

ADIRONDACK ▲ AIRE

Cold Point Corporation, Rome, New York 13440 Phone (315)339-2331 Fax (315)339-2358 Web: www.COLDPOINTCORP.com



Horizontal Water Source Unit Installation Operation and Maintenance



Description and Application.....	1,2	Startup.....	5,6
Unpacking, Transportation and Storage.....	2,3	Maintenance.....	6-8
Unit Location and Mounting.....	3	Factory Contact and Assistance Information.....	8
Application Limits.....	3	In-Warranty Return Materials.....	9
Installation Procedures.....	3-5	Troubleshooting.....	10

Thank You for choosing *Adirondack-Aire* products by COLD POINT. Our goal is to make sure you remain pleased with your decision to purchase *Adirondack-Aire* products. If you are in need of assistance that is not available or provided by your local installer/contractor feel free to give us a call, write us, Fax, or e-mail us at:

COLD POINT CORP.
7500 Cold Point Dr.
Rome, NY 13440
Phone:315.339.2331
Fax: 315.339.2358
e-mail: info@adirondackaire.com

Product Descriptions and Application:

Model HLP Water Source Heat Pump:

The 'HLP' horizontal water source heat pumps are, ceiling mounted, decentralized units containing a complete refrigeration circuit and air circulation blower along with a reversing valve equipping the unit to provide heating or cooling to any zone at any time. The 'HLP' series features a very low profile for tight fit ceiling spaces.

The 'HLP' is generally mounted above the drop ceiling and delivers conditioned air through ducts

connected to the supply side of the unit. The return air may be free return or return air duct connected. A system consists of 'HLP' heat pumps that are field connected to a simple two pipe, closed loop, supply and return water circuit and a condensate drain.

INSTALLER - GENERAL INFORMATION:

We have designed and manufactured this unit to be safe and trouble free. As the installer of this unit, you play a major role in assuring it's intended performance and customer satisfaction. The important information provided here will help you install the unit correctly and eliminate callbacks.

ATTENTION:

Please read these instructions carefully and completely before attempting installation. Unit should be installed by qualified service personnel only. To prevent personal injury and/or death, ensure that all power is disconnected before servicing.

**"USE ON SINGLE OUTLET
CIRCUIT ONLY."**

**"CAUTION"
RISK OF ELECTRICAL SHOCK.
DISCONNECT POWER BEFORE
SERVICING UNIT.**

**"CAUTION"
MOVING PARTS. DO NOT
OPERATE UNIT WITH
SERVICE PANEL REMOVED**

CAUTION!!

CONTAINS REFRIGERANT. SYSTEM CONTAINS OIL AND REFRIGERANT UNDER HIGH PRESSURE. RECOVER REFRIGERANT TO RELIEVE PRESSURE BEFORE OPENING THE SYSTEM. FAILURE TO FOLLOW PROPER PROCEDURES CAN RESULT IN PERSONAL ILLNESS OR INJURY OR SEVERE DAMAGE TO EQUIPMENT.

CONDENSATE OUTLET

**Filter MUST be
cleaned periodically
for parts warranty
to be in effect**

WATER IN

**USE COPPER
SUPPLY WIRES**

IMPORTANT! Alterations and replacement parts: Altering the product or replacing parts with non authorized factory parts will void the factory warranty and may result in adverse operational performance and/or a possible hazardous safety condition to service personnel and occupants. If you are in doubt as to how to service this unit or where to find factory replacement parts, call *Adirondack-Aire* at 315.339.2331 for assistance

These instructions give information relative to *Adirondack-Aire* 'HLP' water source heat pump units. Local codes, if different from these instructions, must be followed and supplement or supersede these instructions. Mounting hardware, water connection adapters, drain fittings, etc. are not provided with the new unit and are to be field supplied.

UNPACKING AND INSPECTION:

Upon receipt, CHECK FOR VISIBLE DAMAGE. Make a notation on the shipper's delivery ticket BEFORE SIGNING. If there is any evidence of rough handling, immediately check for concealed damage. If any damage is found, notify the carrier within 48 hours to establish your claim and request their inspection and a report. Do not file claims with COLD POINT. Ownership of the material is transferred from COLD POINT upon pickup by the carrier. COLD POINT cannot accept shipping damage claims.

