

100 %
Independent
of oil and gas
UP TO 50 %
Lower
heating costs



USE HEAT PUMPS TO HEAT YOUR HOUSE!

**Using every
ray of sunshine!**

HEAT PUMPS

CONSTRUCTIONS & MODERNISATIONS OF THE FUTURE

Save costs with Alpha-InnoTec heat pumps!

Contents

<i>The ingenious principle: The “heat pump”</i>	<i>04-05</i>
<i>Big savings for you</i>	<i>06-07</i>
<i>A decision for a healthy environment</i>	<i>08-09</i>
<i>Outstanding design</i>	<i>10-11</i>
<i>Model overview: Heat pumps</i>	<i>12-13</i>
<i>Everything organised conveniently</i>	<i>14-15</i>
<i>Solarthermie</i>	<i>16-19</i>
<i>Your simple route to smart heating</i>	<i>16-17</i>
<i>Who actually are Alpha-InnoTec?</i>	<i>18-19</i>

Convert to the heat pump now!

Do you want to make good use of free energy? And create comfortable warmth and a unique indoor climate in doing so? This is not a dream but reality with the simple principle of our highly developed heat pumps!

Using heat pumps is THE sensible investment of the future – completely regardless of whether you are planning to build your own home from scratch or simply rethinking your household energy. Alpha-InnoTec supplies efficient, complete solutions that also look good. If you want a future free from oil and gas and with minimal heating costs, then read on to find the right solution for heating your home!

Building a new home: Include clever heat pump heating straight away!

Keep the energy demands of your new home to an absolute minimum with modern heating technology and optimum heat insulation. A simple calculation can demonstrate this: many energy suppliers offer cheap power rates for heat pumps. In Germany, the average price in 2008 was between 9 and 12 cents per kilowatt-hour. If your house has a living area of around 140 m², the annual power requirement for the heat pump (heat source: ground) is around 5,000 kilowatt-hours.

It will only cost you around 680 Euro per year to heat your entire house! That's including the meter fees.. Imagine the costs you would incur heating the same area with oil or gas! Yes, the initial investment is greater for heat pumps. Yet whilst building your new house, you would save, for example, energy storage space, chimney, gas connection as well as insurance and maintenance by the chimney sweep. On top of that, 80 percent of your heating would be with free, environmental energy. A really good feeling!

Modernise: converting to heat pumps really does pay off!

Compared to newly built properties, detached houses built before 1980 easily use three times as much energy in heating. At the same time, the prices of fossil fuels continue to increase: oil and gas have never been so expensive and the spiral of inflation has no end in sight. The old boilers still work but are real antiques in terms of efficiency and CO₂ emissions. The time is right to become independent of oil and gas. We have innovative heat pump solutions – especially designed for the renovating energy systems in old buildings. With uncomplicated external installation, high energy efficiency and flow temperatures of up to 65 degrees Celsius, it is possible even to use the existing radiators in old buildings to some extent. For all low temperature systems such as underfloor heating, the heat pump is the perfect solution. Yet whatever the case, you will save hard cash month by month, vastly reduce CO₂ emissions and gain valuable space in your old boiler room as you no longer need heat generators or boilers for comfortable heating and an abundant supply of hot water.



Good heating puts a smile on your face!

When will you reduce your heating costs by up to 50 %?

It's your choice: The power of the sun is everywhere!

Heat pumps work with solar heat, already stored naturally in nature:

- In the ambient air
- In the soil
- In the groundwater

On the following pages, we provide a detailed explanation of which system is right for you and how much money you can save in future.

Did you know?

The greatest demand for the modernisation of old buildings is in the area of building services.

73 %

of all deficiencies can be found here, according to a survey of building experts.

Source: Association of private building owners, 2004



Increasing trend:
The price trend for oil and gas



HEAT PUMP PRINCIPLE

How to get your heating energy from nature for free

Your advantages at a glance

- 100 % independence from gas and oil
- High efficiency, up to 50 % lower heating costs
- Tried and tested technology with exemplary efficiency
- Completely emission and odour free environmentally friendly operation
- As quiet as a whisper and virtually maintenance free
- Possible for every use – new constructions or modernisations
- Requires minimum space
- Active climate protection with up to 50 % lower CO₂ emissions than conventional heating systems

The principle is easy to explain: like a refrigerator only in reverse!

