NIBE

EXPERT NEWS

NO3 2022 | FOR YOU WHO DELIVER INDOOR COMFORT

THERE ARE MANY HOURS OF WORK BEHIND EVERY HEAT PUMP

"We quality assure every choice, from the smallest screw to our selection of suppliers."

"Energy optimisation is on the tip of everyone's tongue. Heat pumps are the perfect start, further improved with our intelligent features."

Hello, all friends of NIBE!
War, electricity prices, inflation. It's not easy to absorb everything that's happening right now. It's probably wise to take a step back and not let yourself sink too far into all things gloomy and hard to understand, but instead give some thought to what we can actually do something about. Because naturally, the choices we make can lead to change and improve results.

Energy optimisation – This is one of the most topical subjects we are hearing from the market, as we look through the questions we receive by phone and email. Starting to look for potential savings in your own home, company, association and so on sounds like a sensible and important priority. Installing a heat pump to take care of your indoor climate is the perfect start. But we also need to complement the heat pump with further solutions and intelligent functions that reduce consumption and keep costs down.

There are a number of such solutions, including solar cells that can produce free energy. If you haven't managed to fix your electricity price at a reasonable level, the operation of your heat pump needs to adapt day by day to shifting electricity prices. Another way is to keep track of the weather forecast for the coming hours.

Taking each of these measures separately is one thing, but letting them act together, that's another. Like an orchestra with heat pump control as the conductor – it's not the music of the future, but already entirely possible today. And not only for new installations, but also for those who were clever enough to invest in a NIBE heat pump earlier on. Here you can read about a number of wise choices and the results they have produced.

Happy reading!

Henrik Henningsson
Sales Manager Sweden,
NIBE Energy Systems

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MARKO TESTS THE CDS10
How smart and simple are NIBE's wireless accessories?

May be subject to printing errors and misspellings.

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Please let us know!
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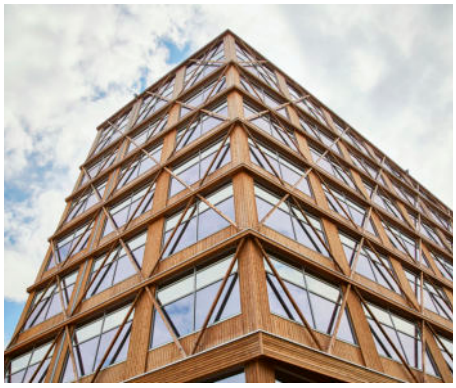
HIGH ENERGY EFFICIENCY IN A SMALL FORMAT
In order to meet the increased interest in energy-efficient solutions for confined spaces, we are now launching a compact system solution that includes the new NIBE F2050 air/water heat pump and the NIBE VVM 225 indoor module.



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CLIMATE NEUTRAL POLICE STATION
The police station is the first of seven pilot projects in Castellum's property portfolio that challenge their previous sustainability requirements. To meet the requirements of Gold environmental building certification, they chose ground-source heating with passive and active cooling, and solar cells from NIBE.

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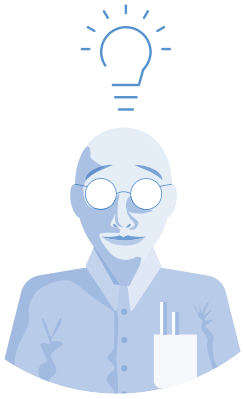
SUCCESSFUL INVESTMENT IN SOLAR
Since 2021, Assemblin in Kristianstad have increased their turnover by 40%, and this year alone they have already installed 2,000 solar panels. A solar expert, in-house installers and quality products from NIBE were required to deliver quality and security.

NIBE TRAINING AUTUMN TRAINING COURSES

The autumn training schedule is now available. Which is the right course for you?

See the entire training programme and sign up at proffs.nibe.se/Proffs/nibe-training

20 Oct	NIBE heat pump first aid
25 Oct	Heat pump design and planning for properties (Stockholm)
26 Oct	Product training for detached houses (Stockholm)
9 Nov	Ground-source heat pumps for properties
10 Nov	Exhaust air heat pumps for detached houses – installation
17 Nov	Heat pump replacement



PIONEERS FOR 70 YEARS

It takes a strong pioneering spirit to go from inventing the pig heater to becoming a world leader in heat pump technology and offering sustainable world-class energy solutions, as we at NIBE did. In this article, we talk about five important areas where we have been pioneers.

NIBE AB saw the light of day on 23 January 1952. That was when Nils Bernerup registered the company and started operations in Markaryd, with four employees and a workshop manager. Over the course of 70 years, a lot has changed. But the goal we are striving for has remained the same. To make our energy solutions more efficient and sustainable, and easy to manage and install.

There are now some 1,500 employees in Markaryd and 3,000 more at 12 subsidiaries. NIBE AB consists of NIBE Energy Systems and Contura. The company is part of the NIBE Group, which has a turnover of just over SEK 30 billion and more than 20,000 employees in over 30 countries.

Read part 3 of the article series about NIBE's 70 years on page 13.

NIBE 1952-2022

Marie Nilsson, Nicolina Tari Haby, Matilda Pettersson, Frida Olsson, Johanna Stjärneblad, Isabella Pranjic, Anton Bergqvist

NEW AT NIBE

NEW FACES AS CUSTOMER SERVICE GROWS.

Now there are even more staff here to help you. As some of our staff have moved on to other positions and we need reinforcements to give you the best possible service, we have now hired more staff for our customer service department. Perhaps you've already spoken to Marie, Nicolina, Matilda or Frida, all of whom started last autumn? As of this autumn, Johanna and Isabella are also here to help you with placing orders, and Anton is available in our leads function.

Now we're ready for autumn!

We're here for you.
Call us on:

+46 (0)433 27 30 00

NEW IN THE F SERIES

NIBE F2050. HIGH ENERGY EFFICIENCY IN A COMPACT FORMAT.

NIBE is aiming to satisfy the high demand for energy-efficient technology for houses where installation space is tight. So our latest launch is a compact system consisting of our new NIBE F2050 air/water heat pump and the NIBE VVM 225 indoor module.

"We have identified an increased interest in energy-efficient solutions for homes where installation space is tight."

