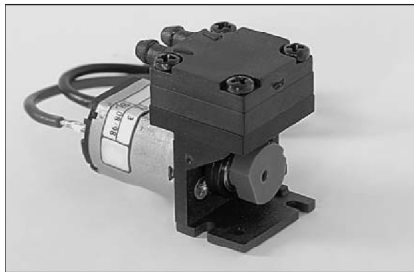
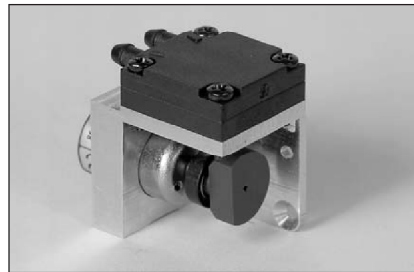


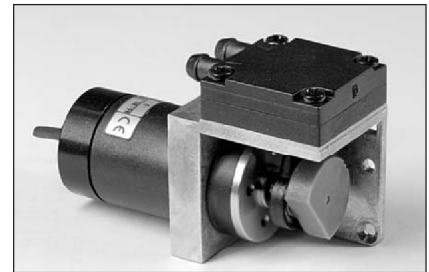
MICRO DIAPHRAGM GAS SAMPLING PUMPS



NMP 05 S with brush-type motor.



NMP 09 M with ironless core motor.



NMP 015 B with brushless DC motor.

Concept

The micro-diaphragm gas sampling pumps from KNF are based on a simple principal - an elastic diaphragm, fixed on its edge, moves up and down its central point by means of an eccentric. In this way the medium is transferred using a pair of one-way valves.

The new range of KNF micro pumps is, for the first time, equipped with the patented, stress-optimised structured diaphragm, resulting in a high pneumatic performance, a durable product and compact size. Newly-designed valves and sealing systems as well as the precise placement of the pump head are some of the other technical features we can offer.

For pump drive we provide a selection of DC motors with various levels of performance, durability and price.

Features

Uncontaminated flow

No contamination of the media due to oil-free operation

Maintenance-free

Compact size

efficient, structured diaphragm

High pneumatic performance

High level of gas tightness

Areas of use

Analysis for gas measurement

Sampling environmental conditions in the workplace.

Exhaust gas and smoke analysis.

Blood-pressure instruments.

Breath analyzer sampling

Can operate in any installed position

Max ambient and gas temp:

between +5°C and +40°C.

Motor Options

Our Micro Diaphragm Pumps are available with a choice of four different drive motors.

S - Standard

The pump is equipped with a standard dc motor.

M - DC motor with iron-free rotor

The pump is equipped with a dc motor with an iron-free rotor. It provides a higher level of performance than the S version and is ideal for more demanding operations.

L - DC motor with iron-free rotor

The pump is equipped with a dc motor which is based on the same technology as the M model but is even more robust and durable. This drive is ideal for higher operational. **The model L pass the EU guideline 89/336 for EMC.**

B - Brushless DC motor

The pump is equipped with a brushless electronically commutated dc motor (electronics integrated in motor). The motor runs vibration and spark free, almost silently, is very dynamic and extremely durable.

PERFORMANCE DATA

Type	Delivery (l/min)	Vacuum (mbar absolute)	atm. Press.	Pressure (bar g)	Weight (g)
NMP 05 S (Standard dc motor, 5 V)	0.40	500		0.15	18.0
NMP 05 M (dc motor with iron-free rotor, 6 V)	0.40	500		0.15	19.5
NMP 05 L (dc motor with iron-free rotor, longlife)	0.45	500		0.25	27.0
NMP 05 B (brushless dc motor)	0.30	500		0.4	22.0
NMP 09 S (Standard dc motor)	0.75	550		0.15	19.5
NMP 09 M (dc motor with iron-free rotor)	0.85	500		0.15	22.5
NMP 09 L (dc motor with iron-free rotor, longlife)	0.85	500		0.25	29.5
NMP 09 B (brushless dc motor)	0.75	500		0.65	24.5
NMP 015 S (Standard dc motor)	1.4	400		0.9	44.0
NMP 015 M (dc motor with iron-free rotor)	1.6	400		0.9	65.0
NMP 015 L (dc motor with iron-free rotor, longlife)	1.4	400		0.9	47.0
NMP 015 B (brushless dc motor)	1.3	400		0.9	55.0

