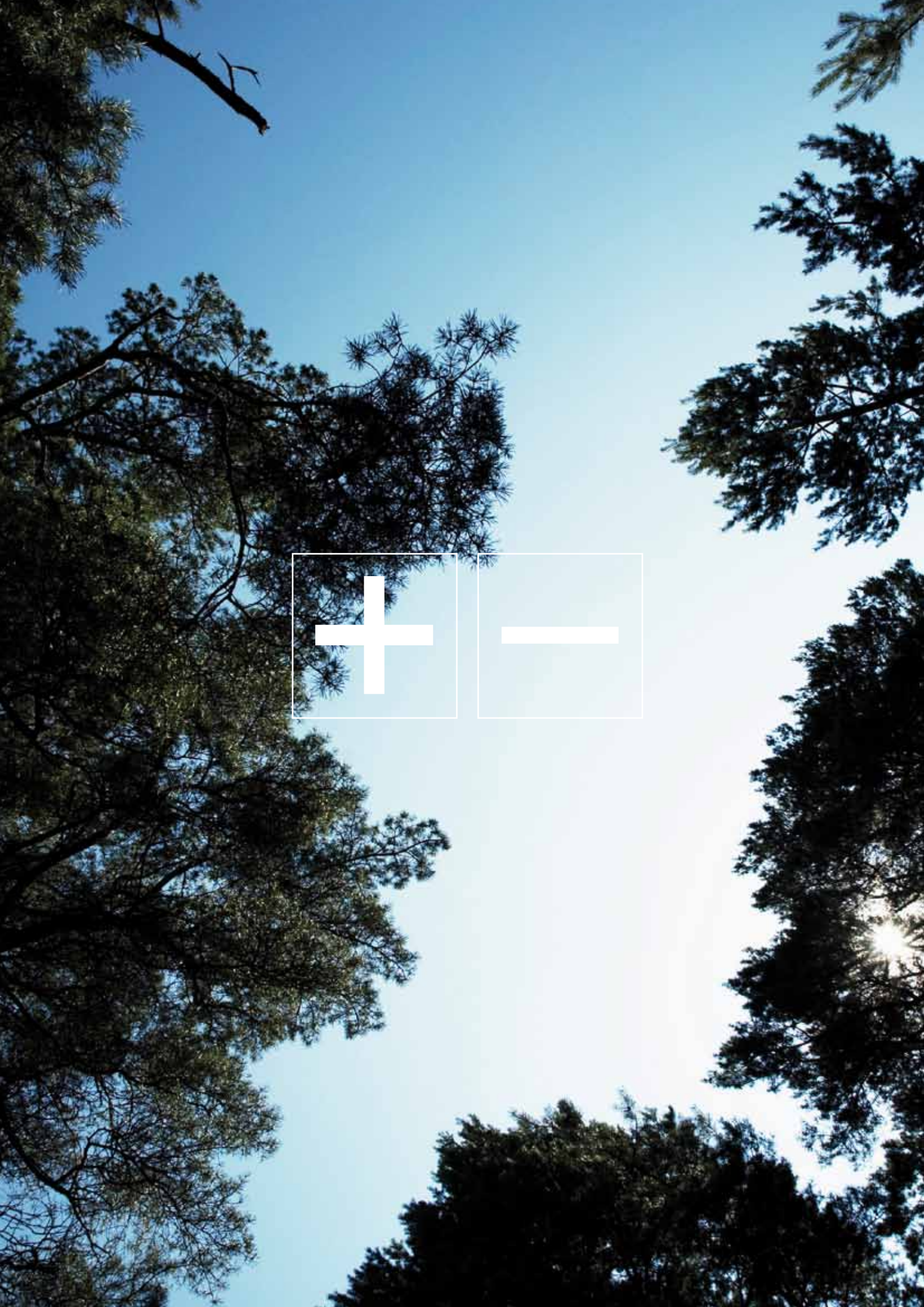
A new generation of heat pumps
DESIGNED FOR EARTH

NIBE

NIBE Air/water heat pumps

CAPTURE FREE ENERGY FROM THE OUTSIDE AIR



FREE ENERGY, ANYONE?

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 air.

Believe it or not, you can actually use the outside air, one of nature's totally free gifts, to heat, and indeed cool your home. Even at sub-zero temperatures, ambient air contains heat. And when you concentrate that heat using a NIBE air/water heat pump, you can get enough out of it to heat up both your home's water-based radiators (or underfloor heating) and domestic hot water. Certain air/water heat pumps can also be used as an air-conditioning unit to cool your house during the summer.

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 NIBE AIR/WATER HEAT PUMP?

You save money

An air/water heat pump makes heating your home and hot water much cheaper. You can reduce your heating costs by up to 65%, although the exact figure depends on several factors such as where you live, the size of your house and whether or not you use the system for cooling too.

The initial investment is relatively low since an air/ water heat pump, unlike a ground source heat pump, does not require any geothermal drilling.

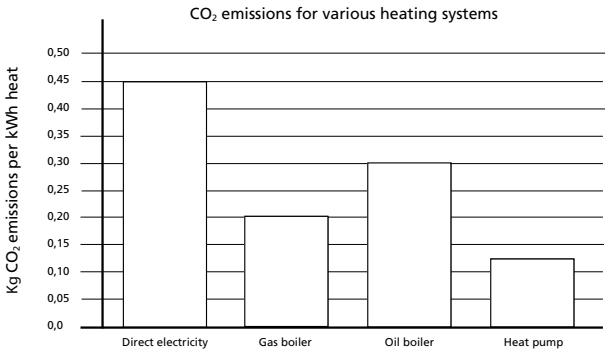
And the efficiency of NIBE's heat pumps positively impacts the speed with which you recover your investment. With energy prices continually rising, you're unlikely to regret your decision. In fact, you'll start enjoying savings from the first month.

You reduce CO_2 emissions

Another very good reason for choosing a NIBE air/water heat pump is that it has a very low environmental impact. In fact, installing a NIBE air/water heat pump can cut your home's CO_2 emissions in half. This is mainly because there is no combustion process involved; the heat pump merely upgrades naturally occurring energy from the air outside to heat your home and hot water.

This leads to much lower CO_2 emissions than any traditional fossil-fuel based heating system, and explains why NIBE air/water heat pumps are classified as a renewable energy source.

Wherever you live, you can install an air/water heat pump and enjoy efficient, safe, problem-free heating and domestic hot water at a fraction of the alternative cost and a fraction of the environmental impact.

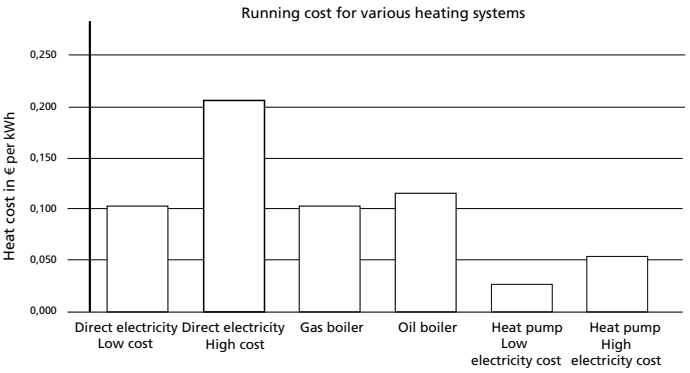


Consider this

If all the approximately 1 million new houses built in Europe installed heat pumps, we would be saving over 3 600 000 tonnes of CO_2 emissions per year. That's the equivalent of taking about a million cars off the road!

How do NIBE air/water heat pumps compare with traditional boilers?

To put it simply, they're three times more efficient! With conventional oil and gas boilers, 1 kWh of input energy provides less than 1 kWh of output energy. Using a NIBE air/water heat pump every 1 kWh of input energy is converted into an average of 3 kWh of output energy. There is no escaping the obvious conclusion – a heat pump is the absolute best way to get low cost heating and hot water.



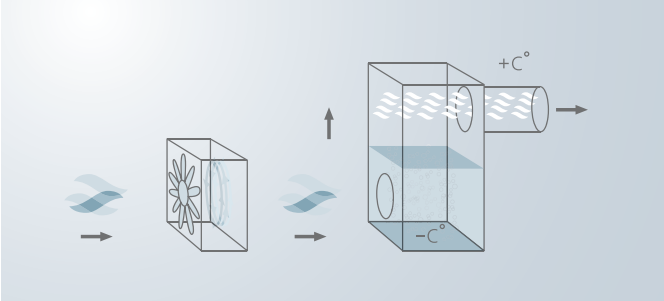
HOW DO YOU GET HEAT FROM COLD AIR?

