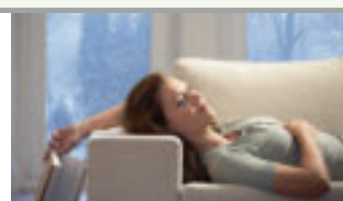


GOING GREEN: WATER AND HEAT



ISSUE 03 | 2008

» HEAT PUMPS
» VENTILATION
» SOLAR
» DATA, FACTS AND ACCESSORIES



STIEBEL ELTRON



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QUALITY IS NOT A MATTER OF CHANCE

STIEBEL ELTRON has been synonymous with convenient household appliances since 1924. Today, as back then, we develop products of the highest quality and with advanced functionality. We combine innovative technology, reliable quality and partner-based customer service for branded products in the best tradition. Our unconventional thinking and our practical inventions, which have defined whole markets, have always been the most important capital in our business. Today, we deploy the same enthusiasm in the development of optimised solutions for the future as we did when we designed the products currently on the market. The way we do business today is also characterised by our unwillingness to rest on our laurels or choose the easy way out. Common to all products bearing the STIEBEL ELTRON name is our goal of developing, manufacturing and selling products and advanced systems in the faultless quality the demanding market requires. We think that only in this way can technical products truly perform to their optimum capability.

HOT WATER

RENEWABLES

CENTRAL HEATING

Performance as a matter of principle | STIEBEL ELTRON supply comfortable solutions all around the areas of water heating, renewable energies and central heating. With numerous individual components and complex system solutions, we help to make everyday life that little bit more comfortable. When considering the technology which is the best for you, you should take into account how all of the components in your entire living space interact with each other.

Whether you choose a single component or a complete system, with our high-quality products we can guarantee that STIEBEL ELTRON technology will always help you to feel more comfortable in your home. This brochure contains some examples of how renewable energy can not only help to save the environment, but can also help you to save a lot of money on your way to making your home that bit more comfortable.

WE HAVE THE ENERGY TO CHANGE THINGS

Think renewables | State-of-the-art STIEBEL ELTRON technology can offer ways to dramatically reduce energy costs inside your own four walls. This is because our highly efficient systems are now capable of utilising renewable forms of energy all year round for domestic households. Heat pumps, ventilation systems with heat recovery and solar heating systems which extract the available energy from our surroundings and feed it centrally as thermal energy for DHW and central

heating are some of the ways we can do this. These systems have demonstrated their efficiency most impressively in various long-term installations. The use of a heat pump alone is generally enough to reduce heating costs by 50% compared to a conventional heating system. With the potential for such impressive savings, the initial investment can be recovered in just a few years and of course these systems offer unique price stability for private energy supplies, which

is a key advantage in the present climate of continuously rising prices for fossil fuels. With STIEBEL ELTRON engineering, households have access to the cleanest, most cost-effective and crisis-proof energy supplier in the world: Mother Nature. Join us so that, to a large extent, you too can become your own energy supplier. With STIEBEL ELTRON, you can enjoy the pleasure of a unique form of independence.

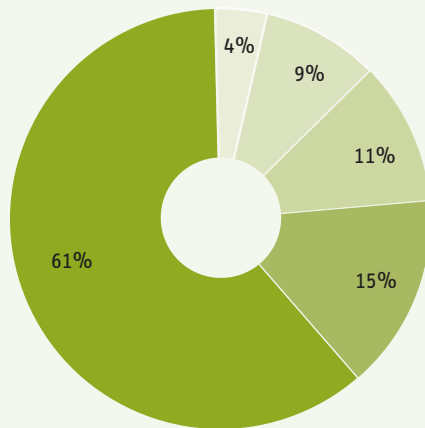
Heating oil prices at an all-time high

Between 2004 and 2006, prices for crude oil have almost doubled. Gas prices have followed suit. Fundamentally, there is no real reason why this development should change. As supplies of fossil fuels are limited and it is becoming increasingly expensive to recover the remaining stocks, the price for crude oil and gas will probably continue to rise in future. However, the costs for producing energy from thermal sources in the environment will not. A choice now for the technology of the future is a solid foundation for your future energy supplies. But this is not just a choice for the environment – it is also one that will save you a lot of money.



Please note that the heating oil prices shown above are average prices taken from various regions in Germany, which may be subject to local variations.

Source: FastEnergy GmbH



What causes the greenhouse effect and climate change?

- Nitrous oxide (laughing gas)
- Ground-level ozone and upper atmospheric water vapour
- Chlorofluorocarbons (CFCs)
- Methane
- Carbon dioxide

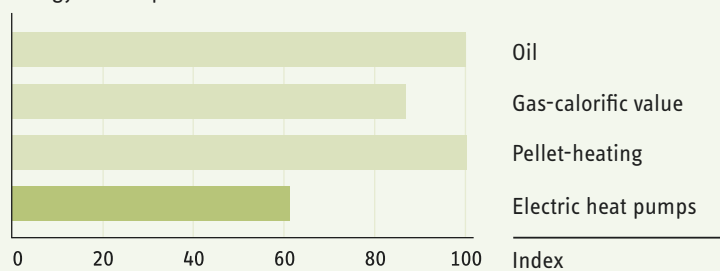
Source: Prof. D. Schönewiese,
Institute for Geophysics, University of Frankfurt am Main

Protecting the environment efficiently and cost-effectively | The use of renewable sources of energy has long since ceased to be just a matter of economics. Responsible use of precious resources is becoming one of the most important challenges for the future. But

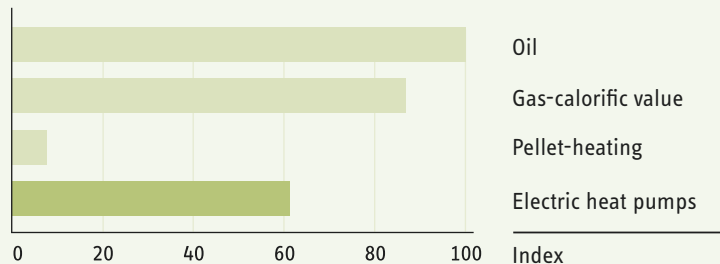
it will also save you money today. Any investment in renewables is certainly a step towards helping to protect the environment, but an added bonus are the available grants.

Comparison of different heating systems (heating and DHW)

Energy consumption



CO₂ emissions



Based on state-of-the-art central heating systems.
Source: BWP e. V.

The background of the entire page is a soft-focus photograph of several lemons. Some lemons are in the foreground, slightly out of focus, while others are further back, creating a sense of depth. The lighting is bright and even, highlighting the natural yellow color of the fruit.

HEAT PUMPS HARVESTING NATURE'S ENERGY

The environment is full of power. You have to go as low as -273°C until every last bit of energy has been drained. With the aid of a heat pump, at least some of this natural energy can be harvested and utilised as heat for DHW and central heating. This type of plant is certainly economically viable: Thermal energy can still be extracted at outside temperatures as low as -20°C . Measured over a year, nature will generally “donate” around half of your usual heating costs.



HOW TO USE COLD TEMPERATURES TO MAKE HOT WATER

Basic physics I Usually, thermal energy can only be extracted from energy sources which have a higher temperature than their direct surroundings. For example, from a flame in a central heating boiler. A medium – usually water – flows past this energy source and absorbs thermal energy from it due to the large temperature differential. In the process, thermal energy flows from the

higher temperature to the lower temperature. This energy, which is absorbed from the flame of the burner, transports the medium (water) away and delivers it to where it is needed, i.e. to the radiator. In principle, heat pump technology works along very similar lines. The only difference being the energy source – with geothermal energy being used instead of a burner flame. However, as the ambient

temperature of the surroundings is not a high temperature, the medium which is used to extract the energy from it must be colder so that there is still a temperature slope. This is why liquid refrigerant is used rather than water. The principle of the system is the same as that of a fridge.

