

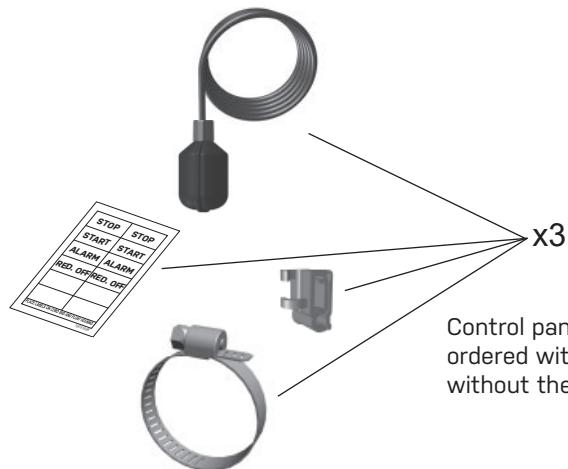


Three Phase Simplex

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.



For information regarding operation, available options, or servicing questions, please call SJE Rhombus Technical Support.

SJE Rhombus offers a five-year limited warranty.
For complete terms and conditions, please visit www.sjerhombus.com.

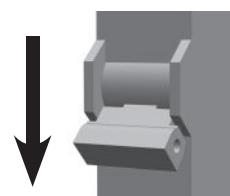
Products returned must be cleaned, sanitized, or decontaminated as necessary prior to shipment to ensure that employees will not be exposed to health hazards in handling said material. All applicable laws and regulations shall apply.

Installing the Float Switches

The Model 312 Three Phase Simplex control panel operates with 3 float switches to activate pump STOP, START, and high-level ALARM functions.

! **WARNING!**

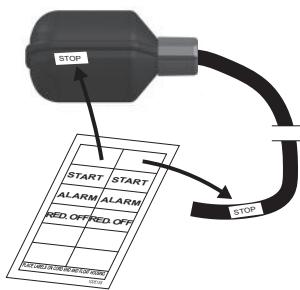
Ensure all power is turned OFF before installing floats in tank. Failure to do so could result in serious or fatal shock.



! **CAUTION!**

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

2 Label each float and cord end with the provided pairs of STOP, START, and ALARM stickers.



Mounting the Control Panel

NOTE

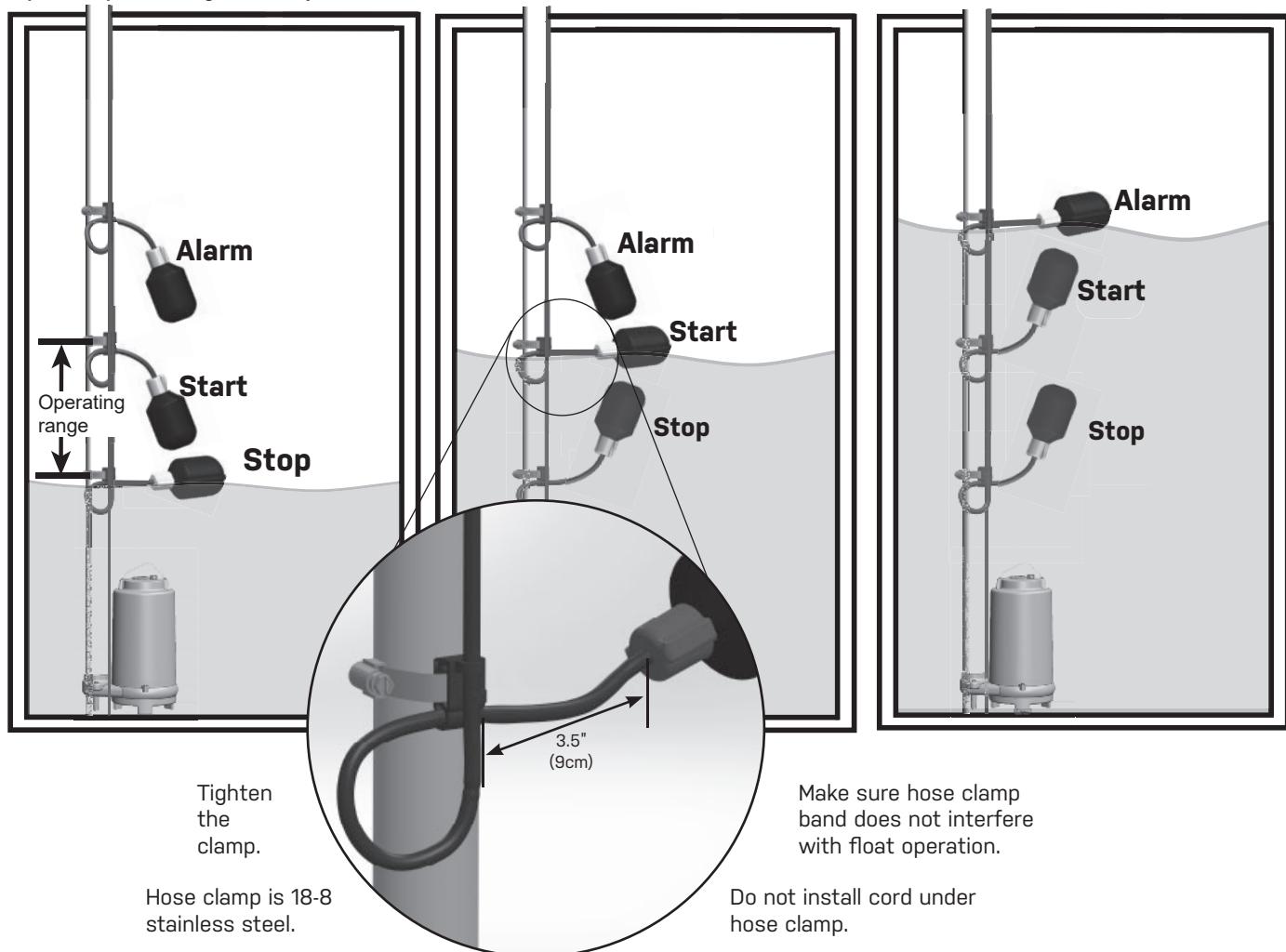
If the distance to the control panel exceeds the length of the float switch cords or the pump power cord, splicing in a liquid-tight junction box will be required. For outdoor or wet installation, we recommend an SJE Rhombus UL Type 4X junction box.