Heat pump technology is actually based on a very simple, well-known principle. It works in a similar way to any domestic refrigerator, using a vapour compression cycle.

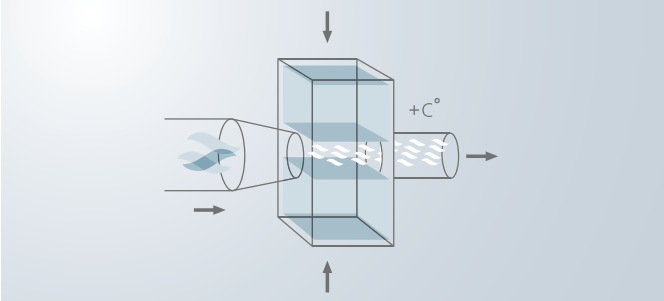
The main components in the heat pump are the compressor, the expansion valve and two heat exchangers (an evaporator and a condenser).

A fan draws the outdoor air into the heat pump where it meets the evaporator. This is connected in a closed system containing a refrigerant that can turn into gas at very low temperatures. When the outdoor air hits the evaporator the refrigerant will turn into gas.

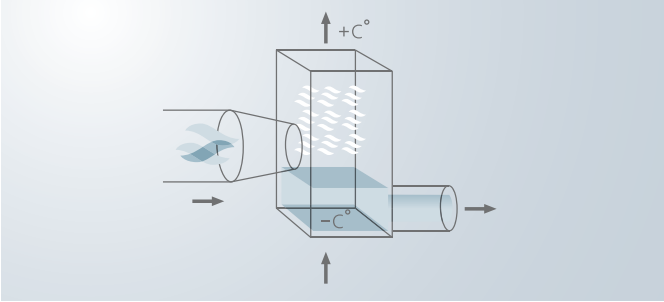
Then, using a compressor, the gas reaches a high enough temperature to be transferred in the condenser to the house's heating system. At the same time the refrigerant reverts to liquid form, ready to turn into gas once more and to collect new heat.



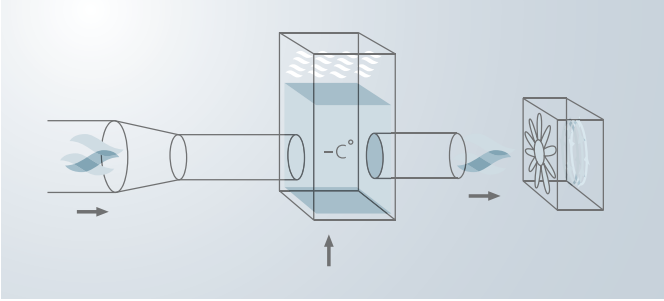
1. Heat from the outside air is drawn in by the fan. The refrigerant in the evaporator is colder than the air, causing the heat to move from the air to the refrigerant. It then evaporates and absorbs the energy from the outside air.



2. The vapour moves to the compressor and reaches a higher pressure and temperature.



3. The hot vapour enters the condenser and gives off heat as it condenses.



4. The refrigerant moves to the expansion valve; drops in temperature and pressure; then returns to the evaporator.

MORE GOOD REASONS TO INSTALL A NIBE AIR/WATER HEAT PUMP

– NIBE air/water heat pumps are easy to install, operate and maintain.

– They can be installed on almost any kind of terrain.

– They can be combined with a variety of different energy sources, depending on availability and price.

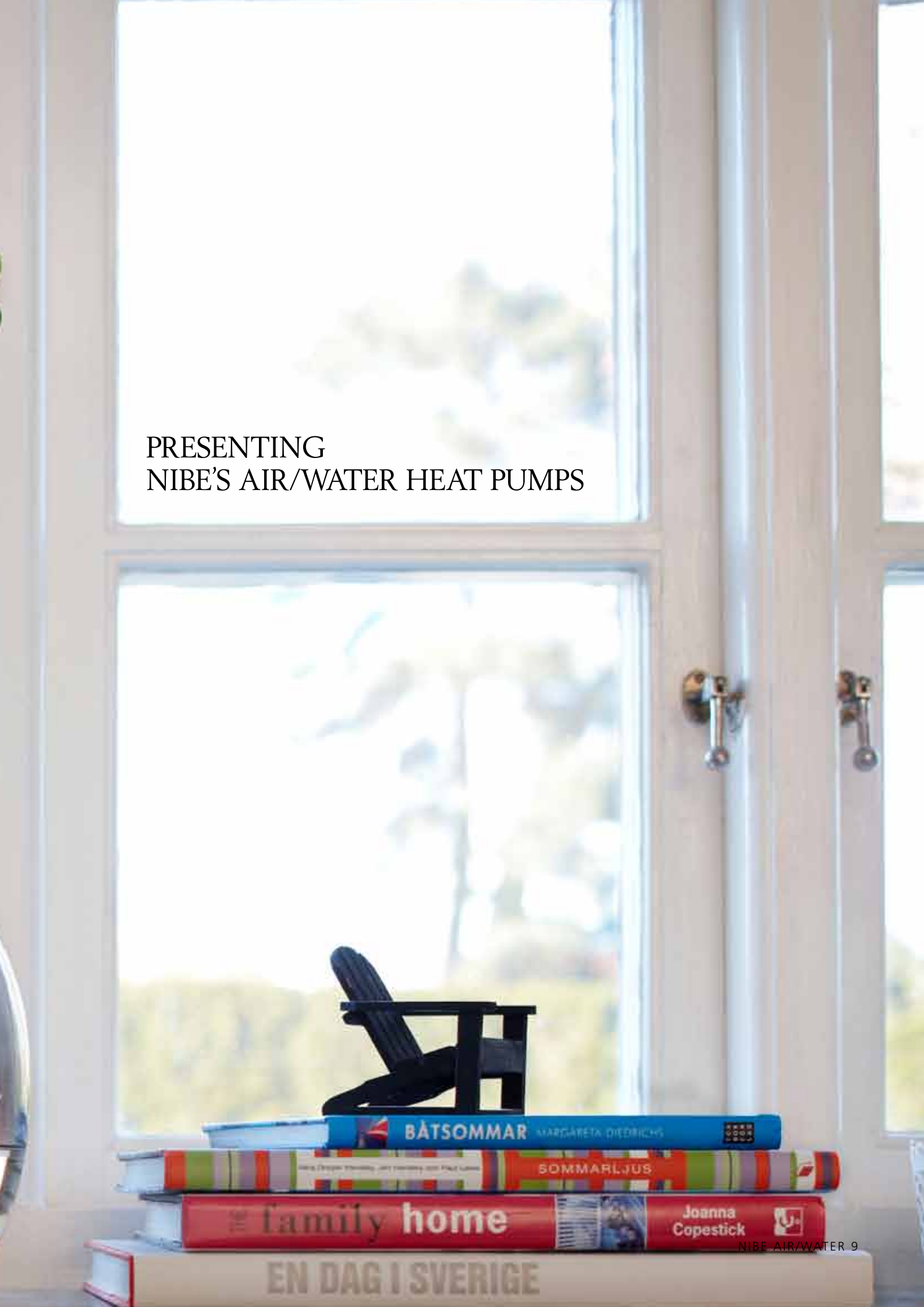
– Ideal for underfloor heating and water-filled radiators, and some models also include a cooling function.

– No natural gas supply, flues, ventilation, or chimney are needed.

– NIBE air/water heat pumps give you clean and discreet heating.

– They are built to last so you can relax and enjoy cost-effective, hassle free heating for years to come!

PRESENTING
NIBE'S AIR/WATER HEAT PUMPS



CHOOSE YOUR HEAT PUMP SYSTEM HERE!

On the following pages, we present two alternative air/water heat-pump systems: the NIBE F2025 and the NIBE SPLIT. When you're choosing a heat pump, there are several factors to consider.

The size the our home, your existing system, your home's energy requirements and the local climatic conditions will all influence your decision. Ask your local NIBE expert for an energy calculation and an inspection of your current heating system. If you're building a new house, our local NIBE dealer can also help you find the best product combination.

