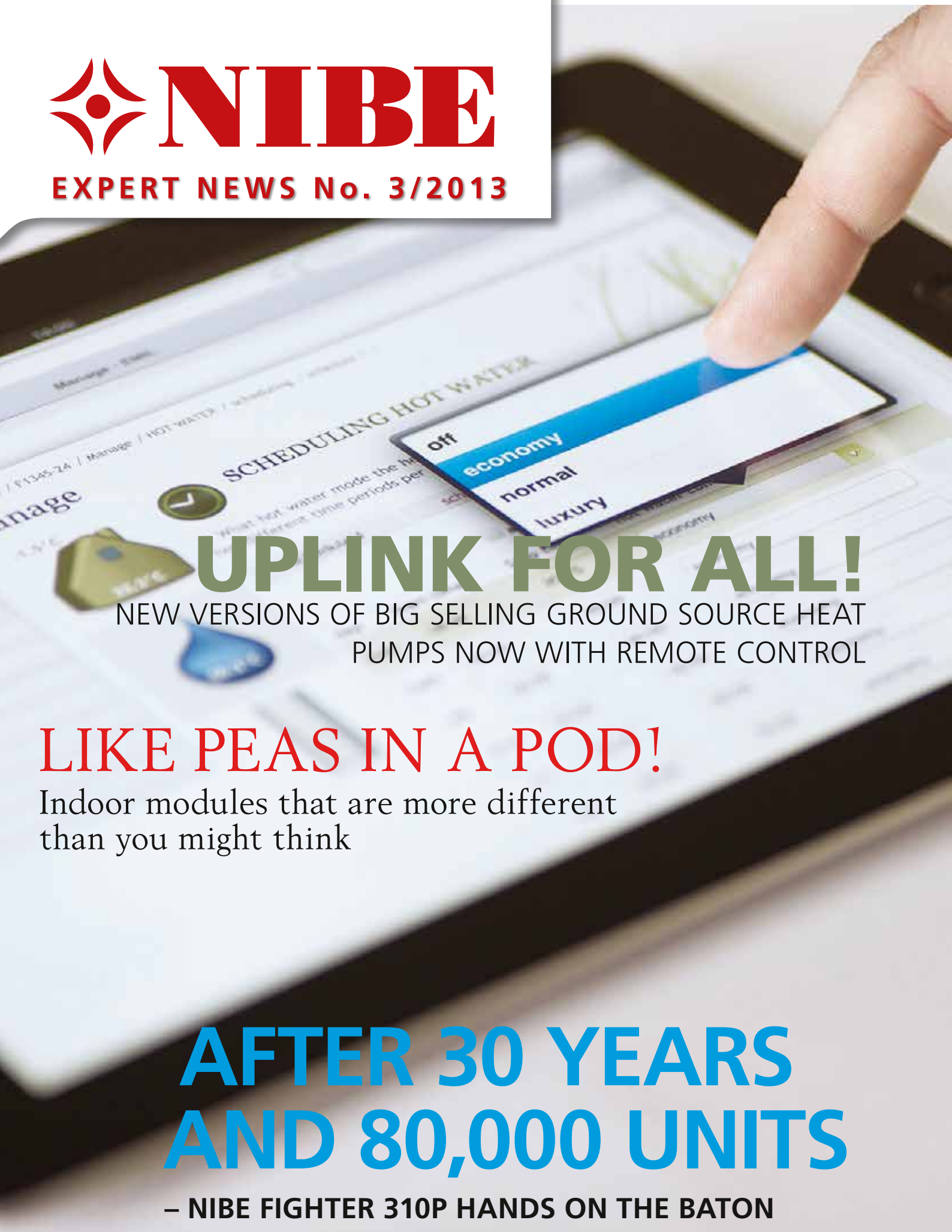
NIBE

EXPERT NEWS No. 3/2013



UPLINK FOR ALL!

NEW VERSIONS OF BIG SELLING GROUND SOURCE HEAT PUMPS NOW WITH REMOTE CONTROL

LIKE PEAS IN A POD!