TRANSPORTATION AND STORAGE:

DO NOT stand or transport the machines on end.

In the event that elevator transfer makes upended positioning unavoidable, absolutely ensure that the machine is in the normal upright position for at least 24 hours before first operation.

These units are intended for indoor use only. To protect the unit from damage due to the elements and prevent it from possibly becoming a contaminant source for IAQ problems, the unit should be stored indoors. If indoors storage is not possible, the following provisions must be met:

- 1). Place the unit on a dry surface or raise off the ground to assure adequate air circulation beneath the unit and to assure that no portion of the unit contact standing water at any time.
- 2). Cover the unit with a water repellent tarp to protect them from the elements.
- 3). Make provisions for continuous venting of the covered unit to prevent moisture from condensing on the unit surfaces.

Power Supply Application Limits:

The performance and life of the new unit depends on supply voltage and temperatures that are maintained within proper limits.

Rated Voltage	Min. Volts	Max Volts
208	197	253
230	197	253
265	239	292
277	239	292
460	414	506

Temperature and Flow:

OPERATING LIMITS

	COOLING	HEATING	COLD START
Min. Ambient Air	65	60	40
Min. EWT	60	60	--
Max. Ambient Air	95/78	85	--
Max. EWT	100	95	80
GPM/TON	Normal= 3.0		Max= 4.2 Min= 1.5

Unit Location and Access:

Locate the unit in an area that allows easy removal of the access panels, and has enough space for service personnel to perform maintenance or repair. Provide sufficient room to make water, electrical and duct connections. If the unit is located in a confined space, provisions must be made for return air to freely enter the space.

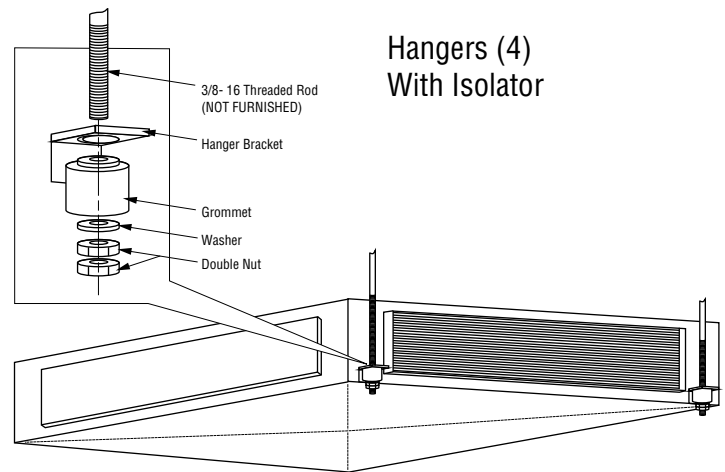
Allow adequate room below the unit for a condensate drain trap and do not locate the unit above pipes.

Mounting 'HLP' Horizontal Unit:

Type 'HLP' conditioners are normally hung from a ceiling, bar joist, or a floor slab above by four all-threaded rods. Each conditioner comes with a combination hanger bracket vibration isolator assembly. All the installer has to furnish are the threaded rods of the length required and the nuts and washers. The hangers are field installed. The hanger kits are packed with the unit and are designed for 3/8" threaded rod (field supplied).

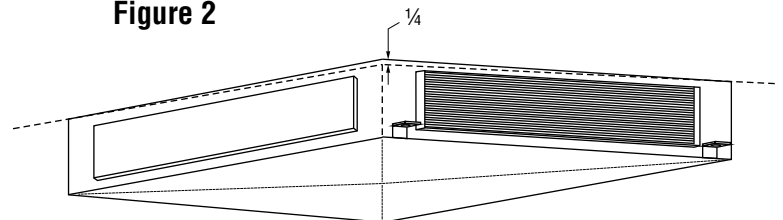
When attaching the hanger rods to the brackets, a double nut is recommended since vibration could loosen a single nut. Refer to Figure 1.

Figure 1



The unit should be pitched approximately 1/4" towards the drain in both directions, to facilitate condensate removal. See Figure 2.

Figure 2



Ductwork and Sound Attention:

Discharge ductwork is normally used with these conditioners. Return air ductwork may also be required.