NIBE™ F2025

When to choose a NIBE F2025

NIBE F2025 works well in most homes. It can be configured to work in numerous different ways, with complementary heating systems, water heaters and accumulators of various sizes.

NIBE F2025 works well if:

- You have water-based radiators and your house is over 150 square metres and/or your house has a heating demand of minimum 9 kW.
- You're currently using over 2.5 cubic metres of oil or 19,000 kWh/yr (for heating and hot water).
- You want a really silent heat pump. NIBE F2025 is the quietest in its class!
- You also have a swimming pool which you would like to heat with the same system during summer.
- You want to reduce costs by installing a heat pump, but intend to keep your existing boiler.
- If you anticipate an above average consumption of hot water (due to e.g. a Jacuzzi or lots of guests) the NIBE F2025 can be included in a customised system designed to meet this need.
- You need more energy than a single NIBE F2025 can provide. Up to nine heat pumps can be used together.
- You're looking for a flexible solution that meets your individual heating and domestic water needs.

For more technical information, go to www.nibe.eu

Technical specifications

NIBE F2025	
Max temperature flow line	58°C
Working range outdoor temperature:	-20 – +35°C
Height (excl. feet)	1045 mm
Height (incl. feet)	1095 mm
Width	1200 mm
Depth	500 mm
Weight	120/126/132/140 kg

Specified output *	
NIBE F2025-6	6.5 kW
NIBE F2025-8	8.4 kW
NIBE F2025-10	10.3 kW
NIBE F2025-14	14.1 kW
Voltage	400 V~ 3-phase
Also available in	230 V~ 1-phase 230 V~ 3-phase

* 7°C outdoor temperature/45°C flow line.

NIBE™ SPLIT

When to choose a NIBE SPLIT

NIBE SPLIT is an excellent option for single family homes, giving you the high effect you need thanks to its variable compressor speed. There is no risk of the pipes freezing even when the winters are cold and there are long power failures.

NIBE SPLIT works well if:

- You have water-based radiators, your house is under 150 square metres and/or your house has a heating demand of maximum 9 kW (this applies to areas with a minimum outdoor temperature of - 20°C).
- You have water-based radiators, your house is under 300 square metres and/or your house has a heating demand of maximum 10 kW (this applies to warmer areas with a minimum outdoor temperature of - 10°C).
- You're interested in a solution that provides cooling as well.
- You live in a cold climate and sometimes experience power failures.
- Your existing heating system runs on direct electricity and…
  - …you have an air/air heat pump that needs to be replaced.
  - …you also want to replace your water heater and install two or more fan coils.
  - …you want to achieve a more even temperature around the house.
  - …You want to keep your existing boiler as back-up. With NIBE SPLIT, it can be docked and controlled directly from the indoor module.
  - …You want to avoid the risk of pipes freezing between the outdoor and indoor module.

For more technical information, go to www.nibe.eu

Technical specifications

NIBE SPLIT

Operating voltage	1 x 230 V or 3 x 400 V
Working range during heating with compressor (ambient temperature)	-20 – +43°C
Working range during cooling (ambient temperature)	+15 – +43°C
Max temperature flow line, (down to -20°C), compressor only	58°C
Max temperature flow line, with immersion heater	65°C
Domestic hot water flow at 40°C	Max 16 litres/minute

Indoor unit NIBE ACVM 270

Immersion heater	Max 9 kW
Volume, total	270 l
Height	1760 mm
Width	600 mm
Depth	660 mm
Weight	140 kg
Voltage	230 V~ 1-phase 230 V~ 3-phase

Outdoor unit NIBE AMS 10

Compressor	Twin Rotary
Height/ height with groundstand (accessories)	845/XXX mm
Width	970 mm
Depth	370 mm
Weight	74 kg
Delivered compressor output EN14511 7/45 heating	3,5–12,0 kW
Delivered compressor output EN14511 35/18 cooling	3,3–12,0 kW

Maximum distance between indoor and outdoor units is 12 metres of refrigerant pipes.

NIBE™ F2025

NIBE F2025 is a highly efficient air/water heat pump, suitable even for larger homes. It is designed to be docked to water based heating systems.

Thanks to its efficient scroll compressors that work in temperatures down to -20°C, NIBE F2025 is especially well-suited to a somewhat harsher climate. It utilises the outside air as its main energy source, so there is no need for bore holes or coils in the ground.

The NIBE F2025 outdoor module can be connected to a range of different indoor modules in such a way as to maintain your home and hot water at a comfortable temperature, while reducing both emissions and costs by up to 65%. If you have a swimming pool in the garden, you can use the NIBE F2025 to heat it up during the summer months, when the full capacity of the heat pump is not required to heat your home and domestic hot water.

1 Silent operation
LOW NOISE LEVELS
Components are chosen to reduce the sound and the result is low noise level.

2 Monitoring and safety system
RELIABLE OPERATION THROUGHOUT THE HEAT PUMP'S LIFETIME
If a situation occurs that could cause damage to the machinery over time, the monitoring system will automatically stop the heat pump. Dependaing on the degree severity, the heat pump may or may not restart automatically.

3 Integrated intelligent control
FOR OPTIMUM CONTROL OF YOUR HEAT PUMP
Set during installation and accessible during a service, the controller automatically handles all the heat pump's functions – defrosting, stop at max/min temperature, connection of the compressor heater etc. It also allows the number of starts and operating time to be read.

4 Automatic 2-step capacity fan regulator
ECONOMICAL OPERATION
The fan speeds up in the winter when your energy requirements are at their highest; it slows down between spring and autumn when less energy is needed and the resulting low noise level is an advantage.

5 Hardwearing materials
BUILT TO COPE WITH ALL WEATHER
The materials used to build the NIBE F2025 heat pump are especially hard wearing, so your heat pump will give a long service life even if in harsh outdoor conditions. For example, two layers of anti-corrosion treatment prevent the battery from rusting.

6 Discreet design
SITS NEATLY IN YOUR GARDEN
The neutral appearance of NIBE F2025 means that it will not attract undue attention to itself when installed in your garden, but blends discreetly with the surroundings.

7 Built-in adaptability
ENABLING A CHOICE OF INDOOR MODULES
To complete your heating system, NIBE offers a number of ready-made combinations with indoor modules that are designed to work optimally together with the NIBE F2025. (A NIBE installer will help you choose the best combination for your household).

WHAT MAKES THE NIBE™ F2025 SUCH AN EFFICIENT AND VERSATILE HEAT PUMP?

8 Scroll compressor
FOR UNINTERRUPTED OPERATION, EVEN IN THE COLDEST WEATHER
The NIBE F2025 air/water heat pump has new, highly efficient scroll compressors that allow for uninterrupted operation, even when the mercury drops to -20 °C, your NIBE F2025 continues generating energy to heat your home.

9 Advanced defrost control
MORE ECONOMICAL OPERATION
An advanced defrost control keeps the cooling battery free from ice in all weather. This gives a longer total operating time, and consequently reduces the amount of energy needed from other, more costly sources.

10 Built-in intelligent control
SELF CONTAINED UNIT REDUCES NEED FOR EXTRA ACCESSORIES
The NIBE F2025's built-in control system makes it possible for the heat pump to function independently, providing energy for numerous different kinds of equipment. In the majority of cases, it can do so without any additional intelligent accessories.

FIVE SYSTEMS USING THE NIBE™ F2025 AIR/WATER HEAT PUMP

NIBE offers a broad selection of accessories and complete indoor modules. These have been developed together with our air/water heat pumps to optimise their efficiency and give you the highest possible savings. When deciding which of the following systems to choose, you need to know your home's approximate annual energy requirements. Ask your local NIBE expert for an energy calculation and an inspection of your current heating system.

Plug and play heating system suitable for average size homes

NIBE F2025 outdoor module 6 to 10 kW
+ NIBE VVM 300 indoor module

Simple to install, the NIBE F2025-6,-8 or -10 air/water heat pump used in combination with the indoor unit VVM 300, give you a complete, compact heating and hot water unit.

The indoor and outdoor modules are designed together for optimised performance, enabling you to derive the highest possible energy savings.

