



EXPERT NEWS 3/2014

NIBE ENTERS THE USA!



Making Sweden even more sustainable  
– NIBE HEAT PUMPS BECOMING GREENER

HIGH SCHOOL STUDENTS BUILD PASSIVE HOUSES IN UMEÅ

# INTELLIGENT ADAPTATIONS FOR OPTIMAL RESULTS

AS THE HEATING SEASON IS ABOUT TO BEGIN, NIBE takes an almost unbelievable step into the North American market with its acquisition of the leading manufacturer of heat pumps for small-size properties. WaterFurnace is a successful, profitable and innovative manufacturing company that opens a bridge for us into the American and Canadian markets. Furthermore, the company has interests in Australia and China which will promote our vision of world-class, sustainable solutions with no geographic constraints. The exchange of heat pump technology expertise between Europe and the USA is already in progress. It is not possible to directly use our western European heat pump concept in North American homes, nor vice versa. The USA mainly uses airborne systems while the European market is dominated by waterborne distribution. We will be able to create enhanced customer solutions for optimal and cost-efficient indoor comfort by intelligently adapting products in a way that makes full use of our combined technological expertise.

IN SWEDEN, IT HAS BEEN POSSIBLE FOR SOME TIME NOW TO HAVE hourly-rate contracts with electricity providers. NIBE's heat pumps can be programmed to take advantage of lower rates over the next 24 hours, thereby generating even greater savings for end customers. You can read about Smart Price Adaption and how it works in our heat pumps in Expert News.

ALTHOUGH THE EUROPEAN MARKET condition is stable, global uncertainty is still slowing economic growth and small-scale new-build housing has not yet gathered pace. Interest in energy recovery from outdoor air increases the further south you go in Europe, and the outdoor air heat pump market is expanding. Our new, extensive

range of outdoor air heat pumps has attracted much attention and is now customised for optimal use in many different countries.

INTELLIGENT CONTROLS that take account of our behaviour patterns, Internet connection, surveillance/safety, Smart Price Adaption and so on, make the sales process even more interesting. Product development is swiftly moving towards solutions that use opportunities in our contemporary environment to create additional savings, all with as simple and user-friendly operation as possible. Many end users already want to have easy control of most things via their mobile phones and expect to be informed immediately if something is not working as it should.

TEN YOUNG, INTERNATIONAL EMPLOYEES were appointed in September to begin a career in our overseas subsidiaries. They form a unique team of international sales people who are highly representative of the customer perspective of the new generation.

With their innovative ideas and customised sales methodology, they will make an excellent complement to our existing overseas sales organisations. A well-timed investment!

WE ARE LOOKING FORWARD TO AN EXCITING AUTUMN, with all the business opportunities it brings us, and to the continuation of a successful and rewarding partnership!



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# NIBE takes massive step into the global arena

The deal is closed: NIBE has purchased the US company WaterFurnace, thus accelerating its expansion rate in the USA.

"This gives NIBE Energy Systems an optimal start on the other side of the Atlantic," says Gerteric Lindquist, CEO of NIBE.

**NIBE ELEMENT'S ESTABLISHMENT IN THE USA** has previously been a success. NIBE has now taken an even greater hold on the global market by acquiring WaterFurnace, the leading ground source heat pump manufacturer with almost 400,000 systems installed in the USA and Canada. The company also has operations in China and Australia.

"The fact that we share the same entrepreneurial tradition and, above all, the vision of products that promote sustainable development makes this particularly exciting," says Gerteric Lindquist.

Both parties are confident they will benefit from the deal, considering the speed at which technology is evolving and the continuing growth of the market. WaterFurnace will continue to operate under its own name as part of NIBE Energy Systems, NIBE's business area for heat pumps, water heaters, etc.

The entire stock of the company was purchased for approximately SEK 2.4 billion, giving the shareholders of WaterFurnace a 27% premium over the share price.

"It is an attractive offer to our shareholders and I am confident that

NIBE will prove to be an excellent strategic partner. The two companies are experts at helping people around the world to find sustainable energy solutions."

"I can say on behalf of the entire team that we are satisfied with our merger with one of the market leaders in the industry," says Tom Huntington, CEO of WaterFurnace.

**WATERFURNACE WAS FOUNDED IN 1983.** It generated sales of about SEK 800 million in 2013 and had 267 employees. 30% of the installations are in commercial buildings and 70% in private homes. It has an extensive dealer network with about 3,000 dealers and 33 distributors across the USA. One particularly exciting effect of the deal is that we will mutually benefit from our technical expertise in the rapidly-evolving air heating sector.

"NIBE has a fantastic future in renewable energy now that we have a foothold in the USA as well as Europe and have operations in Australia and much of Asia," Gerteric Lindquist comments. ■



NIBE Uplink has been enhanced. The Uplink system is now able to supply the heat pump with information about electricity prices for the coming 24 hours and adjust its operation accordingly.