A simple principle

- » 1 A cooled, liquid refrigerant is pumped into the heat pump heat exchanger (evaporator).

There it absorbs thermal energy from the ambience as a result of the temperature differential.

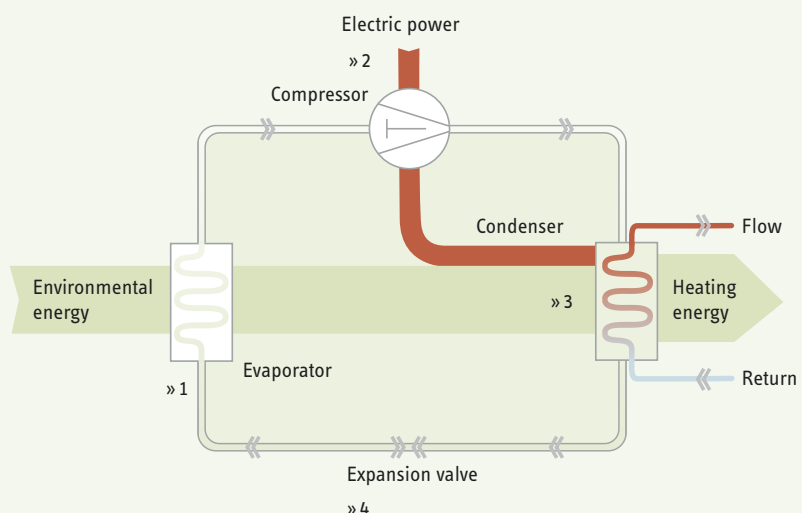
In the process, the refrigerant then changes state and becomes a gas.

- » 2 The gaseous refrigerant is then recompressed in the compressor.

The pressure results in a temperature increase.

- » 3 A second heat exchanger (condenser) transports this thermal energy into the heating system and the refrigerant reverts to a liquid form.

- » 4 The refrigerant pressure is reduced again in the expansion valve.





An energy cycle | The heat pump extracts thermal energy from the surroundings and feeds it into the heating system. This process takes place as follows: A cooled, liquid refrigerant is first pumped through a heat exchanger, the so-called evaporator of the heat pump. There, it absorbs thermal energy from the surroundings and the refrigerant evaporates. The refrigerant, which is now gaseous, is sucked in and compressed by

the compressor, raising the pressure and temperature as a result. Next, a second heat exchanger (condenser) ensures that this thermal energy is fed into the heating system. When the thermal energy is extracted from the refrigerant it simultaneously condenses again and reverts to its liquid form. Finally, the pressure is dissipated in the expansion valve, and the cycle starts again.

By using highly efficient technology, STIEBEL ELTRON have been able to continuously increase the heat pump efficiency. The power required to run the compressor is practically the only primary energy required for the heat pump operation. Some of the heat pumps made by STIEBEL ELTRON can deliver up to 6.0 kW of usable heating energy

from every kW/h primary energy. The systems are highly reliable and virtually maintenance-free. As a result, many systems have been running in continuous operation for more than 25 years – without ever developing any problems or faults.



AIR | WATER HEAT PUMPS

ENJOY YOUR SPACE



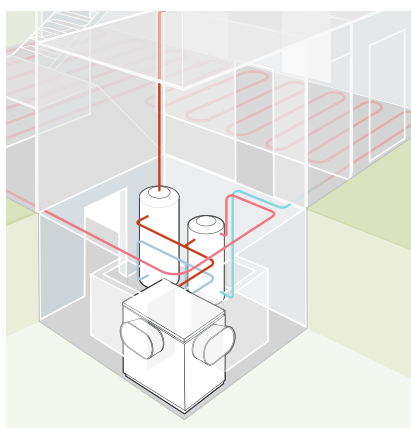
They say that you should put just as much care and effort into storing a good wine as you do into enjoying it later on. Down here the temperatures are perfect all year round. It is pleasantly cool, but never really cold. It is all thanks to our new heat pump that the old boiler room could be converted into our own little wine haven. The heat pump just sits outside in the yard. It is fine there, and it certainly doesn't get in the way. And the new space? It has become a real pleasure for us – not only is the wine cellar much more attractive and practical, but it also smells a whole lot better than the old boiler! I would prefer not to think about the old oil tank to be honest. But why don't we go back upstairs? It is nice and warm up there.

WELL SORTED FOR ALL YOUR NEEDS



Compact class I In Energy-efficient houses with a living area up to 160 m² the WPL 10 IK heat pump can really make the most of its compact strengths. As a complete unit, it comes ready equipped with all the relevant modules: From the air hoses and the heating circuit pump through the expansion vessel and

the integral electric booster heater to the safety modules and control systems – the WPL 10 IK comes with all the key components you need for heating operation. The result is a heat pump design which is not only highly energy efficient, but also maximises the available space.



WPL IK (S)

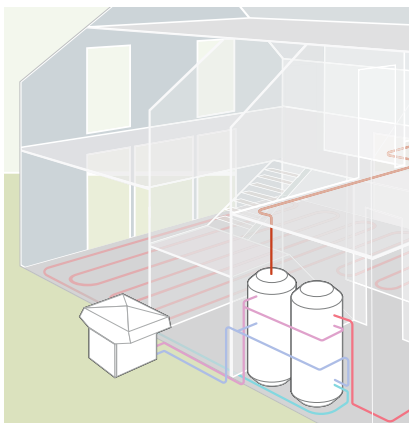
- High performance
- Quiet operation
- Compact design
- Easy and fast installation
- Ideal for use in new buildings



A HEATING SYSTEM THAT COOLS IN SUMMER

You choose the location | The heat pump WPL (S) is just as happy outside. With its robust casing and a special cover for an external installation, the WPL heat pump is also perfectly capable of working in the garden or in the yard. The smooth operation of the WPL heat pump means that you will barely hear a sound. Only the power supply and the supply lines to the cylinder need to be routed through the cellar wall. An external installation is the perfect way to transform your cellar and gain plenty of additional space.

Heating and cooling with a single system | The new WPL cool heat pump provides you with every option of modern room tempering. Under its clean external lines, this heat pump hides innovative technology that can heat and cool. An electronic expansion valve ensures the optimum control of all processes. Its unique control technology allows it to adjust itself to both operating modes. This optimises the efficiency, in the heating and the cooling operation. As future-proof investment, the modern heat pump system contributes substantially to an increase in comfort and property value. Like the WPL, the WPL cool, too, is available for internal and external installation, making it an ideal choice for modernisation projects.



WPL (S), WPL cool

Heating and cooling operation (WPL cool)

Version for external installation

Ideal for modernisation projects

Application from -20°C to $+30^{\circ}\text{C}$ outside temperature

Quiet operation

Energy-efficient defrosting

Up to $+60^{\circ}\text{C}$ heating flow temperature

Integral electric booster heater



Power in the smallest of spaces | The WPL air|water heat pump delivers heating power in a compact form. Even at temperatures as low as -20°C , this heat pump can still extract the thermal energy it needs from the ambient air. An electric booster heater makes sure that there is enough heating if required. The WPL draws outside air through hoses that are routed through two separate cellar openings. The lower the required flow temperature, the higher the efficiency of the heat pump. Accordingly, the system is particularly recommended for low temperature or underfloor heating.

