

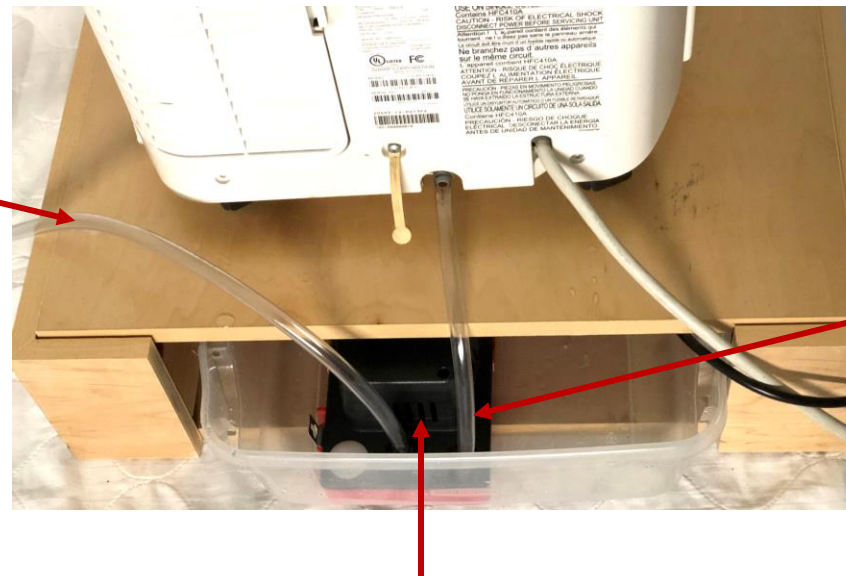
Water Pump Overview



If collection and disposal of PAC condensation becomes a problem, a Water Pump can be used to automatically pump the water out to a drain. The total cost of parts for this project is estimated at \$65-\$70 (shipping and sales tax is not included in this cost estimate).

The Pump Output Hose is used to carry PAC water to a suitable drainage area.

The Pump Output Hose can be as long as necessary and positioned up to 22 feet above the pump.



PAC water drains directly into the Water Pump tank.

The Water Pump motor automatically starts at 66% full and stops at 15% full.

Water Pump

The next 4 slides provide a step-by-step procedure for reviewing, buying and installing the Water Pump under a PAC Platform.

Water Pump

Step 1 - Review Water Pump Design

The CP-22LP (manufactured by Diversitech) is recommended for the Water Pump.

The CP-22LP has an internal tank to collect water from the PAC and pump it out to a remote drain. Users can select any one of 4 Input Ports to receive the water, the other 3 ports can be covered with white caps provided with the unit.

The flow rate of the pump is 1.6 gallons/min, typically well above the rate in which a PAC can generate water while operating.

CP22LP Key Specifications

Flow Rate: 1.6 gallons/minute

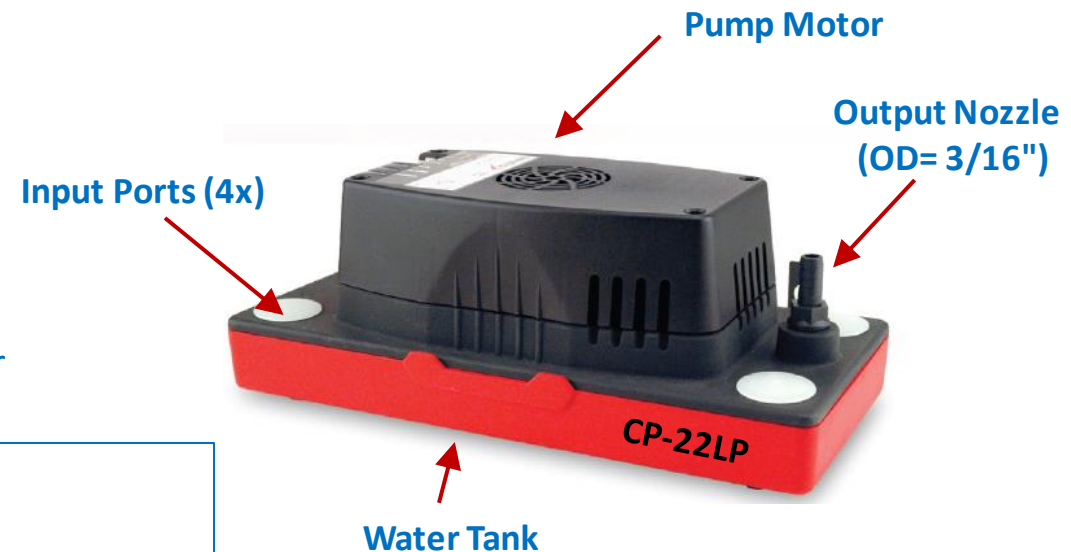
Dimensions: W=4.6 x L=12 x H=4.8 inches

Weight: 4.7 lbs

Tank Capacity: 3/8 gallon

Check Valve Dia: 3/8 (max)

Input Power: 120 VAC @ 1.9 amps (60 Hz)



Water Pump

Step 2 - Review Overflow Protection

The CP-22LP comes with an internal safety switch connected to two external terminals: RUN and COM. During normal operation, the switch is ON creating a connection between RUN and COM. In the event of an overflow condition, the switch turns OFF, breaking the connection between RUN and COM.