Heat pumps draw energy directly from nature: solar heat is stored in the air, in the soil and in the groundwater outside your front door. The heat pump extracts this environmental heat and making it usable. It works like a refrigerator. It is based on the same sophisticated technology – only the use is reversed. In the closed circuit, a working medium transfers the heat. With the heat absorption at a low temperature, the working medium vaporises. The free environmental heat serves as the heat source: groundwater, soil or air. The way in which the rest of the heat pump circuit works is shown on the right.

Free cooling: cooling with the heating

Only a heat pump can do this: heating on cold days and cooling on hot days. No problem at all when you have a brine/water pump. The low temperatures in the soil are used to cool your rooms to a comfortable temperature. The heat pump remains switched off. Only the heating and brine circulating pumps are running.

Sunny prospects!

With heat pumps, the sun provides up to 80 percent of the energy required for heating and hot water for the household by making use of the heat stored in the air, water or soil. There is also an almost unlimited supply of this environmental heat – unlike fossil fuels, which will one day be exhausted!

Sub-Zero conditions? there is still plenty of heat even here!

Whether in the summer heat or the winter cold outside, the sophisticated heat pump principle works reliably and safely around the clock, at any time of year. Heat pumps work most efficiently when the difference between the heat source input temperature and the temperature of the heating circuit is as low as possible. As such, low temperature heating systems such as underfloor or wall heating are the ideal partners for the heat pump. Nonetheless, existing conventional heaters can often also still be used. The ideal heat pump solution for your situation is certainly included in the extensive Alpha-InnoTec range!

The principle of the heat pump

Air/water heat pump:

In the closed circuit, the heat is transferred and transported by a working medium (coolant). With the heat absorption at a low temperature level, the working medium (vaporiser) vaporises. **Free environmental heat from the air serves as the heat source here.** The compressor then increases the pressure, which results in a rise in the temperature. Heat is transferred to the heating circuit of the house via this acquired higher temperature through the so-called condenser. The working medium turns to liquid as the heat is released. It is then restricted in order to return it to the lower pressure level and thereby to a lower temperature and the process starts again from the beginning.



Unlike any other technology, the heat pump requires only approx. 25 % drive energy to generate 100 percent heating energy in an efficient and environmentally friendly manner

Water/water heat pump

Groundwater is generally used as the heating source for water/water heat pumps. Over the course of the year, groundwater has a relatively high constant temperature of around 10 °C. This produces a high coefficient of performance. In order to use the groundwater, absorption and extraction well boreholes need to be drilled.

This requires permission from the water authority! Before deciding on groundwater as the heat source, it must be verified that groundwater of an adequate quality is present at a suitable depth and in sufficient quantity. The analysis of the water and the construction of the wells must, in all cases, be undertaken by an experienced well builder.



Brine/water heat pump

The soil stores environmental heat over the seasons and therefore over an extended period. This results in a relatively even high temperature of the heat source throughout the year and thus in a good performance coefficient. The heat stored in the soil is exploited using **geothermal probes (A)** or **geothermal collectors (B)**. Here, the heat is absorbed by an auxiliary circuit (brine circuit), which in turn releases the heat to the working medium of the heat pump.



A – Heat extraction with geothermal probes



B – Heat extraction with geothermal collectors

THE FIGURES SPEAK FOR THEMSELVES

You can save
gas and oil – and all
manner of costs too!

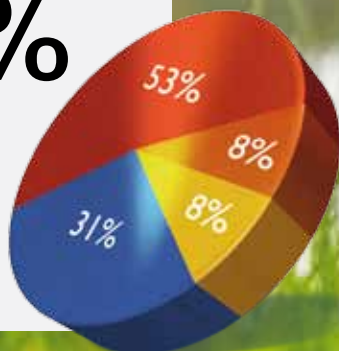
Did you know?

Over

60%

of household energy costs
are for heating and
hot water.

- Heating
- Hot Water
- Electricity
- Car



This bill is guaranteed to add up for you!

Make yourself independent!

What is important when selecting the heating system are the total costs; for you wallet and for the environment. Experts believe that modern heat pump technology is and remains the best solution. The slightly higher initial investment is quickly paid off by the savings in the ongoing heating costs. Also, as the prices for fossil fuels continue to increase, the greater the saving you will have with your heat pump. In the future, a glance at the oil or gas price will just cost you a weary smile.

And rising electricity prices?

Due to a high proportion of domestic energy and an increasing proportion of renewable energies such as wind power and solar energy, no cost explosion is expected as in the case of oil and gas. Furthermore, rising electricity prices have only a limited effect on the heat pump. Additionally, many power suppliers are now already offering very cheap heat pump tariffs. For you, the end result remains more than positive in every case (see sample bill).

