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# A2-X-1965 DV



Plenum Rated\* - Dual Voltage Capable  
Commercial Grade Condensate Removal Pump



E51541

## INSTALLATION, OPERATION & MAINTENANCE

### INTRODUCTION

HARTELL condensate pumps are designed to collect and automatically remove the water produced by an air conditioner evaporative coil and/or a gas-condensing furnace. This pump has been carefully engineered to provide long, trouble free service and is of the highest quality workmanship and materials.

These pumps have been thoroughly inspected and tested, then carefully packaged to insure safe delivery and operation. When you receive your pump, examine it carefully to determine that there are no damaged or broken parts. If damage is detected, notify the firm from where the pump was purchased. They will assist with a repair or replacement.

See the precautions listed below before continuing.

#### CAUTION: READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION

- Pump should only be used with liquids compatible with pump component materials. Do not use to pump flammable or explosive fluids. Do not use in explosive atmospheres.
- In any installation where property damage and/or personal injury might result from an inoperative or leaking pump due to power outages, discharge line blockage, or any other reason, a back up system(s) (aux. switch and/or alarm) should be used.
- Do not handle pump with wet hands or when standing on a wet or damp surface, or in water.
- Shut off the electrical power at the fuse box before making any connections. All wiring must comply with local codes.

#### ONE YEAR LIMITED WARRANTY

HARTELL'S A2-X-1965 DV series condensate pump is guaranteed to be free from defects in workmanship or materials and to function satisfactorily, when properly installed, for a period of ONE (1) year from date of installation. See our website for additional warranty information.

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 the use of its products.

## INSTALLATION

Carefully unpack the pump. Choose a location for its installation keeping in mind that the pump must be level and its inlet must be below the lowest drain, either coil or furnace. Remove and discard the tagged shipping screw that is located on the end of the switch cover box. This releases the float for fully automatic operation.

**PIPING**—Run pipe from the evaporator and furnace to the pump. Insert the pipe into the drain inlet hole. Make sure the pipe does not interfere with the float. Cut an angle on the inlet pipe so that it will not close off against the bottom of the pump's tank bottom.

Connect 3/8" NPT piping to the discharge port. Extend this piping straight up as high as necessary. (Do not extend past the head/GPH of the pump installed). From this high point, slope the discharge piping downward to a point above the drain, then turn down and extend to a point below or level with the bottom of the condensate pump. If it is not possible to slope the discharge piping downwards, make an inverted "U" trap directly above the pump at the highest point. A check valve is required and should be of a soft seat swing check design. A spring loaded ball check is permissible if the lift is one half of the pump shut off level and the spring pressure is equal to, or less than one (1) psi.

**ELECTRICAL CONNECTIONS**— Review precautions on previous page before proceeding!

**LINE VOLTAGE**—Connect only to a source of constant power, not an intermittent source such as a fan or limit control circuit. Connect the black and white wires to the appropriate voltage source and the green wire to ground.

The A2-X-1965 DV is equipped with a **LOW VOLTAGE—AUXILIARY SAFETY SWITCH**—Connect the leads of the auxiliary safety switch to the thermostat control circuit of the air conditioner/furnace. This will disrupt the thermostat demand in a high water condition. (Figure 1)

**CAUTION** —Thermostat demand disruption should not be utilized if cooling or heating requirements are a necessity. An alarm system should be used with the auxiliary switch instead.