The VVM 300 stores 155 litres of domestic hot water and is equipped with a temperature-compensating control box to ensure the most economical operation. It also has an electric boiler for back-up, circulation pumps, heating pressure vessel and filling loop.

With the help of some additional equipment, this versatile heating system can also heat your pool. Similarly, it can run two domestic heating systems with different flow temperatures at the same time, such as underfloor heating downstairs and water-based radiators upstairs.

A complete system suitable for new houses or refurbishments.

Enables a large size compressor and docking to e.g. solar energy

NIBE F2025 outdoor module 10 to 14 kW
+ NIBE EVP 500 indoor module

Together the NIBE F2025 and NIBE EVP 500 make up a complete heating system. This combination is ideal for larger homes with high energy consumption. It is also the best option for homeowners who want the heat pump to cover the greatest possible part of their energy needs, thus avoiding using the immersion heater as far as possible. If, due to especially cold weather, the heat pump is unable to meet the home's energy requirement, additional heat is provided by an immersion heater inside the EVP 500.

Tap water is heated inside a copper coil contained within the EVP 500, providing sufficient hot water to meet the needs of an average family home.

The EVP 500 has an unusually high heat accumulation capacity, which makes it especially suitable for connection to a solar energy system as well.

For a unique, tailor-made heating system

NIBE F2025 outdoor module 6 to 14 kW
+ NIBE SMO 10 for a unique, customised system

With the help of the NIBE SMO 10 control module, you can combine a NIBE F2025 air/water heat pump with other equipment and create your own customised heating system. Start with one NIBE F2025 heat pump; if you need more power, you can install as many as nine NIBE F2025 heat pumps together in the same system. The addition of the SMO 10 intelligent control module allows your NIBE F2025 to work smoothly in a variety of different ways. For example:

- Connected to another heating system such as gas, oil, electricity or district heating.
- Connected to a NIBE VPA water heater of the size required to meet your domestic hot water needs.
- If you have a swimming pool, the SMO 10 can connect your heat pump to your pool and heat that too.
- In systems controlled by SMO 10, solar panels can also be incorporated, enabling you to use solar energy as a complementary heat source when it's available.

For use with an existing boiler

NIBE F2025 outdoor module 6 to 14 kW
+ an existing heating system such as a wood-fired boiler or oil boiler

NIBE F2025 is an intelligent heat pump that can work with virtually any heating system that your home already has, such as wood-fired, oil or gas boiler.

In the case of a wood-fired boiler, the NIBE F2025 is connected to the accumulator tank which contains a water heater. When the wood-fired boiler is not in use, the heat pump starts up automatically, providing an economical heat source. It is controlled by a thermostat in the accumulator tank.

In the case of an oil or gas boiler, the heat pump is hooked up to the heating cycle just before the boiler, and contributes to the heating the house (not the hot water, however). It is controlled by a room thermostat.

Both of these installations make use of existing equipment and thus keep installation costs down. However, the highest energy savings that can be achieved with a combined system of this kind is 50%.

CASE NIBE F2025

AN ENVIRONMENTALLY SUSTAINABLE HEATING SYSTEM WHICH MAKES YOU FEEL GOOD, INSIDE AND OUT!

The background

When Jonas Fröberg bought his family home near Karlskrona in southern Sweden, it had a floor area of only 80 square metres and needed extensive renovation. The original wooden building from 1938 was only intended as a summer house, so it had an antiquated electric boiler for hot water and an inefficient heating system running on direct electricity.

Over two years, the Fröbergs converted the summer house into a permanent home, extending the living space to 200 square metres over two levels and installing proper insulation and energy-saving windows. During the renovation, they faced important choices about what kind of energy source would supply their home's heating and hot water. Their main concern was to install a system with the lowest possible energy consumption and environmental impact. Fröberg felt strongly that an investment in a complete, efficient and environmentally sustainable system was the right way to go.

Solution

The Fröbergs opted for the NIBE F2025 14 kW air/water heat pump, together with solar panels. Combining solar panels with a heat pump allows them to take advantage of solar energy whenever it's available, without being fully dependent on it. The owners also chose a powerful compressor in order to extract as much heat as possible from the outdoor air in winter. When the weather is mild, such a powerful compressor requires a big water tank to work properly. Hence the choice of the NIBE EVP 500, an all-in-one module which provides hot water for the heating system in the whole house, as well as hot tap water.

Results

The NIBE F2025 can reduce energy costs by as much as 65%. In the Fröbergs' home, this means an annual consumption of less than 10 000 kW per year compared to 25 000 kW with traditional electric heating for a house this size. In addition, the solar panels cover all hot water requirements for half the year, while radiators aren't needed.

On grey days in winter, when the solar panels can't provide enough heat, the compressor sets in motion; when it gets even colder and the heat pump can't provide enough energy, electricity is still available as back up. The sun replaces some of the energy that would have been pumped by the compressor, so for every kilowatt of energy used to run the heating system, 4 or 5 are produced.

The Fröbergs' commitment to the environment goes even further. *"I buy the electricity needed to drive the heat pump from a nearby wind turbine, which makes my home into a carbon neutral system," says Jonas.*

Find out more about our air/water heat pumps on www.nibe.eu

NIBE™ SPLIT

NIBE SPLIT is a plug and play, all inclusive heating, hot water and cooling system. It's easy to install, easy to manage and has a discreet, timeless design.

It functions efficiently in the coldest...

While many heat pumps cease to work at exactly the moment when your need is greatest, NIBE SPLIT gives you an unusually wide operating range. It can generate heating water up to 58°C (or 65°C with immersion heater) and continue to operate smoothly even if outside temperatures drop to -20°C. On the occasions when the heat pump cannot generate sufficient energy to meet the household's needs, its control unit activates a built-in immersion heater or a complementary source such as solar power, gas or wood.

.. and even the hottest weather

Owners of a NIBE SPLIT heat pump also have the option of setting it up to provide cooling for especially hot weather. In homes with water-filled radiators or underfloor heating, this function can be achieved by adding fan coils. In contrast to a traditional cooling system which stops and starts in response to the thermostat's signals, a NIBE SPLIT delivers cooling in accordance with the household's demand, and spreads a comfortable temperature evenly around your home.

Below, we've highlighted some of the key features which make NIBE SPLIT such an efficient, high performing heat pump.

1 Twin-Rotary compressor with inverter controls
LOW WASTE - HEAT SUPPLY VARIED ACCORDING TO NEED
The compressor can run between 30% and 100% capacity. Thanks to inverter controls, the speed varies automatically according to the household's energy requirements. It is designed to perform efficiently even at a low outside temperature, when home owners experience the greatest need for heat.

2 Compressor control
HIGH EFFICIENCY AT LOW AMBIENT TEMPERATURES
The compressor is operated and controlled in such a way as to be efficient even at low ambient temperatures.

