MAGNETIC DRIVES

ABOUT OUR MAGNETIC DRIVE PUMPS

LittleGIANT®

FEATURES

- Leakproof, seal-less magnetic drive
- No maintenance due to seal wear
- No seal friction to reduce motor horsepower
- Only chemical resistant materials are in contact with fluids
- Dynamically balanced drive magnet for long motor bearing life
- Magnetic coupling design acts as a clutch to eliminate motor burnout and overloading under adverse conditions
- Pumping heads are easily rotated, cleaned or serviced with no special tool requirements
- Spindle shaft is supported at both ends to prevent impeller damage during start-up and stop of pump
- Magnet housing acts as an insulator to prevent motor heat from being transferred to the fluid being pumped
- Wide selections of materials for the pump wetted components to provide the best chemical resistance
- All threaded intake and discharge ports are NPT. PTFE tape is provided with PPS pumping head models.
- The MD-HC Series models have "run-dry" capability
- All motors feature thermal overload protection
- All motors are rated for continuous duty

MD Series

Designed for pumping mild solutions such as those found in film processing and most neutral chemicals with temperatures up to 150 ˚F. Materials of construction include glass-filled polypropylene, titanium, nitrile and a barium-ferrite magnet.

MD-SC Series

Designed to pump mild to strong acids found in electroplating applications with temperatures up to 150 ˚F. Materials of construction include glass-filled polypropylene, ceramic and nitrile.

MD-HC Series

Designed to pump strong acids and alkaline solutions including sulfuric, nitric and hydrochloric acid with temperatures up to 200 ˚F. In addition, the HC series offers "Run-Dry" protection. Materials of construction include glass-filled polyphenylene sulfide (PPS), ceramic, Fluoroelastomer (FKM) and pure carbon.

MD-CK Series

Designed to pump highly corrosive acids and halogenated hydrocarbons such as hydrofluoric acid and ultrapure water solutions. Maximum fluid temperature is 200 ˚F. Materials of construction include carbon-filled PVDF, ceramic, Fluoroelastomer (FKM) and carbon PTFE. Little Giant's comprehensive line of magnetic drive pumps is designed for circulation of acids, alkalis, solvents, brine, plating solutions, sterile solutions, and other special fluids; for use in environments such as hospitals, chemical companies, photo labs, dry cleaning plants, car washes, machine shops, laboratories, manufacturing plants, print shops and wineries.

SOLUTIONS • CHOICES • VALUE

MAGNETIC DRIVE PUMPS

Little Giant Magnet Drive Pumps feature a leakproof design that allows the pump to be used in a variety of applications where continuous and reliable operation is desired and when pumping corrosive liquids is necessary. Four series of pumps are offered: the MD, the MD-SC, MD-HC and MD-CK. The four groups offer increasing product features and chemical resistance. Little Giant MD pumps are in wide use in over 40 countries operating in applications ranging from circulating photographic solutions in film processing machines to moving harsh chemicals in electroplating equipment. The pumps are also found in OEM filtration equipment pumping de-ionized water and in many other fluid transfer processes.

TE-7-MD-CK

1-AA-MD

NO LEAKAGE

The magnetically coupled pump system replaces the shaft seal found in conventional pumps. The use of chemically resistant polymers for the materials of construction permits highly corrosive liquids to be pumped without causing corrosion to the pumping chamber. Advanced materials used in the MD-HC and MD-CK Series offer the highest level of chemical resistance and provide excellent temperature and strength properties.

OPERATING PRINCIPLE

A pair of magnets, which form part of the impeller and motor shaft, drives the centrifugal pump. The magnet housing separates the pump chamber and motor shaft. This seal-less pump design eliminates conventional mechanical shaft seals because the motor shaft magnetically drives the impeller magnet by transmitting torque through the magnet housing. The combined coupling torque of the drive magnet and impeller magnet provides sufficient power to move a wide range of liquids including high-density liquids.

A VARIETY OF MODELS FROM 3 GPM TO 48 GPM

Little Giant MD Pumps can be selected for almost every application because there are over thirty different models available. The pumps are grouped in four product ranges from the 1-AA-MD with the lowest flow rate to the TE-7-MD-CK with the highest flow rate. Special purpose, high capacity models, as well as economical models, offer a wide selection. High-density acids such as concentrated sulfuric acid can be pumped by the larger models withoutut overload by changing impeller sizes. Each pump assembly consists of only a few parts. Therefore maintenance, disassembly and inspection are very easy to perform.

PUMP SELECTION GUIDE

Several factors are involved in the proper selection of a magnetic drive pump. Caution should be exercised in matching the wetted pump parts to the chemicals and concentrations in the solution to be pumped. For the chemical resistance of the wetted pump parts, refer to Little Giant® Chemical Resistance Chart (Form #995516).

PUMP SELECTION GUIDE

- Pump characteristics: Capacity (gallons per minute or hour), discharge lift (in feet), suction lift (if any), outlet pressure (PSI), inlet and outlet pipe size and horizontal pipe length and any noise limitations.
- Fluid characteristics: Chemical composition, **temperature** and solids content in suspension (nature, size and abrasive quality) and **density** or approximate concentration percentage (weight per gallon) and **viscosity** at the liquid's normal pumping temperature.
- Other characteristics: Motor electrical requirements (volts, hertz, phase), space limitations and normal ambient air temperature of the area in which the pump and motor will be installed.