

KTP15 KTP20



I N S T A L L A T I O N
O P E R A T I O N
M A I N T E N A N C E



Hartell Pumps
Division of Milton Roy Co.

HARTELL POWERFLOW SERIES AUTOMATIC CONDENSATE REMOVAL PUMPS

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INTRODUCTION

HARTELL condensate pumps are designed to collect and automatically remove the water produced from 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.
- The pump is supplied with a grounding type plug. To reduce the risk of electrical shock be certain that it is connected to a properly grounded, grounding receptacle.
- 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.

LIMITED WARRANTY

Hartell Powerflow series condensate pumps are warranted to be free from manufacturing defects, for a period of 18 months from the date of installation, or 20 months the date of manufacture. Hartell will repair, or replace any Powerflow pump determined to be defective by the factory or an authorized representative. End users should contact the installing contractor for all warranty claims, installing contractors should return the pump to the place of original purchase with dated sales receipt. Wholesalers should contact their Hartell sales representative, or the factory to process any warranty claim. Hartell shall not be held liable for resultant damages caused by products that have failed. The installing contractor must consider the safeguards necessary to protect the surrounding areas from possible water damage should the pump or piping system fail. Warranty will be voided if the product has been subject to abuse, tampering, altering, negligence, improper installation, or mis-application.

INSTALLATION

1. Place pump in a location convenient to the appliance drain line.
2. Pump may be mounted level to ensure proper operation. Attach directly to air conditioning unit, furnace, wall, or placed on the floor. Use the provided template for locating screw.
3. For ease of installation, the pump reservoir can be easily removed from the pump. The pump lid can then be rotated 180 degrees to orient the location of the cord and discharge line to opposite ends.
4. Connect the condensate drain into one of the four top inlets, using flexible tubing or PVC pipe; OR hard plumb directly into the bottom of the pump using the optional bottom inlet.
5. Make sure that the inlet tubing is fastened securely so that it cannot come out of the pump intake port.
6. Connect discharge tubing to the pump, run tubing from pump to desired drain location. Pump discharge check valve is made for use with 3/8" ID plastic tubing.
7. Press tubing on discharge check valve and clamp tight with a 1/2" hose clamp.
8. Run tubing to necessary height, making sure that the height does not exceed the pumps maximum lift (15'KTP-15, 19' KTP-20).
9. From maximum height slope tubing slightly downwards and/or make an inverted "U" trap at the highest point, creating a siphon to maximize pump performance. (Figure 1)
10. Condensate can be drained out a window, along the air conditioner freon line to outdoors, to a french drain or floor drain, sump pit, or to a laundry tub or sink. (Leave an air gap between the end of the discharge tube and drain).
11. Comply with all local codes for discharge water requirements.

