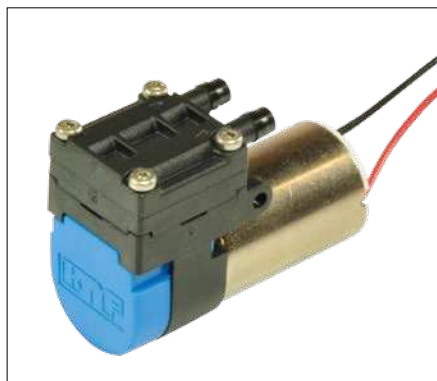


# NMP 03 MICRO DIAPHRAGM GAS PUMPS

DATA SHEET E 002



NMP 03 KP DC-M

## Concept

KNF micro diaphragm pumps are based on reciprocating displacement pump technology. An eccentric system transforms the circular movement of the motor shaft into an oscillating movement, which is applied to the diaphragm via a connecting rod. Working in conjunction with the inlet and outlet valves, the movement of the diaphragm generates the actual pump operation.

## Features

- Uncontaminated transfer
- Small size
- Low power consumption
- Low pulsation
- Long service life
- High gas-tightness
- Stable and linear
- Maintenance-free
- Can be installed in any position



NMP 03 KP DC-L

## Applications

Thanks to its compact size and outstanding efficiency, the NMP 03 is particularly suitable for use in portable and battery-operated devices.

- Emission measurement
- Drugs and explosives detection
- Handheld pipette
- Patient monitoring
- Wound therapy (NPWT)
- Printhead meniscus control

The permissible operating temperature is between -20 °C and +60 °C.



NMP 03 KP DC-B1

## Drive variants

The NMP 03 is available with the following motor options:

### S - low cost

Option with a cost-effective DC motor with a limited service life.

### M - standard DC motor

Option with a standard DC motor.

### L - longlife DC motor

Option with a robust and efficient DC motor providing a long service life.

### B1 - brushless motor without electronics

Option with a brushless, double ball bearing, electronically commutated DC motor. The motor is vibration-free, non-arcing and silent, and features a compact design, high dynamics and an especially long service life.

### B3 - brushless motor with external electronics

B3 is the same as the B1 variant, but also comes with external electronics. Recommended for tests and small series.

## PERFORMANCE DATA

Type		Flow rate (Nml/min)	Ultimate vacuum (mbar rel.)	atm. pressure	Ultimate pressure (mbar rel.)	Weight (g)
NMP 03 KP DC-S	(low cost DC motor)	330	-400		370	10.8
NMP 03 KP DC-M	(standard DC motor)	300	-350		350	13.9
NMP 03 KP DC-L	(longlife DC motor)	320	-400		350	13.1
NMP 03 KP DC-B1/B3	(brushless DC motor without electronics / with external electronics)	300	-400		370	10.9 / 12.7

# NMP 03 KP DC-S

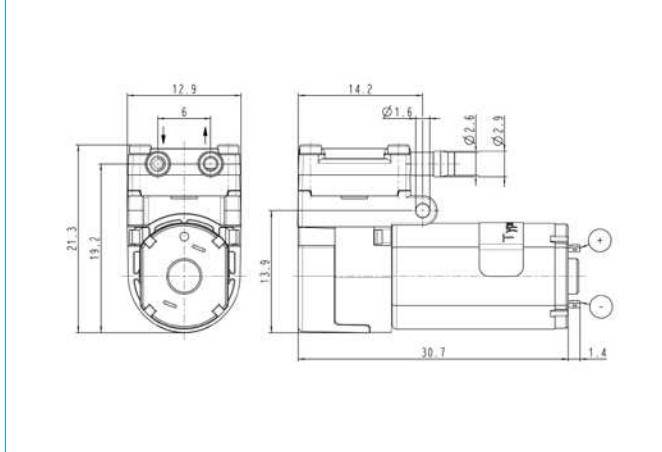
## PERFORMANCE DATA

Type	Voltage (V)	Flow rate (Nml/min)	Ultimate pressure (mbar rel.)	Ultimate vacuum (mbar rel.)
NMP 03 KP DC-S	2.5	330	370	-400

## PUMP MATERIAL

	Type	Pump head	Diaphragm	Valves
Standard	KP	PPS	EPDM	EPDM
on request	KV	PPS	FPM	FPM
on request	KT	PPS	FFPM	FFPM

