

AIR, GAS & LIQUID DIAPHRAGM PUMPS FOR CONTINUOUS INK-JET PRINTERS



KNF has the right pump for your ink-jet requirements

Application
NOTE
OEM

KNF has become the dominant supplier to the continuous ink-jet printing industry with our optimized liquid and gas handling diaphragm pumps. A market once dominated by peristaltic and gear driven pumps, engineers have recognized the technology benefits afforded by a diaphragm pump and have transitioned to these designs, solving many of their historic problems:

- Peristaltic pumps have short tube life leading to maintenance issues or a messy clean-up
- Gear pumps have performance decay, shed particles, high cost, and cannot run dry

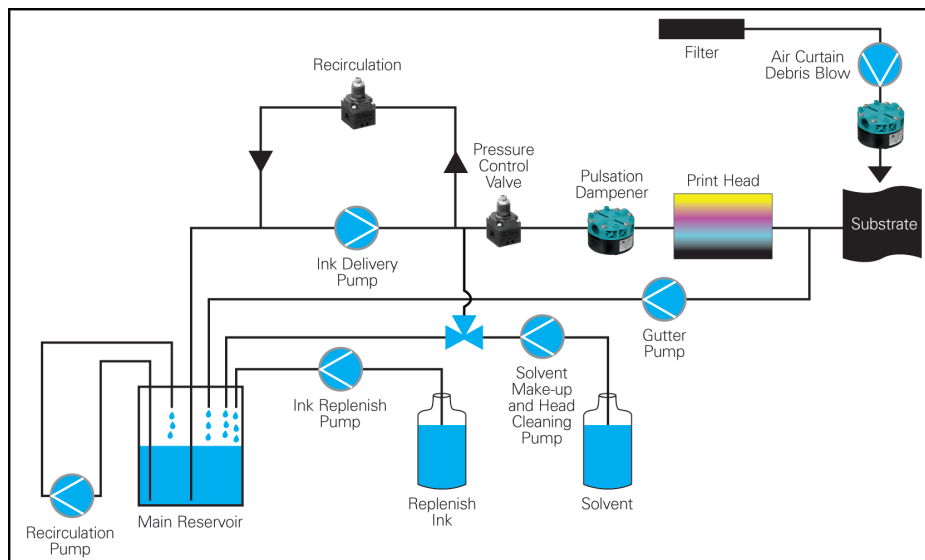
We've accumulated an in-depth knowledge of CIJ printing systems by working directly with designers to develop pumps best suited for the many critical functions (see list to the left). KNF is proud to have contributed to the market's successful evolution to now include industrial printers and decorators, mailing and labelling equipment, date/lot codes, bio-material dispensing, 3-D printers, printed elec-

Typical pump functions:

- Bulk ink supply/replenish
- Ink degassing
- System vacuum and pressure
- Cleaning station
- Anti-siphon at head
- Gutter pump
- Chemistry make up
- Ink delivery
- Debris cleaning
- QC analysis

Call us. Whether your application calls for tolerance to special inks, minimized pulse, special electrical or mounting connections, or other unique requirements, count on KNF engineers to build a pump to fit your specific inkjet printer needs. We're here to help you cut costs, and to integrate our pumps into your printer control systems.

Continuous Ink-Jet Printer Pump Applications



KNF pumps are ready to meet tomorrow's printer requirements:

- **Advanced, innovative features** such as logic-controlled brushless DC motors, coupled with simple, proven construction, facilitate development of future-generation printers.
- **Advantages** include a longer service life, self-priming, leak-tightness, consistent vacuum or pressure, ability to run dry continuously, and less expensive than piston, peristaltic, or gear pumps.
- **Ink types we can handle include** UV cured, titanium dioxide pigmented, silver and other metal particles, FDA/NSF approved, security, in addition to the more traditional water, and solvent based inks.
- **For corrosive inks**, choose among wetted parts of Nylon, PTFE, PVDF, peroxide-cured EPDM, FPM, FPM, PP, PPS, 316 stainless steel and many others.
- **For smoother output requirements**, place a KNF series FPD pulsation damper at the pump's discharge port to reduce pulses up to 97%. This combination is more economical than most gear pumps. Four damper sizes are available.
- **For a trouble-free lifetime**, our patented, one-piece molded diaphragm, usually found only in larger, more expensive pumps, eliminates a metallic securing disc. This improves chemical-resistance and eliminates external leakage.

Features/Benefits:

- Self-priming
- CE marked
- Compact size
- High reliability
- NSF approval
- Run wet or dry
- Low current draw
- AC, DC, BLDC motor
- Multi-head models
- Corrosion resistant
- Economically priced
- Consistent performance
- No peristaltic tubing maintenance
- Does not shed particles
- Quiet operation
- Speed control
- Minimized pulses
- Over-pressure relief
- Handle challenging white/pigmented, conductive, and corrosive inks, bio-fluids, etc.

Example KNF diaphragm pumps for ink-jet systems (more available)

Air & Gas	Motor VDC	Free Flow		End Vac in. Hg (Torr)	Pressure psig
		LPM	CFM		
NMS010	5, 6	0.75	.03	12 (455)	3
NMP830	6, 12, 24	3.4	.12	22.8 (181)	15.0
N86	6, 12, 24	5.5	.20	27 (74)	35
N815	6, 12, 24	15.0	.53	27 (74)	—

Liquid	Motor VDC	Free Flow		Suction ft. H2O	Pressure psig
		LPM	GPH		
FMM20	12, 24	0 - 0.35	0 - .5	10	15
NF5	6, 12	.005 - .07	.013 - 1.1	13	33
NF10	6, 12, 24	.1	1.5	10	15
NF25	12, 24, 10 to 28	.025 - .25	4	10	15
NF1.30	12, 24	.17	2.7	16	85
NF30	12, 24	.3	4.8	20	15
NF60	12, 24	.6	9.5	16	15
NFB60	12, 24	2 x .6	2 x 9.5	16	15
NF100	12, 24	1.2	19	13	15
NF1.100	12, 24	1.3	20.6	13	85
NFB100	6, 12, 24	2.6	39	10	15
NF300	12, 24	3.0	47.5	13	15
NF600	24	6	90	10	15

Download complete specifications and drawings for these and other KNF pumps from our website.

