



EXPERT NEWS No. 2/2013

THE SUN SHINES INTO  
THE HEAT PUMPS

**– SEVEN ALL-INCLUSIVE  
PACKAGES MAKE  
SOLAR ENERGY  
INSTALLATION EASY**

HEAT PUMPS  
POPULAR

in Turkey

NEW AIR/WATER HEAT PUMPS MORE EFFICIENT THAN EVER

## 25 DEGREES BELOW FREEZING IN THE SUMMER OR SCORCHING HEAT IN DECEMBER.

**WHO WOULD HAVE BELIEVED, TEN YEARS AGO,** that almost the same savings and flow temperatures can be achieved with an air/water heat pump as with a ground source heat pump?

We're breaking new ground with the launch of our new generation of air/water heat pumps and making it possible to deliver even more powerful performance solutions to residential areas where an air/water heat pump is an alternative option to ground source heat. We have created a powerful concept by complementing the NIBE F2300, which is already on the market, with the NIBE F2030 and NIBE F2040. Last year, NIBE invested in a state-of-the-art extension to our test laboratory in Markaryd for analysing the performance and quality of air/water heat pumps. The work on the test facility, which now covers 500 m<sup>2</sup> and is unique in its kind, was completed at the beginning of the year.

It is essential that all products undergo a thorough, carefully-planned series of tests in order to evaluate their performance in different climates for sustained periods and under every kind of condition to which the product might possibly be exposed. All the models in our new generation of air/water heat pumps have come under countless hours of intense scrutiny during exposure to freezing winter temperatures of minus 25 and scorching heat in NIBE's climate simulation centre. We are able to create the climate we want at any time, which speeds up production and enhances the quality and performance of our products.

The air source heat pumps manufactured in Markaryd are tested and approved in what we consider to be the most advanced testing laboratory for air/water heat pumps in Europe - which means they are extremely reliable.

This is very much thanks to one man, called Kenneth, who keeps us on our toes all the time! He has the authority to do whatever is required to ensure that production meets quality requirements. He can even halt the manufacturing process or product development if he is not satisfied. Kenneth is head of a highly-qualified, meticulously driven and exceedingly important department at NIBE. He previously worked in the automotive industry which places stringent demands on quality and safety, which are the market's two fundamental requirements and are also key success factors for the manufacturer. Over several years as a member of NIBE's management team, Kenneth has driven the development of products and production to ensure an effective, efficient and systematic process. This

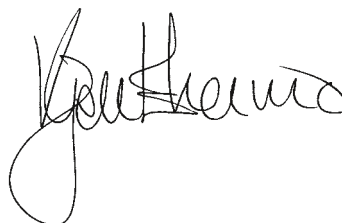
guarantees the achievement of quality and environmental targets and he is also ultimately responsible for the Group's sustainability issues. The department is involved in all stages of product development and has a voice in everything from the generation of ideas to launches and quality reviews of the products. The Quality Assurance department is alongside us all the time, gradually raising the level of our physical results to meet the Group's vision of creating first-class, sustainable energy solutions. Quality, safety, environmental compatibility and sustainability are fundamental principles across all areas of NIBE's operations today.

Construction of small, residential properties at an all-time low in Sweden and abroad, a continuing cautious mood in the European market, weak investment among consumers, slow progress in Europe in implementing decisions that have already been taken to increase the use of renewable energy. Many of us are wondering when things will change.

With you at our side, we'll stride ahead and make our own way. Let's recharge our batteries this summer and then, in the second half of the year, focus on strong, new concepts and shaping our own economy.

We're with you all the way!

Have a wonderful summer!  
Kjell Ekermo



# "Similar savings to geothermal heating"

Air/water heat pumps have improved and become more efficient over the years. In fact, the technology has evolved so much that the new NIBE F2030 and NIBE F2040 are able to offer the same savings for an average-sized building in Stockholm as a geothermal heat pump!

**THIS SPRING**, NIBE will be launching two brand new air/water heat pumps which will raise this product segment to a completely new level in terms of potential savings.

Jonas Thörnqvist of NIBE says, "A product that we could only dream of a few years ago is a reality for consumers today.

If you do a heat pump sizing calculation for a normal-sized house in Stockholm, with an oil consumption of 3.5 m<sup>3</sup>, you'll see it's possible to save about 20,000 kWh of energy a year. And that's regardless of whether you're using a ground source heat pump or one of our new air/water heat pumps.

The first new product is the NIBE F2030 which will be replacing the NIBE F2026. This unit uses the same technology as the NIBE F2300 commercial heat pump, but on a smaller scale. This means that it can deliver a high and constant flow line temperature even when it's cold outside.