When it is running, you will barely notice your WPL heat pump. It already comes complete with all the necessary safety equipment. For example the defrost function. When water extracts thermal energy from the surrounding air, it condenses. Under certain weather conditions the condensate can freeze and build up on the heat exchanger. The defrost function frees the heat exchanger of ice and guarantees trouble-free operation.

WPL (S) with air routing module WPIC

Internal version

In three sizes with different output levels

High performance

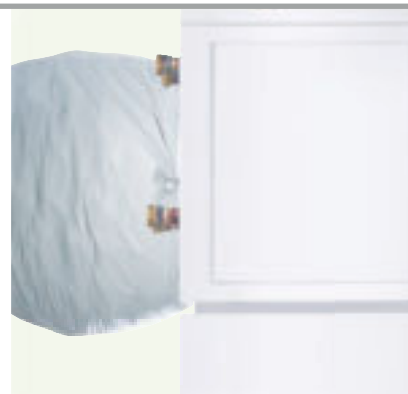
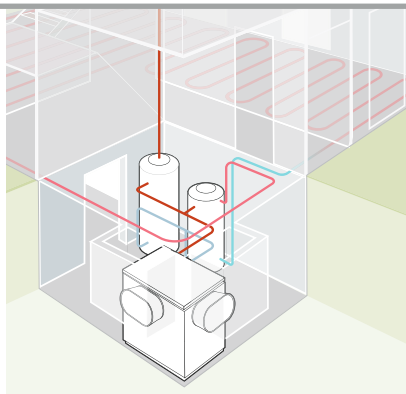
For use at outside temperatures between -20°C and $+30^{\circ}\text{C}$

Quiet operation

Flow temperature of up to $+60^{\circ}\text{C}$

Also perfect for use in older buildings

Compact installation due to optional WPIC

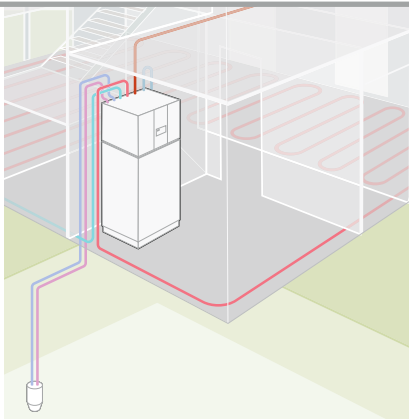


BRINE | WATER HEAT PUMPS PLANT YOUR OWN ENERGY



When we built our house, we managed to fulfil one of our dreams – to have our own garden. We simply love being able to grow our own food. We plant as much as we can: Crunchy, fresh salads during the summer, and healthy vegetables which last right through to the autumn. And even in the depths of winter the harvest continues – as we can use thermal energy from outside to heat our whole house inside.





Connected to the earth | The brine | water WPC heat pump is a fully functional complete solution for DHW and central heating. The system draws its heating energy from a geothermal probe which is located in the ground. The WPC brine | water heat pump already contains a 200 litre cylinder

underneath its sound-proof external casing. All safety systems and control components for fully automated operation are integrated as fixed parts of the design. The heat pump only requires minimum effort to install and is even suitable for installation in very tight spaces.

WPC (S)

In four sizes with different output levels

Integral DHW cylinder

Easy to install and operate

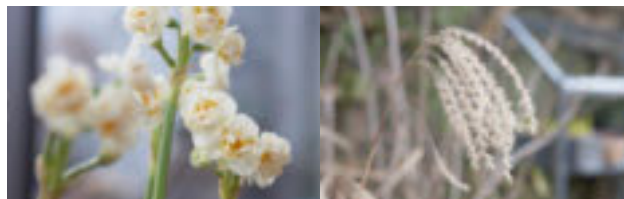
Flow temperature of up to + 60 °C

Integral heating circuit pump

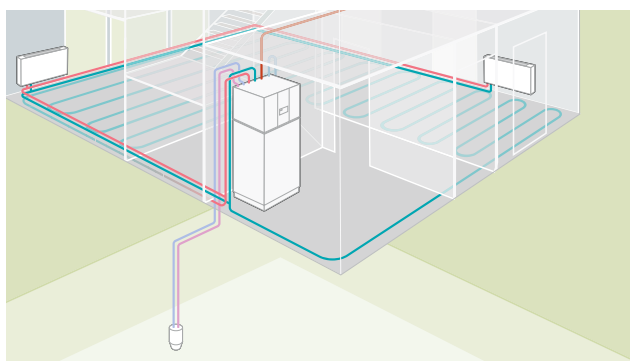
Extremely quiet operation

May be combined with the LWM 250 ventilation module





Fresh air for greater comfort | The ventilation module LWM 250 combines three really important benefits. Firstly, its air routing function safeguards a healthy air change and protects particularly energy-efficient houses against humidity damage and fungal attack. Secondly, it reduces heating costs as latent energy in the extract air is withdrawn and transferred to the brine circuit. This means that you can make do with a smaller ground probe, which in turn reduces the installation costs.



Keeping cool in the summer | The WPC cool version of the brine | water heat pump adds one more unique function to what is already an impressive package. On hot days, an integral heat exchanger can be used for cooling purposes. This allows you to reduce indoor temperatures by several degrees during the hottest part of the summer. It operates perfectly with underfloor heating systems or fan convectors – and its energy demand is minimal!

WPC cool

Compact devices offering the following functions:

Central heating, cooling and water heating

Easy to install and operate

Low temperature of up to + 60 °C

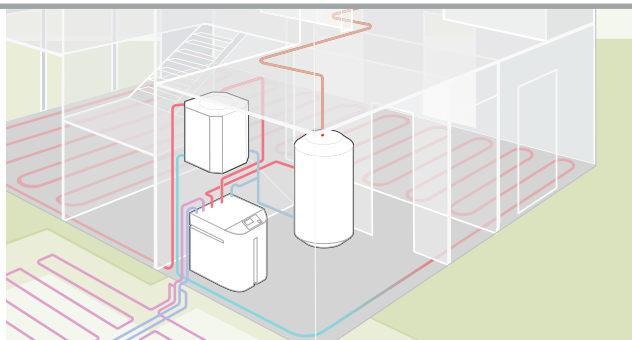
Extremely quiet operation

Minimal operating costs in cooling mode

May be combined with the LWM 250 ventilation module



WPF HEAT PUMPS A BUNDLE OF ENERGY



Versatile use of energy | The WPF heat pump is a powerful energy provider for DHW and central heating. With its integral heating control unit, circulation pump, safety valve and integral heating element, the unit is really well suited to a complete basement installation.

The heat pump also adapts very well to cramped conditions. Thanks to its compact design, the WPF heat pump is just as efficient in its use of space as it is in its use of energy. The striking design also provides a visual emphasis of the special qualities of this powerful heat pump.

