

## Connections

### 3-Float System

Connect floats to the appropriate terminals for STOP, LEAD, and LAG2. Use a jumper wire to connect terminals 4 and 6 to always operate two pumps when the LEAD pump is triggered. Use another jumper wire to connect terminals 8 and 10 to always operate a separate pair of pumps when a LAG pump is triggered. Use another jumper wire to connect terminals 10 to 12 to activate an ALARM when the LAG pumps are triggered.

### 4-Float System

Connect floats to the appropriate terminals for STOP, LEAD, LAG2, and ALARM. Use a jumper wire to connect terminals 4 and 6 to always operate two pumps when the LEAD pump is triggered. Use another jumper wire to connect terminals 8 and 10 to always operate a separate pair of pumps when a LAG pump is triggered.

### 5-Float System

Connect floats to the appropriate terminals for STOP, LEAD, LAG1, LAG2, and LAG3. Use a jumper wire to connect terminals 10 and 12 to trigger the ALARM when the highest float is activated.

### 6-Float System

Connect all six floats to the appropriate terminals (i.e., lowest float to terminals 1 and 2 for the STOP float).

## Operation

### 3-Float System

A 3-float system has a pump STOP float, a LEAD pump float, and a LAG/ALARM float. The STOP float controls the water level at which the pumps turn OFF. The LEAD pump float will turn ON two of the four pumps, and continue to run the pumps until the water level falls to the STOP float level. The LAG/ALARM float will turn ON the other two pumps that were not running, and trigger the high level ALARM. Jumper wires must be added to the terminal blocks in order to run the system with three floats.

### 4-Float System

A 4-float system will have a pump STOP float, a LEAD pump float, a LAG pump float, and an ALARM float. The STOP float controls the water level at which the pumps turn OFF. The LEAD pump float will turn ON two of the four pumps, and continue to run the pumps until the water level falls to the STOP float level. The LAG pump float will turn ON the other two pumps that were not running. The ALARM float will trigger the high level ALARM. Jumper wires must be added to the terminal blocks in order to run the system with four floats.

### 5-Float System

A 5-float system will have a pump STOP float, a LEAD pump float, a LAG1 pump float, a LAG2 pump float, and a LAG3/ALARM float. The STOP float controls the water level at what the pumps turn OFF. The LEAD pump float will turn ON one of the four pumps, and continue to run the pump until the water level falls to the STOP float level. The LAG1 pump float will turn ON a second pump that was not running. The LAG2 float will turn ON a third pump that was not running. The LAG3/ALARM float will turn on the final pump and trigger the high level ALARM. Jumper wires must be added to the terminal blocks in order to run the system with five floats.

### 6-Float System

A 6-float system will have a pump STOP float, a LEAD pump float, a LAG1 pump float, a LAG2 pump float, a LAG3 pump float, and an ALARM float. The STOP float controls the water level at what the pumps will turn OFF. The LEAD pump float will turn ON one of the four pumps, and continue to run the pump until the water level falls to the STOP float level. The LAG1 pump float will turn ON the second pump that was not running. The LAG2 float will turn ON the third pump that was not running. The LAG3 float will turn ON the final pump. The ALARM float will trigger the high level ALARM. The panel comes preset for 6-float operation and no jumper wires are required.