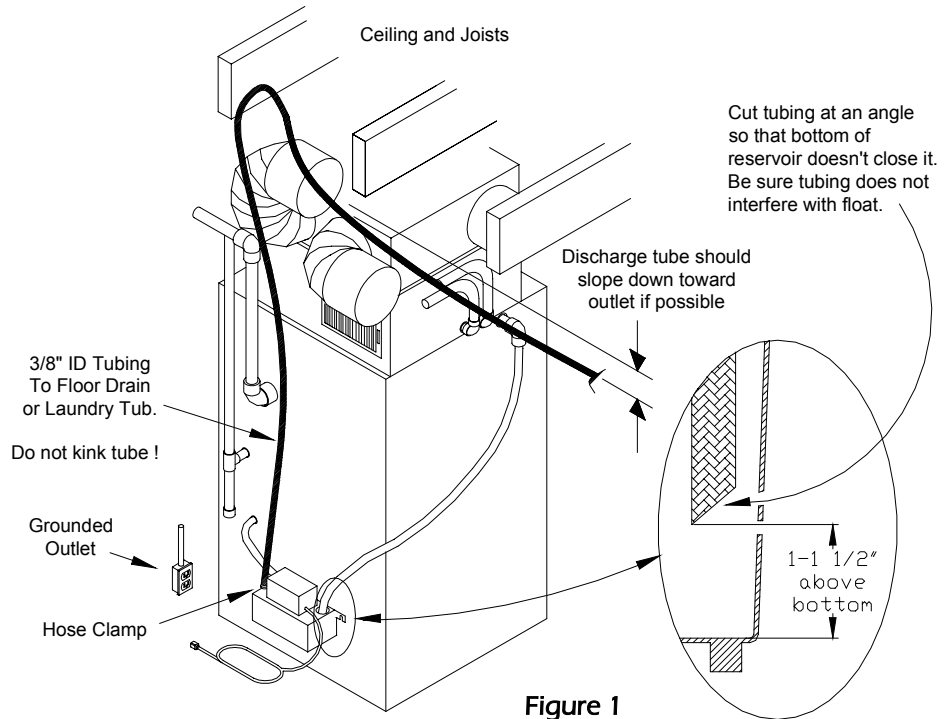


Figure 1

Up to three (3) top alternate inlets can be used

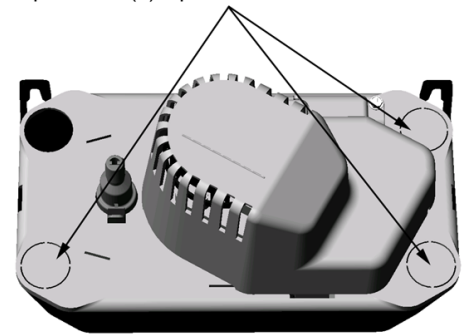


Figure 2

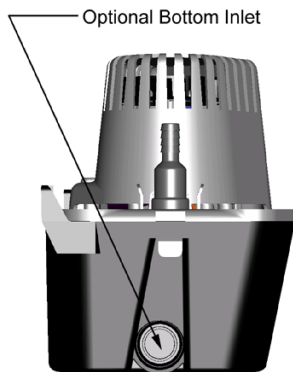


Figure 3

Optional Bottom Inlet Instructions: (This step is for convenience only) (Figure 3)
Place the pump on a flat surface. Use a flat screw driver to knock out additional ports as needed. There are three other inlet ports on the lid and one on the lower side. The bottom inlet needs to be hard plumbed. This is done by applying PVC cement to the bottom inlet an inserting 3/4" PVC piping.

CONNECTION OF AUXILIARY SAFETY SWITCH—MODELS KTP-15X, KTP-20X are equipped with an auxiliary safety switch which can be wired to shut down the AC/furnace and prevent pump overflow if the drain line becomes blocked, or the pump fail. The switch can also be wired as an alarm switch for installations that do not allow interruption of heating or cooling.

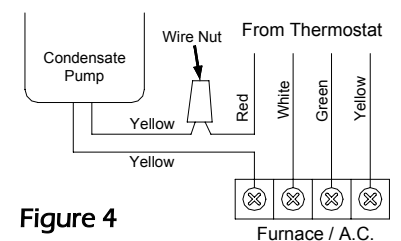


Figure 4

To Wire as a Shut-off switch: (Figure 4)

1. Disconnect power to the AC/furnace and unplug condensate pump before connecting the safety switch.
2. Disconnect the "Red" wire from the AC/furnace bundle coming from the thermostat.
3. Connect the red wire to one of the two yellow wire leads coming off the condensate pump, using a wire nut.
4. Connect the other yellow wire lead from the condensate pump to the red terminal on the AC/Furnace block.
5. If additional wire is needed to connect the pump to the thermostat line, use minimum 18AWG copper wire, rated at 105 degrees C. Comply with all local wiring codes.

To wire as an alarm switch: (Figure 5)

1. Unplug the condensate pump from power source
2. Use a screwdriver release the latch in the pump top cover.
3. Remove the safety switch (connected with two yellow lead wires)
4. Remove the yellow lead from the bottom (normally closed) terminal and replace it on the middle (normally open "NO") terminal.
5. Snap the switch back into place
6. Replace the top cover, making sure the latch locks the lid in place.
7. Connect the yellow leads from the pump safety switch to alarm device. Follow alarm manufacturers instructions to correctly wire the alarm.

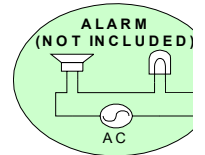
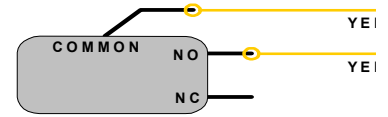
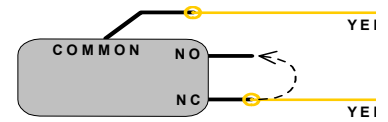


Figure 5

WARNING This installation will set off an alarm if the water level in the pump approaches an overflow condition. Wiring the safety switch as an alarm switch *will not shut down the appliance and stop the flow of condensate into the pump*. The alarm device must be monitored so that corrective action can be taken before flooding occurs.

TESTING

Testing the Pump

1. Make sure the pump is plugged in to a properly grounded receptacle.
2. With the discharge line connected, fill the pump reservoir with water until the pump starts. Allow the pump to discharge the water and shut itself off automatically to verify proper operation of one complete cycle.

Testing the Safety Switch

1. The air conditioner or furnace needs to be running to test the safety switch.
2. Unplug the condensate pump so that it cannot pump out water.
3. Pour water into the pump reservoir until it is almost full.
4. As the water level rises in the reservoir, the safety switch will engage and shut off the appliance **OR** sound the connected alarm if connected.
5. Plug in the condensate pump and allow it to empty the reservoir. As the water level decreases the safety switch should reset, allowing the appliance to restart, or shutting off the alarm. **NOTE:** Some appliances may not re-start immediately due to a built-in delay circuit that prevents rapid cycling of the compressor.