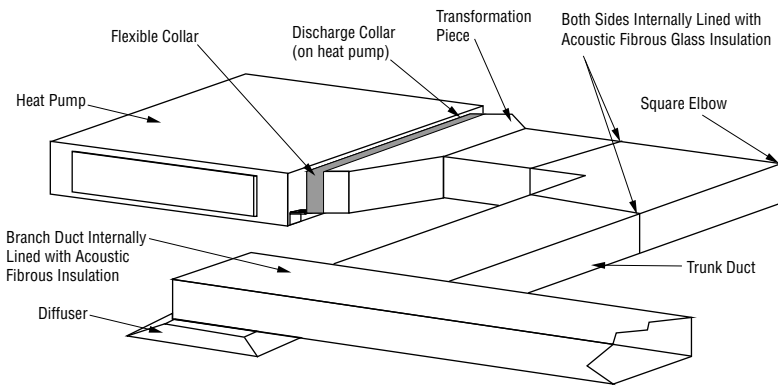
All ductwork should conform to industry standards of good practice as described in ASHRAE Systems Guide.

The discharge duct system will normally be comprised of a flexible connector at the unit, a transformation piece to the full duct size, a short run or duct, an elbow without vanes, and a trunk duct tee'ing into a branch duct with discharge diffusers, as shown in Figure 3. With metal duct material, the sides only of the elbow and the entire branch duct should be internally lined with acoustic fibrous insulation for sound attenuation. Glass fiber duct board material is more absorbing, and may permit omission of the flexible connector.

The ductwork should be laid out so that there is no line-of-sight between the conditioner discharge and the distribution diffusers.

For type 'HLP' units, an attenuator box is sometimes used at the return air inlet to attenuate line-of-sight sound transmission through return air openings.

Figure 3 Suggested Duct Layout For Multiple Diffuser Application



Ventilation Air:

Five to 20 percent outside air may be required for ventilation. The temperature of the ventilation air must be controlled so that mixture of outside air and return air entering the conditioners does not exceed conditioner application limits. It is also general practice to close off the ventilation air system during unoccupied periods (night setback).

The ventilation air system is generally a separate building sub-system with distribution ductwork. The simple introduction of the outside air into each return air plenum chamber reasonably close to the conditioner air inlet is not only adequate, but recommended. Do not duct outside air directly to the conditioner inlet. Provide sufficient distance for thorough mixing of outside air and return air.

Water Piping:

The performance and reliability of the new *Adirondack-Aire* unit depends on proper water flow rate and water quality. Inadequate water flow rate and/or poor water quality or contamination will result in poor performance and may shorten unit life. Failure to provide adequate flow and properly maintained water quality may void the new unit Limited Warranty.

Waterlines must be installed in accordance with local and national codes. Care must be taken by the installing contractor to prevent dirt or foreign matter from entering the pipes or piping components during construction/ installation.

The water lines should be routed so as not to interfere with access to the unit. The use of a 2 or 3 foot flexible hose with a swivel type fitting may simplify the connections and prevent vibration. It is recommended, at minimum, that a combination balancing and close-off (ball) valve be installed at the return and a gate or ball valve be installed at the supply. The return valve can be adjusted to obtain the proper water flow. Optional automatic flow control valves may also be used. Each unit is equipped with FPT fittings for the water supply and return lines. When making the water connections to the unit, a Teflon tape thread sealant is recommended to minimize internal fouling of the piping. Support the fittings at the unit with a wrench. DO NOT over tighten connections. The water lines should be routed not to interfere with access to the unit.

Before piping is completed, the supply and return run-outs must be connected together and flushed to remove dirt, piping chips and other foreign material from the system. See Figure 4.

The condensate line must be trapped a minimum of 1 1/2" as shown in Figure 5. The condensate line should also be pitched away from the unit a minimum of 1/8" per foot.