Indoor modules that are more different than you might think

AFTER 30 YEARS AND 80,000 UNITS

– NIBE FIGHTER 310P HANDS ON THE BATON

NIBE F1145/F1245 IS NOW EVEN BETTER.

THE CORK FLEW OUT

OBAMA CAME AND WENT, Nokia became American, war lurked in the shadows and the Markaryd gang introduced a complete range of strongly performing new product features – again! The autumn started with a number of attention grabbing events and we can look forward to the rest of the year with some expectation.

Because that is what our collaboration is about, that NIBE is always raising the level to create even better business opportunities for you out in the market place. It feels, as someone on the inside said, as if a cork has been popped out of a bottle and we are being flooded by new product features. The autumn cavalcade of upgrades and new introductions has not left anyone out. In the previous edition of Expert news we told you about our new air/water heat pumps. In this edition you can read about probably the best ground source heat pump in the world – NIBE F1255.

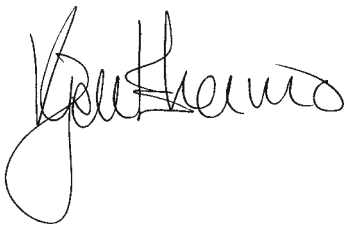
At the moment the industry is characterised by different offers for longer "warranties" and extended care packages. The players also present their offers in different ways, which makes it very confusing and comparisons difficult for the end customer.

When purchasing a NIBE heat pump a three year warranty and Warranty insurance for six years is included, the customer can then extend the insurance year by year for up to twelve years. The customer will receive an extension offer from the insurance company in good time before the insurance expires. NIBE's Warranty insurance now apples to the whole heat pump installation, regardless of which part the damage occurs on. Because a heat pump installation covers many different parts we offer a Warranty insurance that covers everything except what could be demanded from the customer as normal care. The warranty insurance applies to all NIBE's heat pumps and from the 1st April 2013 also replaces the cost of excess liability, max 3000 SEK.

READ MORE about our concrete offers and conditions on our website so that you get transparency on NIBE's warranty offer, which we think is very strong, competitive and primarily clear.

Here at the NIBE team we are also very glad to be able to welcome Martin Forsén, the former CEO of Svenska Värmepumpsföreningens (SVEP), to NIBE Energy Systems. Martin will be responsible for the business sector's international energy political commitments. Among other things, he will give European decision makers a better insight into how heat pumps can positively affect energy efficiency and the environment, with the intention of using the technology to take Europe closer to the stated climate objectives. This naturally focuses on renewable energy and with Sweden as world leader in the field. As excited as we are about the collaboration with Martin, we are devastated at the painful loss of a fantastic colleague and great friend – Ola Bredell will always be represented by the example he set for the industry.

With best wishes for an intensive and successful autumn!



NIBE ENERGY SYSTEMS
Sales
Customer support
Marketing communication
Tel.: 0433-73 000

NORTHERN NORRLAND
Lars-Göran Andersson
UMEÅ
Tel.: 0433-27 34 54
Text: 070-209 73 02

CENTRAL NORRLAND
Patrik Åhman
DOMSJÖ
Tel.: 0433-27 34 62
Text: 070-190 04 79

SOUTHERN NORRLAND
Tommy Landin
HUDIKSVALL
Tel.: 0433-27 34 65
Text: 070-213 69 19

STOCKHOLM
Peter Eriksson
SOLLENTUNA
Tel.: 0433-27 34 64
Text: 070-655 45 05

Per Johansson
SOLLENTUNA
Tel.: 0433-27 34 63
Text: 070-751 74 09

Håkan Berntsson
SOLLENTUNA
Tel.: 0433-27 34 86
Text: 070-573 98 03

WEST
Mikael Albo
FALKÖPING
Tel.: 0433-27 34 60
Text: 070-699 55 80

Christer Svensson
GOTHENBURG
Tel.: 0433-27 34 56
Text: 070-209 06 11

SOUTHWEST
Arne Gustafsson
HALMSTAD
Tel.: 0433-27 34 55
Text: 070-942 91 50

SOUTH
Fredrik Steiner
HÖLLVIKEN
Tel.: 0433-27 34 58
Text: 070-516 39 86

MARKARYD
Fredrik Snygg
VITTSJÖ
Tel.: 0433-27 34 57
Text: 070-190 03 16

Now the MOST MODERN *heat pumps are* MOST MODERN!

