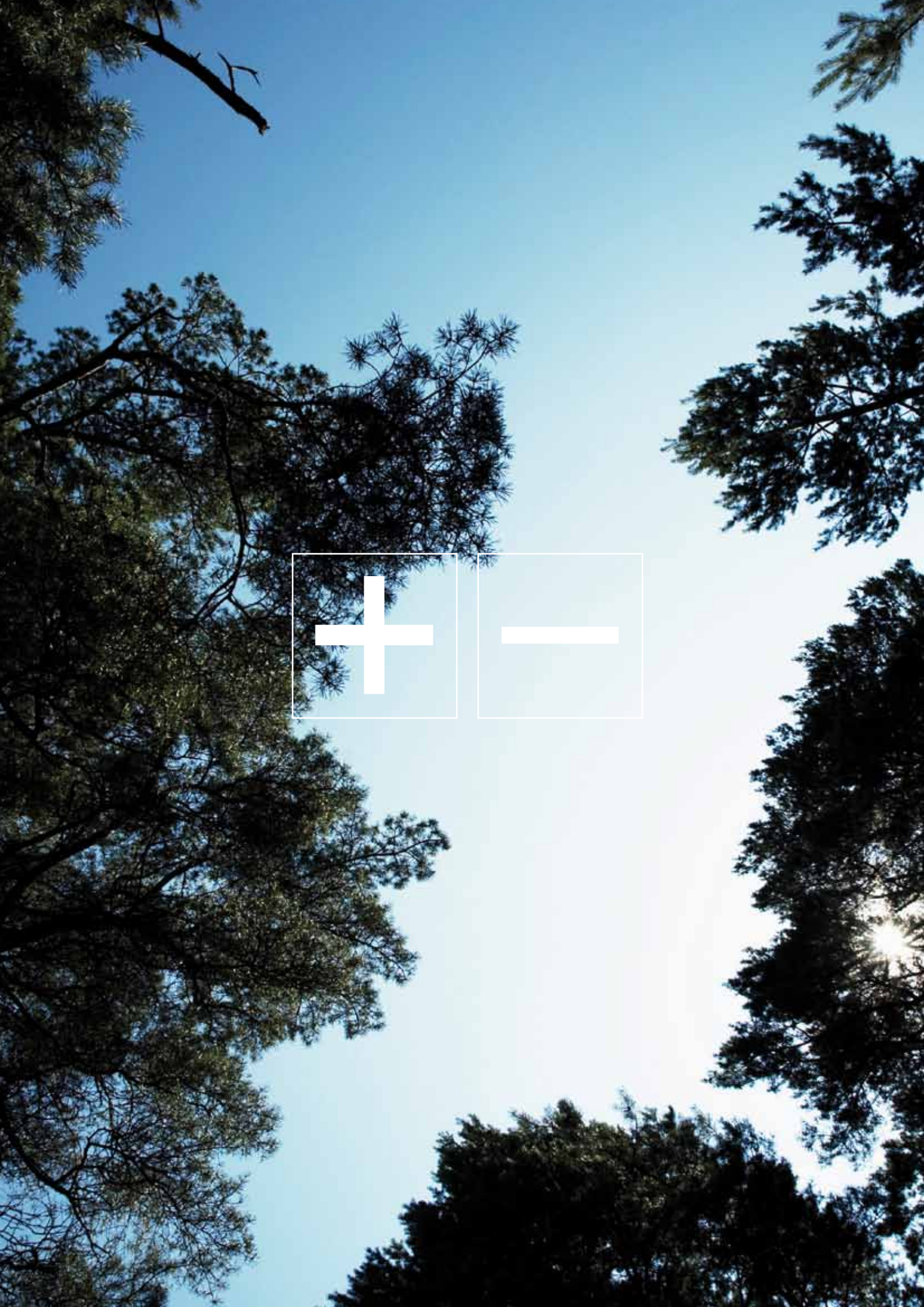
A new generation of heat pumps
DESIGNED FOR EARTH

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 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 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 it much cheaper to heat your home and hot water. 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 ground drilling.

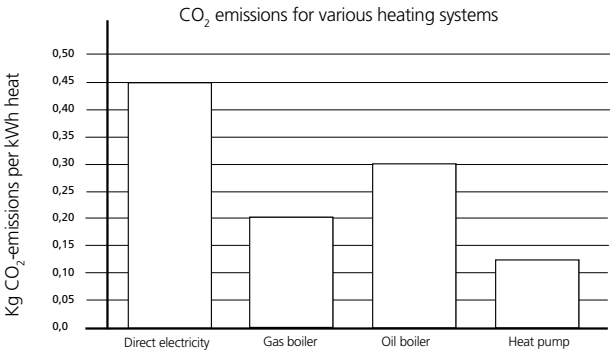
The efficiency of NIBE's heat pumps positively impacts the speed with which you recover your investment. With energy prices continually rising, you're unlikely to regret your decision. In fact, you'll start enjoying savings from the first month.

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.

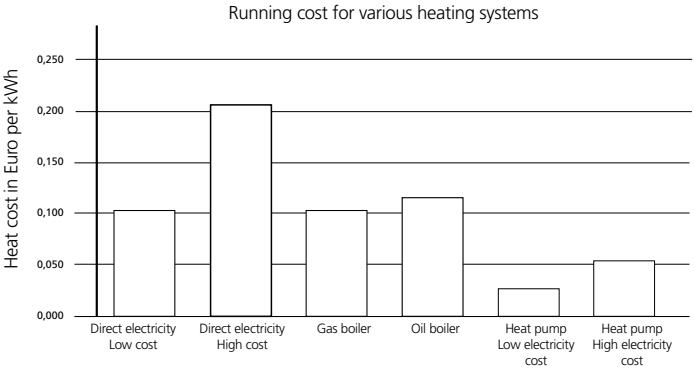


Consider this

If heat pumps were installed in the one million or so new houses built annually in Europe, we would cut CO_2 emissions by over 3,600,000 tonnes 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 electrical energy is converted into an average of 3 kWh of heating energy. There is no escaping the obvious conclusion – a heat pump is the absolute best way to get low cost heating and hot water.



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 energy sources, depending on availability and price.

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

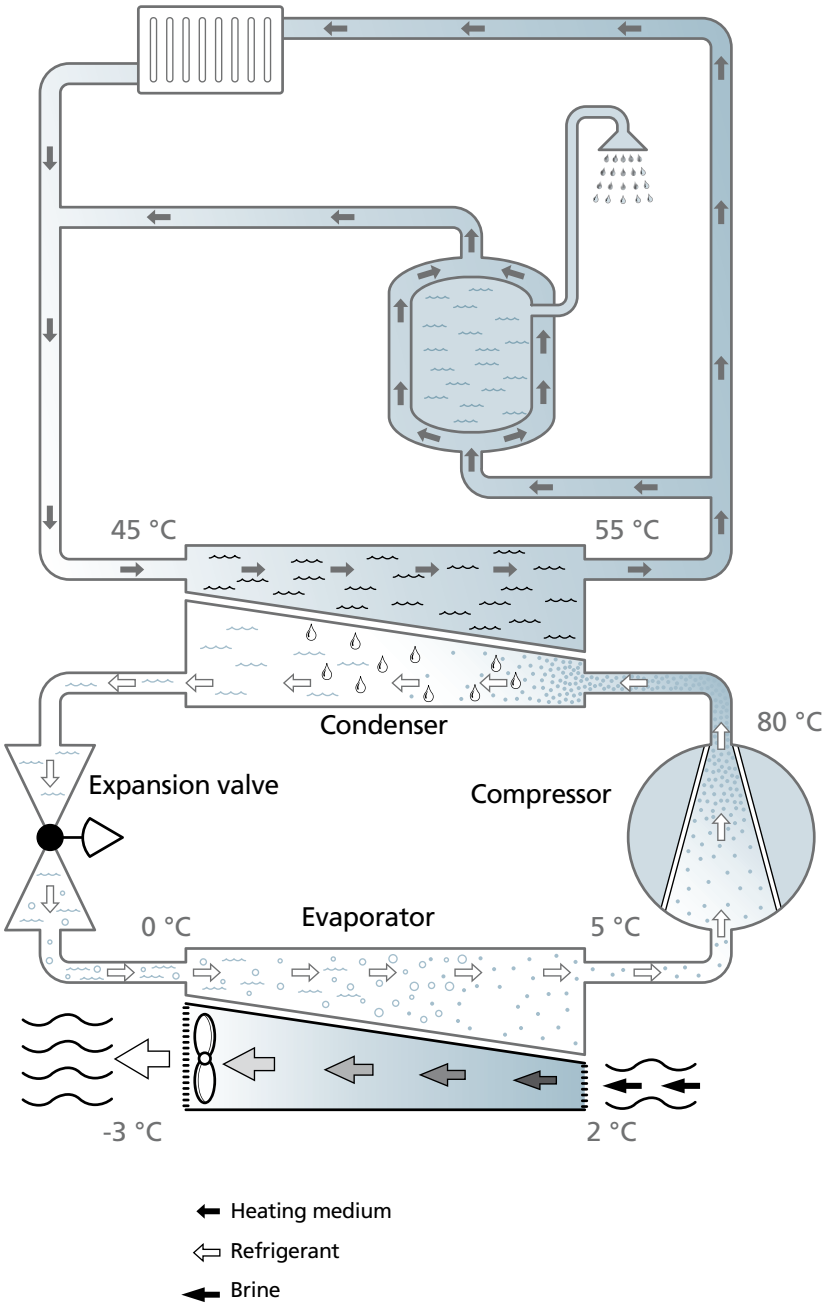
– No natural gas supply, flues, ventilation or chimney are needed.

