



Customer Manual



Models: VVV / VVH

Geothermal Heat Pump

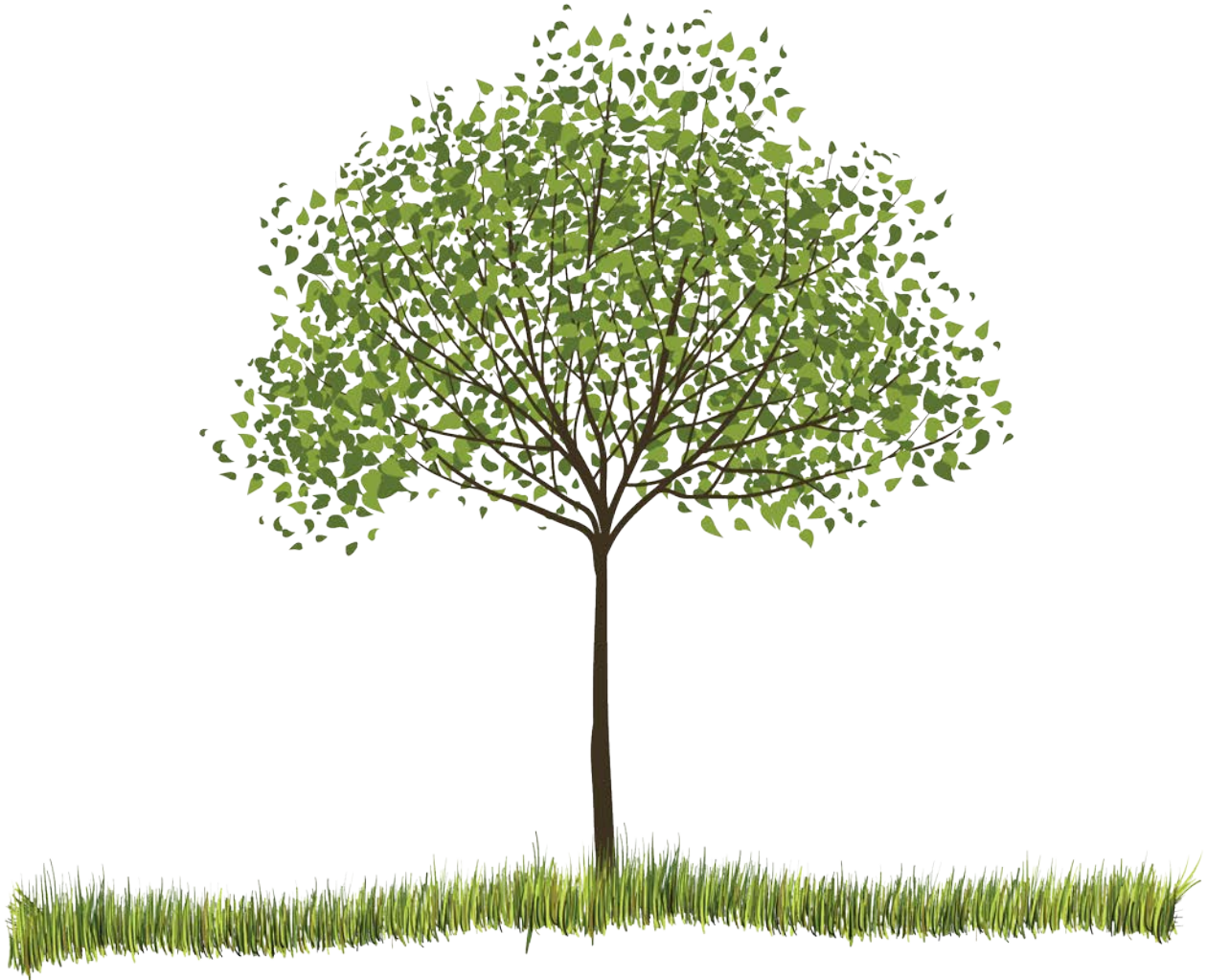
- R-410A Refrigerant
- 2.5, 4.0, 6.0 Ton Variable Speed

Change is in the Air

You are about to experience a level of comfort and efficiency that many people don't even know exist.

Thank You!

Your investment Helps Everyone!



Your decision to own a Hydro-Temp system puts you in a unique position. Geothermal heat-pumps are known for being GREEN, however green usually means giving something up. In your case not only will you be helping the environment now and for the future, you are providing yourself with the most comfortable indoor environment available today. It is not often you can make an impact on others by providing for yourself.