Figure 4

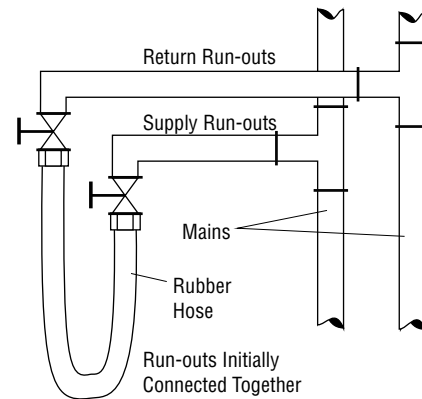
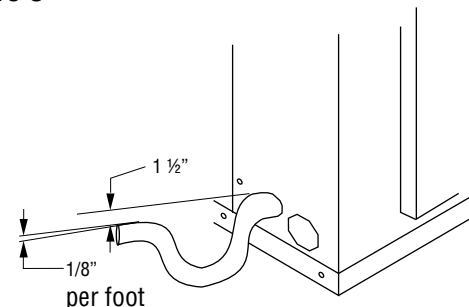


Figure 5



ELECTRICAL/ GENERAL:

Be sure the available power is the same voltage and phase as that shown on the unit rating plate.

208 Volt Operation:

All 208-230V units are factory wired for 208V operation. For 230V operation, the line voltage tap on the 24V transformer must be changed.

WARNING: To prevent personal injury and/or death, ensure that all power is disconnected before servicing. All electrical connections and wiring should be installed by qualified electricians only and conform to the national electrical code and all local codes having jurisdiction. It is the personal responsibility of the customer to retain said electrician in conformance with the latest edition of the National Electrical Code and/or local codes having jurisdiction.

Use only recommended wiring ampacity as specified on the unit nameplate and install a single outlet branch circuit. All wiring must comply with all local and national codes.

Fuse/Circuit Breaker:

Use type and size fuse as indicated on the rating plate of the unit or use HACR type circuit breaker.

GROUNDING:

WARNING: To prevent possible property damage, personal injury or death the unit must be used on a grounded power supply only.

Wall Thermostat Installation and Wiring:

Proper temperature control and unit operation depends on proper thermostat selection and location. Refer to the thermostat manufacturer's installation instructions for specific recommendations. Good practice is to avoid outside walls, locations where the sun may shine directly on the thermostat, and locations where the air from supply registers or unit outlets blow on the thermostat.

Thermostat wiring is NEC class-2 wiring. Refer to the instructions provided with the thermostat for specific mounting and wiring information.

WATER SYSTEM:

After flushing the piping system as noted in the "Piping" section, the system must be vented. The system vents should be opened sequentially from bottom to top to insure all water is purged from the piping. The system

should then be flushed with 90° F water until the water leaving the drain is clear. Flush the system for a minimum of 90 minutes.

The supply and return run outs should now be connected to each other. The system should be refilled with fresh water, vented and allowed to circulate for at least one hour. The water should be tested to insure it is slightly alkaline (PH= 7.5). If water is acidic, further cleaning of the system with a mild aqueous solution of trisodium phosphate may be required.

It is **EXTREMELY IMPORTANT** that the water system be thoroughly cleaned and flushed before it is put into operation.

AIR FILTER:

A new filter should be installed at each unit return air grille prior to start-up. **NEVER** operate units without a filter.

Pre-Start Quick Check List:

- Before proceeding with the start-up of individual units, the following should be verified:
- Has the water loop system been flushed and cleaned of construction debris?
- Is the water flow established and circulating through all units?
- Has the water loop system been balanced to design flow rates?
- Is the water temperature within normal operation range?
- Has heat transfer fluid been added in the proper mix to prevent freezing in closed systems that could, under any condition, fall below the freezing point during either the heat pump operating cycle or the down cycle? The heat transfer fluid must have extended range capability (down to 20 F). A low temperature (20 F) freeze-stat must also be used if units are to be operated under these conditions.
- Is the unit properly sized, located, and level with proper clearances?
- Is the filter in place and the correct size.
- Is the wiring properly sized and run in according with the unit wiring diagram?

- Are all wiring connections tight including those in unit and compressor electrical boxes?
- Has the unit been properly grounded and fused with the recommended fuse size?
- Has all work been done in accordance with applicable local and national codes?
- Are all covers and access panels in place to prevent air loss and safety hazards?

Warning: Bodily injury can result from high voltage electrical components. If operating checks must be performed with the unit operating, it is the technician's responsibility to recognize there hazards and proceed safely. Failure to do so could result in severe personal injury or death due to electrical shock or contact with moving parts.

