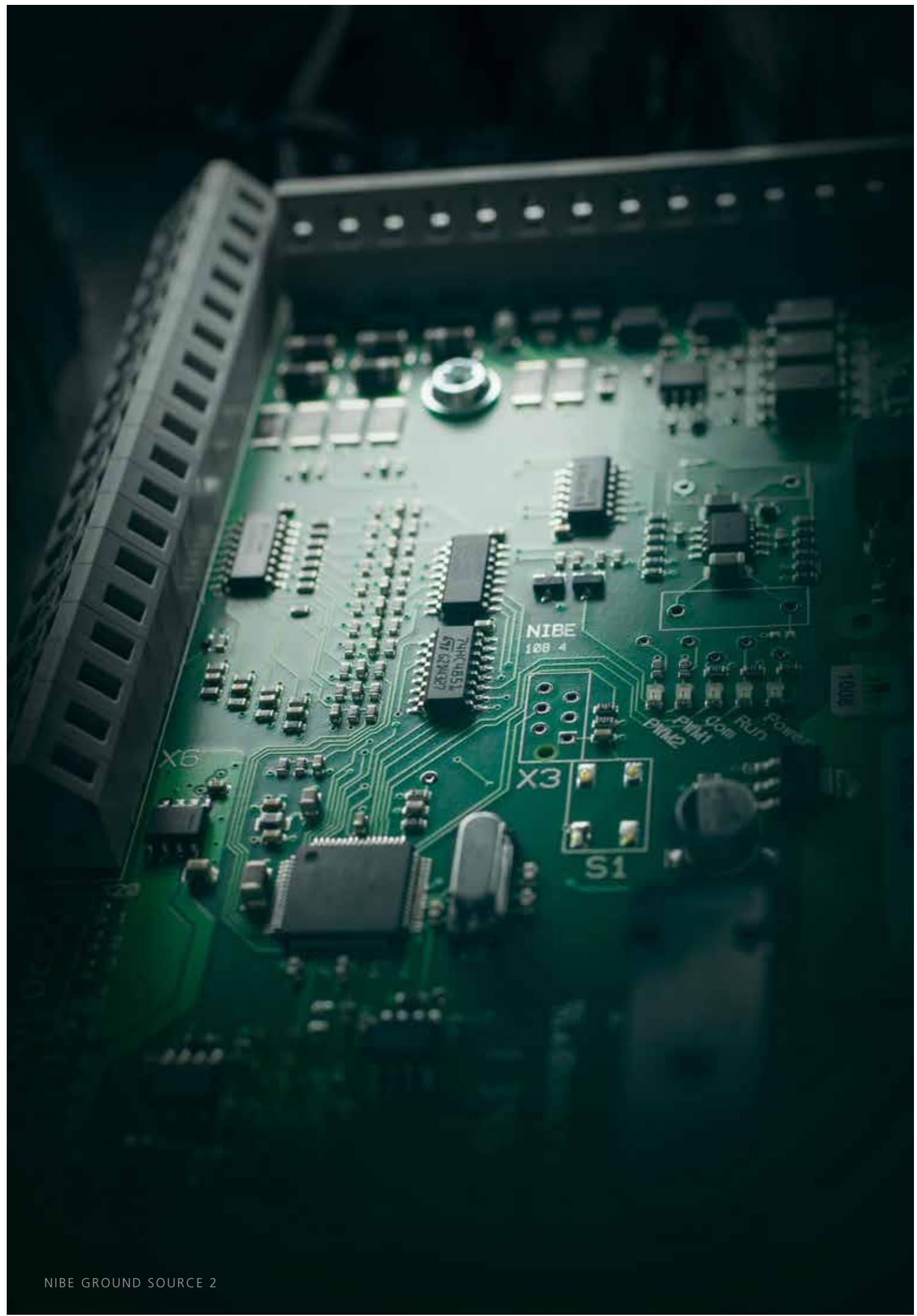




NIBE Ground source
A NEW GENERATION
OF HEAT PUMPS



NIBE GROUND SOURCE 2

UNDERGROUND SOLAR HEAT - A VAST RESERVE OF ENERGY JUST WAITING TO BE TAPPED!

Look out of your window and what do you see? The street?
The house opposite? The trees and fields? What we at NIBE
see is a free source of energy – the ground!

With the aid of a ground source heat pump, solar energy stored in the ground can be collected and used to heat your home. Here's how.

Warmth builds up underground from the first days of spring when the surface of the earth starts to thaw, to high summer, when the rays of the midday sun penetrate deep down into the ground. By the time the autumn leaves are falling, there's enough energy stored in the ground to heat up your house throughout the coldest winter. A heat pump captures and upgrades this naturally occurring warmth, so even if the summer is wet and cool, it can still provide enough energy to maintain a comfortable indoor temperature.

If at any point it gets too hot inside your house, the same system can be used for cooling. Drawing on the lower temperature underground (between 4 and 12 degrees) passive cooling also exploits nature's own resources – simply for cooling instead of heating.

It's amazing, but true. We know, because we've already been using heat pump technology in Sweden for over 30 years.

WHY CHOOSE A GROUND SOURCE HEAT PUMP?

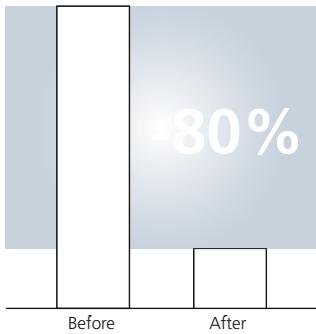


You save money

Installing a ground source heat pump from NIBE can lead to a reduction in energy consumption of up to 80%. The reason for this is that a ground source heat pump uses the ground, surface soil or nearby lake as its main energy source, and all these kinds of energy are free of charge.

Although the heat pump doesn't pay for itself in the first month, you will notice the financial benefits right away because your heating bills will be so much lower.

Moreover, the efficiency of NIBE's latest generation of ground source heat pumps (they have an especially high operating range) positively impacts the speed with which you recover your investment.



Enjoy a dramatic reduction in energy consumption and up to 80% off your heating bills when you install a NIBE ground source heat pump!



Efficient, safe and problem-free heating and hot water at a fraction of the alternative cost and a fraction of the environmental impact.

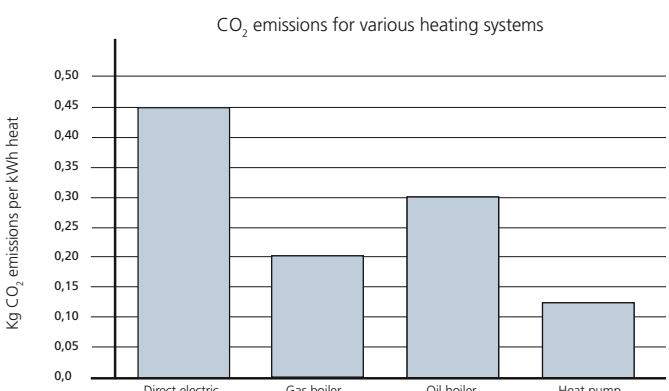
You reduce your carbon footprint

The second reason for choosing a NIBE ground source heat pump is that it's so environmentally-friendly. By merely storing and converting solar energy from the ground to heat your home and hot water, a ground source heat pump leads to much lower CO₂ emissions than a traditional fossil-fuel based heating system.

Some governments and regional authorities offer subsidies to homeowners to switch from fossil fuel based heating to a more modern, renewable source of energy. Since ground source heat pumps are now officially classified as renewable energy, there couldn't be a better time to change!

Consider this

If all the approximately 1 million new houses built in Europe installed heat pumps, by 2016, we would be emitting about 3 600 000 tonnes less CO₂ each year. That's the equivalent of taking about a million cars off the road!



FOUR KINDS OF GROUND SOURCE ENERGY

The term "ground source" covers four different heat sources: rock, surface soil, ground water and lake. The one that suits your location best is determined by factors such as the building's energy needs, your current heating system and the kind of terrain your house stands upon. Your local NIBE installer will be able to offer advice about which one is most appropriate for your home.

In all four cases, the heat pump concentrates the stored energy from one of these sources in such a way as to provide the hot water for radiators, underfloor heating, baths and showers.

Rock - using a ground probe

Ideal for refurbishment or adaptation from a fossil fuel based heating system.

In the lower subsoil of the so-called "near-surface geothermal layer" lies a heat source with an almost constant temperature that can be utilised all year round. The heat pump collects stored solar energy from a collector in a hole drilled into the rock. The depth of the hole can vary between 90 – 200 metres, depending on the size of heat pump selected and on local building regulations.

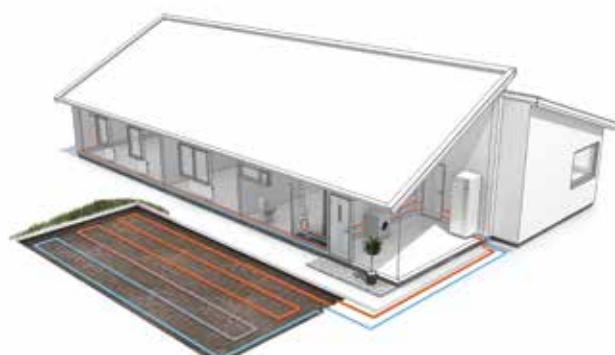
This type of system can be used for all possible building types, large or small, public or private. It requires little space and the ground probe can be drilled in the smallest of gardens.

Surface soil - using a surface collector

Cost-effective energy collection.

During the summer, solar heat is stored in the soil. This is either directly absorbed as insulation or as heat from rain and the air from the near-surface layer of the soil. The heat pump collects this stored solar energy from a buried collector. That is, a hose filled with anti-freeze, and buried at a depth of about 80 – 100 cm, the length of the hose varies between 250 and 400 metres, depending on the size of heat pump selected.

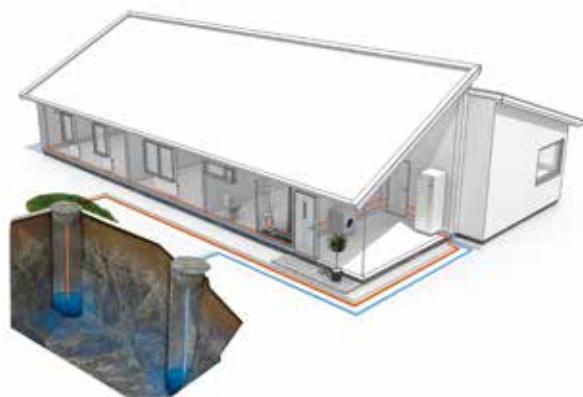
Using this energy for heating is a cost effective method. The highest yield can be obtained from soil with a high water content.