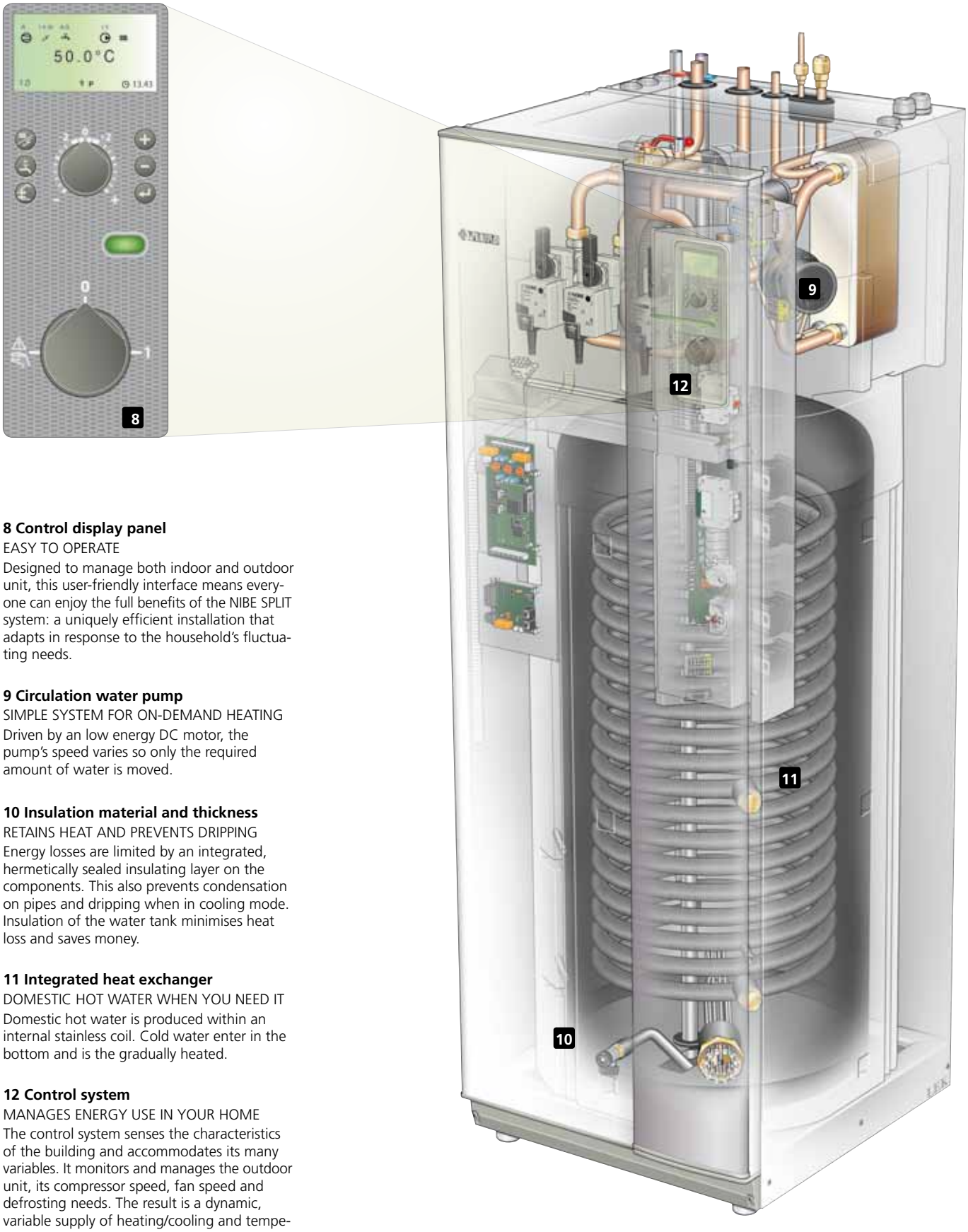
3 Expansion valve
GREATER PRECISION IN THE REFRIGERANT CIRCUIT
The expansion valve used in NIBE SPLIT was chosen for the precision it allows. The result is high efficiency and capacity control for both cooling and heating.

4 Cabinet coating
FOR DURABLE GOOD LOOKS
With two layers of epoxy-paint on the outdoor unit, its good looks will last a long time.

5 Finned coil design (evaporator)
HIGH PERFORMANCE AND DURABILITY
The finned coil absorbs or rejects energy from the ambient air, for heating and cooling respectively. A polymer coating makes it especially durable, while the coil's enhanced surface improves heat transfer from the air.

6 Low starting current
PREVENTS INTERFERENCE WITH OTHER ELECTRONIC DEVICES
NIBE SPLIT has an inverter driven compressor which gives a low starting current. By starting slowly and moving gradually up to required capacity, the system does not interfere with other electronic devices in the building.

7 Fan (motor and blade)
CONSERVES ENERGY
Driven by an energy-saving motor, the fan's speed varies so only the required amount of air is utilised. The blades are specially designed to move as much air as possible at the lowest noise level.



8 Control display panel
EASY TO OPERATE
Designed to manage both indoor and outdoor unit, this user-friendly interface means everyone can enjoy the full benefits of the NIBE SPLIT system: a uniquely efficient installation that adapts in response to the household's fluctuating needs.

9 Circulation water pump
SIMPLE SYSTEM FOR ON-DEMAND HEATING
Driven by an low energy DC motor, the pump's speed varies so only the required amount of water is moved.

10 Insulation material and thickness
RETAINS HEAT AND PREVENTS DRIPPING
Energy losses are limited by an integrated, hermetically sealed insulating layer on the components. This also prevents condensation on pipes and dripping when in cooling mode. Insulation of the water tank minimises heat loss and saves money.

11 Integrated heat exchanger
DOMESTIC HOT WATER WHEN YOU NEED IT
Domestic hot water is produced within an internal stainless coil. Cold water enter in the bottom and is the gradually heated.

12 Control system
MANAGES ENERGY USE IN YOUR HOME
The control system senses the characteristics of the building and accommodates its many variables. It monitors and manages the outdoor unit, its compressor speed, fan speed and defrosting needs. The result is a dynamic, variable supply of heating/cooling and temperature level.

NIBE™ SPLIT INSTALLED IN YOUR HOME

Triple function:
HEATING/COOLING/DOMESTIC HOT WATER
NIBE SPLIT – a single system to meet all your heating, cooling and domestic hot water needs.

Indoor unit:
SINGLE, NEATLY PACKAGED MODULE
NIBE has used cutting edge engineering to create a whole system design. The neat indoor module fits into a standard 60 cm x 66 cm space.

Electrical installation:
CONTRIBUTES TO EASE OF INSTALLATION
The outdoor unit does not need a separate electrical connection. It is linked by cable to the indoor unit, which is connected to the power supply.

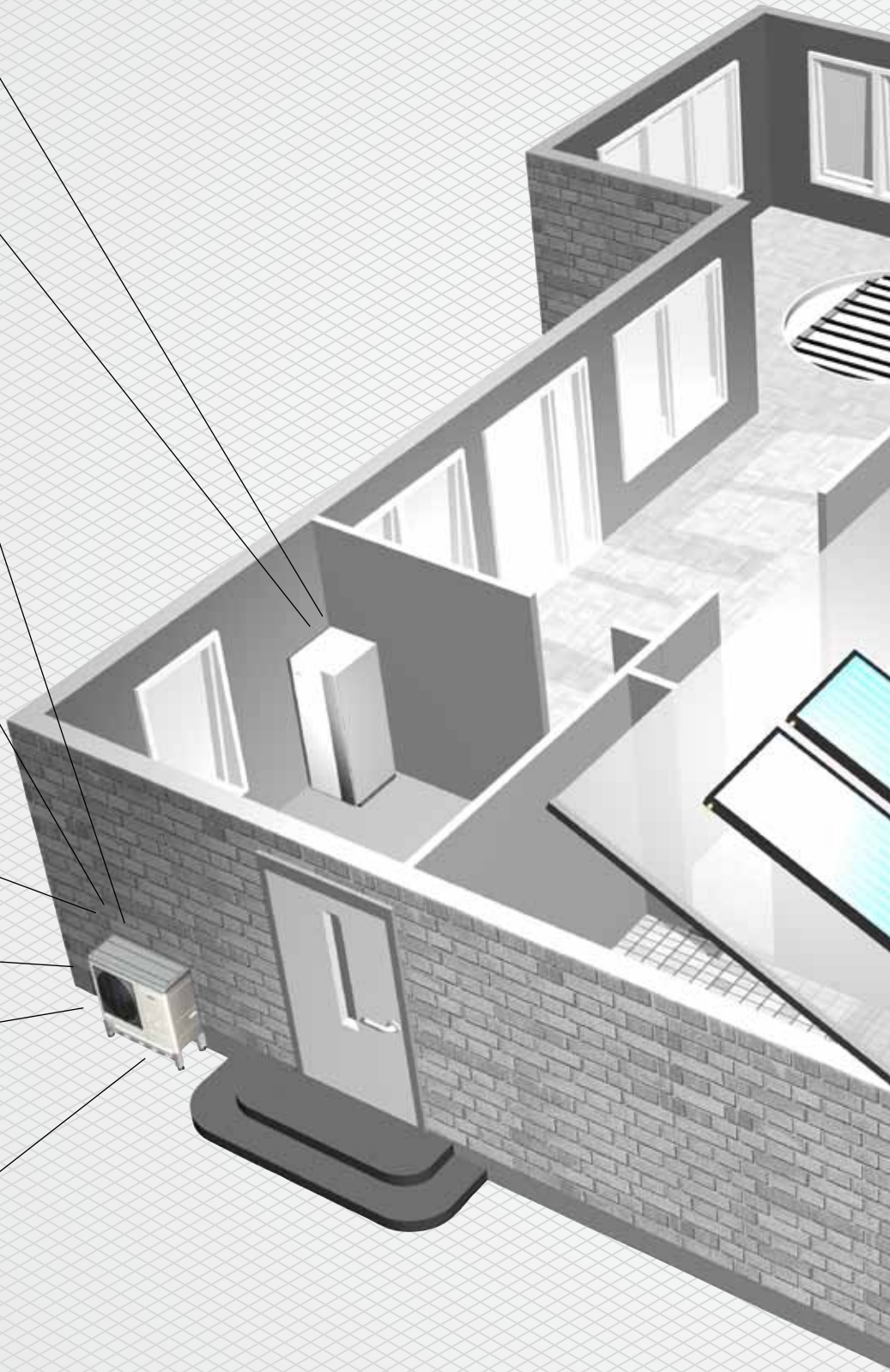
Outdoor unit:
COMPACT SMALL FOOTPRINT
The outdoor unit is the smallest on the market and has an appealing timeless, design.