**As much energy as required,
as few costs as possible.**

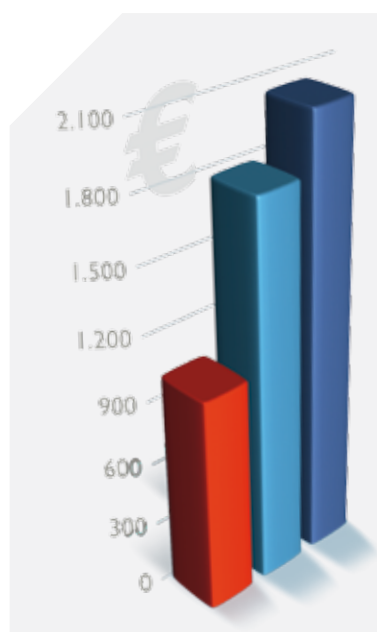
A modern heat pump heating system can be adapted exactly to your actual heat requirement. So, in future, you will pay only for the energy you actually use.

Tip:

The state often pays a contribution!

As your heating system is making a sustainable contribution to climate and environmental protection, the state will often actively help with financing the costs. In Germany, for example, the reconstruction loan corporation (Kreditanstalt für Wiederaufbau – KfW) offers cheap loans and grants for the various state development programmes. Moreover, the installation of a heat pump can also be funded under the CO₂ building renovation programme – although only under certain conditions.

These can be found either at www.kfw.de or directly from us. We are happy to provide personal advice including funding options in Austria and Switzerland



Sample Bill:

Annual energy costs of heating and hot water for a detached house with a living area of 150 m²

Costs:

- Heat Pump: 1.010 Euro
- Oil heating: 1.776 Euro
- Gas heating: 2.040 Euro

CLIMATE AND ENVIRONMENTAL PROTECTION

In favour of nature: A healthy decision!

What WWF says

In a study, the largest private conservation organisation for the natural environment in the world, compared a total of 8 heating systems according to economic and ecological criteria.

The Results:

Heat pumps have the lowest operating and heating costs and, with respect to emissions, they fare considerably better than fossil heating systems!



More information on the topic of heating costs and CO₂ can be found at:

- www.alpha-innotec.com

Bringing the climate of our world back into a sustainable balance is the greatest task facing society today. Within this, the massive reduction of CO₂ emissions is the no. 1 challenge. In order to overcome it, all industrialised nations need to change their way of thinking. However, every individual can also make a valuable contribution – for example by deciding to use sustainable, environmentally-friendly heating technology so that our children and grandchildren can still live in a world that is intact. As such, choosing an Alpha-InnoTec heat pump is also an investment in the future of your children.

50 % Less CO₂ with 100 % comfort!

The experts agree: modern heat pumps have the greatest potential CO₂ savings of all energy generators. Independently of each other, the WWF and various studies carried out by well-known universities have reached the same convincing conclusion. Even in the German energy saving law, the heat pump scores top marks. The environmental advantage of heat pump technology lies primarily in completely emission-free operation on site. CO₂ is produced only in the generation of the power required for the heat pump, although in a significantly lower quantity than with traditional heating systems: generally up to 50 % fewer CO₂ emissions in the sample calculations. This also comes with unlimited heating comfort

from stored solar heat – around the clock and regardless of the time of year. No other heating system can offer you that!

Can anything else be reduced?

The climate footprint becomes even lower with heat pumps if the power required comes from renewable energies offered by many suppliers. Energy production using solar, water or wind power produces no CO₂. Coupled with this type of renewable power, heat pumps are the only real zero-emission heating systems available on the market. Today in Germany, renewable energy is already used to produce 40 x more power than is required for heat pumps.

Car versus heat pump

A comparison can make it easier to visualise the scale of the CO₂ emissions: for example, a brine/water heat pump generates around 3,000 kg CO₂ per year. A sports car produces approx. 6,900 kg over 20,000 km – which is more than twice as much. Put another way: a single sports car pumps more harmful CO₂ into the atmosphere than a heat pump does in 2 years!

Almost unbelievable!

The calculation becomes even more impressive if you imagine the total from sum heating systems in all European households. If heat pumps were used right across Europe instead of oil powered central heating, it would be



possible to save almost 1.2 million tonnes of CO₂ per year! Over 200,000 tonnes of this would be in Germany alone. Modernisation with modern heat pump technology does not just represent a drop in the ocean but rather a genuinely important and sustainable contribution to protecting the climate and the environment.