Ground water

A viable energy source for any building where ground water is easily accessible.

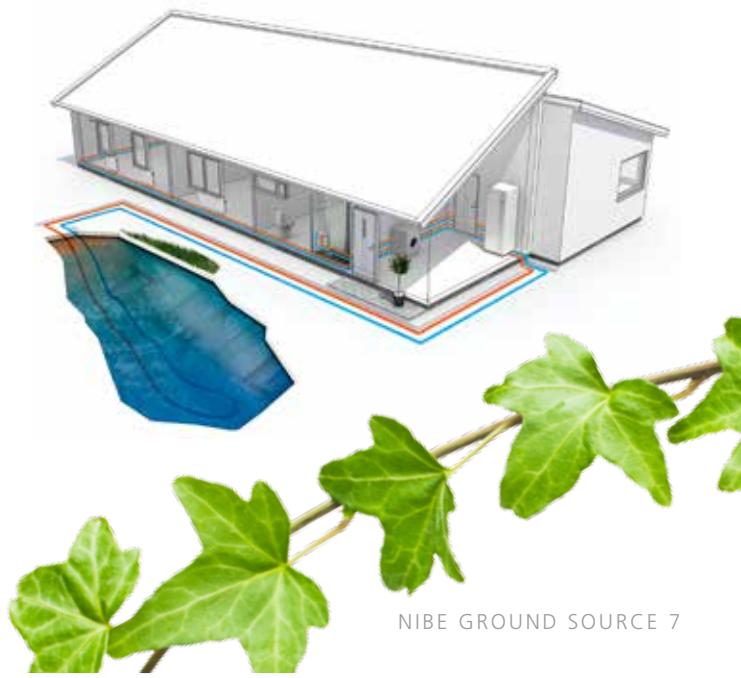
Ground water can also be utilised as a heat source since it has a temperature of between 4 and 12°C all-year round. The heat pump collects stored solar energy from the ground water. Normally, there is one well for drawing up water and one for returning it.



Lake collector

Cost-effective installation for lakeside homes.

If your home is built beside a water source such as a lake, heat from the lake water can be extracted using a surface soil collector anchored to the bottom of the lake.



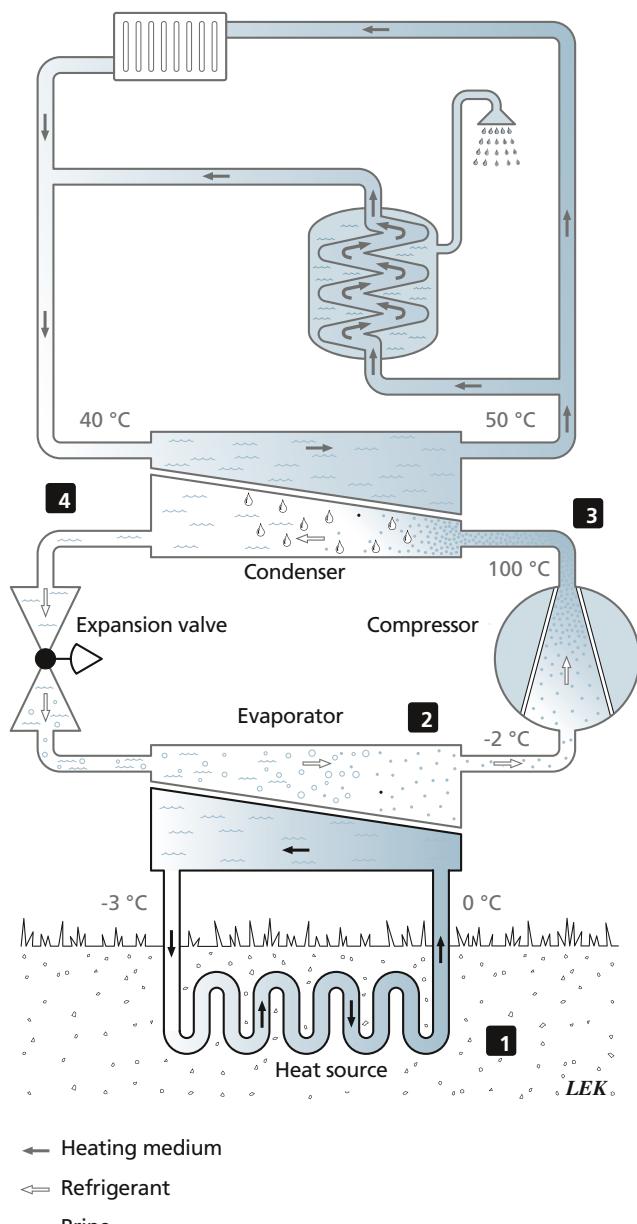
HOW DO GROUND SOURCE HEAT PUMPS WORK?

The earth absorbs and stores heat from the sun year after year, providing us with a constant source of naturally renewed energy. Just a few feet under the ground, there is a fairly constant average temperature of 4°C to 12°C. This trapped energy represents a vast reserve of low grade heat waiting to be tapped.

The ground source heat pump gathers heat from the solar energy stored underground, either using collectors buried at a shallow depth, or from boreholes which are drilled deeper underground.

The heat is transferred from the ground to the heat pump using a mixture of water and an environmentally-friendly anti-freeze solution. It circulates through the closed loop, absorbing thermal energy from the earth and carrying it to the heat pump.

The refrigerant circulates in the heat pump and thus the heat from the ground is retained and converted into high-grade heat to be released into your home via an underfloor heating system, water based radiators and into your hot water tank.



1. Using a hose filled with liquid, known as a collector, you can bring up solar energy stored deep down in the rock, at the bottom of the lake or a metre or so beneath your lawn. The liquid in the collector circulates and is heated up by the stored solar heat down in the ground or in the lake.
2. When the liquid passes up into the heat pump, it meets another closed system. This contains a refrigerant that can turn into gas at a very low temperature.
3. Under high pressure, a compressor considerably increases the temperature of the refrigerant. Then, using a condenser, the heat is transferred to the water-based heating system in the house.
4. Meanwhile, the refrigerant reverts to liquid form, ready to turn into gas once more and to collect new heat energy.

THE DILEMMA:

Home owners, architects and builders are looking for more environmentally-friendly ways to regulate the indoor climate.

There is an obvious trend away from natural gas and oil based solutions due to the pressures of cost and availability of fossil fuels. Long term planning is called for.

The pressure is on from governments and societies to behave in a more environmentally responsible way, specifically in the choice of heating systems for buildings.

NIBE'S ANSWER:

When compared to alternative heating solutions, heat pumps have a very low environmental impact.

Designed for domestic use, NIBE ground source heat pumps are easy to install, operate and maintain. They are built to last and can be driven by a variety of different energy sources, depending on availability and price.

There is no combustion process involved in the operation of a NIBE ground source heat pump. It merely upgrades energy from the ground, surface soil or lake-water near your home. Ground source heat pumps are now officially classified as a renewable energy source.

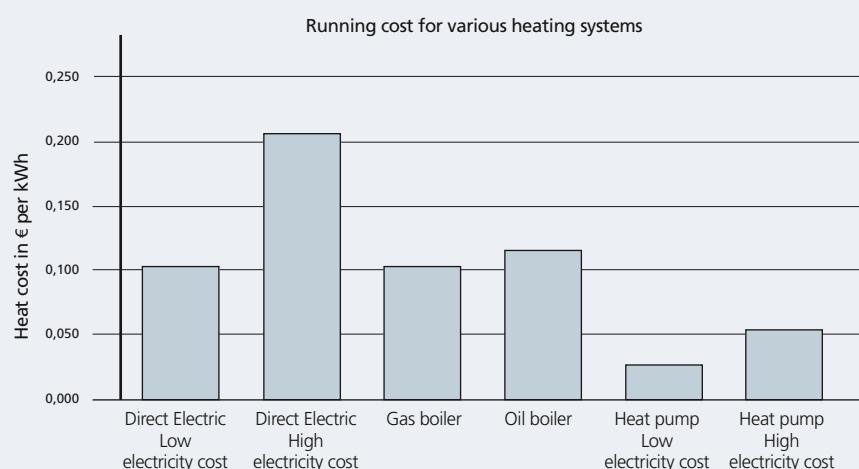


WHAT IMPACT DOES A NIBE GROUND SOURCE HEAT PUMP HAVE ON YOUR ENERGY CONSUMPTION?

It reduces energy consumption for heating and hot water by up to 80%!

Thanks to a series of efficiency-enhancing innovations, such as low energy circulation pumps (class A), an especially well-insulated hot water tank and indeed, to the design of the tank itself, NIBE's ground source heat pumps offer a particularly high Seasonal Performance Factor (SPF). That is, their average performance calculated over an entire year, taking into account the changing weather conditions and the household's fluctuating energy needs.

