

# ROTEX ground source heat pump

a member of **DAIKIN** group

# ROTEX



## Natural geothermal energy

ROTEX HPU ground – the **ground source heat pump** that heats with free geothermal energy. Compact, environmentally responsible and uniquely efficient.



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## Geothermal heating – so simple

### An inexhaustible heat source right under your feet

Geothermal heat is a natural energy source. Thanks to ROTEX technology, you can benefit from this constant, free and inexhaustible heat supply for heating your home and domestic hot water. The ROTEX HPU ground heat pump unit uses this environmental heat to heat your home with maximum efficiency.

### How does a ground source heat pump work?

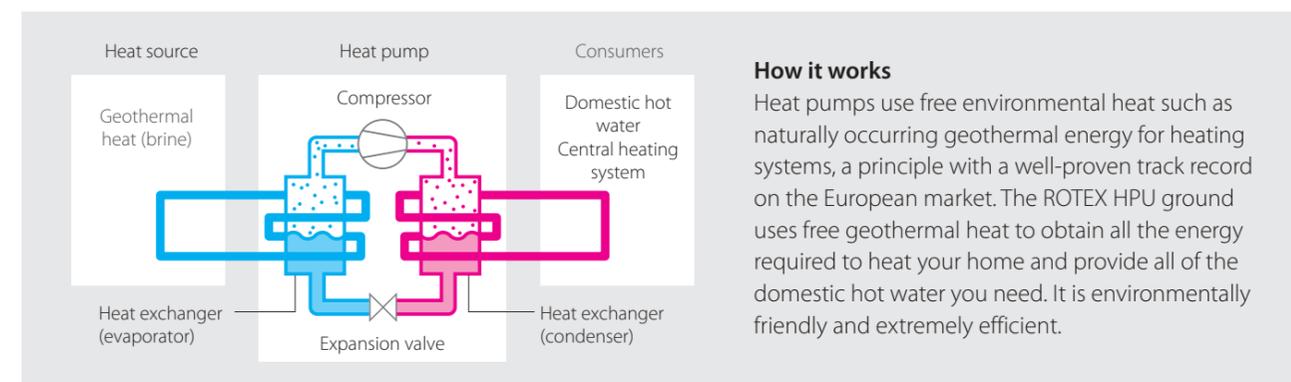
Even in the coldest places there is plenty of energy in the ground in the form of free geothermal heat. At a depth of 15 metres and below, the temperature is a fairly constant 10 °C. This trapped energy represents an inexhaustible heat source which the ground source heat pump can tap into to heat your home. Using geothermal probes or geothermal collectors, a mixture of water and antifreeze, also known as brine, is pumped around the underground circuit as a heat transfer medium. The brine then flows through the heat pump where the heat is transferred to a refrigerant with a low evaporating point. The refrigerant is then compressed so the heat can be used for heating and domestic hot water.

### What are the benefits of this technology?

Ground source heat pumps are highly efficient regardless of the outside temperature. This is particularly advantageous in cold regions. The ROTEX ground source heat pump offers a stable heating output no matter what the outside temperature. Provided the system is properly designed, no additional back-up heating – such as an immersion heater – is required. This means that you can heat using only renewable and environmentally responsible geothermal energy.

**“It was important for us to find a heat pump that used the most efficient technology. And when it comes to efficiency, the ROTEX ground source heat pump with its inverter technology was hard to beat! It meets every single one of our requirements and looks good too. On a more practical level, it can fit into the smallest of spaces without any trouble at all.”**

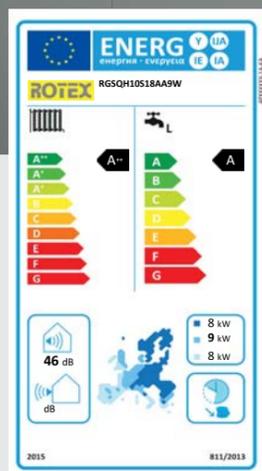
**Petra and Lutz Wolf, homeowners**



### How it works

Heat pumps use free environmental heat such as naturally occurring geothermal energy for heating systems, a principle with a well-proven track record on the European market. The ROTEX HPU ground uses free geothermal heat to obtain all the energy required to heat your home and provide all of the domestic hot water you need. It is environmentally friendly and extremely efficient.