– 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!

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. 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.

The electrical energy to drive this process compared to the heating energy that is given to the house has a seasonal factor of about 3. This means that if you use 15,000 kWh for heating and domestic hot water after installation you only need about 5000 kWh. The exact saving depends on the climate and whether you have a low, medium or high temperature heating system. Let us make a calculation based on your house and needs.

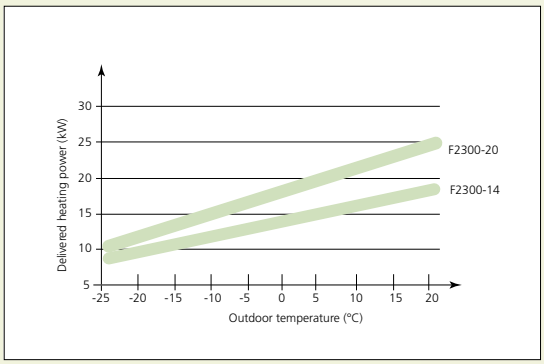
CHOOSE YOUR HEAT PUMP SYSTEM HERE!

The following pages present three alternative air/water heat pump systems with the NIBE F2026, the NIBE F2300 and the NIBE SPLIT.

There are several factors to consider when choosing a heat pump system. The size of your house, your current heating system, your home's energy requirements and the local climatic conditions will all influence your decision.

If you're building a new house or would like to upgrade your heating system, our local NIBE dealer can help you find the best product combination.

NIBE™ F2300
Flexible monoblock system



NIBE F2300 air/water heat pump for commercial and larger residential buildings

The NIBE F2300 is a new air/water outdoor unit that is particularly suitable for larger houses/buildings. Great efforts have been made to create attractive system combinations.

- Improved efficiency, COP levels among the best in the market. Tested by independent external laboratory and approved for the EHPA quality label.
- Very efficient high temperature compressor for heating systems up to 65°C.
- Robust condensate water solution. Ready for connection to accessory to carry away the condensate water.
- Very low sound level.
- High supply temperature 63°C even at ambient temperature of –25°C.
- Sizes: 14 kW and 20 kW.

Flexible system solutions

Heating system upgrade
The NIBE F2300 can work with virtually any heating system already installed in your home, including oil, gas and wood-fired boilers.

New build
A complete system with a controller, separate tanks and heat pump, carefully selected to provide optimum performance.

The NIBE SMO 05 basic or the NIBE SMO 10 advanced external control module, together with the F2300 and accessories such as water cylinders, create a complete system.

NIBE's range of accessories (page 24) has been developed to maximise system efficiency and produce the greatest possible savings.

Factors such as the size of your house, where you live and your domestic hot water requirements determine which is the most suitable system for your home.

Flexible system solutions

Outdoor unit	Controller	Domestic hot water	Energy back-up
NIBE F2300	NIBE SMO 05	NIBE VPB/VPA	NIBE ELK, gas
NIBE F2300	NIBE SMO 10	NIBE VPB/VPA	NIBE ELK, gas, oil, wood
NIBE F2300	Stand-alone		

For docking principles, please see www.nibe.eu/air-water/docking

NIBE™ F2026
Flexible monoblock system

NIBE F2026 air/water heat pump for residential buildings

- Efficient compressor (for heating systems up to 55°C) that operates at temperatures as low as –20°C.
- Very low sound level.
- Robust condensate water solution. Ready for connection to accessory to carry away the condensate water.
- Sizes: 6 kW, 8 kW and 10 kW

Flexible system solutions

The F2026 range offers a choice of system installations suitable for new build and refurbished properties.

New build

The NIBE F2026 and the VVM 300 together provide a complete heating and domestic hot water solution.

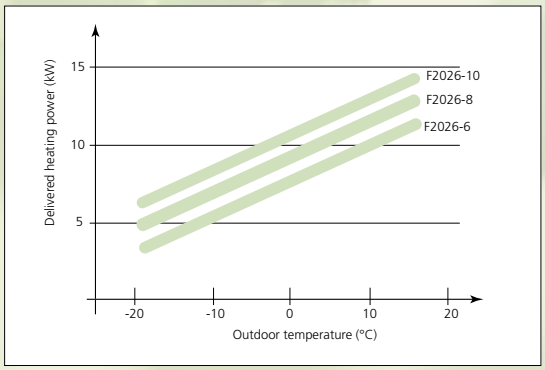
Heating system upgrade

The NIBE F2026 will work with virtually any heating system already installed in your home, such as wood, oil or gas-fired boilers.

The NIBE SMO 05 (basic external control module) or the NIBE SMO 10 (advanced external control module) provides a complete system in combination with the F2026 air/water heat pump and accessories (water cylinders).

A broad range of accessories (page 24) widens the choice of recommended combinations. The accessories are designed to optimise the efficiency of our air/water heat pumps and achieve maximum savings.

Factors such as the size of your house, where you live and your domestic hot water requirements determine which system is most suitable for your home.



Flexible system solutions

Outdoor unit	Indoor unit			Energy back-up
	All-in-one	Separate controller	Domestic hot water	
NIBE F2026	NIBE VVM 300			
NIBE F2026		NIBE SMO 05	VPA, VPB, VPAS	NIBE ELK, gas
NIBE F2026		NIBE SMO 10	VPA, VPB, VPAS	NIBE ELK, gas, oil, wood
NIBE F2026		Stand-alone		

For docking principles, please see www.nibe.eu/air-water/docking

NIBE™ SPLIT
Plug and play system

NIBE SPLIT air/water heat pump for residential buildings

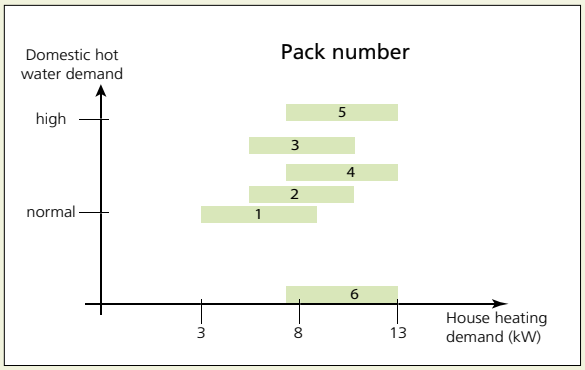
- Optimal annual heating factor thanks to the inverter controlled compressor that operates at temperatures between 42°C and –20°C.
- Integrated active cooling function.
- For heating systems up to 55°C and cooling down to +7°C (packs 1 and 2).
- Instant docking with existing gas, oil or wood boiler.
- Can be docked with solar pack.
- Integrated accumulator tank for generation of domestic hot water or separate controller and separate tank combination.
- Refrigerant piping between indoor and outdoor units.

NIBE SPLIT is a plug and play heating and cooling system for new builds and refurbished properties. It combines a well-designed, high-quality outdoor unit with an indoor unit using NIBE's technology to produce a unique, efficient and environmentally-friendly system for heating, cooling and domestic hot water. It's easy to install and operate and has a discreet, timeless design.

NIBE SPLIT is engineered to deliver optimum performance throughout the year and is one of the most efficient heating systems available today.

Cooling on hot days

Homes with water-filled radiators or underfloor heating can be enhanced with the cooling function by adding fan coils. In contrast to a traditional cooling system, which stops and starts in response to thermostat signals, NIBE SPLIT supplies cooling according to household requirements, distributing the air evenly and maintaining a comfortable temperature throughout your home.



