NIBE

EXPERT NEWS #2 2021

INTERVIEWS, REPORTS, NEWS, TIPS AND INSPIRATION FROM NIBE ENERGY SYSTEMS

ENERGY REVOLUTION

Hybrid solution reduced heating costs by 75% in Niklas Housing Association.

FOCUS ON EXHAUST AIR

Colossal replacement market on the rise

New wireless accessories make the S series even smarter!

"You now have the opportunity to influence your energy consumption and indoor comfort even more, and even more conveniently."

40 YEARS OF HEAT PUMPS

Rectangular boxes opened new doors. Join the journey!

THE BEST OF TWO WORLDS

"Prioritised additional heat" Wood fired boiler + S1255

40,000 SQUARE METRES

NIBE invests heavily in building for the future

“Summer, sunshine and a lot of optimism here in Markaryd”

Niklas Rönnäng
Sales Manager, NIBE Energy Systems

Hello, friends of NIBE!
This year marks 40 years since the first heat pump was manufactured here in Markaryd. This gives us cause to look back and remind ourselves of our history. Of how diligence, innovation, the introduction of utility rooms in homes and new building regulations opened doors that were decisive for the future of heat pumps and the future of NIBE. Water heaters in rectangular packaging brought us to the intelligent S series, which has just become even smarter with its new wireless accessories. Just think how much has happened, and much more is coming, as NIBE is now growing, taking on more staff and building so much new space here in Markaryd, everything from a new marketing centre to new offices.

We now enter the summer of 2021 with great optimism for what is to come and equally great gratitude for what has been. You, an extension of us, have fought on and kept the flag flying, in spite of the pandemic. And this has produced results. It will soon be time for a well-deserved rest and some relaxation with family and friends, and hopefully a lot of sunshine and swimming.

But before we go on holiday here at NIBE, it's time to set out on another journey. We’re hopping on board a lorry that will take us to locations in Europe to meet our customers safely. Exciting!

We now offer you some summer reading about our 40-year heat pump history, about how we are building for the future, about the exhaust air market that keeps on growing, about how our products have contributed to incredible energy efficiency and a more sustainable world – and about the people behind it all.

Thank you for everything, and have a really nice summer!

Niklas Rönnäng

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NEW ARRIVALS FOR SMART HOMES!
Wireless accessories that allow your customers to enjoy the full potential of the S series. *Read more on page 4!*

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"NIBE feels so familiar. On the plane home from the Frankfurt fair two years ago, I sat next to Gerteric. We discussed business and he gave me some tips. That's the kind of thing you remember."

Expert profile Per Sahlin of Sahlins Rör in Osby likes the familiarity at NIBE and believes in the power of close collaboration. *Read more on page 12!*

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THE BEST OF BOTH WORLDS Customers are happy, they can heat as much or as little as they want, when they want. And as an installer you also avoid having to take out the old wood-fired boiler. Rolf Johansson in Hjortsberga had a NIBE S1255 ground source heat pump with "prioritised additional heat" installed a year ago.
Read about a simple and effective solution that makes life more convenient for a lot of people!

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40 YEARS OF HEAT PUMPS!
Newly encased in white, our water heaters became welcome additions to nicer rooms. A few years and a few building regulations later, our 40-year history as one of the leading players in heat pumps started.*Read the story of how our product range has been refined as building regulations have changed, from NIBE's first heat pump to the new S series.*

NIBE TRAINING

"It's always fun to learn something new and get better at what you do."

– one of our satisfied course participants.

This autumn's training programme will soon be out. Keep an eye out at proffs.nibe.se

NEW AT NIBE

MALIN BRANDETH – MARKARYD SALESPERSON

When did you join NIBE?
I started as a salesperson in June 2020. I take care of orders and shipping and assist our customers. Contact with customers is what I like.

Why did you choose NIBE?
It's a large, established company with opportunities for growth and development.

I'm very happy, I have great colleagues and I learn something new every day.

What did you do previously?
I was the operation manager at a clothing company and was responsible for imports, exports, order handling, warehousing and warehouse staff. I made sure that all deliveries came and went as they were supposed to and that everything in between flowed smoothly. I've always been interested in business enterprise, service and finance, and I trained as an entrepreneur.

Any hobbies and interests?
I have a house, a partner and two children, Hilma who's six and Hedda who's 2, so I don't have time for much else at the moment.

Where do you live?
We live in a house in Osby and get our heat from a six-year-old NIBE F1155 and a VPB 300 that work well.

Thank you, Malin, and welcome to NIBE!

NEWS. THE NIBE S SERIES IS NOW EVEN SMARTER!

Here is what our smart accessories, a natural development of the S series, look like.
"We're now taking the next step by using myUplink to get the full benefit of the S series," says Sven Hallbeck, Product Manager for Smart Home Accessories at NIBE. With smart home components that communicate wirelessly with the heat pump, we make it possible to achieve an even better indoor climate with demand-controlled energy and comfort.

Anyone with a connected NIBE heat pump in the S series can already control and monitor their climate system easily via myUplink. With the new smart accessories, this can be done even more precisely and conveniently. Now you have the opportunity to have more influence over your energy consumption and comfort – while doing nature a favour at the same time.

The heat pump adapts independently
NIBE's heat pumps have an obvious place in smart homes.
"We've made it easy to add voice control and new energy sources such as solar panels to the heat pump," says Sven."Now we're making it just as easy to connect smart accessories that monitor and control the temperature and air quality to enable high comfort and low energy consumption."

The point of the accessories is not for customers to adjust their own heating and ventilation system.
"On the contrary, it's done automatically," Sven explains. The sensors communicate with the heat pump, which adjusts the climate to optimise comfort low energy consumption.

No cables in the wall
Installers can now offer customers a wireless alternative, THS 10, which is an indoor temperature and humidity sensor.
"It's a small, stylish device that blends in with its surroundings and is battery-powered and therefore easier than ever to position and install."

BENEFITS OF NIBE'S SMART ACCESSORIES

- For more convenient, precise indoor climate control.
- Temperature, humidity and CO2 levels are automatically adjusted by the heat pump for high comfort and low energy consumption – or manually, as desired.
- Part of your energy-saving smart home in combination with a NIBE S series heat pump/indoor module.

To avoid having the sun radiating directly on the sensor and giving misleading information, it's a good idea to have a few in different places, especially in a large house with many or large windows.

CDS 10 also senses carbon dioxide levels to achieve a healthy air quality.
"If the heat pump has a ventilation unit connected to it, ventilation is automatically adjusted to maintain an even, good air quality, in basements, for example."

The NIBE RMU S40 is another example. It's a room unit with a touchscreen and built-in temperature and humidity sensor, which also acts as a repeater.

