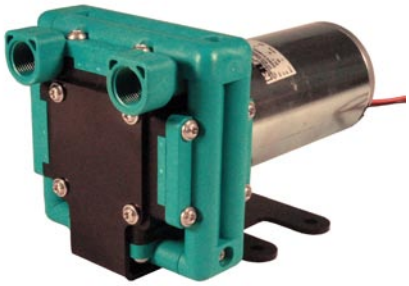
DIAPHRAGM LIQUID PUMPS
UNF 600 / UNF 1.600

UNF 600 KPDCB

UNF 1.600 KPDC



Concept

KNF diaphragm liquid pumps are based on the principle of the oscillating displacement pump which is remarkably simple in design.

The rotating power from the motor is converted into vertical movement by an eccentric. This motion is then transferred to 4 diaphragms by means of a special connecting rod which in conjunction with the inlet and outlet valves creates a smooth pumping action.

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.

Areas of use

- Medical diagnostics
- Industrial dosing systems
- Fuel cells
- Semiconductor industry
- Water analysis

Features / advantages

- **Four diaphragm technology**
  Smoother pumping action
  Less vibration
  Quieter running
  Maximum efficiency
- **High chemical resistance is available**
  Different head materials to choose from
- **Self priming**
  Pump either liquids and gases or mixtures
- **Long term stability**
  Stable pumping characteristics over pump lifetime
- **Compact size**
  UNF600 DCB = 135 x 111 x 105 mm
  UNF1.600 DC = 191 x 111 x 105 mm
- **Long life and low maintenance**

Performance Data

Type	Flow rate (l/min)	Suction head (in.Hg)	Pressure head (PSIG)
UNF 600	[redacted] 6	8.8 [redacted]	[redacted] 14.5
UNF 1.600	[redacted] 6	8.8 [redacted]	[redacted] 87.0

UNF 600 / UNF 1.600

General note
This datasheet provides an overview of the options of our UNF 600 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 can advice what the expected flow rate will 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.

KNF modular concept
the KNF liquid pumps are made up of different standard components which can be assembled to create a range of standard solutions. You can decide yourself which pump type fulfills your requirements in the best way.

UNF 600 KPDC
- KPDC: Motor type
- KP: Head material
- UNF 600: Base model

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.

Motors of the NF 600
DC DC brush motor
DCB Brushless DC motor
AA Capacitor motor (AC)

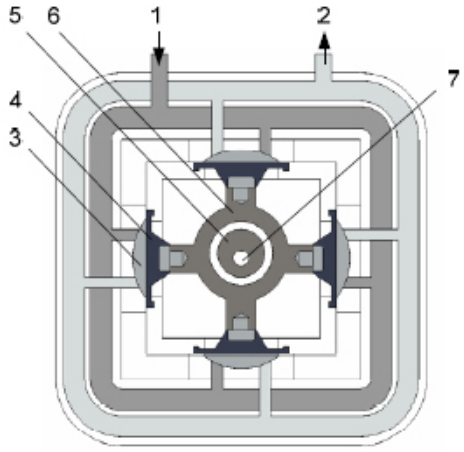
Motors of the NF 1.600
DC DC brush motor

Voltages and frequencies
The pumps can be delivered with the standard voltages / frequencies as seen in the performance charts. Many more voltages are available on request.

Four diaphragm technology

KNF diaphragm liquid pumps are based on the principle of the oscillating displacement pump.

The circular motion of the motor shaft (7) is converted into a vertical movement by an eccentric (5). This motion is then transferred to 4 separate diaphragms (4) by means of a special connecting rod (6) which in conjunction with the inlet (1) and outlet (2) valves creates a smooth pumping action.



The advantages of using four diaphragms are:

- Low pulsation
- Compact size
- Higher efficiency
- Quiet running
- Maximum efficiency

Materials of head components

type	head	valves	Sealing gaskets	diaphragm
UNF 600 KP_/UNF 1.600 KP_	PP	EPDM	EPDM	PTFE-coated
UNF 600 KT_/UNF 1.600 KT_	PP	FFPM	FFPM	PTFE-coated
UNF 600 TT_/UNF 1.600 TT_	PVDF	FFPM	FFPM	PTFE-coated

UNF 600-DC / -DCB

Performance UNF 600-DC / -DCB

Basic model	Flow rate at atm. pressure [l/min]	suction head (in.Hg)	pressure head (PSIG)
UNF 600-DC	6.0	8.8	14.5
UNF 600-DCB	6.0	8.8	14.5

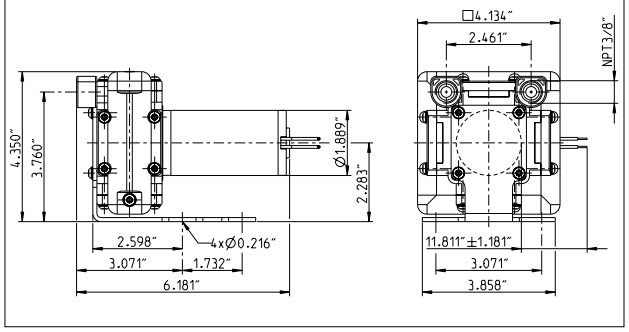
Motor type	DC	DCB
Voltage (V)	24	24
Power rating (W)	46	44
current (A)	1.9	1.8
I max. (A)	2	2
Motor protection class	IP 50	IP 54
Allowed ambient temp. (°C)	+5....+40	+5.....+40
Allowed liquid temp. (°C)	+5....+80	+5.....+80
Max. viscosity (cSt)	150	150
Connections	NPT 3/8“	NPT 3/8“
Hose ID (in.)	min. 0.39	min. 0.39
Weight (kg)	1.5	1.5
EMI standards	EN 55011	EN 55014

