Greensource Residential Geothermal Heat Pumps
Si Series: CE Model

Invisible Comfort

The Si Series CE Model contains a two-stage compressor, variable speed ECM motor and comes with a variety of standard features that help improve your indoor air quality and operating efficiency.

boschheatingandcooling.com
Bosch geothermal heat pump systems are some of the most energy and cost efficient on the market, as well as the greenest technology for heating and cooling your home. The technology utilizes the constant temperature of the earth which makes it extremely efficient all year long in virtually any climate.

**Geothermal Heating & Cooling**

**How does it work?**

Bosch geothermal heat pump systems are some of the most energy and cost efficient on the market, as well as the greenest technology for heating and cooling your home. The technology utilizes the constant temperature of the earth which makes it extremely efficient all year long in virtually any climate.

**Advantages of Bosch’s Geothermal Systems**

**Environmentally Friendly**
Bosch’s green technology is the most environmentally friendly way to cool and heat your home. The system has no carbon dioxide emissions or any other negative effects on the environment. Bosch’s geothermal installations reduce greenhouse gas emissions which are responsible for climate change.

**Reliability**
Properly installed and maintained ground loops have a life expectancy in excess of 50 years. Your Bosch heat pump is manufactured with rigorous standards ensuring high efficiency operation over the life of the unit. Our residential warranty offering is among the best you will find on the market.

**Lower Operating Cost**
Bosch’s technology helps save up to 70% on your energy bills for heating, cooling and hot water because of its more efficient operation when compared to conventional systems. Simple payback could be as short as 5 to 7 years and you can experience cost savings from the beginning.

**Earth Coupling Options**
Geothermal systems use the earth as a heat source and heat sink. In order to transfer heat to or from the house, heat exchangers (ground loops) are installed in the ground. These consist of high density polyethylene plastic pipes. The loops are then connected to the heat pump and water-based fluid is circulated through the loop piping, transferring the heat between the heat pump and the earth.
Why Bosch Geothermal Heat Pumps?

Being Green Means Saving Green
This fully featured, highly efficient, two-stage heat pump offers an appliance-style cabinet and is available in sizes from 2 to 6 tons. The Bosch Greensource geothermal heat pump requires less energy to produce the equivalent cooling and heating output than other heat pumps on the market. This saves energy and reduces the cost to stay comfortable in your home. You can save up to 70% on your energy bills, plus payback on this investment can be as short as 5 to 7 years.

Total Annual Operating Costs Comparison

| System                                           | Operating Costs
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>CE Model Geothermal Heat Pump Heating &amp; Cooling</td>
<td>$1,319</td>
</tr>
<tr>
<td>Electric Resistance Heat w/ 13 SEER AC</td>
<td>$3,512</td>
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<tr>
<td>Oil Heating 95% AFUE w/ 13 SEER AC</td>
<td>$3,307</td>
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<td>Propane Heating 90% AFUE w/ 13 SEER AC</td>
<td>$2,868</td>
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<td>Air to Air Heat Pump 15 SEER w/ Electric Heat</td>
<td>$2,178</td>
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</table>

Based on South Bend Airport Weather Data, South Bend, IN,
Electricity: $0.14 per kw
Oil: $3.86 per gallon
Propane: $2.86 per gallon

Operating costs with SM Model: $1,291
Operating costs with BP Model: $1,488

These operating costs are not guaranteed or warranted by Bosch. This is a demonstration of the potential savings with CE Model geothermal equipment and not a promise of actual savings. Savings can vary according to products, local conditions, building size and construction, seasonal use, and types of equipment. For a more accurate assessment on your project, contact a Bosch dealer today.

Reliable and Unmatched Quality
Bosch's electronic circuit board aids in troubleshooting and helps reduce the time required to diagnose the operation of the unit in order to keep it running at optimal conditions. The circuit board can send automatic alerts to be displayed on a Bosch thermostat therefore expediting any maintenance that is required. Plus, Bosch is so confident that each Greensource geothermal heat pump is reliable that Bosch backs it with a limited warranty on all parts and labor for up to 10 years!

Quiet Operation
Greensource is equipped with an advanced sound package comprising of a unique floating base pan to isolate internal components from the exterior cabinet thereby reducing sound and vibration. Combined with high-density, closed-cell foam cabinet insulation, this makes the Greensource one of the quietest units on the market.
Quality Standard Features and Benefits

The Si Series Greensource geothermal heat pump comes equipped with the quality and innovative technology that only Bosch can provide including:

**Cabinet**
- Cabinetry is constructed using white pre-painted galvanized steel for a sleek appliance aesthetic.

**Quiet Operation**
- All panels are insulated with ½” thick, 1.5 lb./cu.ft. density micromat fiberglass insulation for both thermal insulation and noise reduction thereby keeping your home quieter and temperature regulated.

**Serviceability**
- Designed to be serviced from the front of the unit.
- Insulated bulkheads allow the unit to be serviced during operation.
- Quicker and convenient servicing means more time spent in comfort.

**ECM Constant CFM (Variable Speed) Motor**
- The high efficiency ECM motor option, available in 1/3hp to 1hp, provides constant airflow in a wide static pressure range up to 1 in.w.g. to provide maximum comfort.

**2 Stage Compressor**
- Our intuitive unit adjusts the intensity of your home’s heating and cooling needs thereby lowering operating costs while maximizing efficiency and comfort.

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**Limited Residential Warranty**

(1) Coverage for your Geothermal Heat Pump
With the limited residential warranty, you receive peace-of-mind knowing you will receive replacement parts protection for up to 10 years. This standard offering covers all components incorporated into the unit cabinet at the time of manufacture. Other components or parts that are purchased from Bosch and installed in the field have a 1 year replacement parts warranty from proof of certificate of occupancy date or proof of certified start up date. Additionally, a standard 10 year labor-allowance is included for the replacement of any defective component to help offset labor expenses if a component should fail.

