

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



NEW!
Vertical switch for
compact pumps

NEW!
Advanced 5-Stage
Charging System

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.

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 until 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.

- **Red “Fault” L.E.D.** warns of a problem with the battery or charging process.
- **Time dependent charging** with built-in 150-hour safety timer. If the safety timer “times-out,” the red “Fault” L.E.D. 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) Type M27 recommended**
- **Easy wiring with slip-on connectors and terminal block**
- **Fully assembled float switch**

Charger Specifications:

INPUT: 120Vac, 0.19Aac, 60Hz

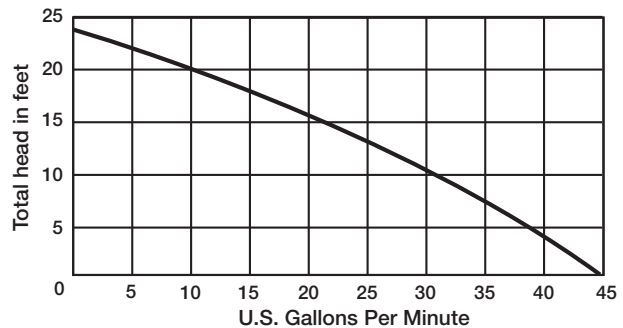
OUTPUT: 12Vdc, 900mA

Safety Timer: 150 hours

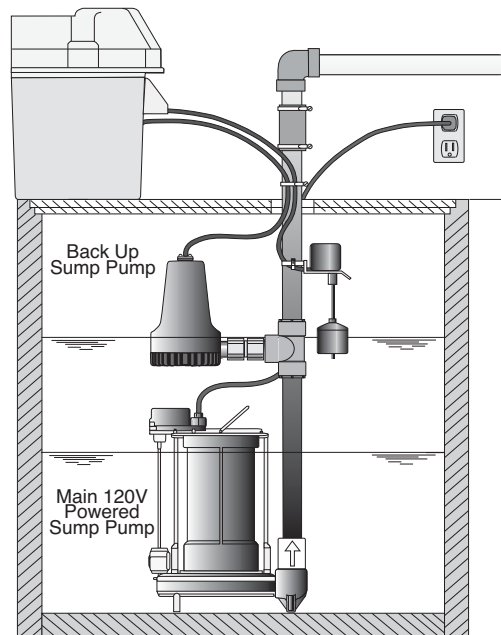
NOTE: Frequency of pump cycle, length of running time and pumping head will vary the lifetime of battery operation. Under a continuous-run situation the battery will last up to 4 hours and up to 30 hours in intermittent operation.

PUMP PERFORMANCE CURVE

Model 441



Typical Installation Diagram



(Specifications subject to change without notice.)