It is seven years since NIBE Fighter 1150/1250 was launched. The market's first heat pump with a speed controlled compressor.
It is now time for our most technically advanced heat pump to step forward and become one of "the new generation of heat pumps".
With colour display, USB, Uplink, lower price and no requirement for a buffer vessel.

When the NIBE Fighter 1250 was launched it was nothing short of a technical revolution. Always ensuring that the compressor ran at the correct adapted speed meant significantly lower energy consumption and less wear. And that only one "adaptable" machine could do a number of different jobs.

There was an equally large revolution when NIBE presented the "Next generation of heat pumps" a few years ago. Modular design, USB ports, low energy circulation pumps and a completely unique display set a new standard for the industry.

THE TIME HAS NOW COME for both revolutions to be one. This autumn, after several years of development, the NIBE F1155/F1255 will hit the market. NIBE F1155/F1255 is the first heat pump to incorporate all these solutions in one and the same product. In addition, at a significantly lower price than its predecessor.

"One of the prime thoughts when we launched the next generation of heat pumps, was to reduce the production costs by using smart design solutions." Says Per Törnkvist at NIBE.

"The speed controlled models had a different design and we had to redesign from the bottom up to incorporate them in the new concept."

It is now time to launch the successors and NIBE F1155/F1255 has its premiere. Thanks to speed control a buffer vessel is not usually required, which saves both time and space. As well as the unique connectivity option NIBE Uplink. Thanks to the new technical solutions the performance is even better than the predecessors. In addition, the price has fallen considerably.

"A speed controlled heat pump is intended to give a higher saving than one which always uses the same speed. But when we released our new generation they gave such great savings that they were more economic despite the fixed speed!"

Because they were also less expensive many customers chose not to go for the more advanced model.

"But we can now use the new technology here which means that NIBE F1155/F1255 will be cheaper than its predecessors. Because the price difference between a fixed speed model and a speed controlled model is now much closer more customers should choose the top model."

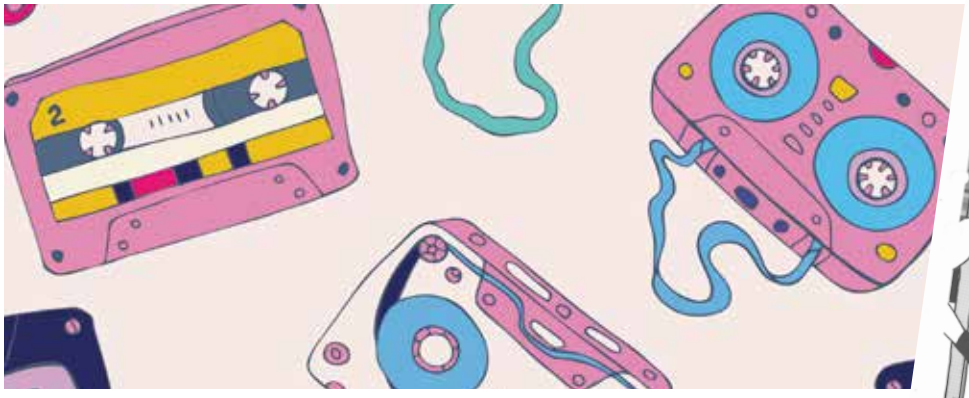
"Finally we have a speed controlled heat pump with modern styling and with the highest SCOP that does not have the same need for a buffer vessel. Or for a small house with a large pool. As an installer you needn't worry about which size to choose because one model nearly covers the whole register."