NMP05S NMP05M

PERFORMANCE DATA

Type and Order No. ²⁾	DC Motor (V)	Delivery at atm. pressure (l/min) ¹⁾	Max. operating pressure (mbar)	Ultimate vacuum (mbar abs.)
NMP 05 S	3	0.25	±150	600
NMP 05 S	5	0.4	+150	500
NMP 05 M	6	0.3	±150	500
NMP 05 M	2.5	0.4	±150	550

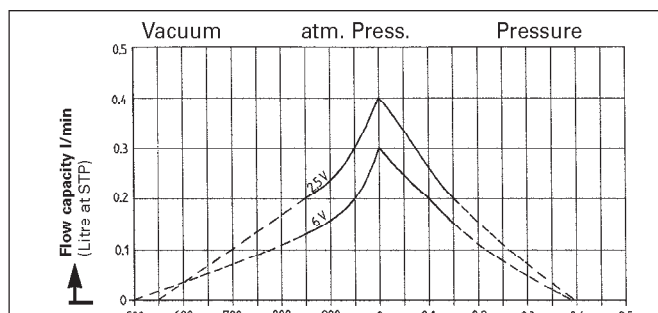
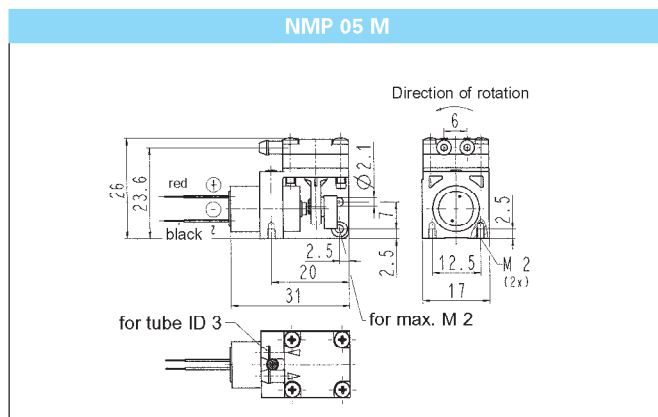
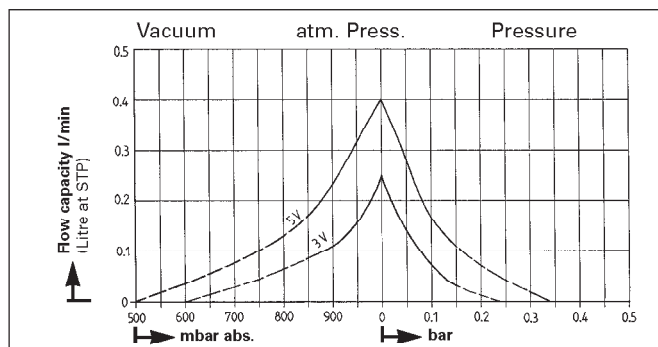
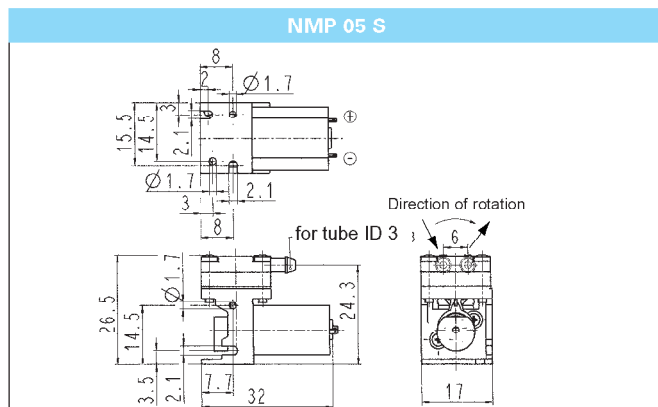
¹⁾ Liter at STP

²⁾ „DRIVE OPTIONS“ (DC Motor Version) and „MODEL CODE EASY ORDERING“ see the next page.

