

Groundtherm Heat Pumps

Ground Source Heat Pumps made simple

A heat pump extracts the heat from solar energy stored in the ground and concentrates it for use in a domestic heating system. The heat from the ground is absorbed into a refrigerant, which is then compressed to raise its temperature. A heat exchanger then takes out the heat and uses it in the heating system to provide warmth and hot water.



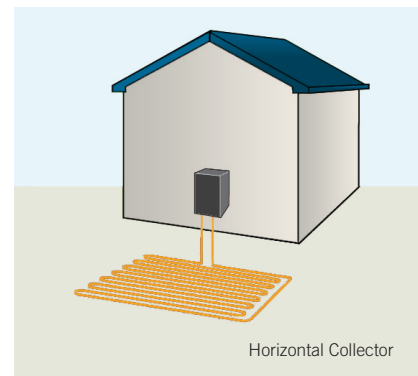
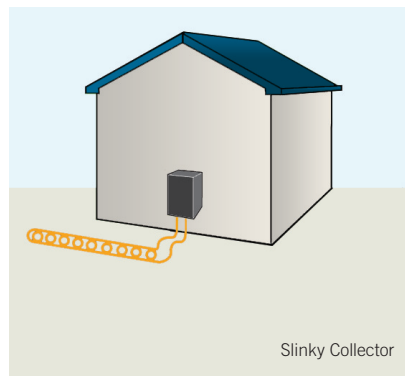
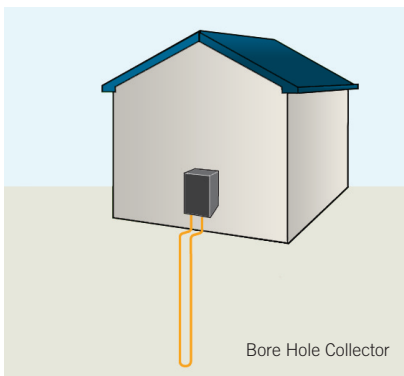
Groundtherm Features and Benefits



- Is easy to install, no gas supplied, flue or ventilation required
- Fitted with plumbing and electrical connections only.
No refrigeration certification required for the installation
- Operates with low starting currents
- Provides the ability to operate up to 65°C water temperature to generate DHW without any direct electrical assistance back up
- Space heating temperatures variable from 35°C to 55°C for underfloor heating or radiators
- User friendly digital controls, designed to interface with standard central heating programmers

Different Types of Collector

With an appropriately designed system, including a geological survey the Ideal Groundtherm heat pump will provide energy to heat the space and provide domestic hot water.



Technical Specification

		Units	Groundtherm 3.5	Groundtherm 5	Groundtherm 6.5	Groundtherm 8	Groundtherm 12
Model	Height (unpacked) mm	mm	850	850	945	945	945
	Width (unpacked) mm	mm	500	500	715	715	915
	Depth (unpacked) mm	mm	444	444	450	450	465
	Unpacked Weight (kg)	kg	103	109	133	158	196
Output to water	Water to Brine on 0°C @ 35°C	kW	3.17	4.54	6.24	8.3	12.5
	Water to Brine on 0°C @ 45°C	kW	2.89	3.98	6.22	8.2	12.375
	Water to Brine on 0°C @ 50°C	kW	2.75	3.69	6.2	8.15	12.125
	Water to Brine on 0°C @ 55°C	kW	2.61	3.41	6.19	8.1	12
Electric Input	Water to Brine on 0°C @ 35°C	kW	0.86	1.14	1.69	2.01	2.9
	Water to Brine on 0°C @ 45°C	kW	0.86	1.17	1.94	2.3	3.1
	Water to Brine on 0°C @ 50°C	kW	0.87	1.18	2.06	2.43	3.6
	Water to Brine on 0°C @ 55°C	kW	0.87	1.19	2.19	2.6	3.9
Coefficient of performance	COP 0°C @ 35°C	kW	3.69	3.97	3.68	4.13	4.31
	COP 0°C @ 45°C	kW	3.36	3.40	3.21	3.56	3.99
	COP 0°C @ 50°C	kW	3.16	3.13	3.01	3.35	3.36
	COP 0°C @ 55°C	kW	3.0	2.87	2.82	3.11	3.07
Output to water	Water to Brine on 15°C @ 35°C	kW	5.49	7.76	9.28	12.31	18.9
	Water to Brine on 15°C @ 45°C	kW	5.07	6.96	9.2	12.12	18.55
	Water to Brine on 15°C @ 50°C	kW	4.86	6.56	9.17	12.02	18.375
	Water to Brine on 15°C @ 55°C	kW	4.65	6.15	9.13	11.93	18.2
Electric Input	Water to Brine on 15°C @ 35°C	kW	1.11	1.49	1.76	2.27	3.08
	Water to Brine on 15°C @ 45°C	kW	1.16	1.57	2.15	2.565	4.29
	Water to Brine on 15°C @ 50°C	kW	1.18	1.6	2.35	2.8	4.895
	Water to Brine on 15°C @ 55°C	kW	1.2	1.64	2.54	3.03	5.5
Coefficient of performance	COP 15°C @ 35°C	kW	4.95	5.21	5.27	5.42	6.13
	COP 15°C @ 45°C	kW	4.37	4.43	4.28	4.72	4.32
	COP 15°C @ 50°C	kW	4.12	4.10	3.91	4.29	3.75
	COP 15°C @ 55°C	kW	3.87	3.75	3.59	3.93	3.3
Refrigerant type		R134A	R134A	R134A	R134A	R134A	
Refrigerant quantity	kg	2.5	2.5	2.4	3.2	5.3	
Freeze protection temperature	C	< 5°C	< 5°C	< 5°C	< 5°C	< 5°C	
Sound Pressure Level @ 1M	dB(A)	39	40	42	48	52	
Compressor type		Reciprocating	Reciprocating	Rotary	Rotary	Rotary	
Oil type		Polyolester	Polyolester	Polyolester	Polyolester	Polyolester	
Control Panel		Digital	Digital	Digital	Digital	Digital	
Electrical Supply Voltage 1 phase	V/ph/Hz	1/N/PE-230V 50HZ	1/N/PE-230V 50HZ	1/N/PE-230V 50HZ	1/N/PE-230V 50HZ	1/N/PE-230V 50HZ	
Minimum Supply Capacity 1 Phase	amps	11	15	20.4	25	32	
Maximum Supply Fuse 1 Phase	amps	15	20	32	32	40	
Ma Starting Current/Start (LRA)	amps	18	19	33	19	21	

Ground Source unit clearance dimensions:

600mm minimum front, 10mm sides and top, 150mm rear.