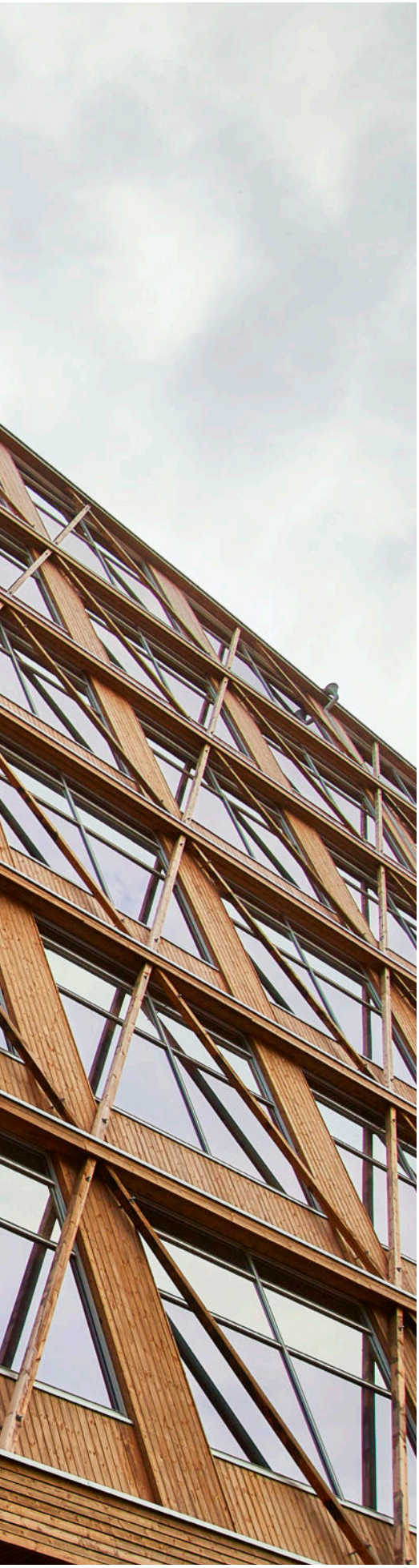
The NIBE F2050 generates optimum savings, since the heat pump automatically adapts to your home's output requirements all year round. The heat pump operates at an outdoor temperature as low as -20°C and delivers a supply temperature of up to 58°C. It also has a climate-friendly refrigerant to reduce its environmental impact. The F2050 is available in two sizes, F2050-6 and F2050-10, and works with all indoor modules in the NIBE S series and F series.

The NIBE VVM 225 is a flexible, low-built indoor module with a user-friendly control system that is easy to dock with NIBE's air/water heat pumps.

"We have identified an increased interest in the challenge of finding compact, energy-efficient solutions for homes where installation space is tight, so we're proud to present a winning combination with the F2050 and our low-built indoor module, the VVM 225. It works excellently in spaces where ceilings are as low as 1.60 m, making it perfect for installation in basements with a low ceiling height, for example," says Stefan Oliv, Product Manager for Sweden. ■

ADVANTAGES OF THE NIBE F2050

- A compact heat pump that adapts to the home's requirements.
- High capacity, even down to -20°C, and efficient cooling function.
- Energy-saving smart technology with user-friendly control.



CASE STUDY

CLIMATE-NEUTRAL POLICE STATION TAKES GOLD.

Örebro's first wooden office building stands out in several ways. The police station is the first of seven pilot projects in Castellum's property portfolio that challenge their previous sustainability requirements. "When we erect new buildings, we always set ourselves the requirement of following the guidelines for Gold environmental building certification," says Erik Nilsson, project manager at Castellum.

When Örebro Municipality announced a competition for the best use of a plot of land, it was a way for the municipality to give architects more control over the city's construction. The competition was won by Utopia Arkitekter, who in turn chose Castellum as the provider of the project. Unusually, they won without presenting any images. The goal was to build Örebro's first wooden office building and the world's first police station with zero CO_2 emissions. The building, centrally located in Örebro, has eight floors totalling 7,800 m² and will accommodate about 400 people.

"We started our collaboration with Utopia and have worked closely together to find a solution that we are both happy with," says Erik Nilsson, project manager at Castellum. We've also been in communication with the urban architect, and we have a special arrangement to ensure the transfer of experience.

Rörtjänst in Örebro have also been involved in the process, and have long chosen to collaborate with NIBE.
"We have extensive experience of your products, and you offer good support all the way from planning to start-up. We have a good relationship with Stefan Karlsson, our contact at NIBE, and a well-established collaboration with the project department," says a satisfied Magnus Sundqvist, owner and CEO of Rörtjänst in Örebro.

The Korsningen property, Örebro
Owner: Castellum
Total area: 7,800 m²
Energy solution in accordance with Gold environmental building certification:
Ground-source heating 2 x F1345-60 with passive and active cooling
Boreholes: 13, at approx. 300 m
Solar cells: 219 panels providing a total of approx. 60,150 kWh/year, installation 75 kW, approx. 375 m²
Estimated annual energy consumption: 182,543 kWh (excl. tenant's electricity estimated at 340,000 kWh)

"We have twice the solar cells required for Gold certification."

Wood reduces emissions by 40%
The Gold environmental building certification is awarded by the Swedish Green Building Council. The Council ensures that sustainability aspects are highlighted throughout the work process.
"Achieving Gold certification is a requirement we have when we erect new buildings," says Erik. "We have 2,760 cubic metres of wood in the frame, which binds 1,860,000 tonnes of CO_2 and saves a lot compared to a traditional steel and concrete structure. In our experience, wood also provides a better, more pleasant working environment and manages water and moisture better."

Another way of achieving climate neutrality has been to install solar cells on a property. This not only supplies the building, but also produces surplus renewable electrical energy that can be used by others.
"Gold certification required us to have solar cells on an area of 200 m², but we have twice as much as this, and we've basically covered the whole roof with solar cells."

The foundation is made of "green" concrete, with a wooden frame, wooden joists and a facade showing a lot of wood, to show what the building is made of. But the crisscrosses

are purely decorative.
"It's going to be a really nice building," says Erik. "We put a lot of work into the holistics and the finances. There are no suspended ceilings, for example. All installations and joists are visible, keeping you close to the wood. In the foundation and basement, we've used a type of concrete that's better for the environment."

Ground-source heating with passive cooling
To meet the Gold certification requirements, they opted for ground-source heating with passive and active cooling, a flexible solution to meet all their needs. The flat roof is home not only to the solar cells, but also to a heat dump that takes care of the heat in the summer.
"We wouldn't have been able to meet the tough district heating requirements, and chose two NIBE S1345-60 ground-source heat pumps. With accessories for passive and active cooling, we found a cost-effective way of reducing the temperature in the summer. And our solution for ventilation is an interesting one. In order to obtain as much leasable space as possible, we decided to use the evacuation staircase as the supply air duct."