IMPORTANT:

Unit should not be operated in construction phase until dry wall is complete. The coil will foul and warranty will be void.

TO OPERATE:

Operation of the unit is automatic and will provide cooling and heating depending on the settings of the thermostat.

'HLP' Models - Cooling Operation:

- 1). Set the switches on the wall thermostat to the 'cool' position. Refer to thermostat manufactures' "Installation Operation and Application Guide" for instructions.
- 2). Set the desired temperature you want to maintain by moving the temperature setting lever or button on the thermostat. If the room is warmer than the setting, the unit will turn on and begin to blow cool air after a few minutes. Note that a warm humid room or building may take several hours of continuous operation to cool to the thermostat set point the first time. Once the set temperature is reached the unit will cycle on and off.
- 3). Set the 'Fan' switch on the thermostat to 'auto' if you want the fan to run only when cooling is needed or to 'on' if you want continuous air circulation. The 'on' setting of the fan generally provides better temperature control by eliminating stagnant air.
- 4). Check unit operation. It should be supplying cool air to the conditioned space. The reversing valve will

be energized. Water leaving the heat exchanger should be warmer than the entering water temperature (approximately 9-12° F rise); blower operation should be smooth; compressor and blower amps should be within data plate ratings.

5). For energy conservation reasons you may want to set your thermostat at a higher temperature when you are away. Do not raise the temperature setting by more than 5 degrees. Changing the temperature by more than 5 degrees or shutting the unit 'off' can actually cost more than leaving the setting at a constant temperature.

6). **IMPORTANT!** Wait at least 3 minutes after turning the air conditioner off before trying to restart it. This gives the unit the time needed to stabilize before restarting. Failure to do so may cause unit damage and failure. **NOTE:** Thermostat may have a built-in 3 or 5 min. anti-short cycle feature.

7). A properly installed and sized unit will not cycle more than 10 times per hour. If you notice more frequent starts call your service contractor.

HLP HEATING OPTIONS:

HLP Series Heat pumps are designed to also provide heating. Again refer to the manufacture's thermostat instructions. Set the thermostat to the 'Heat' position and set the desired temperature activates heating operation. When heating, the 'Auto' fan position is recommended. Adjust the temperature set point above room temperature. The reversing valve should be de-energized. Warm air should blow from the registers. A water temperature decrease of approximately 5-9° F leaving the heat exchanger should be noted. The blower and compressor operation should be smooth.

FINAL INSPECTION:

Do a final visual inspection of the entire installation and complete any final details and clean up.

MAINTENANCE:

Unit performance is maintained at optimum level and maintenance of the unit simplified by implementing the following preventive measures.

- 1). The heat pump must include a permanent, cleanable or a fiberglass throwaway type air filter. The unit should not be operated without this filter installed.
- 2). Filters should be inspected at least every three months, and replaced or cleaned when dirty. Unit operation becomes very inefficient with dirty filters. Unit warranty is void if filters are not maintained properly.

3). Condensate drains can pick up lint and dirt, especially with dirty filters. Inspect, and if dirty, clean the condensate drain pan twice a year to avoid the possibility of overflow (see section “Inspecting and Cleaning Drain Pans”).

4). Microbial growth can occur in water source heat pumps anywhere in the air stream where moisture exists. ASHRAE standards 62-89 recommends that these surfaces be inspected and cleaned to limit contamination. This typically includes surfaces beginning at the finned coil, drain pan, insulation, and fan/blowers.

5). It is important to check the cleanliness of the water-to-refrigerant heat exchanger. Should it become contaminated with dirt and scaling as a result of poor water quality treatment. The heat exchanger will have to be back-flushed and cleaned with a chemical that will remove the scale. This service should be performed by an experienced service technician.

6). A strainer (20 mesh or greater) may be used to keep debris from entering the system and to help ensure a clean system. This is highly recommended on open well and open tower systems.

7). Check the tightness of the various wiring connections within the control panel.

8). The direct-drive blower motors in HLP units have permanently sealed lubricated bearings and do not require periodic oiling. Life of the bearings may however be extended by adding a few drops of 20W non-detergent oil through the oil ports twice a year. Do NOT over oil.

