ESSCO heavy duty submersible explosion-proof sump pumps are of the 100% recessed impeller design. Each unit is capable of handling long stringy material, large size solids and slurries within maximum solids handling efficiency. The ESSCO pump incorporates the vortex pumping action along with unique pump design, allowing the greatest flexibility in the submersible pump field.

**VOLUTE:** Each volute is engineered for maximum life in "sump pump" duties.

**ESSCO** utilizes a single piece volute design with extra material in high wear areas.

**IMPELLER:** **ESSCO** pumps are available with various impeller designs to allow for high capacity low head or low capacity high head applications. **ESSCO** utilizes investment cast impellers for higher casting density and thicker vanes and back shrouds which allow for maximum life. By use of the JLI manufacturing techniques **ESSCO** offers trimmed impellers in extremely hard and difficult to handle alloys. By use of this production technique, impellers can be machined to act as a shredder (for solids coming in contact with the eye of the impeller) or machined to handle solids more delicate in nature.

**WEAR PLATE:** The **ESSCO MODEL 252** comes standard with a wear plate located behind the impeller. The wear plate is designed to protect the motor bracket and mechanical seal from particle erosion. The wear plate can also act as a barrier for a seal flushing fluid when a simple wear plate is not sufficient protection against wear created by the pumped media. Again **ESSCO** utilizes the JLI production method for manufacturing this pump component to ensure the best possible casting quality and material density.

**COOL AGIVENT:** Each **ESSCO** submersible pump includes a Cool Agivent apparatus which is for venting pump case and cooling external surface of the motor. This patented
device will allow a more shallow wet well design, as well as keeping the motor cool when not submerged. All **ESSCO** submersible pumps are capable of running dry continuously. (consult factory for specific applications).

**MOTOR:** **ESSCO** offers U.L. listed explosion-proof motors for Class 1, Division 1, group D hazardous locations. The motor is manufactured by Reliance Electric Co. and includes moisture detection and thermal protection as standard features. Heavy duty bearings and dual mechanical seals are standard for both motor designs and on special request high temperature and energy efficient designs are available. (Not all motor options are available on U.L. listed motors.)

In addition to the above listed standard items **ESSCO** offers the following options:

- 316 S.S. motor shaft
- Nitronic 50 acid resistant stainless steel
- Tungsten carbide lower mechanical seal with stainless steel metal components and Buna-N elastomer
- Silicon carbide lower mechanical seal with stainless steel metal components and Viton elastomers
- Mechanical seal flush
- 316 S.S. motor mounting bracket
- 2-part epoxy coating
- Steel motor jacket
- 316 S.S. motor jacket
- Motor jacket flush connection (for cooling in hot liquid applications)
- Viton motor "O" rings
- Teflon coated Viton "O" rings

**OPTIONAL LIQUID END MATERIALS:**
- Ni Hard 550 Brn
- Ni Hard 650+ Brn
- HCl 550 Brn
- HCl 650+ Brn
- CD4MCu
- 316 S.S.
- 304 S.S.
- Hastalloy
- Alloy 20
- Navy Bronze
- Other

**ADDITIONAL OPTIONS:**
- Certified Performance Test* 
- Certified Hydrostatic Test* 
- Certified Motor Test 
- Explosion-proof Slide Rail Assembly 
- U.L. Listed Control Panels

*All tests are conducted as per Hydraulic Institute Standards.

**ESSCO** maintains a large stock of complete pump units and spare parts for quick shipment. For special alloy parts **ESSCO** has a quick shipment program to ensure customer a minimum of down time.
Pump Model: 252  
Impeller No.: 1050  
RPM: 1750  
Sphere Size: 2"  
Type: Submersible  
Impeller Type: Vortex 7 Vane  
Impeller Dia: 6.375

Condition Point: 0 GPM 0 TDH  
Condition Point: 0 GPM 0 TDH  
Condition Point: 0 GPM 0 TDH

6.375"- 7 Vanes  
5.0 HP  
6.375"- 10 Vanes  
1.0 HP  

Pumps  
4935 Telegraph Rd  
L.A., Ca. 90022  
213-261-2181  
213-261-1523 FAX  
e-mail: esscopumps@earthlink.net  

d:\data\xicurves\252-4p  
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### Parts List

<table>
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<tr>
<th>NO.</th>
<th>QTY</th>
<th>Description</th>
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<th>Hard Iron</th>
<th>Bolt Size/File Name</th>
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**BOM# 252V002**

**JOB#**

**NOTES:**

1. All cast stainless steel parts are CFBM unless otherwise noted.
2. Stack drawing is: 252SUBAA

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**Essco Pumps**

**252 Pump with 180TY Motor and 140TY Shaft, Cast Iron Wear Plate and 140TY Mount Motor**

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**Assembly Location:**

- LAC DPF EI CO DO

**Essco Torque Fluid Pump**

- Impeller Dia.
- Head
- Serial No.
- Model No.
- Capacity
- GPM
- RPM
- Speed

**Date:** 10/28/99

**File Name:** A-252AA

**Drawn By:** Brian B.

**Checked By:** J.I.

**Rev. Date:**