WPF (S)

Available in five sizes with different output levels

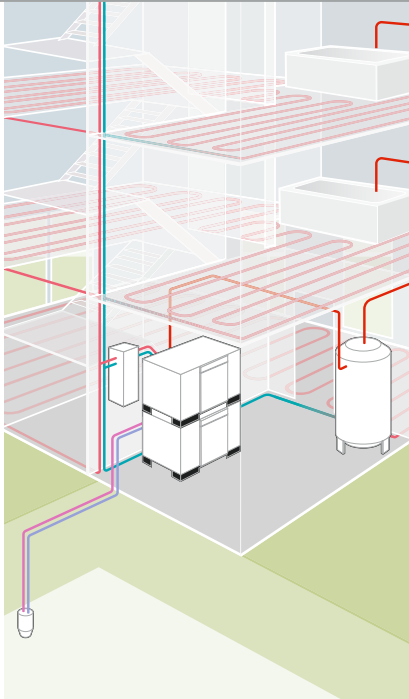
Integral heat pump controller

Flow temperature of up to + 60 °C

Extremely quiet operation



HIGH PERFORMANCE CAPACITY



product
design
award

2008

WPF

Individual devices in five output stages

Heat pump cascades up to 400 kW

Up to +60 °C heating flow temperature

Space-saving concept – two modules
can be stacked

Optional remote monitoring by PC

Modern, robust design

Heat provision in grand style | The benefits of advanced heat pump technology are growing all the time. The same goes for the number of buildings in which they can unfold those benefits. The new WPF series provides a strong response to the growing demand for powerful heat pump-based heating systems for apartment buildings and commercial applications. This new series of heat pumps was specifically designed to provide heat in larger residential complexes as well as in commercial and industrial properties. It supplies properties with an energy demand of up to 400 kW with utmost reliability. Naturally also with domestic

hot water heating, if required. The model range includes heat pumps ranging from 20 kW to 66 kW. With the aid of a so-called cascade control, one or several devices provide the base heating load, whilst the remaining units „kick in“ to cover peak demands. The cascade control has proven to be a significantly more economical operating mode compared to series control, where the load is distributed equally across all devices. What is also special is that when using several devices these can even be easily stacked. As a result the entire heat pump system not only saves lots of energy but also a lot of space in the installation room.



PROBE TECHNOLOGY MAKING GEOTHERMAL ENERGY USEFUL

Ground probe

The ground is the source of thermal energy

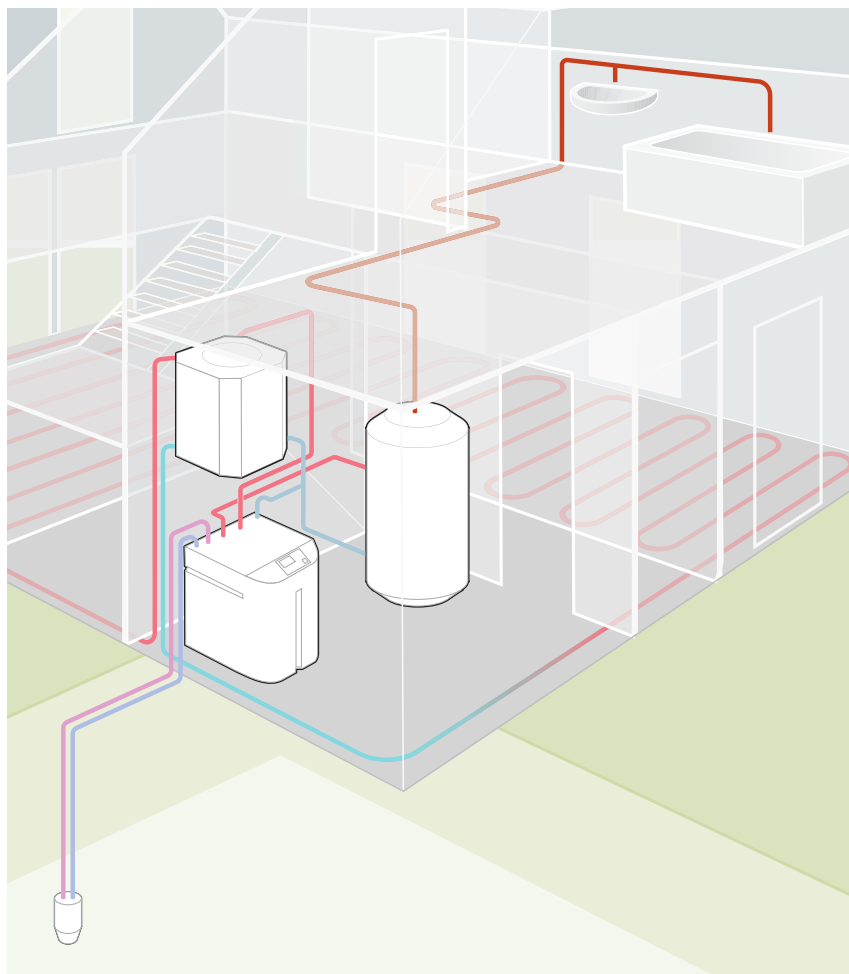
Drilling depth down to 100 m

Suitable for WPC / WPC cool
and WPF heat pumps

Drilling work at a fixed price



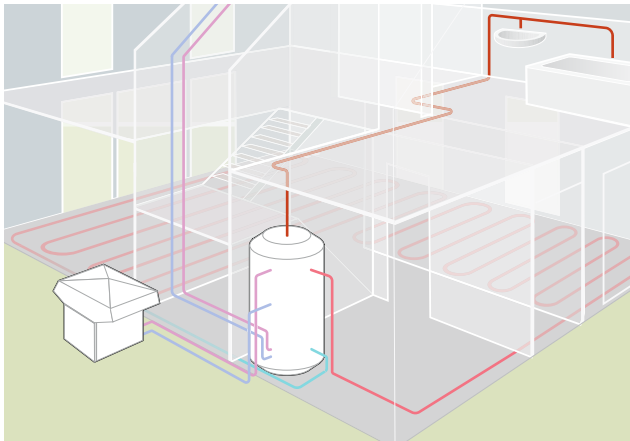
The WPC / WPC cool and WPF heat pumps draw their energy from deep underground.



Energy from the ground | A brine | water heat pump draws its energy from deep underground. As at these depths the ground does not cool off as much as at the surface, the average temperature throughout the year is almost constant. Depending on the energy

requirements, several holes are drilled with depths ranging down to 100 m. Each of these holes is then equipped with a geothermal probe. In combination, these probes deliver the energy required.

THE FREESTANDING CYLINDER HEAT ON STANDBY



Hygienic power packs I In any location where space is at a premium, the SBS cylinders really come into their own. These cylinders are buffer and instantaneous water heater cylinders in one. This enables the highly effective heat exchangers to improve the hygiene inside the cylinder, since only smaller amounts of DHW need to be kept hot to deliver hot water to an entire house. Also in conjunction with environmentally-friendly solar energy: The internal solar indirect coil makes connecting additional renewables as easy as can be. That turns these combi cylinders into real power packs for your installation room.

SBS W and W SOL

Cylinders with 800, 1,000 and 1,500 l (subject to device)

Combined: DHW heating and buffer cylinder in one

Hygienic DHW heating through instantaneous water heater operation

Can also be combined with additional heat sources and a solar heating system (SOL version)

Highly effective insulation for low heat losses (optional)





Storing heat in grand style | The freestanding cylinders SBP 1000 E and 1500 E are the central buffer cylinders for large heat pumps in single or cascade installations. The integral heat exchanger prepare the SBP E SOL for a combination with a solar heating system. In addition, the cylinder can also be connected to two other heat sources, such as, for example, gas or oil fired or pellet heating systems. A provision for a threaded immersion heater is also a standard feature. As a result, the freestanding SBP cylinders offer an ideal interface and collecting point for the most diverse energy systems to enable their integration into heating systems. That saves not only lots of space, but also hard cash. Not least because perfect insulation ensures that the standby losses of these cylinders are remarkably low.

A cool calculation | The freestanding SBP cylinders as cool version feature another outstanding advantage. Not only will they store heat for the heating operation in winter but, in reverse operation, hold cold water to be used by the heat pump on hotter days to help create a pleasant ambience. Consequently, the SBP cool fully utilises the whole performance spectrum of a heat pump-based heating system – in winter and summer alike.