"With an intuitive interface on the home screens, we are now giving customers an alternative, additional way to control their heat pump from other places in the home, not just where the heat pump is. Communication with the heat pump is wireless, and power can easily be supplied through a USB port.

Continued on page 6.

RMU S40
Access to the heat pump

From a 2.8" touchscreen display, the customer can control and monitor the heat pump from another room than where the heat pump is located. The unit has a built-in temperature and humidity sensor and also functions as a repeater, i.e. amplifies the signal between several smart home products.

ROT 10*
Read and adjust your heating

A wireless room thermostat makes it easy for customers to read and control the temperature directly from the display or via the myUplink app on their smartphone. Battery-powered, rechargeable and easy to place on the wall.

THS 10
Keep track of your heat and humidity

With a wireless temperature and humidity sensor, customers can control and monitor the temperature and humidity in a room or climate zone via myUplink.

CDS 10
Improve air quality

With a wireless carbon dioxide sensor, the carbon dioxide level is automatically adjusted if the heat pump has an associated ventilation system. This is to ensure that the customer has good, consistent air quality, in the bedroom for example.

RPP 10
Remote-controlled repeater with energy meter

In addition to amplifying the signal between smart home products, the customer can use the repeater to schedule the switch's on/off function and measure energy consumption.

* ROT 10 will be released shortly.

"Connecting the products to the heating and ventilation system is simple."

In addition to these, there is also an RPP 10 repeater, which may be needed to amplify the signal between smart home products if they are a long way from one another.
"When it's connected to an S series connected heat pump, you can control the power on/off function via the myUplink app. It's simple and convenient for turning a lamp on and off when you aren't at home, for instance. Similarly, it measures power consumption at the power outlet, which can be used for even greater control of your energy usage."

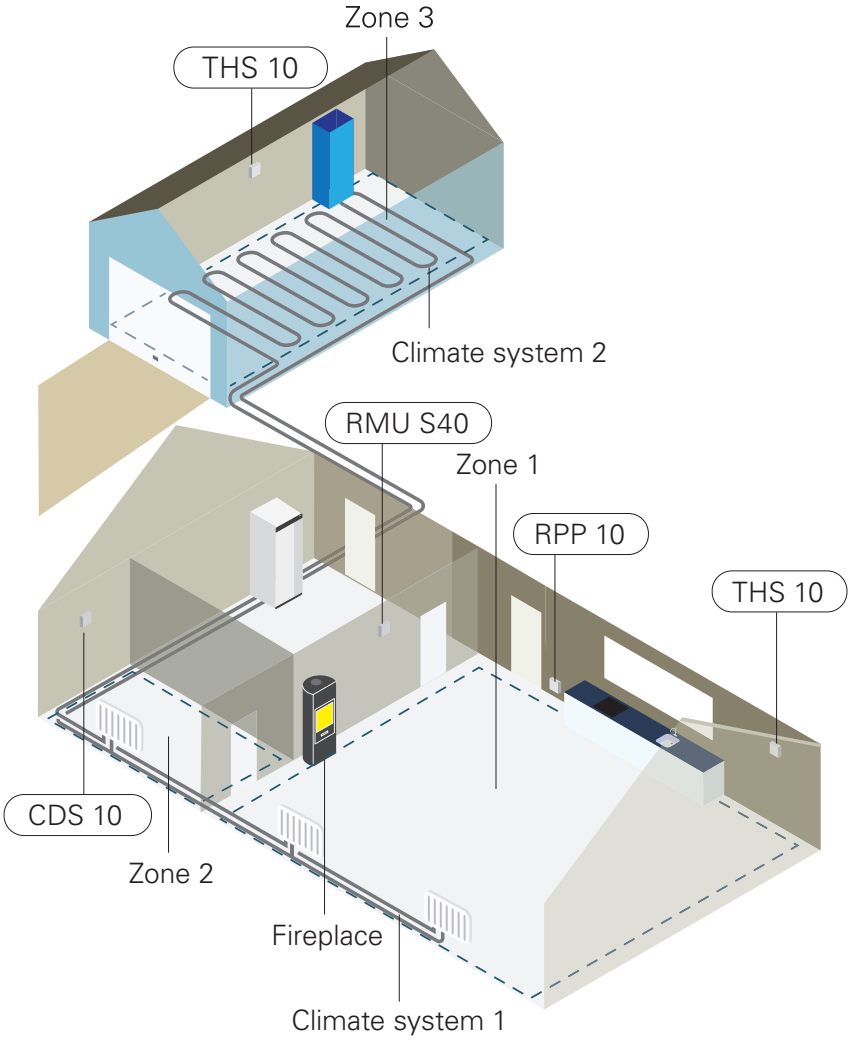
Connecting the products to the heating and ventilation system is a simple matter. The only thing the customer needs to do is ensure that they have the latest software update installed.

Installers can purchase the myUplink accessories directly from us or at pro.myuplink.com. The NIBE RMU S40 can also be purchased via a wholesaler.
"We see a growing demand for smart home products and great prospects for additional sales.But not least, it shows the S series' ability to increase comfort and control energy consumption using wireless components," Sven concludes. ■

NIBE RMU S40
Read more about all the smart accessories at proffs.nibe.se

HOW IT WORKS

Zones for a pleasant indoor climate:



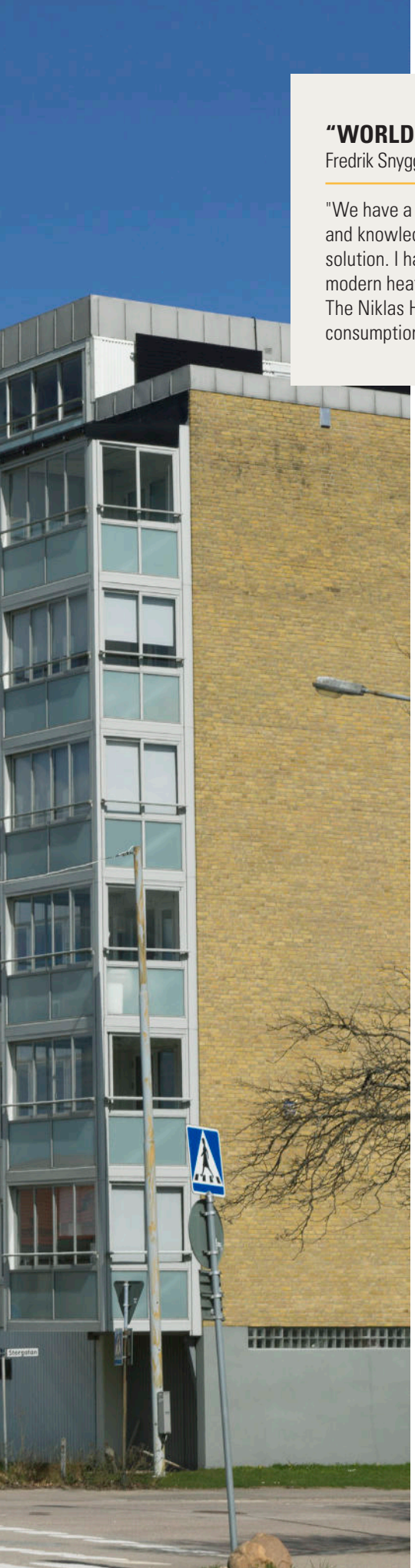
Dividing your home into climate systems and zones is the basis for achieving the perfect indoor climate with the help of smart accessories.The first step is for the customer to consider what their needs for heating, humidity and air quality are at home and how they differ from floor to floor and room to room.The customer then connects the accessories to their unit and easily creates and names their climate systems and zones.

