



Greensource Residential **Geothermal Heat Pumps**

CDi Series: SM Model | Split Orientation

SM Model split units can individually replace and work with your existing HVAC system or both can be used in tandem for a full solution. Each come equipped with the quality and innovative technology that only Bosch can provide.
boschheatingandcooling.com



BOSCH

Invented for life



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 uses 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

Ground loops have a life expectancy in excess of 50 years. Your Bosch heat pump is manufactured with rigorous standards ensuring high efficient 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 to 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 fluid is circulated through the loop piping, transferring the heat between the heat pump and the earth.



Vertical Ground Loop System



Horizontal Ground Loop System



Open System



Pond/Lake Loop System

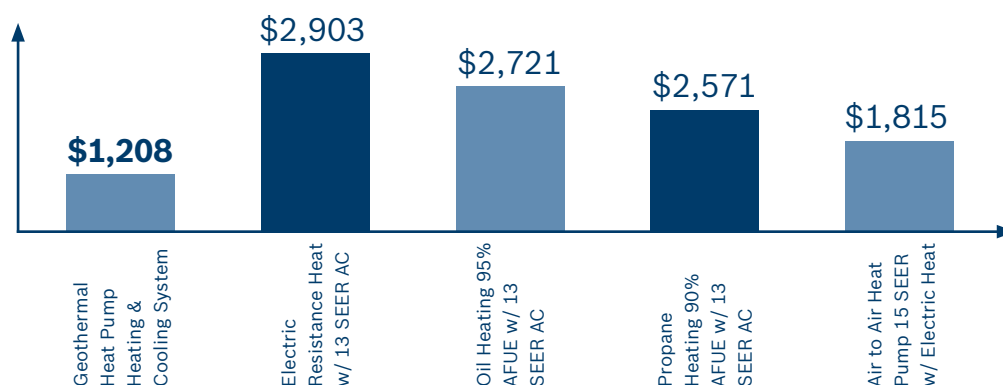


Why Bosch Geothermal Heat Pumps?

Being Green Means Saving Green

Recognized as very efficient by ENERGY STAR, this fully featured two-stage heat pump offers an appliance-style cabinet and is available in sizes of 2 to 6 tons. The Bosch Greensource geothermal heat pump requires less energy to produce the equivalent cooling and heating output of 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



Based on South Bend Airport Weather Data, South Bend, IN,
Electric per kw 0.11
Oil per gallon 3.86
Propane per gallon 2.10

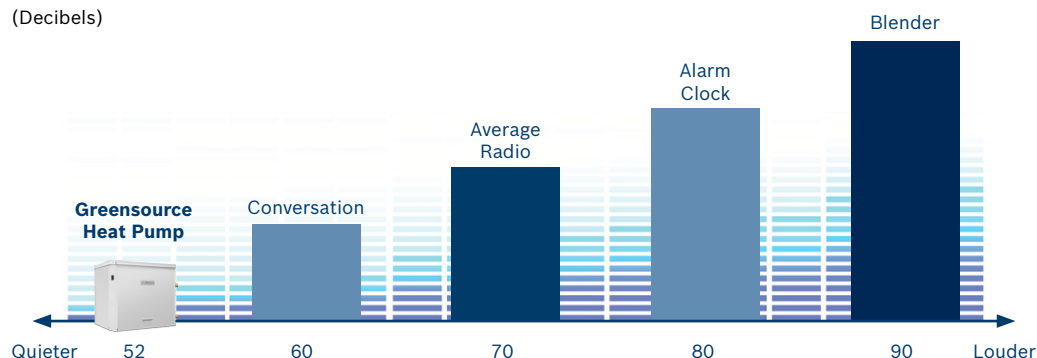
These operating costs are not guaranteed or warranted by Bosch. This is a demonstration of the potential savings with SM Model geothermal equipment and not a promise of actual savings. Savings can vary according to products, local conditions, building size and construction, seasonal use, and types of 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!

Comparison Sound Ratings

(Decibels)



The lowest average sound rating is 52dB for the Greensource 3 Ton unit. Based on a weighted overall (dB), according to ARI-260:2001(100hz-10kHz).

