Versatec

Owner's Manual

To enjoy all the benefits of your system, please review the following operating procedures, service tips and information. Save this manual for future reference.

WaterFurnace®

Geothermal Heating • Cooling • Hot Water

Contents

Your WaterFurnace Versatec unit and water source heating and cooling

Thank you for purchasing a WaterFurnace heating and cooling system. You have joined hundreds of thousands of customers all over the world who have discovered that water source heat pump systems are ideal for heating, air conditioning and hot water, the only system that does it all in one unit!

This technology is ideal because it delivers what you want and what our world needs:

- Low operating costs compared to conventional systems
- Very comfortable with even temperature and humidity control
- Quiet operation with no noisy outside equipment
- Precise temperature control
- Highly reliable with industry-proven components
- Safe and clean with no flame, chimney and odors
- Backed by factory warranties
- Low maintenance requirements
- Optional water heating assist function

How do water source heat pumps provide heating and cooling with savings of 30 to 60% over conventional systems?

The basic principle of a water source heat pump is to transfer heat from one area to another by circulating water. Heat is extracted from a "heat source" for heating or rejected into a "heat sink" for cooling. By *transferring* heat from one area to another instead of *creating* heat by burning a fuel, water source heat pumps operate much more efficiently than conventional systems.

Heat sources and heat sinks

Heat sources and heat sinks for water source heat pumps include the following:

- Geoexchange earth loops (closed loops)
- Well water (open loops)
- Boiler and cooling tower combination

Geoexchange earth loops

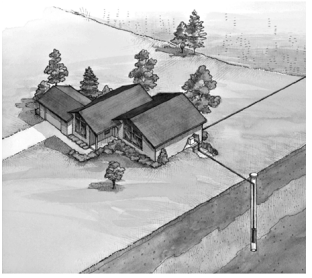
The geoexchange loop system is an underground network of sealed, high-strength plastic pipe filled with an environmentally friendly solution. A closed loop system uses a pump to circulate the liquid. Loops can be installed in the ground horizontally in a trench, vertically in drilled holes, or submerged in a pond or lake. All three are sealed airtight and, when designed properly, produce similar efficiencies.

During the heating season, water circulating through a "loop" of underground pipe absorbs heat from the earth and carries it to the unit which extracts the heat, compresses it to a higher temperature and distributes it throughout the building via a duct system.

During the cooling season, the unit extracts heat from the air in the building and transfers it to the circulating water in the underground loop system where it is dissipated into the cooler earth.

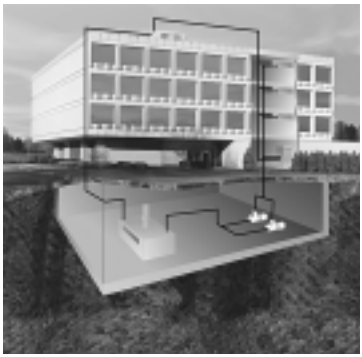
Well water systems

A water source heat pump can utilize ground water as a direct energy source when good quality well water is available at reasonable pumping depth. A good water discharge system is also required, such as a ditch, field tile, pond or stream. An open loop system may require periodic inspection/ cleaning to prevent build-up of mineral deposits.



Boiler and cooling tower systems

Water source heat pumps used in commercial applications or large, multi-family residences like apartments or condominium complexes may use a combination boiler and cooling tower application. The boiler heats water and distributes it through piping to the individual units throughout the building for heating. During the cooling mode, heat is rejected into the piping system water and dissipated into the air via the cooling tower.



What about quality?

You can rest easy knowing that each WaterFurnace unit is computer run-tested in all operating modes to ensure efficiency and reliability. Each unit carries an exclusive Quality Assurance emblem which is personally signed to verify our commitment to quality and to your comfort. Your unit is built with quality components and meets the quality standards of industry regulatory bodies, such as:

Air Conditioning and Refrigeration Institute

ETL Testing Laboratories

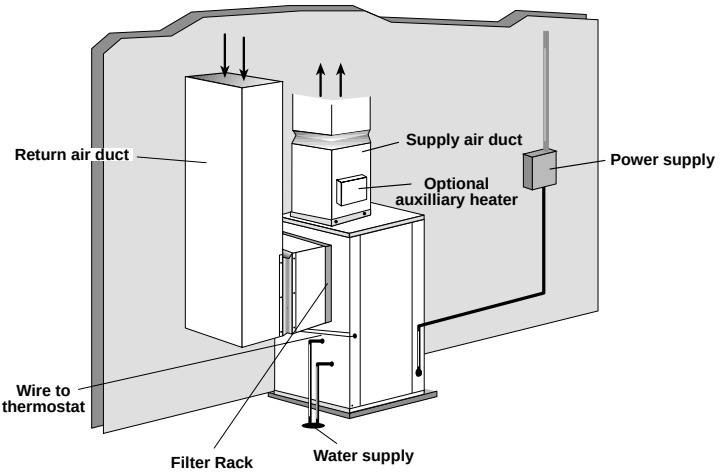
What about my warranty?

