GEOTHERMAL ENERGY

INVERTER TECHNOLOGY: HIGH-PERFORMANCE GREEN ENERGY FOR YOUR HOME

Thermia Calibra

thermia.com

LOW-CARBON HEATING IS THE KEY TO SUSTAINABLE DEVELOPMENT

With the twin goals of reducing costs and maximizing sustainability, pressures on building design, operation and performance continue to grow. Today's trend towards low-energy or near-zero-energy buildings reflects radical changes in the way buildings are being designed and constructed to reduce their environmental impact.

More than a quarter of Europe's CO_2 emissions come from heating, lighting and running appliances in our homes. 80% of this is attributed to heating and hot water alone. Clearly, we need to find alternative and more efficient means of heating our homes and hot water.

Heat pumps harvest energy stored in the ground, air or water and convert it into an environmentally sustainable indoor climate for the building. Because no fossil fuels are burnt, heat pumps are extremely environmentally friendly and help you achieve your emissions targets.

Air and ground source heat pumps have the potential to reduce your home's CO_2 emissions by up to 50%. In this way, they can be your individual contribution to the commitment to source 20% of European energy from renewable sources by 2020.

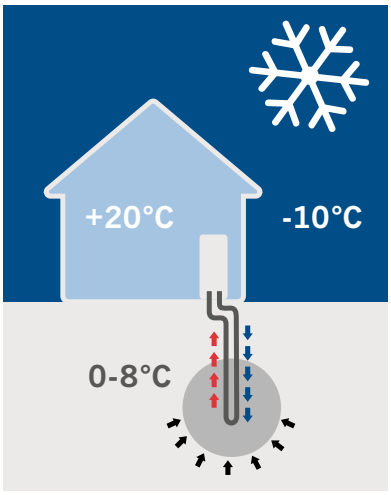
RENEWABLE ENERGY

ECO-FRIENDLY HEATING AND COOLING

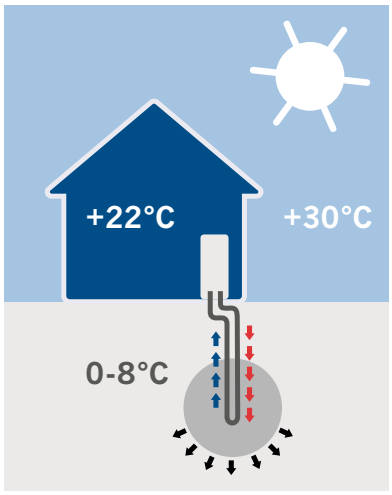
As an endlessly renewable energy source for any home, heat pumps should be considered at the earliest design stage. Incorporating renewable heating and cooling into your project will significantly reduce annual energy consumption, operating costs and your carbon footprint.

The basic principle is as simple as it is brilliant: take the free energy that exists in the air and ground – and convert it into heating for your home.

Geothermal heat pumps operate on a simple principal: they move heat from one place to another via a refrigeration process. The energy stored in the ground or ground water is simply extracted and transferred to the heat pump via the borehole – and vice versa – and can be used for heating, hot water and cooling. In this way, nature provides us with superior indoor comfort in an economical way with almost zero negative impact on the environment.



Warm in the winter
The heat pump concentrates low-grade heat from below ground and raises its temperature. The heat is then transferred to the domestic energy distribution system – usually radiators, hydronic floor heating or fan coils.



Cool in the summer
In the summer, the process can be simply reversed. The heat pump collects heat from the house and deposits it into the ground borehole to provide cooling. This is far more cost-efficient than traditional air conditioning.

OUR BRAND STORY

BORN IN SWEDEN

Thermia started as one man's passion. Way back in 1889, Per Anderson began developing some of the world's first energy-efficient stoves for cooking, heating and hot water.

By 1923, his business had matured sufficiently for him to found Thermia. Ever since, we have been guided by Per's original vision: "The products one releases must be not only the best of their time, but before their time, over time."

In 1973, at the height of the global fuel crisis, Thermia launched the world's first heat pump with its own integrated hot water tank. Since then, we have been 100% dedicated to developing, refining, manufacturing and pioneering superior heat pumps.

Read our story at story.thermia.com

THERMIA INVERTER TECHNOLOGY: CLEAN ENERGY FOR A BETTER LIFE

We are proud to present Thermia Calibra: our new ground source heat pump with Thermia Inverter Technology inside.

All new buildings constructed after 2020 will be built to European standards for high energy performance and will incorporate renewable energy sources to meet the low energy demand of each building. In the coming decade, new buildings must be low-energy. Today, many countries have already begun retrofitting and renovating programs to meet energy performance targets in older buildings.

This trend towards technology-rich, low- and near-zero-energy homes calls for the best available solutions. Solutions that use efficient, renewable sources to reduce the amount of energy used for heating and cooling energy.

