



## 2-MD-HC Magnetic Drive – Highly Corrosive Fluids

Circulation of highly corrosive acids, alkalis, solvents, brine, plating solutions, sterile solutions, and other highly corrosive chemicals and solutions that are compatible with the pump's material of construction

Run dry capability for up to eight hours without apparent damage

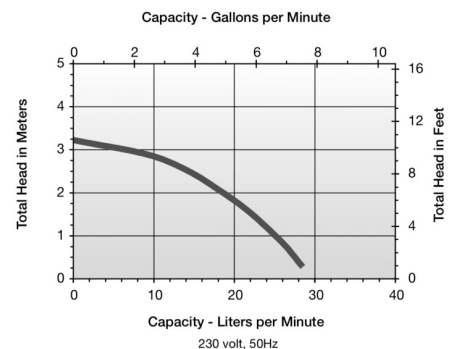
- Volute, magnet housing and impeller are glass-filled Ryton® (PPS) for excellent chemical resistance
- Self-lubricating carbon impeller bushing is impervious to fluids and long-lived in abrasive solutions
- Encapsulated glass-filled Ryton® permanent impeller magnet
- Ceramic shaft and thrust washers are 99.5% pure alumina for excellent wear and trouble-free service with harsh solutions
- 1/30 HP open FC motor
- Glass-filled polyphenylene sulfide (e.g. Ryton®) magnet housing and volute
- 1.1 specific gravity
- Viton® O-ring

<b>RPM:</b>	2700/3000
<b>Capacity:</b>	28 LPM
<b>Shut Off:</b>	3.2m
<b>Liquid Temp:</b>	93.3°C
<b>Discharge:</b>	12.7mm
<b>Electrical:</b>	230V, 50Hz/60Hz, 105 Watts
<b>MODEL:</b>	<b>580613</b>



**Note: In-Line Only**

Performance Curves 2-MD-HC 230V, 50/60Hz



## TE-3-MD-HC Magnetic Drive – Highly Corrosive Fluids

Circulation of highly corrosive acids, alkalis, solvents, brine, plating solutions, sterile solutions, and other mildly corrosive chemicals and solutions that are compatible with the pump's material of construction

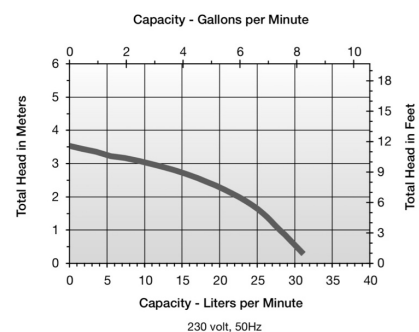
- Impeller magnet is uncoated, permanent high quality ceramic/ barium ferrite
- This model has a titanium shaft and thrust washer for excellent wear and corrosion resistance
- 1/20 HP TEFC motor
- Glass-filled polypropylene magnet housing and volute
- 1.1 specific gravity
- Nitrile O-ring
- Titanium thrust washers and shaft

<b>RPM:</b>	2750/3200
<b>Capacity:</b>	31 LPM
<b>Shut Off:</b>	3.5m
<b>Liquid Temp:</b>	66°C
<b>Discharge:</b>	12.7 mm
<b>Intake:</b>	12.7 mm
<b>Electrical:</b>	230V, 50/60Hz
<b>MODEL:</b>	<b>581614</b>



**Note: In-Line Only**

Performance Curves TE-3-MD 230V, 50/60Hz





## 2-MD-SC

The patented Little Giant magnetic drive pump design consists of a cylindrical drive magnet attached to the motor shaft which rotates around a chemical resistant plastic separator housing. Inside this housing is a magnet completely encapsulated in chemical resistant plastic, and fixed to the impeller. The impeller assembly is free to rotate on a spindle that is supported at both ends. The spindle is held captive and does not turn. Front and rear thrust washers are utilized as wear bearings. The washers are held captive and do not revolve. This prevents wear on the shaft. With the magnetic coupling the motor drives the impeller. This coupling eliminates the conventional shaft seal and its possibility of leakage.

## PUMP MATERIALS

The plastic parts on SC series pumps are made of glass-filled polypropylene. The plastic parts on the HC series pumps are glass filled PPS. The spindle shaft which is stationary and the captive thrust washers (front and rear) are alumina ceramic. The O-ring seal is Nitrile for the SC series, and Fluoroelastmer (FKM) for the HC series. The HC series utilizes a pure carbon bushing in the impeller to enable the pump to run dry for periods up to eight hours at a time.

## INSTALLATION

Your Little Giant pump is delivered to you completely preassembled and pretested from the factory. It is ready for immediate use. The pump may be installed in any position.

It may be mounted vertically with the pump head down. Proper plumbing connections should be made. See specification table to determine what size intake and discharge your pump has. Use a thread sealer on all pipe connections and hand tighten only. Note: On HC models a roll of PTFE pipe seal tape is supplied. Do not use a wrench to tighten the HC model connections. Excessive force may damage the plastic part.

Make sure the wing nuts are tight before operating the pump.

Motor nameplates list all electrical data. Make sure the pump is connected to proper voltage before operating. When wiring pumps with no plug, the green (or green/yellow) wire is the ground. The other two wires are line (live). If fused type plug is used, a 2.0 amp fuse is recommended.