WaterFurnace International provides each purchaser with excellent warranty coverage. For single-family residential dwellings, this warranty provides 5-year coverage on all components in the refrigeration circuit including the compressor, and one year coverage on all other components. In addition to the replacement parts coverage, you receive a repair or replacement labor allowance on warranted components in the unit.

For installations in commercial structures or multi-family residential structures, several warranty options are available. Contact your WaterFurnace representative for details.

Please read all warranty certificates carefully to familiarize yourself with the terms of the warranty so that you obtain full benefits and avoid misunderstandings.

For residential installations your Warranty Registration card must be returned to WaterFurnace International immediately after installation to receive full warranty benefits.



TYPICAL INSTALLATION

Operating Procedures…

To enjoy all the benefits of your WaterFurnace system, please review the following operating procedures, service tips and information. You'll find your system easy to operate and simple to maintain at its peak performance. However, if you have any questions or problems, contact your WaterFurnace dealer.

What do I need to know about my thermostat?

There are many different thermostats that are compatible with your WaterFurnace unit... everything from a simple manual changeover style to a sophisticated electronic programmable model. The thermostat selected for your system is designed to provide accurate control of room temperature. In addition, it will display current room temperature. Due to the wide variety of thermostats available, we are unable to provide detailed instruction on the operating features of different models. Therefore, the information provided here is general in nature. For detailed instructions of other thermostats, contact your WaterFurnace dealer.

General information...

The thermostat normally displays room temperature and mode of operation selected. Buttons on the front allow complete control of the system.

You may select different heating and cooling set points for the system to maintain, e.g. 70° F in heating and 75° F in cooling. Raising and lowering the set points in heating or cooling is as simple as turning the dial or pushing a button. Always allow at least five minutes between changing from heating to cooling or from cooling to heating in order to prevent damage to your unit.

Modes of operation

Your thermostat can be set to perform the following functions:

- COOLING
- HEATING
- HEATING WITH AUXILIARY HEAT (If this option has been installed with your unit, see page 10)
- HEATING WITH EMERGENCY HEAT (If this option has been installed with your unit, see page 10)

- OFF — System will not provide heating or cooling. (Avoid using the OFF mode during extremely cold weather to prevent damage to your home from freezing.)

Changing modes of operation

Depending on the type installed, your thermostat will be a manual change over style or an automatic changeover style. Manual changeover thermostats must be manually changed from heating to cooling mode or from cooling to heating mode. Automatic changeover thermostats can be set to automatically change from one mode to another whenever the indoor temperature causes the thermostat to initiate operation of the unit.

Fan button

Some thermostats can be set to operate the fan continuously regardless of whether the unit is heating, cooling or off. Often, by running the fan continuously, you can eliminate hot or cold spots as the air will be constantly circulating to even out the temperatures throughout the structure. However, running the fan continuously does consume more energy.

Thermostat indicator lights

Some thermostats are equipped with indicator lights to notify the occupant of the status of the system. These indicator lights may signal heating or cooling operation or a "fault" condition. A fault signal on the thermostat indicates that the unit is not operating properly. If you notice a fault signal, try to reset the unit (see page 8). If resetting the unit does not eliminate the fault signal, or if the fault signal re-appears, contact your WaterFurnace dealer. Other lights on the thermostat may indicate a signal to the unit to use auxiliary heat or emergency heat, if your unit is equipped with this option (see page 10).

What do I do in the case of a power failure?

Most thermostats do not require resetting or reprogramming in the event of a power loss to the system. When power is restored, the thermostat will continue operating as if the power had never been interrupted. However, there will be no heating or cooling during the outage.

What if my unit stops working?

Your unit has been equipped with self-protection devices and controls. Should you suspect that heating or cooling operation has ceased, look at the thermostat to see if a fault signal is present. If so, see Resetting the Unit, page 8.

What kind of safety controls does my unit have?

Your unit is equipped with safety controls that are designed to protect the unit in case of improper water flow or refrigeration charge. An optional condensate overflow sensor is available from the installing contractor. **These safety controls should not be bypassed by anyone. Doing so may void the warranty.**

How do I maintain the system?

Caution: Before performing any maintenance on your system, turn off all electrical power to the unit. There may be separate supplies— one for the unit and one or two for the auxiliary heat.