# NIBE makes Sweden more sustainable

## – HEAT PUMPS BECOMING GREENER

The Swedish heat pump is unique. Few, if any, other countries have succeeded in switching from fossil fuels to renewable energy in such a short space of time as Sweden.

Nowadays, hardly any oil or coal-based heating systems are sold in Sweden. And this is only the beginning.

**THANKS TO THE EFFORTS OF SKILFUL ENGINEERS** and technicians in Sweden, heat pumps have been the best-selling method of heating in our country for many years. The technology not only works well in our challenging climate, but has proved to be economically and environmentally superior too. This is a trend that began long before climate change appeared on the agenda.

Now it's all being taken to the next level. It's time to start thinking in new ways now that we have such good heat pumps in the market today.

The latest is to add the price of electricity to the calculations. The use of fossil fuels to generate electricity can be reduced if electricity is used at the right time. To make this possible, NIBE has introduced Smart Price Adaption, which builds on its Uplink technology for the remote control of heat



pumps.

### ONLINE PRICE INFORMATION

NIBE Uplink was launched a couple of years ago and basically connects a heat pump via the Internet to a server at NIBE. This server allows users to monitor and control their heat pump(s) via their computer, smartphone or tablet.

Smart Price Adaption adds a new dimension to the system. Today, users can remotely control their heat pump with the same type of controls as those normally found on the actual heat pump. Smart Price Adaption uses information about electricity prices over the next 24 hours, retrieved by the server from the Nord Pool Spot energy exchange. It then uses these prices to automatically control the heat pump.

Complicated? Not really.

"A heat pump normally responds to the temperature data that it receives from a sensor in the room or outdoors," explains Andreas Johnsson at NIBE.

"The heat pump comes on when it's cold and turns off when it's warm enough.

Using Smart Price Adaption technology, it also takes the price of electricity into account."

The price of electricity is generally higher during the day when it is in great demand. There are considerable price differences between expensive peak and cheaper non-peak periods. The Nord Pool Spot energy exchange knows 24 hours in advance when these periods will occur.

A NIBE heat pump can use this information in smart ways to produce heat and hot water at the lowest price.

Here's an example. It starts to get chillier at 4 pm. Normally, the heat pump would come on at that time but since it "knows" that a cheaper rate starts at 5 pm it waits until then. It can also use cheaper electricity to boost heating and hot water early in the morning when the rates are low, so that it won't need to use as much energy at dawn when rates go up.

NIBE's new heat pumps also "learn" the household's consumption patterns and can include them in the calculations. Let's say that three family members each take a shower every morning. A regular heat pump will then heat up more water even if no one will be using it for another 12 hours. A NIBE heat pump knows that normally everyone has finished showering then and it might wait until

later in the afternoon before heating more water in order to take advantage of a cheaper rate, based on Smart Price Adaption information.

"It becomes even more interesting if you have a speed-controlled heat pump, like the NIBE F1255," Andreas continues.

"A regular heat pump with only two modes often operates in one mode all winter. If you have a speed-controlled heat pump, it can run in "maintenance mode" during the expensive hours and then use the surplus capacity, which is usually integrated, when electricity is cheap."

promotes more sustainable production of electricity. So heat pumps that are already contributing to lower emissions can contribute even more.

"The electricity that we use most, during expensive peak periods, is "unclean" electricity," Andreas explains.

"That's when we import electricity from the continent and start up our oil and coal-fired power plants."

"The more we can shift our household consumption to lower-rate periods, the more we can get by on green electricity. I also think that we'll soon be able to include our own electricity production in the control parameters. For example, so that we try to have the heat pump in operation when



### GREENER ENERGY

All you need to use Smart Price Adaptation is an hourly-rate contract with your electricity company, a modern NIBE heat pump and NIBE Uplink.

It not only brings your costs down, it also

we have our own free electricity from solar panels or other sources. The possibilities are endless." ■





# It's in the air



**NIBE'S NEW RANGE OF AIR/AIR HEAT PUMPS WAS SHOWCASED AT THE NORDBYGG TRADE SHOW** in the spring. The very first of these pumps are now almost ready to be delivered.

"The new products have attracted tremendous attention," says Jonas Thörnqvist, who is responsible for the air/air heat pumps at NIBE.

"There is wide interest in being able to offer single-supplier heating solutions. The assurance it provides is highly valued by customers and installers alike.

**THE FIRST PRODUCTS IN** the new range are single-configuration indoor and outdoor units. They include GSM/SMS control and AG-CH10 condensation water pipes so that condensation drains off without freezing.

The NIBE ARIA AG-AA10-30 and NIBE ARIA WT10-4 are the first products in NIBE's air/air heat pump range.