Performance UNF 600-AA

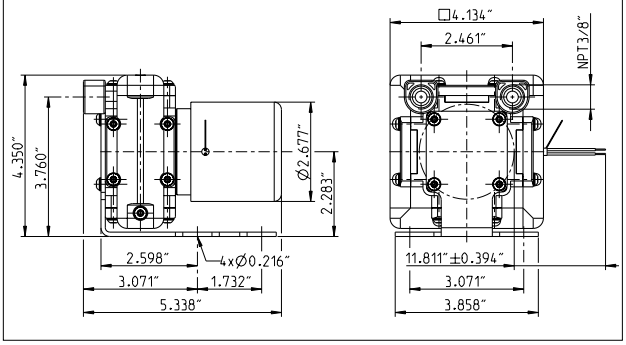
Basic model	Flow rate at atm. pressure [l/min]	suction head (in.Hg)	pressure head (PSIG)
UNF 600-AA	6.0	8.8	14.5

Motor type	AA
Voltage (V)	115V/60Hz
Power rating (W)	98
current (A)	0.85
I max. (A)	1.1
Motor protection class	IP 54
Allowed ambient temp. (°C)	+5.....+40
Allowed liquid temp. (°C)	+5.....+80
Max. viscosity (cSt)	150
Connections	NPT 3/8“
Hose ID (in.)	min. 0.39
Weight (kg)	3.0
EMI standards	EN 55014

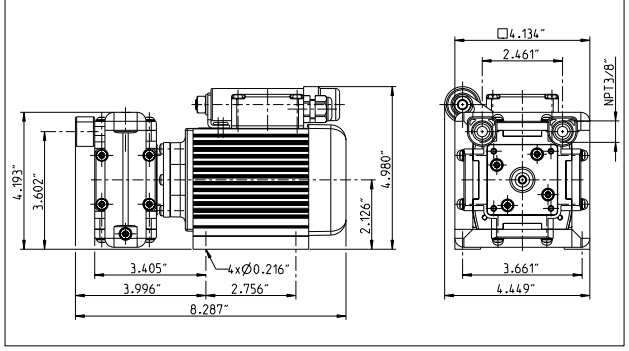
UNF 600-DC



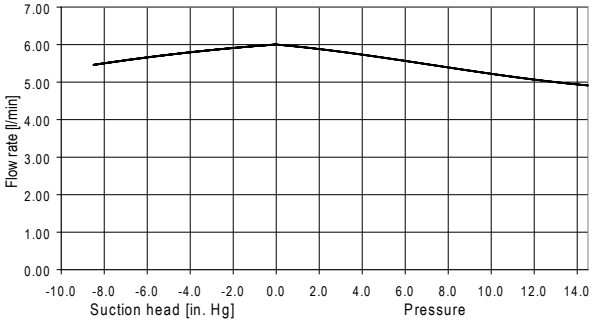
UNF 600-DCB



UNF 600-AA



Flow curve DC/DCB/AA

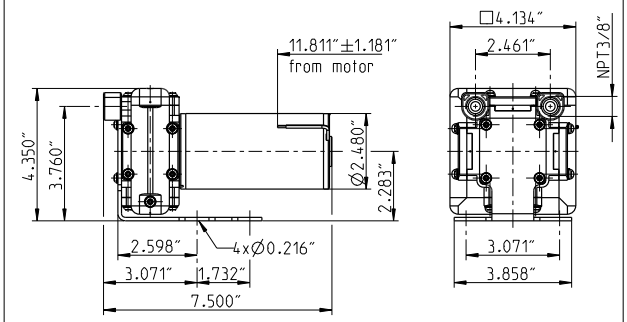


Performance NF 1.600-DC

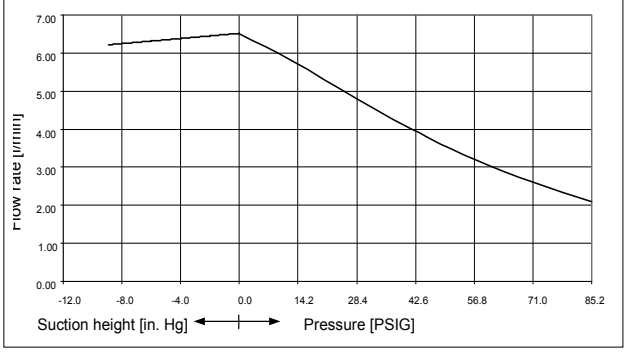
Basic model	Flow rate at atm. pressure [l/min]	suction head (in.Hg)	pressure head (PSIG)
NF 1.600-DC	6.0	8.8	87

Motor type	DC
Voltage (V)	24
Power rating (W)	75
current (A)	3.1
I max. (A)	4.9
Motor protection class	IP 50
Allowed ambient temp. (°C)	+5....+40
Allowed liquid temp. (°C)	+5....+80
Max. viscosity (cSt)	150
Connections	NPT 3/8“
Hose ID (in.)	min. 0.39
Weight (kg)	2.5
EMI standards	EN 55011

UNF 1.600-DC



Flow Curve UNF 1.600-DC



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.
Example FDV 30 KPZ, for more information see datasheet FDV.

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. We suggest FPD 10. For more details see the FPD datasheet.

Other accessories

- Hoses
- Hose connections

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