A flow line temperature of 65°C is possible even when the outdoor temperature drops to minus 10°C. When it plummets to minus 25°C outdoors, the unit can maintain a flow line temperature of 63°C.

What is most remarkable is that the seasonal performance factor has risen considerably. The efficiency is up 27% to 35% compared to its predecessor at the two most common measuring points. At 2/35 it is now 3.22, and at 7/35 a COP of 4.81 is achieved with a 7 kW NIBE F2030.

Like its predecessor, it can be connected directly to an existing heat-

ing system without the need for any special indoor modules.

"The whole of this segment really seems to have been given a tremendous boost," says Jonas.

## VARIABLE SPEEDS FOR VARYING TEMPERATURES.

Jonas explains, "A classic problem with air/water heat pumps is that they have to operate across a wide range of temperatures.

A ground source heat pump obtains energy from a borehole which maintains more or less the same temperature all year round. An air/water heat pump, on the other hand, may have to operate over a wide temperature span of perhaps 50°C. Obviously, the conditions are completely different when the outdoor temperature ranges from minus 25°C to plus 30°C.

This is the background for a brand-new inverter-controlled NIBE F2040, an air/water heat pump with much of its technology drawn from the NIBE SPLIT, but with a condenser added to the outdoor unit.

The inverter controller allows the heat pump to operate at variable speeds, making it ideal for use in buildings where a heat pump with a normal compressor would be "too much".

The downside is that the heat pump may make more noise when operating at high speeds. The efficiency is 3.89 at 2/35 and 4.74 at 7/35.

"Speed control is perfect for air/water heat pumps," says Jonas. They now become available as an option for completely new categories of customers.

## NEW INDOOR MODULE

In conjunction with the launch of the new heat pump models, a new indoor module or "boiler" is also being introduced to the range. The NIBE VVM 310 has been specifically designed as a perfect complement to the NIBE F2040 and shares much of its technology with the VVM 500, which was launched last year. For example, it features the same menu-based display and will soon incorporate NIBE Up-

link too. The NIBE VVM 310 takes up 60 x 60 cm of floor space and stands just 180 cm tall. Its 270-litre water tank has an integrated domestic hot water loop. The capacity is about 300 litres of hot water for a normal flow rate of shower water.

Jonas explains, "You could say that the the VVM 310 is a smart indoor module for private residences.

Moreover, it saves time and money because installers don't need to think about fitting a buffer tank since this feature is already incorporated into the design.

**TO FIND OUT MORE ABOUT THE NIBE F2030, NIBE F2040 and NIBE VVM 310**, please visit [www.nibe.se](http://www.nibe.se)







THE SUN SHINES INTO THE HEAT PUMPS

**– SEVEN  
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There is a growing worldwide interest in different kinds of solar power in respect of both solar cells to produce electricity and solar panels to generate heat. The combination of solar panels and heat pumps has proved to be very efficient. NIBE has therefore now launched seven packages containing everything that an installer needs to complement an existing heating system with solar heating.

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ven if solar heating is a rapidly expanding area in Sweden, it is also an area that many building service installers still feel rather unsure about, particularly when it comes to the process of giving quotes.

The roof brackets, for instance, are not commonplace in the building services sector.

"Although NIBE has been able to offer all the necessary components since our company purchased Sol & Energiteknik, there is still some uncertainty about what exactly is required for an installation",

says Mats Hellström, who works with solar heating at NIBE.

"We have developed seven different packages that contain practically everything an installer needs to complement a heating installation with free solar heating."

## HUGE MARKET

Although five of the packages are designed to be used with NIBE heat pumps, two of them are brand-independent universal packages for accumulator tanks with or without solar coils.

Mats Hellström comments, "Almost 60,000 accumulator tanks are sold annually.

Many of them are used with wood and oil heating systems where it may not be possible to install a complete heat pump system. This way, we are still able to help users to cut their energy costs".

Mats believes a great deal can be done when it comes to finding new target groups for solar heating.

He explains, "The combination of exhaust air heat and solar heat can produce a very good cost calculation. However, the quickest and greatest savings are made by installing solar panels to complement direct electric heating and perhaps a Compact Sol hot water heater. It's an investment that easily pays off and can be beneficial to both the customer and the installer".