SBP E, E SOL and cool

Cylinders with 100, 200, 400, 700, 1,000 and 1,500 l (subject to device)

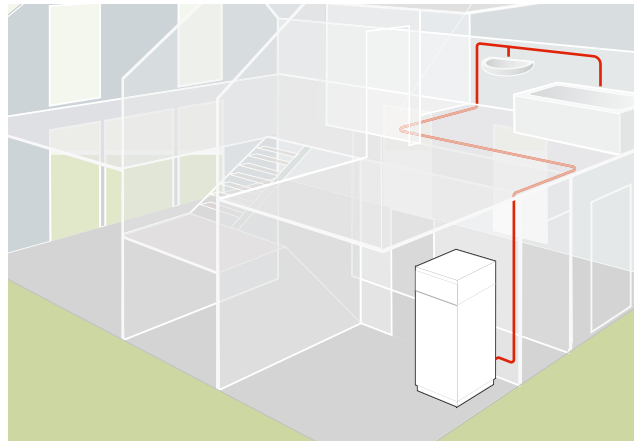
Problem solver in complex heating systems

Suitable for heating and cooling operation (cool version)

Can also be combined with additional heat sources and a solar heating system (SOL version)

Highly effective insulation for low heat losses (optional)

RECOVERING LATENT ENERGY



Catching waste heat | Where DHW heating from renewable sources is concerned, the WWK offers a quick and convenient solution. Advanced heat pump technology enables the utilisation of ambient air to supply a household or a business with hot water. Equipped with a suitable fan, the WWK heat pump simply draws in the warm air and extracts any surplus thermal energy from it. The energy yielded as a result is then used to heat DHW. The intelligent energy management reclaims the latent heat for universal use, thereby reducing the energy costs. A time switch always ensures the right timing. An entire detached house can be supplied with hot water by feeding the recovered heat into the integral cylinder. An integral booster heater closes any energy gap should the demand temporarily rise higher than intended.

WWK 300

300 l at up to + 55 °C in heat pump mode

High energy efficiency

Easy to install and operate

Can also be combined with a solar heating system (SOL version)

Quiet operation



Hot water made easy | Installation rooms are often unintentionally and passively heated, either through a boiler or through electrical appliances that radiate a lot of energy. Rather than allowing it to remain unused, the WWP heat pump reclaims this thermal energy. This way, advanced heat pump technology can turn an apparent disadvantage into a real benefit. As a space-saving standard version, this DHW heat pump supplies a household or small business with 300 litres of hot water, at temperatures up to +60 °C. Installation of this device is genuinely easy. The WWP 300 draws its energy from the ambient air and transfers it to the integral cylinder. The fully wired heat pump only needs to be connected to the water mains and is ready for work.

WWP 300, WWK 300 A, WWK 300 AP, WWK 300 AH, WWK 300 AHP

Standard round version

Up to +60 °C in heat pump mode

COP 3.19 to EN 255 when heating to +60 °C

Easy to install and operate

Versions active defrosting (WWK 300 A/AH)

Versions with booster heater (WWK 300 AH/AHP)



COMBINED HEATING | VENTILATION ENERGY-SAVING CYCLES

As well as heating, every living space also needs a supply of fresh air. However, conventional ventilation systems often allow a lot of heat to escape unintentionally to the outside with the extract air. Modern ventilation systems from STIEBEL ELTRON filter the air and provide a regulated exchange where little energy is wasted. This is because they extract the thermal energy from the extract air and feed it back into the house – so that you don't throw valuable energy out the window.



A NOVEL APPROACH HEATING WITH FRESH AIR THROWN IN



The twins are the biggest part of my life. That's why our home is so important to us. Here, they feel really comfortable. Not too hot, not too cold – and always plenty of fresh air. Our heat pump too provides twin functions: heating and ventilation. Everything works really gently, quietly and automatically. And of course it saves loads of energy. Mine too – so maybe I will have some energy to spare for other things.





Multi-talented | The LWZ 303 / 403 is a heat pump which has been specially designed for energy-efficient houses. It offers the basic functions of DHW and central heating, together with an additional ventilation function. Firstly, it provides you with enough heat which it extracts from the air outside. Secondly, it also heats the water and controls the complete ventilation management system for your apartment. With its innovative countercurrent flow

heat exchanger, the heat pump extracts up to 90 % of the thermal energy stored in the extract air and feeds it back in via the ventilation system. This means that your home will hardly lose any energy at all as a result of ventilation. As a finished and complete unit, the LWZ 303 heat pump comes complete with a 200 litre cylinder and all the necessary control functions for operation of the heating, ventilation and DHW heating systems.



LWZ 303 / 403

Compact devices offering: ventilation, DHW and central heating

Central supply and extract air system for optimum air quality

High thermal available factor of up to 90 %

Integral DHW cylinder

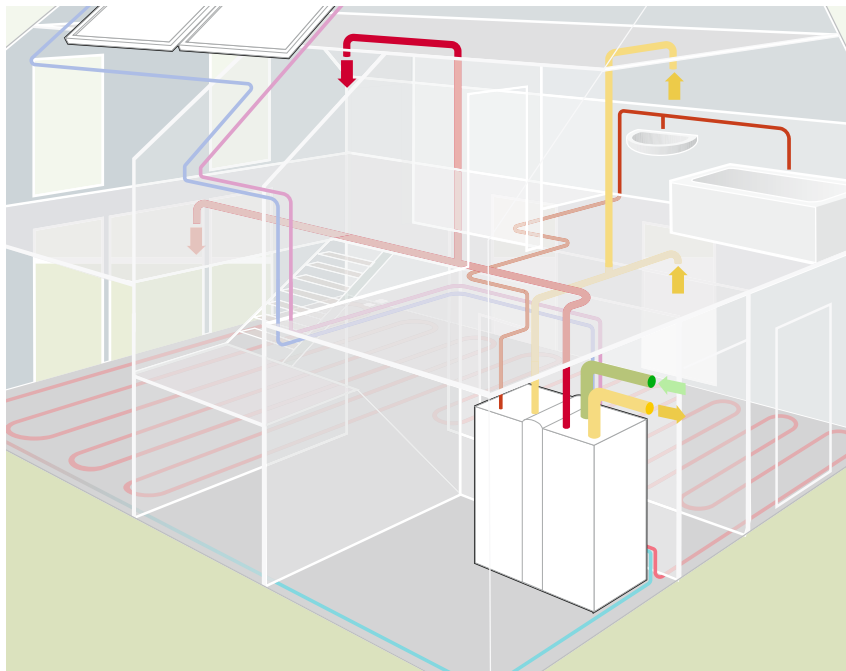
Individual programming

Can also be combined with a solar heating system (SOL version)



Central heating | The LWZ 303 / 403 is designed to supply energy-efficient houses with enough heating for a living area of up to 180 m². The energy required to do this is extracted from the outside air. For this, the equipment is supplied through a large-

diameter hose with air from the outside. Even at -18 °C the system can still provide enough thermal energy. In case of higher energy demands, an integral electric booster heater joins the action.



Ventilation | As a complete unit, the system provides the air changes which are so important particularly in modern houses. In the process, the integral ventilation module not only provides a continuous supply of fresh air. Using a countercurrent system, the heat exchanger also extracts up to 90 % of the residual thermal energy in the stale air before it is expelled. In return, it heats the fresh air as it is drawn in. This innovative method ensures that regulated amounts of draught-free fresh air are supplied to the interior without large quantities of thermal energy escaping in the process.

Solar energy | The LWZ 303 / 403 SOL adds the option of integrating a solar heating system into your system. Here, solar collectors harvest the energy in the sun's rays and feed this energy via a heat exchanger into the heating cycle. The collectors operate independently of the outside temperature and deliver an impressively high rate of

efficiency even during the winter months. The additional energy supplier on the roof assists the heat pump and helps to make further energy savings. Various grants are available to assist individuals with the purchase of a solar heating system, which makes this an even more viable investment.