A maximum of eight climate systems can be used, each containing several zones. For example, if the house has a ground floor, a top floor and a basement, the customer can decide that each floor is a separate climate system. If your ground floor is open plan, with a kitchen and living room, you could define two to three zones, each of them containing one or more smart accessories.

NIBE-EQUIPPED HOMES – FROM TOP TO BOTTOM.

Heat loss in the substation and culverts was the starting point for a radical and sustainable energy transition centred around ground-source heating and heat recovery ventilation. "It provides enormous savings for us and for the environment," says Göran Bengtsson, chairman of the tenant-owners' association after a year with the new installation. Read more on the next page!

The housing association's energy transition is fully in line with the authorities' desire for energy conservation – despite the fact that the buildings will soon be seventy years old.



“WORLD-CLASS RESULTS.”

Fredrik Snygg at NIBE, responsible for product selection and deliveries, has followed the construction process.

"We have a world-class result here when it comes to energy hunting. Its success is thanks to an interested and knowledgeable purchaser, a skilled installer and a supplier with the opportunity to deliver a complete solution. I have often referred to my dream house with solar on the roof, good ventilation in the attic, modern heat pump technology in the basement and an energy battery in the bedrock for stored energy. The Niklas Housing Association fulfils all these criteria, which we can clearly see in the figures for energy consumption before and after the upgrade."

On Södra Esplanaden in Älmhult there are three eight-storey buildings built in 1964 by HSB and owned by the Niklas Housing Association.
The solar panels along the upper floor’s south-facing facade are proof of the conscious investment the association has just made.
“It started because it was time to rebuild the 30-year-old substation,” says Göran Bengtsson, as he squints at the sun. The project would cost half a million kronor.

2,400 litres of warm air per second

Göran started looking into their heat consumption.
It was time to find a new energy solution and to stop heating the air outside.
“I knew that each building was venting out 800 litres of 22-degree air per second that we could be utilising,” Göran explains. "So originally, the idea was to allow district heating to work together with exhaust air heat pumps, which would reduce energy consumption by almost fifty per cent.But it wasn't easy.I contacted NIBE and my local installer Cederqvist & Sons, who proposed a total solution of ground source heating and heat recovery ventilation for heating and hot water."

"We’re now consuming 166 MWh per year for heating. That’s a quarter of what we consumed before."

NIBE and the heating and plumbing company went through the whole solution at a members' meeting and everyone was satisfied. Instead of continuing to have a central heating centre, each building would now have its own heating centre in a storeroom where the existing culvert entered the building. A clear advantage of this solution was that the association did not need to invest in new culverts and energy loss in the ground was eliminated.A NIBE F1345 ground source heat pump with the new Aqua Efficiency hot water solution from NIBE company Cetetherm was installed in the new substations.
The existing exhaust air fan in the attic was replaced with a new ventilation unit from NIBE AirSite, which recovers the heat in the exhaust air and sends the energy to the boreholes and heat pump, a hybrid between a ground-source and an exhaust air heat pump.
“At the same time, we replaced all the plumbing and the roof, so we took the opportunity to install solar panels, both for the environment and to further reduce costs,” Göran continues."They supply 60,000 kWh of electricity from the sun that runs the ground source heat pumps, and it works perfectly!In order to use as much energy as possible from the solar cells ourselves and reduce the fixed costs of electricity, we've gone from three electricity subscriptions for the properties and fifty-four for the members’ apartments, to one joint subscription."

Smooth construction process

Göran managed the project with heart and assertiveness.The conversions began in 2019 and the solar panels were completed in July 2020.
"We had electricity and ventilation expertise in the association, so we didn't need to bring in consultants.Our plumbing installer Cederquist & Sons has done an amazing job without major interruptions. It's nice when you can hire locally. It's a total climate solution and all products come from one and the same supplier, which is a strength."

Locally produced energy exceeds environmental requirements

Göran’s energy statistics show major financial and environmental savings.He expects the investment to pay for itself in six years.
"We’re now consuming 276 MWh/year, in-

"I knew that we were venting out 2,400 litres of 22-degree air per second that we could be utilising."

cluding all electricity. That's a third of what we consumed before.
If we look just at heating, now we only use a quarter of what we did before. Environmentally, it's also a fantastic achievement! I don't know how much CO2 700 MWh of district heating emits when you burn wood chips, but today we don't have many kilos of emissions.
"If you look at the total consumption per apartment, it was previously 13,380 kWh per year. After the 'revolution', it's about 4,480 kWh for a seventy square metre flat.This is in line with the authorities' ambition for energy conservation, even though our buildings are almost seventy years old and are poorly insulated compared to new buildings."

Full control of the installation

There are three people monitoring energy consumption with curiosity in the NIBE Uplink app.
"I really appreciate it.I use it several times a day, follow up on how the installation is working, look at how much solar energy we generate and so on. Nothing has gone wrong so far, but if something happens, we'll get a message on our smartphones, which gives a sense of security.
"Right now I can see that each roof is producing 15 kW of power for us to harness, and it's only April.It's normally around zero degrees in the rock with ground source heating, but in our holes it's 9.9 degrees at the moment. This is due to the excess heat we get from ventilation which heats the rock and increases the efficiency of our ground source heat pumps." ■

NIBE UPLINK
Read more about the benefits of NIBE Uplink at proffs.NIBE.se

Göran Bengtsson managed the project with heart and assertiveness. In addition to the solar cells that power the heat pumps, exhaust air heat is now recovered and sent to the boreholes and the heat pumps.

Property: Niklas Housing Association in Älmhult
3 buildings, 54 flats, 4,300 m2

NIBE's system solution:
3 NIBE AirSite units with heat recovery ventilation
3 NIBE F1345s and 9 x 225 m boreholes
3 x Cetetherm Aqua Efficiency
210 300-watt solar panels
NIBE Uplink

Energy consumption 2018: 700,000 kWh for heating, 163 kWh/m2

Energy consumption 2020: 166,000 kWh for heating, 38 kWh/m2

Savings: 534,000 kWh/year

Pay-off time: 6 years

BETTER AND CHEAPER SOLAR.