Thank you for purchasing your new Hydro-Temp geothermal heat pump.

For your convenience please take a minute to record some critical information that could be very beneficial in the future.

Customer Name: _____ Customer Phone Number: _____

Dealer Name: _____ Dealer Phone Number: _____

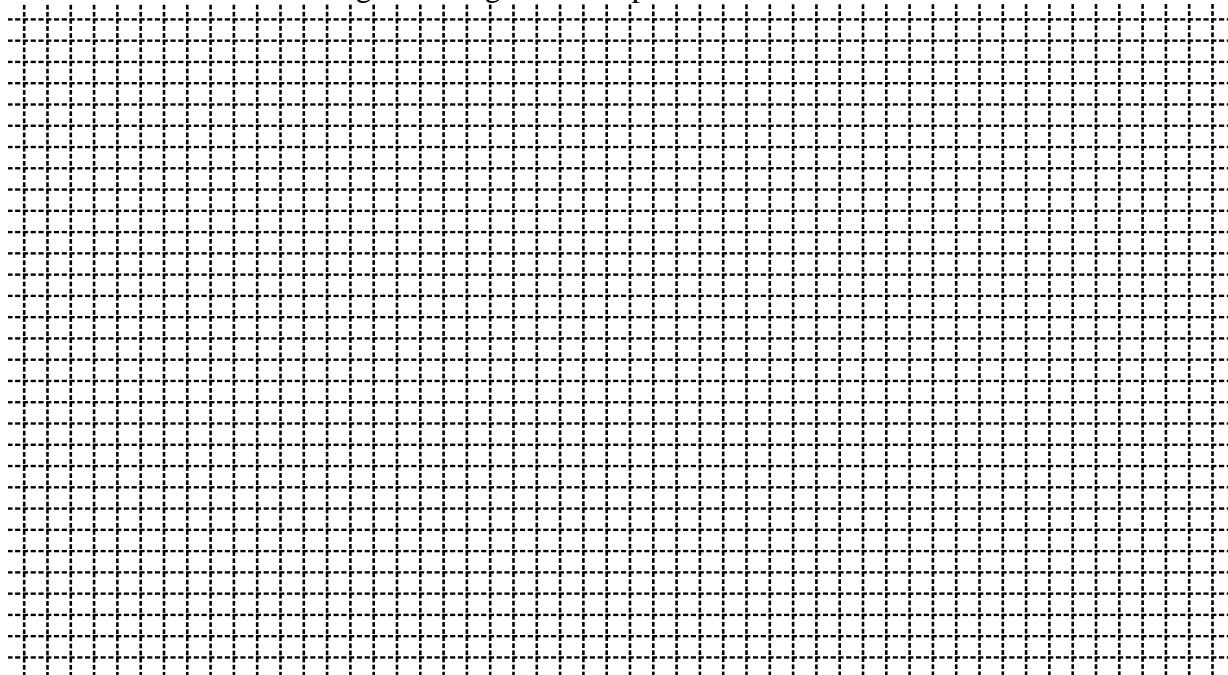
Date of Installation: _____ Model number: _____

Warranty Information: _____ Serial number _____

Ground loop / Well Water information:

- Well Water: Gallons per minute _____ Discharge into _____
- Horizontal Loop: # of Circuits _____ Circuit length one way _____ ft Average depth _____ ft
- Vertical Loop: # of Circuits _____ Circuit length one way _____ ft
- Pond Loop: # of Circuits _____ Total length per Circuit _____ ft Depth where sunk _____ ft
- Other _____

Use this area to make a rough drawing of the loop in relation to the home.



One block equals _____ feet

Notes:

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MODEL NOMENCLATURE

V **X** **X** **1** **XXXX** **X** **X** **X** **1** **X** **X** **XXX**

SERIES:
 C = COMMERSIAL
 R = RESIDENTIAL
 V = V-STAR

COMPRESSOR SPEEDS:
 A = SINGLE SPEED
 B = TWO SPEED
 C = THREE SPEED
 D = FOUR SPEED
 E = FIVE SPEED
 F = SIX SPEED
 G = SEVEN SPEED
 H = EIGHT SPEED
 M = MULTI-SPEED
 V = VARIABLE
 X = NON-APPLICABLE

CONFIGURATION:
 C = CORNER CONSOLE
 H = HORIZONTAL
 L = LONG CONSOLE
 N = NARROW CONSOLE
 O = COMPACT HORIZONTAL
 P = COMPACT VERTICAL
 R = ROOF TOP
 S = SPLIT
 V = VERTICAL
 W = WATER TO WATER
 F = COUNTER FLOW