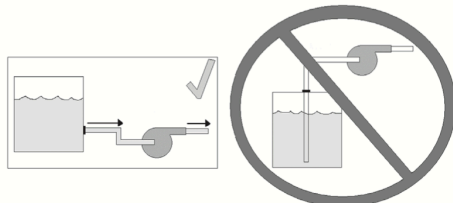
Do not allow the SC models to run dry (without fluid). However, because the HC models utilize a carbon bushing in the impeller they may be allowed to run dry for periods up to eight hours at a time. These pumps are not submersible. Operate the pumps only in the in-line mode. Do not put the units in liquid. Pump should be installed in a dry area and protected from splash. These pumps are not self priming models. **IMPORTANT:** These pumps must be installed so that the pump head (volute) is flooded before starting. That is, the inlet of the pump must be below the level of the surface of the liquid being pumped (Fig. 1).

Do not restrict the intake side of the pump. Connections on the intake side should not be of smaller inside diameter pipe or tubing or hose than the intake inside diameter

of the intake thread designation. If reduced flow is required restrict the discharge

side. Installing a valve or other type of restriction device on the discharge side is the proper method for reducing flow from the pump. When using a valve the pump can be throttled to provide various flow rates and pressures without harming the motor or the pump parts.

FIGURE 1



The pump should not be installed in a manner that will subject it to splashing or spraying.



### 3-MD-HC

The patented Little Giant magnetic drive pump design consists of a cylindrical drive magnet attached to the motor shaft, which rotates around a chemical resistant plastic separator housing. Inside this housing is a magnet completely encapsulated in chemical resistant plastic, and fixed to the impeller. The impeller assembly is free to rotate on a spindle that is supported at both ends. The spindle is held captive and does not turn. Front and rear thrust washers are utilized as wear bearings. The washers are held captive and do not revolve. This prevents wear on the shaft. With the magnetic coupling the motor drives the impeller. This coupling eliminates the conventional shaft seal and its possibility of leakage.

### MATERIALS

The plastic parts on SC series pumps are made of glass-filled polypropylene. The plastic parts on the HC series pumps are glass filled PPS. The spindle shaft which is stationary and the captive thrust washers (front and rear) are alumina ceramic. The O-ring seal is Nitrile for the SC series, and Fluorelastomer (FKM) for the HC series. The HC series utilizes a pure carbon bushing in the impeller to enable the pump to run dry for periods up to eight hours at a time.

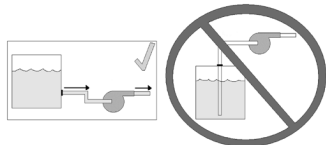
### INSTALLATION

Your Little Giant pump is delivered to you completely pre-assembled and pretested from the factory. It is ready for immediate use. The pump may be installed in any position. It may be mounted vertically with the pump head down. Proper plumbing connections should be made. See specification table to determine what size intake and discharge your pump has. Use a thread sealer on all pipe connections and hand tighten only. Note: On HC models a roll of PTFE pipe seal tape is supplied. Do not use a wrench to tighten the HC model connections. Excessive force may damage the plastic part. Make sure the wing nuts are tight before operating the pump.

Motor nameplates list all electrical data. Make sure the pump is connected to proper voltage before operating. When wiring pumps with no plug, the green (or green/yellow) wire is the ground. The other two wires are line (live). If fused type plug is used, a 2.0 amp fuse is recommended.

Do not allow the SC models to run dry (without fluid). However, because the HC models utilize a carbon bushing in the impeller they may be allowed to run dry for periods up to eight hours at a time. These pumps are not submersible. Operate the pumps only in the in-line mode. Do not put the units in liquid. Pump should be installed in a dry area and protected from splash. **IMPORTANT:** When used in-line, it must be installed so that the pump head (volute) is flooded before starting. That is, the inlet of the pump must be below the level of the surface of the liquid being pumped. (See Figure 1.)

Do not restrict the intake side of the pump. Connections on the intake side should not be of smaller inside diameter pipe or tubing or hose than the intake inside diameter of the intake thread designation. If reduced flow is required restrict the discharge side. Installing



a valve or other type of restriction device on the discharge side is the proper method for reducing flow from the pump. When using a valve the pump can be throttled to provide various flow rates and pressures without harming the motor or the pump parts.

The pump should not be installed in a manner that will subject it to splashing or spraying.

### SERVICE INSTRUCTIONS

**MAKE CERTAIN THE UNIT IS DISCONNECTED FROM THE POWER SOURCE BEFORE ATTEMPTING TO SERVICE OR REMOVE ANY COMPONENT!**

1. If indicated on top of the motor lubricate every six months with two to three drops of S.A.E. 20 weight non-detergent oil. The oil holes are located on top at each end of the motor.
2. All wetted parts can be serviced by removing the four wing nuts (item 13) from the housing. The pump head components can easily be replaced in the field if necessary.
3. Lightly clean any corrosion or debris which may clog the impeller.
4. If pump is tripping circuit breakers, GFCI, or not operating properly after cleaning, return to a Little Giant authorized service center. **DO NOT** attempt repairs yourself.
5. Be certain power cord is in good condition and contains no nicks or cuts.