More information is available from our environmental experts: contacts on the back page

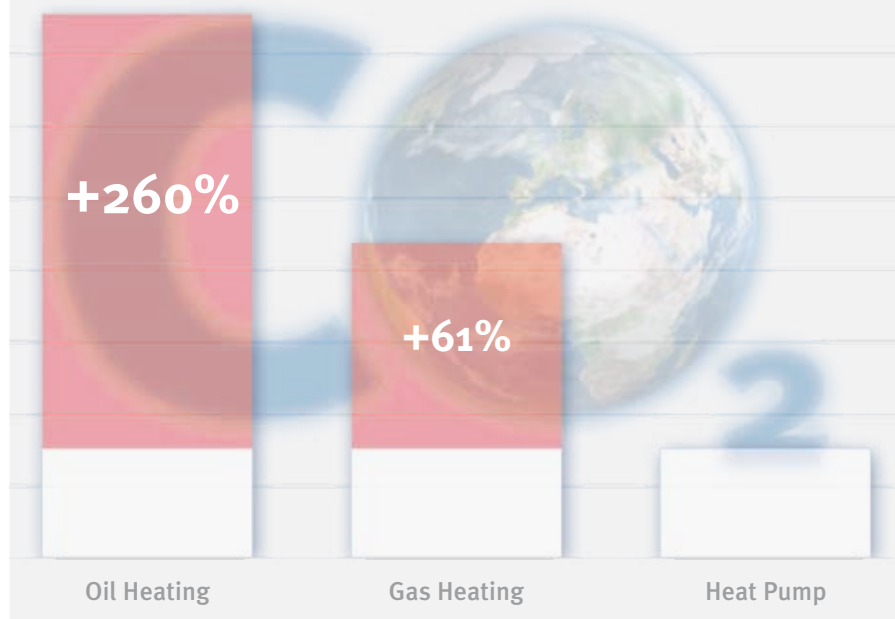
Did you know?

Just

3 cows

in the field produce more CO₂ than one heat pump.

CO₂ Emissions: Environment winner – heat pump



Source: own survey, Alpha-InnoTec 2009



alpha^{inno}tec

DESIGNPLUS PRIZE FOR LW 330A

**A winner
in every respect!**

DESIGN PLUS



The Designer: Prof Gerhard Kampe

The age in which technology needed only to function is long gone. With the new Alpha-InnoTec generation of heat pumps for external installation, the heat pump has become a unique designer sculpture where all the parts can be seen. The sophisticated interior comes from the experienced Alpha-InnoTec engineers, the stylish cover from Prof Gerhard Kampe from the University for Integrated Product Design in Coburg. The result is a sensible and stylish combination of aesthetics and function that is unrivalled – so heating also becomes a visual pleasure!

But just beauty is not enough!

The self-conscious, modest body in high quality, low-maintenance aluminium conveys not only quality and durability but also deliberately contrasts with the dark design of the high quality plastic air scoops. This combination gives the equipment a technical lightness and is an expressive symbol of the medium air. The attractive cover conceals reliable, high-performance technology down to the finest detail. The specially sound-optimised shape allows quiet operation.

Air/Water heat pump LW 330 A is an outstanding example of the aesthetics of the latest technology.

This is also what the jury saw at the Design Plus competition of the Frankfurt trade fair, choosing the LW 330 A as one of the winners of the prestigious competition. For manufacturers and designers, the Design Plus prize is a great honour. It indicates high quality to the user. Alongside innovative design, the award winners must also prove optimum values in climate protection, energy efficiency and sustainability.

Overview of the LW 330 A features:

- Unique designer sculpture exterior created by Prof Gerhard Kampe from the college of integrated product design in Coburg
- Inside: Latest engineering know-how from Alpha-InnoTec
- Highly efficient energy yield
- Extremely quiet operation

LW 330 A
Awarded the prize
DESIGN PLUS
for outstanding
aesthetics



HEAT PUMPS: OVERVIEW

The right model for you can be found here!



LW 320H-A

LWC

Air/water heat pumps

Air-water heat pumps collect energy directly from the ambient air. If you opt for a heat pump in the house, depending on the type, the compact and very quiet Alpha-InnoTec equipment could even stand in the utility room without causing any disturbance. External installation is perfectly suited to modernisations. No extra space is required inside the house. The installation expense is considerably low.