MAINTENANCE

Unplug the pump and clean out the reservoir at the beginning and end of each heating or air conditioning season. Using either soap and water or a mixture of one cup of household bleach to 1 gallon of water, and cycle the pump several times. Pumps with heavy algae build-up should consider installing Hartell's AL-G-Gator, algae prevention system on the condensate drain line. Remove any remaining bleach and rinse the reservoir with water. Make sure that the pump chamber is sealed, and that unit is properly re-assembled (see below).

Impeller Access Instructions:

1. Disconnect power to furnace/AC unit. Unplug the pump. Disconnect the tubing; drain the pump.
2. Hold the pump with both hands and squeeze the snaps on the ends with your thumbs to release the lid. Remove top portion of pump. (Figure 6)
3. Flip the lid and remove the screws. Then squeeze the opposing snaps on the bottom of the pump chamber between thumb and index fingers. Start at the large diameter. Once opposing snaps release. Rotate impeller cover about remaining snap to remove the cover. (Figure 5)
4. Remove the O-ring from the pumping chamber and keep it clean.
5. Remove debris from the reservoir. Spin the impeller by hand to be sure it is not stuck or clogged.
6. Check O-ring for wear, fretting and cracking. Replace as needed.
7. Clean the O-ring. It is Teflon coated so lubrication is not necessary.
8. Stretch the O-ring around the pumping chamber inside the snaps. (Figure 7)
9. Align the impeller cover with the pumping chamber and press down until the cover snaps in place and reattach the screws.
10. Align the upper portion of the pump with the tank and press down until the snaps lock.
11. Test the pump using the above procedure.

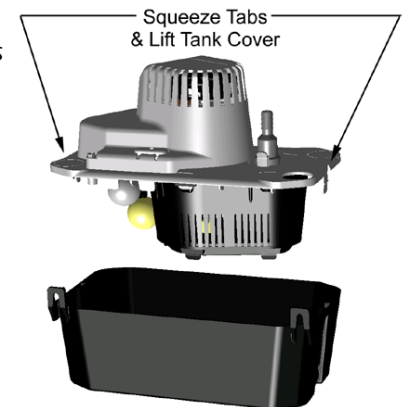


Figure 6

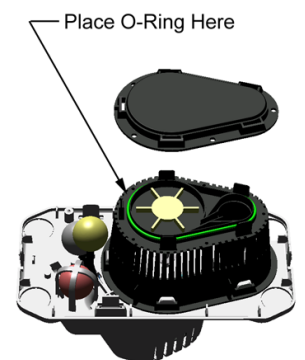


Figure 7

Check Valve Access Instructions:

1. Disconnect power to furnace/AC unit. Unplug the pump. Disconnect the tubing; drain the pump.
2. Place the pump on a flat surface. Squeeze the tabs on either side on the check valve to release it. The check valve contains a small duckbill. Be careful not to lose it when pulling of the valve. (Figure 8)
3. Check for dirt/ algae build up. The duckbill in the valve should be free to open and close. Clear obstructions or replace as needed.
4. Place the new or cleaned duckbill over the discharge hole.
5. Press down on the check valve fitting until it locks in place.
6. Test the pump using the above procedure.

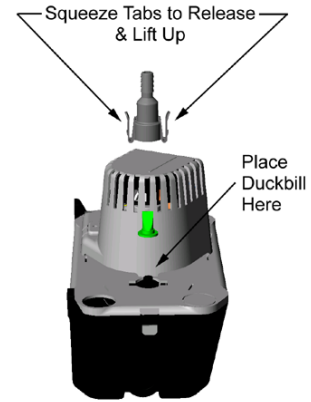


Figure 8

Removing the motor/switch cover:

1. Disconnect power to furnace/AC unit. Unplug the pump. Disconnect the tubing; drain the pump.
2. Place the pump on a flat surface. Remove the Phillips screw on upper cover next to power cord.
3. Insert a flat screwdriver into slot opposite power cord. Using the screwdriver squeeze the snap on the upper cover releasing it. (Figure 9)
4. Next pivot the cover about the area at the cord and pull up to release.

Remove Screw
Release Oposite Tab with Screwdriver
Lift Up Cover

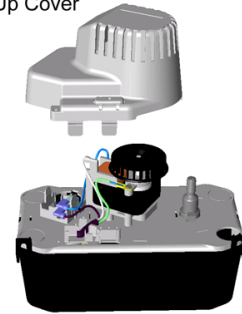


Figure 9

Attach the motor/switch cover:

1. Align cover with pump. Insert tabs into slots at cord area. Keep the cover at a ten degree angle to the pump.
2. Pivot cover about cord area and press down until the cover snaps in place.
3. Reattach screw at the cord.

Keep these sheets 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: _____