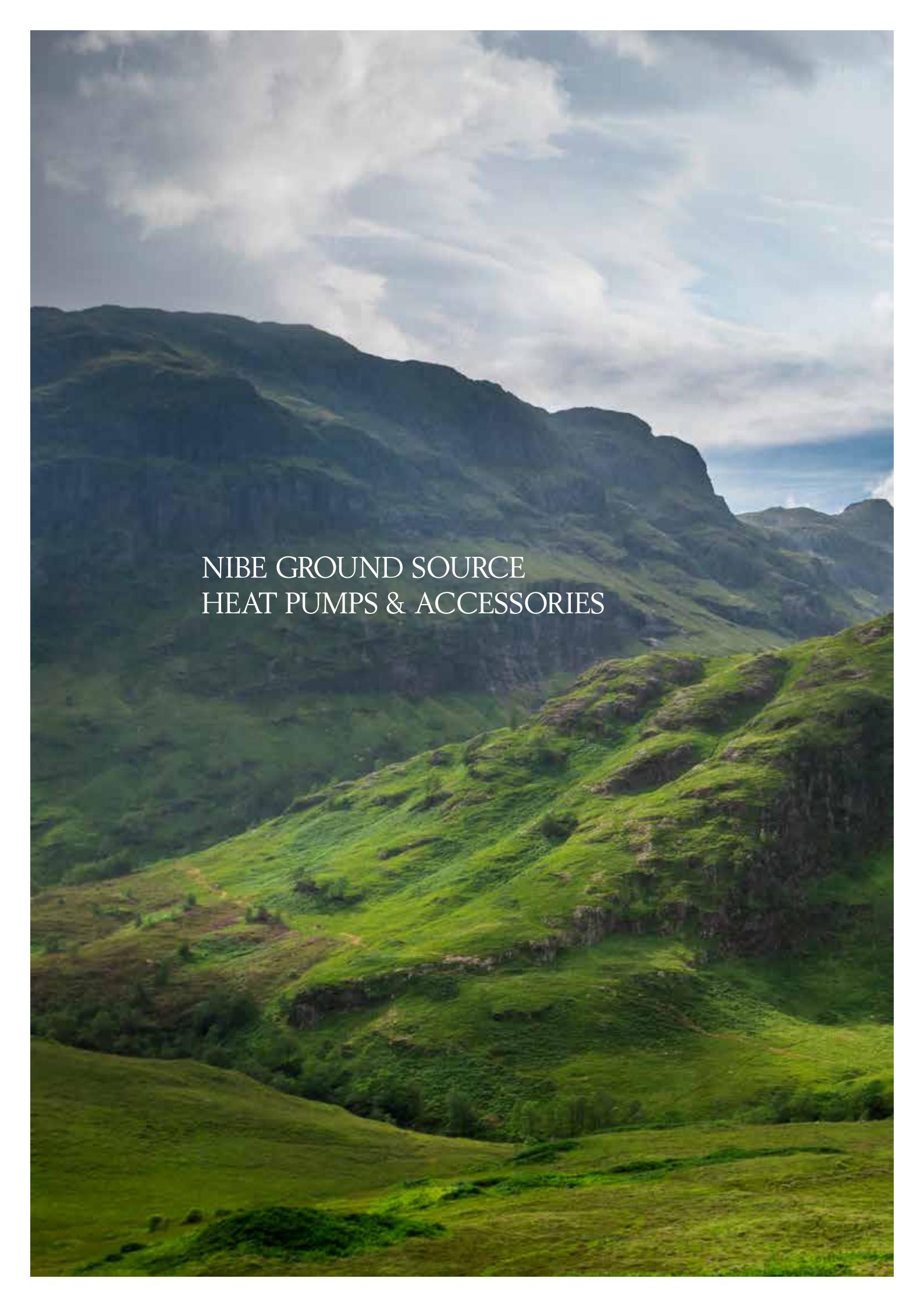
A heat pump's efficiency is often given as COP (coefficient of performance) i.e. the amount of heat it produces in relation to the amount of electricity needed to run it. However, to give a complete picture of the efficiency of our new generation of heat pumps, we prefer to use SPF.



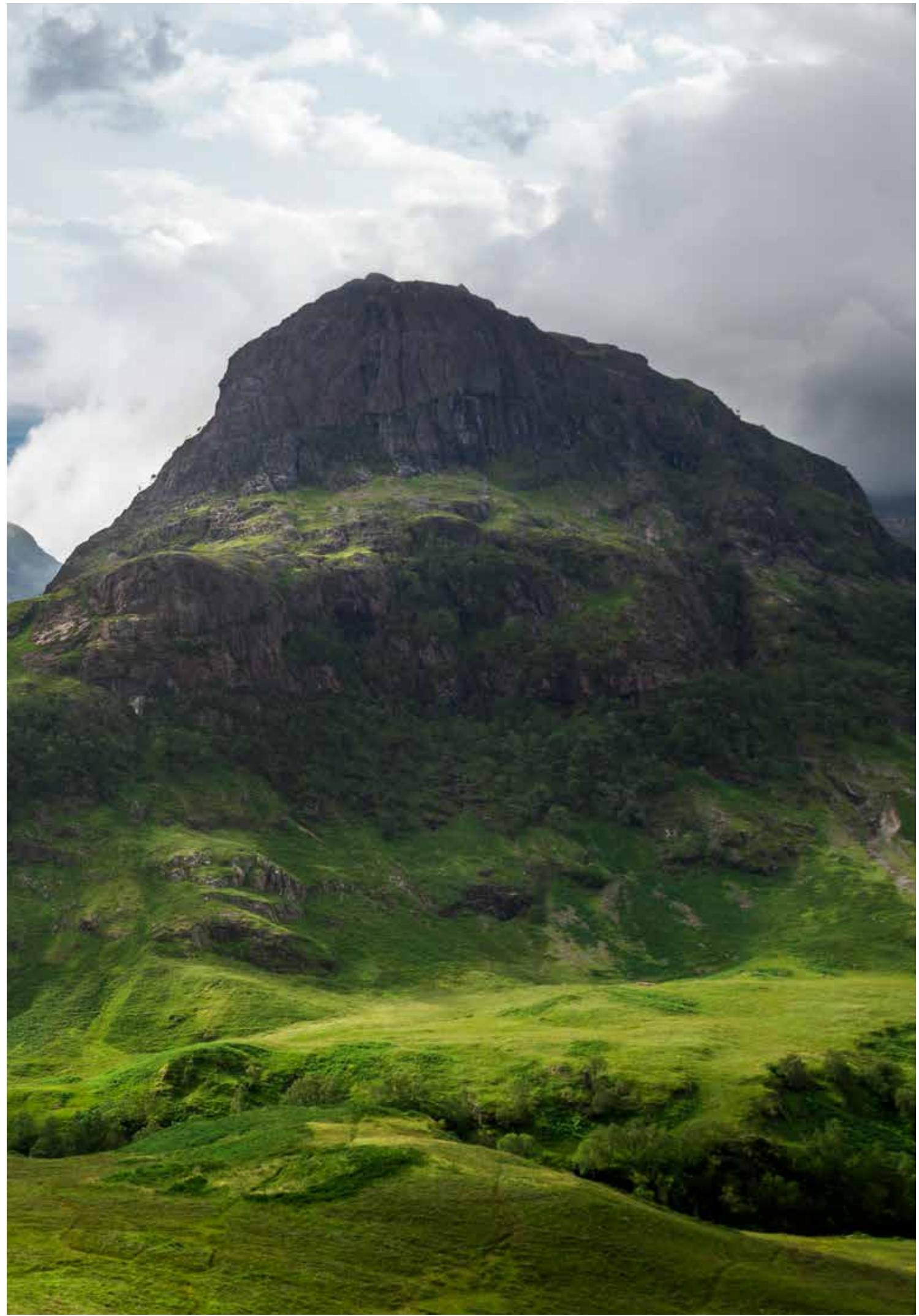


More good reasons to exchange your conventional boiler for a NIBE ground source heat pump:

- NIBE ground source heat pumps are ideal for underfloor heating and water-filled radiators. They tap into highly stable temperatures below the earth's surface to provide a consistent source of energy all year round.
- Most NIBE heat pumps also include a cooling function.
- You no longer need to worry about the availability of fossil fuels.
- No natural gas supply, flues or ventilation are needed.
- A NIBE heat pump gives you a clean, discreet heating, eliminating the need for a chimney.
- The noise level is extremely low and there's no visual impact on the garden since the collectors are buried out of sight.
- The heat pump is simple to install and operate, with a user-friendly display.

A wide-angle photograph of a rural landscape. In the foreground, there are rolling green hills covered in grass. The terrain is uneven, with some rocky patches. In the background, there are more hills and mountains, some of which are partially obscured by clouds. The sky is filled with white and grey clouds, suggesting an overcast day. The overall scene is peaceful and natural.

NIBE GROUND SOURCE
HEAT PUMPS & ACCESSORIES



THE NEW GENERATION OF NIBE GROUND SOURCE HEAT PUMPS

The principle behind ground source heating is basically very simple, but at NIBE we have developed the technology over the years, leading to increasingly sophisticated and advanced products.

Our new generation of ground source heat pumps is packed with sophisticated technology, but at the same time incredibly simple to install and operate. Designed for connection to a heat distribution system such as radiators, convectors or underfloor heating, these new heat pumps offer astonishing savings and big environmental benefits.

Now, even more efficient!

NIBE's new heat pumps achieve a reduction of up to 15% in energy consumption compared to earlier models. This overall figure takes into account factors such as increased compressor performance savings from the use of low energy circulation pumps and hot water tank insulation. Further reducing CO₂ emissions as well as energy costs, this efficiency gain is good news for home-owners and the environment!



Colour display

With the arrival of the new generation of heat pumps, the concept of user-friendliness has reached a whole new level. A large, easy-to-read multicolour display features clear information about status, operation time and all temperatures in the heat pump; an easily navigated control unit enables users to get the best performance out of the heat pump and maintain a comfortable indoor temperature at all times.

User convenience

You need never run out of hot water again! Equipped with a high output heating coil and a 180-litre tank, any of our heat pumps which feature an integrated water heater now give you even more efficient water heating and rapid replenishment of hot water supplies.

You can save even more energy by scheduling your heat pump to provide for the varying energy needs of your household, on a daily, weekly or longer term basis. What's more, our new heat pumps are so quiet you can hardly hear them!

User-friendliness

Our new generation of heat pumps have an intuitive interface, which benefits both the end user and the installer. For example, an automatically activated guide leads you through the set-up process quickly and correctly. There is a help function where you can turn for more information about each function, and an alarm which highlights problems and suggests how to solve them.

An easily removed compressor module and a clearly organised internal design facilitate installation and service. The inclusion of USB ports make software updates and operating data downloads quick and simple to perform.

Multi-purpose

With the addition of various accessories, our new heat pumps can do much more than merely heat your home and hot water. For example, they can be used to cool your home in summer, ventilate it cost-effectively, or even heat your swimming pool. The relevant accessories are dimensioned to fit neatly together, giving the appearance of a single streamlined system. And since all accessories are controlled via the heat pump, you only have to learn to use one operating system. Find out more about accessories on page 22.

FREEDOM - ANYWHERE, ANY TIME

NIBE UPLINK™

Using the Internet and NIBE Uplink you can get a quick overview and the present status of your heat pump and the heating in your property. You get a good overall view where you can follow and control your heating and hot water production. If your system is affected by an operational disturbance you receive an alert via e-mail that allows you to react quickly.



NIBE Uplink also gives you the opportunity to control comfort in your property no matter where you are. **We call it NIBE freedom.**



- NIBE introducing a new, efficient tool that gives you quick and easy control over your property's heat pump - wherever you are.
- A web interface over the Internet offers you an instant view of e.g the temperature and current status of the heat pump in your property.
- Provides the benefit of external monitoring for several properties at the same time.
- Clear, easy way of monitoring and controlling heating and water temperatures for maximum comfort.
- In the unlikely event of a system malfunction you receive an alarm directly in your mail, allowing you to respond in the fastest possible time.
- Simple installation with a "click" of an ethernet cable.
- Provides logging of heat pump parameters presented in a user-friendly history chart.