"We're taking a giant leap and increasing the output to 360 Watts."

The industry has done it again. This year's panels have also made great technological strides with even higher output. And rumour has it that they have also become cheaper.
"It's true, we're now reducing the consumer price by more than SEK 5,000 for a 20-panel package," explains Robin Larsson, solar cell expert at NIBE.

With the launch of this year's solar panels we are going from 320 to 360 watts.
"It's been a long time since we could make such a big leap," says Robin Larsson, salesperson and valued solar cell expert, helping both installers and end consumers.

"The customer now has room for even more kilowatts on their roof," continues Robin, "and they get even more energy for their money and a shorter pay-off time."

Robin sits and calculates how many kilowatt hours the sun provides and how long the pay-off times will be. He explains what subsidies apply and what products and assembly materials are needed, depending on the roof type.
"My interest was sparked when my parents put solar cells on the roof when I was still in school. To think that you can get power from a panel on the roof!

Today Robin is an engineer in energy systems for sustainable development from BTH, Blekinge University of Technology.
"When I started at NIBE as a salesperson for house dimensioning in June 2019, I said I wanted to work with solar panels, and after six months, that's what I was doing!"

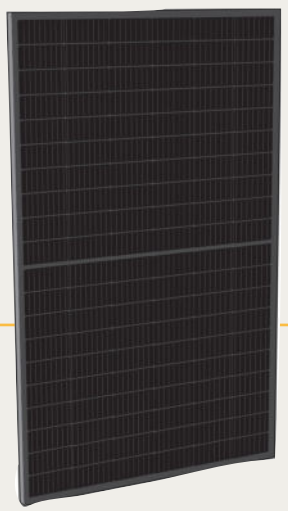
1,000 kWh more per year
So how much better are the new solar panels? Robin gives an example.
"Let's take the most common home package, with 20 panels, totalling up to 6.4 kW. Roughly speaking, that produces 6,400 kWh per year."

With the new panel, the customer instead gets a full 7.2 kW. And if added up the same way, it would mean 7,200 kWh per year. A difference of 0.8 kW, i.e. 800 kWh and roughly SEK 1,000.
"The approximate price for the old 6.4 kW package was SEK 82,250 including VAT, while the new price is SEK 77,000. Even though I'm not generally frugal, I think this is a great deal. Not only is the price I pay at least SEK 5,000 lower, but I also get more energy out of the new package, which is worth around SEK 1,000.

"The difference in 30 years will be around SEK 30,000!"

"You get about SEK 1,000 more per year with the new solar panel. And since they're on the roof for at least 30 years, that's more than SEK 30,000 in total. And not only that, individual customers also get around 15% in green deductions that cut costs," concludes Robin Larsson.

Try the solar cell calculator
Go to nibe.se to get a rough estimate of what the new solar panel can do for you or your customers. Or check out page 3 of the product sheet and use your own calculator to do the calculations. Contact your District Manager, or Robin, of course, if you have any questions. ■



SOLAR CELL FACTS Regardless of the size of your customer's house and roof, they can often generate as much energy as the heat pump needs to supply the entire house with heating and hot water, thanks to smart technology and a NIBE system solution.

• 360 watts per panel • All black • Half cell • 6 shadow zones • Package price: 20 panels SEK 77,000 incl. VAT (previously SEK 82,250) • Output guarantee 80% after 25 years

GERMAN DESIGN AWARD

S-SERIES GETS MOST VOTES AT DIGITAL EVENT

NIBE S1255 won the 2020 DETAIL Product Award – voted for by visitors to a digital event for architecture and design in Germany, Archipinion by DETAIL.It is run by DETAIL Business Information Gmbh, a company that specialises in information about architecture and design and belongs to a large German media group.

In total, there were four product categories and NIBE Germany competed in the category Property Technology and Digital Planning. It was not a traditional jury that voted but 2088 of the event's participants, a third of whom were architects.

Jörg Schickedanz, in the Marketing Communication Department at NIBE Systemtechnik in Germany, initiated participation in the competition.

"It was awesome to receive the award and to know that the characteristics of our NIBE S1255 matched the evaluation criteria: functionality, design and form, innovative character, sustainability and ability to integrate. The award also shows that our new S series appeals to a broad audience. The fact that we also made an impression on architects is especially pleasing.

Jörg Schickedanz

AT A NEW JOB

SANDRA AF KLINTEBERG EVENT & VISIT COORDINATOR

What was your previous job?
I started in After Sales in 2004. My main task was to coordinate information, news and service messages and to send them to you: our agents and installers, and to our subsidiaries and distributors in Europe. I was also involved in building up information systems and maintaining our service agreements.

What does your new job at NIBE entail?
That I get to see you more when you visit us in Markaryd and all over Sweden. I'm responsible for coordinating our visits and will be the one who plans, organises and conducts meetings with our customers, subsidiaries and other companies we work with.

Why did you change jobs?
In recent years, I've worked a lot with trade fairs and events together with Jennie Ahlqvist, who had the job before me, and it's been incredibly fun and stimulating. Now that she's left, the opportunity presented itself. It feels both new and challenging, while at thes same time I keep an eye on the framework.

What's the biggest difference between the jobs?
There's a big difference. Now, I work more independently and have many more decisions and priorities to make in the here and now.

Where do you live?
I live in a house in Hässleholm with my husband and our two sons. Naturally, we have an exhaust air heat pump, an F370 from 2014, and solar panels from NIBE!

"It's important to market yourself and be visible, as customers sometimes ask for a quote from a number of companies! "

A belief in the power of collaboration, local marketing and the joy of seeing your employees grow – these are success factors that perhaps make Sahlins Rör the obvious choice in the Osby area.
"I like collaboration, it helps market us and we become colleagues instead of competitors," says Per Sahlin, who runs the company with great commitment.

The wind is cold and the sky is blue on this Walpurgis Night when Expert News visits. Nevertheless, there' spring in the air. Normally, Per Sahlin and his employees meet at six thirty in the morning, chat, have coffee, and then head out into the field. But this particular morning there was a call-out to a sports hall to check an aerotemper that wasn't working.
"I felt responsible for it, so I took along the electrician we usually work with, and we solved the issue without problems. We're here to help, after all," says Per.

> ***"We've even seen an increase in heat pumps."***

It has been more than a year since the start of the coronavirus pandemic, but the company is doing well.
"It's strange; we thought there would be a downturn," explains Per. "But apart from the first few weeks of the pandemic, things have gone almost as usual, and we've even seen an increase in heat pumps."

