



# **A3X / A5X**

## **Commercial Condensate Removal Pumps**

### **Installation and Operation Manual**

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## WARRANTY

HARTELLA3/A5 SEIRES CONDENSATE PUMPS ARE GUARANTEED TO BE FREE FROM DEFECTS IN WORKMANSHIP OR MATERIALS AND TO FUNCTION SATISFACTORILY WHEN PROPERLY INSTALLED, FOR A PERIOD OF 12 MONTHS FROM DATE OF PURCHASE. VISIT OUR WEBSITE FOR WARRANTY INFORMATION, [www.hartell.com](http://www.hartell.com).

THIS GUARANTEE DOES NOT APPLY IF THE PRODUCT HAS BEEN MISAPPLIED OR MECHANICALLY DAMAGED. HARTELL ASSUMES NO LIABILITY FOR RESULTANT DAMAGES OF ANY KIND ARISING OUT OF ITS PRODUCTS



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## SECTION 1 - INTRODUCTION

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The Hartell® A3 and A5 series condensate removal pumps are designed to collect and automatically remove the water produced by air conditioner evaporator coils and / or steam humidifier units (for use with water up to 212°F (100°C)). As designed, the pump will collect water in its integral reservoir. After enough water has been collected, an internal float switch activates the pump and water “pump-out” will begin. Once enough water has been evacuated from the reservoir, the pump will automatically de-activate and wait to begin the cycle again.

As with all Hartell® products, the A3 and A5 series of pumps have been carefully engineered to provide long-term, trouble-free service. Thorough factory testing of each pump ensures your pump has been built with the highest quality workmanship and materials.

**▲ WARNING** FAILURE TO FOLLOW WARNINGS & CAUTIONS COULD RESULT IN BODILY HARM AND / OR PROPERTY DAMAGE.

**▲ CAUTION** READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION.

**▲ CAUTION** PUMP SHOULD ONLY BE USED TO PUMP LIQUIDS COMPATIBLE WITH PUMP COMPONENT MATERIALS. DO NOT USE TO PUMP FLAMMABLE OR EXPLOSIVE FLUIDS. DO NOT USE IN EXPLOSIVE ATMOSPHERES.

**▲ CAUTION** IN ANY INSTALLATION WHERE PROPERTY DAMAGE AND / OR INJURY COULD OCCUR AS A RESULT OF AN INOPERABLE OR LEAKING PUMP, A BACK UP SYSTEM SUCH AS HIGH LEVEL SAFETY FLOAT SWITCH AND / OR ALARM IS HIGHLY RECOMMENDED.

**▲ CAUTION** FOR CORRECT WIRING INSTALLATION, REFER TO THE ENCLOSED WIRING DIAGRAM.

**▲ CAUTION** THE A5X PUMP SERIES MUST BE SUPPLIED BY A DEDICATED 20 AMP SERVICE AND BREAKER TO HANDLE CURRENT DRAW DURING MOTOR START-UP. MAKE CERTAIN THAT LINE VOLTAGE CORRESPONDS TO VOLTAGE SPECIFIED ON PUMP MOTOR'S NAMEPLATE.

**▲ CAUTION** ALL WIRING MUST CONFORM TO LOCAL ELECTRICAL CODES. IN AREAS WHERE LOCAL CODES ARE NON-EXISTENT, THE NATIONAL ELECTRICAL CODE APPLIES.

**▲ WARNING** TO REDUCE THE RISK OF ELECTRICAL SHOCK THIS PUMP MUST BE GROUNDED WITH A PROPERLY WIRED GROUNDING CONNECTION.

**▲ WARNING** DISCONNECT ELECTRICAL POWER AT THE POWERSOURCE (FUSE BOX AND CIRCUIT BREAKER ETC.) BEFORE SERVICING PUMP.

**▲ WARNING** DO NOT HANDLE THE PUMP WITH WET HANDS; OR, WHILE STANDING ON A WET / DAMP SURFACE OR IN WATER.

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## SECTION 2 - INSTALLATION AND OPERATION

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### 2.1 INSTALLATION

1. Carefully unpack & inspect the pump. Examine it to ensure that no damage has occurred. If damage is observed, notify the firm where the pump was purchased. They will assist with repair or replacement.
2. Determine which inlet is to be used. If the optional side inlet is to be used, the factory installed cap must be removed, and the loose cap supplied with the pump must be installed over the top inlet to prevent foreign objects from falling into the reservoir. Use the clamp from the side inlet to secure the top inlet cap.