New

- API functionality for external integration of e.g home management systems and BMS
- NIBE Uplink app for compatible smart phones



NIBE GROUND SOURCE HEAT PUMP INSTALLED IN YOUR HOME

Four functions in one:

HEATING COOLING, DOMESTIC HOT WATER AND VENTILATION WITH ONE HEAT PUMP

Using your NIBE ground source heat pump, all these functions are possible. Water-borne distribution of heating takes place via radiators or an underfloor heating system; cooling takes place via fancoils or the same underfloor system.

Zero visual impact:

ALL OUTDOOR ELEMENTS OUT OF SIGHT

Since the bore hole, surface or underground water collectors are hidden beneath the ground, there is no visible evidence of the heat pump in your garden.

Surface soil collector:

TAKE ADVANTAGE OF A LARGER GARDEN TO COLLECT ALL THE ENERGY YOU NEED

With a surface soil collector, the pipes are buried approximately one meter under the ground, which is simply achieved using normal digging equipment. When the pipes have been laid, your garden is returned to normal with the system neatly hidden underground.

Ground water collector:

SHALLOW DRILLING ON LAND WITH GROUND WATER BENEATH IT

If there is a water source beneath your home, this can be a cost-effective installation requiring less deep drilling than a rock collector. An extra exchanger is recommended in this type of installation to prevent clogging of the evaporator.

Outdoor sensor:

MINIMISES WASTE AND ENSURES ECONOMICAL OPERATION OF THE HEAT PUMP

A sensor placed on an exterior wall of your house reports the outdoor temperature to your heat pump so that it can vary output in relation to need.

No-freeze transport pipes:

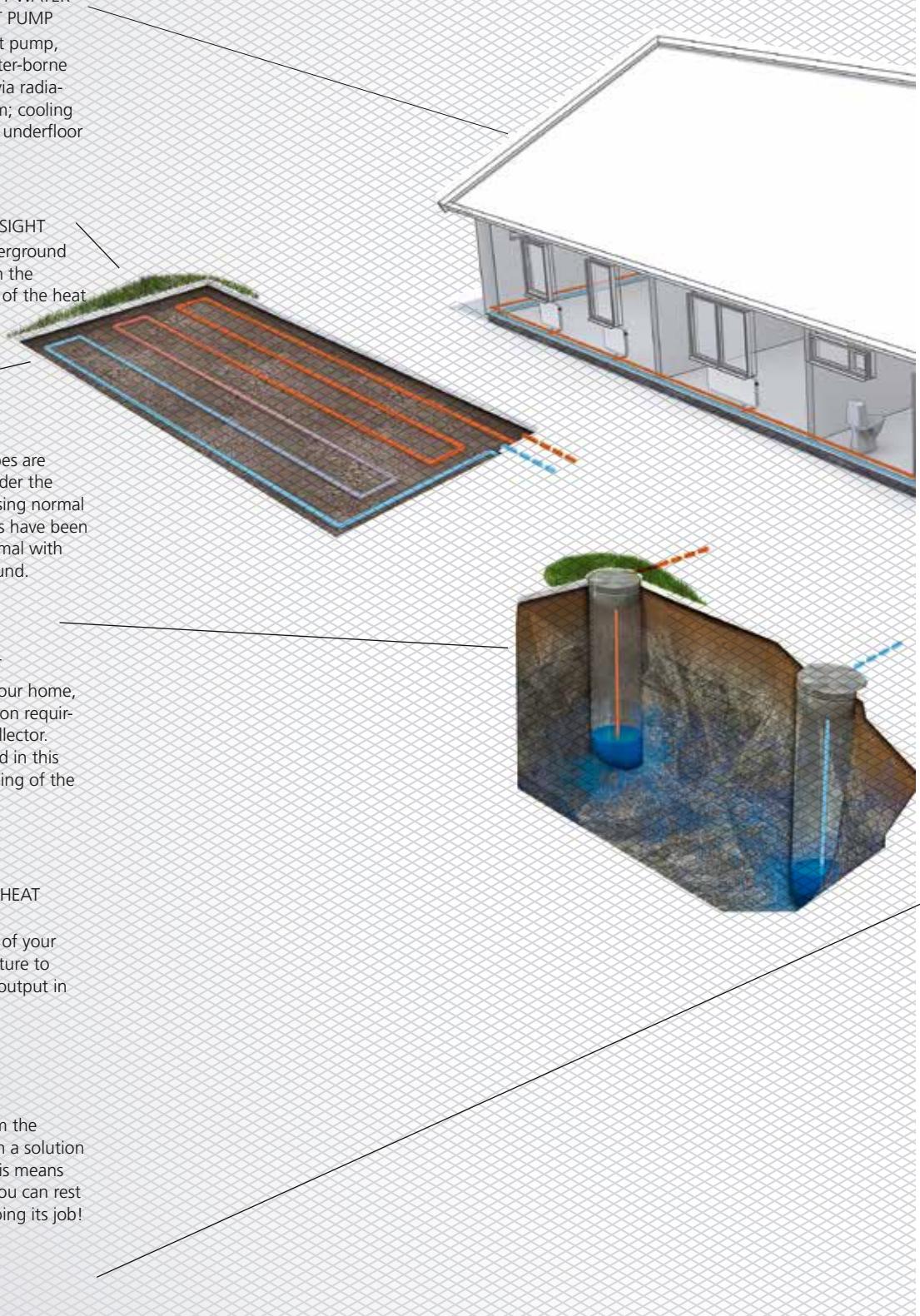
FOR SAFE AND RELIABLE OPERATION ALL YEAR ROUND

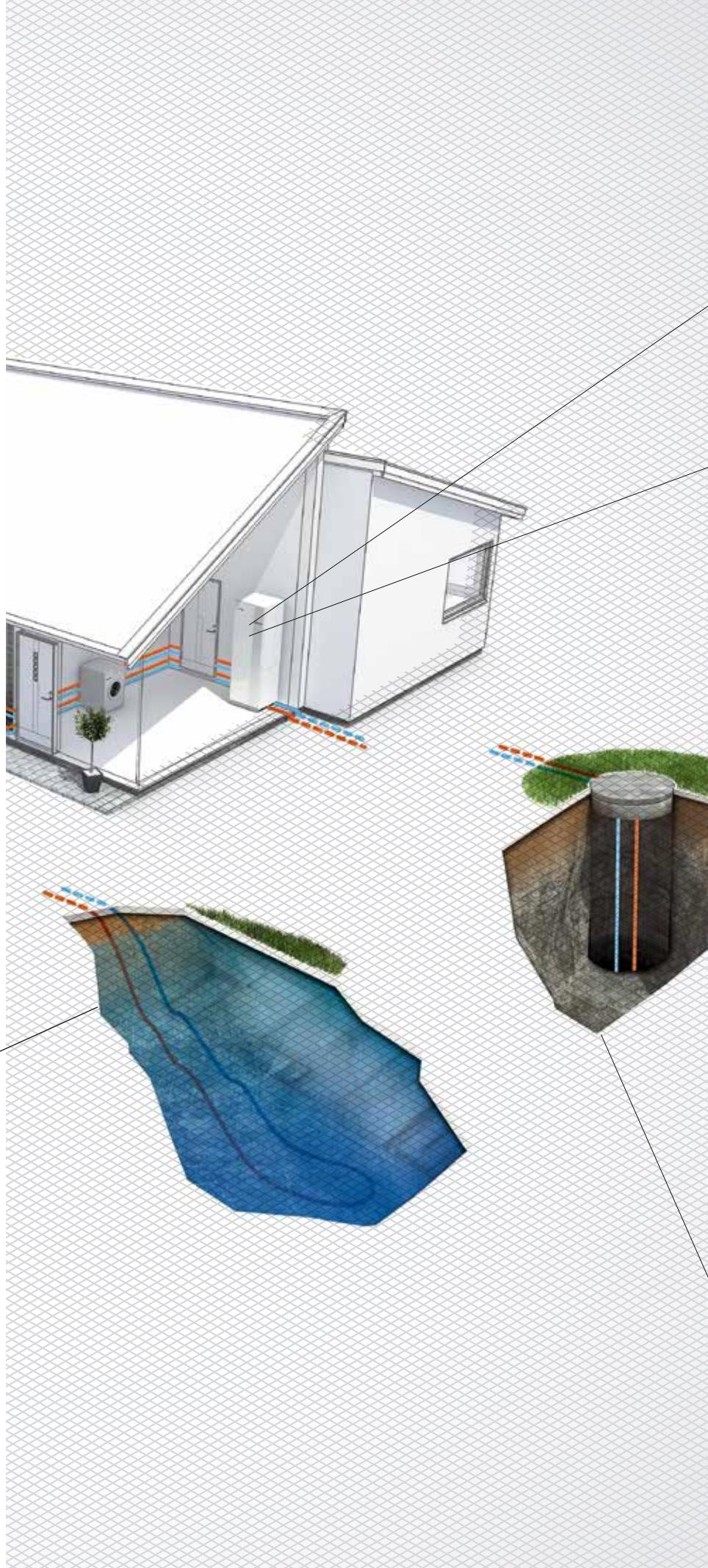
The pipes for transporting heat from the energy source to your home contain a solution of water mixed with anti-freeze. This means that even in the depths of winter, you can rest assured the heat pump will keep doing its job!

Lake collector:

COST-EFFECTIVE INSTALLATION FOR LAKESIDE HOMES

If there is a water source such as lake beside your home, it is possible to employ a surface soil collector anchored to the bottom of the lake.





Indoor unit:

NEUTRAL APPEARANCE,
ADAPTED TO ANY INTERIOR

An attractive but discreet design makes our ground source heat pumps easy to place in your utility room or cellar. Since the design is pleasing to the eye, it can even be positioned in a more visible area such as a hallway.

Compatibility:

CONNECTS EASILY WITH
OTHER ENERGY SOURCES

When you need an additional energy source, your NIBE heat pump can be hooked up to e.g. an existing boiler. Note that complementing supplies with a green energy source such as wind power would result in a system that's almost emission free.

Ventilation:

INCREASE ENERGY SAVINGS

Enjoy the benefits of good ventilation and lower heating bills by adding an FLM module to your heat pump. It captures the heat from the stale air exiting your home and feeds it back into the heat collection system. The FLM's low energy fan consumes very little electricity.

Pool heating:

ECONOMICAL POOL HEATING

When the weather is warm, and you do not need the heat pump's full capacity to supply your home's energy needs, why not use it to heat an outdoor swimming pool economically instead? The accessory NIBE Pool 40 is a control unit for this function. If you are planning on using the pump to heat up your pool, remember to inform your supplier from the start, as this will influence the size of collector needed.