Of course, they made climate-smart choices throughout the entire work process.
"We dug deep into everything, from how all the materials are constructed to how they're transported.
"We've now reached the finishing line for the police station and received the preliminary Gold environmental building certificate. The move-in date is this October, and there'll be a follow-up 12 months after that. We'll receive the real certificate after 24 months, in 2023." ■

Read more about NIBE F1345 and our solar panels at proffs.nibe.se

"Achieving Gold environmental building certification is a requirement we have when we erect new buildings," says Erik Nilsson, project manager at Castellum, owner of the property.

NEWS

WORTH KNOWING!

New factories in progress

Construction of a new heat pump production facility is in full swing. The production area alone will cover about 10,000 m² with 140 people working there per shift. Naturally, our own products are responsible for the indoor climate. Production is planned to start at the end of 2023/24.

Buy spare parts at nibe.se!

Have you tried our new webshop? Here you can order spare parts dating back 15–20 years, faster and more easily. There's a quick order function for those who make large, frequent orders, and in the shopping cart you can see the stock status and delivery time. Try it for yourself at proffs.nibe.se

Bike helmets for third-graders

It's been a tradition since 2012 to hand out bicycle helmets to local third-graders at the end of the school year. It's a good way of showing that NIBE cares about our communities and the people who live here. Madeleine Johannesson from our HR department has the pleasure of meeting the happy children at the schools in Markaryd, Traryd and Strömsnäsbruk. Here she's visiting classes 3A and 3B at Strömsnäsbruk School.

Did you know...

The first heat pump was used to cool liquids or make ice cubes. The inventor was Jacob Perkins and the year was 1834. The world's first heat pump for heating was built by an Austrian engineer named Peter Ritter von Rittinger in 1856. It was only in 1948 that a heat pump was installed in a home on a trial basis. It used heat from a barn and was called a "cow-heat facility".

Read more under the heading 100 innovations on the Technical Museum's website and in the book "100 innovationer" from Bilda Förlag & Idé. 1,000 adults and 1,000 sixth-graders voted for the most important inventions. See where the heat pump ranked!

320,000 tonnes of CO_2

We reduced our customers' emissions by 320,000 tonnes of CO_2 in 2020. If we calculate the reduced emissions of the heating systems that our heat pumps replaced in 2020 alone, it amounts to a saving of 320,000 tonnes of CO_2. This is roughly equivalent to the emissions from 140,000 round-trip flights between Sweden and Thailand, according to the Swedish Environmental Protection Agency's calculation model.

"All too often I hear people say you shouldn't update the software in your heat pump. You should upgrade to the latest software at regular intervals to get the most out of your system. End of story. Today I upgraded four heat pumps in a retirement home, which means more hot water at a lower cost."

– Fredrik Snygg, Regional Manager in NIBE's property team

EXPERT PROFILE

SOLAR EXPERT AND IN-HOUSE FITTERS ARE KEY TO SOLAR INVESTMENT.

Jimmy Hildinggren, Branch Manager at Assemblin Kristianstad, together with colleague and solar cell expert Andreas Görnebrand at Qvarngården.

Assemblin in Kristianstad prepared for a solar venture that has paid off. Since 2021, the branch has increased its turnover by 40%, and since the turn of the year it has already installed 2,000 solar panels.
"A solar expert, three in-house fitters and quality products from NIBE are a must if we are to deliver quality and security," says Jimmy Hildinggren, branch manager at the Kristianstad office.

The rapeseed has just finished blooming and the rain is hanging in the air when we meet Jimmy Hildinggren and Andreas Görnebrand. We're going to hear about the Kristianstad office's new direction, and looking at a powerful energy facility that they've installed and just inspected. An older property that has now become as energy-efficient as a low-energy building.
"Hässleholm Municipality owns this property, and they're making a major investment in solar panels now," says Jimmy, as he shows us to the south side of the building, where eight air/water heat pumps are perfectly aligned, flanked by solar panels on the roof.

Focusing on quality and security
Assemblin is an installation and service company that prioritises a strong local presence and a high level of personal presence. After many years in the industry, Jimmy Hildinggren stepped in to head up the Kristianstad office. It was spring 2019. Jimmy had a clear vision of how he wanted to create profitability for the Kristianstad office. It was perfect timing to go from focusing on public enquiries to investing in solar power combined with heat pumps.
"It's about being competitive, and today there's great demand for more sustainable energy solutions. We hired Andreas Görnebrand, a solar expert who started in the spring, and three in-house fitters, all of whom are crucial to maintaining the high level of installation competence and quality that we strive for at Assemblin."

"Another important aspect was choosing to work with NIBE's products to deliver quality and security. We know for sure that it's a system solution where everything is included and works together, and that the customer will get the most out of their energy solution. NIBE and Assemblin have known each other for a long time and have a good partnership.

From gas dependency to low energy
Qvarngården is an older property consisting of several different buildings and extensions that were previously heated by both oil and gas. The property is about 2,800 m² and has around 30 residents and staff. In close collaboration with Fredrik Snygg, Regional Manager in NIBE's property team and HVAC

consultant Mikael Andersson from KN VVS, they chose eight NIBE F2120-20 units and 66 NIBE PV solar panels, totalling 24 kW for heating and hot water. Ground-source heating was considered an option for quite a while, but the geology eventually made them choose air/water.
"According to our energy calculation, Qvarngården is going from consuming about 450,000 kWh of gas per year to 120,000 kWh of electricity, which means a CO_2 saving of 70–80 tonnes per year. And we still haven't made deductions for the solar cells.

Jimmy and Andreas show the way to the technical room, through a labyrinth of walkways and rooms in the large basement. Jimmy points to the control module, a NIBE SMO S40, which shows how much solar energy is produced in real time. It shows 10 kW, despite this being an overcast morning in May.
"This control module contains everything, for example the modbus function we use in our integration. They didn't really need to have any other control, but the municipality has an overarching system that allows monitoring of all its properties," Jimmy explains.

An unbeatable combination
This is one of many assignments Jimmy and Andreas have for Hässleholm Municipality.
"The demand for solar panels is really strong, and we're seeing excellent development. Our turnover has increased by 40% since 2020, which is clearly the result of our new investment in heat pump and solar panel total solutions. It's an unbeatable combination," Jimmy concludes. ■

Qvarngården reduces its CO_2 emissions by 70–80 tonnes per year.