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 makes the Greensource one of the quietest units on the market.

Split System **Benefits**

The Greensource CDi Series SM Model geothermal heat pump split system comes in two parts that can individually replace and work with your existing HVAC system or both can be used in tandem for a full solution. Each come equipped with the quality and innovative technology that only Bosch can provide.

Greensource CDi Series SM Model | Split - Condensing Section



- ▶ Versatile and compact design adapts to replacement, relocation, or new construction
- ▶ Available hot water generator
- ▶ Functional, stylish compact design
- ▶ Standard 10 year limited warranty on all parts and labor⁽¹⁾
- ▶ Two-stage scroll compressor operates in harmony with the earth's temperature extending service life and saving you money
- ▶ Advanced controls constantly monitor equipment for reliability and longevity
- ▶ Engineered for quiet operation
- ▶ Available in both outdoor and indoor models

Greensource CDi Series SM Model | Split - Air Handler Section



- ▶ Adaptable for varying installation configurations
- ▶ Capable of using 1" or 2" filters
- ▶ Condensation overflow protection
- ▶ Variable speed ECM blower motor for reduced noise and increased comfort
- ▶ Standard 10 year limited warranty on all parts and labor⁽¹⁾

(1) For complete warranty details please visit boschheatingandcooling.com

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 the wasted heat from the hot compressed gas of the compressor. That's like free hot water!

▶ **Dehumidification Options**

A variable Speed CFM Motor combined with a Bosch humidity control thermostat allows the unit to operate in dehumidification mode which prevents a build-up of humidity - the primary cause of mold.

Standard **Key Features**

► **Tin-Plated Evaporator Air Coil**

Extends the life of the evaporator in common to adverse indoor air quality environments.

► **Floating Base Pan**

Our high-density foam pad gives our unit sound levels as low as 52 dB.

► **Closed-cell Foam Insulation**

Helps to achieve our lowest sound levels and delivers our best indoor air quality unit ever.

► **2 Stage Compressor**

Our intuitive unit adjusts the intensity of your home's heating and cooling needs thereby lower operating costs while maximizing efficiency and comfort.

► **Variable Speed CFM Motor**

This motor can deliver precise CFM which equates to maximum temperature and humidity control, lower sound and operating costs.

► **Filter Drier**

This factory installed feature removes moisture and other contaminants from the refrigeration circuit giving your Greensource heat pump long life and reliability.

► **Easy Access Filter Rack and 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.

► **Sloped Stainless Steel Drain Pan**

Reduces standing water where mold, bacteria and viruses could grow and improves indoor air quality.

► **Thermal Expansion Valve (TXV)**

This refrigerant metering device improves efficiency by delivering the precise refrigerant required for heating or cooling.

► **Low and High Pressure Switches**

Safety features protect vital components by continuously monitoring your unit's safe levels of operation.

► **R410-A Refrigerant**

Environmentally sound, non-ozone depleting refrigerant.

► **Electronic Circuit Board with Unit Alerts**

The unit can be connected to a Bosch thermostat for additional control while unit alerts can be responded to quickly using the thermostat's easy-to-read LCD screen.

► **Brown Out Protection**

This intelligent restart feature makes sure the unit will not malfunction due to electric power fluctuations.

► **Anti-Short Cycling**

This preventative measure allows the unit a minimum start time delay to prevent malfunctions due to quick restart.

► **Air Coil/Coaxial Coil/Condenser Freeze Protection**

In adverse conditions, this features keeps key internal components from freezing thereby keeping your home comfort at optimal levels.



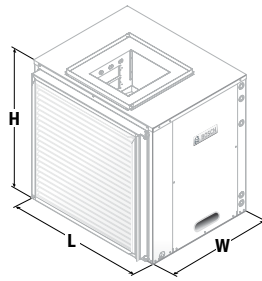


The SM Model condensing section can also be combined with a Greensource CDi Series DX Model Air Handler.

Dimensions

Greensource CDi Series split geothermal heat pumps are available as SM Models from 2 to 6 tons and can work in tandem or in combination with other HVAC systems.