Passive cooling:

FOR LOW ENERGY, LOW COST COOLING

The same system can be used to cool your home. Passive cooling circulates fluid that has been cooled underground into your underfloor system or fancoils, lowering the indoor temperature in the most natural, energy-efficient way.

Bore hole:

COLLECT ALL THE ENERGY YOU NEED, EVEN
ON A SMALL PLOT OF LAND

By means of one or several bore holes, it is possible to collect enough energy from the bedrock to satisfy the needs of any home. This is a one-off investment since the same bore-hole can be used even if you decide to change the pump at some point in the future.

WHAT MAKES THE NEW GENERATION OF NIBE GROUND SOURCE HEAT PUMPS SO EFFICIENT AND USER-FRIENDLY?

Below, we've highlighted some of the key features of our best seller, the NIBE F1245 ground source heat pump. Thanks to a combination of advanced engineering and numerous efficiency enhancing features, the NIBE F1245 gives you unrivalled annual average energy savings and makes it possible to maintain a comfortable indoor climate all year round, regardless of the weather.

What's more, you don't need to be a technical genius to make it work for you. A large, easy-to-read multicolour display gives everyone the chance to maximize the energy saving potential of this exciting green technology!

Modular design

FOR EASY ADDITION OF ACCESSORIES

This heat pump and its accessories are designed to be placed together and create a streamlined appearance with any unsightly piping neatly tucked away. Whether you choose a heat pump with integrated hot water tank and add-on ventilation unit, or combine a heat pump with a standalone hot water tank, the overall effect is that of a single, neat system.

Design of the hot water tank

FOR ECONOMICAL AND EFFICIENT HOT WATER PRODUCTION

Water is heated using heating coils placed inside the tank, making it possible to produce twice as much hot water in the same amount of time.

Insulation of the hot water tank

MINIMISES HEAT LOSS AND SAVES MONEY

An extra thick and efficient layer of insulating material made of Neopore retains the heat inside the tank, which in turn saves you money.

Low energy circulation pumps

REDUCES ENERGY CONSUMPTION AND COSTS

Steered by software in the heat pump, the circulation pumps can run faster or slower, depending on the building's energy requirements and the outdoor temperature. This is highly economical as it means only the correct amount of energy is produced.

Removable compressor module

FACILITATES TRANSPORT, INSTALLATION AND MAINTENANCE

The compressor module can be removed quickly and simply from the heat pump. This makes it a far less heavy and cumbersome item to carry and install. Moreover, should the compressor module require servicing it can be removed and serviced independently of the heat pump.

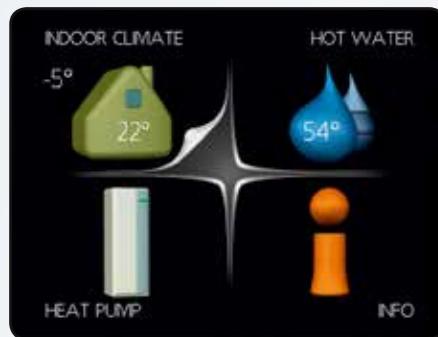


NIBE™ F1245

Compressor module



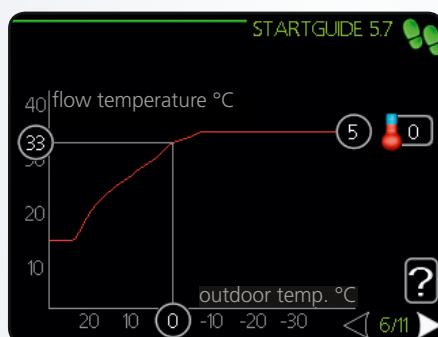
THE DISPLAY



Colour display

FOR A QUICK OVERVIEW OF THE HEAT PUMP'S OPERATION

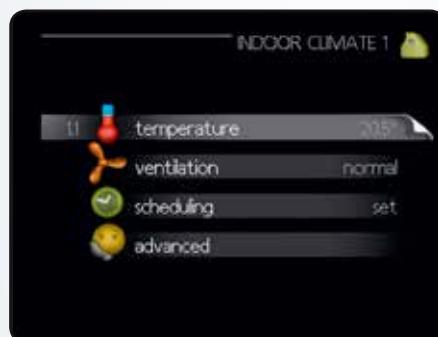
The unique colour display shows four icons representing the house temperature, the heat pump, the hot water and "information". You can choose to see selected icons when the aluminium door of the heat pump is closed.



Start-up guide

FOR EASY COMMISSIONING

The start-up guide on the display is automatically activated during installation. It poses a series of questions such as which language should be used and which, if any, accessories will be hooked up to the heat pump. In this way, the installer is guided quickly and correctly through the set-up process.



User interface

MAKING IT EASY TO GET THE MOST OUT OF YOUR HEAT PUMP

Open the aluminium door and select which one of the four areas you want to view in more depth. With just three commands to choose from – select, return and scroll – navigation could not be more straight forward. Yet behind this simple exterior lies a sophisticated control system, enabling you to adjust the climate in your home, boost hot water capacity, switch to economy mode before a weekend away ...and much more besides.

Well structured interior

REDUCING THE NEED FOR A USER MANUAL

Our heat pumps come with a user manual handily positioned in a special pocket inside the aluminium door. However, installers will find that the inside of the heat pump is so neatly and clearly organised that they rarely need to refer to the manual.

USB ports

FOR UPLOADING AND DOWNLOADING DATA

Having USB ports give several advantages.

For example, end users can download historic operating data onto a memory stick and give it to their local NIBE specialist, instead of arranging a home visit.

Exterior design

AN ATTRACTIVE PIECE OF EQUIPMENT IN YOUR HOME

The main body of the heat pump is plain white, which means it fits into your cellar or utility room without any problem. The F1245 also has an attractive, brushed aluminium flap door with a window through which the digital display is visible.

Integrated circulation pumps

KEEPS YOUR HEAT PUMP QUIET!

The noise level of our ground source heat pumps have been further reduced by placing the circulation pumps inside the compressor module. The result is an almost silent operation.

NIBE GROUND SOURCE PRODUCT RANGE



NIBE™ F1145/F1245

NIBE F1145 and 1245 is a new generation of heatpumps, designed to supply your heating needs in an cost efficient, environmentally friendly way. Thanks to an integrated hot water heater, immersion heater, circulation pumps and a control system, the heat is produced safely and economically.

The heat pump can be connected to an optional low temperature heat distribution system such as radiators, convectors or underfloor heating. It is also prepared for connection to several different products and accessories e.g. extra hot water heater, free cooling, ventilation recovery, pool and other heating systems.

The NIBE F1145 and F1245 are equipped with a control unit which cost effectively and safely maintains a comfortable temperature in the home. Clear information about status, operation time and all temperatures in the heat pump are shown on the large and easy-to-read display. This eliminates the need for external unit thermometers.



NIBE™ F1145 PC/F1245 PC

NIBE F1145CPC and F1245 PC is a new generation of heat pumps, designed to supply your heating needs in an cost efficient, environmentally friendly way. Thanks to an integrated hot water heater, passive cooling, immersion heater, circulation pumps and a control system, the heat is produced safely and economically.

The heat pump can be connected to an optional low temperature heat distribution system such as radiators, convectors or underfloor heating. It is also prepared for connection to several different products and accessories e.g. extra hot water heater, ventilation recovery, pool and other heating systems.

The NIBE F1245 PC is equipped with a control unit which cost effectively and safely maintains a comfortable temperature in the home. Clear information about status, operation time and all temperatures in the heat pump are shown on the large and easy-to-read display. This eliminates the need for external unit thermometers.

NIBE F1145/F1245

Sizes	F1245 (3-phase) 5, 6, 8, 10, 12 kW F1245 (1-phase) 5, 8, 10, 12 kW F1145 (3-phase) 5, 6, 8, 10, 12, 15, 17 kW F1145 (1-phase) 5, 8, 10, 12 kW
Integrated water heater 180 litres	F1245 – Yes F1145 – No
Delivery temperature	65°C
Soft starter	Yes
Immersion heater	Yes
Height/ Width/ Depth	F1245 – 1800/ 600/ 620 mm F1145 – 1500/ 600/ 620 mm

NIBE F1145 PC/F1245 PC

Sizes	(1-phase) 5 kW (3-phase) 5, 6, 8, 10 kW
Integrated water heater 180 litres	F1245 PC – Yes F1145 PC – No
Delivery temperature	65°C
Passive cooling	Yes
Soft starter	Yes
Immersion heater	Yes
Height/ Width/ Depth	F1245 PC – 1800/ 600/ 620 mm F1145 PC – 1500/ 600/ 620 mm



NIBE™ F1155/F1255

NIBE F1155/F1255 are intelligent heat pumps fitted with inverter-controlled compressor and speed-controlled circulation pumps. Suitable for use in residential and commercial buildings. The heat pump adjusts itself automatically to the power demand of the house. This results in optimal savings as the heat pump always runs at the correct performance all year round without the addition of extra electrical peaks.

The integrated coil water heater (NIBE F1255) is available in three different corrosion protection (stainless steel, enamel and copper).

It is prepared for connection to several different products and accessories, for example hot water heater, ventilation recovery, pool, free cooling, active cooling and heating systems with different temperatures.

NIBE F1155/F1255

Size	4 – 16 kW
Integrated water heater 180 litres	F1255 – Yes F1155 – No
Delivery temperature	65°C
Inverter	Yes
Immersion heater	Yes
Height/ Width/ Depth	F1255 – 1800/ 600/ 620 mm F1155 – 1500/ 600/ 620 mm



NIBE™ F1155 PC/F1255 PC

NIBE F1155 PC/F1255 PC are intelligent heat pumps fitted with inverter-controlled compressor and speed-controlled circulation pumps. Suitable for use in residential and commercial buildings. The heat pump adjusts itself automatically to the power demand of the house. This results in optimal savings as the heat pump always runs at the correct performance all year round without the addition of extra electrical peaks.

The integrated coil water heater (NIBE F1255 PC) is available in two different corrosion protection, stainless steel and enamel

NIBE F1155 PC/F1255 PC has integrated passive cooling. It is prepared for connection to several different products and accessories, for example hot water heater, ventilation recovery, pool, and heating systems with different temperatures.

NIBE F1155 PC/F1255 PC

Size	6 kW
Integrated water heater 180 litres	F1255 PC – Yes F1155 PC – No
Delivery temperature	65°C
Inverter	Yes
Immersion heater	Yes
Height/ Width/ Depth	F1255 – 1800/ 600/ 620 mm F1155 – 1500/ 600/ 620 mm

NIBE GROUND SOURCE PRODUCT RANGE



NIBE™ F1345

NIBE F1345 is one of a new generation of heat pumps, designed to supply your heating and tap water needs in a cost-effective, environmentally friendly way. With its two large scroll compressors, NIBE F1345 is the ideal ground source heat pump for multi-occupancy buildings, industrial premises, churches and other buildings with a large heat demand. The compressors collaborate and engage as necessary, give better power control, less wear and greater operational ability.