## NMP 03 KP DC-S



# NMP 03 KP DC-M

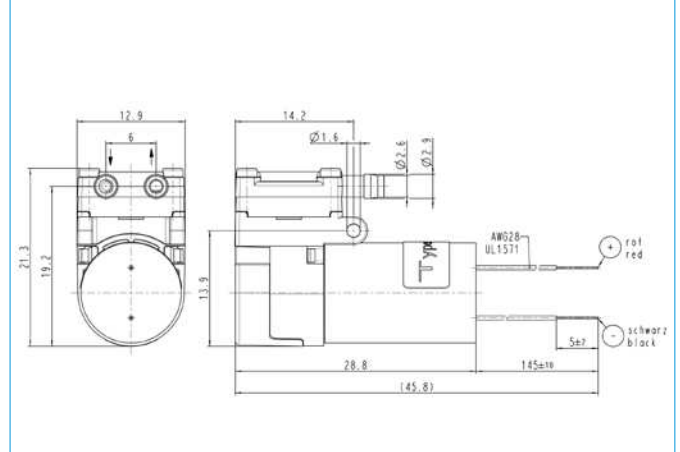
## PERFORMANCE DATA

Type	Voltage (V)	Flow rate (Nml/min)	Ultimate pressure (mbar rel.)	Ultimate vacuum (mbar rel.)
NMP 03 KP DC-M	1.3	300	350	-350

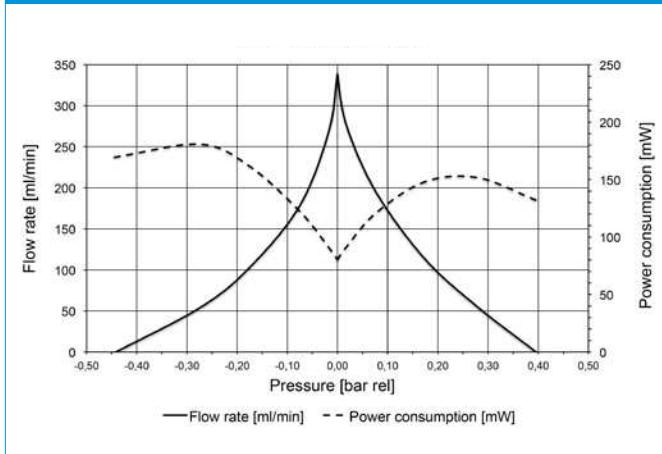
## PUMP MATERIAL

	Type	Pump head	Diaphragm	Valves
Standard	KP	PPS	EPDM	EPDM
on request	KV	PPS	FPM	FPM
on request	KT	PPS	FFPM	FFPM