MODEL CODES AND MATERIALS

Pump head	Diaphragm	Valves
Ryton ⁴⁾	EPDM	EPDM

Dimensions ³⁾ (mm)



----- for short periods only

NMP05L NMP05B

PERFORMANCE DATA

Type and Order No. ²⁾	DC Motor (V)	Delivery at atm. pressure (l/min) ¹⁾	Max. operating pressure (mbar)	Ultimate vacuum (mbar abs.)
NMP 05 L	6	0.45	±250	500

NMP 05 L correspond with the EC directive concerning electro-magnetical compatibility 89/336 EWG.

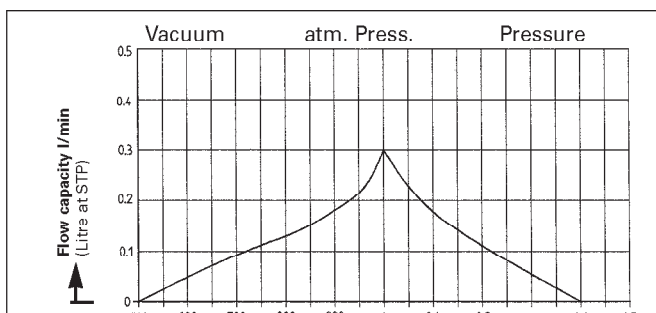
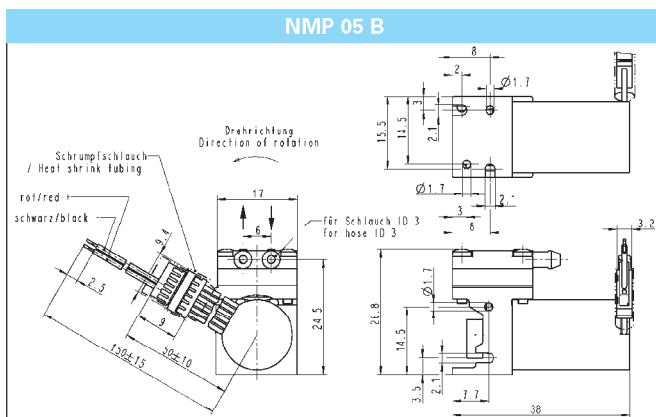
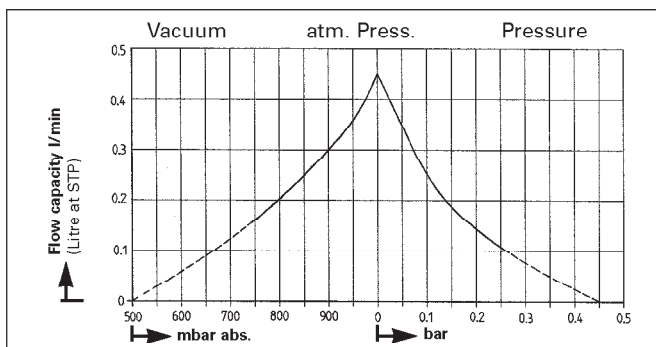
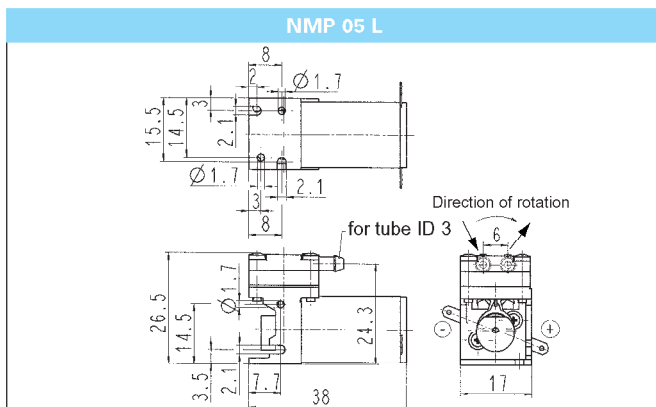
PERFORMANCE DATA (version with brushless dc motor)

Type and Order No. ²⁾	DC Motor (V)	Delivery at atm. pressure (l/min) ¹⁾	Ultimate pressure (mbar)	Ultimate vacuum (mbar abs.)
NMP 05 B	6	0.3	400	500

Caution! Incorrect lead connection will damage motor electronics!