The new NIBE F1345 is more flexible than ever and with its advanced control system it can be adapted to several system solutions. In systems with up to nine heat pumps and with a wide range of accessories e.g. for control of oil, gas, pellet fired or electric boilers, you find the full flexibility for your installation. NIBE F1345 is equipped with a multicolour display, multilingual support and simply upgradable software via the built in USB port.

NIBE F1345 is manufactured in four sizes; these feature outputs of 24, 30, 40 and 60 kW.

NIBE F1345

Sizes	24, 30, 40, 60 kW
Integrated water heater	No
Delivery temperature	65°C
Soft starter included	Yes
Immersion heater	Accessory
Height/Width/Depth	1800/600/620 mm



NIBE™ F1126/F1226

NIBE F1126/F1226 is a new generation of heat pumps, designed to supply your home with cost efficient and environmentally friendly heating. With an integrated immersion heater, circulation pumps and a control system, the heat production is both safe and economical.

The heat pump is equipped with an integrated hot water heater (F1226), a control unit to maintain a comfortable indoor climate, both cost-effectively and safely. Clear information about status, operation time and all temperatures in the heat pump are shown on the large and easy-to-read display. This eliminates the need for external unit thermometers.

The easy-to-read display on NIBE F1126/F1226 gives you a clear information about status, operating time and all temperatures in the system.

NIBE F1126/F1226

Sizes	F1226 - 6, 8, 12 kW F1126 - 6, 8, 12 kW
Integrated water heater	180 litres F1226 - Yes F1126 - No
Delivery temperature	63°C
Soft starter	Yes
Immersion heater	Yes
Height/ Width/ Depth	F1226 – 1800/ 600/ 620 mm F1126 – 1500/ 600/ 620 mm

WHY ACCESSORIES?

A NIBE heat pump is not just for heating and hot water. With the addition of various accessories, our new heat pumps can do much more than merely heat your home and hot water. For example, they can be used to cool your home in summer, ventilate it cost-effectively, or even heat your swimming pool. The relevant accessories are dimensioned to fit neatly together, giving the appearance of a single streamlined system.

And since all accessories are controlled via the heat pump, you only have to learn to use one operating system.



NIBE VPB 300 water heater with NIBE F1145 and exhaust air module FLM.

HEAT PUMP	F1126	F1145	F1155	F1226	F1245	F1255	F1345
Refrigerant	R407C	R407C	R407C	R407C	R407C	R407C	R407C/R410a
Soft starter	Yes	Yes	–	Yes	Yes	–	Yes
Integrated water heater	–	–	–	Yes	Yes	Yes	–
Load monitor	–	Yes	Yes	–	Yes	Yes	Yes**
Immersion heater	Yes	Yes	Yes	Yes	Yes	Yes	Accessory
Flow temperature	63°	70°*	70°*	63°	70°*	70°*	65°
Speed-controlled compressor	–	–	Yes	–	–	Yes	–
ACCESSORY							
SMS 40 GSM remote control	–	Yes	Yes	–	Yes	Yes	Yes
FLM exhaust air module	Yes						
Pool heating	–	Yes	Yes	–	Yes	Yes	Yes
RMU 40 control module	–	Yes	Yes	–	Yes	Yes	Yes
Extra heating circuit	–	Yes	Yes	–	Yes	Yes	Yes
Passive / active cooling	–	Yes	Yes	–	Yes	Yes	Yes
Solar heating	–	Yes	Yes	–	Yes	Yes	Yes
Additional heat	–	Yes	Yes	–	Yes	Yes	Yes
Pump for hot water circulation	Yes						
Ground water pump	Yes						

* The compressor provides a flow temperature up to 65 °C, the remaining is obtained using the additional heat. Max return temperature i 58 °C

** accessories to 60 kW.

FURTHER USES FOR YOUR HEAT PUMP



NIBE™ F1145/F1245/F1145PC/F1245PC/F1155/F1255/F1345



Recycle heat from "used" air

NIBE™ FLM

The addition of this exhaust air module further reduces your heating bills.

Developed to work in conjunction with NIBE ground source heat pumps the FLM module recycles old, stale air from the house, extracts the energy from it and reuses it to heat new, clean air from outside. Air

quality is improved while warmth is maintained – all at no extra cost!

NIBE FLM also has an integrated DC fan, so you can adjust the fan's speed and thus vary the degree of ventilation required. It can be fitted directly to the heat pump or hung up on the wall.



Electric boilers

NIBE™ ELK 26, NIBE™ ELK 42

Electric boilers for additional heating for ground-source heat pumps.



Enjoy extra hot water

NIBE™ VPB, NIBE™ VPA, NIBE™ VPAS NIBE™ UKV

If your heat pump does not have a built-in water heater, or if your household consumes a particularly large quantity of hot water, a separate storage tank can be connected to the system. It provides the hot water you need, or boosts the capacity of an existing system.

NIBE VPB is the new generation of accumulator tank. It can be docked in several different ways, e.g.

to another heat pump such as the NIBE F1145. VPBS is solar ready and easy to connect to a solar system.

NIBE VPA is a double jacket tank. VPAS has a 2.3 m² solar coil.

NIBE UKV is a surge vessel that is used together with heat pumps to increase the volume of water in the system for more even operation.



Steer the heat pump

NIBE™ MODBUS 40

With MODBUS 40 can the heat pumps be controlled and monitored by external control systems.



Steer the heat pump from your mobile phone

NIBE™ SMS 40, NIBE™ MOBILE APP

GSM remote control lets you steer the heat pump remotely via mobile phone so you can e.g. raise the indoor temperature on the way home from vacation. The heat pumps can be controlled and monitored externally with accessory SMS 40.

Put full control of your NIBE Heat pump in your pocket. Turn on the heat on your way home or check the status of your indoor climate from anywhere in the world, the possibilities are endless.



Heat your swimming pool

NIBE™ POOL 40

Using ground source heating to heat the water in your pool saves money and makes those breath-taking icy cold dips a thing of the past! The NIBE POOL 40 is an accessory that we have developed to make it easy to control the heating of your pool. Whether you already have a pool or are

planning to build one, it's a good idea to tell your heat pump installer about this at the start. That way you can be sure to get the right sized heat pump and bore hole depth that's adequate for the pool's heating requirements.

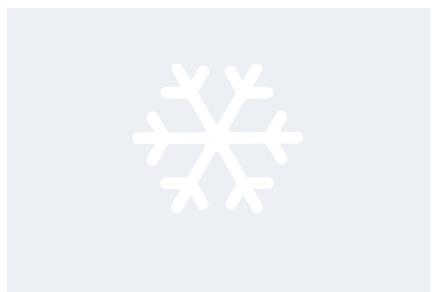


The convenient way to read your heat pump

NIBE™ RMU 40

With this handy remote control unit positioned in your hallway, kitchen (or wherever you want to put it) you can keep in touch with what's happening at the

heat pump and change the most common settings remotely.



Cool your home

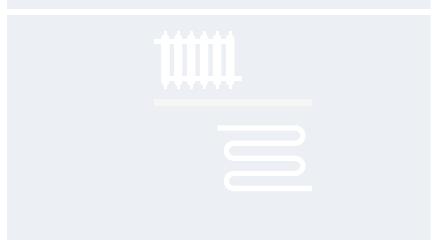
NIBE™ HPAC, NIBE™ PCM, NIBE™ PCS 44, NIBE™ ACS 45

A ground source heat pump is not just for heating up your home and hot water. You can also use it to cool your house. There are various ways of doing this. The simplest way is to supplement your heat pump with a fan convector.

The NIBE PCM is a cooling module that makes it possible to receive passive cooling from your heat source.

The NIBE HPAC is a climate switching module that together with F1145, F1245 or F1345 creates a complete climate system - enabling you to both heat and cool your home.

The addition of a convection fan enables the passive cooling function, which is steered from your heat pump with the PCS 44 accessory. Compatible with F1145/F1245/F1155/F1255 and F1345.



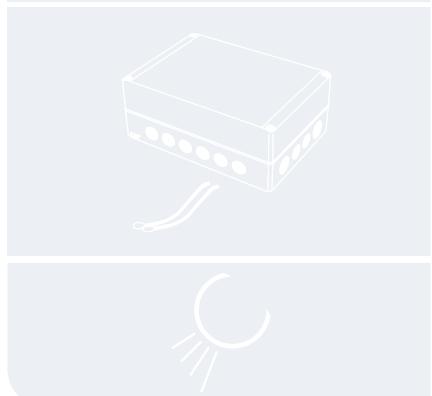
Distribute heat to more than one system

NIBE™ ECS 40, NIBE™ ECS 41

Using the ECS 40 / ECS 42 accessory, you can choose to share out the heat from your heat pump to up to four different heating systems. This is the ideal solution if you have, for example, underfloor heating on the ground floor and radiators upstairs.

ECS 40 < 80m²

ECS 41 > 80m²



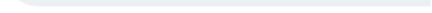
Accessory card for connection and control

NIBE™ AXC 40, NIBE™ AXC 50

This accessory is used to enable connection and control of:

- Mixing valve controlled additional heat
- Pump for hot water circulation
- Groundwater pump

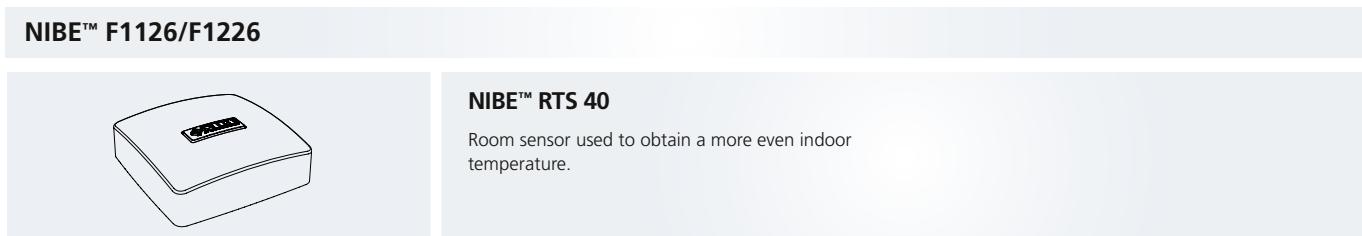
AXC 40 works with ground source heat pumps NIBE F1145, NIBE F1245, NIBE F1155 and NIBE F1255. AXC 50 works with F1345.