# SOLAR PACKAGE

Solar package for:

Rec. no. panels:

**Accumulator tanks with solar coils 2-6 panels**

**Accumulator tanks without solar coils 2-6 panels**

**NIBE F1145 + VPAS 3-5 panels**

**NIBE F1145 + VPBS 2-3 panels**

**NIBE F370/470 2-3 panels**

**NIBE Split 2-3 panels**

**NIBE F2030/F2040/F2300 + VVM500 2-5 panels**



## HEAT PUMPS POPULAR

# in Turkey

**THE INTEREST IN HEAT PUMPS** and renewable energy continues to grow around the world. Turkey is one of the countries where these technologies are starting to get a real foothold and it represents a steadily expanding market for NIBE.

"Turkey is enjoying rapid economic growth and the property market in Istanbul is one of the strongest in the world," says Seved Demberg, who is the Regional Manager (International Sales department) at NIBE.

NIBE's products have been used in a number of major high-profile projects in recent years. The largest of these is a housing project with 106 apartments and communal spaces covering

an area of 30,000 square metres. This is heated and cooled by twelve commercial heat pumps which can give a total output of 720 kW.

Another prestigious project in Istanbul is the new VW/Audi showroom which measures 18 000 square metres and is heated and cooled by ten commercial heat pumps.

Emin Ergüven, who works at Dogal Jeotermal Enerji Sistemleri, which is NIBE's Turkish distributor, tells us, "NIBE is becoming a familiar name in Turkey. We have dozens of installations that have already become well-known among other companies which are renovating buildings or constructing new ones.

We have taken part in five trade fairs, organised nine seminars and featured in lots of articles and TV programmes in the last two years".







## MORE UPLINK!

**NIBE's new remote control system** for heat pumps – NIBE Uplink – is being incorporated into more models. It will soon be possible to control and manage the VVM310 and the VVM500 from a computer/smartphone/tablet.

**Uplink will also be incorporated into the NIBE F370/F470 exhaust air heat pumps** and the soon-to-be-launched NIBE F1155/F1255 later this summer.

"Uplink really is a unique solution," says Andreas Johnsson at NIBE. "It allows you to connect any heat pump to the Internet by simply plugging in a network cable."

A web interface enables remote control and allows installers to have round-the-clock monitoring of dozens of systems from their vehicle or home. Find out more by visiting [www.nibe.se/uplink](http://www.nibe.se/uplink)

# 200 points

## HEAT PUMP ENGINEERS

**THIS AUTUMN SEES THE START OF** Sweden's first advanced level course for heat pump engineers.

The 40-week vocational programme gives 200 credit points and professional certification.

The course is run at the Learning Centre at Markaryd and the qualification will make you attractive to building service companies, manufacturers and other potential employers.



## The new generation is complete!

**A COUPLE OF YEARS AGO**, "The new generation of heat pumps" was launched. The most noticeable innovations of the concept, which took the entire industry by storm, were a modular structure and a totally new user interface. The new NIBE F1155/F1255 will be launched shortly, bringing with them technological solutions that all consumer heat pumps (except for NIBE SPLIT) will share.

Per Törnkvist at NIBE says, "These heat pumps will be replacing the F1150/F1250, which have been our most technologically sophisticated units, with speed control and inverter control.

It has also meant that it has taken longer to implement the new solutions for these. This step has now been completed and we're looking forward to launching them on the market around the New Year".

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## Five advantages of NIBE's new air/water heat pump range.

- 1.** It's now possible to make more or less the same savings with an air/water heat pump as with ground source heating in most parts of the country.
- 2.** The seasonal performance factor is up by 27-35% compared with the predecessors.
- 3.** The inverter control system makes it possible to use the NIBE F2040 in buildings where other air/water heat pumps have been too powerful.
- 4.** With the NIBE VVM 310, the menu-based system of the ground source heat pumps is now also available to those who use air/water heat pumps.
- 5.** With the NIBE VVM310, it is usually no longer necessary to install a buffer tank since this feature is already incorporated into the design.

# 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.

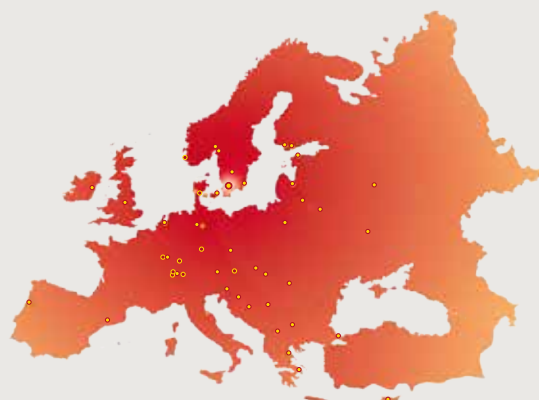
Drawing heat from surface soil, bedrock or the water in a nearby lake, this is a great option for heating houses, multiple-unit properties and other larger buildings. Available with or without an integrated water heater.

### 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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