

# DIAPHRAGM LIQUID PUMP

NF 1.25



NF 1.25 RPDC



NF 1.25 RPDCB-4A

## 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 1.25 liquid pump can be mounted in any position. It delivers up to 300 ml/min and will operate against pressures of up to 60 mWg\*.

## Features

### Small and powerful

Micro design and maximum performance resulting from built-in technology are the outstanding characteristics of these products.

### Self-priming

Sophisticated diaphragm technology and precise valve structures enable performances of 3 mWg suction and 60 mWg pressure\*.

### Extreme chemical resistance

The use of materials such as PPS, EPDM, FFKM and PTFE (TFM) 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 be run dry and ensures safe operation and a long life even under the most severe conditions.

## Area 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

- Sterilizers
- Industrial washing machines

### Printing

- Ink jet printing
- Photographic / film development

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

\*The pressure range can be extended up to 100 mWg on request.

PERFORMANCE DATA			
Type	Flow rate (ml/min)	max. suction height (mWg)	max. pressure head (mWg)
NF 1.25 DC	300	3	60/100*
NF 1.25 DCB-4A	50 - 300	3	60/100*

# THE KNF MODULAR CONCEPT OF SELECTION

## General note

This Data Sheet provides an overview of the options with our NF 1.25 pumps. Certain standard options will be explained in more detail where necessary.

## Flow curves

The flow curves illustrate how the flow rate changes 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.

## 2 Motors

- **DC** Direct current motor
- **DCB-4A** Compact 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. External command: PWM (0-5V DC).

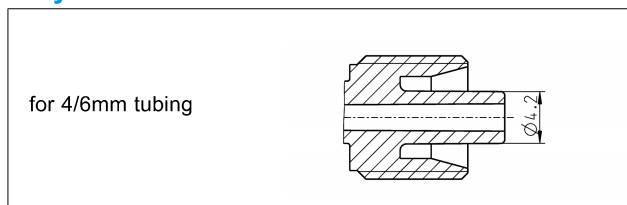
## Leads

Function	Leads color	Signal name	Signal
+ Voltage	red	+Vs	10 .. 28V DC
- Voltage	black	-Vs/GND	-
Speed control input signal	white	Vctrl	0.2 ... 5V DC
Impulse generator	green	FG	18 Pulse / mech. rotation

## 3 Voltages

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

## 4 Hydraulic connections



## 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:

1 MATERIALS OF HEAD COMPONENTS		
RP	Head Valves Diaphragm Resonating diaphragm	PPS EPDM EPDM EPDM
RT	Head Valves Diaphragm Resonating diaphragm	PPS FFKM PTFE coated FFKM

2 MOTORS	
DC	Direct current motor
DCB-4A	Brushless direct current motor

3 VOLTAGES	
12/24V	Direct current motor
10...28V	Brushless direct current motor

PUMP TYPE			
Basic model	1	2	3
NF 1.25			
e.g.	RP	DC	12V

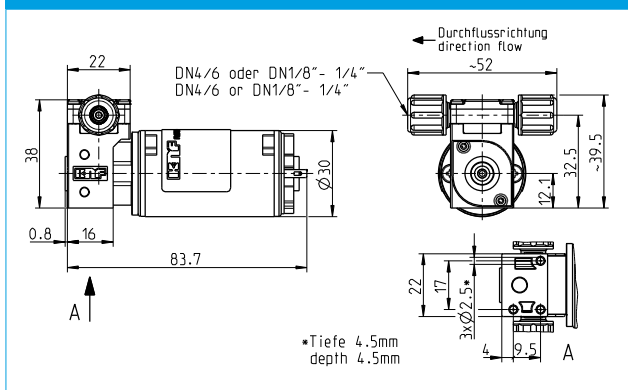
## NF 1.25 DC

### PERFORMANCE

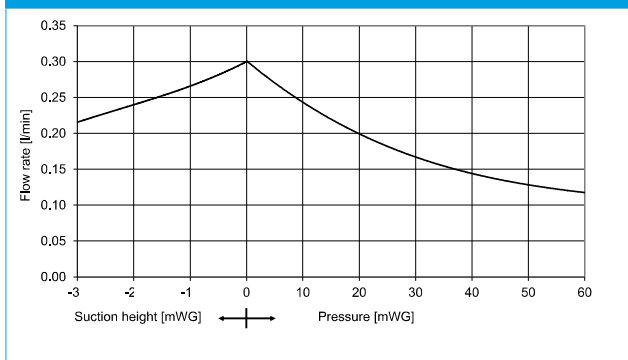
Type	Flow rate at atmos. pressure (ml/min)	Suction height (mWg)	Pressure head (mWg)
NF 1.25 DC	300	3	60/100*

