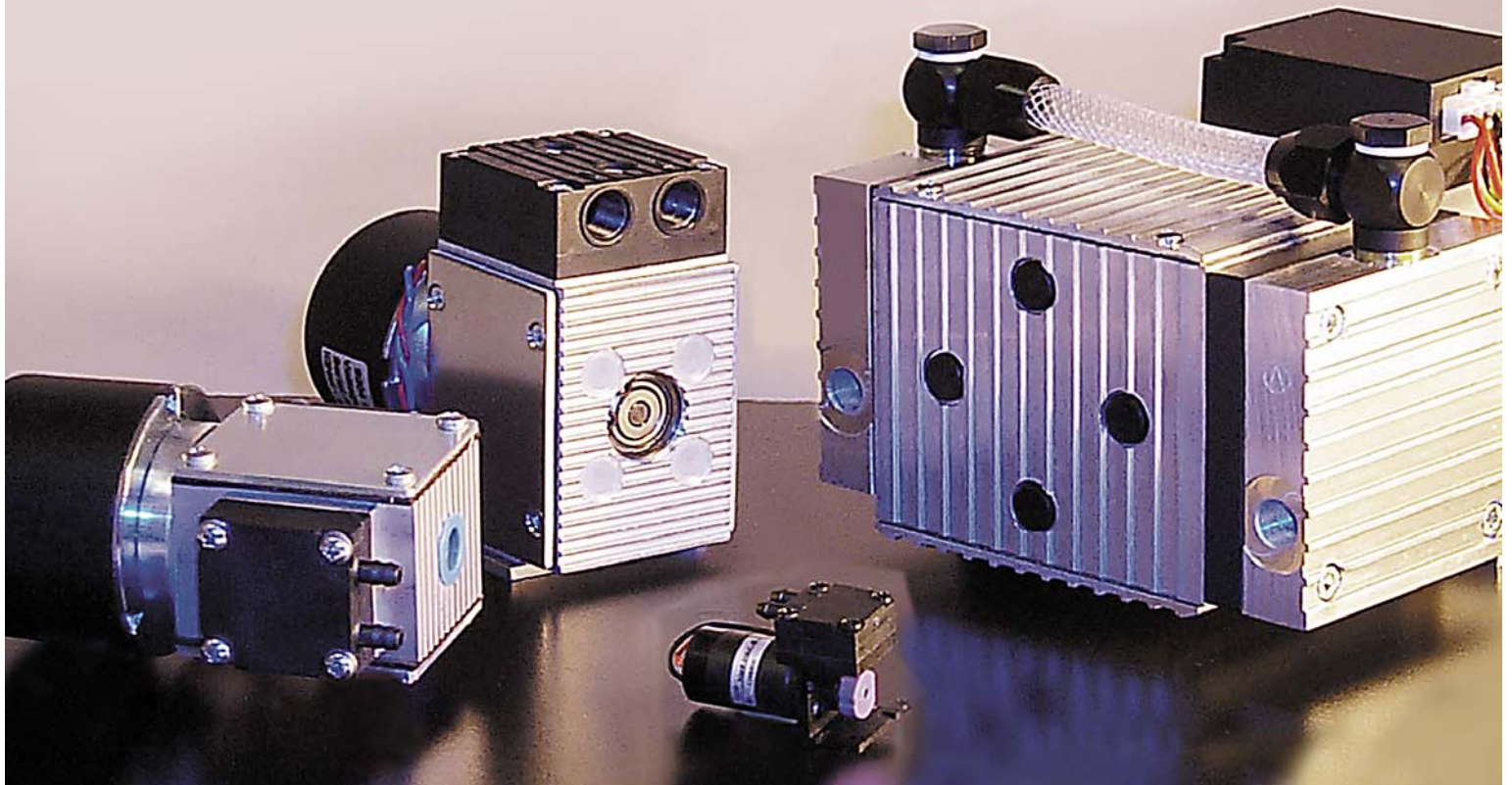


Air • Gas • Liquid
Diaphragm Pumps with
**Brushless DC
Motors**

KMF

*compact size
high reliability
quiet operation
longest lifetime
low emi/rfi specs
low current draw
integrated controller
remote speed control
eliminates brush wear
all ball bearing design
overcurrent protection
reverse polarity protection
perfect for portable devices*

INNOVATIVE
TECHNOLOGY
WORLDWIDE



KNF combines the advantages of diaphragm pump technology with the high-reliability of brushless DC motors.