# Liberty Pumps®

A Family and Employee Owned Company



## Single Phase Quadplex QE24H=6

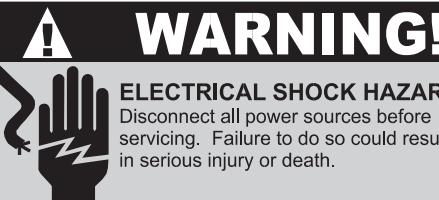
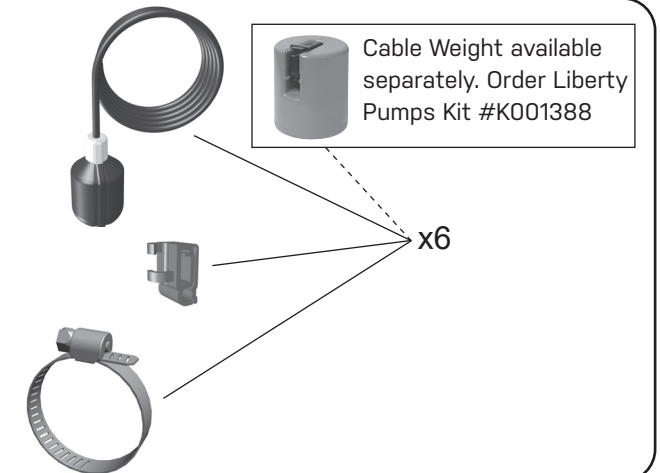
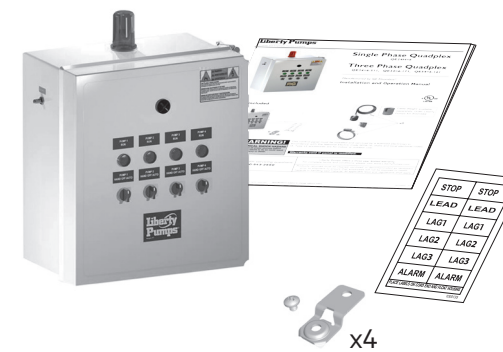
## Three Phase Quadplex QE34=6-511, QE34=6-171, QE54=6-161

Manufactured by SJE Rhombus®

## Installation and Operation Manual



### Parts Included



## WARNING!

**ELECTRICAL SHOCK HAZARD**  
Disconnect all power sources before servicing. Failure to do so could result in serious injury or death.

This control panel must be installed and serviced by a licensed electrician in accordance with the National Electric Code NFPA-70, state and local electrical codes. UL Type 4X enclosures are for indoor or outdoor use.

**Warranty void if panel is modified.**

**Technical support,  
service questions:**  
1-800-543-2550

Monday - Friday  
8:30 AM to 5:00 PM Eastern Time

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PN 1064966B • Rev 07/24

Call factory with servicing questions:  
**1-800-543-2550**

Liberty Pumps offers a three year limited warranty.  
For complete terms and conditions, please visit [www.LibertyPumps.com](http://www.LibertyPumps.com).

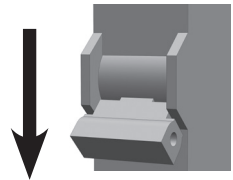
Products returned must be cleaned, sanitized, or decontaminated as necessary prior to shipment to ensure that employees will not be exposed to health hazards in handling said material. All applicable laws and regulations shall apply.

## Installing the Float Switches

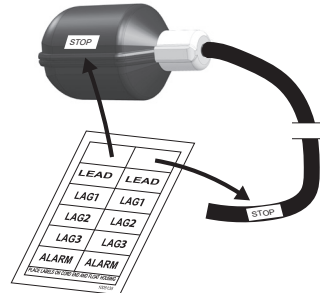
The Quadplex control panel operates with float switches to activate the following functions: pump STOP, LEAD pump START, LAG1 pump START, LAG2 pump START, LAG3 pump START, high-level ALARM.

### 1 **⚠ WARNING!**

Ensure all power is turned OFF before installing floats in tank. Failure to do so could result in serious or fatal shock.