**A2-X-1965 DV WIRING FOR DUAL VOLTAGE**—The A2-X-1965 DV Condensate pump is wired for 115 VAC from the manufacturer. To operate at 230 VAC, the wiring must be changed in the field. *NOTE: Read the entire procedure and familiarize yourself with Figures 2a, 2b & 3 before starting any wire modification!*

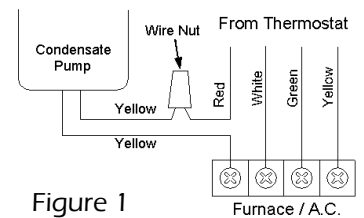
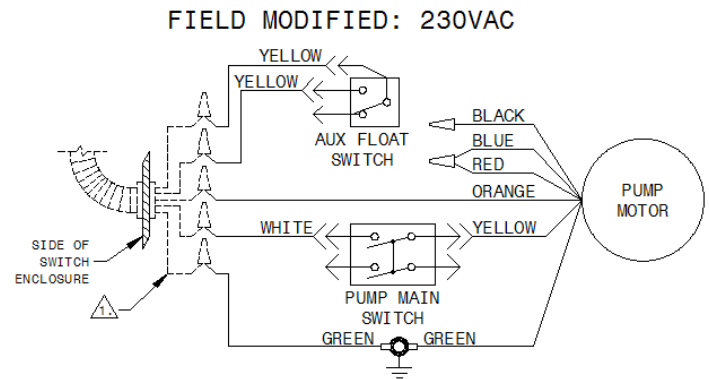
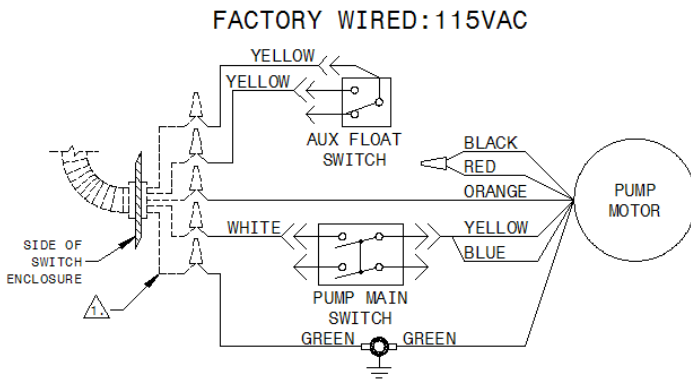


Figure 1

Figure 2a

A2-X-1965 DV WIRING DIAGRAMS

Figure 2b



HIDDEN LINES INDICATE INSTALLER-SUPPLIED, CODE COMPLIANT FLEXIBLE METAL CONDUIT, FITTING, WIRING AND TERMINATIONS

**To connect to 115 VAC power supply, wire as follows. (Figure 2a)**

1. Remove the switch enclosure cover plate from the switch enclosure.
2. Install a metal conduit fitting thru the side hole of the switch enclosure and feed the power supply wires and thermostat control leads (optional) thru flexible metal conduit, and into the enclosure.
3. Connect the orange and white wire to the power supply lines.
4. Connect the green (ground) wire to the ground source.
5. Connect the yellow auxiliary wires as previously described to the thermostat control circuit leads.
6. Replace the switch enclosure cover plate.

**To connect to 230 VAC power supply, wire as follows. (Figures 2b & 3)**

1. Remove the switch enclosure cover plate, and then remove the switch enclosure to expose the switches and their wiring.
2. Remove the blue/yellow motor wire connector from the pump main switch.