Air and Gas Pumps with Brushless DC Motors

Micro Pumps	Free Flow		End Vac in. Hg	Max psig	Motor VDC	Available Controller Features
	LPM	CFM				
NMP05	.45	.016	15	2.2	6	I
NMP09	.85	.03	15.1	7.3	6	I
NMP015	1.6	.06	18	13.1	6, 12	I
NMP830	3.4	.12	18	15.0	12, 24	S, I, C
NMP50	4	.14	18	7.3	12, 24	I
Mini Pumps						
N85 <i>two-stage</i>	5	.18	29.2	5	12, 24	S, I, C
N86	5.5	.19	27	35	12, 24	S, I, C
N89	9.5	.34	27	7	12, 24	S, I, C
N811	11.5	.41	27	7	12, 24	S, I, C
N814	12	.42	22.8	30	12, 24	S, I, O, C
N815	15	.53	27	—	12, 24	S, I, O, C
NPK09 <i>swing piston</i>	15	.53	27	100	12, 24	S, I, O, C
High Capacity Pumps						
N026	25	.9	26.9	36	12, 24	S, I, O, C
N026 <i>two-head parallel</i>	50	1.8	26.9	30	12, 24	S, I, O, C
N026 <i>four-head parallel</i>	100	3.5	26.9	30	12, 24	S, I, O, C
N828	30	1.1	27	15	12, 24	S, I, O, C
N838	35	1.2	27	7	12, 24	S, I, O, C
N838 <i>two-head parallel</i>	60	2.1	27	7	12, 24	S, I, O, C
Deep Vacuum Pumps						
			Torr			
N84 <i>two-stage</i>	5	.18	3	5	6, 12, 24	S, I, O, C
N84 <i>four-stage</i>	5	.18	1.5	5	6, 12, 24	S, I, O, C
N813 <i>two-stage</i>	13	.46	3	15	6, 12, 24	S, I, O, C
N813 <i>three-stage</i>	19	.67	0.75	15	6, 12, 24	S, I, O, C
N813 <i>four-stage</i>	13	.46	<0.375	15	6, 12, 24	S, I, O, C
N726 <i>two-stage</i>	28	1	4.6	—	24	S, I, O, C
N726 <i>three-stage</i>	28	1	<0.75	—	24	S, I, O, C
N726 <i>four-stage</i>	28	1	<0.375	—	24	S, I, O, C

Liquid Pumps with Brushless DC Motors

Liquid Micro Pumps	Free Flow		Suction ft. H ₂ O	Pressure psig	Motor VDC	Available Controller Features
	LPM	GPH				
NF30	.3	4.8	20	15	12, 24	S, I, C
NF60	.6	9.5	16	15	12, 24	S, I, C
NF100	1.2	19	13	15	12, 24	S, I, C
NF1.100	1.3	20.6	13	85	12, 24	S, I, C
NF300	3	47.5	10	15	12, 24	S, I, C
NF1.300	3	47.5	10	85	12, 24	S, I, C
Liquid Metering Pumps						
	mLPM	GPH	ft. H₂O	psig	VDC	
FEM1.03 <i>stepper motor</i>	.03-30	.48	13	90	5	M, P
FEM1.08 <i>stepper motor</i>	.08-80	1.3	13	60	5	M, P

Features key: C - Speed control, I - Included controller, O - Logic on/off, M - Manual control, P - Programmable control interface via Windows® software, S - Speed signal. CE marking is available.

New Features Available

Instrument designers demand components that are smaller, lighter, less expensive, and incorporate advanced features. KNF has answered that challenge by designing pumps that adjust performance in response to changing demands - new pumps that use brushless-DC (BLDC) motors. Many KNF-designed, quality motors offer features such as speed sensing and logical control. Users of turbo backing units and most analytical instruments benefit by control of pump performance.

Controlling pump performance

A BLDC motor uses an electronic driver system, converting DC to multi-phase AC. With a simple controller, speed is adjusted within a narrow band by varying the DC supply voltage. In order to obtain true speed control, a more sophisticated motor controller is needed. By using a PWM signal generated by the device's overall system controller, the motor controller will adjust pump speed in response to changing system conditions.

BLDC motors vs. brush DC motors

Unlike series-wound brush DC motors, BLDC motors are virtually noiseless and feature long life. There is no brush wear, arcing or resultant dust, and little EMI/RFI is generated. Since the outside stator dissipates heat better, BLDC motors are compact and lighter in weight. In any case, KNF offers AC, DC, explosion-proof and BLDC motors.

Why choose KNF?

Just as our standard pump designs evolve, so is our ability to optimize their performance to meet, or even exceed, your specific OEM design challenges while saving you money. Chances are, we've already built a pump for a similar application. Visit our website for detailed specifications.



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