9.) Periodic lockouts of heat pump operation are nearly always caused by air or water problems. The lockout (shutdown) of the conditioner is a normal protective result. Check for dirt in the water system, water flow rates, water temperatures, air flow rates (may be dirty filter), and air temperatures. If the lockout occurs in the morning following a return from night setback, entering air below machine limits may be the cause.

Inspecting and Cleaning Drain Pans:

Note : Standing water in drain pans can promote microbial growth (mold) which may cause unpleasant odors and serious health related indoor air quality problems. If microbial growth is found, it must be removed immediately and the unit must be properly cleaned and sanitized.

The condensate drain pan and drain line must be checked to ensure that the condensate is draining freely. This inspection should occur a minimum of every six months or more often if necessary.

If evidence of standing water or condensate overflow is found steps should be taken to identify and repair the cause immediately. Refer to the troubleshooting section of this manual for possible cause and solutions. If microbial growth in the drain pan is observed, it should be cleaned and removed immediately. Drain pans should be cleaned using the following procedure:

- 1). Disconnect all electrical power to the unit.
- 2). Wear the appropriate personal protective equipment.
- 3). Remove all standing water.
- 4). Use a scraper or other tool to remove any solid matter. Remove solid matter with a vacuum device that utilizes High Efficiency Particulate Arrestance (HEPA) filters.
- 5). Thoroughly clean the contaminated areas with a mild bleach and water solution or an EPA approved sanitizer specifically designed for HVAC use. Carefully follow the sanitizer manufacturer’s instructions regarding this product.
- 6). Immediately rinse the drain pan thoroughly with fresh water to prevent potential corrosion from the cleaning solution, the drain pan and drain line components.
- 7). Determine and correct the cause of the microbial contamination.
- 8). Be careful that the contaminated material does not come into contact with other areas of the unit or building. Properly dispose of all contaminated materials and used cleaning solution. Store unused solutions according to solution manufacture’s directions.
- 9). Allow the unit to dry thoroughly before putting the system back into service.

Inspecting and Cleaning Finned Coils:

Coils become externally fouled as a result of normal operation. Dirt on the surface of the coil reduces it’s ability to transfer heat which can result in comfort problems, increased resistance to airflow and result in increased operating energy costs. If the dirt on the surface of the coil becomes wet, such as commonly occurs with cooling coils, microbial growth can result which may cause unpleasant odors and serious health related indoor air quality problems.

Coils should be inspected at least every six months or more often as necessary. The frequency of the required inspection/cleaning is dependent on the operating hours of the system, filter maintenance and efficiency, and dirt load. The following is the suggested method of cleaning coils:

- 1). Disconnect all electrical power to the unit.
- 2). Wear the appropriate personal protective equipment.
- 3). Gain access to the coil section of the unit (both sides).
- 4). Using a soft brush, remove loose debris from both sides of the coil.
- 5). Mix a high quality coil cleaning detergent with water according to the manufacturers instructions. If the detergent is strongly alkaline after mixing (8.5 pH or higher), it must contain a corrosion inhibitor. Carefully follow the cleaning solution manufacturers instructions regarding the use of the product.
- 6). Placed the mixed solution in a pump sprayer or high pressure sprayer. If a high pressure spryer is used, note the following:
 - A. Maintain a minimum nozzle spray angle of 15
 - B. Spray perpendicular to the coil face.
 - C. Protect other areas of the air handler and internal controls from contact with moisture or the cleaning solution.
 - D. Keep the nozzle at least 6 inches from the coil.
 - E. Do NOT exceed 600psi.
- 7). Spray the leaving air side of the coil first, then the entering air side. Use a block-off to prevent spray from going through the coil and into a dry section of the unit and/or system duct-work. Carefully follow the cleaning solution manufacturers usage instructions.
- 8). Thoroughly rinse both sides of the coil and the drain pan with cool, clean water.
- 9). Repeat steps 7 and 8 as necessary.
- 10). Straighten any coil fins that may have been damaged during the cleaning process. Use a fin comb.
- 11). Confirm that the drain line remains open following the cleaning process.
- 12). Replace all panels and parts. Restore electrical power to the unit.
- 13). Allow the unit to dry before putting unit back in service.