Air Handler Section



Model	Air Handler Section Dimensions		
	L (length)	W (width)	H (height)
SM024 (AVX)	26.00	21.50	25.75
SM024 (AHX)	33.00	26.00	21.75
SM036 (AVX)	26.00	21.50	25.75
SM036 (AHX)	33.00	26.00	21.75
SM048 (AVX)	32.75	24.00	25.75
SM048 (AHX)	38.50	30.00	21.75
SM060 (AVX)	33.25	26.00	27.75
SM060 (AHX)	38.50	30.00	21.75
SM070 (AVX)	33.25	26.00	35.75
SM070 (AHX)	49.50	30.00	21.75

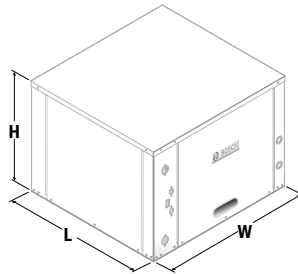
Warranty

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.

Condensing Section



Model	Condensing Section Dimensions		
	L (length)	W (width)	H (height)
SM024	27.40	24.00	21.50
SM036	27.40	24.00	21.50
SM048	27.40	24.00	21.50
SM060	33.40	27.00	23.30
SM070	33.40	27.00	23.30

All dimensions are in inches.

Width of the cabinet excludes filter rack and flanges.

The filter rack extends unit by width 3.5 inches.

30% Federal Tax Credit

Tax Credit for Geothermal Heat Pumps

As of December 1, 2009, home owners who install ENERGY STAR qualified geothermal heat pumps are eligible for a 30% tax credit on the cost of the geothermal system including all installation costs. There is no cap on the federal tax credit. Presently, these tax credits are only available through the end of 2016. The Bosch Greensource CDi Series is compliant with ENERGY STAR Tier 3.

(1) For complete warranty details please visit boschheatingandcooling.com

Performance Information

Condensing Section	Air Handler Section	Fluid Flow Rate	ARI/ISO 13256-1 Performance Data											
			Entering Water Temperatures											
		Water Loop (WLHP)				Ground Water (GWHP)				Ground Loop (GLHP)				
		Full Load	86°F	68°F		59°F	50°F		77°F	32°F				
		Part Load							68°F		41°F			
			Capacity and Efficiency Data											
	Cooling Capacity	EER	Heating Capacity	COP	Cooling Capacity	EER	Heating Capacity	COP	Cooling Capacity	EER	Heating Capacity	COP		
SM024-1CS	DX025-1VTX													
Full Load		6.0	23,800	14.1	29,800	4.8	27,100	20.6	24,600	4.2	25,300	16.2	19,100	3.5
Part Load		6.0	18,500	16.1	22,700	5.6	20,900	25.6	18,300	4.6	19,800	22.2	15,500	3.9
SM036-1CS	DX035-1VTX													
Full Load		9.0	36,900	16.2	44,000	5.2	41,100	24.0	36,300	4.7	38,800	18.8	28,600	4.1
Part Load		9.0	26,800	18.8	32,000	6.1	30,500	33.0	25,900	5.1	29,300	27.4	22,800	4.5
SM048-1CS	DX049-1VTX													
Full Load		12.0	48,000	15.4	56,100	5.2	53,400	23.1	45,800	4.5	49,400	17.7	35,900	3.8
Part Load		12.0	35,500	17.6	41,000	5.8	39,500	30.5	33,400	4.8	38,200	25.4	29,200	4.3
SM060-1CS	DX061-1VTX													
Full Load		15.0	58,100	14.6	72,900	4.7	64,100	20.6	59,200	4.3	60,200	16.4	46,400	3.6
Part Load		15.0	43,700	17.0	52,900	5.2	48,600	28.0	43,000	4.5	47,200	24.1	37,800	4.0
SM070-1CS	DX071-1VTX													
Full Load		18.0	65,200	13.1	80,500	4.4	71,600	18.6	66,400	3.9	67,500	14.9	52,900	3.4
Part Load		18.0	51,300	15.0	62,300	5.0	56,600	23.5	50,000	4.2	55,300	20.4	44,800	3.8