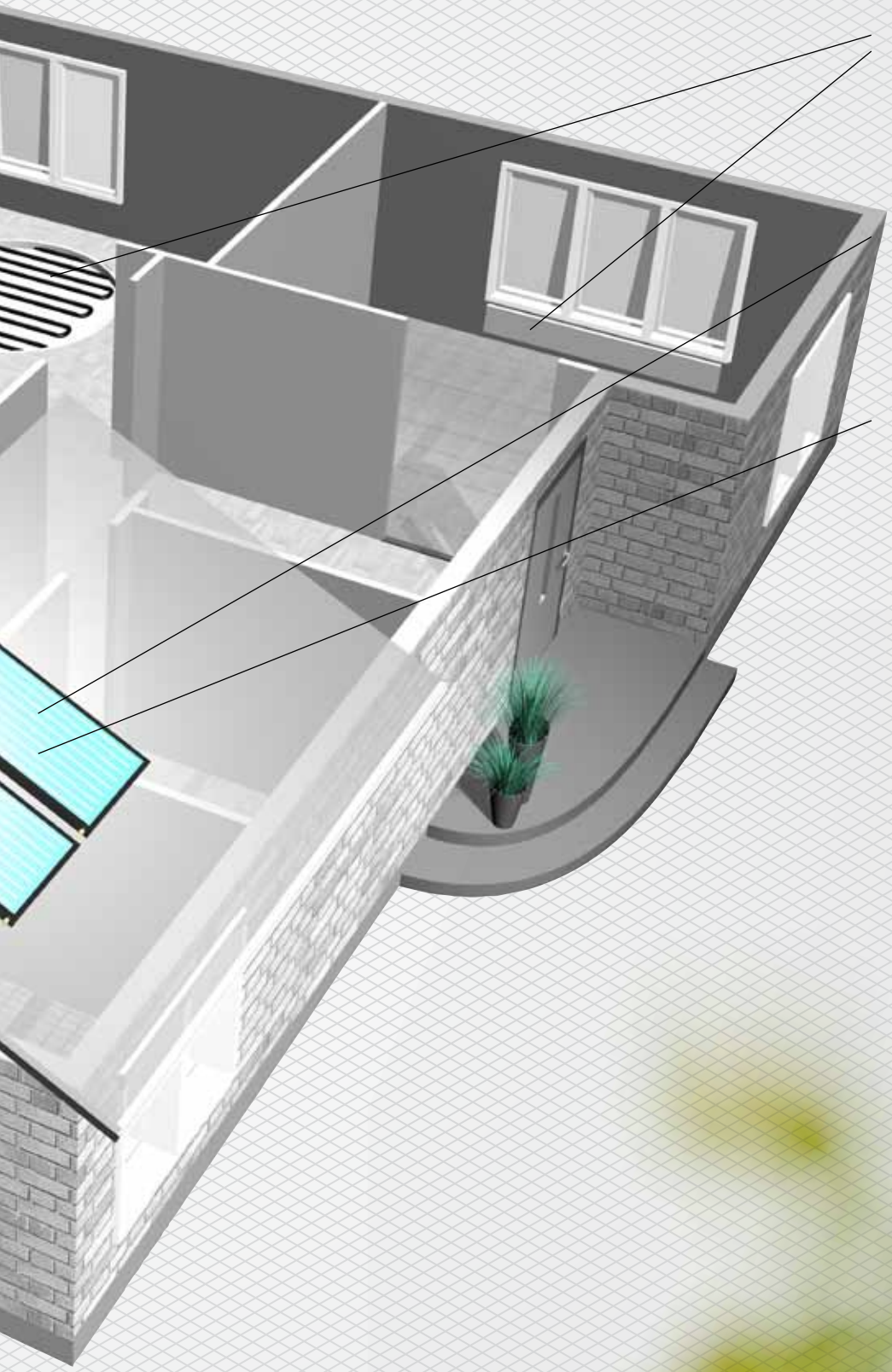
Refrigerant in pipes:
NO RISK OF FREEZING
Even at low ambient temperatures, the outdoor pipes do not freeze since they are filled with refrigerant instead of water.

Flexible positioning:
CHOOSE A DISCREET LOCATION
The outdoor unit can be moved to any location up to 12 metres of refrigerant pipes from the indoor unit, giving you the freedom to select the most suitable position in your yard.

Outdoor unit pre-charged with refrigerant:
EASY INSTALLATION AND ENVIRONMENTALLY FRIENDLY
The outdoor unit is pre-charged with a refrigerant which has a low environmental impact and does not damage the ozone layer.

Position of heat pump:
CHOOSE BETWEEN TWO ALTERNATIVE MOUNTINGS
Either wall-mounted or standing on the ground (using NIBE's stand accessory)





Flexible indoor installation:
SWITCH THE FUNCTION TO SUIT THE SEASON
NIBE SPLIT can be used for both heating and cooling. Water-borne distribution of heating takes place via radiators or underfloor system; cooling takes place via fancoils or underfloor system.

Compatibility:
CONNECTS EASILY WITH
OTHER ENERGY SOURCES
When you need an additional energy source, NIBE SPLIT can be hooked up to e.g. solar heating panels or an existing boiler.

Green energy connection
EMISSION FREE HEATING AND COOLING
Complementing the energy supply from your NIBE SPLIT heat pump with an alternative source such as solar power results in a system that's almost emission free.

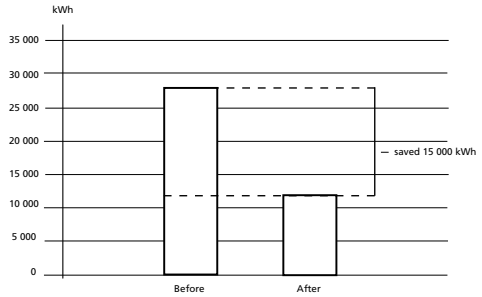
CASE NIBE SPLIT

BIGGER HOME? BIGGER SAVINGS, NOT BIGGER BILLS.

The background

A family of four is living in a spacious 170 sq. m. house in a sparsely populated area. The house is currently equipped with electric radiators and an electrical water heater. The water heater needs changing and some of the radiators are so old that they will soon also need replacing. On average, this family's yearly electricity consumption is 33 000 kWh, of which 27 000 kWh is for heating alone.

The cost of this level of energy consumption places a great strain on the family's finances. The family wants to reduce its energy bills while maintaining a good level of comfort in their large home. They also want to make a long-term, environmentally friendly choice.



Effective heating, slashed energy bills and emissions - and summer cooling with no extra investment.

Solution

They first consider an air/air heating system, but decide to go for an air/water heat pump in order to satisfy their need for hot sanitary water at the same time. The air/water heat pump is able to reduce overall energy consumption while spreading warmth more evenly over the whole house and providing hot water as well.

The water heater is removed. A NIBE SPLIT is installed and a new fancoil is mounted on each floor, to spread the warmth throughout their home. Some of the old electric heaters are left as comfort boosters to be used in case of exceptionally cold conditions, but these are generally switched off.

Results

This family's energy consumption go down from 27 000 kWh to 12 000 kWh.

With a NIBE SPLIT air/water heat pump they save 15 000 kWh.

With a minimum of disruption to install the new air/water heat pump in their house, this family is now saving on energy bills as well as doing their part to meet EU energy objectives for 2020.

