



VIESSMANN

GEOTHERMAL HEAT PUMP SYSTEM

Efficient Comfort with Ground Source Heating and Cooling

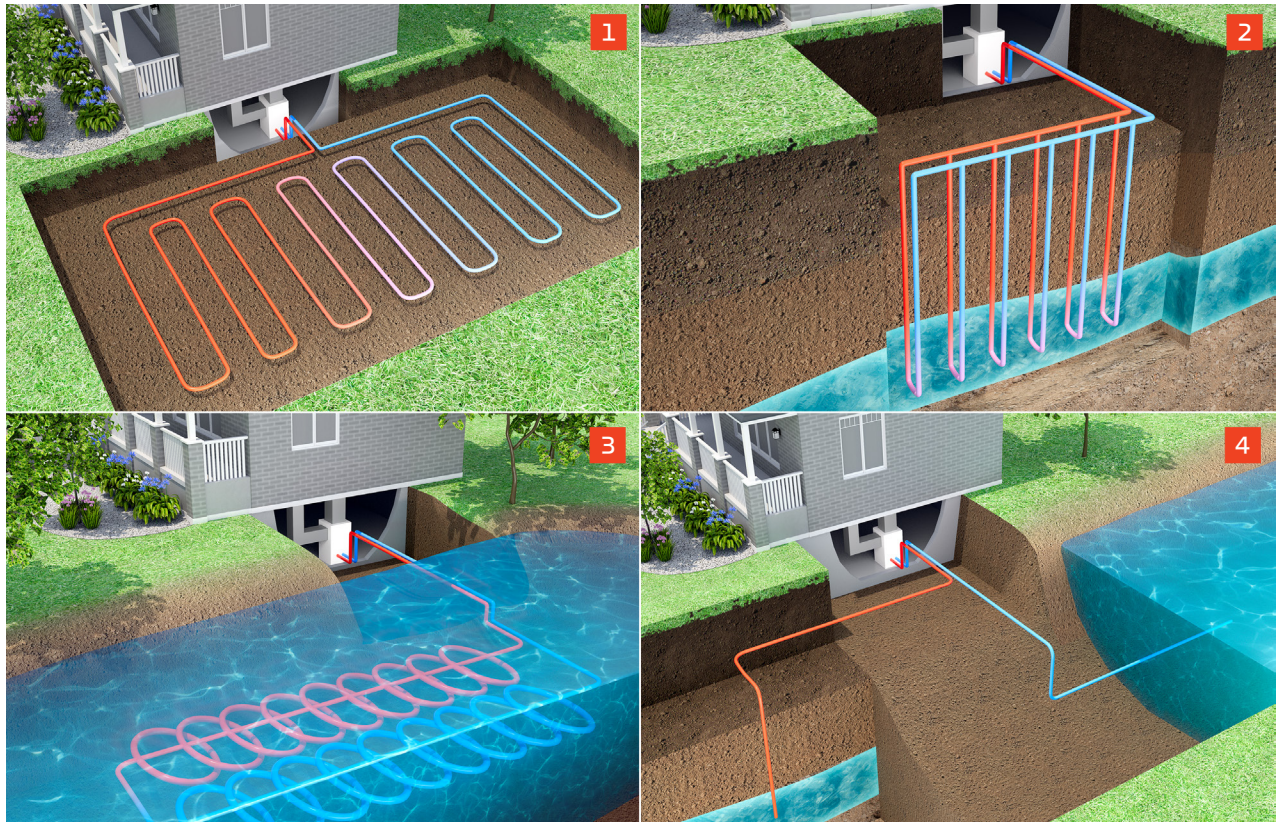
VITOCAL 100-WA



**The smartest choice
for energy efficiency
and comfort**

A complete heating
and cooling solution
powered by the stable
energy of the Earth.

A great value for long term efficiency and everyday comfort.



1. **Horizontal loop:** Typical install requires a half-acre of available space where pipes are laid horizontally in trenches and backfilled.
2. **Vertical loop:** Pipes are inserted vertically where space is limited or where soil conditions prohibit horizontal loops.
3. **Pond loop:** A series of coiled, closed loops are placed at the bottom of an adequately sized body of water.
4. **Open loop:** Best for homes with an abundant supply of quality well water. Water is drawn into the geothermal system, used by the system, and then discharged into an adjacent drainage ditch or pond.