External installation

Application

- For detached houses and multiple dwellings
- Suitable for modernisation

Performance

- From 7 to 33 kW
- From 58 to 65 °C flow temperature

Advantages

- Heating and hot process water provision
- External installation
- Low installation outlay
- For mono-energy or bivalent operation *

Internal installation

Application

- Suitable for new builds and modernisation

Performance

- From 6.1 to 33 kW
- From 58 to 65 °C flow temperature

Advantages

- Heating and hot process water provision
- Integrated ventilation possible
- Many hydraulic components already integrated

* For the few, very cold days, air/water heat pumps require auxiliary heating, which then runs in parallel with the heat pump. This may be an integrated heating element (mono-energy operation) or, for example, the existing boiler (bivalent operation) in the case of redevelopment.

Matched to your requirements



WWC

SWC

Water/water heat pumps

Over the course of the year, groundwater has a relatively high constant temperature of around 10 °C. With this, water/water heat pumps have a high performance. In order to use the groundwater, absorption and extraction well boreholes must be drilled. **This requires permission from the water authority!** Before deciding on groundwater as the heat source, it must be verified that groundwater of an adequate quality is present at a suitable depth and in sufficient quantity. The analysis of the water and the construction of the wells must be undertaken by an experienced well builder

Application

- Depending on geological conditions on site

Performance

- From 10 to 44 kW
- From 55 to 65 °C flow temperature

Advantages

- Heating and hot process water provision
- Many hydraulic components already integrated
- Very quiet operation
- Low space requirement
- Low space requirement

Brine/water heat pumps

The heat stored in the soil is collected by using **geothermal collectors** or **geothermal probes**. Here, the heat is absorbed by an auxiliary circuit (brine circuit), which in turn releases the heat to the working medium of the heat pump.

Application

- Installation of geothermal collectors where sufficient garden area is available
- Geothermal probes as an alternative both for new builds and for redevelopment

Performance

- From 6 to 33 kW
- From 55 to 65 °C flow temperature

Advantages

- Heating and hot process water provision
- Optional free cooling (room cooling in combination with panel heating)
- Extremely quiet operation
- Installation-friendly
- Very small set-up area
- Operation with area collector or geothermal probe





LUXTRONIK 2.0 CONTROLLER

The new generation:
It couldn't be simpler

Well Done

German consumer safety group Stiftung Warentest awarded top marks to Alpha-InnoTec. The operating concept and controller were rated "very good".

STIFTUNG WARENTEST	
GOOD (2,4)	
Tested: 10 heat pumps	
Quality rating: 4 good, 6 satisfactory	
test [®]	6/2007
www.test.de	

Comfort at the touch of a button

Your Alpha-InnoTec heat pump knows exactly when it needs to provide heat. This is due to an external temperature gauge. If it is too cold outside, it prompts the heat pump to switch on. Your personal temperature gauge can be adjusted using the menu-controlled heat pump Luxtronik 2.0 controller. With a rotary and press button, the operation of the heat pump is child's play – just like the operation of an in-car navigation system!

Luxtronik 2.0 Functions

- Intuitive operation using a jog dial (rotary and press function)
- Full graphic display with self-explanatory menu navigation
- USB connection (for reading data or for software updates)
- Network interface: with an internet browser, the heat pump can be controlled via the house network with no additional hard or software
- Simultaneous control of 2 heat generators (e.g. heating and hot water)
- Autorun installation programme
- Autorun heating programme for stone floors

- Pump orientation programme
- Multilingual operation possible (German, English, French etc)
- Graphical interface for reading data on a Windows PC
- Integrated Flash drive (e.g. for software updates)
- Fast charging possible for hot process water provision
- Operation diagnostics via PC (e.g. Excel)
- Automatic summer/winter time switching
- Holiday period setting using a time switch
- Daily and weekly programmes for all control loops
- Auto-detection of the heat pump type by the controller
- Thermal disinfection (legionella prevention)
- Sophisticated defrost manager for energy saving

And numerous other options.



Luxtronik 2.0 with self-explanatory display



Hydraulic tower – one for all

In order to guarantee the defrost process in each operating phase, air-water heat pumps require a buffer tank. For heat pumps up to 19 kW, the Alpha-InnoTec hydraulic tower is therefore the ideal addition.