Floats require free range of motion.

They must not touch each other or any equipment in the pump chamber.

Pipe Clamp Mounting - Float Operation



Wiring the Control Panel

1 Determine conduit entrance locations on control panel as shown. Check local codes and schematic inside 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
- float switches

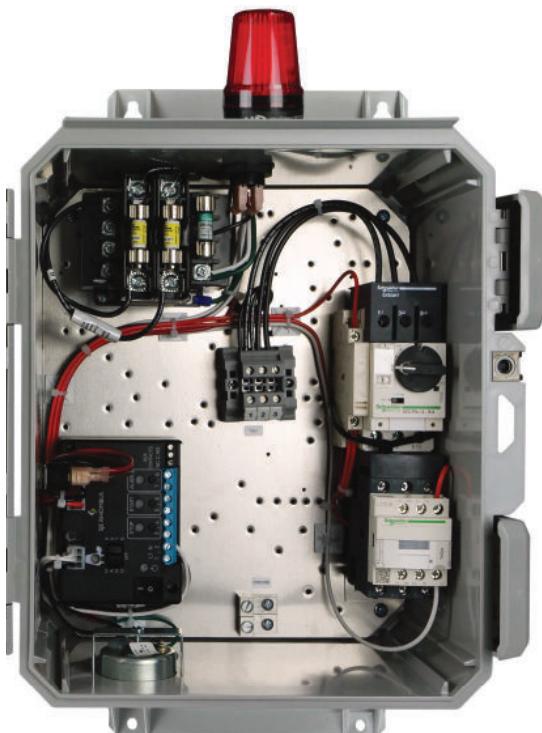
See schematic inside control panel for details.

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.

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



Typical Layout (May vary with options ordered).

Operation

Alarm System (Horn and Indicator)

When an alarm condition occurs, a red light and a horn will be activated. If the test/normal/silence switch is moved to the silence position, the horn will be silenced. When the alarm condition is cleared, the alarm system is reset. The alarm system can be tested by moving the test/normal/silence switch to the test position.

HOA Switch

A hand-off-automatic switch is provided for the pump. In the hand mode, the pump will turn on unless other safety features are employed. In the automatic mode, the pump will turn on from commands by the float switches.

Motor Protective Switch

A motor protective switch is supplied for the pump to provide an adjustable overload, branch circuit protection and disconnect. The overload must be set in the field. To set the overload, dial the amp scale to the pump's full load amps (FLA). If the FLA's are unknown, use a calibrated amp meter to measure the pump amperage draw under loaded conditions. An auxiliary contact is wired in series with the magnetic contactor coil so that on an overload trip, the magnetic contactor will be disabled. In the event of an overload trip, the motor protective switch must be reset by first turning the handle counterclockwise to the OFF position and then turning the handle 90° clockwise to the ON position.