Designed to Fit Your Needs

Viessmann's newest Ground Source Heat Pump (GSHP) system, the Vitocal 100-WA, delivers exceptional value and performance as one of the most comprehensive heating and cooling systems on the market. This clean and sustainable full system option reduces reliance on fossil fuels and minimizes environmental impact by using the energy stored in the Earth to heat and cool your home. The Vitocal 100-WA is also capable of producing Domestic Hot Water consistently and efficiently as a standard feature. Engineered with user convenience in mind, GSHP systems are known for their durability and longevity, with the reliability to provide highly efficient comfort for decades.

The Vitocal 100-WA is the ideal amenity for new builds and retrofits alike, offering premium heating and cooling while significantly reducing environmental emissions. Viessmann's GSHP is available in five sizes, all designed for maximum efficiency and application flexibility with field-reversible controls, and included factory-installed desuperheater for highly efficient domestic hot water production. Compatible with any loop system and requiring minimal maintenance, this quiet, sustainable solution ensures

year-round comfort with a streamlined installation process—making it the ideal fit for your commercial or residential needs.

Renewable energy from the Earth for the highest performance

Geothermal systems can be installed with a variety of loop system configurations. "Closed loops" use recirculated fluid in a series of pipes installed vertically, horizontally, or in a pond. "Open loops" utilize abundant water sources such as wells, lakes, or ponds, the water is then returned to the environment rather than recirculated in a closed loop.

Highly efficient, highly sustainable

Viessmann's geothermal systems harness the Earth's natural, consistent underground temperature to provide efficient and eco-friendly heating and cooling.

Solar energy warms the ground, and approximately 47% of that heat is stored beneath the surface. Just a few feet below the frost line, the temperature remains consistently between 55°F (13°C) and 70°F (21°C) in many climates year-round, creating an ideal and reliable source for sustainable comfort.

* The terms ground source heat pumps (GSHP), geo, and geothermal heat pumps are understood to interchangeably refer to the same systems in heating/cooling contexts.

Making use of this stable, renewable energy source, the Vitocal 100-WA delivers consistent warmth in Winter and cooling in Summer—all while significantly reducing your carbon footprint and energy bills.

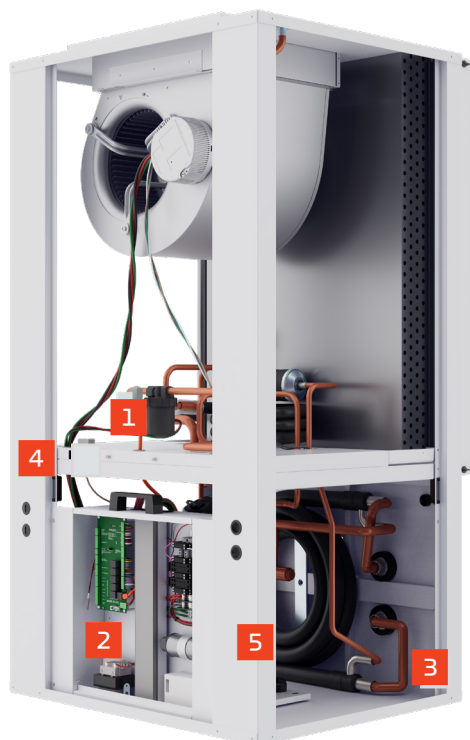
The factory-installed desuperheater for enhanced domestic hot water production uses water heated with waste heat from air conditioning at no cost in the summer and at substantial savings in the winter. This "free preheat" technology boasts efficiencies up to 3x higher than conventional systems. Ideal for residential, commercial, and large-scale property alike, Viessmann combines cutting-edge technology with sustainability to provide year-round comfort and a faster return on investment.

The difference of design

Viessmann innovation is changing the game when it comes to the installation and maintenance of geothermal systems. Field-reversible controls paired with a reversible cabinet design allows for left, right, or rear return configurations without the need of multiple SKUs for unmatched convenience and ease of installation and service. An integrated LED display makes it easy to know system status and operation at a glance.

VITOCAL 100-WA

- 1 Integrated desuperheater with pump
- 2 Flexible mounting of the junction box
- 3 Compatible with closed and open loop systems
- 4 Information display panel
- 5 2 stage compressor



PRODUCT FEATURES

- + Offers 5 different sizes: 2, 3, 4, 5, 6 ton
- + Heating Capacity: 15.6 to 54.8 MBH (4.5 to 16.1 kW)
- + Cooling Capacity: 20.2 to 75.9 MBH (6.5 to 22.2 kW)
- + Field Reversible for left, right, or rear return configurations
- + Low GWP R-454B Refrigerant
- + Two Stage Compressor
- + Cupro Nickel heat exchanger
- + Constant pressure variable speed blower
- + Integrated desuperheater with pump
- + LED Information Display

Forever futureproof: Additional costs for installation may be returned in energy savings in 5 to 10 years, depending on the cost of energy and available incentives. System life is estimated on average from 20-25 years for the inside components and 50+ years for the ground loop.