The NIBE Split six system combinations

Pack number	Indoor unit		Outdoor unit
	All-in-one cabinet	Separate controller and separate tank	
1	ACVM 270		AMS 10-8 kW
2	AVCM 270		AMS 10-12 kW
3		HBS 12 + HEV500	AMS 10-12kW
4		HBS 16 + HEV300	AMS 10-16 kW
5		HBS 16 + HEV500	AMS 10-16 kW
6		HBS 16 + HE30	AMS 10-16 kW

TECHNICAL SPECIFICATIONS

Technical specifications NIBE F2026

Heating systems up to	55 °C
Heating working range, outdoor temperature	-20°C – +35 °C
Height (excl. feet)	1045 mm
Height (incl. feet)	1095 mm
Width	1200 mm
Depth	520 mm
Weight	120/126/132 kg

Models

Voltage 400 V~ 3-phase	Voltage ~ 1-phase
NIBE F2026-6	NIBE F2016-6
NIBE F2026-8	NIBE F2016-8
NIBE F2026-10	NIBE F2016-11

Technical specifications NIBE F2300

Heating systems up to	65 °C
Heating working range, outdoor temperature	-25 °C – +40 °C
Height (incl. feet)	1385 mm
Width	1455 mm
Depth	620 mm
Weight	225/230 kg

Models

Voltage 400 V~ 3-phase
NIBE F2300-14
NIBE F2300-20

Technical specifications NIBE Split

NIBE SPLIT system	
Heating system up to	55 °C
Cooling system min. supply temperature (packs 1 – 2)	7 °C
Cooling system min. supply temperature (packs 3 – 6)	18 °C
Heating working range, outdoor temperature	-20°C – +43 °C
Cooling working range, outdoor temperature	+15°C – +43 °C
Operating voltage	1 x 230 V or 3 x 400 V

Indoor unit NIBE	**ACVM 270**	**HBS 12**	**HBS 16**
Volume, total, litres	270	–	–
Height, mm	1850	1040	1150
Required ceiling height, mm	2000	1300	1300
Width, mm	600	600	600
Depth, mm	660	375	375
Weight, kg	140	64.5	68.5
Mounting	floor	wall	wall
Immersion heater, kW	Max 9	–	–
Voltage		230 V~ 1-phase 400 V~ 3-phase	

External water cylinder NIBE	**HEV 500**	**HEV 300**	**HE 30**
Volume, total, litres	500	300	–
Height, mm	1740	1900	385
Required ceiling height, mm	1900	2080	–
Width, mm	760	600	596
Depth, mm	876	600	365
Weight, kg	130	95	24
Immersion heater, kW	Max 9	Max 9	Max 9

Outdoor unit NIBE AMS	**10-8**	**10-12**	**10-16**
House heating demand, kW*	3 – 9	5 – 11	7 – 13
Compressor		Twin Rotary	
Height, mm	595	845	1300
Width, mm	780	970	970
Depth, mm	340	370	370
Weight, kg	60	74	105
Delivered compressor output EN14511 7/45 heating, kW	3 – 8	3.5 – 12.0	4 – 16
Delivered compressor output EN14511 35/18 cooling, kW	2.7 – 10.7	3.3 – 12.0	5 – 16
Built-in solution for condensate water			
Maximum distance between indoor and outdoor units, refrigerant pipes, m	*30*	*30*	*30*

** Coldest day above –20°C*

WHAT MAKES THE NIBE™ F2300 SUCH AN EFFICIENT AND VERSATILE HEAT PUMP?

1 Silent operation
Carefully-selected components ensure that the sound power level of the large F2300-14/20 kW is the same as that of the smaller F2026-8.

2 High efficiency
New compressor technology and refrigerant circuit have greatly improved the coefficient of performance compared with earlier versions.

3 High temperature range
The NIBE air/water heat pump outdoor unit can be sized for buildings with high-temperature heating systems.

4 Good domestic hot water performance
The high supply temperature enables good domestic hot water performance.

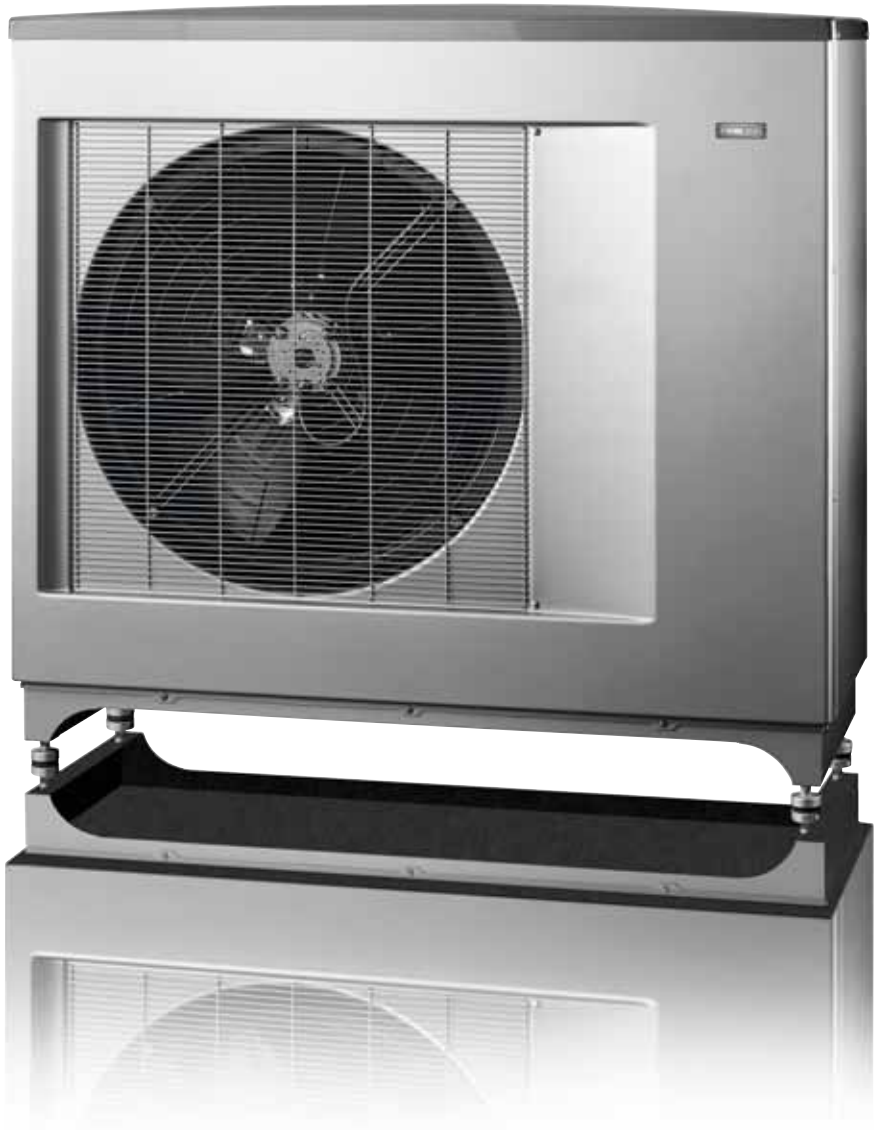
5 Hard-wearing materials
The NIBE F2300 heat pump is constructed using particularly hard-wearing materials to guarantee long service life even in harsh outdoor conditions.

6 Discreet design
The NIBE F2300 has a neutral appearance which blends unobtrusively in with the surroundings outside your house.

7 Robust condensation water solution
The condensate water produced during the defrost operation is gathered in a built-in tray and can be transferred one to six metres to a collection point using the KVR 10 accessory.

8 High supply temperature even at -25°C
Even when the mercury drops to -25°C, your NIBE F2300 will continue to generate enough energy to heat your home.

10 Flexible system solutions
NIBE offers a choice of ready-made combinations with indoor modules that are designed to work optimally with the NIBE F2300.



FOUR SYSTEMS USING THE NIBE™ F2026/F2300 AIR/WATER HEAT PUMP

NIBE offers a broad selection of accessories and complete indoor modules. These have been developed along with our air/water heat pumps to optimise their efficiency and achieve maximum savings. You will need to know the approximate annual energy requirements of your home before deciding which system to choose. Ask your local NIBE expert to check out your current heating system and calculate your energy requirements.