RATED COMPRESSOR OUTPUT on NIBE F1155/F1255 is 4 – 16 kW and the immersion heater is 9 kW.

ORDERING INFORMATION

F1155 ***RSK.NO. 624 7009***
64 000 SEK + VAT

F1255 ***RSK.NO. 624 7008***
69 200 SEK + VAT



NIBE FIGHTER 310P HANDS OVER THE BATON:

30 YEARS AND 80,000 UNITS

Now the 80s are over for good. A little while ago the last NIBE Fighter 310P (or Fighter 310 as it was called for most of its career) left the NIBE factory in Markaryd. A heat pump that in many ways changed the way Sweden looked at heating. And was largely what made NIBE the company that it is today.

IN THE AFTER SHOCK OF THE energy crisis of the early 1970s a lot happened on the Swedish heating market. New building regulations prohibited water borne heating and around 1980 came the need for mechanical ventilation in all new houses – and with recovery of heat from the exhaust ventilation air.

This was perfect for NIBE who then mainly produced water heaters. Project engineer Gert Åkesson was there at the beginning.

"We were good at hot water and when the discussion turned to water borne heating we realised that our expertise was tailor-made for the then completely new electric boilers", Gert remembers.

AN ELECTRIC BOILER WAS basically a water heater with an extra mantle and coils with heated water, which in turn heated the water. The economy and user friendliness was much better than the then predominant oil fired boilers. In addition, the new boilers lasted longer than pure water heaters.

When talk turned to recovering heat from ventilation air, NIBE was prepared.

"The technology was quite simple, but we were worried about quality. None of us was a refrigeration engineer or had experience of refrigerants so we were very careful with everything that we did and created a very high quality standard."

"Among other things we were very worried about cleanliness. I tried pulling cotton wool through a copper pipe and it turned brown with dirt. I explained that with that amount of dirt in it the compressor was virtually operating as a mill!"

The first heat pump from NIBE was the Nibe Fighter (later Fighter Twin), launched in 1982. Built in two 60x60 units – one electric boiler and one exhaust air unit with heat exchanger and compressor. In 1985 everything was built as one unit and eventually in 1995 Fighter 300, 301 and Fighter 310 were launched.

A lot of small houses were built in Sweden over this period and all of them wanted the new heating. Modulenthus signed a contract with NIBE and the volumes came.

"There was a lot of new stuff to think about with this technology, but we focused on rigorous quality and safety checks where every unit sold was test run for two days!"

Gert gives leak tracing as an example. Refrigeration engineers use "sniffers" to find leaks in refrigeration installations. But with the small leaks that occurred in heat pumps these were not sufficient.

"We calculated that a heat pump should last for 50 years. This meant that we could accept a total leakage of three grams a year. It meant that if you laid the system in water there would be a bubble the size of a pin head every 67 hours! Together with ASEA we developed a system where we carried out tests using Helium which was much easier to detect, and we


Nibe FIGHTER – framtidens uppvärmnings–system.

Nibes FIGHTER är ett kompakt uppvärmningssystem för nya hus med frånluftsvärmepump och elpanna i oslagbar kombination. Elpannan är en traditionell panna av det slag som vi tillverkat i många år. En beprövad och säker produkt.

Också värmepumpen är här för att stanna. Numera installeras en värmepump i vartannat nybyggt hus! Och på Nibe har vi tillverkat värmepumpar sedan 1982. Vår FIGHTER är mycket driftsäker, tack vare att kompressorn arbetar med stor säkerhetsmarginal. Det ger lång livslängd och en säker drift utan obehagliga överraskningar.

Ett säkert sätt att sänka värmekostnaderna.

Värmepumpen överför energi från rumsluften till elpannan. Kompressorn svarar för ca. 75 % av uppvärmningsbehovet och resterande 25 % tar elpatronen hand om! Och eftersom det är mer ekonomiskt att köra med värmepumpen än med elpannan så låter man kompressorn i värmepumpen arbeta så mycket som möjligt. Man utnyttjar alltså kombinationen i FIGHTER på effektivast möjliga sätt – och kompletterar bara med elpatronen när det behövs.