MODEL CODES AND MATERIALS

Pump head	Diaphragm	Valves
Ryton ⁴⁾	EPDM	EPDM

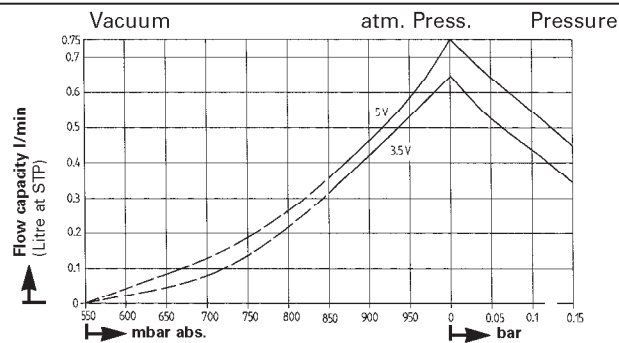


³⁾ All dimensional tolerances conform to DIN ISO 2768-1, Tolerance Class V

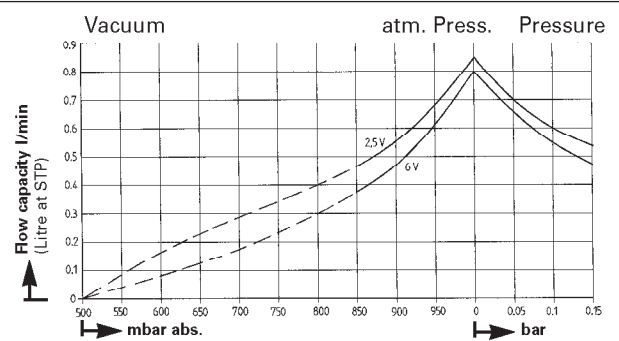
PERFORMANCE DATA

¹⁾ Liter at STP

MODEL CODES AND MATERIALS

Dimensions ³⁾ (mm)

NMP 09 M

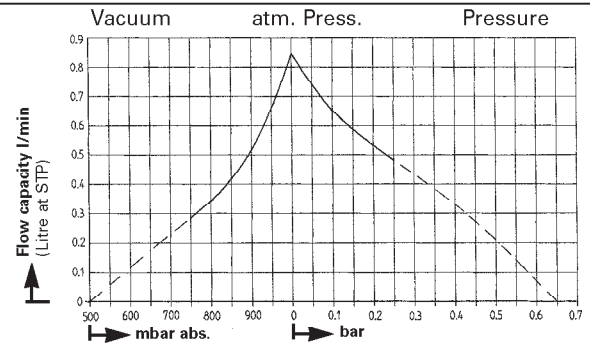


PERFORMANCE DATA

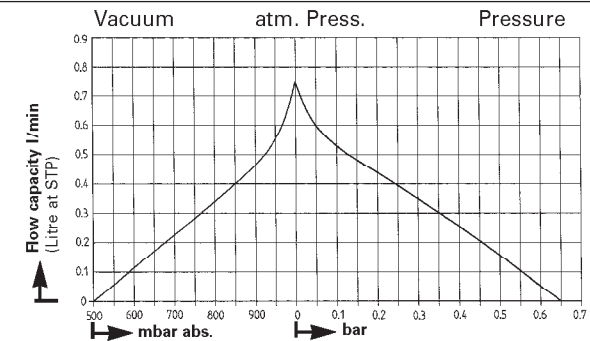
NMP 09 L correspond with the EC directive concerning electro-magnetical compatibility 89/336 EWG.

Caution! Incorrect lead polarity connection will damage motor electronics!

MODEL CODES AND MATERIALS



NMP 09 B



PERFORMANCE DATA

Type and Order No. ²⁾	DC Motor (V)	Delivery at atm. pressure (l/min) ¹⁾	Max. operating pressure (mbar)	Ultimate vacuum (mbar abs.)	Ultimate pressure (bar g)
NMP 015 S	3.5	1.4	±200	400	0.9
NMP 015 S	6	1.4	±200	400	0.9
NMP 015 M	6	1.5	±200	400	0.9
NMP 015 M	12	1.6	±200	400	0.9

¹⁾ Litre at STP

²⁾ „DRIVE OPTIONS“ (DC Motor Version) and „MODEL CODE EASY ORDERING“, see the next page.