ROTEX HPU ground internal unit



Product label HPU ground

**September 2015:**  
**New energy efficiency labels for heating systems**  
 Energy labels provide a clear indication of the efficiency class of the system concerned. These labels will make it easier to compare heating appliances and whole systems and decide which one to buy.

## It's all about the technology

### Inverter technology for greater efficiency

The ROTEX ground source heat pump delivers exceptional performance thanks to its highly efficient inverter technology. When the building does not require heating at full capacity, the heat pump reduces its output, making it much more efficient.

### One output – many applications

Thanks to inverter technology the HPU ground offers an output that ranges from 3 kW -10 kW. With the boost function this can be increased to 13 kW, extending still further the number of applications that can benefit from this heat pump. In low energy houses, the heat source can have smaller dimensions. This saves money when probe drilling or selecting a geothermal collector.

### Benchmark – the seasonal performance factor

This indicates the ratio of heating energy you use throughout the year in relation to the auxiliary energy used. The higher the seasonal performance factor, the more efficient the heat pump. Intelligent inverter technology means that the heat pump is run with higher brine temperatures in standard mode. This significantly increases the efficiency of the system, as shown by the high seasonal performance factor. The ROTEX HPU ground sets a whole new standard for ground source heat pumps.

### Your benefits with the ROTEX HPU ground ground source heat pump

#### Outstanding efficiency

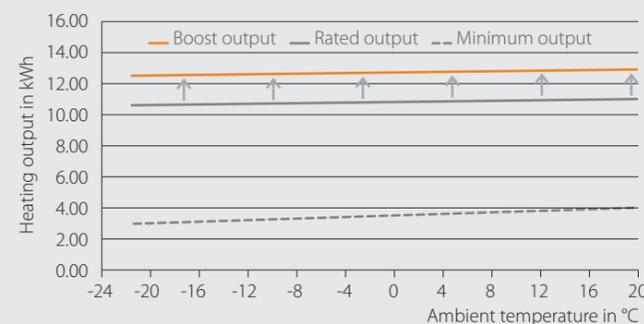
- Use of free, renewable geothermal energy

#### Innovative technology

- Inverter technology ensures efficient operation at any outside temperature
- User friendly control with integrated energy management

#### Meets your needs

- For central heating and domestic hot water
- Economical and quiet to run
- Compact dimensions, easy installation – on a very small footprint



### Boost function for maximum heating output

If the building requires a greater heating capacity, ROTEX HPU ground uses its integrated boost function to increase the output without the need for an additional immersion heater.

# Very easy to install



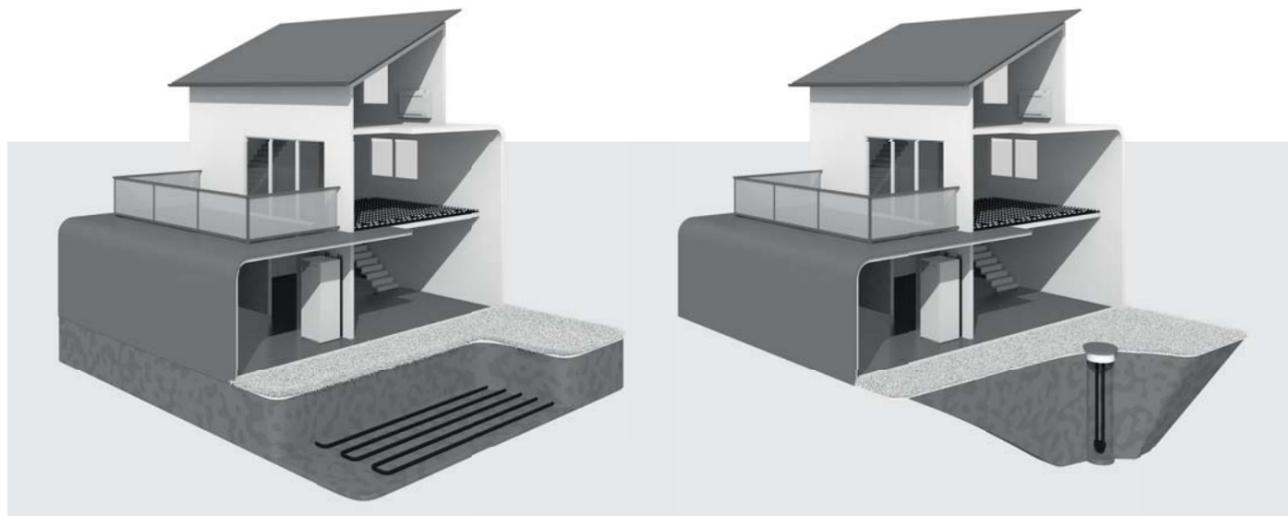
### Attractive design with a very small footprint