Plug and play heating system suitable for average-sized homes

NIBE F2026 outdoor module 6 kW to 10 kW + NIBE VVM 300 indoor module

If you're looking for a complete, compact heating and hot water unit that's simple to install, we recommend the NIBE F2026-6 kW, 8 kW or 10 kW air/water heat pump in combination with the VVM 300 indoor unit.

The indoor and outdoor modules are designed to deliver optimum performance and maximize energy savings.

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

This versatile system can be complemented with optional equipment for heating your pool. Similarly, it can simultaneously run two domestic heating systems with different flow temperatures, such as underfloor heating downstairs and water-based radiators upstairs.

A complete system suitable for new builds or refurbished properties.

(System combination for 1x230 V also available= NIBE F2016 + VVM 300)

Individual set-up with the NIBE SMO 10 advanced controller

NIBE F2026/F2300 outdoor module 6 kW to 20 kW + NIBE SMO 10 for a unique, customised system

The NIBE SMO 10 controller module enables you to combine a NIBE F2026/F2300 air/water heat pump with other equipment to create your own customised heating system. Start with one NIBE F2026/F2300 heat pump; if you need more power, you can install as many as nine NIBE heat pumps in the same system. The addition of the SMO 10 intelligent control module allows your NIBE F2026/F2300 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/VPB 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.
- Solar panels can be incorporated into systems controlled by SMO 10, enabling you to use solar energy as a complementary heat source when it's available.

Individual set-up with the NIBE SMO 05 basic controller

NIBE F2026/F2300 outdoor module 6 kW to 20 kW + NIBE SMO 05 for a unique, customised system

The NIBE SMO 05 controller has the new generation of icon-based user interface. It can be installed in any room, from where you can monitor and adjust your heating systems.

We believe the functionality will satisfy most of our customers and the standard combinations we have designed will make life easier for installers.

The NIBE SMO 05 supports one basic heating scheme for combining different sized outdoor units and NIBE water heaters.

For docking principles, please see www.nibe.eu/air-water/docking.

For use with an existing boiler

NIBE F2026/F2300 outdoor module 6 kW to 20 kW + an existing heating system such as a wood or oil-fired boiler

The NIBE F2026/F2300 is an intelligent heat pump that can work with virtually any heating system already installed in your home, such as a wood, oil or gas-fired boiler.

If you have a wood-fired boiler, the NIBE F2026/F2300 connects to the accumulator tank which contains a water heater. The heat pump is controlled by a thermostat in the accumulator tank and starts up automatically when the wood-fired boiler is not in use. This provides an efficient and economical source of heat.

If you have an oil or gas boiler, the heat pump hooks up to the heating circuit just before the boiler. The heat pump is controlled by a room thermostat and helps to heat your house (but not the hot water).

Both of these installations make use of existing equipment, thus keeping installation costs down. This kind of combined system can provide up to 50% in energy savings.

Possible combinations with NIBE SMO 05/SMO 10

Outdoor unit	Domestic hot water		3-way valve	Controller	Energy back-up	Buffer vessel
	Double jacket cylinder	Coil cylinder				
NIBE F2026 - 6 kW	NIBE VPA 200/70 NIBE VPA 300/200 NIBE VPA 450/300 NIBE VPAS 300/450	NIBE VPB 500 NIBE VPB 750	VST 11	NIBE SMO 05 NIBE SMO 10	ELK 15	NIBE UKV 100 NIBE UKV 200 NIBE UKV 300
NIBE F2026 -8 kW						
NIBE F2026 - 10 kW	NIBE VPA 300/200 NIBE VPA 450/300 NIBE VPAS 300/450	NIBE VPB 1000				
NIBE F2300 - 14 kW		NIBE VPB 500/750/1000	VST 20			
NIBE F2300 - 20 kW		NIBE VPB 1000				

CASE STUDY NIBE AIR/WATER HEAT PUMP

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 had to make the important decision about which energy source to use for heating and hot water. Their main concern was to install a system with the lowest possible energy consumption and environmental impact. Fröberg felt sure that an investment in a complete, efficient and environmentally sustainable system was the right way to go.

Solution

The Fröbergs opted for the NIBE air/water heat pump and solar panels. This combination means they can benefit from solar energy when it's available without being totally dependent on it.

Results

The NIBE air/water heat pump 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 of this size. The solar panels cover all hot water requirements for half the year and radiators aren't needed.

On grey winter days when the solar panels can't provide enough heat, the compressor starts up. During even colder periods, when 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

SAVINGS WITH NIBE F2026/NIBE F2300

NIBE Air/water heat pump	F2026-6			F2026-8			F2026-10		
Total current oil requirement (m^3/year)	2	2,5	3	3	4	5	4	5	6
Total current electricity requirement (kWh/year)	15 000	18 750	22 500	22 000	30 000	37 500	30 000	37 500	45 000
Savings under floor heating 35/28 °C (kWh/year)	10 000	12 200	14 100	14 500	18 700	21 700	19 700	23 500	26 500
Savings radiator system temp 55/45 °C (kWh/year)	9 300	11 300	13 100	13 600	17 500	20 200	18 200	21 700	24 400

NIBE Air/water heat pump	F2300-14			F2300-20		
Total current oil requirement (m^3/year)	5	6	7	8	10	12
Total current electricity requirement (kWh/year)	37 500	45 000	52 500	55 000	60 000	65 000
Savings under floor heating 35/28 °C (kWh/year)	26 150	30 300	33 900	37 000	39 600	42 000
Savings radiator system temp 55/45 °C (kWh/year)	25 200	29 300	32 900	35 400	38 000	40 300
Savings radiator system high temp 65/50 °C (kWh/year)	25 000	29 100	32 700	35 100	37 600	40 000

Climate zone Hamburg, average outdoor temperature 8.9°C, year low -15°C
Inclusive normal consumption of hot water produced by heat pump.

NIBE™ SPLIT

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

It functions efficiently in the coldest...

While many heat pumps cease to work just when you need them most, NIBE SPLIT gives you an unusually wide operating range. It can generate hot water up to 58°C (or 65°C with an immersion heater) and continue to operate smoothly even if outside temperatures drop to -20°C. We recommend heating systems up to 55°C for optimal savings. On the occasions when the heat pump cannot generate sufficient energy to meet household 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 during especially hot weather. Homes with water-filled radiators or underfloor heating can be enhanced with this function by adding fan coils. In contrast to a traditional cooling system, which stops and starts in response to thermostat signals, a NIBE SPLIT supplies cooling according to household requirements, distributing the air evenly and maintaining a comfortable temperature throughout your home.

Here we've highlighted some of the key features that make NIBE SPLIT such an efficient, high performance heat pump.

1 Twin-Rotary compressor with inverter controls

LOW WASTE - HEAT SUPPLY ACCORDING TO NEED

The compressor can run between 30% and 100% capacity. Thanks to inverter controls, the speed varies automatically to meet household energy requirements. It is designed to perform efficiently even at low outside temperatures when home heating needs are greatest.

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

ATTRACTIVE, DURABLE FINISH

The outdoor unit is coated with two layers of epoxy paint to ensure lasting looks and long life.

5 Finned coil design (evaporator)

HIGH PERFORMANCE AND DURABILITY

The finned coil absorbs or rejects energy from the ambient air for heating and cooling. A polymer coating gives high durability and the coil's enhanced surface improves heat transfer from the air.

