

# DIAPHRAGM LIQUID PUMP

NF 2.35



NF 2.35 DCB-A

## 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 2.35 liquid pump can be mounted in any position. It delivers up to 350 ml/min and will operate against pressures of up to 160 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 160 mWg pressure.

### Extreme chemical resistance

The use of materials such as PEEK, EPDM und FFPM 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

- Medicine
- Pharmaceutical

### Fuel cells

- Reforming

### Laboratory

- Filtration
- Chromatography

### Cleaning industry

- Cuvette cleaning
- Sterilisers
- Industrial washing machines

### Printing

- Ink jet printing
- Photographic/film development

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

PERFORMANCE DATA			
Type	Flow rate (ml/min)	max. suction height (mWg)	max. pressure head (mWg)
NF 2.35 DCB-B	350	3	160

# THE KNF MODULAR CONCEPT OF SELECTION

## General note

This Data Sheet provides an overview of the options with our NF 2.35 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 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

### DCB-A Compact brushless direct current motor

The brushless motors are electronically commutated and thus do not suffer from brush wear. This allows us to achieve long lifetimes similar to AC motors.

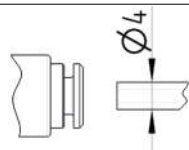
- Option for external motor speed control using PWM or a 0-5 V DC signal.
- On project request other motors are available.

## 3 Voltages

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

## 4 Hydraulic connections

Plug-in coupling 4.0 mm  
Tubing OD x ID 4.0 x 2.5 mm



## 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

XP	Head Valves O-Rings Diaphragm Resonating diaphragm	PEEK EPDM EPDM EPDM PTFE
XT	Head Valves O-Rings Diaphragm Resonating diaphragm	PEEK FFKM FFKM PTFE coated PTFE

### 2 MOTORS

DCB-A	Brushless direct current motor
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### 3 VOLTAGES

12 / 24V	Direct current motor
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### PUMP TYPE

Basic model	1	2	3
e.g. NF 2.35	XP	DCB-A	24V

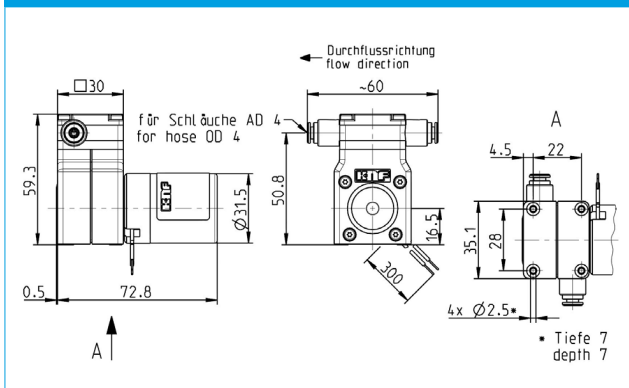
## NF 2.35 DCB-A

### PERFORMANCE

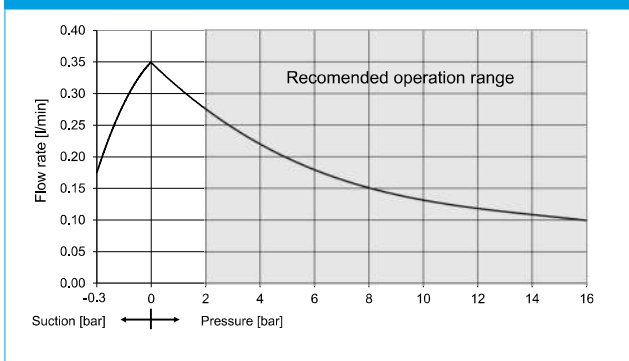
Type	Flow rate at atmos. pressure (ml/min)	Suction height (mWg)	Pressure head (mWg)
NF 2.35	350	3	160

Type	DCB-A
Voltage (V)	12V / 24V
Power rating (W)	10
I max. load. (A)	0.8 / 0.4
I max. (A)	1.0 / 0.5
EMV guidelines	EN 55014-1 EN 55014-2 EN 61000-6-1 EN 61000-6-3
Weight (g)	200
Motor protection factor	IP 54

### NF 2.35 DCB-A



### NF 2.35 DCB-A FLOW CURVE



# ACCESSORIES, OPTIONS

## **Other accessories**

- Tubing
- Anti-vibration mounts

## **Further options**

- Other head materials
- Motors with special voltages or frequencies
- Specific customers requirements such as special connections (Molex, AMP, etc.) and customized hydraulic connections
- DCB motor with 4 leads
  - Input: 0-5 V
  - Output: impuls
- DC motor