HEALTHY AIR FOR YOUR HOUSE

LWA 203 / 403

Compact devices offering the following functions:
Ventilation, DHW and central heating

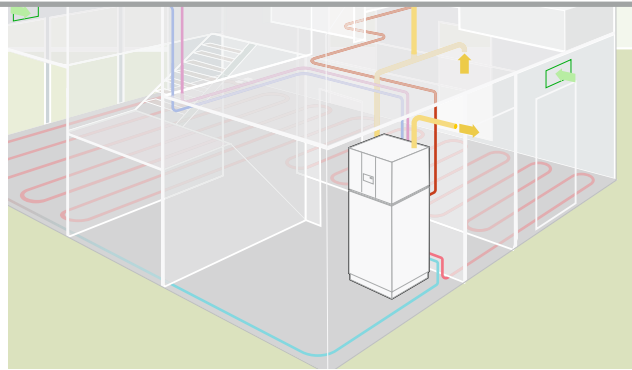
Decentralised fresh air supply

Low thermal energy losses thanks to excellent insulation

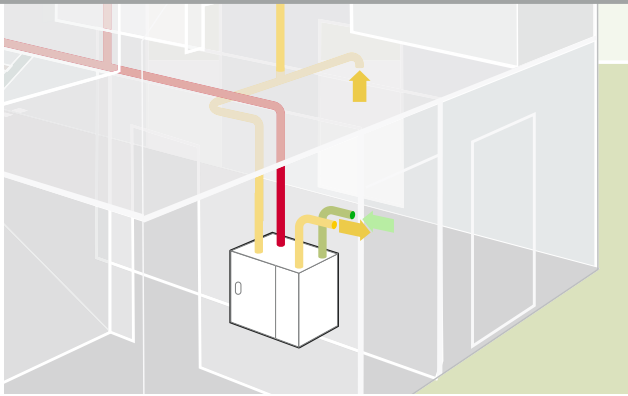
Integral cylinder offers an extremely user-friendly hot water system

Outside air can be used at temps. as low as -18°C (LWA-403 version)

Saving energy during air changes | The LWA 203 / 403 system is ideally suited to the heating and ventilation of energy-efficient houses with a living area of up to 180 m^2 . The central ventilation device with heat pump draws energy from the extract air and feeds it back into the heating circuit. The recovered thermal energy is then also used to heat the hot water. An integral DHW cylinder provides a round-the-clock supply of water at a temperature of up to $+60^{\circ}\text{C}$. The de-centralised supply of filtered fresh air is provided via distributed valves on the external walls of the connected rooms. In addition, the LWA 203 SOL also offers the option of integrating a solar heating system. Collectors on the roof harness the energy in the sun's rays and again feed this energy via a heat exchanger into the integral cylinder.



EFFICIENCY IS IN THE AIR

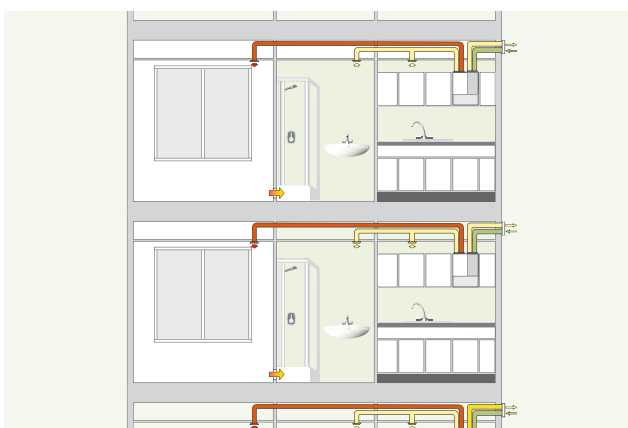


Energy recovery against the flow | The LWZ 70 – 270 is well suited to supplying fresh air to entire apartments as a central ventilation system. Using the countercurrent flow system, it extracts thermal energy from extract air and uses this energy to heat up the incoming fresh air. Thanks to this innovative method, up to 90 % of the energy can be recovered.

As a central ventilation device for living area of up to 290 m², the LWZ 270 unit has been designed to be a slightly more powerful unit. In the process, an easy to change filter cleans any dust particles from the air.

LWZ

- Available in three sizes with different output levels
- Central supply and extract air system for optimum air quality
- Easy to adjust and operate
- Pollutants are continuously transported away from your living space
- High thermal availability factor of up to 90 %
- Cooling effect via night ventilation function available on LWZ 170 plus / 270 plus models
- Special solution for multi-storey apartment buildings (LWZ 70)



Functional principle of the LWZ 70. Example shows integration of the system in a kitchenette

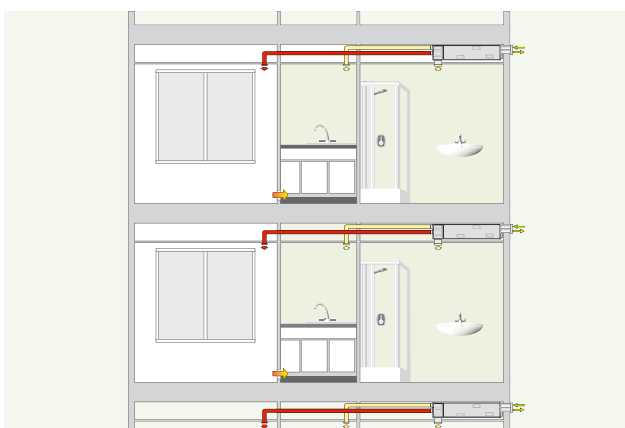




A fresh atmosphere | The LWZ 100 was developed in particular to supply multi-storey apartment buildings with fresh air. The system provides an energy-saving ventilation supply for living areas up to 100 m². In the process, the system is extremely space-efficient, as the entire system is integrated behind false ceilings. Whereas in the past a system of this quality could only have been fitted to a new building, the relatively low investment costs now make it a worthwhile proposition to retrofit a ventilation system to a completed apartment.

LWZ 100

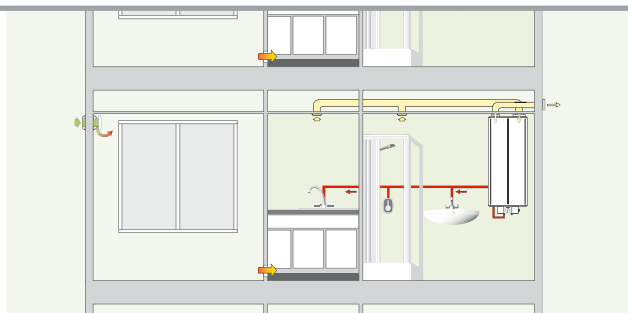
- Space-saving ceiling installation
- One core hole for outside air and expelled air
- Flat ducts can be directly connected
- One extract valve on the device itself
- With integral air pre-heater bank
- Remote control as standard
- Constant flow rate
- Demand-dependent filter change indicator



Functional principle of the LWZ 100 system



IMPROVING THE QUALITY OF THE AIR YOU BREATHE



Fresh air for greater comfort | As a slightly smaller version, the LWA 100 system impresses with the same excellent performance characteristics as the LWA 252. As a complete central ventilation system, it is equipped with an ultra-quiet fan system which creates a slight negative pressure in connected rooms. Fresh air flows in from the outside through individual supply valves in each of the rooms. A highly efficient heat pump extracts the residual thermal energy from the extract air and feeds it into the integral 100 litre water cylinder. The DHW cylinder is heated to around +55°C with the aid of the thermal energy extracted from the extract air, covering the DHW demand for the entire apartment. An additional 3 kW immersion heater in the cylinder provides additional heating power in cases of increased hot water demand, as a result of which there is always enough hot water on tap.