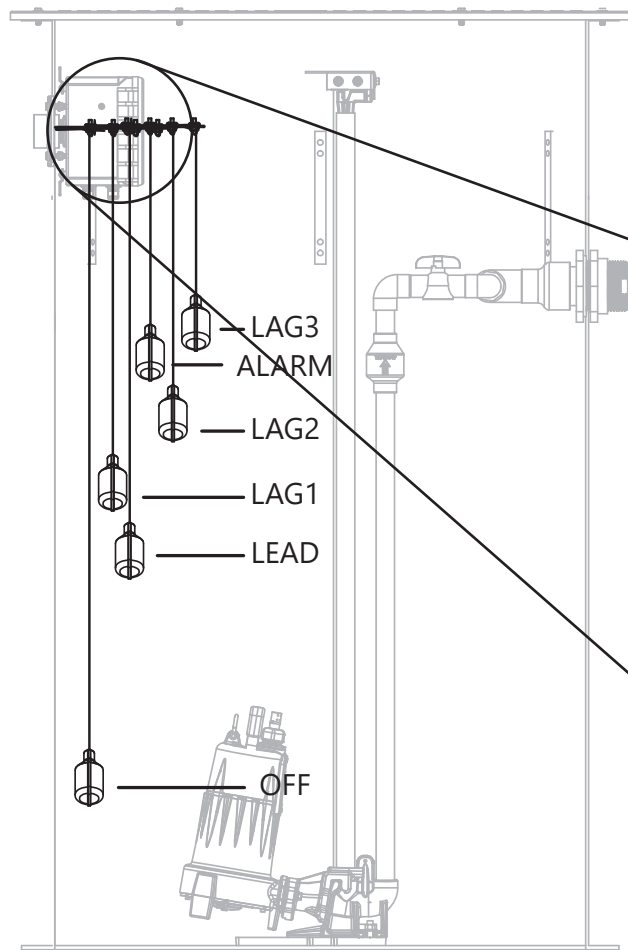


- 2 Label each float and cord end with the provided pairs of STOP (OFF), LEAD, LAG1, LAG2, ALARM, and LAG3 stickers.



### 3 **⚠ CAUTION!**

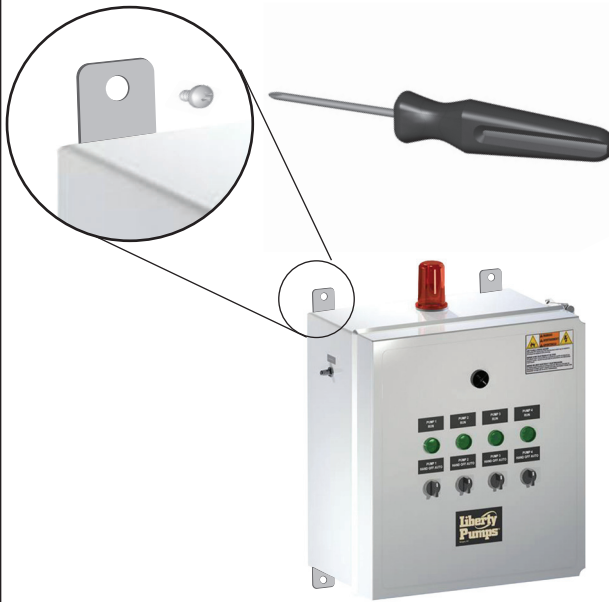
If the floats are not properly mounted and connected in the correct order, the pumps will not function properly.



## Mounting the Control Panel

### **NOTE**

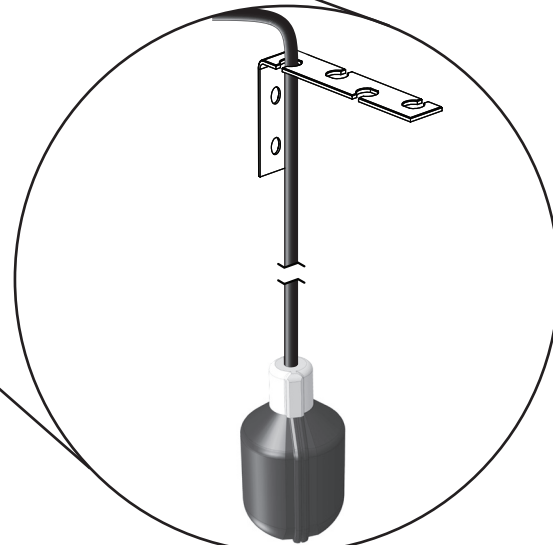
If the distance to the control panel exceeds the length of the float switch cords or the pump power cord, splicing in a liquid-tight junction box will be required. For outdoor or wet installation, we recommend a Liberty Pumps UL Type 4X junction box.



## Float Bracket Mounting

### **NOTE**

Floats require free range of motion. They must not touch each other or any equipment in the pumps chamber.