Assemblin Kristianstad
Branch Manager: Jimmy Hildinggren
Solar expert: Andreas Görnebrand
Direction: System solutions combining solar panels and heat pumps
Number of employees: approx. 20, including 3 fitters

NIBE OUT IN THE WORLD

A UNIVERSITY IN LONDON SWITCHES TO FOSSIL-FREE ELECTRIC HEATING.

Our team has successfully integrated clean technology solutions that will save over 500 tonnes of CO_2 per year and reduce local combustion emissions by both reducing and electrifying a significant part of the heat demand for the entire university.

The University of West London has chosen to replace outdated gas boilers with low-emission ventilation systems, ground-source heat pumps and 580 solar panels from NIBE.

This project is a great example of what can be achieved across the entire built environment using existing technologies in a relatively short time.

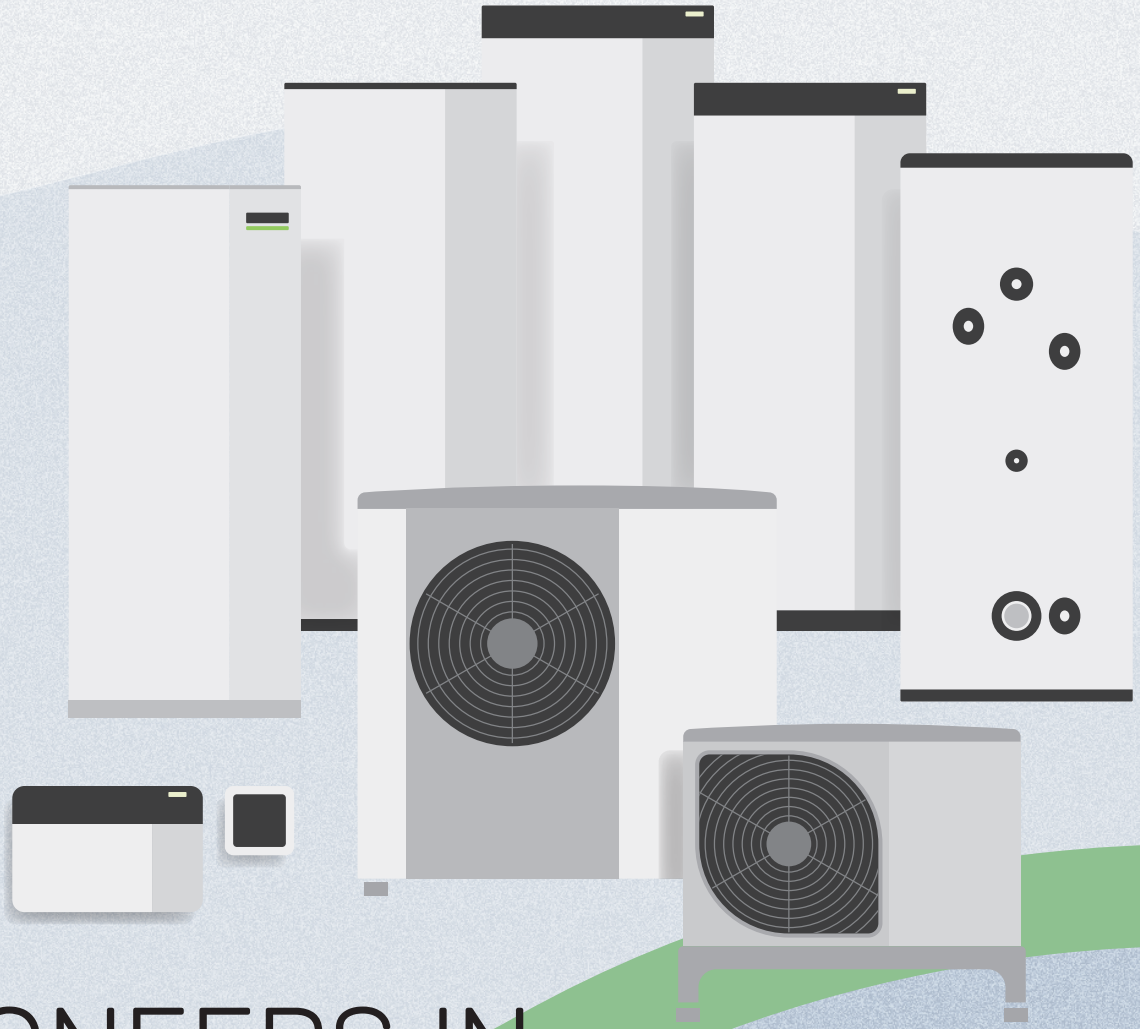
NIBE Energy Systems UK, supplier of the heat pumps and photovoltaic systems/PVT, considers the project to be an exciting example of the benefits of combining renewable energy and solutions with low carbon dioxide emissions. The PVT collector system is an alternative, innovative heat source for NIBE's ground-source heat pumps, taking solar energy from the sun to generate electricity while extracting aerothermal energy to power the heat pumps.

During an important year of climate action, we are proud to have played a role in delivering what we believe is one of the largest PVT projects of its kind in the world.

The University of West London (UWL) has installed a new heating, ventilation and photovoltaic (PVT) system as part of its strategy to reduce carbon dioxide emissions.

One major focus of the strategy has been to replace "outdated gas boilers" with low-emission ventilation systems, ground-source heat pumps and 580 solar panels. Low-energy lighting has also been installed in the buildings. Four properties run by the university have implemented the new technology and will thereby reduce their total carbon dioxide emissions by 500 tonnes per year. This corresponds to the effect of planting 25,000 trees to compensate for carbon dioxide emissions, according to the team behind the project. Another part of the project will be that the university generates its own energy, equivalent to 70 households per year. ■

Four properties will now reduce their total CO_2 emissions by 500 tonnes per year.



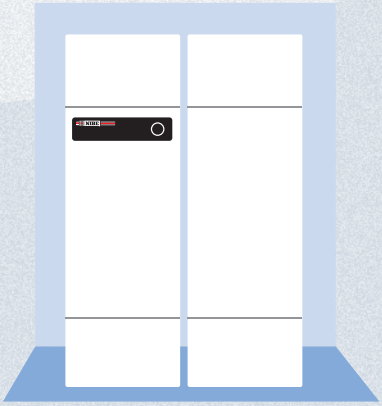
PIONEERS IN MANY AREAS.

You need to have a strong pioneering spirit to go from inventing the pig heater to becoming a world leader in heat pump technology and offering sustainable, world-class energy solutions. By approaching new challenges with curiosity, we at NIBE have continued to develop products that make everyday life more comfortable and sustainable. In the rear view mirror, we can see at least five important areas where we have been pioneers.