Pump Run Light

The run light will be ON in either the hand or the automatic mode when the pump is called to run.

Dry Auxiliary Contacts (optional)

Normally open - Contacts are open under normal conditions and closed when alarm condition is present.

Normally closed - Contacts are closed under normal conditions and open when alarm condition is present.

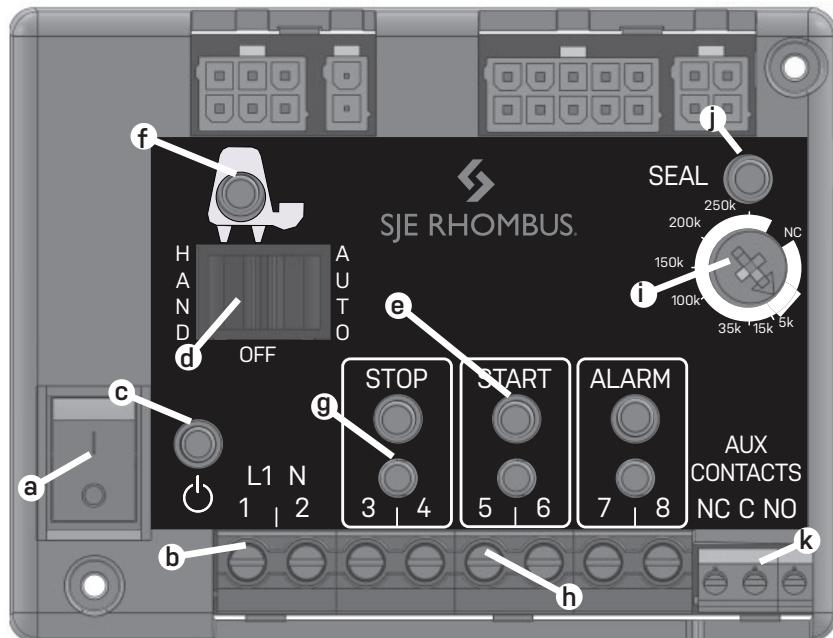
Both types automatically reset once alarm condition is cleared.

Seal Failure Circuit and Indicator Light (Optional)

The seal fail circuit has resistance sensitivity and will sense the presence of water in the pump seal chamber. Upon installation, turn the sensitivity dial on the seal fail module to the point where the light turns on, then dial back slowly until the light turns off. If water enters the seal chamber at this point, the seal chamber circuit will sense a change in resistance. After a short time delay, the indicator light will turn on. When the condition is cleared, the relay will de-energize and the indicator light will turn off. The seal fail relay has a sensitivity adjustment so that false readings may be tuned out.

Thermal Cutout (Optional)

The thermal cutout circuit is wired in series with the magnetic contactor coil. If the pump's thermal switch opens on high temperature, the magnetic contactor will turn off and stop the pump. When the thermal switch cools and closes, the magnetic contactor will turn on if the pump is called to run.



Model shown contains optional Seal Fail circuitry.

COMPONENTS

- a. ON/OFF Switch - Control/Alarm Power
- b. 120V Incoming Power Terminals
- c. Power LED - (Green)
- d. Pump HOA Switch
- e. Float LEDs - (Red) x3
- f. Pump LED
 - Pump Run - (Green)
 - Pump Fail - (Red)
- g. Simulate Float Buttons x3
- h. Float Terminals x6
- i. Seal Fail Pot - (Optional)
- j. Seal Fail LED - (Red) - (Optional)
- k. Auxiliary Alarm Terminals

PROGRAMMING INSTRUCTIONS

WITH POWER ON, HOA OFF, FLOATS OFF OR DISCONNECTED, PRESS DESIRED FLOAT BUTTON RAPIDLY 4 TIMES AND HOLD

PUMP LED WILL FLASH UPON SUCCESSFUL PROGRAMMING

OPTIONS	FLOAT BUTTON	DEFAULT	OPERATION
MANUAL ALARM RESET	STOP	OFF	LATCHES HIGH ALARM: CLEAR WITH EXTERNAL TEST SWITCH
SEAL FAIL ALARM ACTIVATION	START	OFF	ACTIVATES HORN UPON SEAL FAIL
ALARM FLASHER	ALARM	OFF	FLASHES BEACON UPON HIGH ALARM

ALARM CONDITIONS

ALARM	BEACON	CONTROLLER LED	HORN
PUMP POWER FAIL	FLASHING	RED PUMP LIGHT	NO
SEAL FAIL	FLASHING	SF1	PROG
FLOAT FAIL	FLASHING	BAD FLOAT NOT LIT	NO
HIGH ALARM	SOLID	ALARM FLOAT	YES



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