It provides a heat pump controller, hot water and buffer tank, as well as optimised pump assemblies in a single, compact and space-saving housing. The planning and installation of air-water heat pumps could hardly be simpler or quicker!

Space-saving and compact: The hydraulic tower is the perfect companion for all heat pumps up to 19 kW



YOUR PATH TO CLEVER HEATING

How to make your wish come true!

If you are holding this brochure, you already have the most important information for clever heat pump heating from Alpha-InnoTec at a glance. Do you now want to know what to do next? Nothing could be easier. Your installation partner and the Alpha-InnoTec professionals are on hand to advise and support you through the important steps to your new heating system. They will calculate your personal savings potentials, advise on the selection of the correct model, and ensure smooth installation.

At Alpha-InnoTec, you therefore enjoy do not only have perfect technology but also optimum service. Soon, you too could be saving on your heating costs:

2

Just give us a call!

Arrange your non-committing, free consultation. We will give you details of the competent Alpha-InnoTec installer in your area!

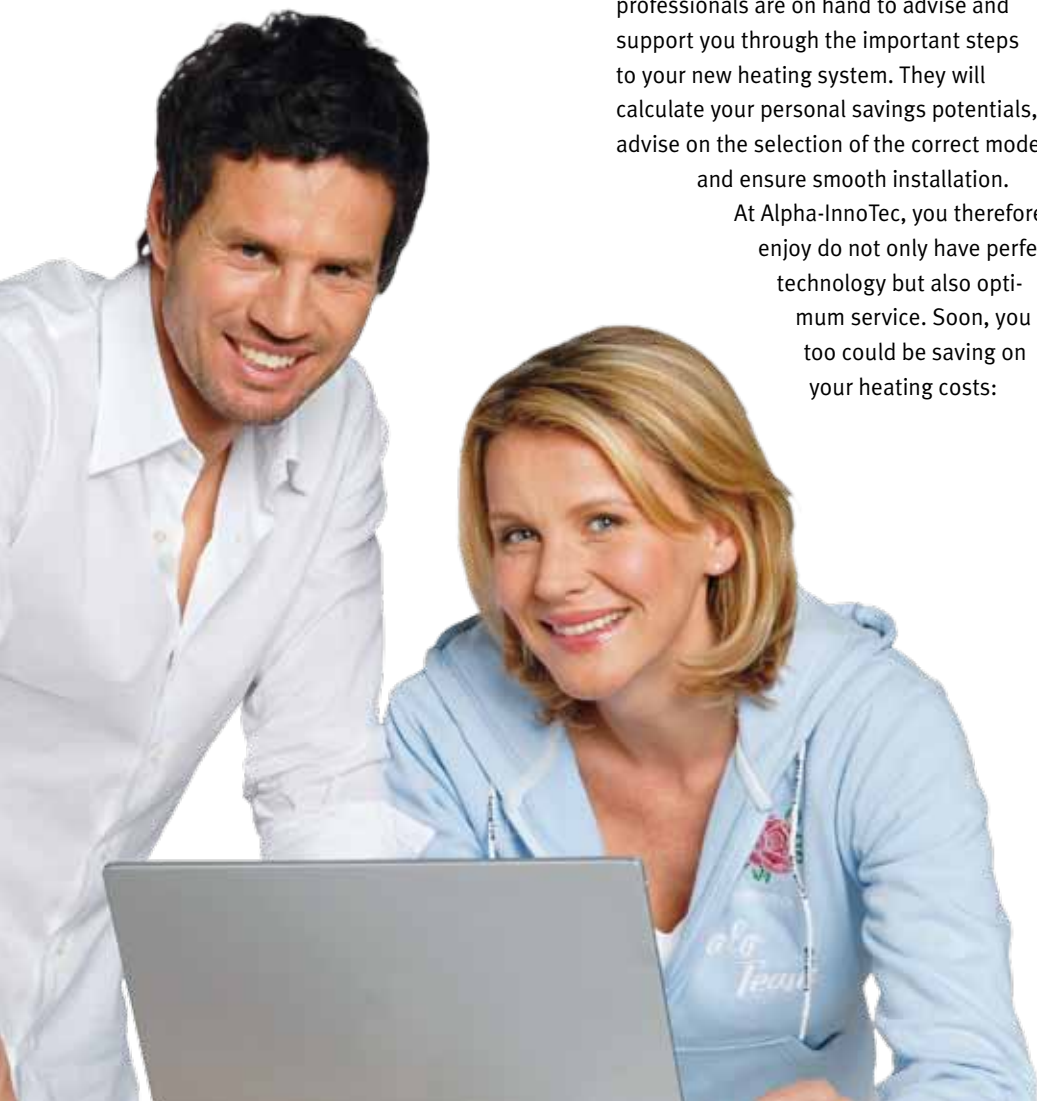


1

More information at one click

Further details on our products can be found at www.alpha-innotec.com. The internet cannot, of course, replace a personal consultation. However, the appropriate answers to many questions can be found here in advance.

