



## TE-5-MD-HC Highly Corrosive Fluids

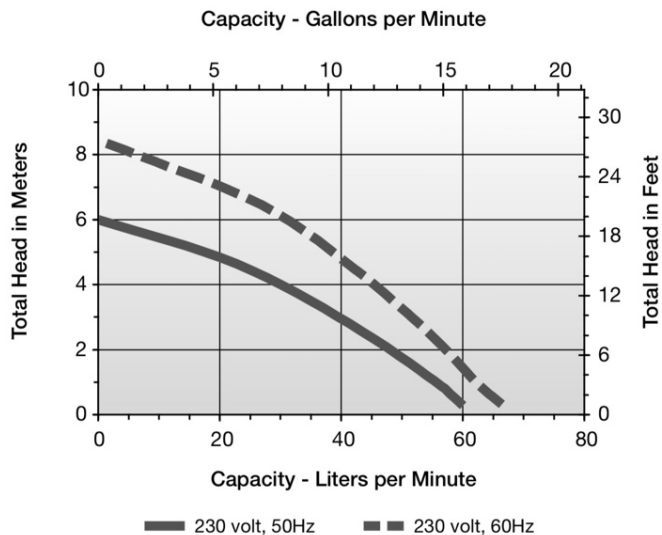
Circulation of highly corrosive acids, alkalis, solvents, brine, plating solutions, sterile solutions, and other highly corrosive chemicals and solutions that are compatible with the pump's material of construction



- Run dry capability for up to eight hours without apparent damage
- Volute, magnet housing and impeller are glass-filled Ryton<sup>®</sup> (PPS) for excellent chemical resistance
- Self-lubricating carbon impeller bushing is impervious to fluids and long-lived in abrasive solutions
- Encapsulated glass-filled Ryton<sup>®</sup> permanent impeller magnet
- Ceramic shaft and thrust washers are 99.5% pure alumina for excellent wear and trouble-free service with harsh solutions
- 1/8 HP open FC PSC motor
- Glass-filled polyphenylene sulfide (e.g. Ryton<sup>®</sup>) magnet housing and volute
- 1.1 specific gravity
- Viton<sup>®</sup> O-ring

<b>RPM:</b>	2500/3000
<b>Capacity:</b>	60 LPM
<b>Shut Off:</b>	5.9m
<b>Liquid Temp:</b>	93.3°C
<b>Discharge:</b>	12.7 mm
<b>Intake:</b>	25.4mm
<b>Electrical:</b>	230V, 50/60Hz
<b>MODEL:</b>	<b>583613</b>

Performance Curves 5-MD-HC 230V, 50/60Hz





## TE-5-MD-HC INSTALLATION SHEET

This instruction sheet provides you with the information required to safely own and operate your product. Retain these instructions for future reference.

The product you have purchased is of the highest quality workmanship and material, and has been engineered to give you long and reliable service. This product has been carefully tested, inspected, and packaged to ensure safe delivery and operation. Please examine your item(s) carefully to ensure that no damage occurred during shipment. If damage has occurred, please contact the place of purchase. They will assist you in replacement or repair, if required.

**READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO INSTALL, OPERATE, OR SERVICE YOUR PRODUCT. KNOW THE PRODUCT'S APPLICATION, LIMITATIONS, AND POTENTIAL HAZARDS. PROTECT YOURSELF AND OTHERS BY OBSERVING ALL SAFETY INFORMATION. FAILURE TO COMPLY WITH THESE INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE!**

### SAFETY GUIDELINES

1. Make certain that the unit is disconnected from the power source before attempting to service or remove any component.
2. Do not use to pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc. Do not use in explosive atmospheres. Pump should only be used with liquids compatible with pump component materials.
3. Do not handle pump with wet hands or when standing on a wet or damp surface or in water.
4. This pump is supplied with a grounding conductor and/or grounding type attachment plug. To reduce the risk of electric shock, be certain that it is connected to a properly grounded grounding type receptacle.
5. In any installation where property damage and/or personal injury might result from an inoperative or leaking pump due to power outages, discharge line blockage, or any other reason, a backup system(s) and/or alarm should be used.
6. Support pump and piping when assembling and when installed. Failure to do so may cause piping to break, pump to fall, motor failures, etc.

### ELECTRICAL CONNECTIONS

1. Check the pump label for proper voltage required. Do not connect to voltage other than that shown.
2. If pump is supplied with a 3-prong electrical plug, the third prong is to ground the pump to prevent possible electrical shock hazard. **DO NOT REMOVE** the third prong from the plug. A separate branch circuit is recommended. Do not use an extension cord. Do not cut plug from the cord. If the plug is cut or the cord is shortened, then this action will void the warranty.
3. The National Electric Code requires that a ground fault circuit interrupter (GFCI) be used in the branch circuit supplying fountain pumps and other pond equipment. See your electrical supplies dealer for this device.
4. To reduce the risk of electric shock, use only on portable self-contained fountains no larger than five feet in any dimension.

CONSULT INSTRUCTION SHEET ILLUSTRATIONS FOR PROPER ASSEMBLY AND DISASSEMBLY OF YOUR LITTLE GIANT PUMP.

### PUMP CONSTRUCTION

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. Two series are available. The HC series handles highly corrosive chemicals at elevated temperatures because of the unique materials used in its construction. The SC series handles semi-corrosive fluids. Both series are available with various size pumps, and are available in 115V or 230V, 50/60 Hz versions.



The HC models utilize a carbon bushing between the impeller and spindle. The use of this carbon bushing will allow these pumps (HC series) to run dry (without fluid) for up to eight hours at a time. Do not allow the SC models to run dry. They do not have the carbon bushing and heat build up caused by friction will damage the parts when SC models are run dry.

## **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 Fluoroelastomer (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 and wiring schematic. 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).

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. They must be installed so that the pump head (volute) is flooded at the time the pump is to be started. 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 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**

**DISCONNECT THE PUMP FROM THE POWER SOURCE BEFORE SERVICING OR REMOVING ANY COMPONENT!**

1. The motor's sleeve bearings should be lubricated 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 4 wingnuts (item 11) to 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.