This is how heat pumps were introduced when the technology was new to most people.

Do you remember the 80s? Cassettes, big hair, shoulder pads– and heat pumps that "knocked chunks off heating bills".

solved the leaking."

During that time a number of companies appeared that wanted to be part of the new industry. At its peak there were 50 or so manufacturers on the market, but that soon crystallised to a few and NIBE became, and remains, the dominant market leader. A position that it still holds today

"The fact is that much of the work that we did then is still relevant", says Gert.

"Of course the methods have changed, but the principles are the same.

The fact that a heat pump that was developed at the start of the 1980s has lasted for nearly 30 years tells its own story. The people that started NIBE's march into the heat pump industry got it right from the start.

"We were Smålanders and engineers", says Gert.

"That meant that we wanted to make things that lasted so that we could stand by what we sold. That philosophy is a large part of why we are where we are today.

Even though I do think that the days of a heat pump model being made for 30 years have passed." ❑

"It meant that if you laid the system in water there would be a bubble the size of a pin head every 67 hours!"

NO HOLES IN KLIPPAN

The property company Sandbanken in Klippan has selected an interesting solution for two apartment buildings with a total of nearly 100 apartments.
A combination of air /water heat pumps and ground source heat pumps for ventilation recovery have been used to significantly reduce the costs of both heating and hot water.

Sandbanken's original thought was to reduce the cost of district heating, which was done by installing five new NIBE F2300 air/water heat pumps to the radiator system in one of the buildings. This markedly reduced the cost of heating, but not the cost of hot water production. The system was then supplemented in the spring with a NIBE F1345, which is used for hot water production through ventilation air recovery.

"Now there is a system that gives great savings, but without a single borehole", says Peter Larsson at CSAB in Örkelljunga who carried out the installation.

Because all the electricity that is purchased is from wind turbines it means that heating the properties is now 90% CO_2 neutral.

During the summer a similar installation was carried out in another property. Both the installations are controlled by NIBE's new SMO40 control module, which allows the property company personnel to monitor and control the installation remotely via NIBE Uplink. CSAB's technicians are also connected and can obtain all operating information and change the settings at any time.

"It saves a lot of time if you don't need to travel to the site when something happens. By being able to check everything from the car – around the clock– one can quickly see if there really is a problem and if necessary what tools to take. ❑

VVM310 & VVM 320

LIKE PEAS IN A POD - BUT STILL NOT THE SAME.

NIBE has hardly had time to launch the new NIBE VVM 310 indoor module before it was time to release the even newer NIBE VVM 320. An inner section that is largely the same as the NIBE F1245 but without the compressor module and with integrated buffer and expansion vessel.

AS technology develops, air/water heat pumps become an alternative for more people. It also means that completely new needs appear. Therefore NIBE is concentrating on developing indoor modules for these to meet the needs of these new customer groups.

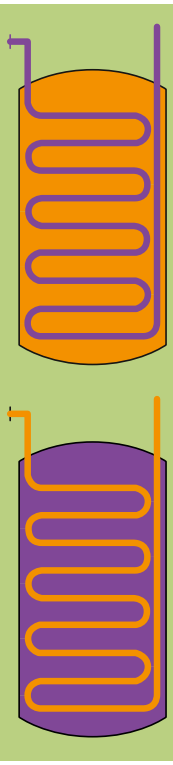
But which module does what? Jonas Thörnqvist, who is sales manager for air/water heat pumps at NIBE explains.

"NIBE VVM 310, which we launched in the summer is an advanced unit that resembles NIBE VVM 500, but without the solar coil and with a smaller tank volume. It has a number of connections, for external heat sources for example, and has a high degree of flexibility and of course the same easy-to-use control unit and display as our new ground source heat pumps.