Nils Bernerup was a true pioneer when he started to manufacture equipment for farms in Skåne and laid the foundations of NIBE AB. Over the course of 70 years, our product development has gone from one to 120 people, and a lot has changed. But the goal we are striving for has remained the same. To make our energy solutions more efficient and sustainable, and easy to manage and install.

NIBE AB saw the light of day on 23 January 1952. That was when Nils Bernerup registered the company and started operations in Markaryd, with four employees and a workshop manager. There are now some 1,500 employees in Markaryd, and 3,000 more at 12 subsidiaries in Europe. NIBE AB now consists of NIBE Energy Systems and Contura. The company is part of the NIBE Group, which has a turnover of just over SEK 30 billion and more than 20,500 employees in over 30 countries.

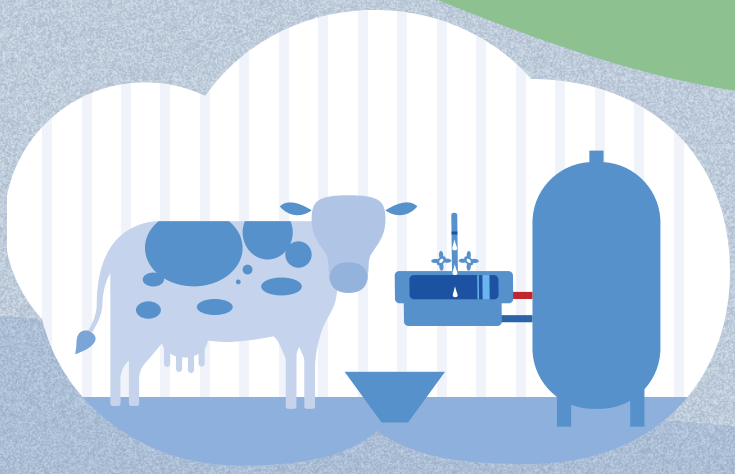
"The goal has always been the same. To make our energy solutions more efficient and sustainable, as well as easy to manage and install."



1955

The electric water heater
In 1955, Nils Bernerup started to manufacture electric water heaters with the same technology as the pig heaters his company sold to the farms in southern Sweden. It took considerable innovative drive to develop and automate the production processes and commercialise the product.

Inventing the product was just the first step in the journey of mastering the production process and using the material most suitable for the water in Sweden and which also had antibacterial properties, namely copper. Since copper is a soft material, a lot of craftsmanship was required. First out was the copper-lined black steel vessel. Eventually enamel and stainless steel alternatives were introduced, the product range and the market expanded, and we've now sold more than 2 million water heaters.



1981

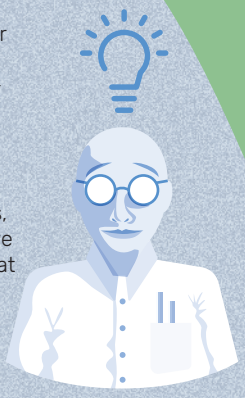
The brains behind the exhaust air heat pump
The electrically heated houses of the 1970s suffered from the dual disadvantages of inflexible water-borne heating and inadequate ventilation. Holger Svensson, NIBE's first product developer, accepted the challenge of solving this, with the able assistance of his five-person team. The first solution they came up with was an electric boiler and water heater, attractively packaged in white cabinets that blended seamlessly into the new utility rooms. But it wasn't long before stricter requirements for ventilation and energy consumption were introduced. This lead us to take the important decision to develop the electric boiler and produce an exhaust air heat pump with ventilation, an electric boiler and heat recovery. The main challenges consisted of regulating the airflow correctly, so as not to over-ventilate, and making the heat exchanger as optimal as possible. The first System FIGHTER exhaust air heat pump was launched in 1981. But when housing developers complained that two cabinets took up too much space, Holger and his team had to return to the drawing board. They combined the functions in one cabinet – the predecessor to our modern exhaust air heat pumps.

Selecting the right components for the refrigerant has been another challenge. As early as the 1990s, our exhaust air heat pumps were working with the natural refrigerant R290. This is a refrigerant with a low environmental impact which is still going strong and can be found in this year's new NIBE S2125 and NIBE S735. Similarly, we have always worked to minimise the amount of refrigerants in all our products, in order to ensure that they have a low environmental impact.

2006

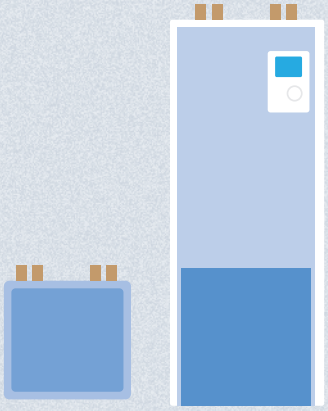
The breakthrough of inverter technology
There's always been a strong desire here at NIBE to master advanced technology and create a solution that meets the market's need for better performance and easy-to-install products. Prior to the breakthrough in 2014, inverter technology was relatively expensive and there was no official standard to demonstrate its improved annual energy savings (SCOP) compared to traditional on-off technology.

When we started exploring inverter technology for ground source heat pumps back in 2006, our aim was once again to make life easier for installers. A variable speed-controlled compressor would make it easier to choose which heat pump suits the customer best, thanks to a reduction in the number of models. We also wanted to explore new ways of being energy efficient and increase savings for our customers, while also benefitting the environment, which we achieved by means of an inverter-controlled heat pump. The inverter gave greater potential for energy regulation. It also enabled us to develop new refrigerant control features, making the product even more useful, especially in the replacement market.



2009

Modules on the inside
Another important breakthrough for heat pumps was the Emmy industrialisation project we launched in 2009. This saw us modularising our products in order to simplify your workday. Building the inside of the heat pump in modules with e.g. a pull-out cooling module has made it easier to carry, deliver and install the products.



2019

The intelligent heat pump
It's no coincidence that we're leading the way in making heat pumps an integral part of the smart home. The market has been clear in its demand for better, simpler connections, and the possibility of updating, developing and adding accessories and features to heating and ventilation systems, e.g. a voice assistant or second energy sources such as solar panels.

Integrating modern technology into our heat pumps has enabled us to offer a developable product with a long service life. Since 2012,it's been possible to connect our heat pumps to the internet and NIBE Uplink. This gave you, the installers, and our end-customers access to the heat pumps via a smartphone, tablet or computer. In 2019, we launched the S-series with wireless connectivity and intelligent components that offer completely new possibilities.

Connectivity has become a major feature of our range of products that offer an improved indoor climate, and a more comfortable and sustainable everyday life.