RUN and COM can be connected to an external alarm system or to the emergency shutoff system included with many PAC products. The emergency shutoff system will stop the flow of water coming out of the PAC in order to prevent water damage.

If your PAC does not provide external terminals for its emergency shutoff system, another option can be considered. Check out [SlideDeck 1D](#) for instructions on how to build and install an Emergency Shutoff Valve for the PAC Drain Hose.



LED INDICATORS

Power: Power ON, pump ready

Alarm: Overflow condition (tank is over 77% full)

Run: Pump is running

POWER CORD (6 ft)

The power cord can be connected to a standard 120 VAC outlet. The same pump with a 220 VAC power input is available under a different part number (CP-22LP-230).

Water Pump

Step 3 - Buy The Parts

Water Pump Parts List				
Item	Project Part Name	Description	Buy QTY	Suggested Supplier Links
1	Water Pump	CP-22LP Condensate pump	1	Pump
2	Pump Output Hose*	Plastic hose, 10' long, ID=3/16"	1	Hose

* Before buying item 2, measure the distance between the Water Pump and your drain:

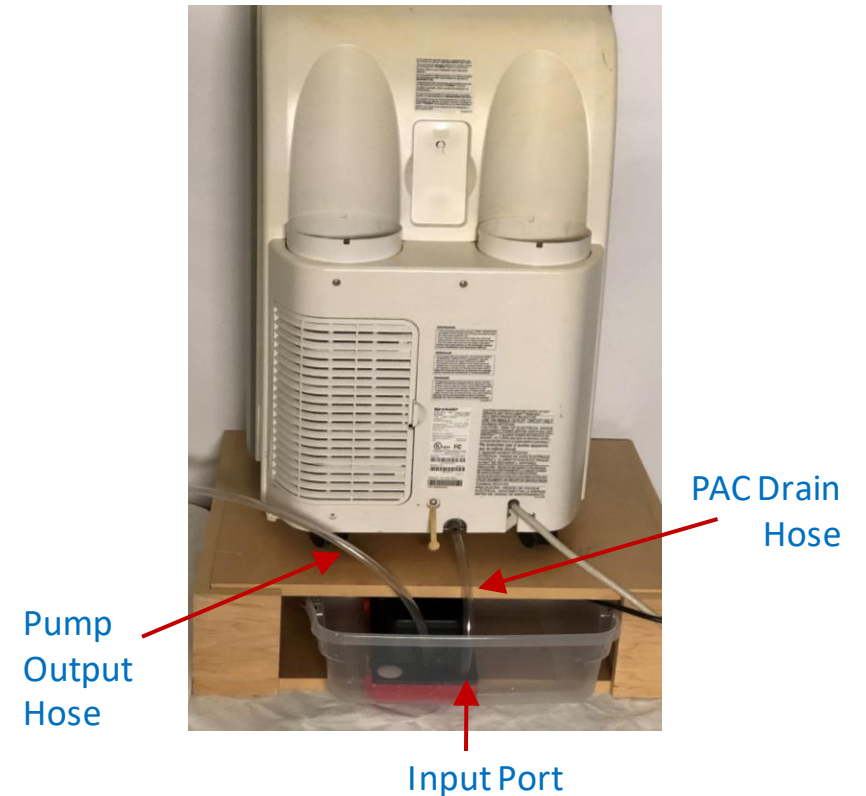
- If it's longer than 10 feet, you'll need to select the appropriate length from choices provided by the hose supplier. Make sure to select a hose with an Inside Diameter (ID) of 3/16" in order to match the Outside Diameter (OD) of the Water Pump nozzle.
- If it's 9 feet or less, you can use the remaining 9 feet of hose purchased for the PAC Platform project (i.e. only 1 foot of a 10 foot hose was needed for the PAC Drain Hose).

Water Pump



Step 4 - Install The Water Pump

- Place the Water Pump in the Water Tank and connect the PAC Drain Hose and Pump Output Hose as shown. Connect the Water Pump power cord to a 120 VAC outlet.
- Route the loose end of the Pump Output Hose to a location where water can freely run out of the hose. Some examples include; bathtub, window, floor drain, street, sink and yard (e.g. you can water the plants). The length of the hose has minimal effect on water flow. However, the vertical level of the hose, at its highest point with respect to the Water Pump, must be less than 22 feet in order to maintain reliable operation.
- Monitor water flow to ensure the water is properly collected and pumped out to the drain. Make sure there are no kinks in the hose and the output drain location can accept a continuous stream of water.
- The Water Tank will help keep the pump area dry by capturing small amounts water and humidity created during normal operation. However, there is a possibility that the Water Tank could overflow if something goes wrong (e.g. power failure, kinked hose, plugged drain, equipment malfunction).



If you are concerned about the possibility of overflow, you can connect the Water Pump RUN/COM outputs to your PAC emergency shutoff system as described on Slide 3. If your PAC does not support this option, you can build your own Emergency Shutoff Valve by following the instructions shown in [SlideDeck 1D](#).