**▲ WARNING** DO NOT REMOVE THE SIDE INLET CAP UNLESS THE SIDE INLET IS TO BE USED!

3. Position the pump so that the inlet chosen is close to and below the drain line. The pump **MUST BE LEVEL.**

### 2.2 PLUMBING CONNECTIONS

1. Connect a suitable drain line from the evaporator coil drain to the pump's inlet. Ensure a downward slope of the line in order to provide proper gravity drainage into the pump.
2. Connect the properly sized copper tubing to the discharge port's check valve assembly. Do not run piping higher than 80% of the recommended lift for the pump. For proper drainage of the discharge line, any horizontal run should have a downward slope.

## SECTION 2 - INSTALLATION AND OPERATION

### 2.3 WIRING CONNECTIONS

**⚠ WARNING** DISCONNECT ELECTRICAL POWER AT THE POWER SOURCE (FUSE BOX AND CIRCUIT BREAKER ETC.) BEFORE SERVICING PUMP.

**⚠ CAUTION** THE A5X PUMP SERIES MUST BE SUPPLIED BY A DEDICATED 20 AMP SERVICE AND BREAKER TO HANDLE CURRENT DRAW DURING MOTOR START-UP.

**⚠ CAUTION** ALL WIRING TO THE PUMP MUST CONFORM WITH LOCAL ELECTRICAL CODES. IN AREAS WHERE LOCAL CODES ARE NON-EXISTENT, THE NATIONAL ELECTRICAL CODE APPLIES.

**⚠ CAUTION** MAKE CERTAIN THAT LINE VOLTAGE CORRESPONDS TO VOLTAGE SPECIFIED ON PUMP MOTOR'S NAMEPLATE. FOR PROPER INSTALLATION, CONNECT PUMP ONLY TO A CONSTANT SOURCE OF POWER. CONNECTION TO AN INTERMITTENT POWER SOURCE WILL NOT ALLOW FOR PROPER PUMP OPERATION.

1. Once voltage and power source is verified, connect the green lead to ground, and the two brown leads to either hot or neutral.
2. In the event that electrical compartment connections are removed for pump service, refer to *Figure 1 Wiring Diagram* below or on inside of electrical compartment cover to make proper connections.

**Note:**

*Routing of wires inside pump is CRITICAL. Keep all wires inside the pump's electrical enclosure clear of floats and switch actuation arms.*

**⚠ CAUTION** REPLACE PUMP'S ELECTRICAL COMPARTMENT COVER AND RE-INSTALL SCREWS.

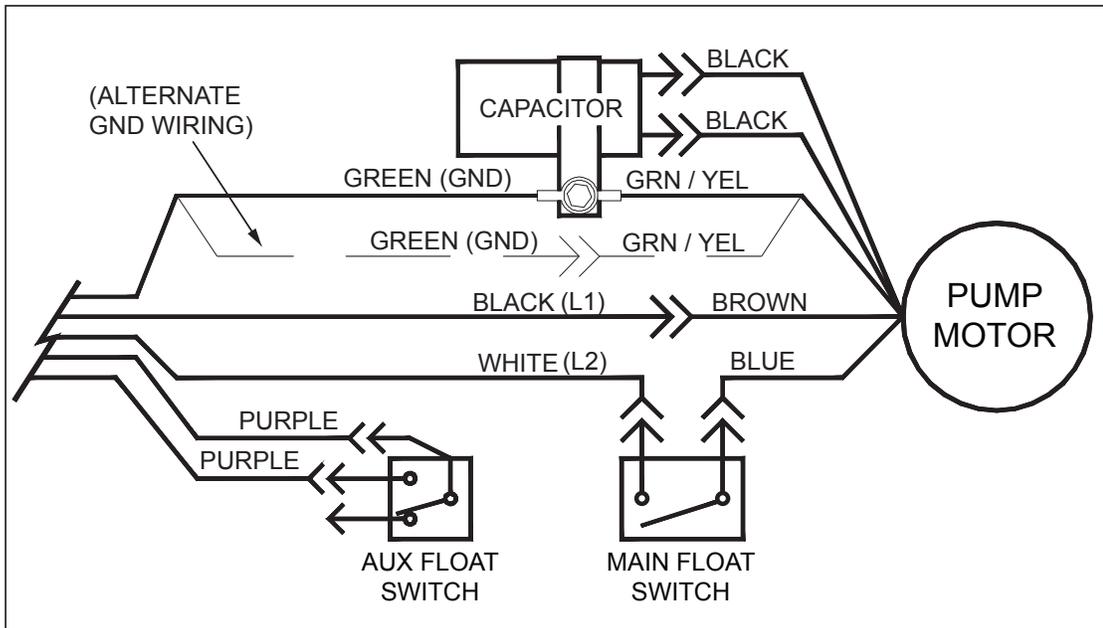


Figure 1. A3X/ A5X Wiring Diagram

## SECTION 2 - INSTALLATION AND OPERATION

### 2.3.1 High Water Level Safety Switch

1. This product is supplied with a factory installed auxiliary safety switch. (See *Figure 2* for its location in pump assembly.) This switch is a passive protective device providing protection from the possibility of pump overflow due to clogged discharge lines or pump malfunction. These switches are wired to work as an alarm trigger, but can be changed to act as a circuit breaker depending on the application requirements.