Per's father and uncle started Sahlins Rör in 1978. Per worked early on at the company during the summers. 20 years later, he and his cousin took over and today Per is the sole co-owner.
"I started as a 20-year-old at the company, and at that time, there were only four of us here, just family," Per continues. We've grown a bit – now there are ten of us, including me and my wife Petra on the finance side.

Focus on heat pumps
Sahlins Rör works primarily with the single-family housing market. Heat pumps are the largest part of the business, followed by bathrooms, contracts and service.
"It feels like we need to focus more on heat pumps. We can increase our share of this market with the help of our supervisor, who is a skilled refrigeration engineer and good with our customers. Last year we installed about fifty heat pumps and this year the target is seventy-five. We're at thirty-five right now!"

Per's goal is for Sahlins Rör to be the obvious choice in Osby, for both houses and properties.
"We've done a lot, but there's more work to be had out there. At the moment we're doing calculations for some large apartment blocks where they intend to install a few NIBE F2120-20 units, combined with the existing district heating."

The company has had many apprentices, and in Per's view one of the best parts of the job is to see them grow and take responsibility.
"Today we work in teams when we install heat pumps, just because you learn more when you work with the same people. When you see that they take responsibility and do a good job, it's satisfying to be a business owner."

Per has good, close collaboration with both Bad & Värme and NIBE, and is good at marketing his business locally.
"It helps market us and we become colleagues instead of competitors. We normally meet annually. It's important to market yourself and be visible, as customers sometimes ask for a quote from a number of companies. We develop our website, advertise in local newspapers and we're on Facebook and Instagram. A while ago we sent out a mailing where we offered service agreements, and we're still getting a response to it, which gives us an advantage for future replacements. The store in Osby also attracts customers. If they don't get hold of us by phone, they drive out and see the products in real life."

Proximity to NIBE
Per likes the fact that NIBE is nearby, and he doesn't just mean geographically. Both his wife and the heat pump supervisor previously worked at NIBE in Markaryd.
"It's only natural for us to work with NIBE, which we do almost 100 per cent. NIBE has the right products, prioritised additional heat to complement wood-fired boilers with a heat pump and myUplink, which customers like and are interested in. We have a great relationship with Fredrik Bäckman, our NIBE contact, and as NIBE is just 35 kilometres away, it's easy to drive and collect things if we need them.

"And NIBE also feels so familiar. On the plane home from the Frankfurt fair two years ago, I sat next to Gerteric (editor's note: Gerteric Lindqvist, President and CEO of NIBE). We discussed business and he gave me some tips. That's the kind of thing you remember." ■

Sahlins Rör in Osby
Owner: Per Sahlin
Employees: 10
Turnover in 2020: approx. SEK 21 million

Outside the new office in Osby sit Magnus Björklund, who is the supervisor for heat pumps, and owner Per Sahlin. They recuperate in the spring sun before it's time for their next job.

BETTER TECHNOLOGY TODAY

Today's exhaust air heat pumps are clearly better than those manufactured 15-20 years ago.

HIGHER PERFORMANCE

A DC fan and DC circulation pump make a difference of 400-800 kWh/year depending on the size of the house. In many cases, the new compressor is larger, works more energy-efficiently and can give the same amount again in extra savings, up to around 800-1,600 kWh/year in total. The fan capacity has also increased significantly.

LESS NOISE

Today's heat pumps are more solid and stable in their design and, for example, do not produce noise from the casing, which was common in the past.

MORE USER-FRIENDLY

They are much more user-friendly. Thanks to the connectivity of NIBE Uplink, people now have a good overview from their mobile phones. The colour display and more detailed information also make things easier.

"The exhaust air exchange is not complete until the ventilation is adjusted and checked. If you don't have the right measuring equipment, give our service representatives a call," says Richard Carlholmer at NIBE.

A REPLACEMENT MARKET THAT ONLY CONTINUES TO GROW AND GROW.

The replacement market for exhaust air heat pumps in general and for the NIBE F370 in particular is like a snowball, rolling and growing larger with every passing year. Here you can be prepared for a major new replacement.
"There are between 8,000 and 10,000 houses built a year, and the majority of homeowners choose exhaust air," says Richard Carlholmer, head of manufacturers of single-family homes at NIBE.

The first exhaust air heat pumps were installed in the early 1980s. Since then, they have more or less been standard in newly produced single-family homes.
"During the course of 40 years, a huge replacement market has accumulated," says Richard Carlholmer. "As the service life is on average 16-24 years, we are now seeing not only those who are replacing for the first time but also those doing it for the second time.

The proportion of NIBE heat pumps is very high among those replacing for the first time.
"We've gone from a modest market share to being one of the market leaders today," Richard continues. "There are also many other brands of exhaust air heat pumps out there that are on their last legs. There's a lot of business to be had here."

Extensive replacement guide
You may not know that we have a comprehensive replacement guide on our website.
"Here you can probably find 99 per cent of all exhaust air heat pumps on the market, both makes and models. You'll get quick answers to what you should switch to and if there's anything you should keep in mind when you replace, such as whether the ventilation connections are in the same place. If you haven't seen the guide, go to proffs.nibe.se/utbyte – especially if you're a wholesaler and will be making new replacement pump recommendations.

When is it time to replace?
Richard thinks that when the heat pump is over 15 years old, it's a good idea to keep an eye on the compressor.
"The most obvious symptom of a breakdown is that the customer loses hot water when winter turns into spring, as the Auto mode then blocks the immersion heater. Running on the immersion heater only will of course be very expensive in the long run.Generally, we say it's worth making repairs until the heat pump is about 16 years old. After that, it is often replaced after the owner suffers an expensive repair."

Speed is of the essence when customers find themselves in this situation.
"Our service representatives with their authorised service technicians and spare parts in stock are always there to assist you in making advanced repairs and deciding on the best course of action. It's also important to know that wholesalers stock our heat pumps, giving customers quick access to them and allowing speedy replacements."

Taking the pump's temp
When you talk to the customer, pay extra attention to the age of the heat pump and consider that the heat pump has two lives, one before the compressor replacement and one after.
"To check whether the compressor is working, most of our heat pumps allow you to read the temperature of the outgoing exhaust air from the display. It should be 0 to 10 degrees above zero when the compressor is in operation, i.e. significantly lower than room temperature. If it's 15, 16 or 17 degrees, for example, it's time to sound the alarm."

Set the fan speed
If you replace one exhaust air heat pump with another, it will affect the ventilation. Too little ventilation entails less savings and a poorer indoor climate. Too much ventilation entails draughts, inefficiency and noise from the fan running at too high a speed.
"When you install a new heat pump, you need to adjust its fan speed. You need to have the right equipment to check that the ventilation is correct.