Visit our site and see.



3

Advising instead of selling

Together with our installer, you can now clarify all the important parameters for your project on site. On request and where possible, an expert from Alpha-InnoTec will also be present at this meeting, as the experienced professionals know exactly what is required, provide valuable tips, and ask the right questions. Let's take a case of modernisation as an example:

- When was the house built?
- How big is the living area?
- How is the house insulated?
- How many people are there in the household?
- Which heating system is currently in place?
- Can the existing heaters continue to be used?
- Which flow temperature is required?
- What is the average consumption of the old heating?
- How big does the new heat pump need to be?
- Is the property on a slope?
- Where would be a suitable installation location? **



** If you opt for the external installation of a heat pump, we recommend a poured concrete slab or paving slabs as the base. All supply lines (hot water feed and return, electrical and control cables) are installed in the ground, frost protected from below by a cut in the base plate. A frost-free drain must be provided for the condensation that occurs. All Alpha-InnoTec heat pumps are designed for extremely quiet operation. Nonetheless, the installation location should be selected such that no noise disturbance is caused even to people who are sensitive to noise.

Calculation



4

Your personal offer

After a few days, you will receive a detailed, transparent offer. In addition, an individual calculation of your possible heating costs savings is provided again, in black and white.

You now have all the facts and can calmly make your decision.

5

Now it all starts to happen!

In an individual consultation, your installer will offer you the complete installation and electrical service from one supplier, quickly and reliably taking care of:

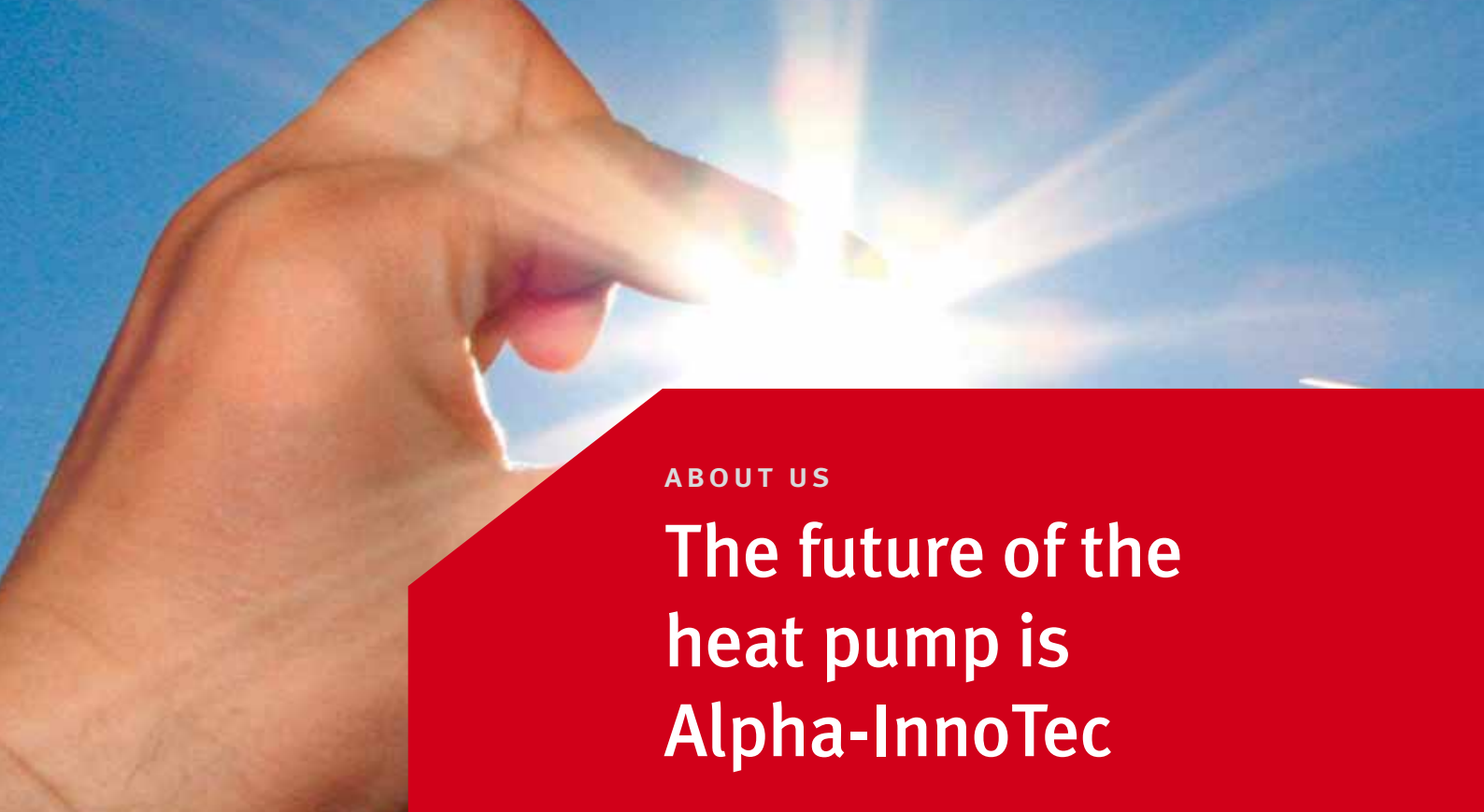
- Concreting the stand base***
- Earthworks for the feed and return***
- Installation and connection to the heating system (hot water tank)
- Power connection (2nd meter is added by the local power supplier)
- Initial operation