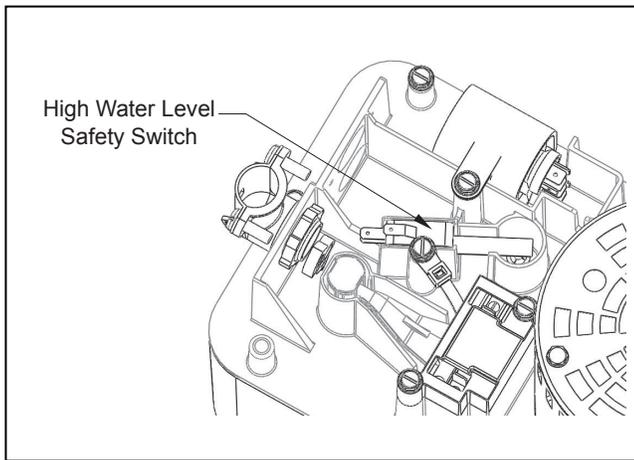


Figure 2

### 2.3.2 AS SUPPLIED - Alarm Function - Normally Open Wiring - (Figure 3)

The auxiliary safety switch is wired in the “normally open” position enabling use as a trigger to close the circuit powering an external alarm system in the event that the water inside the reservoir rises to a level where overflow of the pump is imminent.

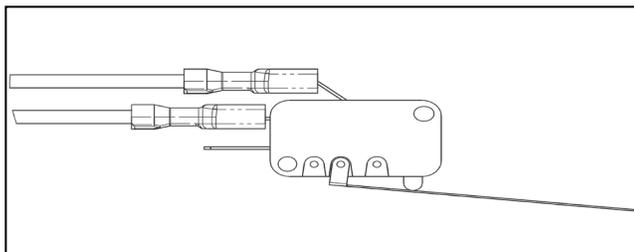


Figure 3

### 2.3.3 OPTIONAL- Circuit Breaker Function - Normally Closed Wiring - (Figure 4)

1. The auxiliary safety switch is wired in the “normally closed” position and can act as a circuit breaker to interrupt power to or disable the appliance or equipment that is producing the condensate. (heater, air conditioner and humidifier etc.)

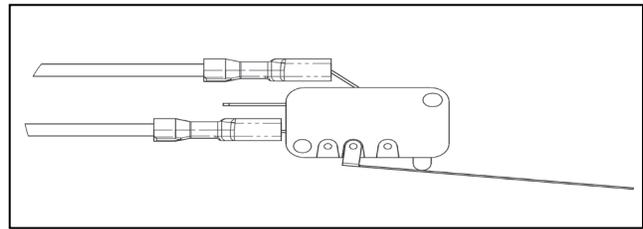


Figure 4

**⚠ CAUTION** THIS OPTION MUST NOT BE USED IF COOLING, HEATING OR HUMIDIFICATION REQUIREMENTS ARE CRITICAL.

2. Turn electrical power to pump ON.

### 2.3.4 Pump Test

Check for proper pump function.

1. Remove the drain line tubing from the pump inlet.
2. Pour water into the pump's inlet until the pump turns on.
3. Pump should evacuate water then turn OFF. It will leave about  $\frac{3}{4}$ " of water in the tank after “pump-out” is complete.
4. Reconnect the drain line tubing to the pump inlet.



## SECTION 2 - INSTALLATION AND OPERATION

### 2.4 OPERATION

When properly installed, the operation of the HARTELL® pump is automatic. Under most circumstances, the pump requires little maintenance for efficient operation. If a problem occurs, check the following items or consult with the firm where the pump was purchased.

**⚠ WARNING** DISCONNECT ELECTRICAL POWER AT THE POWER SOURCE (FUSE BOX AND CIRCUIT BREAKER ETC.) BEFORE SERVICING PUMP.

### 2.5 ITEMS TO CHECK

1. Check inlet and outlet piping for blockage or kinks that would inhibit flow.
2. Make sure floats move freely.
3. Make sure the pump impeller casing is not clogged.
4. Make sure the check valve is not clogged.

Keep this sheet with the pump. It may be valuable if service is needed under the terms of the warranty.

Model # : \_\_\_\_\_  
Installer : \_\_\_\_\_  
Pump Label Date Code : \_\_\_\_\_  
Date of Installation : \_\_\_\_\_