An illustration of one of the seven passive houses being constructed at the time of writing. Our next issue will include a full report.

## High school students build passive houses in Umeå

**STUDENTS FROM THE CONSTRUCTION PROGRAMMES** at the Dragonskolan college in Umeå are involved in a unique project. They are working together to build seven of Sweden's most energy-efficient houses, fitted with NIBE F1255 ground source heat pumps.

"It's important that students learn how today's technologies and ideas can be applied in practice," says the architect, Thomas Greindl at SWECO. One of the driving forces behind the project.

# NEW PUMPS INSIDE THE PUMPS

THE NIBE F1126 AND F1226 have become even more energy-efficient. The circulation pumps on both the cold and hot sides have been replaced with new, low-energy pumps. The first deliveries are due at the end of October.

HEAT PUMPS WITH THE NEW circulation pumps now have new part and RSK numbers (shown in the table): →

MODEL	RSK-NUMBER
NIBE F 1226-5	624 67 99
NIBE F 1226-6	624 68 10
NIBE F 1226-8	624 68 17
NIBE F 1226-12	624 68 97
NIBE F 1126-6	624 69 22
NIBE F 1126-8	624 69 30
NIBE F 1126-12	624 70 00

## MEET US – AND OTHERS

It's time again for our manufacturer meetings. The perfect opportunity to see what's new and talk to company representatives from nine companies in one day.

HERE ARE THE DATES FOR THIS AUTUMN.



2014-10-15	Örebro	Plats: Conventum
2014-10-16	Norrköping	Plats: Louis De Geer
2014-11-06	Uppsala	Plats: Clarion Hotel Gillet
2014-11-20	Stockholm	Plats: Teaterskeppet

## COURSE CALENDAR

WE'VE LINED UP NINE DIFFERENT courses here in Markaryd for you to choose from this autumn. Each one will give you and your company a sharper competitive edge.

For more information about each course, please visit:  
[www.nibe.se/Partners/NIBE-Training/](http://www.nibe.se/Partners/NIBE-Training/)

### EXHAUST AIR HEAT PUMPS FOR HOUSES

4 Nov 2014	TECHNOLOGY	SEK 1,600
7 Nov 2014    1 Dec 2014	SERVICE	SEK 1,800

### F2030, F2040

21 Nov 2014	TECHNOLOGY	SEK 1,700
3 Nov 2014    8 Dec 2014	SERVICE	SEK 1,900

### F1145, F1245

14 Nov 2014	TECHNOLOGY	SEK 1,800
15 Dec 2014	SERVICE	SEK 2,100

### F1345

21 Oct 2014    19 Nov 2014	TECHNOLOGY	SEK 1,900
12 Nov 2014    12 Dec 2014	SERVICE	SEK 2,300

### SIZING AND PLANNING HEAT PUMPS FOR PROPERTIES

20 Oct 2014    20 Nov 2014	SEK 1,800
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### REFRIGERANT CERTIFICATION COURSE

24 Nov 2014 -- 28 Nov 2014	SEK 14,300
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### REFRIGERANT TECHNOLOGY IN HEAT PUMPS

24 Oct 2014    5 Dec 2014	SEK 2,600
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### EU CERTIFICATION

9 Dec 2014 -- 10 Dec 2014	SEK 4,400
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## FIVE WAYS THAT SMART PRICE ADAPTION CAN SAVE MONEY:

- 1. SMART PRICE ADAPTION** shifts energy consumption to the lowest-rate periods
- 2. HOT WATER** can be boosted late at night ready for morning showers.
- 3. THE HEAT PUMP** waits for a lower-rate period before heating more water.
- 4. THE OUTPUT CAN BE ADJUSTED** variably so the maintenance heat during the expensive period is as cost-efficient as possible.
- 5. THE INDOOR TEMPERATURE** is intelligently adapted to the electricity rates over the next 24 hours.

# 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.

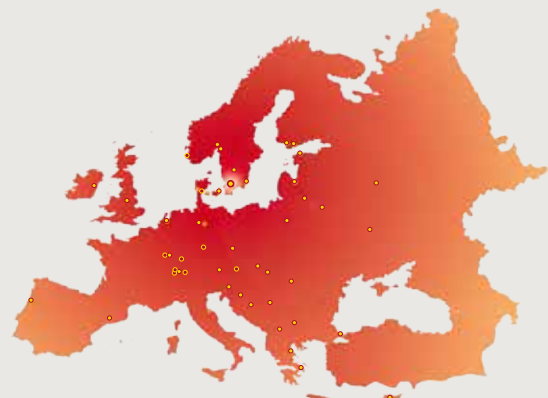
Drawing heat from surface soil, bedrock or the water in a nearby lake, this is a great option for heating houses, multiple-unit properties and other larger buildings. Available with or without an integrated water heater.

### 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.



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