14). Be careful that the contaminated material does not come into contact with other areas of her unit or building. Properly dispose of all contaminated materials and used cleaning solution. Store unused solutions according to solution manufacturer's directions.

FACTORY CONTACT INFORMATION:

Cold Point Corp.
 7500 Cold Point Dr.
 Rome, NY 13440
 Phone: 315.339.2331
 Fax: 315.339.2358
 e-mail: info@adirondackaire.com

Before Calling for Factory Assistance:

A call to the factory is sometimes necessary for technical support or service/troubleshooting. We are happy to help! Before calling please gather and record the following information so that we are best able to help.

- ___ Unit Model No
- ___ Unit Serial number
- ___ Name of Job or Installation
- ___ Your Name
- ___ Your Company's Name
- ___ Your Company's Address
- ___ Your Company's Phone, Fax, and e-mail
- ___ Room Temperature -DB/WB
- ___ Entering Water Temperature
- ___ Leaving Water Temperature
- ___ Suction Pressure
- ___ Discharge pressure
- ___ Suction Superheat
- ___ Voltage @ contactor
- ___ Amp Reading (clamp-on)
- ___ Your Diagnosis or Question

TROUBLESHOOTING CHART

The troubleshooting chart that follows is provided to serve as an aid for identifying malfunctions that may occur. Within the chart are three columns.

1. The Problems column describes what the unit is doing.
2. The Cause column identifies the most likely sources of the problem.
3. The Correction column describes what should be done to correct the problem.

Problem	Heating	Cooling	Cause	Correction
No response to any thermostat setting	X	X	Main power off	Check fuses
	X	X	Defective control transformer	Replace
	X	X	Broken or loose connection	Repair
	X	X	Defective thermostat	Replace
Unit short cycles	X	X	Thermostat or sensor improperly located	Relocate
Blower runs but compressor does not	X	X	Defective compressor overload	Replace (if external)
	X	X	Defective compressor contactor	Replace
	X	X	Supply voltage too low	Correct
	X	X	Defective compressor capacitor	Replace
	X	X	Defective windings	Replace
Blower and compressor runs but does not cool or heat properly	X	X	Limit switches open	Check cause/replace or repair
	X	X	Dirty Filter	Replace/clean
	X	X	Blower RPM too low (PSC motor only)	Correct
	X	X	Conditioned air loss due to ductwork leak	Repair leaks
		X	Introduction of excessively hot return air	Correct
	X		Introduction of excessively cold return air	Correct
	X	X	Low on refrigerant charge	Locate leak, repair & recharge
	X	X	Restricted metering device	Replace
	X	X	Defective reversing valve	Check/replace
	X	X	Thermostat improperly located	Relocate
	X	X	Unit undersized	Recalculate heat gains/losses
	X	X	Inadequate water flow	Increase GPM/ Troubleshoot flows
	X	X	Scaling in coil	Clean or replace
		X	Water too hot	Decrease water temperature
X		Water too cold	Increase water temperature	
High pressure switch open		X	Inadequate GPM	Increase/Troubleshoot
		X	Water too hot	Decrease temperature
	X		Inadequate air flow	Check, clean blower and coil
	X		Dirty filter	Clean/replace
	X	X	Overcharged with refrigerant	Decrease charge
High head pressure	X	X	Defective pressure switch	Check/replace
	X	X	Trash in chiller	Backflush
		X	Low water flow	Increase GPM
	X		Overcharge of refrigerant	Decrease charge
	X	X	Non-condensable in system	Evacuate and recharge
	X	X	Water too hot	Decrease temperature
	X	X	Dirty filter	Clean/replace
	X	X	Inadequate air flow	Check, clean blower and coil
Low suction pressure	X	X	Undercharged	Locate leak, repair & recharge
	X	X	Restricted metering device	Repair/replace
		X	Inadequate air flow	Check, clean blower and coil
		X	Dirty filter	Clean/replace
Freezestat open	X		Inadequate GPM	Increase
	X		Water too cold	Increase
		X	Defective	Replace
		X	Heat transfer fluid too cold*	Replace 35 F freezestat with 20 F (low temp. freezestat)

* To change freezestat to 20 F you must have a heat transfer fluid with protection to 20 F