> ***"We are now seeing not only those who are replacing for the first time but also those doing it for the second time."***

This is simple if you have the knowledge and measuring tools, like our service representatives, so please make use of them."

Keep the big picture in mind
The heat pump is 210 centimetres tall and the ceiling height in newly built houses is often at least 240 centimetres. This means at least thirty centimetres of unsightly ventilation ducts will be visible.
"Consider the big picture and feel free to recommend one of our top cabinets to cover the ducts. The cabinets follow the design of the heat pump and form a column that runs nicely all the way up to the ceiling. It gives a much better overall impression," Richard concludes. ■

NIBE F370 is an all-in-one exhaust air heat pump which provides heating, ventilation, heat recovery and hot water, efficiently, simply and economically.

THE INTERPLAY OF SUN, FOREST AND BEDROCK IN HJORTSBERGA.

If you want a simpler life, you don't need to throw out your beautiful old wood-fired boiler and switch entirely to a heat pump.With NIBE's "priority additional heat", you can get the best of both worlds with a wood-burning furnace.
"The disadvantage of a furnace is dealing with the wood," says Rolf Johansson, who wants to make things a little easier in his latter years.

Hjortsberga is a small village 10 km north of Markaryd. The Johanssons have their own forest, and in springtime Rolf is busy building up a wood store for the coming winter.It will be a while before we can get hold of him, because he leaves his mobile phone at home when he goes out to work.
"I work a few hours in the morning and a few in the afternoon," Rolf explains. "I have to chop the trees down, drive home, and cut and split them."

Rolf and Agneta Johansson lived close to the beautiful 19th century farm for several years and finally got the opportunity to buy it from a relative in the 1980s.The farm was mostly used by their children when they came to visit.
"We have our own forest and want to use wood for heating as much as possible," Rolf continues. "But with just the wood-fired boiler, we use about 30 cubic metres of wood in a year.That's a lot of work.So fifteen years ago we put two solar panels on the roof.This allowed us to have basic heat in the house without having to burn so much, and the house was comfortable."

Have your cake and eat it too
After completely renovating the 19th century farm, it was time to move in permanently and take a step towards simpler living and a hands-off energy solution.
"I'm 73 years old and can't deal with making too much firewood. I just want to light a fire when I feel like it.And we like to keep the farm warm."

Getting rid of the wood-fired boiler was not an option for Rolf and Agneta.A wood-fired boiler provides security for many people living in the countryside. Here in Småland, the storm Gudrun left its scars.

> ***"I just want to light a fire when I feel like it."***

"We were left without power and water for twenty-four days, but at least we stayed warm."

The box that prioritises wood burning
In autumn 2019, Rolf and Agneta invested in a NIBE S1255 ground source heat pump with "priority additional heat", an option that prioritises energy from wood burning over the heat pump.
"There's a shunt that opens and closes as heat is demanded. A little box on the ceiling controls the shunt and everything takes care of itself.It's good to know that you can keep the house warm 24 hours a day without burning wood, and it's not a problem to go away.We now allow it to be 22 degrees in the rooms we use most, and we've also started heating the basement, which we never did before."

The system is supported by two accumulator tanks which together hold fifteen hundred litres of water.
"It's a good buffer. I also have a car battery, so if the power fails, it automatically switches over and drives the pump to the solar collector and water tanks. It will run for two days."
Their energy consumption is greatest during the winter months, as is their wish to use the wood-fired boiler. But now, the heat pump lends a helping hand.
"I've done some comparisons and on average it's about SEK 600 more expensive per month when I only burn once a day. It's worth it."

Ronny Johansson at Ronnys Rör did the installation in Hjortsberga. He thinks it's easy to connect the AXC 40 "priority additional heat" accessory.
"There's a standard connection for ground source heat pumps that makes connecting as efficient as possible. And if you can't drill boreholes, an air/water heat pump will work just as well. Customers are happy – they can burn as much or as little wood as they want, whenever they want – and it also means I don't have to carry out the old wood-fired boiler!"

Passive cooling on the south side
In May 2020, the couple also connected passive cooling to the ground source heat pump.
"The gable to the living room faces south, and it gets up to 29 degrees in the summer sun. Then we turn on the cooling and can maintain 22 degrees. It costs almost nothing and works really well. And we push the heat down into the bedrock for later use."

The heat pump, which is the heart of the installation, is, like most, located in the boiler room in the basement.
"It's nice not to have to go down there all the time. But I want to keep track of the temperatures and hot water. So I downloaded the myUplink app to my mobile, connected it to the heat pump and keep an eye on the status here.

"We also have a barn that's thirty metres long, a perfect roof for installing solar panels in the future," a satisfied Rolf Johansson concludes. ■

"It's good to know that you can have heat 24 hours a day without burning wood."

Rolf and Agneta Johansson live on a 19th-century farm. Now they only burn wood once a day, but they always have heat. Even when they're away.

A little white box on the ceiling, AXC 40, controls the shunt, prioritising wood burning over the heat pump.

Rolf and Agneta Johansson in Hjortsberga, Markaryd
House:19th-century, 1.5 floors with basement Energy solution:Existing solar collector, wood-fired boiler and accumulator tanks with a total of 1,500 litres.New NIBE S1255 ground source heat pump with passive cooling and AXC 40 priority additional heat, i.e. energy from wood burning is used before the heat pump.
Installation:Autumn 2019
Installer:Ronnys Rör, Knäred

40 YEARS OF HEAT PUMPS.

Rectangular boxes opened new doors

Newly encased in white, our water heaters became welcome additions to nicer rooms. A few years and a few building regulations later, our 40-year history as one of the leading players in heat pumps started.
"It's interesting to see how our product range has been refined as the building regulations changed," says Richard Carlholmer, who has been around ever since NIBE's first heat pump.

Until the 1970s, NIBE was a company that manufactured products of all kinds for heating hot water. The market consisted of customers who, for example, wanted hot water in their holiday homes.
"In the 1970s, newly-built houses basically no longer had oil or combi-boilers so boiler rooms were no longer needed," says Richard Carlholmer.Instead, direct-acting electricity and electric water heaters were popular.The utility room made its way into the home, with the washing machine, drying cabinet and hot water heater, all in a row.But in order for our cylindrical heaters to fit in, we needed to encase them in an attractive 60x60 metal cabinet instead."

This is how COMPACT came about and NIBE made its debut as a supplier for Swedish new builds.But by the end of the 70s direct-acting electricity was starting to be questioned.
"The flexibility that came with water-borne heating was lacking, and ventilation was also too poor," Richard continues."We developed a complete solution with both an electric boiler and a hot water heater for new builds, with all heating and plumbing fixtures packed into the same type of metal cabinet as COMPACT.
And so EVC (Electric VillaCentral) was born.