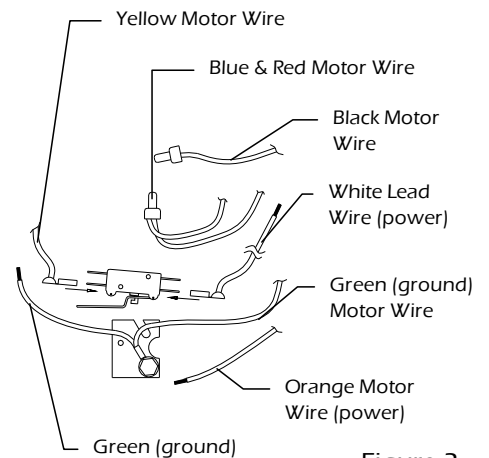


Figure 3

3. Cut the female connector from the blue/yellow motor wires.
4. Cut the wire connector from the black/red motor wires.
5. Strip the yellow motor wire and install a 1/4 in. female connector.
6. Connect the yellow motor wire to the pump main switch as shown.
7. Strip the red and blue motor wires and connect together with a wire nut.
8. Strip the black motor wire and add a wire nut to insulate.
9. Replace the switch enclosure ensuring all wires are routed clear of switch actuators and accessible through the switch enclosure cover plate.
10. Install a metal conduit fitting thru the side hole of the switch enclosure and feed the power supply wires and thermostat control leads (optional) thru flexible metal conduit, and into the enclosure.
11. Connect the orange and white wires to the 230 volt power supply lines.
12. Connect the green (ground) wire to the ground source.
13. Connect the yellow auxiliary wires as previously described to the thermostat control circuit leads.
14. Replace the switch enclosure cover plate.

## OPERATION

After proper installation, the operation of the HARTELL condensate pump is automatic. Water is collected in the reservoir and pumped out when the float raises to a pre-set point. As the water level goes down the float turns off the motor at another pre-set point. Under most circumstances the pump requires little maintenance for efficient operation. If a problem occurs, please refer to the maintenance instructions below.

## MAINTENANCE

Visually inspect this pump seasonally to ensure there is no buildup of any kind inside the unit. It is also recommended that the motor bearings be oiled every six months with S.A.E. 20. If any problems develop, or a build-up is seen during visual inspection, the following guidelines can help to return the pump to service.

### PUMP DOES NOT RUN

- Check to see that the power to the system (air conditioner and/or furnace) is on to allow production of condensate.
- Check that the pump is properly wired, and that the circuit is active (i.e. fuse or breaker not blown).
- Check the level of water in the reservoir; the level must be within 2" of the reservoir top to activate the switch. (The inlet piping may be blocked and require cleaning if no water is entering the reservoir).
- If there is a proper amount of water in the reservoir, the float may be stuck due to dirt or algae formation. (Flush the reservoir with warm water and a mild soap or detergent). See note below.

### PUMP MOTOR RUNS WITH NO DISCHARGE

- Inspect the discharge piping for its full length to make sure it is clear; make sure the pipe end is not plugged.
- Make sure the check valve is not clogged. (If clogged, DISCONNECT POWER TO THE PUMP, remove the fitting and clean with mild soap or detergent). See note below.
- The discharge port of the impeller chamber may be clogged due to an accumulation of debris. (See instructions below on how to disassemble unit and clean chamber).

NOTE: In case of extreme algae formation, DISCONNECT POWER TO THE PUMP, and fill the reservoir with a commercially available algaecide. Follow directions for destroying the algae. After the proper waiting period DUMP the algaecide out of the reservoir. Rinse with water, repeat if necessary. Be careful not to clog the check valve when starting the pump after this thorough cleaning.

### DISASSEMBLY

1. Turn off power supply at fuse box and then drain water from reservoir.
2. Remove the four switch plate screws and carefully remove the switch/float assembly from the reservoir.
3. Remove the three impeller cover plate screws and loosen impeller cover plate.
4. Remove the four reservoir cover plate screws and remove the motor/cover assembly.
5. Remove all debris from inside the reservoir and wipe with damp cloth.

### REASSEMBLY

Apply a small amount of gasket sealer (e.g., Silicone, Permatex, etc.) around the impeller chamber and reassemble by reversing the above procedure. Restore power to the unit and check operation.

\*Hartell's Model A2-X-1965 DV was tested by UL, and yielded results that fell within the acceptance criteria of UL Standard 2043, Third Edition, "Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces."

Keep these instructions with the pump. They may be valuable if service is needed under the terms of the warranty.

Model # \_\_\_\_\_  
 Date of Installation: \_\_\_\_\_  
 Installer: \_\_\_\_\_

Date Code: \_\_\_\_\_  
 Dealer: \_\_\_\_\_