Thanks to its compact design, the system needs a very small installation area of just 728 x 600 mm – roughly the same as a washing machine. At just 1.73 m tall, the combined heat pump module and DHW tank fits in any standard room.

### Fast installation – including DHW tank

The HPU ground is factory-fitted with an integrated 180 l stainless steel domestic hot water tank, which considerably reduces installation time. The pipe connections ready fitted on the upper section of the unit additionally minimise connection work.

The ground source heat pump is impressively compact and requires only a small installation area, because all the key components are housed within the unit itself. This gives you plenty of options in terms of where to install it in your home.



Geothermal energy is a free energy source for central heating and domestic hot water. This energy can be harnessed using geothermal collectors (left) or a geothermal probe (right).

# Specification



HPU ground RGSQH10S18AA9W		
<b>Type</b>		
<b>Energy efficiency class</b>		
Space heating (flow temperature 55 °C)		A++
Space heating with integrated control (flow temperature 55 °C)		A++
Water heating energy efficiency (tapping profile)		A (L)
<b>Basic data</b>		
Rated heating output B0/W35	kW	10.2
Maximum heating output B0/W35	kW	13
Rated COP B0/W35		4.35
Heating flow temperature operating range (with heating element)	°C	min. 24 / max. 60 (65)
DHW operating range (with heating element)	°C	min. 25 / max. 55 (60)
Heating output (heating element)	kW	9
Dimensions (WxD xH)	mm	600 x 728 x 1732
Weight of unit	kg	210
Total tank volume	l	180
Sound power level in heating mode	dB(A)	46
Sound pressure level in heating mode	dB(A)	32
Refrigerant		R410A
Refrigerant charge	kg	1.8
GWP		2087.5
TCO <sub>2</sub> eq		3.8

Information in printed materials subject to correction and technical modification. From 26 September 2015, energy efficiency labels and current product datasheets can be obtained using the Energy Label Generator at [www.rotex-heating.com](http://www.rotex-heating.com).



### The thermostat – easy to set

The controller is extremely user friendly. Operating modes, time programs and parameters can be set easily and intuitively via the plain text display screen. The controller can also be used as a thermostat. The room temperature can be raised or lowered quickly and easily with just a few clicks – the intelligent system automatically adjusts the water temperature accordingly.

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# ROTEX

### **What makes ROTEX different?**

We offer individual solutions for optimum living and working that are straightforward, intelligent, and futureproof.

ROTEX is a manufacturer and supplier of complete innovative and environmentally responsible heating systems – building on decades of experience. Since 1973, ROTEX has stood for innovation and know-how in the field of heat generation, storage and distribution. In the development of products for our high grade and perfectly matched components we focus on user benefits.

The ROTEX product range extends from heat pumps, condensing boilers for oil and gas, solar thermal systems and thermal stores, not forgetting underfloor heating, heating oil tanks and rainwater tanks, right up to a comprehensive installation system for all sanitary and heating equipment. Innovative systems that facilitate the optimum use of conventional and alternative fuel types in both modernisation and new build projects. ROTEX products stand for unique cost efficiency with maximum environmental compatibility and the highest levels of flexibility.

ROTEX Heating Systems GmbH is a wholly owned subsidiary of Daikin Europe NV, making it a member of the DAIKIN Group, the world's leading manufacturer and supplier of products for heating, ventilation and climate control. Our combined competence generates optimum product solutions to meet the highest user aspirations.

### **ROTEX Heating Systems GmbH**

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