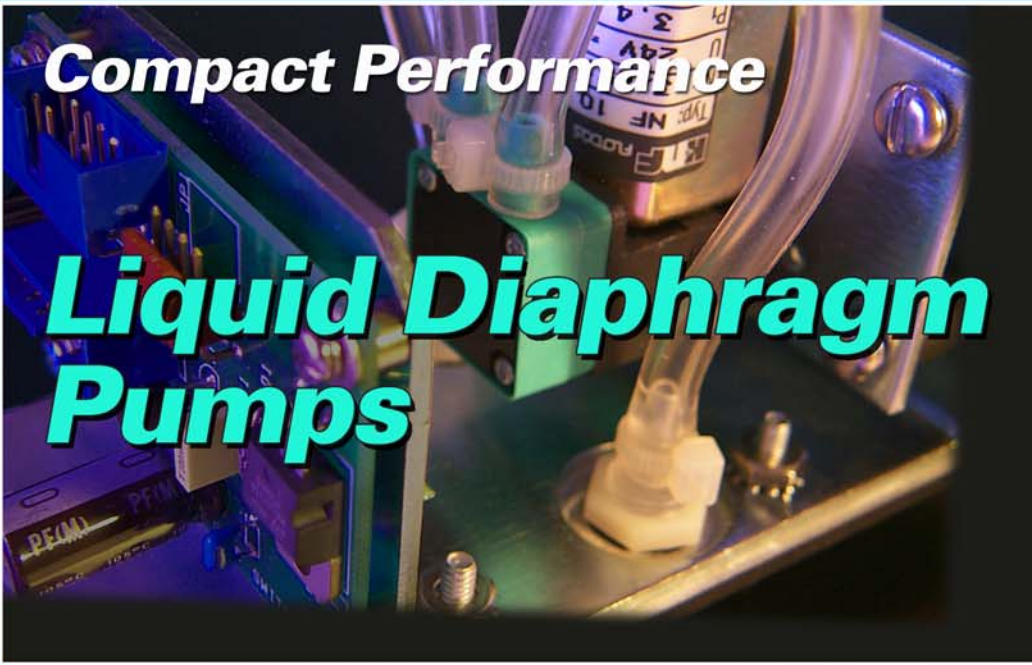


**Compact Performance**

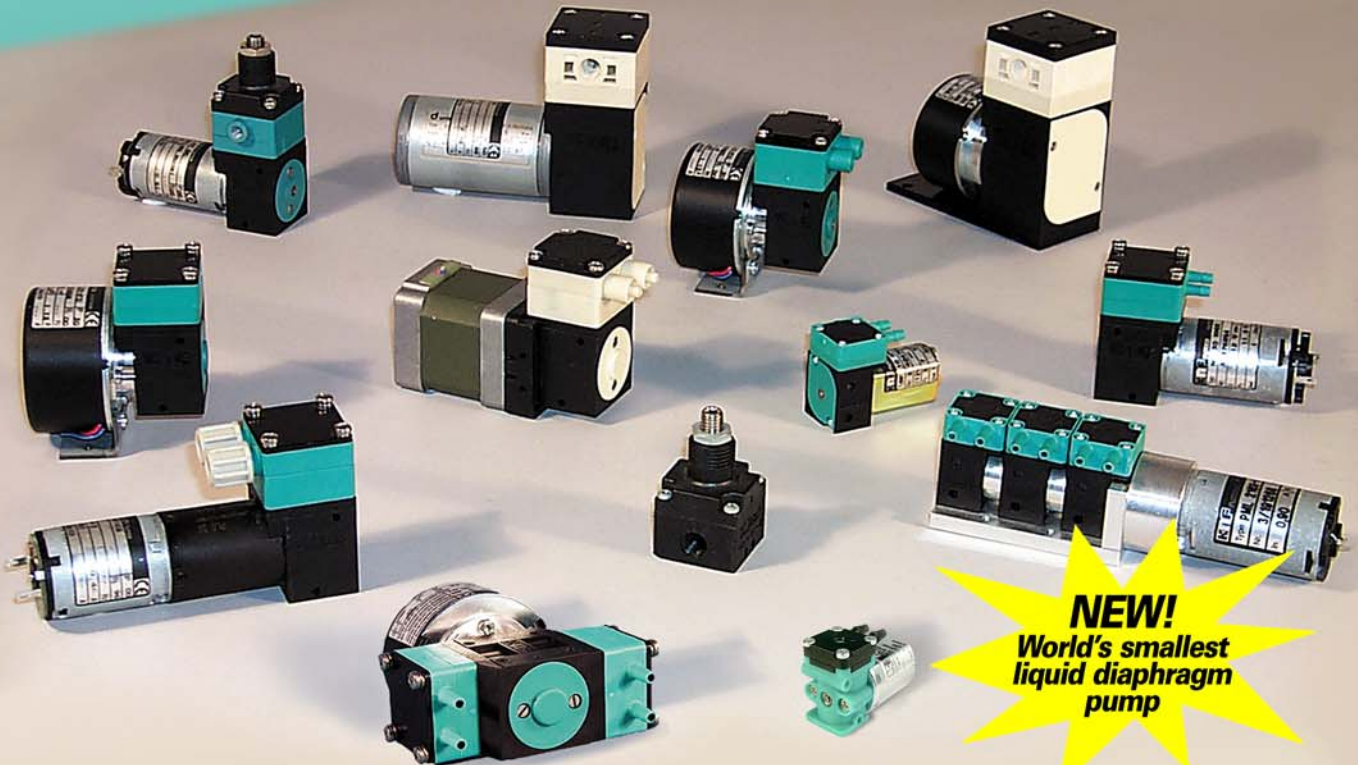
# Liquid Diaphragm Pumps



*self-priming  
ce approved  
compact size  
high reliability  
run wet or dry  
emi/rfi filtering  
low current draw  
ac, dc, bldc motor  
multi-head models  
corrosion resistant  
very quiet operation  
consistent performance  
no tubing maintenance*