Stefan and Catharina enjoy passive cooling in the summer. Then it's the sea that cools the heating system.

CASE STUDY: THE S SERIES

FLOATING HIGH TECH HOUSE WITH UNIQUE SEA HEAT.

One difference between living on water than on land is that the energy installation needs a little extra love in its design and installation.
"We had a lot of questions about everything from moisture to waves, but we're really pleased with both the house and the indoor climate," says Stefan Fölster, who lives here with his wife Catharina Barkman.

At the jetties in Svindersvik, between Nacka and Stockholm, there are thirty permanently moored houses rather than boats. Catharina and Stefan live in one of them.
"We looked for solutions for a long time," says Stefan. "We wanted something like combining an apartment close to the city and a summer cottage in one and the same home, but that's not easy to find in Stockholm. We finally found it in the form of a floating home."

The floating house was built in Västervik. A year ago, it was transported here by barge and installed on site. Last summer, the couple moved in. The 210 m² house has two floors and a 100 m² roof terrace. It has tall ceilings, is well-equipped and has large windows that provide a wonderful view of the sea, forest and newly built urban environment on Kvarnholmen opposite.
"We had a lot of questions about everything from moisture to waves, but we're really pleased with the house. We can live here all year round, and in the summer it's better

"The collector hoses have been cast into the bottom of the pontoon."

than a holiday cottage. We can just jump into the water and we can dock a boat next to the house rather than having to go through a boat club. It's also nice in winter. The water changes and the view is beautiful. One difference from living on land is that we don't have a crawl space that can get damp, but we do have to hire divers to check the chains occasionally. Once you get used to it, there's not much difference!

Unique sea heating solution

The comfortable indoor climate with underfloor heating throughout the house is the result of an S-series ground-source heat pump with passive cooling and a wood-burning stove for the cosiness factor.

"It's nice and warm, we have good ventilation and it's not at all damp," Stefan explains, and continues: "It's almost as well insulated as a passive house.

"Obtaining passive cooling from a borehole isn't an unfamiliar concept to us. What's exciting about this particular project is that we get our cooling from the sea instead. The collector is cast into the hull and cools the house's heating system. We also send out spot cooling to two fan convectors in the bedroom and the combined kitchen/living room.As the icing on the cake, there's a liquid-filled cooling coil for the house's FTX unit, which then cools the house's supply air ducts with the same cooling.So on a really hot summer's day, we combat heat in the house in three different ways, which in itself is unique."

House supplier Aqua Floating Group has a unique solution to protect the collector hoses and get maximum effect from heat from the sea.

"The concrete used for the pontoon is the same as in bridges, and is completely waterproof,"

Stefan explains. "The collector hoses for the ground-source heat pump have been cast into the bottom of the pontoon. It works very well. The heat pump takes care of itself and we have reasonable heating costs. As we have a lot of large windows, we also benefit from cooling in the summer."

As an afterthought, Stefan started to control the heat pump via the myUplink app.

"I should have done that right away. The app allows full control of the heating system, not just remotely. Even when you're at home, myUplink is easier to use and more transparent than the control panel on the heat pump."

For Stefan and Catharina, it's especially important that everything works even when they're away.

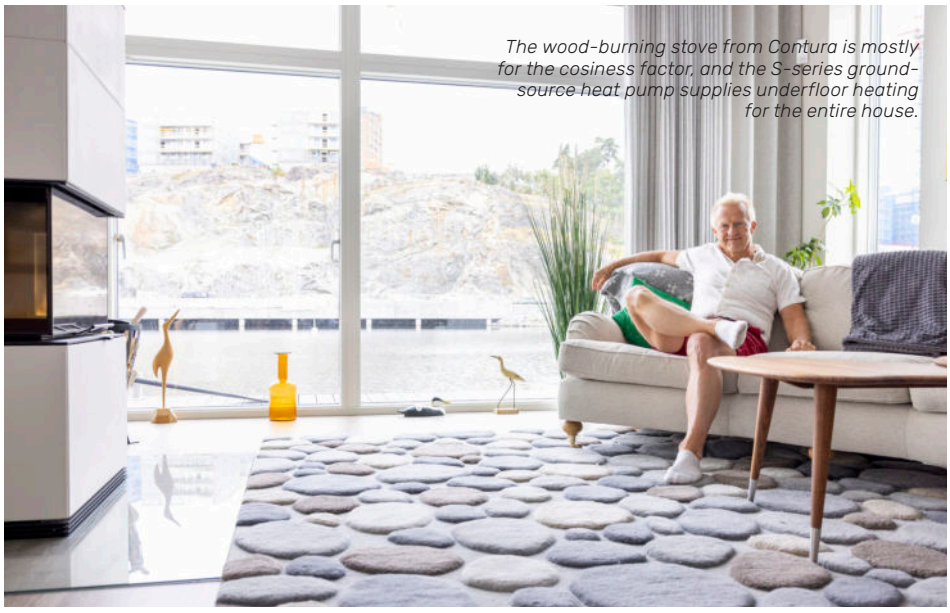
"Then we start up the irrigation system for our plants and can let guests in remotely. Being able to keep an eye on the heating system while away also gives a sense of security," Stefan concludes. ■

Houseboat, Nacka
Occupants: Catharina Barkman and Stefan Fölster
Residential area 210 m² + roof terrace 100 m²
Energy solution: NIBE S1255 ground-source heat pump with cooling and myUplink, ventilation unit and underfloor heating, Contura wood-burning stove
Energy consumption in year one: 13,000 kWh incl. domestic electricity

"The Aqua Floating Group has been doing marine development for over 50 years. *During the 2000s, almost 50 floating buildings were delivered, the majority of which are energy-efficient, comfortable single-family homes on 2–3 levels.A majority of them have been successfully equipped with a collector hose in the floating structure connected to NIBE's ground-source heat pump. Our company is proud to have this stable type of environmentally friendly, high-efficiency energy extraction from sea heat. It's a self-patented solution that we are highly praised for.*

Planning is currently also under way for apartment blocks, semi-detached homes and restaurants, where everyone involved is curious and keen on our NIBE solution. In Västervik, we're now building a unique new house factory that will give us ten times more delivery capacity that can deliver efficiently both over land and water. We have a significantly increased inflow of prospects, so both we and NIBE have reason to focus on customers in the years to come!"

– Johan Olofsson, CEO of Aqua Floating Group



The wood-burning stove from Contura is mostly for the cosiness factor, and the S-series ground-source heat pump supplies underfloor heating for the entire house.