6 Low start-up current

PREVENTS INTERFERENCE WITH OTHER ELECTRONIC DEVICES

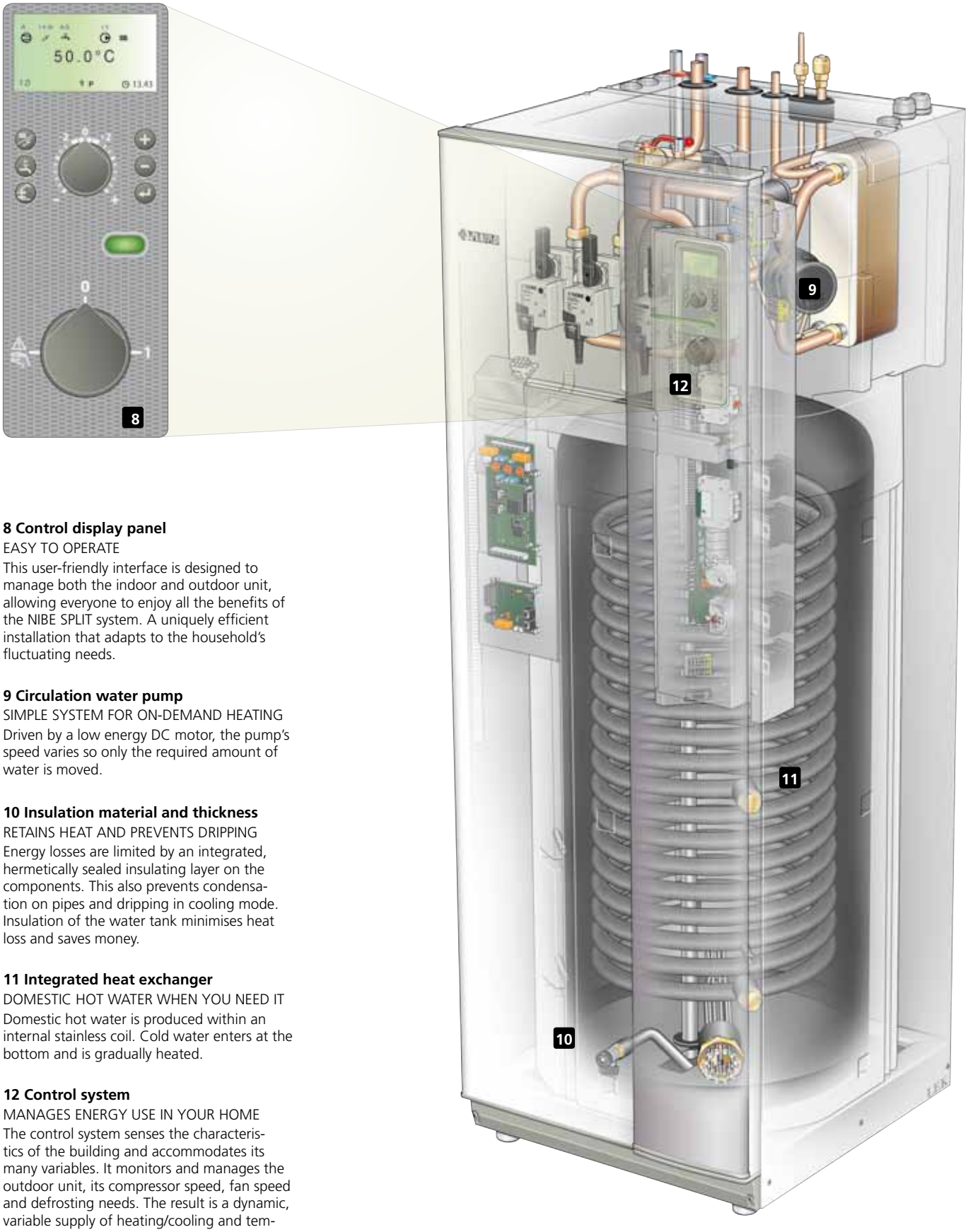
NIBE SPLIT has an inverter-driven compressor for low start-up current. The slow start-up and gradual move up to required capacity prevents interference with other electronic devices in the building.

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.

Outdoor unit NIBE AMS 10-12



Indoor unit NIBEACM 270

8 Control display panel
EASY TO OPERATE
This user-friendly interface is designed to manage both the indoor and outdoor unit, allowing everyone to enjoy all the benefits of the NIBE SPLIT system. A uniquely efficient installation that adapts to the household's fluctuating needs.

9 Circulation water pump
SIMPLE SYSTEM FOR ON-DEMAND HEATING
Driven by a 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 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 enters at the bottom and is 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 levels.

FULL SPLIT PROGRAMME FOR RESIDENTIAL USE
NIBE™ SPLIT AIR/WATER HEAT PUMP

- Easy installation. Just connect the outdoor unit to the indoor unit(s) and your heating system and start it up. The outdoor unit is electrically connected to the indoor unit. The controller display is in your language.
- Hot water production can account for as much as 50% of the energy consumed, especially in new build properties. We have tested the COP for hot water in accordance with EN 255-3 for all our combinations, and guarantee a COP >3. This means that compared with an electric boiler you get three times the energy for the same input.
- Best-in-class energy savings due to the wide operating range and speed-controlled compressor. For example, the supply temperature from the compressor is 58°C at an outdoor temperature of -20°C.
- Straightforward installation, especially with the all-in-one cabinet.
- A load limiter controls the power needed by the heat pump (3x400 V) to guarantee the pump does not exceed your house fuse rating.
- Ready to support two individual heating systems with different heating demands, for example radiators and underfloor heating.
- Under floor cooling available for the largest outdoor unit. Fan coil cooling is also possible for the all-in-one indoor unit and the two smaller outdoor units.
- If you would like to combine the system with a gas boiler or existing oil boiler instead of the built-in immersion heater, just plug your external unit into the water cylinder. No extra cylinder is needed. The controller is configured to handle your external unit.
- NIBE solar packs available.
- A full accessory programme and hydraulic schemes are available to make your installation even more complete. Please see our website www.nibe.eu or the relevant site for your country.
- Energy saving and controlling software ensures the correct set-up for your building and climate. Ask your NIBE dealer for details.

NIBE SPLIT - Pack 1

AMS10-8 kW + ACVM 270

Plug and play heating system suitable for small homes and normal hot water demand.

House heating demand 3 – 9 kW.

NIBE SPLIT - Pack 3

AMS10-12 kW + HBS-12 kW + HEV 500

Plug and play heating system suitable for average-sized homes and high hot water demand.

House heating demand 5 – 11 kW.

NIBE SPLIT - Pack 2

AMS10-12 kW + ACVM 270

Plug and play heating system suitable for average-sized homes and normal hot water demand.

House heating demand 5 – 11 kW.

NIBE SPLIT - Pack 4

AMS10-16 kW + HBS-16 kW + HEV 300

Plug and play heating system suitable for large homes and normal hot water demand.

House heating demand 7 – 13 kW.

NIBE SPLIT - Pack 5

AMS10-16 kW + HBS-16 kW + HEV 500

Plug and play heating system suitable for large homes and high hot water demand.

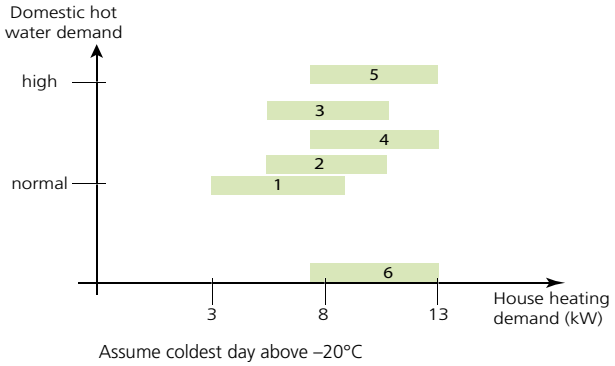
House heating demand 7 – 13 kW.

NIBE SPLIT - Pack 6

AMS10-16 kW + HBS-16 kW + HE 30

Plug and play heating system suitable for large buildings and no hot water demand.

House heating demand 7 – 13 kW.



Assume coldest day above –20°C

The NIBE Split six system combinations

Pack number	Indoor unit		Outdoor unit
	All-in-one cabinet	Separate controller and separate tank	
1	ACVM 270		AMS 10-8 kW
2	AVCM 270		AMS 10-12 kW
3		HBS 12 + HEV500	AMS 10-12kW
4		HBS 16 + HEV300	AMS 10-16 kW
5		HBS 16 + HEV500	AMS 10-16 kW
6		HBS 16 + HE30	AMS 10-16 kW

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 technology to create an integral system design. The neat indoor module fits into a standard 60 x 66 x 180 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.