REFRIGERANT:
 1 = R410A
 2 = R22
 3 = R134A
 4 = R407C
 X = IF NON-APPLICABLE

UNIT BTU OUTPUT:
 BTU X 1000

AIR FLOW DIRECTION:
 X = Unknown at the time of submittal
 A = UPFLOW-RIGHT RETURN
 B = UPFLOW-LEFT RETURN
 C = UPFLOW-BACK RETURN
 D = UPFLOW-TOP RETURN
 E = UPFLOW FRONT (CORNER CONSOLE ONLY)
 F = HORIZONTAL FLOW-RIGHT RETURN
 G = HORIZONTAL FLOW-LEFT RETURN
 H = HORIZONTAL FLOW-BACK RETURN
 I = HORIZONTAL FLOW/ FRONT
 J = COUNTER FLOW-RIGHT RETURN
 K = COUNTER FLOW-LEFT RETURN
 L = COUNTER FLOW-COUNTER RETURN
 M = COUNTER FLOW-BACK RETURN
 N = END RETURN & SUPPLY – LEFT RETURN, RIGHT SUPPLY
 O = END RETURN & SUPPLY – RIGHT RETURN, LEFT SUPPLY

STRIP HEAT:
 XXX = NO STRIP HEAT
 005 = 5KW
 010 = 10KW
 015 = 15KW
 020 = 20KW
 OR TOTAL KW

WATER SOURCE:
 W = OPEN LOOP/WELL WATER
 C = CLOSED LOOP
 T = COOLING TOWER
 X = IF NON-APPLICABLE

Microprocessor:
 X = TERMINAL STRIP
 1 = GEORGIA CONTROL/HYDRO-TEMP
 2 = AUTOMATED LOGIC/583
 3 = AUTOMATED LOGIC/6126
 4 = END USER DDC

VOLTAGE/PHASE:
 1 = 208/230V-1 PHASE
 2 = 115V-1PHASE
 3 = 208/230V-3 PHASE
 4 = 460V-3 PHASE
 5 = 575V-3 PHASE
 6 = 265/277V-1 PHASE
 7 = 380V - 3 PHASE

HOT WATER OPTIONS:
 X = NO HOT WATER
 B = DESUPERHEATER AND INFLOOR*
 C = DESUPERHEATER AND POOL HEATING*
 D = DESUPERHEATER
 E = HYDROZONE AND DESUPERHEATER*
 F = HYDROZONE AND INFLOOR*
 G = HYDROZONE AND POOL HEATING*
 H = HYDROZONE
 I = INFLOOR
 J = INFLOOR AND POOL HEATING*
 O = DHW PRIORITY AND HYDROZONE*
 P = DHW PRIORITY
 Q = DHW PRIORITY AND INFLOOR*
 R = DHW PRIORITY AND POOLING HEATING*
 S = POOL HEATING
 (SELECT ONLY ONE)

*THIS OPTION IS NOT AVAILABLE IN CONSOLE OR COMPACT MODELS

WATER PLUMBING LOCATION:
 R = WATER THROUGH RIGHT SIDE
 L = WATER THROUGH LEFT SIDE
 B = WATER THROUGH BACK
 C = WATER THROUGH BOTTOM
 T = WATER THROUGH TOP
 F = WATER THROUGH THE FRONT
 X = NO WATER/UNKNOWN PLUMBING LOCATION

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Do not install, operate, or maintain this equipment before carefully reading the instruction manual. Additional copies of this manual are available from the installing dealer or from *Hydro-Temp™* Corporation. Save these and any other operating instructions for yourself and any future owners of this equipment.

1.0 Transportation & Storage

Move and store units in an upright position. Do not stack units. Inspect shipment for shipping damage and check packing slip for accuracy. Any equipment or cartons in question should be removed from the packing and physically inspected. If any damage is detected, the carrier should make a note on the delivery slip acknowledging the damage.

During freezing conditions special consideration should be made to prevent unit damage. **If a unit is taken to the job site or put in storage, anti-freeze will need to be pumped into the water coils to prevent freezing.** Failure to do this will void warranty.

2.0 Electrical Hazard Warnings

THE FOLLOWING IS A GENERAL WARNING STATEMENT WHICH SHOULD BE READ AND UNDERSTOOD BEFORE OPERATING YOUR NEW *HYDRO-TEMP™* UNIT.