INSIDE THE WALLS OF NIBE

"Performance and quality are our driving force."

There are many hours of work behind a new heat pump. On the way there, we face many choices, often complex ones, to achieve the quality and performance we are known for. Our recipe is long-standing experience, "everything under one roof", and extreme accuracy.

To put it simply, product development is about having a theory of how a product can be improved and then building prototypes and testing to check the results. We now have 70 years' experience of this and have carefully considered development phases with control functions that guide us, from the first sketches to the heat pump leaving our warehouse.
"Performance and quality are our driving force," says Sandra Hansson, responsible for project management of product development at NIBE. We quality assure every choice, from the smallest screw to the selection of suppliers. We review, perform risk analyses, and conduct lab and field tests. We verify and validate our production process thoroughly before we press the production start button, and each individual heat pump is tested in operation before it leaves the factory.

Everything under one roof
One advantage for us at NIBE is that we have all functions gathered here at the head office in Markaryd, with our own product development and factories.
"The close proximity to all departments means that we can work closely with design and purchasing, production, quality and sustainability, market and service all the way, which means that we can take all different needs into account," says Sandra.

Lab and field tests
Though our laboratory environment closely emulates reality, we nevertheless test each new heat pump in real environments.
"Many of us who work here at NIBE are test pilots," continues Sandra, "but there are experts who monitor the heat pumps and analyse their operation."

The field tests take place during the winter and summer seasons so that we can see that they meet all requirements for operational reliability, performance and user-friendliness – and, not least, that they are easy for installers to handle, install and service. Development continues even after the heat pump has been released for sale.
"Since we have our own cloud service, which gives us feedback on how the product is running and how it is used, we can continue developing the software and further improve operation and user-friendliness, and add new functions.

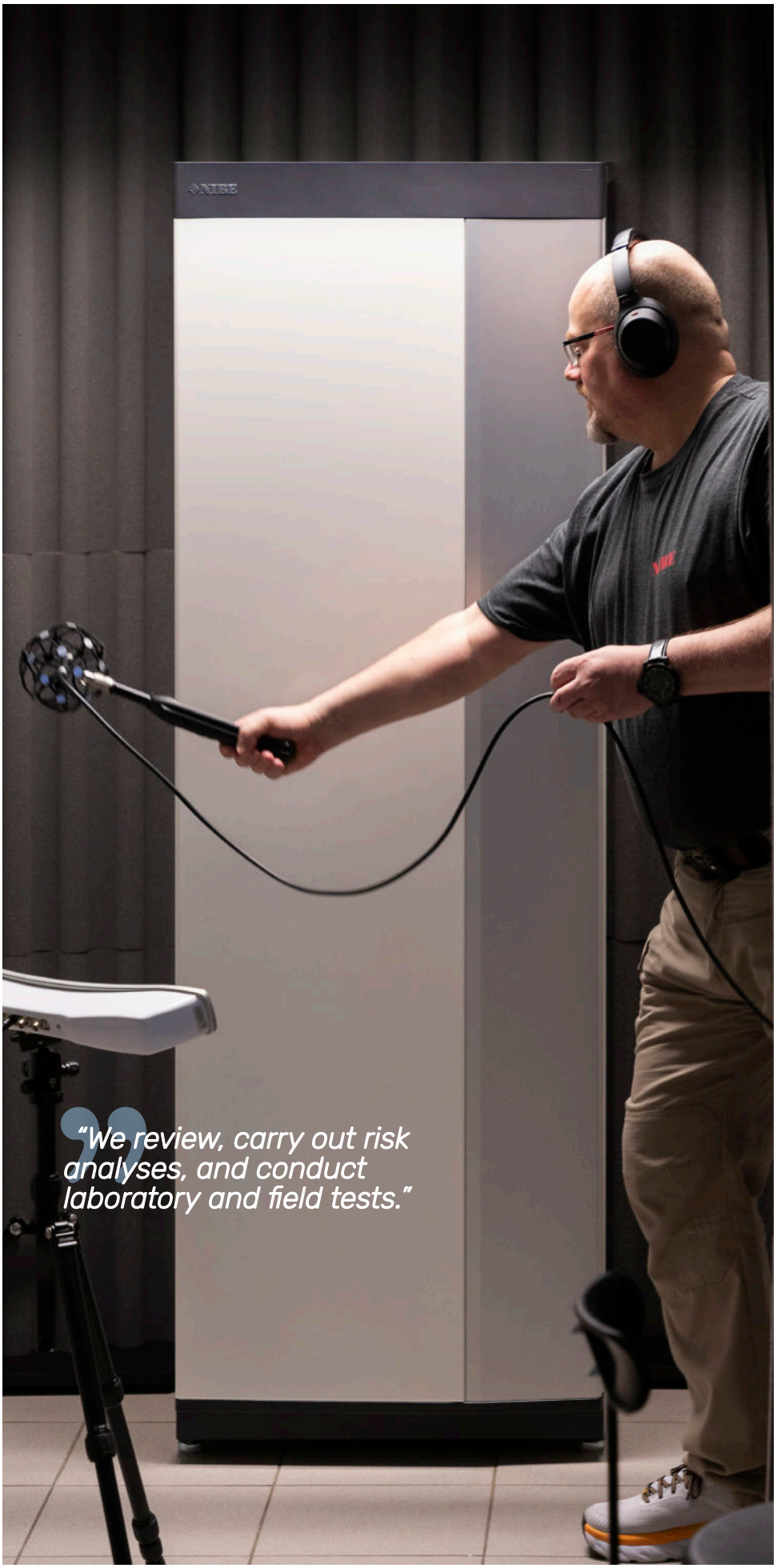
Simon Morar and Alireza "Ali" Mosawi inspect the newly painted casing before assembly.

Sandra Hansson, responsible for project management of product development at NIBE.

The noise generated by an S1255 ground-source heat pump is measured and noted by Tommy Andersson.

The heart and brain of the heat pump
The most central parts of the heat pump are the control system and the cooling circuit.
"The control system is the brain of the heat pump. It has been fully developed by us at NIBE and gives us full control over quality and function optimisation.

A critical part of product development is the cooling circuit design, which determines whether the heat pump can perform at a high level in different outdoor temperatures. It consists of a compressor, condenser, evaporator and valves.
"We're very keen to optimise the working range of the cooling circuit, and we're extremely particular with evaluating it. It's the heart in which everything works together to optimise the performance of the heat pump," Sandra concludes. ■



Jenny Karlsson, Helene Olsson and Elin Edvardsson work with sustainability issues at NIBE.