* https://www.energy.gov/sites/prod/files/guide_to_geothermal_heat_pumps.pdf

BENEFITS AT A GLANCE

- + Robust and reliable- longer system lifespan
- + Compatible with both open and closed loop systems
- + Flexible configuration - left return, right return, or rear return- all-in one unit!
- + Integrated desuperheater for efficient domestic hot water production
- + Quiet operation with a fully insulated Indoor Unit and no outdoor unit required
- + Built-in connections for easy integration with pump stations
- + Save energy, lower utility bills
- + Environmentally Friendly
- + Self-contained refrigerant circuit in a compact monobloc design

VITOCAL 100-WA

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A Carrier Company

Vitocal 100-WA / AP1T Series		027020	040029	052038	066049	077056
Heating/Cooling Data						
Heating Capacity	MBH (kW)	15.6-19.1 (4.5-5.6)	23.4-28.9 (6.8-8.4)	28.9-37.6 (8.5-11.0)	37.8-48.1 (11.0-14.0)	46.2-54.8 (13.5-16.0)
Cooling Capacity	MBH (kW)	20.2-26.4 (5.9-9.0)	30.3-39.2 (8.9-11.5)	38.1-51.9 (11.2-15.2)	49.9-65.7 (14.6-19.3)	59.8-75.9 (17.5-22.2)
Energy Efficiency Ratio (EER)*		22.2-30.8	21.2-29.0	22.1-28.7	20.7-28.0	18.7-24.5
COP*		4.2-4.6	4.2-4.5	4.2-4.4	4.3-4.7	4.0-4.4
Power Supply	Voltage	208/230 VAC	208/230 VAC	208/230 VAC	208/230 VAC	208/230 VAC
	Phase	1	1	1	1	1
	Hertz	60	60	60	60	60
	Amps	20.9/20.2	27.5/27.0	31.2/30.7	38.1/37.6	43.0/42.7
MCA	Amps	23.4/22.7	31.1/30.6	35.7/35.2	44.4/43.9	50.0/49.7
Max. Overcurrent Protection	Amps	30	40	50	60	70
Air Flow Data						
Air Flow / Static Pressure	CFM/w.c.	800/0.5	1200/0.5	1600/0.5	2000/0.5	2400/0.5
Domestic Hot Water						
DHW Flow Rate	GPM (l/m)	0.5-4.4 (1.9-16.7)	0.5-4.4 (1.9-16.7)	0.5-4.4 (1.9-16.7)	0.5-4.4 (1.9-16.7)	0.5-4.4 (1.9-16.7)
Dimensional Data Dimensions (HxWxD)						
Height	in. (mm)	46 (1168)	50 (1270)	54 (1372)	58 (1473)	60 (1524)
Width	in. (mm)	27 ¹ / ₈ (694)	32 ¹ / ₈ (821)	32 ¹ / ₈ (821)	32 ¹ / ₈ (821)	32 ¹ / ₈ (821)
Depth	in. (mm)	26 ¹ / ₈ (673)	28 ¹ / ₈ (724)	28 ¹ / ₈ (724)	28 ¹ / ₈ (724)	28 ¹ / ₈ (724)
Supply Air Connection	in. (mm)X in. (mm)	16 (406) X 14 (356)	20 (508) X 18 (457)	20 (508) X 18 (457)	20 (508) X 18 (457)	20 (508) X 18 (457)
Return Air Connection	in. (mm)X in. (mm)	22 ¹ / ₄ (565) X 22 ³ / ₄ (578)	26 ¹ / ₄ (667) X 27 ³ / ₄ (705)	30 ¹ / ₄ (768) X 27 ³ / ₄ (705)	34 ¹ / ₄ (870) X 27 ³ / ₄ (705)	34 ¹ / ₄ (870) X 27 ³ / ₄ (705)
Filter Size	in.	24 X 24 X 2	30 X 28 X 2	30 X 32 X 2	30 X 36 X 2	30 X 36 X 2
Weight	lbs (kg)	265 (120)	334 (152)	371 (168)	388 (176)	440 (220)

*All published measurements are calculated with an Alternative Efficiency Determining Method (AEDM)