**INNOVATIVE  
TECHNOLOGY  
WORLDWIDE**



**NEW!**  
**World's smallest  
liquid diaphragm  
pump**

# KNF has the right solution for your liquid pump requirement



KNF Neuberger, a pioneer in diaphragm pump design and manufacturing, offers the widest range of air, gas and liquid pumps that are designed to meet the sophisticated requirements of tomorrow's customers, today. Our liquid diaphragm pumps are simple in design, economical, and perform their function without the need for flexible tubing. Your customer avoids uneven flow problems caused by tubing fatigue, or worse, burst tubing and the resultant messy cleanup. There is no downtime for tubing replacement, nor are fluids wasted.

These liquid pumps are self-priming and are excellent for either vacuum or pressure applications. They are ideal for low viscosity liquids and can be run dry con-



tinuously, without degradation, under the most severe operating conditions without external leakage. For corrosive applications, choose among corrosion-resistant wetted parts including Nylon®, PTFE, PVDF, EPDM, FFFPM, Viton®, 316 stainless steel and polypropylene.

The latest addition to our line, the NF5, is possibly the smallest liquid diaphragm pump available today. This new pump is practically inaudible in operation.

Because of our extensive experience with many materials, motor types and modifications, we can easily build a liquid pump to fit your specific needs *and* save you money. For low liquid output pulsation requirements, KNF offers a simple damper (FPD) that reduces pulsations up to 97% and are very economical. Four basic FPD damper sizes are available. Typically located close to the pump's discharge port, they are designed to provide smooth delivery of liquids.

**KNF pumps are used in a variety of OEM applications. Let us design a pump to meet your exact project requirements, instead of compromising with standard product.**

## KNF has the widest variety of standard liquid pumps to choose from

Model Series	Motor Types	Free-flow LPM	Free-flow GPH	Suction ft. H <sub>2</sub> O	Pressure psig
NF5	DC/ICDC	0.05	0.7	33	15
NF10/11	AC/DC/ICDC	0.1	1.5	10	15
NF1.11	ICDC	0.1	1.5	10	85
NF1.30	Geared DC	0.17	2.7	20	85
NF30/31	AC/DC/ICDC/BLDC	0.3	4.8	20	15
NFT30/31	DC/ICDC/BLDC	0.6	9.5	20	15
NF60/61	AC/DC/BLDC/ICDC	0.6	9.5	16	15
NF100	AC/DC/BLDC	1.2	19	13	15
NF1.100	AC/DC/BLDC	1.3	20.6	13	85
NF300	AC/DC/BLDC	3.0	47.5	10	15
NF1.300	AC/DC/BLDC	3.0	47.5	13	85

ICDC - Ironless Core DC, BLDC - Brushless DC

## Typical pump functions:

- Liquid level regulation
- System tank pressure
- Liquid additive metering
- Liquid sample transfer
- System cleaning
- System vacuum
- Waste removal
- Liquid degassing
- Liquid recycling
- Solvent mixing

All KNF pumps are built for trouble-free operation. Their unique, one-piece molded diaphragm is usually found only in larger, more expensive pumps. The pumps can be mounted in any position, are maintenance-free, and provide excellent performance for their compact size. Today's advanced analytical equipment demands products that are smaller, quieter, less expensive, and incorporate sophisticated control features. KNF has solved these challenges in many exciting ways. Pumps are available with brush DC, ironless core DC, brushless DC (BLDC) and AC.

**Brush DC motors** - Economically priced and generally reliable, these motors have served the industry over the years. Speed is controlled by varying supply voltage, usually between 50-100%. Disadvantages include high commutator noise, brush replacement, brush dust and radio frequency interference (RFI).

**BLDC motors** - In contrast, BLDC motors use a quiet electronic driver. There are no brushes to wear, no brush dust or RFI arcing. BLDC motors are very compact. The rotor is smaller, therefore has less inertia and requires less start-up current. Speed is easily controlled over a wide range of rpm. Many times, a BLDC motor can serve as a drop-in upgrade for a brush-DC motor application.

**New control features available** - A high-speed instrument may benefit by being capable of responding to changes in external conditions. Most KNF BLDC controllers include features such as remote (analog or PWM signal) speed control, logical on/off control and, some generate speed feedback signals for use by your system control logic. KNF stands ready to help you integrate our pumps into your instrument's control systems to take advantage of these exciting capabilities.

**Call us.** Whether your application calls for special materials, surface finishes, mounting plates, temperature or other unusual requirements, count on KNF to meet or even exceed your challenge.

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