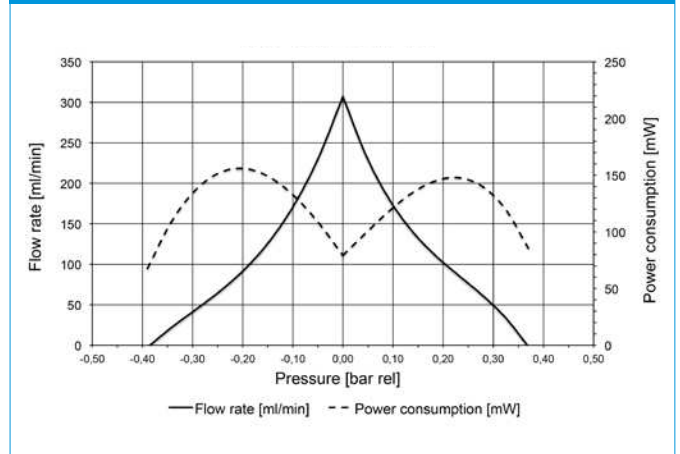
## NMP 03 KP DC-M



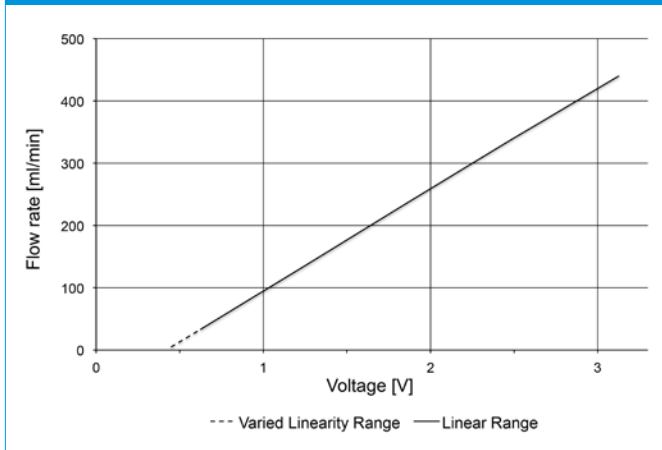
## NMP 03 KP DC-S 2.5 V



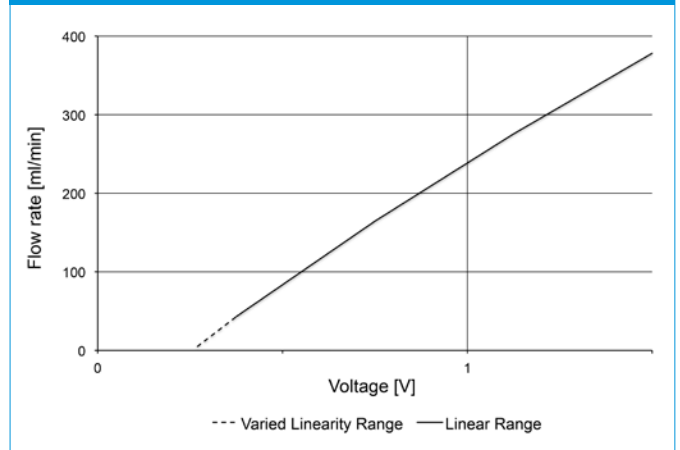
## NMP 03 KP DC-M 1.3 V



## LINEARITY NMP 03 KP DC-S 2.5 V



## LINEARITY NMP 03 KP DC-M 1.3 V



# NMP 03 KP DC-L

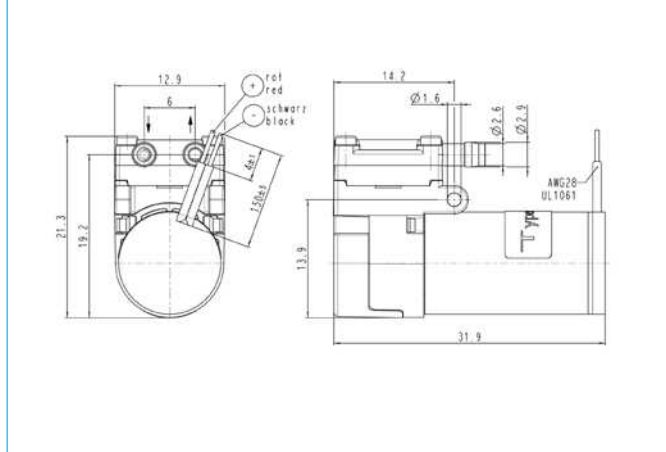
## PERFORMANCE DATA

Type	Voltage (V)	Flow rate (Nml/min)	Ultimate pressure (mbar rel.)	Ultimate vacuum (mbar rel.)
NMP 03 KP DC-L	2.0	320	350	-400

## PUMP MATERIAL

	Type	Pump head	Diaphragm	Valves
Standard	KP	PPS	EPDM	EPDM
on request	KV	PPS	FPM	FPM
on request	KT	PPS	FFPM	FFPM

## NMP 03 KP DC-L



# NMP 03 KP DC-B1 / DC-B3

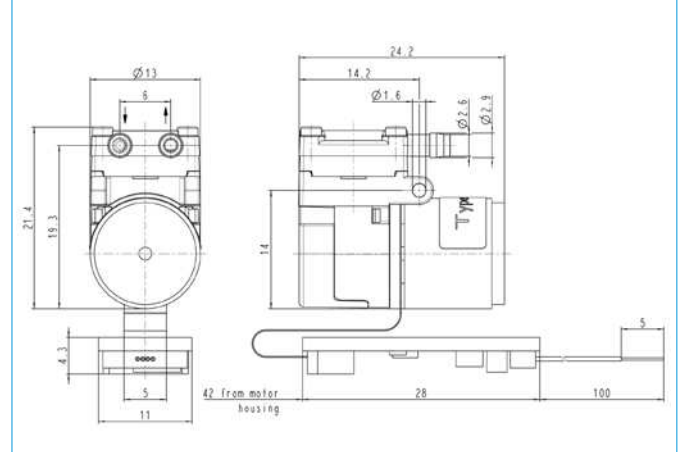
## PERFORMANCE DATA

Type	Voltage (V)	Flow rate (Nml/min)	Ultimate pressure (mbar rel.)	Ultimate vacuum (mbar rel.)
NMP 03 KP DC-B1/B3	3.3	300	370	-400