The LWA 100 systems is also well suited for retrofit installations, as the distributed fresh air supply means that a large part of the pipes otherwise associated with this type of ventilation system will not be required.

LWA 100

Compact device offering the following functions:

Ventilation and DHW heating

Automatic ventilation provided independently of tenant behaviour

Easy calculation of additional costs for DHW and central heating, etc.

No changes required to the fabric of the building

A breath of fresh air | The central ventilation device LWA 252 has been specially developed for apartments and houses with a living space of at least 100 m² or more. It represents an excellent addition to a second heat source and is therefore also ideally suited to retrofit installations. The system generates a slight negative pressure in connected rooms, forcing the supply of fresh air through distributed air supply valves. A heat pump inside the unit draws the thermal energy from the extract air and feeds it into the integral 300 litre cylinder. The particular advantage of this system is that the distributed fresh air supply means that there is no need for many of the pipes otherwise associated with this type of ventilation system. This obviously reduces the outlay for installation. Despite this, the system is extremely economical, as the heat in the rooms which is discharged with the vented air is recovered and used to heat the hot water. The LWA 252 SOL ventilation unit is also perfect for combining with a solar heating system.

LWA 252

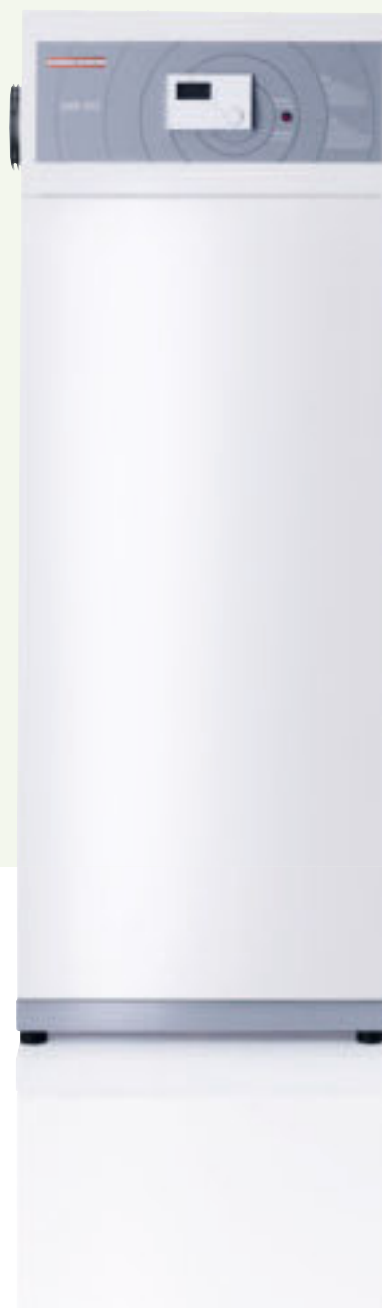
Compact device offering the following functions:

Ventilation and DHW heating

CFC-free thermal insulation with low thermal losses

Ventilation and DHW program

Can also be combined with a solar heating system (SOL version)



A pair of dark-rimmed glasses with a reddish-brown temple is resting on an open book. The book's pages are filled with German text, which is slightly out of focus. The background is a warm, light brown color.

SOLAR POWER SEEING THE SUN IN A DIFFERENT LIGHT

The majority of energy stored on earth has been produced practically by the sun alone. Of course, this power can also be harnessed directly. After all, this intensive radiation is available every day, free of charge – even in winter! Various grants are available to assist individuals purchasing a solar heating system. STIEBEL ELTRON supply the matching technology that helps to make the most of this free source of energy in the home.



SOLAR COLLECTORS WHEN THE SUN BEAMS YOU WILL TOO

There are two basic methods of converting solar energy into energy which can be used in the home. On the one hand we have photovoltaic systems. These convert the energy in the sun's rays into electric current. An inverter then converts the low voltage DC current into 230 V AC current. The modular efficiency of such a system is around 20 %. On the other hand we have solar heating systems. These systems convert the energy

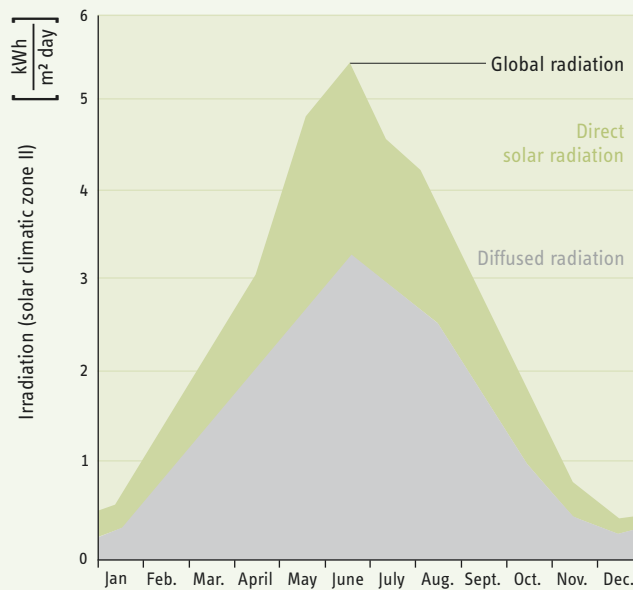
in the sun's radiation into thermal energy. This is then used, for example, to for central heating backup or to provide hot water. The advantage of solar heating systems is that a large proportion of domestic energy is generally used for DHW and central heating. STIEBEL ELTRON products are the result of more than 25 years of research and experience in the field of solar heating systems. The sun collectors are characterised by extremely

high absorption of radiation, low emission of radiation and impressively long durability (the collector efficiency is above 80 %). The combination of all the constituent technical components enables these systems to achieve an extremely high thermal efficiency. The high performance products from STIEBEL ELTRON are manufactured from environmentally safe materials and finished to the highest quality standards.

Nice weather | In Germany, the sun shines between 1,400 and 1,900 hours a year. This means that the sun delivers at least 1,000 kWh of energy per square meter free of charge. This is the equivalent energy content of around 180 kg lignite, 230 kg firewood or 95 m³ of natural gas.

With a collector area of 4 – 6 m², a family of seven can cover around 70 % of their annual DHW demand.

In Germany, a solar heating system can save up to 70 % of the annual energy costs associated with generating hot water.



Solar heating systems from STIEBEL ELTRON offer a high level of convenience in all areas. Operation is fully automated and extremely low-maintenance. So, as well as making a valuable contribution towards complying with all energy saving directives, these systems can also increase the value of a property and

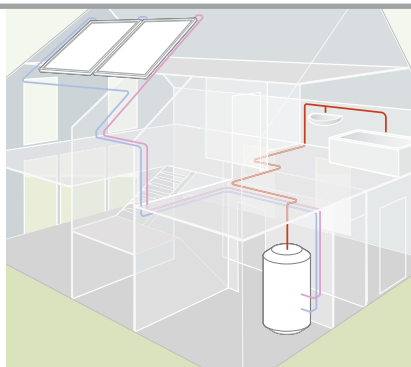
save energy costs. Not just for DHW, but also for central heating. During the spring months from March to May and autumn months September to November, solar energy can be used to backup the heating system. Also, the solar collectors can be combined with heat pumps to form a complete system for renewable energy.