MODEL CODES AND MATERIALS

Pump head	Diaphragm	Valves
Ryton ⁴⁾	EPDM	EPDM

NMP015L NMP015B

PERFORMANCE DATA

Type and Order No. ²⁾	DC Motor (V)	Delivery at atm. pressure (l/min) ¹⁾	Max. operating pressure (mbar)	Ultimate vacuum (mbar abs.)	Ultimate pressure (bar g)
NMP 015 L	3.5	1.3	±250	400	0.9
NMP 015 L	6	1.4	±250	400	0.9

NMP 015 L correspond with the EC directive concerning electro-magnetical compatibility 89/336 EWG

PERFORMANCE DATA (version with brushless dc motor)

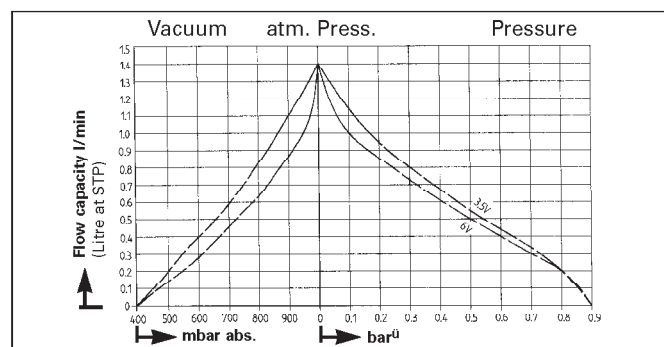
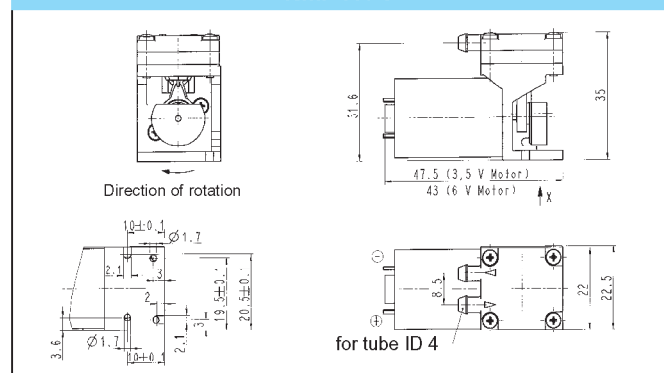
Type and Order No. ²⁾	DC Motor (V)	Delivery at atm. pressure (l/min) ¹⁾	Ultimate vacuum (mbar abs.)	Ultimate pressure (bar g)
NMP 015 B	6	1.3	400	0.9
NMP 015 R	12	1.3	400	0.9

Caution! Incorrect lead connection will damage motor electronics!

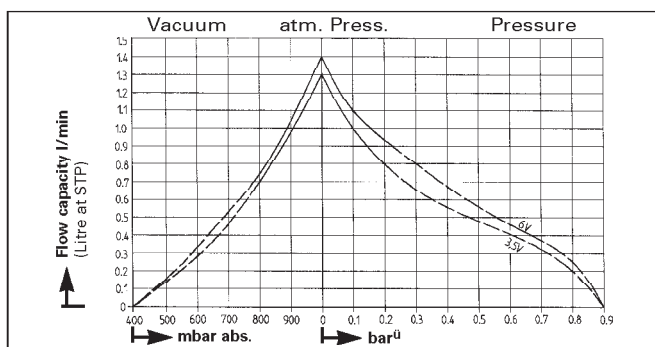
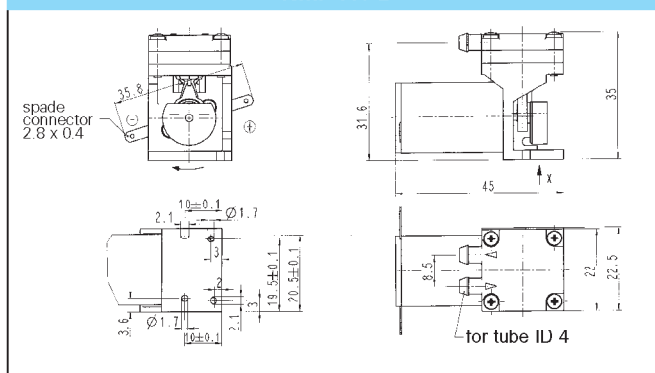
MODEL CODES AND MATERIALS

