

Single and 2-Stage Compact Vertical Packaged Unit

**GEOHERMAL HEAT PUMP
TECHNICAL OVERVIEW**



2015

DEALER DESIGN
AWARDS

the NEWS | **BRONZE**



Single and 2-Stage Compact Vertical System

The GeoComfort® Compact Vertical Packaged geothermal system is built for drop-in installation. Its small footprint and enhanced serviceability features make it an ideal solution for retrofit applications or new construction. This purpose-built model takes advantage of the many design innovations found throughout the GeoComfort product line and incorporates them into a compact, efficient and installer-and-servicer-friendly package.

Peace of mind is a standard feature with GeoComfort. Our products are manufactured with common components from reliable, proven suppliers. These supplier partners share our commitment to excellence, which is evident in the products we build.

Designed with the Installer in Mind

Ease of installation and service is one of the key features of GeoComfort products and the Compact Vertical Packaged system is no exception.

For example, most commonly accessed components for installation/service can be reached via front cabinet, including:

- Desuperheater
- Blower Motor
- TXV
- Reversing Valve
- Refrigerant Ports
- Filter Drier

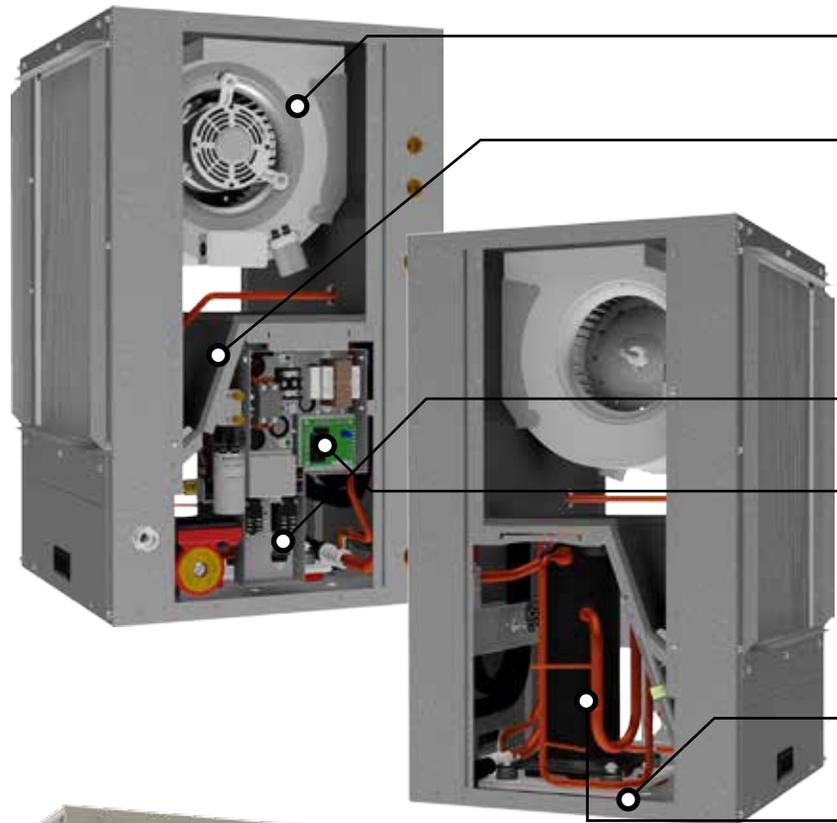
Hinged control box easily tilts up and out of the way for access to internal components

Front-mounted plumbing and side-mounted electrical connections

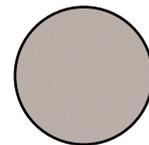
Inner front panel allows for refrigerant and electrical service work while unit is operational

Unit Dimensions

- 006-012 = 21.5" w x 21.5" d x 30.0" h
- 015-036 = 22.5" w x 22.5" d x 37.3" h
- 042-072 = 25.0" w x 27.9" d x 41.0" h



Available Cabinet Finishes:



Champagne
Residential Models



Galvanized
Commercial Series only

Available Voltages:

- 115V, 60Hz, 1Ph*
- 208/230V, 60Hz, 1Ph/3Ph
- 265V, 60Hz, 1Ph
- 460V, 60Hz, 3Ph
- 575V, 60Hz, 3Ph