Filters

- CHECK YOUR FILTERS EVERY 60 DAYS. A dirty filter will cause your unit to work harder than necessary, waste energy and may cause premature component failure.
- To achieve optimum performance and economical operation, change your "replaceable type" filter if you see a buildup of dust or dirt. See typical installation diagram on page 4 for location of filter access.
- If you have opted for a permanent electrostatic filter, wash it with a garden hose at least every 60 days. When placing the filter back in the slot, be sure that the arrow on the filter frame points toward the unit.
- **Never operate the unit without a filter; this will void your warranty**.

Water Supply for Well Water Systems

An adequate water supply to the unit is very important. Do not let anyone disrupt the water supply by rerouting the supply line or tapping into it without first checking with your WaterFurnace dealer. If the well pumping system requires service or is inoperable, your unit should be turned off until an adequate water supply is restored.

Water Supply for Closed Loop Systems

No regular maintenance is required. However, if you notice air noise within the piping or your loop is ever damaged by excavation, contact your WaterFurnace dealer.

Drain Pan

In the cooling mode, moisture removed from the air forms as condensation on the air coil and the resulting water runs down to the condensate drain pan. The drain pan can pick up lint and dirt, especially with dirty air filters. If the water does not run freely, clean the drain pipe. Pour a capful of bleach in the drain pan once a year to help prevent algae build-up. To gain access to the drain pan for inspection, TURN ALL POWER OFF TO THE UNIT AND AUXILIARY HEAT. Remove the screws on the front panel. Lift the door up and pull out at the bottom. The drain pan is located below the fan and the air coil and has a drain hole in the middle.

What about regular service?

Your system requires no regular maintenance (other than maintaining a clean filter). However, once a year or so, have the unit inspected by your WaterFurnace dealer. The dealer will check the unit's performance and make sure that the unit is heating and cooling at its peak performance level. If your unit is using a well as its water supply, your unit may need periodic cleaning to remove mineral deposits.

If my unit shuts off, how do I reset it?

Resetting the Unit

To reset the unit, put the thermostat in the OFF position. Turn off the power supply to the unit at the breaker, wait one minute and turn the power back on. Return the thermostat to a normal operating mode. If the unit does not operate properly or if a fault signal returns on the thermostat, contact your WaterFurnace dealer.

What if my unit doesn't operate properly?

Before you call your WaterFurnace dealer for service, check these service hints:

- Check air filters. Depending upon filter type, clean or replace if necessary (See Filters, page 7).
- Make sure the thermostat is properly set.
- Check to make sure the electrical disconnect switches are in the ON position.
- Check for a tripped circuit breaker or a blown fuse in the main power box. Reset breaker or replace fuse.
- If either the disconnect switch or the circuit breaker continue to go off after you reset them, *call your WaterFurnace dealer immediately to prevent damage to your unit.*
- Check the thermostat indicator lights to ensure proper operation of the system.
- If you can't determine the problem, call your WaterFurnace dealer.

Hot Water Operation

If this option has been installed, your unit will provide a **portion** of your water heating needs when the unit is heating or cooling. To determine if this feature is present, look for piping connecting your unit to your water heater, with a small circulating pump located between the two. If your system is equipped with this option and you do not have enough hot water, check to ensure that the breaker to the water heater is ON. The unit performs supplemental water heating ONLY when it is heating or cooling. Your water heater will do the work the rest of the time.

If you have checked the breaker to ensure power supply to the water heater, but still have inadequate hot water:

- The water heater may be too small.
- The water heater element(s) may have failed.
- The circulating pump may have failed.

Auxiliary and Emergency Heat Option

Your unit may be equipped to operate with an auxiliary heat option. If this option is installed with your system, it may operate periodically during extremely cold weather to assist the unit in maintaining the thermostat set point.

This option can also provide back-up (emergency) heat to the building in the event that the unit is not operating properly. If your thermostat signals that emergency heat is being used, review the section titled *"What if my unit doesn't operate properly?" (page 9)*. Extended use of the emergency heat mode will significantly increase your energy consumption.

For quick reference complete the box below including your authorized WaterFurnace dealer's name and telephone number.

Dealer: _____

Telephone: _____

Date Of Purchase: _____

Type Of System:

❒ Closed Loop ❒ Well Water ❒ Pond Loop

Auxiliary Heat: ❒ Yes ❒ No If yes, kW _____

Loop Footage: _____

Unit Model #: _____ Serial #: _____

Options: _____

Extended Warranties: ❒ Equipment ❒ Loop

Once again, thank you for purchasing a WaterFurnace heating and cooling system...you've made the best choice for your residence or business.

Notes

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