Solar kit

NIBE™ SOLAR 40, NIBE™ SOLAR 42

NIBE SOLAR enables solar heating with your heat-pump. With additional solar panels and VPAS or VPBS you get a complete system.



NIBE™ RTS 40

Room sensor used to obtain a more even indoor temperature.

NIBE™ FLM

The addition of this exhaust air module further reduces your heating bills.

Developed to work in conjunction with NIBE ground source heat pumps the FLM module recycles old, stale air from the house, extracts the energy from it and reuses it to heat new, clean air from outside. Air quality is improved while warmth is maintained – all at no extra cost!

NIBE FLM also has an integrated DC fan, so you can adjust the fan's speed and thus vary the degree of ventilation required. It can be fitted directly to the heat pump or hung up on the wall.



Enjoy extra hot water

NIBE™ VPB, NIBE™ VPA, NIBE™ VPAS NIBE™ UKV

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to another heat pump such as the NIBE F1145. VPBS is solar ready and easy to connect to a solar system.

NIBE VPA is a double jacket tank. VPAS has a 2.3 m² solar coil.

NIBE UKV is a surge vessel that is used together with heat pumps to increase the volume of water in the system for more even operation.

NEW TIMES CALL FOR A NEW APPROACH

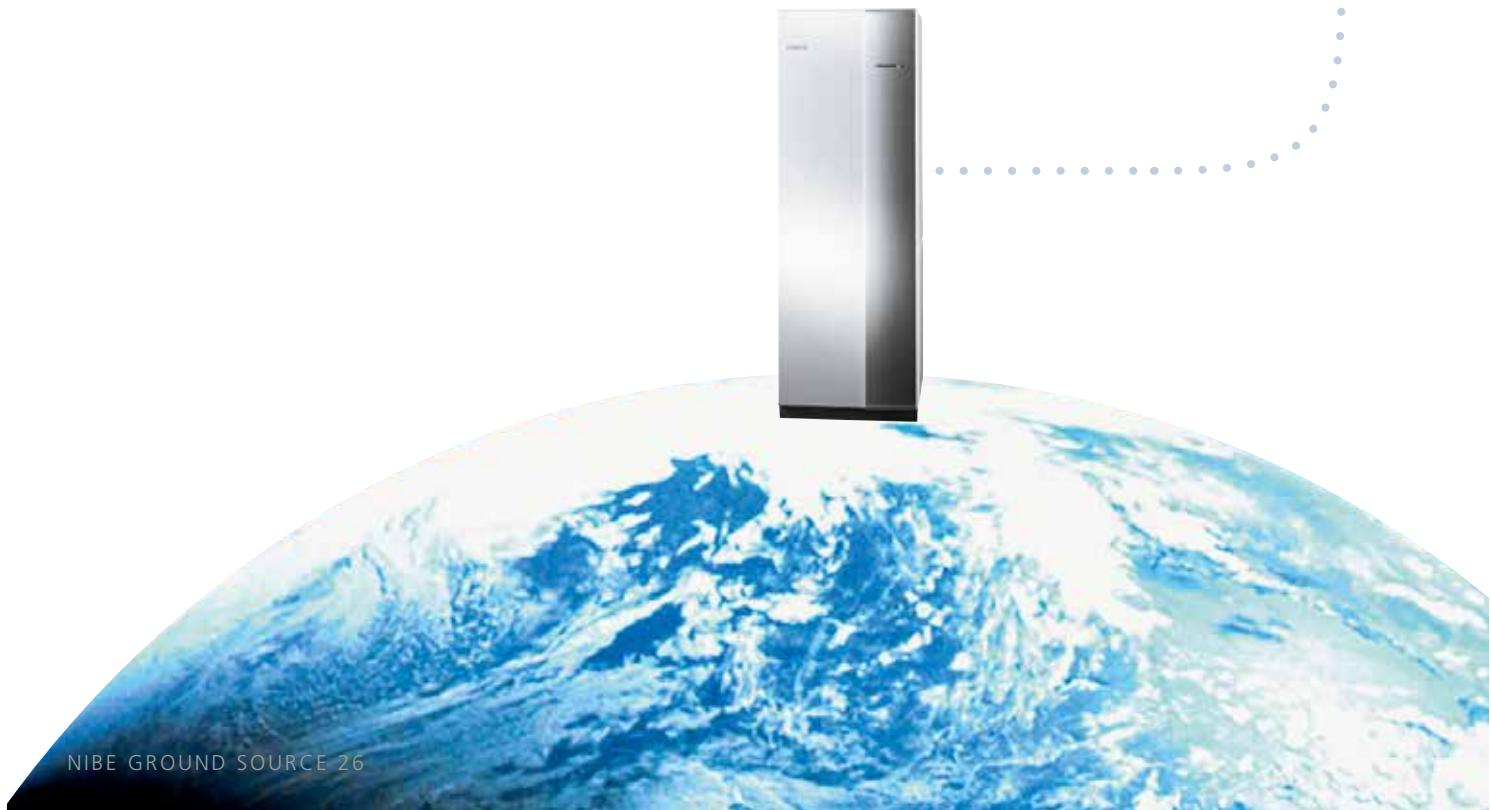
We all know we've got to reduce emissions.
The question is how?

"Green" thinking might once have been a luxury, but lately it has become a necessity that none of us can afford to ignore. Increasingly, the reduction of CO₂ emissions is becoming a legal requirement as well as an environmental necessity.

Over 70% of an average home's CO₂ emissions are caused by its heating and hot water systems. In order to reduce this figure, we need to start implementing greener, more sustainable technologies across the board. Only then, will we see a significant reduction in CO₂ emissions.

Meanwhile the prices of traditional energy sources are rising steadily, with the result that more and more people feel inclined to consider alternative, more efficient energy sources.

Now their customers have started demanding a solution, builders, architects and property developers can no longer ignore the need to employ alternative technologies that make better use of the world's energy resources.



START WITH A HEAT PUMP!

Heating your house with a heat pump is the proven best option for the environment.

There are a number of reasons for this

One obvious factor is that a heat pump does not use any combustion process or other energy to generate heat. It simply extracts the heat that already exists in the air, ground or water source, and puts it to use to heat your home. This means lower emissions.

Secondly, in comparison with other heating systems, the amount of electricity needed is relatively low. That's because electricity is not the main energy source, it's only needed to run the heat pump and enable the heat extraction process. While the exact energy saving varies according to what you benchmark against, it generally measures between 60% and 80%.

Another interesting point to consider is that heat pumps, like every manufactured item contains what we call "embedded energy". That is, the energy required to make the product and transport it from the factory to the site where it will be used. By continually improving its own processes, NIBE seeks to minimise the amount of embedded energy in its products; to build and transport them in the most environmentally friendly way.

Once installed in your home, a NIBE heat pump immediately starts to deliver an environmental "payback" in the form of reduced energy consumption and emissions.



Working towards a zero carbon future

The drive to reduce energy consumption and the impact its use has on the environment is crucial and increasingly important to us all. Why not take a step closer towards a zero carbon future and power your heat pump using a renewable energy source such as wind, solar or hydro energy?

Classified as renewable energy

Some governments and regional authorities offer subsidies to home owners to switch from fossil fuel based heating to more modern, renewable energy source such as wind, solar or hydro power? Since ground source heat pumps are now officially classified as renewable energy, there couldn't be a better time to change!

See www.nibe.eu for more information.

0 %

AN INVESTMENT IN THE FUTURE

NIBE heat pumps are ideal for use in a variety of house sizes and their carefully developed control system is designed to work perfectly to provide hot water to either traditional radiators or underfloor heating systems.

More than anything, a NIBE heat pump is an investment in the future. Developers, builders and home owners want to be assured that the technology they purchase today will be relevant and useful for many years to come. Our heat pumps have been designed with the future very much in mind.

Already, legislation is forcing builders and home owners to consider energy use in their properties. NIBE is at the cutting edge of low energy performance and will enable homes to meet energy consumption and emissions targets long after they are built.



CASE 1

NEW HOME? START AS YOU MEAN TO GO ON!



The background

Mattias Jacobsen and his family live in a two-storey house in Markaryd in the South of Sweden. The house has a surface area of 190 square meters and was built last year. During the building phase, the Jacobsen family had a chance to influence what kind of energy source would be used to supply their home's floor heating and water radiators.

When making this decision, their main concerns were to ensure energy bills would remain manageable while their home was kept at a comfortable temperature throughout the long, chilly winters. Moreover, the energy source should be environmentally friendly and the equipment should be very easy to manage.

Solution

After considering several options, the Jacobsens opted for the highly efficient NIBE F1245-6 ground source heat pump. For this, an approximately 140 metre deep hole was drilled on their land in order to extract sufficient heat to meet their home's energy needs.

To further reduce heating costs, they selected a NIBE FLM module, which recovers heat from the 'used' air as it is extracted from their house.

Results

Once the NIBE F1245-6 ground source heat pump was installed, the system immediately started to deliver reliable, cost-effective energy, and it will do so for many years to come. The family's annual energy consumption is just 8 500 kWh - unusually low for a house of this size.

The addition of the NIBE FLM module has two big advantages. It leads to an increase of the temperature of the heat source and enhances the heating capacity of the heat pump. Even when the heat pump is not in operation, the energy is stored in the ground and will be fully utilised later on.

As the summer approaches, the Jacobsens are considering adding convection fans to their system, which would give cost-effective cooling on hot summer days.

CASE 2

REDUCE ENERGY CONSUMPTION WHEN YOU REFURBISH!