First heat pump
In the next stage, it was discovered that these houses consumed a lot of energy. This is why the authorities put their foot down and started working on what would become the SBN 80 Swedish Building Standards.For the first time ever, requirements were made for ventilation and how much energy the houses would be allowed to consume.
"For NIBE, this meant that COMPACT and EVC could no longer be sold to these houses.But then we took a major principle decision: to further develop the electric boiler and to develop an exhaust air heat pump with ventilation, an electric boiler and recovery."

The result was the EVC 300 electric boiler, supplemented with an exhaust air heat pump VPF 2000.Two white cabinets next to each other that went under the name "System FIGHTER".
"But even though we had the best heat pump on the market, we were still forced to return to the drawing board. House manufacturers felt that our solution took up too much space. We therefore merged the functions and built them into one cabinet, the FIGHTER 300.To distinguish them we renamed System FIGHTER to FIGHTER TWIN."

Today we know it as F370, significantly more efficient and modern.Read more about it and the replacement market on page 14.

Red carpet for ground source heating
When ground source heat pumps first appeared on the market at the end of the 1970s, they were handmade, very expensive and performed poorly by today's standards.Therefore, old boilers were usually replaced with new boilers.Many were combi-boilers that were replaced with modern oil/electric boilers.
"But in the 1990s two things happened that led to a paradigm shift. The price of oil shot up, and the state subsidised the installation of ground source heat pumps.It suddenly became profitable to make a major investment to lower your electricity bill rather than choosing a cheap oil-fired boiler and having an expensive oil bill.

100% in-house product development
In 1997, NIBE acquired the Swedish ground source heat pump company EPD-Energi Produkter Diö.

1968
The COMPACT water heater is encased in attractive metal cabinets for the single-family home market.

1978
EVC 150, a complete electric boiler with waterborne heating, is encased in the same metal cabinet.

1981
The first NIBE heat pump:The System FIGHTER exhaust air heat pump that complies with new building regulations.

1997
The first NIBE ground source heat pump:FIGHTER 1100 and 1200 designed by Diö, acquired by NIBE.

2002
The first NIBE air/water heat pump: FIGHTER 2010, but the breakthrough came later with the F2030.

"The first ground source heat pumps, FIGHTER 1100 and 1200, entered the market, and were vastly more efficient than those of the 70s.Since then, our own product development has exclusively brought us all the way to the high-performance machines S1155 and S1255."

But the technological leap from FIGHTER 1100/1200 to today is even greater.
"2009 saw a milestone when we launched F1245 with a colour display. Heat pumps took a major technological leap in improved installation, noise level, efficiency and intuitiveness.

Another milestone was the major breakthrough of inverter technology in 2014, when F1255 was launched.

Air/water improvements
Alongside the ground source heat pump market, air/water heat pumps gained momentum. The first one, FIGHTER 2010, was launched in 2002.
"Milder winters and greatly improved performance means that they are now sold all over Sweden, not just in Skåne's friendly climate, where it all started at one time.The F2030 was an important breakthrough – a very reliable on/off heat pump with high performance, as was the F2120 in connection with the inverter launch.Indoor modules also went through an interesting development. They took the same intuitive leaps in technology as the ground source heat pumps – and of course everything to do with the S series!

"A fantastic journey," Richard concludes as he looks excitedly towards the future. ■

2014
The breakthrough of inverter technology with the launch of the F1255 ground source heat pump.

2009
NIBE F1245 with colour display, ground source heat pumps took a major leap in intuitive technology.

2019
The NIBE S series is launched and heat pumps become a natural part of smart homes.

3 QUICK QUESTIONS FOR HOLGER

NIBE'S FIRST PRODUCT DEVELOPER

Holger Svensson started as a designer at NIBE in 1969 and in the beginning of the 70s he became the first product developer, at the time developing a lime-resistant immersion heater using completely new technology. This is Holger's view of heat pump development.

What's the difference between a heat pump today and 40 years ago?
Heat pumps have become increasingly efficient products, resulting in lower energy consumption and thus lower energy costs. Control of the products is becoming more and more intelligent, increasing efficiency and user-friendliness. Nowadays, they pretty much run on their own and can be remotely controlled and scheduled. The design has also gradually improved.

How has product development changed?
Product development at NIBE has grown enormously. There have always been many hours behind the manufacture of a new heat pump. After all, it's about having a theory of how it can be improved and then building prototypes and testing to check the results. When I started, I was alone in the theoretical aspects and in dimensioning the components to work together optimally. At an early stage, I designed a test rig so that we could test the exhaust air heat pump under as real conditions as possible, but in a lab. That was in the late 70s/early 80s, and at that time there were only a few of us tasked with development. Today, there are over seventy.

What does the future of heat pumps look like?
Heat pumps definitely have a future. We need to move away from fossil fuels such as oil and natural gas, and switch to more environmentally friendly alternatives for heating buildings and hot water. With heat pumps, environmentally produced electricity is used efficiently. Heat pumps are also likely to be increasingly filled with natural refrigerants. This will also benefit the climate and the environment.

WE ARE BUILDING FOR THE FUTURE.

"One of our goals is to attract talented people."

A total of 40,000 brand-new square metres. NIBE is growing and building like never before.
"It's as if the focus on sustainability and health has increased during the pandemic – and we can make a real contribution to the climate transition," says Klas Dahlberg, pleased with this development and responsible for NIBE Climate Solutions, which includes NIBE Energy Systems (NES).

Architecture image by Carl-Johan Isrenn.

Many of us are working from home nowadays. But here at the head office in Markaryd, new workplaces and meeting places are being planned like never before.
"What's so positive is that, despite the pandemic, demand has remained and continues to be strong," says Klas Dahlberg. We really have you and all our retailers to thank for this. You have continued to be active in the market and to deliver in these very difficult times. And you've done a fantastic job!"

Increased interest in the climate
It's only natural to invest in Markaryd – this is where the heart of the business lies. And the fact that it is happening right now is a result of the world situation.
"It's as if the focus on sustainability and health has increased during the pandemic," Klas continues. "There's talk about climate change and the Paris agreement, and we actually have the solutions that will get us there. Sweden has been a pioneering country and now other countries are following suit. Boris Johnsson recently said that 600,000 heat pumps will be sold in England in 2028! What all this means is that we have a future together!"

Major investment in innovation
Our common goal for the NIBE Group is to achieve a turnover of SEK 40 billion by 2025. "Broken down into the business area NIBE Climate
Solutions, this means that we are striving for a turnover of no less than SEK 25 billion by 2025.One of the goals of the initiative is to attract talented people. They are crucial for our investment in product development and production, as we want to remain at the forefront of technology.