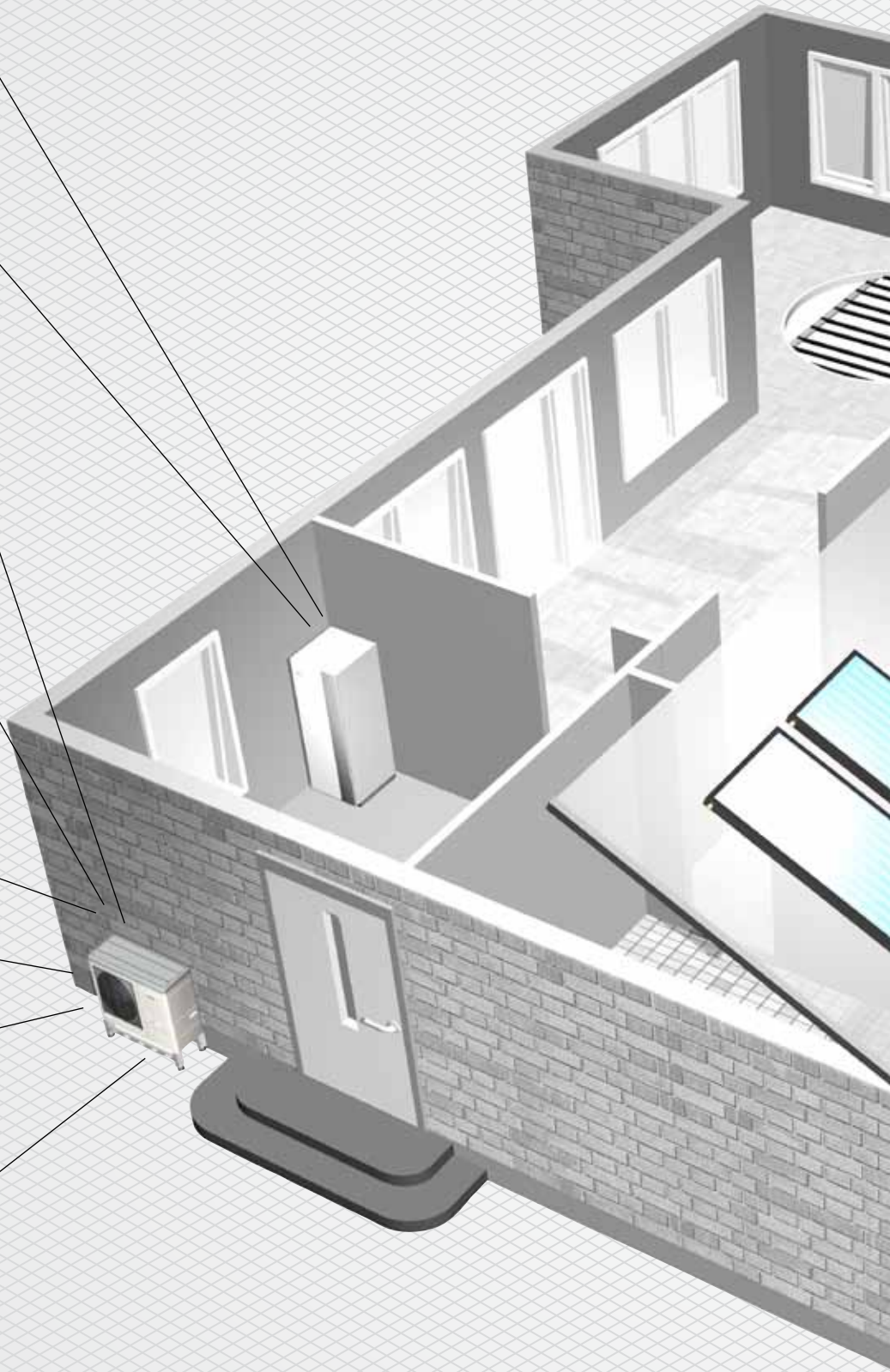
Outdoor unit:
COMPACT SMALL FOOTPRINT
The outdoor unit is small and has an appealing, timeless design.

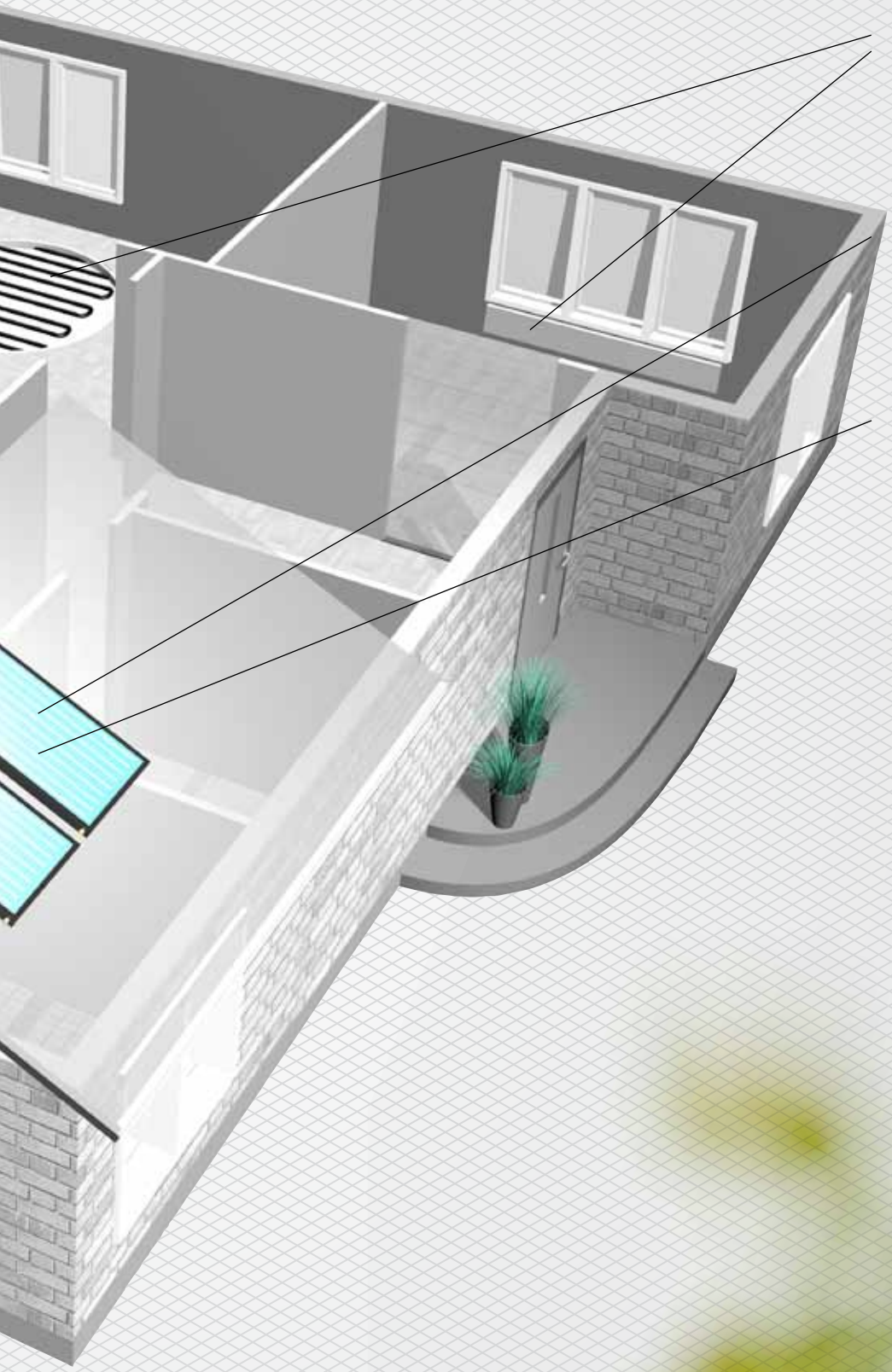
Refrigerant in pipes:
NO RISK OF FREEZING
The outdoor pipes are filled with refrigerant instead of water which means they will not freeze even at low ambient temperatures and during long periods without electrical power.

Flexible positioning:
CHOOSE A DISCREET LOCATION
The outdoor unit can be placed up to 30 metres (AMS 10-8) from the indoor unit, which makes it easier to position the unit outside your house.

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 harm the ozone layer.

Position of heat pump:
CHOICE OF TWO MOUNTINGS
Either wall-mounted or floor standing (using NIBE's stand accessory)





Flexible indoor installation:

SWITCH THE FUNCTION TO SUIT THE SEASON

NIBE SPLIT can be used for heating and cooling. Heat is distributed by water moving through radiators or underfloor systems and cooling via fan coils or underfloor systems.

Compatibility:

CONNECTS EASILY WITH OTHER ENERGY SOURCES

NIBE SPLIT can be hooked up to solar heating panels or an existing boiler to provide an additional source of energy.

Green energy connection

EMISSION-FREE HEATING AND COOLING

The energy supply from your NIBE SPLIT heat pump can be complemented with an alternative source, such as solar power, to create an almost emission-free system.

CASE STUDY 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 annual electricity consumption is 33,000 kWh, of which 27,000 kWh is for heating alone.

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

Solution

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

The water heater is removed. A NIBE SPLIT is installed and a new fan coil is mounted on each floor to spread the warmth throughout the 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

The family's energy consumption drops from 27,000 kWh to 9,000 kWh.

The family saves 18,000 kWh with a NIBE SPLIT air/water heat pump.

The new air/water heat pump was installed with a minimum of disruption and the family is now saving on energy bills as well as helping to meet the EU's 2020 energy objectives.

