

# Liberty Pumps®

## Model 441

### Emergency Sump Pump System 12V Battery Operated

*Works automatically  
when power fails!*

#### **Model 441 Includes:**

- High output 12 volt submersible pump
- Automatic, mercury-free switch
  - Control panel
- Battery box and strap (battery not included)
  - 12 volt charger
- Tee, check valve and bushings for 1-1/2" or 1-1/4" connections

#### **Features:**

- Automatic start-up
- Advanced 5-stage charging system
  - Audible in-use alarm and light



*Vertical switch for  
compact pits*

**Advanced 5-Stage  
Charging System  
WET Cell or AGM  
Compatible**



innovate. evolve.

# MODEL 441

## 12 VOLT EMERGENCY SUMP PUMP SYSTEM

### FEATURES:

- **Advanced Charging System** outperforms “trickle” chargers with a 5-stage charging process. The system tests the battery and maintains a maximum charge without running the battery down or self-discharging. A sophisticated charging algorithm continuously tests the charging process from start to finish. Works with WET Cell or AGM style batteries.

#### CHARGING STAGES:

**Stage One: Pre-Qualification Test** - Yellow Light Emitting Diode (L.E.D.) flashes during this stage. Pre-Qualification Test applies three tests to the battery. Further charging prohibited if charger discovers a fault. The duration of this stage is dependent on the condition of your battery and is approximately 40 seconds to 2 hours.

**Stage Two: Constant Current Charge** - Yellow L.E.D. illuminates continuously indicating that the charger is charging the battery at full rated output.

**Stage Three: Constant Voltage Charge** - Yellow L.E.D. remains illuminated continuously and finishes when battery state of charge is fully charged.

**Stage Four: Float Charge** - Green charged L.E.D. is on. Charger will maintain battery while A.C. power is connected and can be left connected indefinitely; limited only by the service life of battery.

**Stage Five: Recycle Charge** - While connected to battery for storage charging, a new charge cycle routine initiates once every 84 days.

- **Time dependent charging** with built-in 150-hour safety timer. If the safety timer “times-out,” A “Fault” is displayed and charging is discontinued to protect equipment from “run-away” battery under charge.
- **Reverse battery and short circuit protection**
- **Audible alarm and light advises of emergency pump operation**
- **Works with marine-type deep-cycle batteries (not included with system), group 27 or 31, AGM or WET Cell. (Liberty Pumps StormCell™ batteries recommended.)**
- **Easy wiring with slip-on connectors and terminal block**
- **Fully assembled float switch**

### Charger Specifications:

INPUT: 120Vac, 0.19Aac, 60Hz

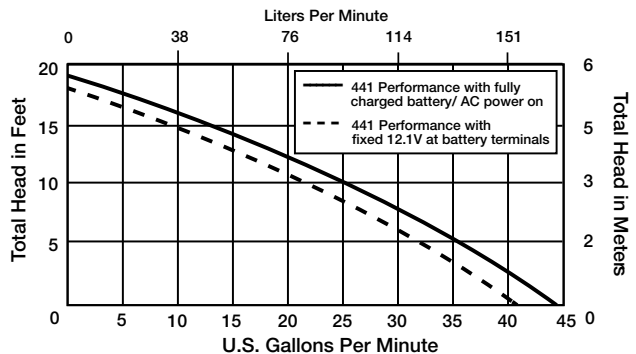
OUTPUT: 12Vdc, 900mA

Safety Timer: 150 hours

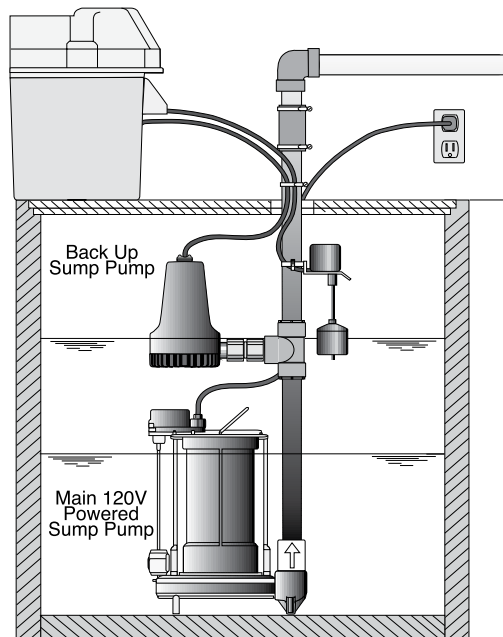
**NOTE:** Frequency of pump cycle, length of running time and pumping head will vary the lifetime of battery operation. Under a continuous-run situation the battery will last up to 4 hours and up to 30 hours in intermittent operation.

### PUMP PERFORMANCE CURVE

Model 441



### Typical Installation Diagram



(Specifications subject to change without notice.)