**VS009 only. Not all models available in all voltages. Check engineering documentation for specific model availability.*

Unit Performance – Single Stage Models Ground Loop Heat Pump

Model	Capacity	Cooling		Heating	
		BTU/hr	EER	BTU/hr	COP
VS009	Full Load	10,900	18.1	8,700	3.6
VS012	Full Load	11,900	18.1	9,400	3.6
VS015	Full Load	16,000	19.5	11,600	4.0
VS018	Full Load	21,400	20.0	16,300	3.9
VS024	Full Load	26,000	19.7	19,400	4.0
VS030	Full Load	30,600	18.5	23,900	4.0
VS036	Full Load	37,800	18.0	30,200	3.9
VS042	Full Load	43,600	18.6	32,000	3.8
VS048	Full Load	51,200	17.6	40,300	3.6
VS060**	Full Load	60,000	16.9	46,900	3.6
VS072**	Full Load	70,100	15.1	53,200	3.3



High density closed cell foam insulation helps absorb sound. This insulation is UL GREENGUARD Certified, meaning improved air quality and low chemical emissions.



Standard PSC blower motor (single-stage) or ECM blower motor (2-stage) offer higher efficiency. ECM motors are an option on single stage models.



Digital controls ensure proper operation, providing user-friendly diagnostics. Advanced safety controls help protect the equipment.



Flow center and desuperheater use breakers instead of fuses, making service and repair faster



Copeland® scroll compressors ensure better reliability due to fewer moving parts



Elastomeric compressor vibration absorption pads provide superior sound and vibration insulation, resulting in quiet operation.

The unique design of the **All-Aluminum Microchannel Air Coil** solves the issue of coil failure caused by formicary corrosion. Improved heat transfer and thermal performance results in increased unit efficiencies and lower operating costs. The coil uses 40% less material than a standard tube-and-fin copper/aluminum coil, reducing unit weight. Enhanced structural robustness reduces chance of coil damage during basic maintenance.



Unit Performance – Two-Stage Models Ground Loop Heat Pump

Model	Capacity	Cooling		Heating	
		BTU/hr	EER	BTU/hr	COP
VT024	Full Load	25,800	18.6	19,400	4.0
	Part Load	19,300	24.2	14,800	3.8
VT036	Full Load	37,400	17.7	29,500	3.9
	Part Load	28,500	25.2	22,900	4.2
VT048	Full Load	51,300	18.9	38,300	3.9
	Part Load	39,200	27.2	30,200	4.3
VT060	Full Load	61,300	17.6	46,300	3.8
	Part Load	46,900	26.3	37,000	4.2
VT072	Full Load	71,800	16.5	51,900	3.4
	Part Load	56,800	22.3	41,500	3.9

Notes: Rated in accordance with AHRI/ISO standard 13256-1, which includes pump penalties • Heating capacities based on 68.0°F DB, 59.0°F WB entering air temperature • Cooling capacities based on 80.6°F DB, 66.2°F WB entering air temperature • Entering water temperatures Full Load: 32°F heating / 77°F cooling • Entering water temperatures Part Load: 41°F heating / 68°F cooling • ****VS060 with PSC blower and VS072 with PSC/ECM are not ENERGY STAR qualified models**

Additional Standard Features

Stainless steel drain pan with condensate overflow sensor protects against potential overflows due to clogged drains.

Flat wound enhanced surface coaxial heat exchanger improves heat transfer, improving efficiency.

Factory installed desuperheater (hot water generator) allows the capture of free unused heat, which is then used to heat domestic water. This application can cut hot water costs by up to 50%. *Optional on commercial*

Flow center and desuperheater use **breakers instead of fuses**, making service and repair faster.

Front plate-mounted **refrigeration ports** give easy access to refrigerant circuit.

Optional field installed close-coupled **auxiliary heater**.

Rugged construction, **18-gauge galvanized steel cabinet**. Stringent design tolerances create a cabinet that minimizes air leaks.

Thermostatic Expansion Valve (TXV) metering for extended range of loop temperatures.

Small footprint allows for installation in restricted spaces and reduces shipping costs.

Meets ENERGY STAR® requirements and qualifies for the U.S. Federal tax credit. Other rebates and incentives may be available in your area.





Element
Series

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