

## Scotty - We need more power!

We are often faced with the question about motor horsepower. We find that the common misconception is more Hp is better.

In short, the motor horsepower is not as important as the pump efficiency for the transport of liquid and the grinding torque for grinding sewage.

When a grinder pump is selected it is important look at the ability to start in the middle of grinding (torque) and then operate efficiently during the pumping cycle. Environment One® uses a semi-positive displacement pump which is highly efficient.

Our performance chart (below, left) demonstrates the highly efficient performance over a wide range potential

head conditions. The large inlet grinder operates at slower speeds and draws material into the pump stator (see photo)

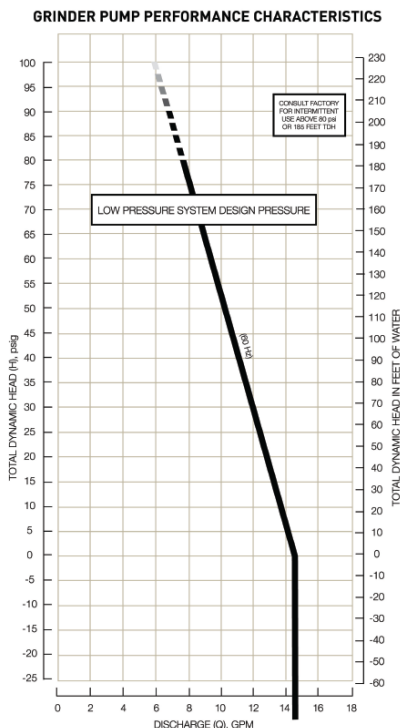


## Motor Selection from E/One® Design Manual.

A grinder pump station is an electromechanical system that depends on electric power for its operating, control and alarm functions. The design and selection of Environment One's pump, motor, grinder and level-sensing controls were accomplished by optimizing the wastewater transport function of the unit within the necessary constraints for unattended, trouble-free operation in a residential environment.

A single grinder pump core is common to all models of Environment One grinder pumps (models DH071, DH151, DH152, DH272 and DH502). This central core contains all of the working and control elements of the unit and is powered by a 1 hp, 240v (or 120v), 1,725 rpm capacitor start, thermally protected induction motor. Each of these motor features was carefully considered in the design of the grinder pump station.

The pump should be considered as a residential appliance. For this reason, performing the grinding and pumping functions using no more than 1 hp to permit occasional use at 120v in older homes not wired for 240v is desirable. In order to achieve the high heads desired and



provide constant flow at varying heads, the 1-hp motor is coupled to a pump of semi-positive displacement design (Figure 1).

**At a rating of 1 hp and 1,725 rpm, the Environment One grinder pump develops more than 8.4 foot-pounds of torque.**

Motors used to drive centrifugal pumps are often rated at 2.0 hp at 3,450 rpm and may produce less torque. When handling residential sewage, grinding torque may be demanded during any portion of the starting or running cycle. When the pump stops (controlled by level) in the midst of grinding hard objects (e.g. tongue depressors, plastic items, etc.), it must, upon restarting, be able to provide sufficient torque to the grinder to overcome the resistance of any object remaining from the previous cycle.

### **Send your questions to**

[Henry.albro@verizon.net](mailto:Henry.albro@verizon.net)

### **Who's who?**

#### **Inside Grinder Pump Sales Team**

**781.982.9300**

**Ellen McColgan Ext. 31**

**Jesselyn King Ext. 29**

#### **Scheduling Grinder Pump Service**

**508.765.0051 or 781.982.9300, Ext. 15**

**Dawn Marcinkus**

#### **24-Hour Service Department**

**781.982.9300, Ext. 15 or 508.765.0051**

#### **Outside Sales and Technical Assistance**

**Henry Albro 978.597.0703**

#### **President –Pressure Sewer System Sales**

**Ed Quann 800.791.6132, Ext. 36**



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**Environment One Corporation, 2773 Balltown Road, Niskayuna, NY 12309**

**Voice 518.346.6161 Fax 518.346.6188**

**[www.eone.com](http://www.eone.com)**

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