Pump head	Diaphragm	Valves
Pyton ⁴¹	EPDM	EPDM

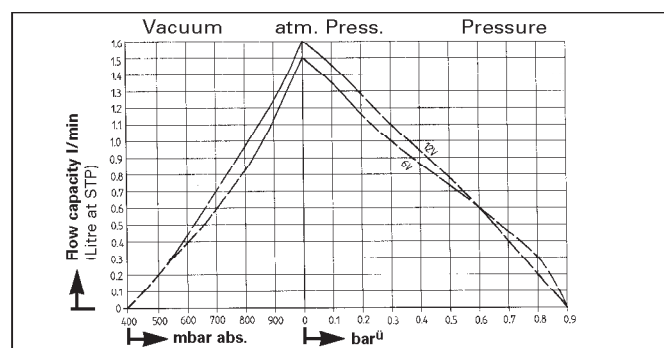
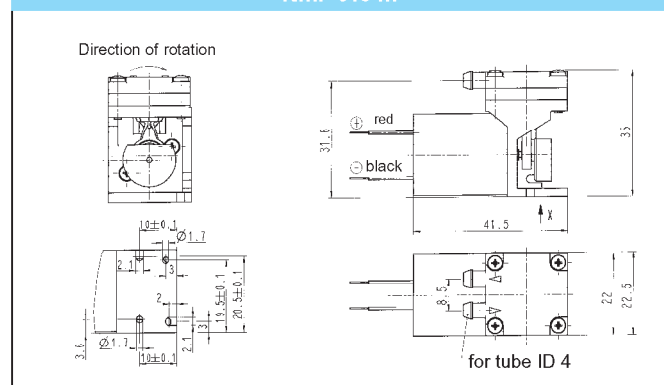
NMP 015 S



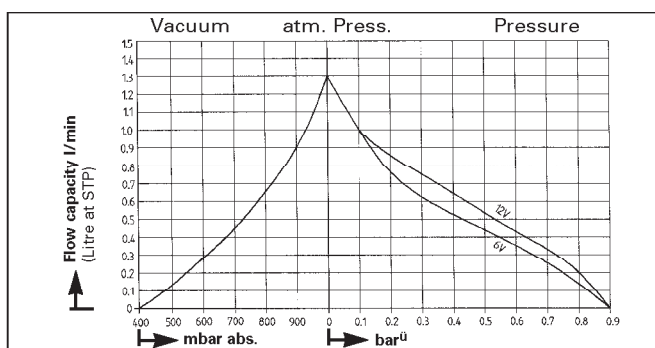
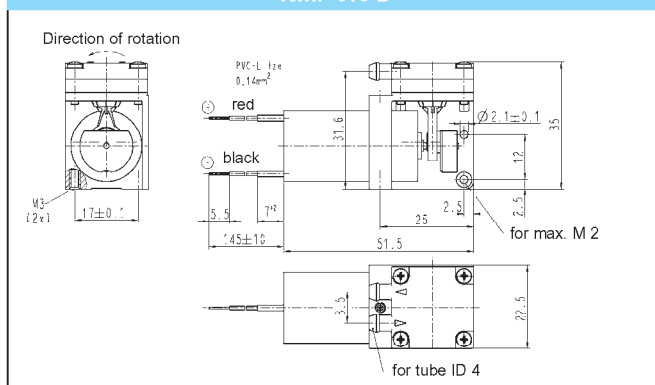
NMP 015 L



NMP 015 M



NMP 015 B



KNF reserves the right to make changes. Certified drawings available upon request.

SECTION 20.21 (0708)