Small but powerful

Thanks to its inverter-controlled compressor, Thermia Calibra continuously adjusts output to match real-time heat demand. This helps to give it one of the highest SCOP* ratings in the world among heat pumps. Thermia Inverter Technology means that the compressor and inverter are fully managed by the Thermia controller. With this technology, the heat pump can not only speed up and slow down but precisely adjust speed across all ranges based on demand calculated by the main controller. This means that it never uses more energy than is actually needed at any given time, further reducing energy consumption and costs.

Your commitment to the environment

Thermia Calibra saves energy and is a proven environmentally friendly solution. Simply by choosing a Thermia Calibra, you demonstrate your commitment to a more sustainable world. The money you save on your heating bills is just one added benefit for you.

* Seasonal Coefficient of Performance measure annual energy consumption and efficiency.

80%
of heating demand is met using renewable energy

THERMIA CALIBRA

Energy class according to Eco-design Directive 811/2013:

A+++ When the heat pump is part of an integrated system

A++ When the heat pump is the sole heat generator

- **Thermia Calibra 7**
  Built-in 180 liters hot water tank
  Available in output size: 1.5 – 7 kW
  Electrical connections: 400 V 3N, 230V 1N
- **Thermia Calibra 12**
  Built-in 180 liters hot water tank
  Available in output size: 3 – 12 kW
  Electrical connections: 400 V 3N, 230V 1N

Thermia Calibra is also available with a separate hot water tank, perfect if you need that extra amount of volume.

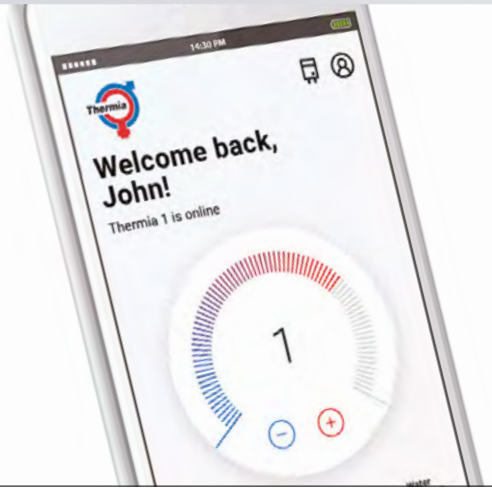
Thermia Calibra 7 and Calibra 12 are available in grey or white color.

TAKING COMFORT TO THE NEXT LEVEL

A one-system solution
Thermia heat pumps are designed to provide a perfect indoor temperature and climate all year round. What's more, Thermia Calibra even supports optional cooling or pool heating.

Fitting in with the way you live
Our Thermia Inverter Technology continuously adjusts the heat pump's output to real-time demand in your home. Second by second, hour by hour, day by day, during winter and summer. This means that the heat pump can supply 100% of your energy requirements without the need for auxiliary heating.

More hot water, faster
The integrated Tap Water Stratification (TWS) system – a Thermia technology that ensures extremely fast production of hot tap water – provides 15% more hot water significantly faster and at higher temperatures than traditional alternatives. For the household and family, this means more hot water, delivered faster and at considerably lower cost.



CONTROL YOUR HEAT PUMP FROM ANYWHERE

Monitor and control your heat pump from any smartphone, computer or tablet – wherever you are in the world! Using the 'Thermia Online' app, you can easily control the system remotely. For example, check that your heating system is working properly, reduce the temperature when you are on holiday or receive an alert if anything unexpected occurs.
The 'Thermia Online' app is available for both Android and iPhone.

THERMIA

CALIBRA

Thermia Calibra has been designed to provide optimum performance across all climate zones in Europe – with an unrivalled focus on minimizing energy consumption and providing maximum comfort through state-of-the-art technologies.

Thermia Inverter Technology

At the heart of the Thermia heat pump is an inverter-controlled compressor. This continuously adjusts the heat pump's output to real-time heat demand. Thermia Inverter technology means that compressor and inverter are fully managed by Thermia controller. In our technology, the compressor can speed up, slow down and also precisely adjust speed across all ranges based on demand calculated by the main controller. Thermia Inverter Technology connects the compressor, inverter and controller in one system with one main aim: energy savings.

Intelligent controller

The intelligent controller monitors the whole system: radiator, underfloor or mixed heating systems, hot water, cooling or additional heaters, and can easily combine other heat sources such as solar thermal panels.

European quality components

The components we use inside our heat pumps are supplied by well-respected European brands. These include Class A speed-controlled circulation pumps and the high-performance MPHE (micro-plate heat exchanger). The hot water tank is made from stainless steel. The quality of the components we use ensures many years of trouble-free operation.

Thermia TWS hot water technology

The integrated Tap Water Stratification (TWS) technology enables hot water to be produced significantly faster and at higher temperatures than traditional alternatives. The large surface area and orientation of the TWS coil ensures the fastest possible recovery time for 180-liters of hot water. .