They haven't tried the cooling function yet, as they wanted to find out just how much the installation can save on energy costs. But once the summer comes round, they can choose to cool down the house without making any additional investment.

FURTHER USES FOR YOUR HEAT PUMP

A NIBE air/water heat pump is not just for heating your home and hot water. With our broad range of accessories, you can, for example, control your heat pump remotely and heat the pool. Your NIBE installer can give you more information.

NIBE™ F2025

NIBE™ VVM 300
Hot water module (only for F2025-6, -8, -10)

F2025, together with VVM 300, creates a complete heating and hot water unit. VVM 300 is equipped with a control box that currently makes it the most economical operation.

NIBE™ EVP 270
Hot water module (only for F2025-6, -8, -10)

F2025, together with EVP 270, creates a complete heating and hot water unit. NIBE EVP 270 is a top-connected electric boiler intended for houses with water based heating.

NIBE™ EVP 500
Hot water module (only for F2025-8, -10, -14)

Complete, high-performance indoor module for heating and hot water. Can be connected to all possible heat sources: solar power, gas, oil etc. Extraordinary hot water comfort thanks to high energy content stored in the tank.

NIBE™ SMO 10
Control box

SMO 10 is an intelligent control module that, together with the air/water heat pump and existing heating and hot water equipment, creates a complete unit.

NIBE™ KVT 10
Condensate drain

The condensation water through is used to collect and lead away most of condensation water from the air/water heat pump. The through contains a heating coil, which allows run off, to occur at temperatures below zero.

NIBE™ POOL 20
Heat your swimming pool

Using the heat pump to heat the water in your pool saves money and makes those breathtaking icy cold dips a thing of the past! POOL 20 is an accessory that make it easy to control the heating of your pool.

NIBE™ SPLIT

NIBE™ RE 10
Room unit with room sensor

If controller display is required in a separate room.

NIBE™ UKV 40 & 102
Buffer vessel

Buffer vessel 40 or 102 l. If extra circulating water system volume is needed.

NIBE™ VCC 22
Shuttle valve

For example separate cooling and heating systems.

NIBE™ EMK 270
Energy measurement kit

For indoor unit. Makes it possible to measure COP over a period.

NIBE™ Bracket
Positioning of the heat pump

Choose between two alternative mountings. Either wall-mounted or standing on the ground.

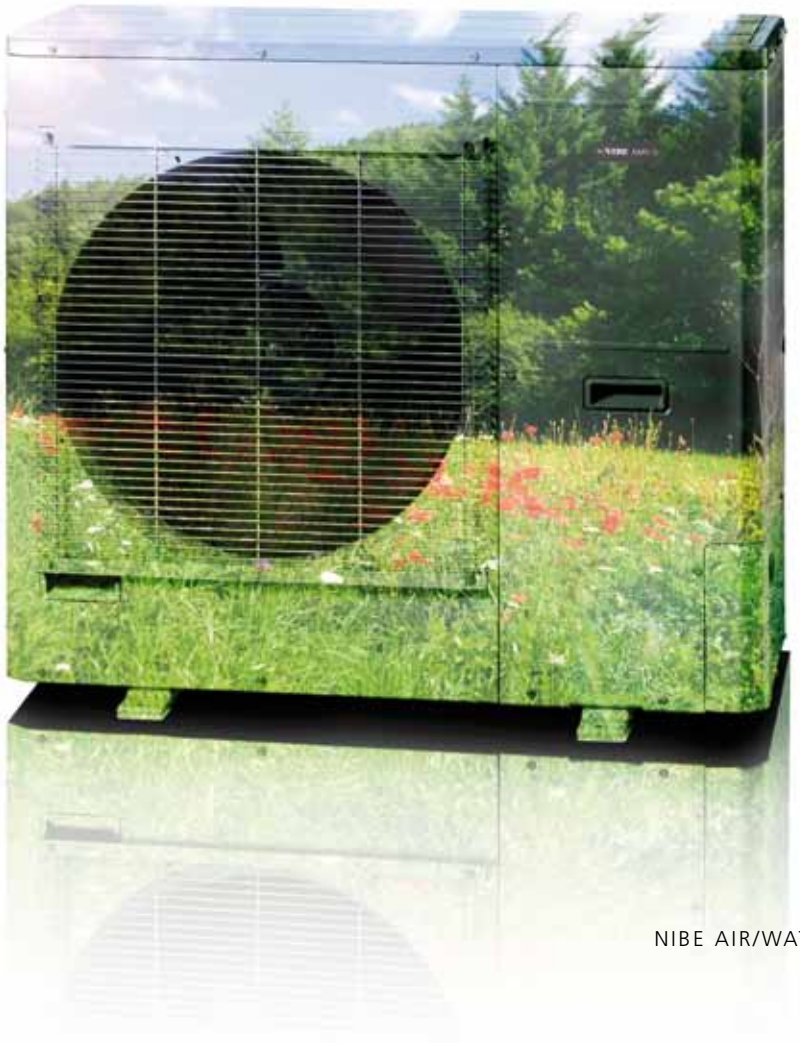
THE CASH MACHINE IN YOUR GARDEN – YOU SAVE UP TO 65% EVERY MONTH!

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.

Traditionally heat pumps have been seen as only suitable for underfloor heating. However with the advanced control system of NIBE air/water heat pumps and its ability to provide optimum variable flow temperature control, radiators can now be easily provided with the hot water they need and prove to be a very efficient option.

More than anything, NIBE air/water heat pumps are an investment in the future. Developers, builders and home-owners want to be assured that technology they purchase today will be relevant and useful for many years to come. NIBE air/water 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 air/water heat pumps are at the cutting edge of low-energy performance and will enable homes to meet energy consumption and emissions targets long after they are built.



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 CO_2 emissions is becoming a legal requirement as well as an environmental necessity.

Over 70% of an average home's CO_2 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 CO_2 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.

One obvious reason for this is that a heat pump does not use any combustion process to generate heat. It simply extracts the heat that already exists in the outside air and puts it to use to heat your home. This greatly reduces emissions in comparison to traditional fossil-fuel based systems.

Secondly, the amount of electricity needed is relatively low. That's because electricity is not the main energy source; it's only needed to drive the 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 75%.

A third 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.

And naturally, once it's installed in your home, a NIBE heat pump immediately starts to deliver an environmental 'payback' in the form of reduced energy consumption and emissions.