A newly planned innovation centre with an associated 6,500 square metre office is the single largest investment made in Swedish kronor. "This lays the foundation for keeping up with the development cycles, which are only getting faster and faster. We can then increase our lab and test rig capacity, as well as provide offices for more engineers. A new and larger marketing centre is planned for location next to the old one as training activities are increasing exponentially. Simultaneously, the Vetenskapens Hus House of Science is emerging as an important step in the work of connecting schools, businesses and society. In this, we have a unique collaboration with both the Nobel Prize Museum and the Technical Museum. As if this was not enough, new offices are being built for purchasing, IT, HR, quality/sustainability and marketing.
"With the targets we now have, we will also increase manufacturing capacity for heat pumps and stainless steel vessels by building two new factories.

Largest construction investment
Magnus Nilsson at NIBE is responsible for the extensive construction work that currently employs more than thirty people on the office construction site.
"The last major factory construction of a similar scope was carried out in 2007 and encompassed 24,000 m2.The new offices in stage 1 are around 2,500 m2 and in total all of the projects cover at least 40,000 square metres."

Sustainability and local commitment have always been important to NIBE.
"The offices are being built in what is called Miljöbyggnad Guld, the Swedish Green Building Council's highest, or "Gold", classification, and energy class A, which is the best energy consumption class according to the National Board of Housing, Building and Planning," Magnus Nilsson continues. Heating will be provided using products from NIBE's own range, such as ground-source heating and solar panels. And as far as possible, we will use local contractors for the construction and installation work."

"The first new properties will be completed by the end of 2022, and we're really looking forward to getting together with you here in our new, stylish and functional premises," Klas Dahlberg concludes. ■

"The first new buildings will be completed by the end of 2022."

Magnus Nilsson (left), responsible for safety at NIBE, and Martin Andersson, responsible construction manager from Lagan Bygg AB.

On Hannabadsvägen, new office premises will be built and linked together with NIBE's existing main building.

MAXIMISE WITH MARKO.

NIBE's technical correspondent Marko Hietaharju gives us his smart tips on making life simpler, more fun and, in a nutshell, happier for NIBE's installers. Do you have any issues that you would like him to discuss here? Email Marko at maxa@nibe.se

"Priority additional heat – what is it, why is it so good and how does it work?"

Just as the name implies, "priority additional heat" is additional heat that takes precedence. Join us as we take an in-depth look!

Let's say that your customer has decided on a new heat pump. The customer currently has a wood-fired boiler but wants to make life easier. But at times, it's so nice to light a wood fire when you feel inspired and you may have a well-stocked wood store. It seems so unnecessary to simply throw out your wood-fired boiler. That's where "priority additional heat" comes in. The heat pump senses that heat is coming from the wood-fired boiler. The wood-fired boiler has precedence, so the heat pump allows it to do the work and stops heating and producing hot water. When your customer has stopped using the wood-fired boiler and the temperature starts to drop, the heat pump detects this and returns to its optimum operation with liquid condensation as if nothing happened. Smart, isn't it?

Do you need a certain type of wood-fired boiler so that it can "talk to" the heat pump?
No, it works with all types of wood-fired boilers and with solar heating, gas, electricity, wood, pellets and anything else that generates heat.

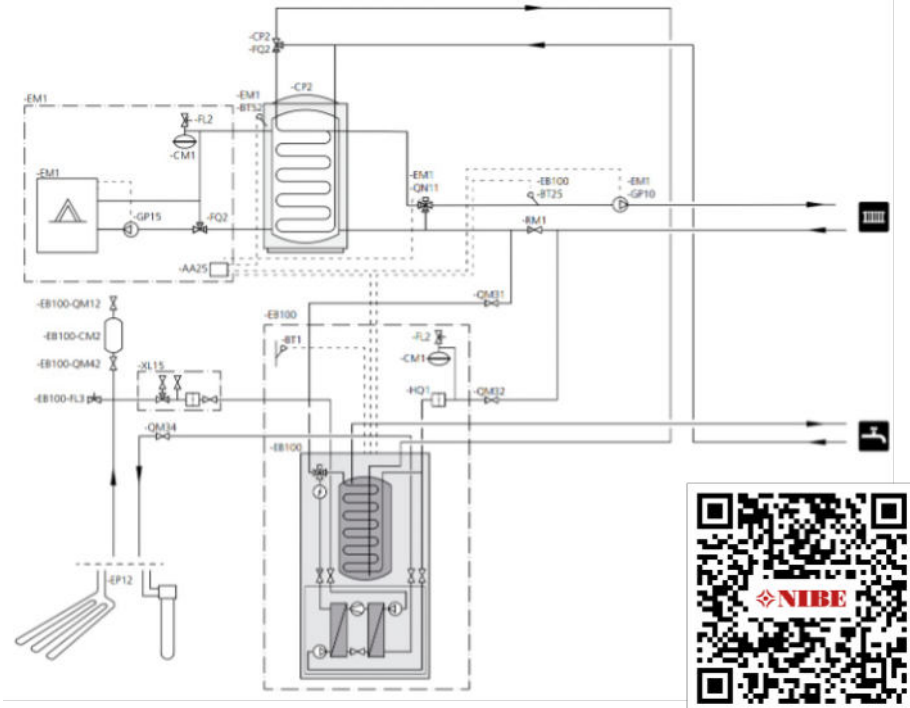
What do you need to get started?
All you need is an AXC and a shunt valve with a shunt motor. For example, if you have an S1255, you will need the AXC 40 accessory. In the table on the right you will find the appropriate AXC for our other heat pumps.

But how does it work in practice?
The heat pump controls the shunt valve. Using sensors, the heat pump can determine whether the additional heat is producing heat. As long as it is, the shunt valve is open and the heat pump remains idle. A completely normal return connection is used. No challenge for the pros!

The illustration below shows the principle for docking priority additional heat to a wood-fired boiler.

Scan the QR code with your smartphone and you will be taken directly to the docking principle in PDF format on our website.

HEAT PUMP	AXC 30	AXC 40	AXC 50
S1155/S1255		x	
VVM S320 / S325		x	
F1155/F1255		x	
F1145/F1245		x	
VVM 225		x	
VVM 320/325		x	
SMO 40 / SMO S40	x		
F1355/F1345			x



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If you have questions about our products you should contact the NIBE subsidiary or partner in your country.

Find NIBE subsidiaries and partners at www.nibe.eu/en-eu/contact/contact-us

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NIBE

NEW!

Heat pumps and accessories for easier living

NIBE S SERIES

New accessories communicate wirelessly with our intelligent heat pumps, making them an integral part of the connected home. The heat pump automatically adapts to your daily heating needs and provides an energy-efficient, comfortable indoor climate, fully controlled from your mobile.

Read more at proffs.nibe.se (in Swedish)