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W4100, W4200, & W4300 Electric Pumps – Installation, Operation, & Maintenance Instructions

Simplex
Cast Iron Tank

Duplex
Cast Iron Tank

Duplex
Stainless Steel Tank

Installation:

1. Locate the pump as close to the boiler as practical.
2. Place on an elevated, level, and substantial foundation in a clean, dry and accessible area.
3. Locate receiver tank inlet below lowest point of the condensate return lines.

How it works:

1. As condensate flows into the receiver tank of the pump package from the steam system, the tank fills with water. The float on the switch assembly then rises, where it energizes the motor on the pump.
2. Once started, the pump will continue to run until the water level drops below the bottom position of the float switch. There it will de-energize the motor to shut the pump off.
3. This cycle repeats as condensate continues to fill the receiver tank.

Maintenance:

1. At regular intervals, check the motor lubrication, unless the motor is equipped with a permanently lubricated bearing.

Operation:

1. Do not operate pumps without priming. If pumps run dry, even for a very short time, they may be severely damaged.
2. Be sure to check motor lubrication before starting and at frequent intervals unless the motor is a permanently lubricated ball bearing type.
3. Do not lubricate excessively. This may damage motor windings or bearings.
4. Be sure to keep the motor dry.
5. When starting up a pump always rotate it by hand, to be sure it turns freely, before turning on power.

Troubleshooting:

1. Motor overheats or burns out, or pump does not deliver enough condensate to boiler, or pump runs continuously or almost continuously.
   - Check the capacity and pressure rating of pump; it may be too small for the job.
   - Check temperature of condensate; pump may not handle it if too hot.
   - Check float switch; it may be damaged and jammed in 'on' position.
   - Check lines and valves between pump and boiler for clogging; check pump for clogging.
2. Pump starts and stops too frequently.
   - Check float switch adjustment; too little travel between 'on' and 'off' positions.
3. Pump does not start until after boiler water falls below safe level.
   - Check float switch adjustment; too little travel between 'on' and 'off' positions.
4. Pump noisy.
   - Has pump been damaged by operating without prime or on hot condensate.
   - Have bearings been damaged by misalignment or rough handling?
   - Is noise transmitted through piping? If so, short lengths of hose connected in delivery and return lines will usually improve conditions greatly.
5. Pump leaks.
   - Unit may have been disassembled and reassembled improperly.
   - Pump rotary seals may be worn or scored or may have been installed improperly. If worn, has this been caused by abrasive material in lines.
   - Pump packing may need replacing or tightening, or shaft may have been damaged by running with packing too tight.

FOR FURTHER RESOURCES & ASSISTANCE USE THE FOLLOWING QR CODE, CALL (610)-495-5131, OR VISIT www.watsonmcdaniel.com.