*** In the case of external installation of a heat pump, the works may be carried out by other trade partners on site

Commissioning

„Our heating is now clever, economical and environmentally friendly. Well done, darling!“





ABOUT US

The future of the heat pump is Alpha-InnoTec



Perfect service right from the start – we are here for you, in person!

Top brand, top performance!

- 380 qualified employees
- 39,000 m² total area
- 15,000 m² production and logistics area
- Up to 70,000 heat pump units per year
- 1,000 m² customer and service centre
- Our own training centre
- Quality certified production
- Environmentally certified production
- Operation in 20 European countries

We do what we do best!

Alpha-InnoTec is one of the leading specialist manufacturers of heat pumps in Europe. With our innovative solutions, we are constantly setting new standards in technical development and tens of thousands of our satisfied customers are already benefiting from our specialist knowledge. In the heat pump industry, quality brand Alpha-InnoTec has long been known for its well-engineered and durable German-made technology, which is one hundred percent reliable!

This is a high claim and a clear promise to our customers, which we are confident that we can fulfil not only today but also in the future, for example with our new production plant in Kasendorf, Franconia – one of the very latest heat pump plants in the world.

Quality is not an approximation

Although we are able to produce up to 50,000 units a year in our factory, an Alpha-InnoTec heat pump is no mass production. On the contrary, it is based on the latest engineering research, intensive development, and above all genuine, reliable handcraft. As such, every individual heat pump is produced by our staff with the greatest possible care and passes through a strict quality assurance process. Only when we are really 100% satisfied with our product is it finally dispatched. In addition, we also regularly have our products vetted by external bodies... and they always score top marks!

After the installation of a heat pump, should anything not function properly, our nationwide network of service partners enables us to be on the scene in very little time and to rectify the problem – promised!

Definitely a stronger guarantee. Only trust the best!



Solid handcraft meets high tech



*Heat pump development –
we produce our own innovations.*



*Strong teamwork from one professional
to another in our training centre*



Selected Alpha-InnoTec heat pumps
have the European seal of excellence.
More information at:
www.alpha-innotec.de/guetesiegel



Alpha-InnoTec products are
production monitored by TÜV



Alpha-InnoTec products
carry the CE mark



Alpha-InnoTec is a member of:

- Bundesverband WärmePumpe (BWP) e.V.
(German federal heat pump association)
- European Heatpump Association (EHPA)
- FWS Fördergemeinschaft Wärmepumpen Schweiz
(Swiss society for the promotion of heat pumps)
- Mitglied im BWP & LWGA Österreich
(Member of BWP & LWGA Austria)



Alpha-InnoTec is ISO 9001 (quality)
and ISO 14001 (environment) certified



Member since 2006



Alpha-InnoTec:
One of the latest heat pump plants in the world

Alpha-InnoTec heat pumps – the right choice!



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Subject to technical modifications and modifications to the equipment dimensions.



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