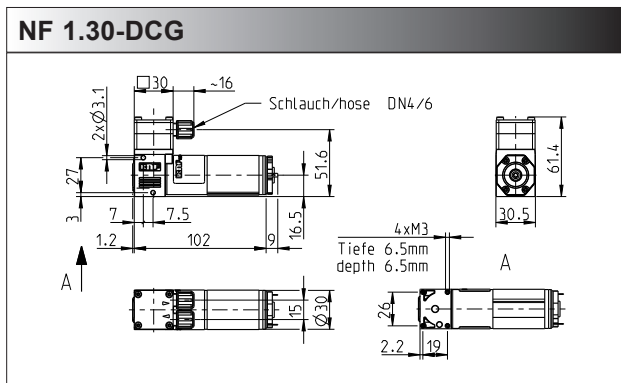
3	Voltages / Frequencies
12 / 24V	for direct current geared motor

NF 1.30-DCG

Performance

Basic model	Flow rate at atmos. pressure (l/min)	Max. suction head (inHg)	Max. pressure head (PSIG)
NF 1.30	0.17	14.7	87

Motor selection		DCG
Voltage (V)		12 / 24
Power rating (W)		7.32 / 8.4
I max. load (A)		0.61 / 0.35
I max. (A)		0.84 / 0.46
EMC guideline		EN 55014-1
Weight (g)		220
Motor protection factor		IP 00



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 pressurised system. Used correct it can save pumps, plumbings and other fittings from damage.



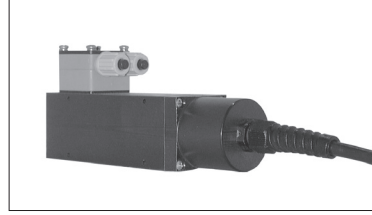
Pulsation damper

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

Further accessories

- Hoses
- Hose connections
- Shock mounts

Options



High protection IP65 version

We can offer the NF 1.30-DCG with an IP65 housing for applications under bad conditions (moisture, dust, etc.).

The NF 1.30 pump range comes with many other options. If you require any further information concerning the following features, our local sales representative would be very happy to be of assistance.

Further options

- Other connections (UNF 1/4"-28)
- Other head materials (PTFE, Stainless Steel, etc.)
- Different gear ratios
- Brushless geared motor
- Integrated pressure control valve (.27)
- The incorporation of customers special requirements, for example special electrical connections (Molex, AMP, etc.)

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