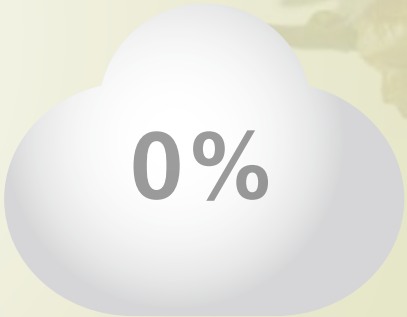
Working towards a zero carbon future

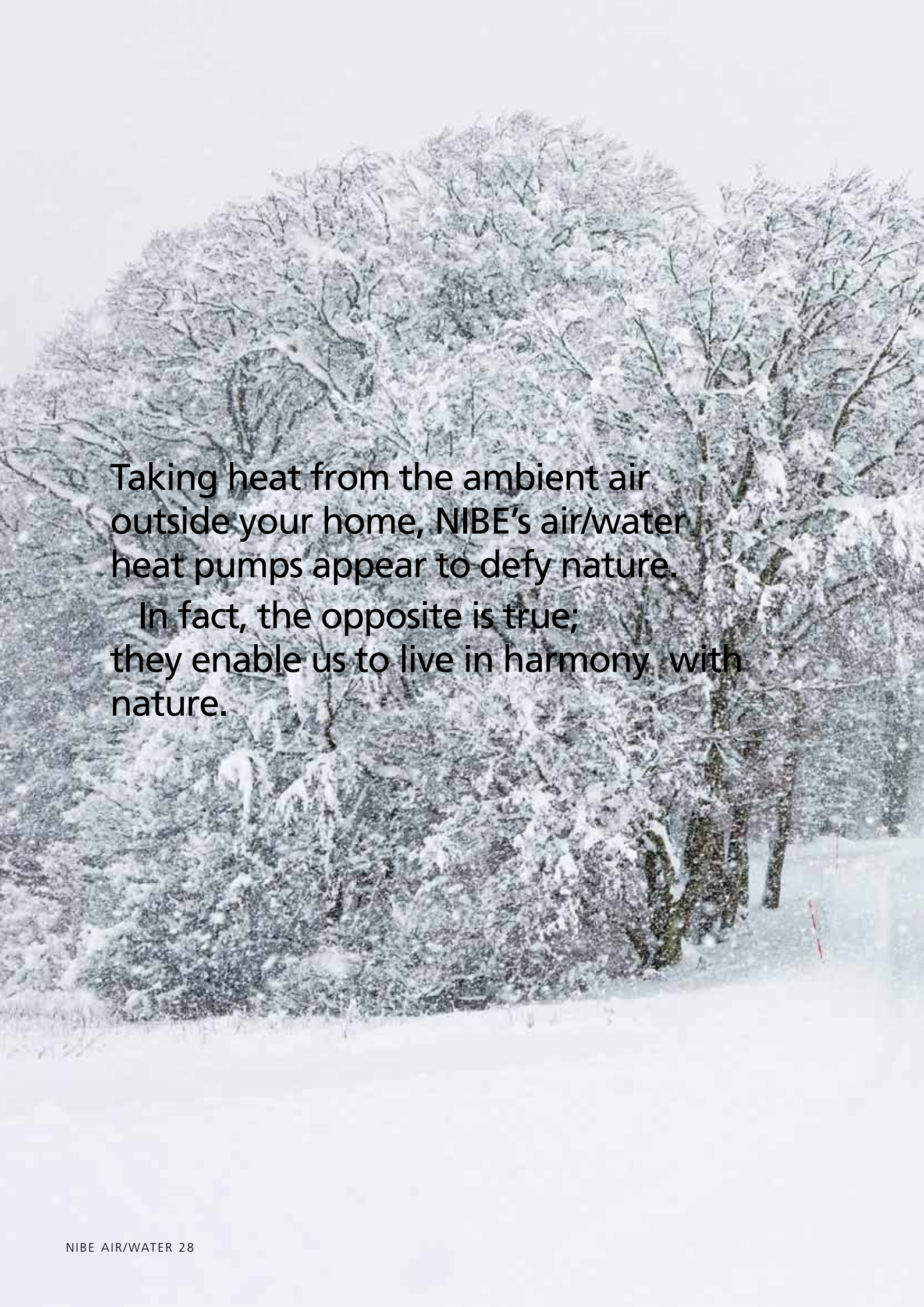
The drive to reduce energy consumption and the impact its use has on the environment is crucial and increasingly important to us all. Why not take a step closer towards a zero carbon future and power your heat pump using a renewable energy source such as wind, solar or tidal energy?

Classified as renewable energy

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

For more information, please visit the NIBE website in your country.





Taking heat from the ambient air outside your home, NIBE's air/water 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. And over the last 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. In the 1970s these were supplemented by electric boilers. Heat pumps and a wide range of other heating products that meet the needs of the European markets were later added to the mix.

Nowadays, NIBE is a leading player in both heating and cooling solutions around Europe. We strive to offer innovative solutions that not only save energy but which also reduce CO_2 emissions.

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

THREE KINDS OF HEAT PUMPS FROM NIBE

Exhaust air heat pumps

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

Ground source heat pumps

Drawing heat from surface soil, bedrock or the water in a nearby lake, this is 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. In contrast to simpler types of air-to-air heat pumps, they are connected to the building's heating system and able to produce both heat and hot water.

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 air/water 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.

20/20/20

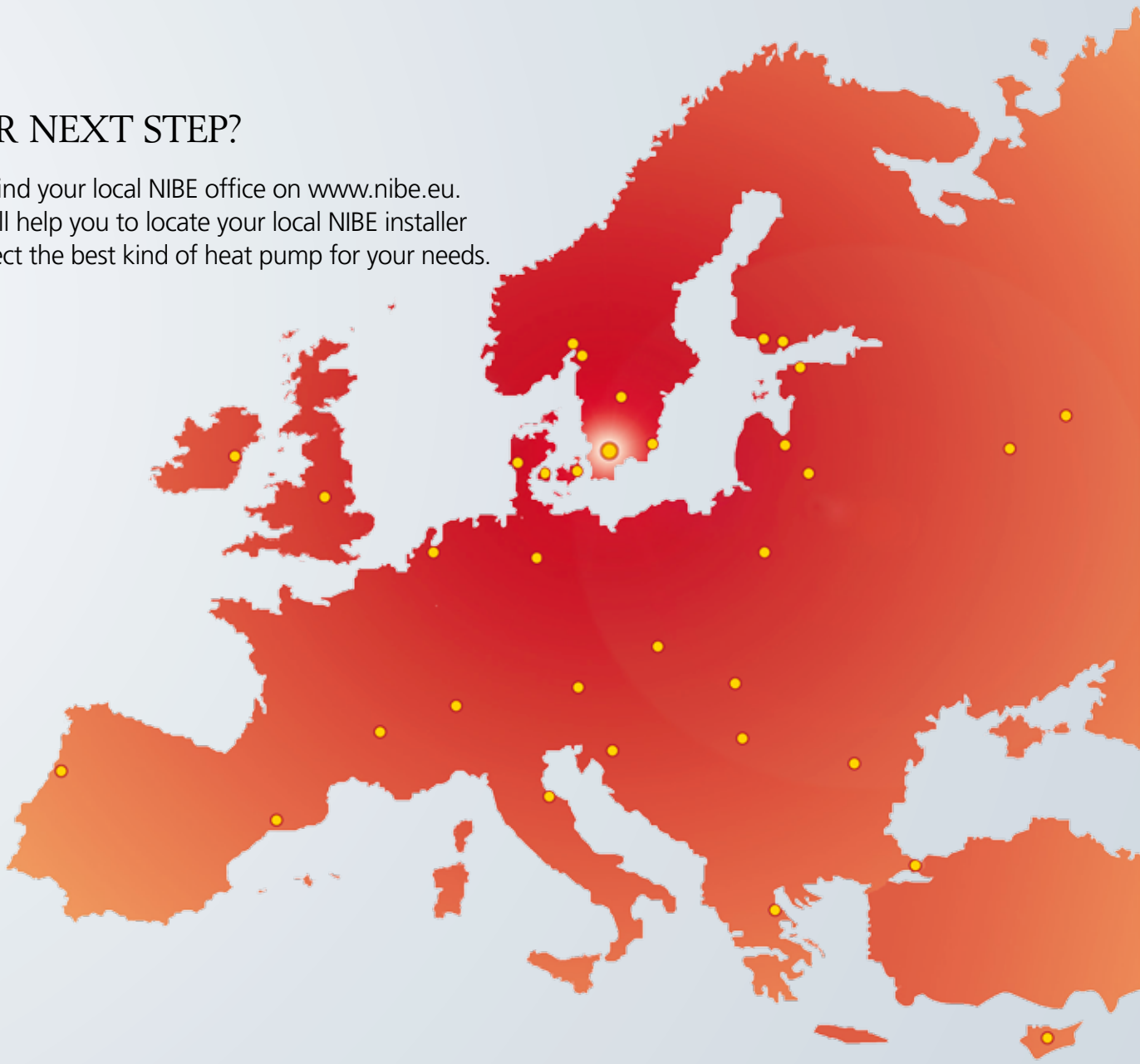
Exhaust air heat pumps

Ground source heat pumps

Air/water heat pumps

YOUR NEXT STEP?

Please find your local NIBE office on www.nibe.eu. They will help you to locate your local NIBE installer and select the best kind of heat pump for your needs.



A new generation of heat pumps
DESIGNED FOR EARTH

What do we mean by "A new generation of heat pumps – designed for earth?"

Our products are designed to USE THE EARTH
The main energy sources for NIBE heating solutions are the earth, the sun, the ambient air or a water source near your home – one or more of which occur naturally all over the planet and are provided free by Mother Earth.

Our products are relevant ALL OVER THE EARTH
Since we now offer a system with both heating and cooling functions, you can use a NIBE heating system anywhere, regardless of your geographic location.

Our products are designed with the HEALTH OF THE EARTH in mind
NIBE products have a very low environmental impact compared to other heating systems currently available. They do have some impact, as do all manufactured goods, but we are continually working to minimise this and to deliver an environmental payback in the form of reduced emissions.

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