Modulating heat pump, for indoor and outdoor installation, for the production of hot water up to 65 °C (70 °C for DHW). Guarantees more than 169% efficiency, thanks to the use of ground source renewable energy.

Condensing gas absorption heat pump + ground source renewable energy for heating

GAHP Line GS - RTGS Series

Advantages

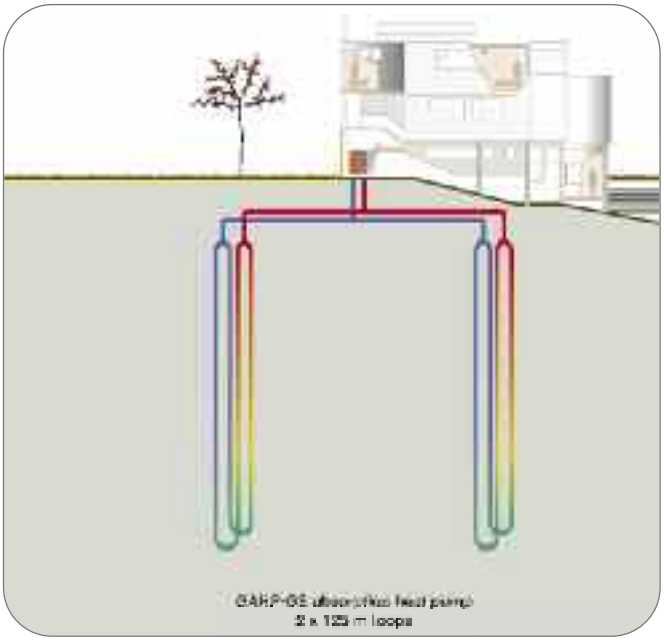
- Up to 40.9% utilisation of ground source renewable energy, exceeding peak efficiencies of 169% and guaranteeing up to 40.9% reductions in annual heating costs and in CO_2 emissions compared to condensing boilers.
- It permits a considerable promotion of the building's energy classification with the consequent increase in the value of the building.
- All data are tested by certificates and approvals from ENEA for Italy, DVGW-Forschungsstelle and VDE for Germany, California Energy Commission for USA.
- Reduction in investment costs for geothermal loops can be higher than 50% in comparison to EHP.
- Its polluting emissions are lower than the limits set by the Blue Angel certification (www.blauer-engel.de).
- In case of contemporary use, external sources are not required, thus reducing installation and operational costs.
- It reduces electricity consumption thanks to the prevalent use of gas.
- With a GAHP-GS, every year 5.1 Tons of CO_2 emissions are saved, which are equivalent to those absorbed by 714 trees or those produced by 2 green cars; every year 2.2 TOE are saved.
- The installation of ground source gas absorption heat pumps is supported by national and local incentive programs.

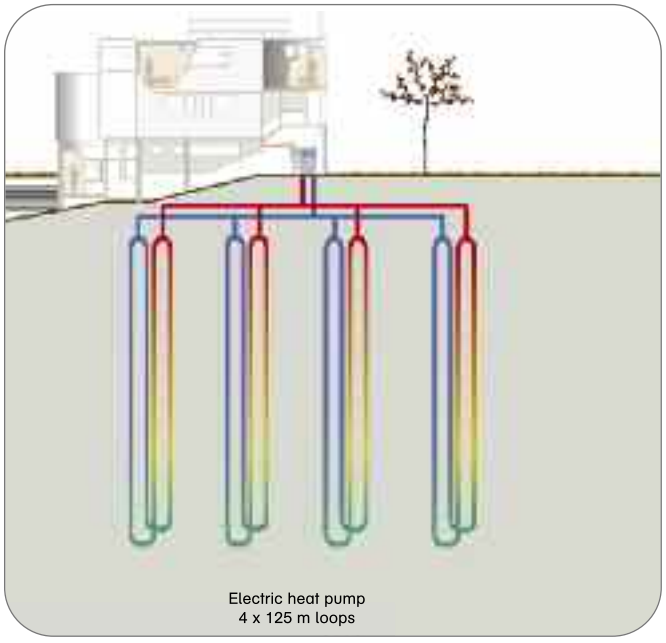
Applications

- Ideal for heating industrial, commercial, accommodation and tertiary utilities in geothermal applications. Ability to supply cooling as free-cooling mode (unit off) or in geothermal applications with active cooling (unit on).
- For outdoor and indoor installation.

Versions

- HT: for the production of water at high temperature (retrofitted radiator systems);
- LT: optimized to produce hot water at low temperature (new systems with radiant panels or fan coils).





With GAHP-GS absorption heat pump reduction in investment costs for geothermal loops can be higher than 50%.
The actual length of the probes depends on the ground and conditions of use.

			GAHP-GS HT	GAHP-GS LT
HEATING OPERATION MODE				
Working point B0/W35	G.U.E. (gas utilization efficiency) *	%	- -	169
	heating capacity	kW	- -	42.6
	capacity recovered from renewable source	kW	- -	17
Working point B0/W50	G.U.E. (gas utilization efficiency)	%	149	- -
	heating capacity	kW	37.6	- -
	capacity recovered from renewable source	kW	12.6	- -
Nominal water flow rate (ΔT = 10 °C)		m^3/h	3.17	3.25
Nominal water pressure loss (B0/W50)		kPa	49	49
Maximum outlet water temperature for heating/DHW		°C	65/70	55/70
Maximum inlet water temperature for heating/DHW		°C	55/60	45/60
BURNER CHARACTERISTICS				
Thermal input (actual)		kW	25.2	25.2
Gas consumption (actual)	natural gas G20 (1)	m^3/h	2.67	2.67
	LPG G31/G30 (2)	kg/h	1.99/1.96	1.99/1.96
ELECTRICAL CHARACTERISTICS				
Voltage			230 V – 50 Hz	
Nominal electrical power (3)		kW	0.47	0.47
INSTALLATION DETAILS				
Operational Weight		kg	300	300
Sound pressure at 10 metres (4)		dB(A)	39	39
Connections	water	" F	1 1/4	1 1/4
	gas	" F	3/4	3/4
	flue exhaust pipe	mm	80	80
Residual flue pressure		Pa	80	80
Dimensions	width	mm	848	848
	depth	mm	690	690
	height (5)	mm	1,278	1,278
Electrical degree of protection		IP	X5D	X5D

GAHP GS units are available also in pre-assembled links (RTGS).

(1) PCI 34.02 MJ/m^3 (9,45 kWh/m^3) at 15 °C - 1013 mbar.
(2) PCI 46.34 MJ/kg (12,87 kWh/kg) at 15 °C - 1013 mbar.
(3) ± 10% depending on the power supply voltage and on the tolerance of the electrical motors power consumption.
(4) Free field, at the front, direction factor 2. The values refer to the maximum measured.
(5) The dimensions refer to the unit without flue exhaust pipe.

Note: The capacity above mentioned is also the capacity available for cooling. For any further information, please refer to design manual.
* Equivalent COP: 4.25 calculated on energy conversion factor of 2.5.
Data refer to indoor installation.