Ultra-quiet cabinet

The new mechanical design makes Thermia Calibra the quietest heat pump on the market. During operation, it creates just 28 dB, comparable to the sound of rustling leaves.

INTELLIGENT CONTROL SYSTEM WITH EASY MENU AND INTUITIVE ICONS

The controller boasts a color touchscreen display and user-friendly icons that are easy to understand.

The system uses an algorithm that ensures the lowest possible running cost – while maintaining the desired indoor temperature.

Important features:

- Start-up assistant – step-by-step guide to commissioning
- Color touchscreen and intuitive menu
- Full overview of temperatures and curves
- Plug-and-play software update via USB slot
- Interface to BMS (Building Management System) – “smart home”
- Smart Grid ready – prepared for the intelligent power supply of the future

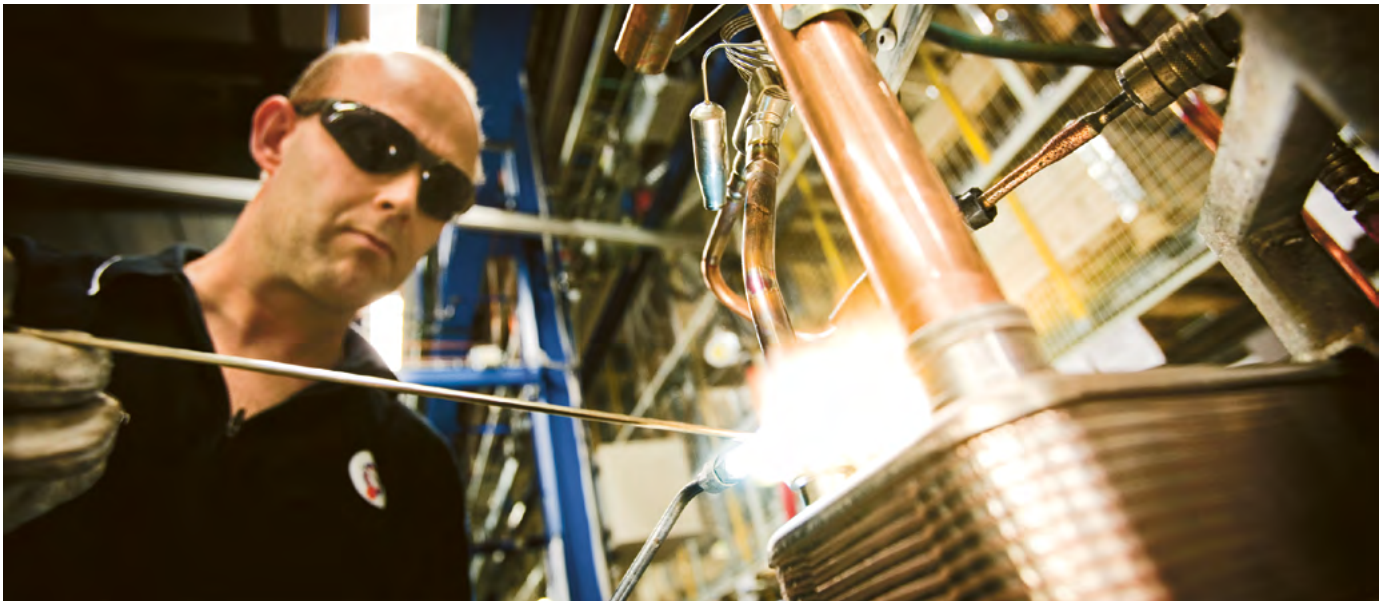
LET THE HEAT PUMP DO THE COOLING

Use your heat pump to produce heat during the cold season and enjoy comfort cooling when the weather is hot.

By adding a cooling unit to your heat pump, you get a comprehensive climate comfort system that gives you a perfect indoor climate, all year round. It is also significantly more economical than conventional systems in terms of both initial investment and running costs.

Passive cooling
By taking advantage of the cool brine in the ground loop, cooling is created at a cost equivalent to the energy consumption of a couple of light bulbs. Passive cooling can be provided by Thermia Calibra by simply adding a separate module.

Active cooling
If necessary, extra cooling can be achieved by using active cooling, in which cooling is produced using the compressor system. With this method, cooling produced by a ground source heat pump is significantly more cost efficient than traditional air conditioning.



THERMIA

THE ULTIMATE ENERGY PROVIDER SINCE 1923

Pioneering heat pumps

For the last 50 years, we have dedicated all our resources and knowledge to developing and endlessly refining one product: the heat pump. Our focus on geothermal energy has given us world-leading knowledge in heat pump technology.

Engineered with passion

Developing truly sustainable renewable energy solutions can only be achieved with passionate, dedicated and uncompromising experts. Some of Europe's most highly qualified engineers can be found in our own R&D center.

Born in Sweden

All our products are designed, manufactured and tested in Sweden using the latest technology and the highest quality components. All components inside our ground source heat pumps are made in Europe by world-leading industry specialists.