Despite the new NIBE VVM 320 looking the same it is a completely different type of machine. Under the skin one could say that it resembles the modular design of the NIBE F1245 heat pump. With the difference that the cooling module is missing and it has been equipped with the integrated buffer and expansion vessel at the top of the cabinet.

"The water heater is identical to that in NIBE F1245. That is to say a coil with boiler water heats the 180 litres of domestic water in the heater. In NIBE VVM310 the principle is the opposite – here it is the boiler water in the 270 litre tank that heats the water in a domestic water coil.

"NIBE VVM320 is an all–in-one unit that is very easy to install and manage, while VVM310 is a unit for more complex installations with several different building blocks.



NIBE VVM 310

The boiler water in the vessel heats the domestic water in the coil.

Boiler water

Domestic water

NIBE VVM 320

The boiler water in the coil heats the domestic water in the vessel.

SVEP's CEO to NIBE

Martin Forsén will be our contact with the legislators

NIBE now has a powerful reinforcement in the work for the future. SVEP's former CEO – Martin Forsén – has now taken the role of Manager International Affairs.

"I will be working with the legislators who can affect the heat pump industry in all the markets where NIBE is active. Partly to ensure that they have as much knowledge of heat pumps as possible, but also to defend heat pumps against lobbyists working for other heating forms."

At present it means a lot of contact with the EU, because most of the major decisions that affect us come from international legislation.

Martin will also work a lot with "intelligence".

That is to say listening to the discussions being held in the corridors of power and interpreting how future changes to society can affect the heating industry.

"A current example is Germany's decommissioning of nuclear energy to the benefit of local, small scale and independent electricity, often from solar cells. Here heat pumps remotely controlled by the electricity companies could be developed to balance power when electricity is produced in "waves". But then we have to be part of the discussion from the outset."

We will have a longer interview with Martin in coming editions of Expert News.

NOW NIBE **F1145/F1245** ARE EVEN BETTER

In the autumn sales of the updated versions of NIBE's biggest selling heat pumps NIBE F1245/F1145 will start. A whole range of improvements have been made under the skin. Expert news talked with Per Törnkvist who explains what has happened.

This year it is four years since the "Next generation of heat pumps" was introduced, with the NIBE F1145/F1245 in the forefront. After tens of thousands of installed units it is now time for a facelift, as they say in the car industry. With lots of exciting improvements under the skin. NIBE Uplink becomes standard. NIBE's unique network connection.

TEMPERATURE CONTROLLED CIRCULATION PUMPS

"The most extensive technical difference is that we have now introduced temperature controlled circulation pumps both on the cold and the hot side", says Per Törnkvist.
The circulation pumps must be set to certain given operating conditions. But because it is rarely the exact correct conditions at the time of installation it is often a case of a little guesswork and perhaps one or several visits. Not any more. As long as the heat pump knows what the type of heating system is the circulation pump is adapted to optimise the flow and energy consumption during the year. If the user switches a radiator off, the heat pump senses the pressure change and changes the speed of the circulation pump.

The same principle applies to hot water production. Instead of running at a maximum out or return temperature the speed is now stepless to achieve optimal hot water charging with the result that up to 15 percent more hot water capacity can be achieved.

The circulation pump is also now temperature controlled on the cold side. The heat pump attempts to achieve optimal brine flow depending on the year's variable collector temperatures. For the installer this means fewer visits and for the customer it means even better heat pump operation.

MASTER SLAVE

Another new function is the possibility of using both the models as "Master/Slave". That a heat pump can control, or be controlled by, another. Also in combination with one or more NIBE F1345.

"Let's say that one has an installation with NIBE F1345 in a property. If one wants to start recovering heat from the ventilation or perhaps an industrial process, one does not need to connect a NIBE F1345 but can use a NIBE F1145.

This keeps investment to a much lower level."