**Hanging Brackets for Easy Installation**
- All horizontal units come standard with hanging bracket kits for suspending the unit from field supplied hanger rods.

**Quality Water Connections**
- All water connections are 1” heavy duty bronze FPT fittings securely fastened to the unit corner post.

**Refrigerant Circuit**
- Designed using the optimum combination of compressor, water and copper tin plated and aluminum finned evaporator coils with TXV to provide peak performance and improved efficiency.

**Superior Standard Warranty**
- 10 Year Parts Limited Warranty
- 10 Year Labor Limited Warranty
Improved Air Filtration with Filter Rack & 2” MERV-8 Filter
- Allows you to change your filter easily and improve your home’s indoor air quality by removing 80% of airborne particles and other allergens as small as 1 micron.

TXV (Thermal Expansion Valve)
- Improves refrigerant management and efficiencies.

Longer Lasting with Tin Plated Evaporator Coil
- Tin electro-plated copper tubing with aluminum fins will protect the evaporator coil from most forms of corrosive elements in the airstream.

Intuitive Alerts and Protection via the Electronic Circuit Board
- Low pressure switch protection
- High pressure switch protection
- Alarm output
- Condensate overflow protection
- Anti-short cycling
- 5 minute delay - low pressure bypass at start up
- Random start of unit
- Brown out protection
- Evaporator freeze protection
- Water coil/coaxial coil/condenser freeze protection

Copper Coax Coil
75VA Transformer
Extended Range (Geothermal)
Air and Water Freeze Protection
Condensate Overflow Sensor

Optional Features

Cupro-nickel Coil
A cupro-nickel heat exchanger is recommended in conditions anticipating moderate scale formation or in brackish water.

Internal Electric Heat
Can be factory mounted or field installed. Your choices include a 5, 10, 15, or 20 kilowatt back up or an emergency heater can be used depending on the size of the geothermal heat pump.

Domestic Hot Water Heat Recovery Package
Can be used to heat domestic hot water using heat which would be otherwise wasted from the hot compressed gas of the compressor. That’s like free hot water!

Dehumidification Options
There are two dehumidification options to suit your needs. The first uses a Variable Speed CFM Motor combined with a Bosch humidity control thermostat. The second option utilizes a Hot Gas Reheat Coil with a Bosch humidity control thermostat.
Technical Information

ASHRAE/AHRI/ISO 13256-1. ENGLISH (I-P) UNITS PERFORMANCE DATA

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<thead>
<tr>
<th>Load</th>
<th>Water Loop (WLHP)</th>
<th>Ground Water (GWHP)</th>
<th>Ground Loop (GLHP)</th>
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<td>59° F</td>
<td>77° F</td>
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<tr>
<td></td>
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<tr>
<td></td>
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Capacity and Efficiency Data

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<th>MODEL</th>
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<th>EER</th>
<th>Heating Capacity</th>
<th>COP</th>
<th>Cooling Capacity</th>
<th>EER</th>
<th>Heating Capacity</th>
<th>COP</th>
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Ordering Information

Greensource Si Series geothermal heat pumps are available as CE Models ranging from 2 to 6 tons.
Zero Energy Capable Home for Peace of Mind

The Bosch zero energy capable home is a full systems approach to creating a house that is not an energy drain on the planet’s finite resources. It’s technology helps homeowners to reduce their monthly utility bills and protect the environment.

Bosch has assembled a comprehensive suite of heating, cooling, water heating, and energy-efficient appliances that, when installed in a home, reduce the home’s energy usage due to intelligent product designs and higher efficiencies. In addition, this approach enables the homeowner to save enough power to offset the already reduced energy demand, meaning virtually a zero energy bill for the homeowner.

Ask your Bosch contractor or go to boschheatingandcooling.com to learn more about how Bosch products can work together for your ultimate comfort.
About Bosch

We Think Comfort is Best When it’s Effortless
That’s why, at Bosch Thermotechnology, we work hard to bring you the highest quality heating and cooling systems. We build every one of our products to be reliable and user-friendly, so you can go ahead and forget we’re even here. That’s invisible comfort — the kind you feel, but never have to think about.

About Bosch Thermotechnology Corp.
Bosch Thermotechnology Corp. is a leading source of high quality heating, cooling and hot water systems. The Company offers Bosch tankless, point-of-use and electric water heaters, Bosch and Buderus floor-standing and wall-hung boilers, Bosch and FHP water-source, geothermal and air-source heat pump systems, as well as controls and accessories for every product line.

Bosch Thermotechnology is committed to reinventing energy efficiency by offering smart products that work together as integrated systems that enhance quality of life in an ultra-efficient and environmentally friendly manner.

Bosch strives to bring the most energy-efficient and environmentally responsible products to global consumers. In delivering the best products at affordable prices to our markets, Bosch has established multiple collaborations and joint ventures on a global scale to bring the latest technologies to North America. All global manufacturing facilities must adhere to stringent quality standards in order to provide the trusted Bosch brand.

Bosch Heat Pumps: Made in the U.S.A.
Bosch heat pumps are made by highly trained and skilled workers in our factory based in Fort Lauderdale, Florida. They are manufactured with rigorous standards and factory testing ensuring high efficient operation over the life of the unit. Bosch’s ISO 9001 and ISO 14001 certified facilities provide consistent quality in every unit built.

Bosch Thermotechnology Corp.
555 NW 65th Court, Fort Lauderdale, FL 33309
Inquiries and support: 1-800-283-3787
boschheatingandcooling.com

76H993031B  4-18
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