There are no end user maintenance items inside the cabinet of the unit. If the unit operates unusually or develops a leak, turn off all electrical power to unit and call your service technician.



ELECTRIC SHOCK CAN KILL!!

- Always protect yourself and others. Always turn off system power before removing panels. Some units may have more than one or two power supplies.
- Keep all covers and panels in place at all times. Do not open panel/doors. Removing panel/doors present an Electric shock and/or pinch hazard.
- Do not stick hands into return or any other opening.
- All repairs, electrical or mechanical, should be attempted only by trained *Hydro-Temp™* technicians. In the event of a unit problem, do not reset the equipment before correcting the problem. Equipment failure due to resetting without first correcting the problem will not be covered by the warranty.
- The presence of water around the base of the unit constitutes an electrical hazard. Turn off the power to the unit as soon as water leakage is discovered and call a service technician immediately.

STRIP HEAT WARNING:

- On systems with auxiliary/emergency heat strips, be aware that the heat strip contactor may be wired on a separate circuit. Systems with more than 10 KW will require two power supplies to power the strip heat. Therefore, up to three breakers (normally 1 double pole breaker for the compressor and blower section and possible 2 double pole breakers for the strip heaters) must be shut off before removing panels and servicing the unit.
- All breakers/fuses supplying power to this equipment should be clearly labeled at time of installation.
- All wiring and plumbing should be done in strict accordance with local and national codes and ordinances.

Strip heat / Auxiliary heat is only brought on when the controller senses the compressor cannot keep up with the heating demand or the controller senses a compressor failure. Lack of heating demand is determined when the system has run near maximum speed for 30 minutes and not satisfying the zone set point.

3.0 Preventative Maintenance

YOUR *HYDRO-TEMP*[™] WATER SOURCE HEAT PUMP HAS BEEN BUILT TO BE VIRTUALLY MAINTENANCE FREE IF PROPERLY MAINTAINED. THERE ARE ONLY A FEW THINGS YOU NEED TO DO TO KEEP YOUR SYSTEM RUNNING AS EFFICIENTLY AS POSSIBLE.

IT'S STRONGLY RECOMMENDED TO HAVE THE SYSTEM CHECKED ONCE A YEAR BY A TRAINED SERVICE PROFESSIONAL. MANY INSTALLING DEALERS OFFER PREVENTATIVE MAINTENANCE CHECKS.

WARNING! BEFORE PERFORMING SERVICE OR MAINTENANCE ON THE SYSTEM, TURN OFF ALL BREAKERS INCLUDING MAIN POWER AND POWER TO OPTIONAL AUXILIARY HEATER. WAIT FIVE MINUTES BEFORE REMOVING ANY PANELS TO ALLOW POWER TO DISSIPATE FROM VARIABLE FREQUENCY DRIVES. ELECTRICAL SHOCK CAN CAUSE PERSONAL INJURY OR DEATH.

DO NOT OPEN PANELS/DOORS! DANGER OF ELECTRICAL SHOCK AND/OR PINCH HAZARD!

- Be aware of thermostat setting. In some cases, programmable thermostats will mistakenly be programmed to set the temperature back when not desired. Check the programming to insure the correct time of day and desired temperature is programmed or set the thermostat on hold. Which will stop the programming and allow a constant setting.
- **Keep a clean air filter on your unit.** Air filters need to be changed once every 30 days. Always buy the best air filter available. Air filters can be purchased through *Hydro-Temp*[™] if necessary. *Hydro-Temp*[™] recommends a lifetime electrostatic air filter that can be taken out once a month and cleaned by back flushing / washing with water. If filter is not changed / cleaned on a regular basis expensive air coil cleaning may be required during preventative maintenance checks. On the first of every month the "CK Filter" button will appear on the main screen of the Protostar thermostat as a reminder to clean or replace the air filter. Press this button for instructions on how to reset the filter indicator after the filter has been cleaned or replaced. This feature can be turned off in the customer settings.
- Give the unit an occasional visual check. Look for water around the base of the unit and listen for any unusual noises.
- Closed loop systems are a sealed system unless an auto purge tank is used. If totally sealed they require no physical maintenance short of visual inspection for leaks. If your system was installed with an auto purge tank / kit it is recommended to check the fluid level in the tank once a month when you replace the air filter. Ensure the fluid level in the tank is between ½ and ¾ of the way full. It should be rare to have to add fluid after the first year. If you are required to add fluid more than a few times after