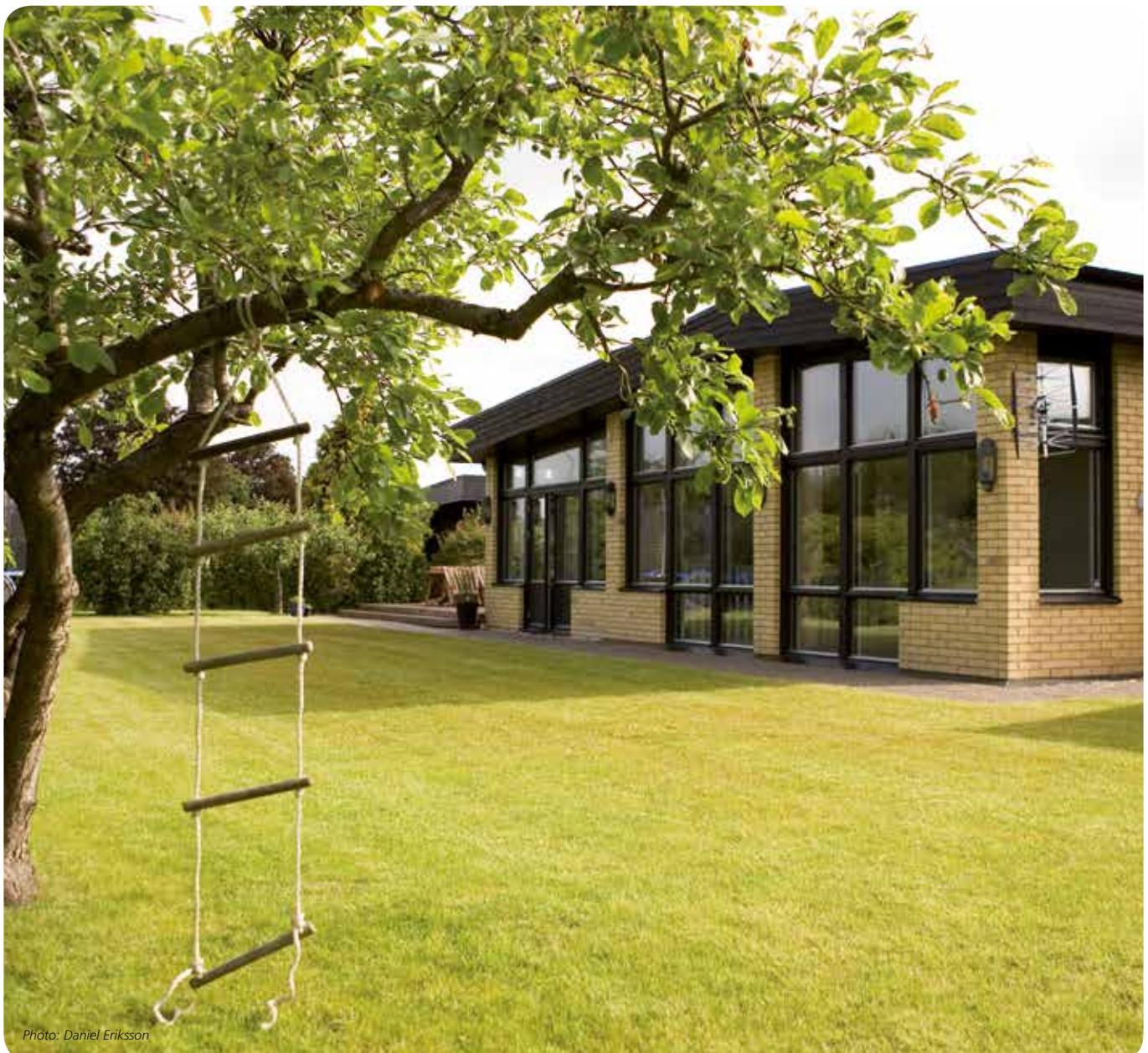


Photo: Daniel Eriksson

The background

The Nilsson family home in Bjuv is a single storey house with a cellar, with a total surface area of 230 square metres. It was constructed in 1976 and, like many Swedish homes built during this period, it was equipped with an electrical boiler and water-based radiators. When the old boiler went on the blink, the Nilssons decided to look for a more cost-effective, modern heating system based on a sustainable energy supply. Reliability and user-friendliness were also key criteria in their search.

Solution

They decided to invest in the NIBE F1245-8 ground source heat pump which not only met all their key criteria, but would reduce their heating bills dramatically. The NIBE F1245-8 requires very little space and the ground probe (160 deep in this case) can be drilled on the smallest of plots. The Nilssons also chose a NIBE UKV accumulator tank in order to increase the amount of hot water in their heating system and to achieve a better, more even heat production.

Results

Since they made the switch from an electrical heating system to a NIBE ground source heat pump, the Nilsson family's annual energy consumption has gone down from 33 000 kWh to 10 000 kWh. This means they save 23 000 kWh each year. In financial terms enough to give the whole family an extra holiday if that's what they feel like doing!

The heat pump's colour display gives them all the information they need at a glance, and, thanks to its intuitive user interface, learning how to maximize the system's energy-saving potential has been a breeze.





'Do what you can
with what you've got'.

Taking heat from the ground near your home or the ambient outside air, NIBE's heat pumps appear to defy nature.

In fact, the opposite is true;
they enable us to live in harmony with nature.





NIBE OF SWEDEN

Living in harmony with nature

The Swedes have a long and impressive track record of clever, money-saving innovations that use resources sparingly. The simple reason for this is that Sweden was historically a poor agrarian country. A harsh winter climate made food scarce for many months, necessitating careful, forward planning.

Today, Sweden is a technologically advanced country with a successful economy, so this is no longer necessary. However, the mindset continues to be manifested in the form of fabulous, cost-saving innovations.

NIBE is a perfect example of the economical Swedish mind at work!

The company was founded by Nils Bernerup in 1952, after a particularly cold winter. Over the past 60 years, it has become Sweden's leading supplier of domestic heating products, continually driving the development of ever-more efficient heating methods.

Early products included water heaters and pressure vessels. Electric boilers joined the range in the 1970s. Heat pumps and a wide selection of other heating products that meet the needs of European markets have been added successively to the company's portfolio.

Nowadays, NIBE has a leading position in the market for heating and cooling solutions around Europe. We are committed to offering innovative solutions that not only save energy but which also reduce CO₂ emissions.

Together with our customers, we're working towards a more sustainable future, one home at a time.

SMART, ECONOMICAL ENERGY SOLUTIONS FROM NIBE

Complete range of products and systems

NIBE Energy Systems offers a complete range of energy-efficient solutions for heating, ventilation, cooling and heat recovery that reflect today's demand for sustainable construction. Our products and services make it easy for private and commercial property owners to choose a system that best suits their needs for indoor climate comfort and hot water. Visit www.nibe.eu for more information.

Exhaust air heat pumps

Ideal for heating domestic premises and tap water, an exhaust air heat pump ventilates your building and recovers energy in warm air, reusing it to heat your household water or fuel your central heating system.

Ground source heat pumps

Drawing heat from surface soil, bedrock or the water in a nearby lake, ground source heat pumps are a great option for heating houses, multiple-unit properties and other larger buildings. Available with or without an integrated water heater.

Air/water heat pumps

These pumps extract heat from the ambient outside air. Connected to your building's heating system they produce both heating and hot water, a big improvement on simpler types of air-to-air heat pumps.

Water heaters

For over fifty years, NIBE has been manufacturing products to supply hot water. During that time, we've kept pace with advances in heating efficiency and continually developed new models. We're pursuing the same mission today - to develop even better, even more efficient water heaters, for those chilly mornings in millions of bathrooms all over the world.

Domestic boilers

With a NIBE domestic boiler you have the flexibility to use almost any other kind of additional energy source as and when it's needed. Examples of docking options include air/water heat pumps, solar panels and, of course, electricity.

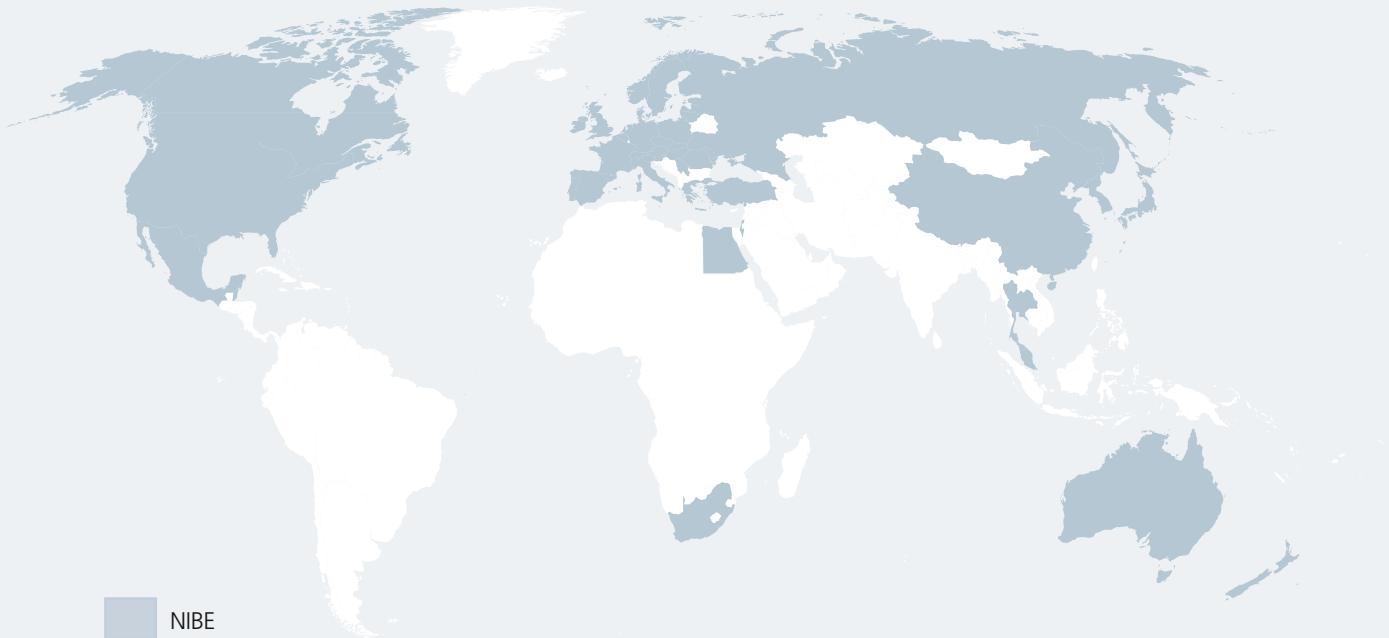
Solar panels

Our solar thermal collectors absorb the sun's rays, delivering free, clean energy to your heating system. They become an integral part of your total energy supply supported by our heat pumps which supply this extra free energy in a smart, controlled way. You can also use our solar collectors in combination with a NIBE bio mass boiler (logs or pellets) or a NIBE water heater powered by electricity or gas.



YOUR NEXT STEP?

Find your local NIBE office at www.nibe.eu. They'll help you locate your nearest NIBE installer and select the best kind of heat pump for your needs.



20/20/20

European Directive 20/20/20

The 20/20/20 European directive imposes compulsory targets on the EU's 27 member states, specifying that 20% of energy consumption must be met by renewable sources by 2020. Since NIBEs heat pumps are now classified as a renewable energy source, their installation will help member states reach this ambitious target. And in many cases, local or regional authorities are offering home owners subsidies to switch their existing heating systems to a renewable source such as a heat pump.



ENERGY FOR LIFE

 **NIBE**

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