"Both efforts run in parallel – we have to be both profitable and climate-smart."

INSIDE THE WALLS OF NIBE

GENUINE SUSTAINABILITY MINDSET.

The EU taxonomy is a regulation that the European Union has drawn up to define environmentally sustainable economic activities with the aim of promoting sustainable investments in industry. For us at NIBE, this is a mindset that is completely in line with our values. We've been working with sustainability for decades.

With the taxonomy, the EU has localised product groups and industries that can make a major difference in counteracting climate change. The taxonomy includes heat pumps in its list of products, which we at NIBE are world leaders in.
"Naturally, it's positive for us that we're covered by this regulatory framework and that we can contribute. It only strengthens the transition work we've already started," says Jenny Karlsson, Sustainability Coordinator at NIBE.

Genuine sustainability mindset – an advantage
Jenny Karlsson's role includes bridging sustainability work and financial results.
"Both efforts run in parallel, we have to be both profitable and climate-smart. These are two different ways of being sustainable, both of which are important," she says.

But thinking sustainably is nothing new to us at NIBE. Since the company was founded seventy years ago, efficient use of energy and resources has been a cornerstone of our work.
"The fact that we've been working with energy-efficient solutions since long before it became a priority on the general agenda is a big advantage for us. It provides a good starting point from which we can continue to develop and streamline our products and material choices," says Elin Edvardsson, who works in the sustainability team at NIBE. She is responsible for ensuring that the content of our products complies with the laws and requirements placed on us as a company.

A company with a future
Elin Edvardsson applied to NIBE precisely because of our long-term and genuine efforts to take responsibility for the environment and society.
"I grew up in Hässleholm, not far from NIBE's facility in Markaryd, and I've known for a long time what NIBE stands for. After graduation, I wanted to work for a company with a future, and NIBE has that. Smart energy solutions are something I can support," she says.

Today, Elin works closely with product development and ensures that a sustainable approach is included throughout the value chain. She also guides NIBE's subsidiaries in their sustainability work.
"As important as it is for us to develop energy-efficient solutions that help our customers, what happens when a product's service life is over is just as important. We then take our responsibility for recycling and reusing what we can," says Elin.

Keeping an eye on the entire value chain
In order to be sustainable and operate within the EU Taxonomy requirements, it isn't enough to simply keep track of your own business – you need to include the entire value chain.
"We work very carefully to ensure that our suppliers live up to our requirements and our values – that they work sustainably and act in accordance with human rights.

It's partly about checking our existing partners, but also making sure that we choose the right suppliers from the start," says Helene Olsson, Supplier Quality Manager at NIBE. She concludes:
"One important driving force for us in our work is the knowledge that we are part of the solution to combating climate change. We already stand on a strong foundation today, but we also think proactively and look ahead to taking the next step, because it will require us to have even more competence. That's why we work actively to connect with the next generation of engineers. With them, NIBE will be a company for the future," Helene concludes. ■

MAXIMISE WITH MARKO!

NIBE's technical correspondent Marko Hietaharju shares his smart tips to make life simpler, more fun... and just happier for NIBE installers. Do you have any issues that you'd like him to discuss here? Email Marko at maxa@nibe.se

MARKO TESTS: THE CARBON DIOXIDE, TEMPERATURE AND HUMIDITY SENSOR CDS 10.

If you've been following us, you've already learned most of what there is to know about the RPP 10 smart power switch, the RMU S40 room unit and the THS 10 humidity and temperature sensor. In this issue, we'll go through the CDS 10.

The CDS 10 is a product with many talents. Just like THS 10 (which we went through in the previous issue), it has a humidity and temperature sensor. But the CDS 10 can also measure the carbon dioxide content. So what's that good for?

It's all about comfort!
If it's too dry in your bedroom, you may wake up with a dry cough and a headache. If it's too humid, mould may form. At carbon dioxide levels of 1,000–2,000 ppm, it's common to feel drowsy, and at concentrations of 2,000–5,000 ppm, you may experience headaches, tiredness and concentration difficulties. That's where the CDS 10 comes in. It keeps track of the temperature, humidity and carbon dioxide content, and controls the ventilation so that your customer always has the right climate. When the carbon dioxide content is high, it ensures extra ventilation, and when the content is low, it results in energy savings as ventilation is not required. So if your customer has our ventilation, for example NIBE ERS S40 or FLM S45, the CDS 10 is the obvious choice.

Does the job with or without ventilation
But if there's no ventilation connected to the heat pump, do your customers benefit from the CDS 10? Absolutely! If the sensor detects that there is too much moisture, it increases the heat, which works wonders against moisture. But if you also have an exhaust air module connected to your heat pump, it can raise and lower the ventilation according to the humidity and carbon dioxide levels. So ventilation isn't a must for controlling the humidity or carbon dioxide content; the CDS 10 does its job with or without ventilation.

Get started in a matter of minutes
Follow the steps below and we'll see whether the CDS 10 is as easy to connect as the other smart accessories. But first make sure that the installation has the latest software update.

1. Insert the batteries into the CDS 10.
2. In the main menu on the heat pump display, go to Connection, menu 5 and select Wireless Units, menu 5.4.
3. Click Add Device and wait until it makes contact.
4. In the main menu, go to menu 1.3.3 Room Sensor Settings.
5. Select which climate system the CDS 10 should affect. Click on the relevant climate system and select CDS 10. Then click on the text Heat so that it lights up. The CDS 10 now controls the current climate system.

   All done!

Now it can be mounted on the wall. Avoid placing it behind curtains, between shelves, near a heat source, in direct sunlight or in the draught of an exterior door, as these things may affect the sensor. It's a good idea to try it out before screwing it into place. Is there too great a distance between the CDS 10 and the heat pump? Add an RPP 10, which amplifies the signal between wireless accessories.

So how did the test go?
In my opinion, the CDS 10 is yet another example of an accessory that is both simple and smart. The CDS 10 also supports myUplink, and you can see the temperature, humidity and carbon dioxide content in the app. In the next issue, we'll be testing our most recent addition, the SRV 10.

See you there!
/Marko

If your customer has ventilation unit NIBE ERS S40 or FLM S45, the CDS 10 is the obvious choice.

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The S series.
The easy choice.

S series heat pumps are designed and built to give your customers a comfortable indoor climate with climate-friendly power from nature and features that make it easy to control the heating in the house. An easy choice for those who want quality and convenience.
Read more about all the advantages of the S series at proffs.nibe.se

Deliver an upgraded cosy home feel.