"One can also imagine a situation where one has a detached house that one wants to open for an extension or similar. With a NIBE F1245 you now have the possibility of connecting an extra NIBE F1145 if the need should arise." ❑

5

FIVE NEW FUNCTIONS IN THE NEW NIBE F1145/F1245.

1. **The heat pump** can control the speed of both the circulation pumps based on the current charge temperature.
2. **NIBE Uplink** comes as standard.
3. **The user** has much quicker access to hot water.
4. **The hot water capacity** is up by 15% compared with the predecessors.
5. **Both models** can be used as "master/slave". They can both control, and be controlled by, other heat pumps. And be part of a system with for example NIBE F1345.

GREAT SADNESS AT NIBE

Legendary area sales manager, Ola Bredell passed away on 26th July 2013 after a long and difficult illness.

Ola was a very professional and popular individual who covered the Eastern area from his base at his home in Katrineholm. With his wide knowledge and great involvement, he was an authority within the HVAC industry.
Ola joined NIBE in 1999, coming to us from Elektro-Standard.

THERE'S SO MUCH HEAT OUT THERE…

– Just waiting to be collected

Some 30 years ago the Swedish company NIBE started to manufacture ground source heat pumps. What was then seen as a novelty is today the primary source of heating in new houses in large parts of Scandinavia. Heat pumps has also played a major part in Sweden reducing its dependency of fossil fuels for heating by close to 80%.
And as someone said – if it can heat a house in Scandinavia, it can heat a house anywhere!

TODAY NIBE IS A MAJOR player in the heating industry with an annual turnover of some € 900 million and more than 6,000 employees on three continents.

A large part of this is the result of the success of ground source heat pumps. With the aid of a ground source heat pump, solar energy stored in the ground can be collected and used to heat homes and commercial buildings.

Warmth builds up underground from the first days of spring when the surface of the earth starts to thaw, to high summer, when the rays of the midday sun penetrate deep down into the ground. By the time the autumn leaves are falling, there's enough energy stored in the ground to heat up any house throughout the coldest winter. A heat pump collects and upgrades this naturally occurring warmth.

Even a wet and cool summer can still provide enough energy to maintain a comfortable indoor temperature in the coming winter.

If at any point it gets too hot inside the house, the same system can be used for cooling.

Drawing on the lower temperature underground (between 4 and 12 C°) passive cooling also exploits nature's own resources – simply for cooling instead of heating.

It's amazing, but true.

THREE KINDS OF HEAT PUMPS

Heat pumps is a word with many different meanings. Today NIBE produces three kinds of heat pumps.

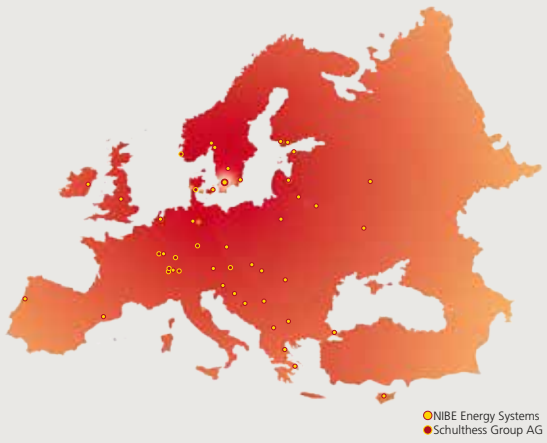
Exhaust air heat pumps
An exhaust air heat pump ventilates the building and recovers the energy in the warm air, reusing it to warm up your sanitary water and fuel a central heating system. Ideal for heating domestic premises and tap water.

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

Air/water heat pumps
These pumps extract heat from the ambient outside air. In contrast to simpler types of air-to-air heat pumps, they are connected to the building's heating system and are able to produce both heat and hot water.

HEAT PUMPS MEAN RENEWABLE ENERGY!

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



NPN GB NIBE Expert News 1342-3

NIBE

NIBE ENERGY SYSTEMS
BOX 14, 285 21 MARKARYD, SWEDEN
Tel: +46 433 - 73 000
www.nibe.eu