Condensing Section	Air Handler Section	Fluid Flow Rate	ARI/ISO 13256-1 Performance Data											
			Entering Water Temperatures											
			Water Loop (WLHP)				Ground Water (GWHP)				Ground Loop (GLHP)			
		Full Load	86°F	68°F		59°F	50°F		77°F	32°F				
		Part Load									68°F	41°F		
			Capacity and Efficiency Data											
		Cooling Capacity	EER	Heating Capacity	COP	Cooling Capacity	EER	Heating Capacity	COP	Cooling Capacity	EER	Heating Capacity	COP	
SM024-1CS	SM024-1AV													
Full Load		6.0	23,100	15.3	26,400	5.2	28,530	24.9	22,200	4.5	26,200	19.3	17,700	3.8
Part Load		6.0	17,200	16.8	19,900	5.5	21,600	32.7	16,200	4.6	20,000	26.4	13,800	3.9
SM036-1CS	SM036-1AV													
Full Load		9.0	36,100	15.0	44,100	5.1	40,900	22.5	35,200	4.5	37,900	17.3	27,400	3.8
Part Load		9.0	27,000	17.9	32,000	6.1	30,600	30.2	25,250	4.9	29,300	25.4	22,400	4.4
SM048-1CS	SM048-1AV													
Full Load		12.0	46,900	14.9	56,800	5.3	52,800	21.7	46,600	4.6	48,900	17.1	37,800	3.9
Part Load		12.0	35,600	18.2	40,400	5.5	39,400	30.3	34,200	4.7	38,400	26.0	30,200	4.2
SM060-1CS	SM060-1AV													
Full Load		15.0	56,100	14.1	74,500	5.0	64,500	20.5	60,500	4.4	58,900	16.1	49,000	3.8
Part Load		15.0	42,800	16.0	54,500	5.7	49,600	27.0	44,200	4.7	47,900	23.3	39,400	4.2
SM070-1CS	SM070-1AV													
Full Load		18.0	65,500	13.9	77,700	4.5	74,300	20.5	65,700	4.1	68,500	16.0	53,200	3.5
Part Load		18.0	50,400	15.4	58,600	4.8	58,200	26.3	48,500	4.1	55,800	22.2	43,700	3.7

About the Bosch Group

The Bosch Group has been a leading global supplier of technology and services in the areas of Automotive, Industrial Technology, Consumer Goods and Building Technology for over 100 years. Every Bosch product is built with one goal in mind; to enhance the quality of life by providing innovative technological solutions. Bosch is a leader in the development of next generation technologies that deliver improved performance and peace of mind while conserving and sustaining natural resources. Bosch is highly regarded for its development of automotive braking and steering safety systems (ABS) which have been improving automotive performance for over 30 years, helping reduce the number of accidents on North America's roads and highways. Environmental stewardship inspires and drives Bosch product development. Bosch is a leader in the development of next generation technologies that deliver improved performance and efficiency while conserving natural resources. In the area of sustainable mobility, we're helping reduce the fuel consumption and CO₂ emissions of new vehicles. Energy efficiency and environmental protection are also shaping our Industrial Technology, Consumer Goods and Building Technology products. Green technologies, such as gas tankless water heaters, wind power and geothermal heat pumps are perhaps the best examples of smart technologies growing in demand and shaping the future of Bosch.

About Bosch Thermotechnology in North America

Bosch Thermotechnology is a leading source of high quality water heating and comfort heating systems in North America. The company offers Bosch tankless water heaters, electric point-of-use water heaters, water heater storage tanks, radiant heat products, Buderus and Bosch wall-hung boilers, Buderus floor-standing boilers, Bosch water source heat pumps, Bosch geothermal heat pumps 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, which enhance quality of life in an ultra efficient and environmentally friendly manner.



Made in
the U.S.A.

Proven and tested technologies

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.

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Contractor Technical Support: 1-800-283-3787

boschheatingandcooling.com

Scan the QR code to access product information.

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