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 arrives, they will be able to cool the house without any additional investment.

SAVINGS WITH NIBE SPLIT

NIBE SPLIT	NIBE AMS 10-8				NIBE AMS 10-12			NIBE AMS 10-16		
Total current oil requirement (m^3/year)	1.5	2	2.5	3	3	3.5	4	4	4.5	5.0
Total current electricity requirement (kWh/year)	11 250	15 000	18 750	22 500	22 500	25 000	27 500	30 000	32 500	35 000
Savings under floor heating 35/28°C (kWh/year)	7 900	10 700	13 400	15 900	16 300	18 100	19 700	21 800	23 600	25 300
Savings radiator system average temp 55/45°C (kWh/year)	7 300	9 900	12 300	14 500	14 900	16 500	18 000	19 800	21 400	22 900

Climate zone Hamburg, average outdoor temperature 8.9°C, year low -15°C
Inclusive normal consumption of hot water produced by heat pump.

FURTHER USES FOR YOUR HEAT PUMP

Discover how a NIBE air/water heat pump can do more than just heat your home and hot water. Our broad range of accessories makes it possible for you to heat the pool, add solar panels and install a complete system solution in your home.
Ask your NIBE installer for more information.

Accessories system NIBE™ F2026/F2300

Water heaters and buffer vessels

NIBE™ VPB
NIBE VPB is the new generation of coil accumulator tank for domestic hot water. It can be docked in several different ways.

NIBE™VPA, NIBE™VPAS,
NIBE VPA is a double-jacketed hot water cylinder. VPAS has a 2.3 m² solar coil.

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

NIBE™ POOL 20
Heat your swimming pool
The POOL 20 accessory makes it easy to control your pool heating. Can be combined with VVM 300/SM0 10.

NIBE™ KVR 10
Condensation water pipes, 1, 3 or 6 metres
The KVR 10 accessory is used to safely lead away most of the condensation water from the air/water heat pump to a frost-free collection point.

NIBE™ ELK 5, 8, 15 Electric heater
3-step immersion heater.
ELK 5 and 8:1x230V.
ELK 15: 3x400V.
Can be combined with SMO 05/10.

NIBE™ VST 11, VST 20
Hot water control
Makes hot water priority possible at large heat pump outputs. (SMO 05, SMO 10)

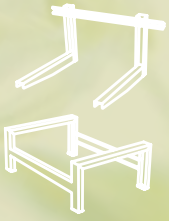
Accessories system NIBE™ SPLIT

NIBE™ RE 10
Room unit with room sensor
If controller display is required in a separate room.

NIBE™ VCC 22
Shuttle valve
For separate cooling and heating systems.

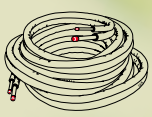
NIBE™ UKV 40 & 102
Buffer vessel
Buffer vessel 40 or 102 l. If extra circulating water system volume is needed.

NIBE™ EMK 270
Energy measurement kit
For indoor unit. Makes it possible to measure COP over a period. (AMS 270)



NIBE™ Bracket
Positioning the heat pump
Choice of two mountings. Wall-mounted or standing on the ground.
(AMS 10-8/12)

NIBE™ Solar Split FP215 packages
NIBE Solar packages for ACVM
P2 package: 2 vertical solar panels
P3 package: 3 vertical solar panels
PL2 package: 2 horizontal solar panels
PL3 package: 3 horizontal solar panels



NIBE™ Refrigerant pipe kit 12 m
For connection between the outdoor unit and the indoor unit. (AMS 10-8/12/16)

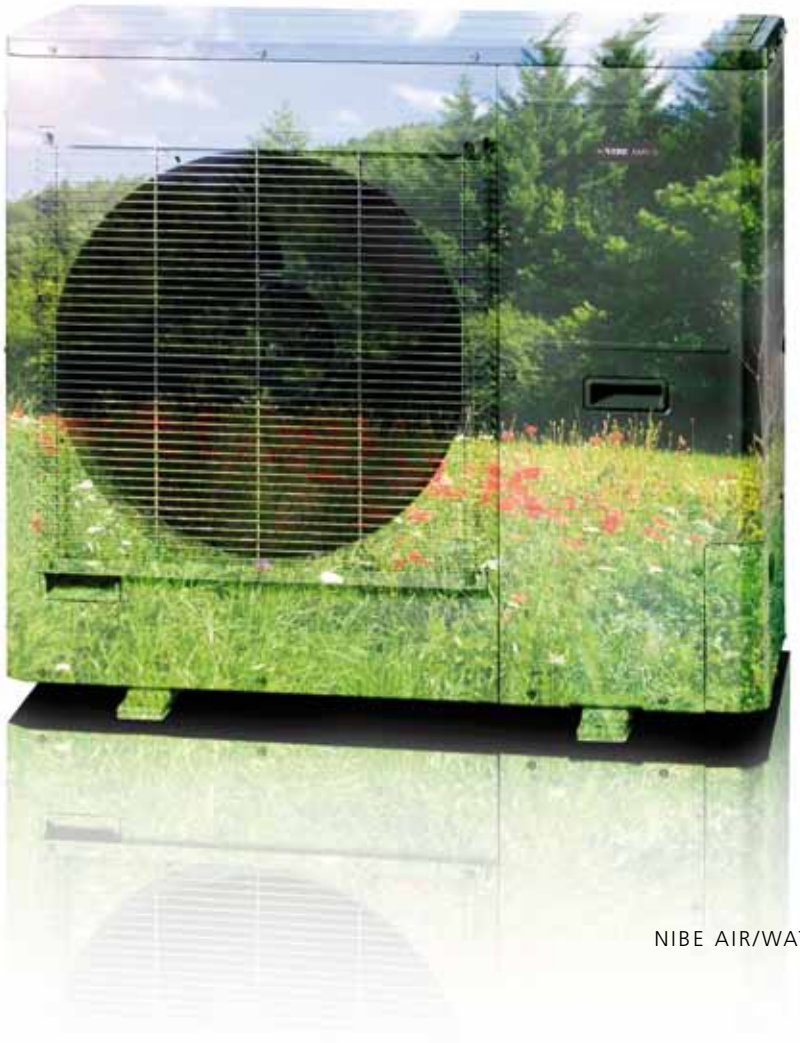
THE CASH MACHINE IN YOUR GARDEN – YOU SAVE UP TO 65 % EVERY MONTH!

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 under floor heating. However, thanks to the NIBE air/water heat pump's advanced control system and ability to provide optimum variable flow temperature control, it is now simple to provide radiators with the hot water they need. This is proving to be a very efficient option.

Perhaps most importantly, NIBE air/water heat pumps are 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. NIBE air/water heat pumps have been designed with the future very much in mind.

Legislation is already 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 have been 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 nowadays it is a necessity that none of us can afford to ignore. Increasingly, the reduction of CO_2 emissions is becoming a legal obligation and environmental requirement.

Over 70% of the CO_2 emissions from an average home are caused by its heating and hot water systems. If we are 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 are considering alternative, more efficient power sources.

Now that 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 our planet's energy resources.

START WITH A HEAT PUMP!

It is a proven fact that heating your house with a heat pump is the best environmental option.

One obvious reason is that a heat pump does not use a 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 is only needed to drive the pump and enable the heat extraction process.

Actual energy savings vary depending on the benchmark, but generally measure between 60% and 75%.

A third point to consider is that heat pumps, like every manufactured item, contain what we call 'embedded energy'. That's the energy required to make and transport the product from the factory to where it will be used. NIBE is continually improving its processes to minimise the amount of embedded energy in its products and seeking more environmentally-friendly ways to build and transport them.

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.