## Wiring the Control Panel

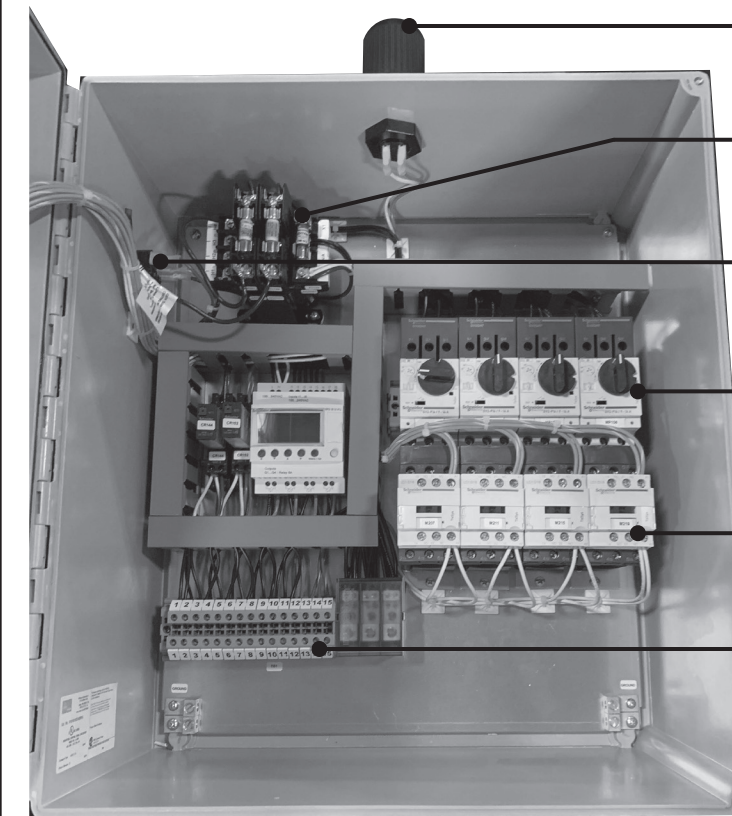
- 1 Determine conduit entrance locations on control panel as shown. Check local codes and schematic on the inside cover of the panel for the number of power circuits required.

**⚠ CAUTION!** Be sure the pump power voltage and phase are the same as the pump motor being installed.

- 2 Connect the following wires to the proper terminal positions:
- incoming power
  - pump 1 thru pump 4
  - float switches
- See schematics on inside cover of the control panel for details. Typical layout shown (may vary with options ordered).

- 3 Verify correct operation of control panel after installation is complete.

Front Cover



Float Switches

Incoming Power

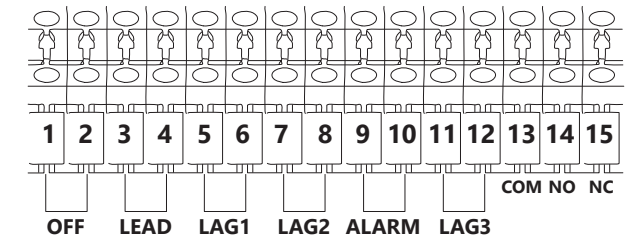
Pumps

**⚠ CAUTION!** You must use conduit sealant to prevent moisture or gases from entering the panel.

Type 4X conduit must be used to maintain a Type 4X rating of the control panel.

## Terminal Block Connection

### FLOAT SWITCH CONNECTIONS



## Alarm System

**HORN**

**INDICATOR LIGHT**

When an alarm condition occurs, the red light and horn will be activated.

**TRANSFORMER**

The transformer converts incoming three phase power to 120V to be used for control and alarm.

If the **TEST/NORMAL/SILENCE** switch is moved to the SILENCE position and released, the horn will be silenced. When the alarm condition is cleared, the alarm system is reset.

**MOTOR PROTECTIVE SWITCHES**

Each pump circuit has motor protective switches that provides pump disconnect, overload, and branch circuit protection. Adjust overload to pump FLA.

**MOTOR CONTACTORS**

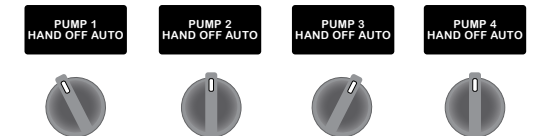
Motor contactors control pumps by switching electrical lines.

**AUXILIARY CONTACT**

Form C - Can be wired normally open or normally closed.

**HAND-OFF-AUTO (HOA) SWITCHES (FRONT COVER)**

The HOA 3-way switches control pump functions.



In **HAND** mode, the pump will turn ON.

**OFF** turns the pump OFF.

In **AUTO** mode, commands from the float switches turn each pump ON and OFF.