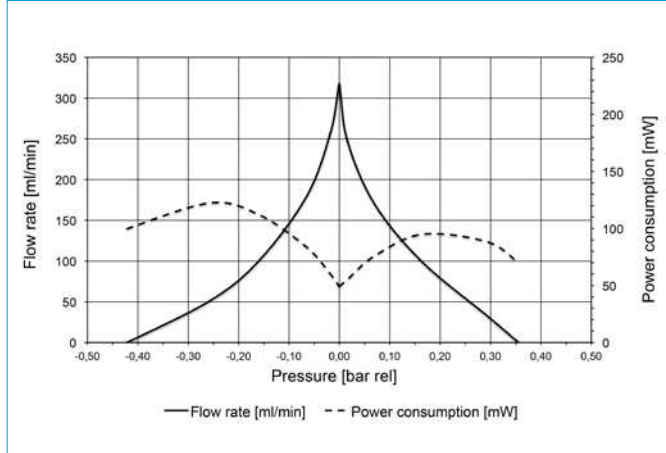
## PUMP MATERIAL

	Type	Pump head	Diaphragm	Valves
Standard	KP	PPS	EPDM	EPDM
on request	KV	PPS	FPM	FPM
on request	KT	PPS	FFPM	FFPM

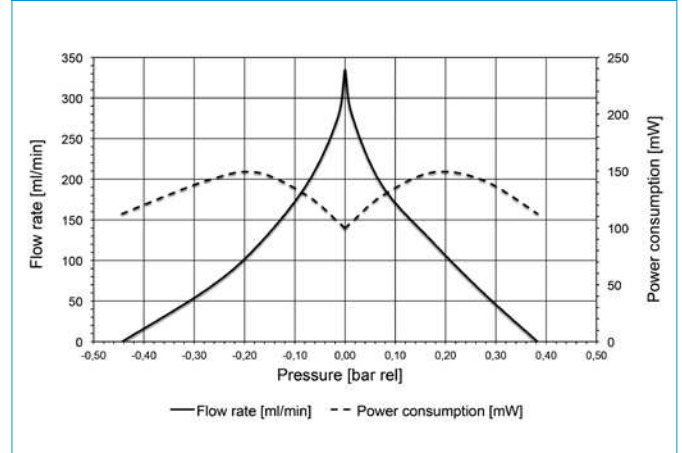
## NMP 03 KP DC-B1 / DC-B3



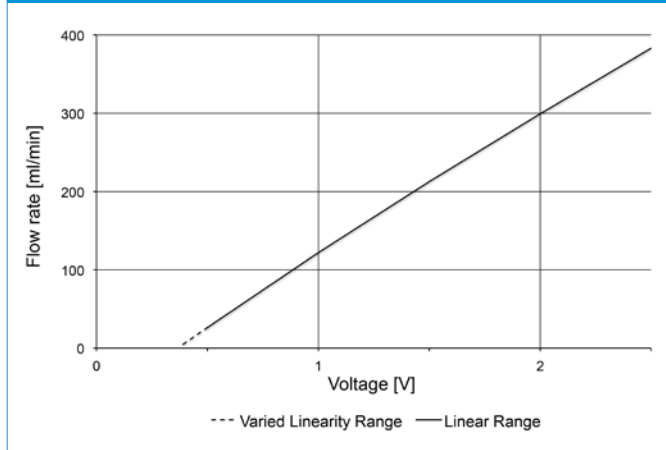
## NMP 03 KP DC-L 2.0 V



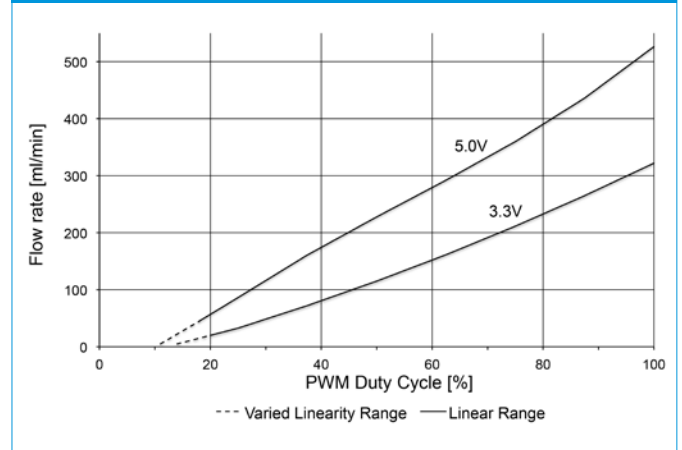
## NMP 03 KP DC-B1 / DC-B3



## LINEARITY NMP 03 KP DC-L 2.0 V



## LINEARITY NMP 03 KP DC-B1 / DC-B3



**Mounting and operating instructions:** An attachment point is located on each side of the pump. A 0.5-mm spacer is required to mount the brushless versions. See operating instructions for details. When turning the pump on, the pressure at the inlet and outlet must be atmospheric. Pumps that can start against pressure or vacuum are available on request.

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