Type	DC
Voltage (V)	12 / 24
Power rating (W)	4.9
I max. load. (A)	0.41 / 0.20
I max. (A)	0.70 / 0.36
EMV guidelines	EN 55014
Weight (g)	157
Motor protection factor	IP 00

### NF 1.25 DC



### NF 1.25 FLOW CURVE DC



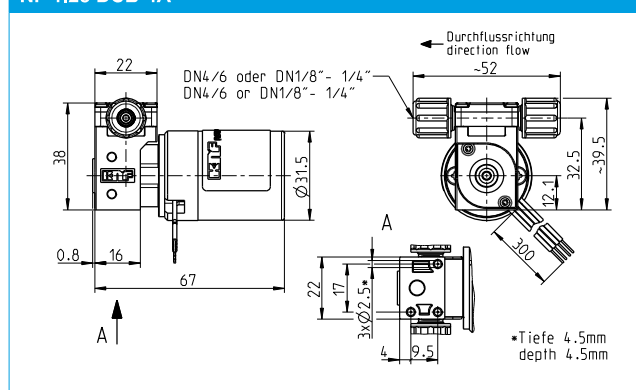
## NF 1.25 DCB-4A

### PERFORMANCE

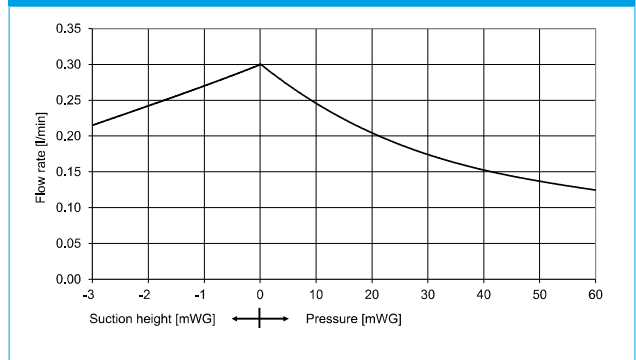
Type	Flow rate at atmos. pressure (ml/min)	Suction height (mWg)	Pressure head (mWg)
NF 1.25 DCB-4A	50-300	3	60/100*

Type	DCB-4A
Voltage (V)	10...28
Power rating (W)	5.8
I max. load. (A)	0.58...0.21
I max. (A)	1.1
EMV guidelines	EN 61000-6-3 EN 61000-6-1 EN 55014-2 EN 55014-1
Weight (g)	141
Motor protection factor	IP 54

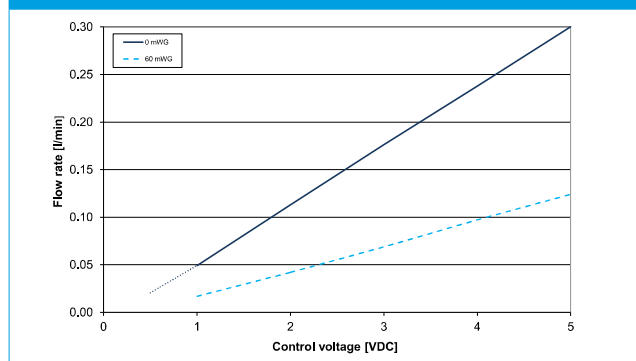
### NF 1.25 DCB-4A



### NF 1.25 FLOW CURVE DCB-4A



### NF 1.25 CONTROL CURVE DCB-4A



# ACCESSORIES, OPTIONS

## 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 it helps to remove pulsation which might prevent the system from functioning correctly. It also protects instrumentation connected after the pump.



## Mounting plate with anti vibration mount

Simple assembly with integrates anti-vibration mounts.



## Other accessories

- Tubing

## Other options

- Other head materials
- Other motors with special voltages
- Specific customers requirements such as special connections (Molex, AMP, etc.)