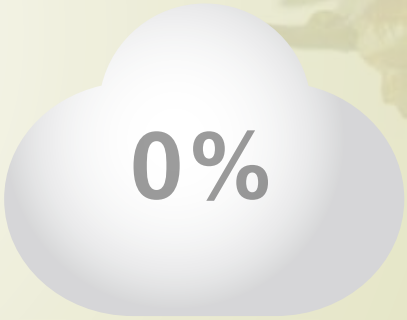
Towards a zero carbon future

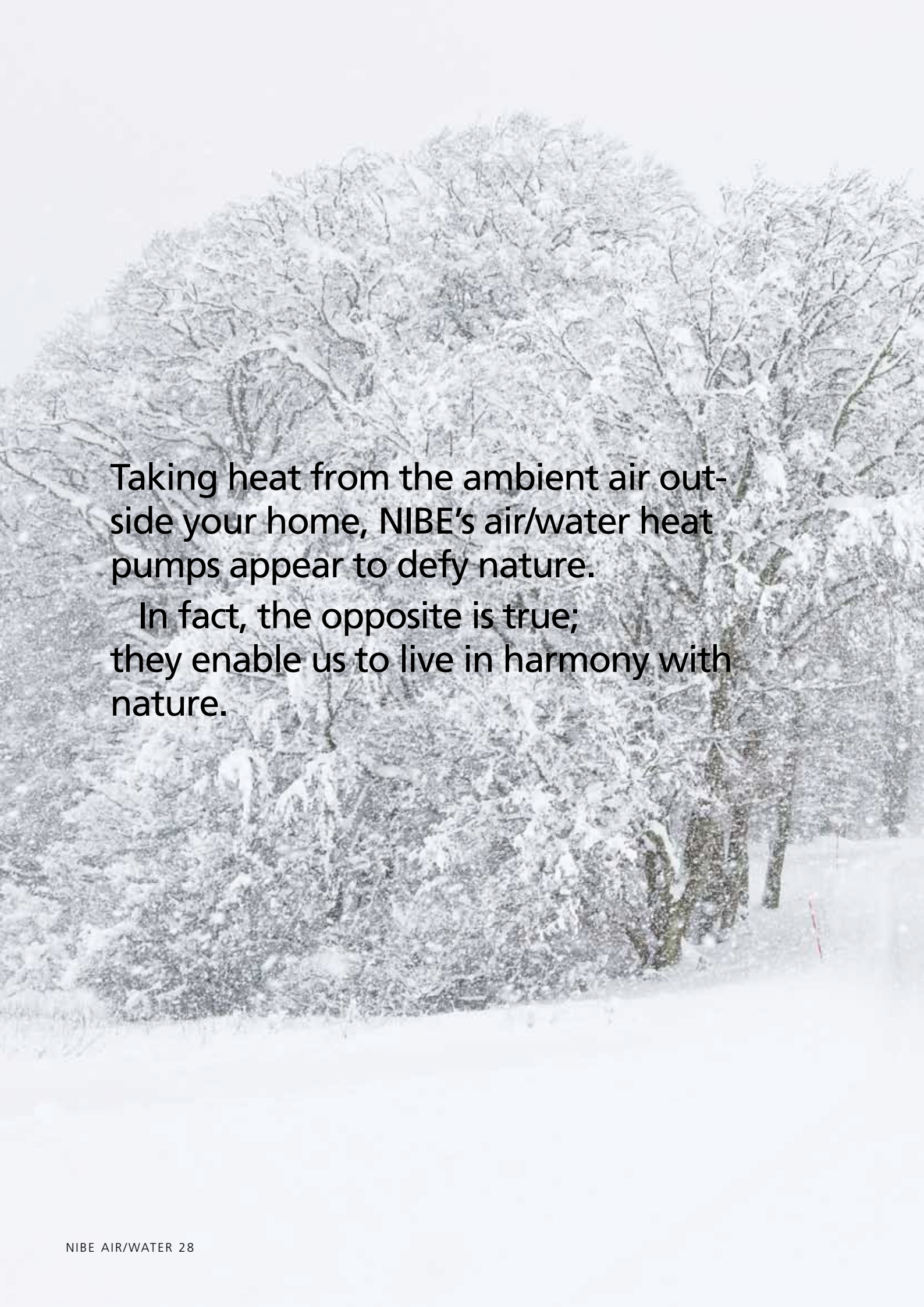
The drive to reduce the consumption of energy and its impact on the environment is crucial and increasingly important to us all. If you switched to a renewable energy source, such as wind, solar or tidal, you would be taking a step closer towards a zero carbon future.

Classified as renewable energy

Some governments and regional authorities offer subsidies to home owners to switch from fossil fuel-based heating to renewable sources 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. 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 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

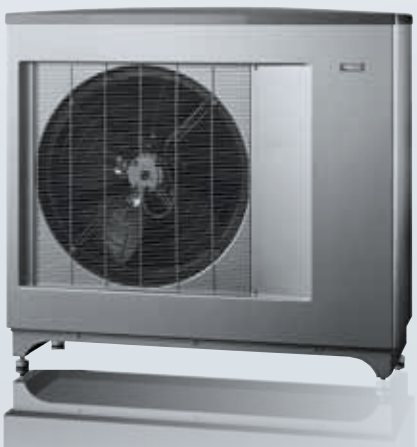
The 20/20/20 European directive imposes compulsory targets on the EU's 27 member states, specifying that 20% of energy consumption must be met by renewable sources by 2020. Since air/water heat pumps are now classified as a renewable energy source, their installation will help member states reach this 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

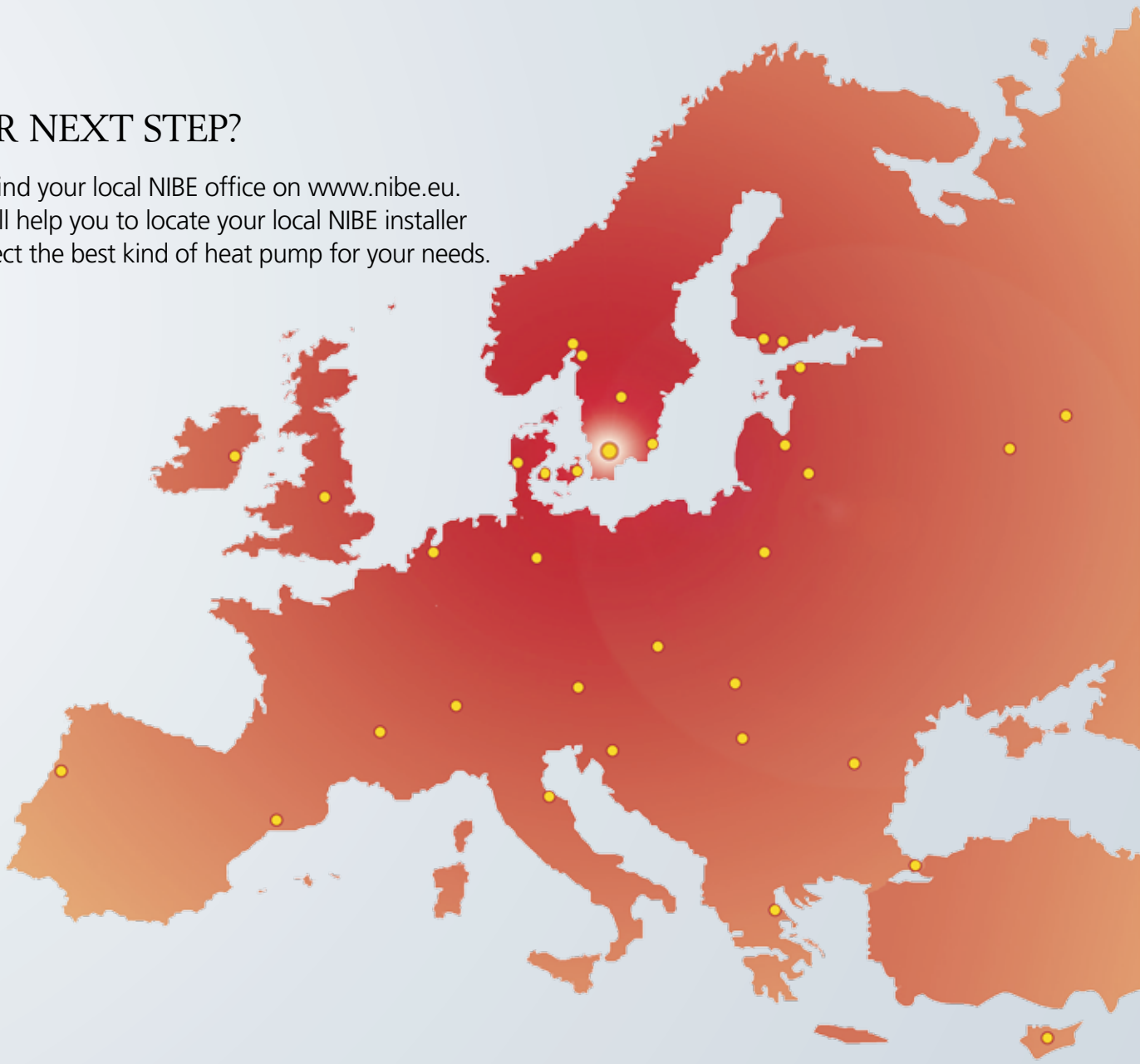
Ground source heat pumps

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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