SOLAR ENERGY JUST SOAK UP THE RAYS



Today, Sunday is really living up to its name. All day it has been a beautiful, sunny day. So now I am taking the time to really relax. Maybe an extended and self-indulgent breakfast, a nice book – or maybe nothing at all. Soaking up sunshine is the perfect way to spend today. It relaxes me and does such a fantastic job of recharging my batteries. Tonight I think I am going to make a nice evening of it. But first I am going for a lovely long soak in the bath. This is one of life's little luxuries that hardly costs me a penny. That is because the solar collectors on the roof are a bit like me. They too, have just been lying around all day, soaking up energy. And now I'm going to use it. So the best things in life are free after all!



Well covered | The flat-plate collectors reliably collect the incoming solar energy and convert it into usable thermal energy. Advanced absorber technology captures 95 % of all insolation.

With a surface area of 2.20 m², the SOL 20 Si harvests enough energy to cover the entire hot water demand for two occupants. Up to three collectors can be linked in series, with the installation being restricted to the on end orientation.

The SOL 27 plus makes its case as the big brother, offering some 2.63 m². Up to five collectors can be linked in series.

SOL 20 Si

Efficiency 81 %

Installation only on end

Only suitable for tiled roofs

SOL 27 plus

Quick fixing system for tiled roofs

Efficiency 81 %

Installation on end and across

Optional installation on tiled, corrugated and flat roofs or on walls

Frame colour silver or brown anodised (C34)



FLAT-PLATE COLLECTORS ENERGY-SAVING ROOF CONCEPTS

Integral solution | The SOL 23 plus flat-plate collector blends in perfectly into your roof. Thanks to its unique in-roof installation technology with recessed frame, this high-performance collector is quick and easy to integrate in any roof. But the SOL 23 plus doesn't just stand out aesthetically. With a maximum output of 1,600 W on an absorption area of 2.0 m², the flat-plate collector also meets the most exacting technical requirements. SOL 23 plus panels can also be connected in series, either side by side or one above the other.

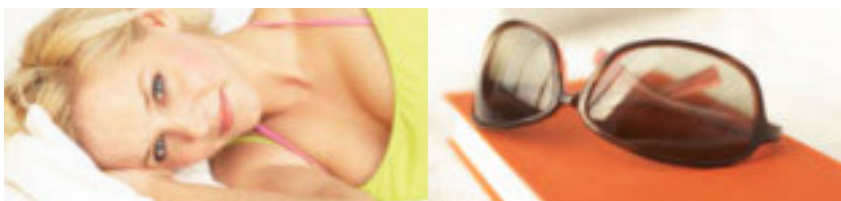
SOL 23 plus

Efficiency of 81 %

Only for upright installation

Can also be installed individually





One for all | The SBB upright cylinder is where all of the energy comes together. With its parallel connection options for a solar heating system, condensing boiler, electric booster heater or heat pump, it forms the large interface and meeting point for all the different domestic energy systems. The cylinder will particularly impress with its inner values. Its two specially-designed indirect coils are particularly good at transferring heat in a most efficient manner. At the same time, they are just as resistant to limescale deposits as the entire inner casing, which features a special enamel coating. With maximum operating pressures of up to 10 bar, this unit can deliver a reliable DHW supply even to larger households.

SBB plus

Rated capacity 300 / 400 / 600 l

Special solar cylinder

Used to supply any number of taps or other draw-off points

Provided with standard anti-corrosion protection in the form of a magnesium signal anode

Suitable for operation with heat pumps

Door frame size without thermal insulation: 770 mm (600 l cyl.)



The image shows two identical white plastic cups with horizontal ridges, each containing dark brown soil and a small green seedling with two leaves. The cups are placed on a light-colored wooden plank surface. The background is a soft-focus green, suggesting an outdoor setting. A semi-transparent white horizontal band is positioned across the middle of the image, containing the text.

DATA, FACTS AND ACCESSORIES
CAREFULLY POSITIONED INFORMATION



AIR | WATER HEAT PUMPS



Model		Air Water heat pumps WPL													
- Type		WPL 10 I		WPL 7 AS		WPL 10 A		WPL 10 AS		WPL 7 IKS		WPL 10 IK		WPL 10 IKS	
- Part no.		220811		222049		220812		222048		222138		220826		222137	
Characteristics ¹⁾															
- Application limit WQA		°C		- 20 to + 30											
- Max. flow temperature ²⁾		°C		+ 60											
- Refrigerant		R407C													
- Heat source temperature WQA		°C		+ 2		+ 2		+ 2		+ 2		+ 2		+ 2	
- Flow temperature WNA		°C		+ 35	+ 50	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50
- Output		kW		6.7	5.8	4.9	3.8	6.7	5.8	6.7	5.8	4.9	3.8	6.7	5.8
- Power consumption		kW		2.0	2.3	1.5	1.5	2.0	2.3	2.0	2.3	1.5	1.5	2.0	2.3
- Coefficient of Performance		ε		3.3	2.5	3.3	2.5	3.3	2.5	3.3	2.5	3.3	2.5	3.3	2.5
- Installation				Internal		External		Compact, internal							
Dimensions and weight															
- Standard equipment (HxWxD)		mm	1,010x758x856		1,245x967x1,122		1,668x778x925								
- Weight		kg	166		182		212								



Model	Air Water heat pumps WPL				Accessories ³⁾		
- Type	WPL 13		WPL 13 S	WPL 16 S	WPIC		
- Part no.	074410		227028	222029	187909		
Characteristics ¹⁾							
- Application limit WQA	°C	- 20 to + 30			-		
- Max. flow temperature ²⁾	°C	+ 60			-		
- Refrigerant		R407C			-		
- Heat source temperature WQA	°C	+ 2	+ 2	+ 2	-		
- Flow temperature WNA	°C	+ 35	+ 50	+ 35	-		
- Output	kW	8.0	7.7	8.7	9.8	-	
- Power consumption	kW	2.5	3.0	2.6	2.8	-	
- Coefficient of Performance	ε	3.2	2.5	3.4	3.5	-	
- Installation	All WPL heat pumps are available as internal or external versions				-		
- Suitable for heat pump		-	-	-	-	WPL 13 / WPL 18 / WPL 23	
Dimensions and weight							
- Standard equipment (HxWxD)	mm	1,116x784x1,182		1,182x784x1,116		1,819x800x1,240	
- Weight	kg	210		205		215	80

Key

¹⁾ Output details to DIN EN 14511.

²⁾ Down to approx. - 10 °C outside temperature; + 50 °C at - 20 °C outside temperature.

³⁾ Accessories for internal installation.



Model	Air Water heat pumps WPL						Accessories ¹⁾
- Type	WPL 18		WPL 23		WPL 33 ²⁾		WPIC
- Part no.	074411		182133		185348		187909
Characteristics ³⁾							
- Application limit WQA	°C	- 20 to + 30					-
- Max. flow temperature	°C	+ 60					-
- Refrigerant		R407C					-
- Heat source temperature WQA	°C	+ 2	+ 2	+ 2			-
- Flow temperature WNA	°C	+ 35	+ 50	+ 35	+ 50	+ 35 + 50	-
- Output	kW	11.6	11.2	12.9	12.8	10.8 / 17.7 10.9 / 19.0	-
- Power consumption	kW	3.4	4.4	4.0	5.4	3.3 / 6.1 4.4 / 8.4	-
- Coefficient of Performance	ε	3.3	2.4	3.1	2.3	3.2 / 2.7 2.4 / 2.1	-
- Installation		All WPL heat pumps are available as internal or external versions					-
- Suitable for heat pump		-	-	-	-	-	WPL 13 / WPL 18 / WPL 23
Dimensions and weight							
- Standard equipment (HxWxD)	mm	1,116x784x1,182			1,116x784x1,332		1,819x800x1,240
- Weight	kg	220		225		260	80



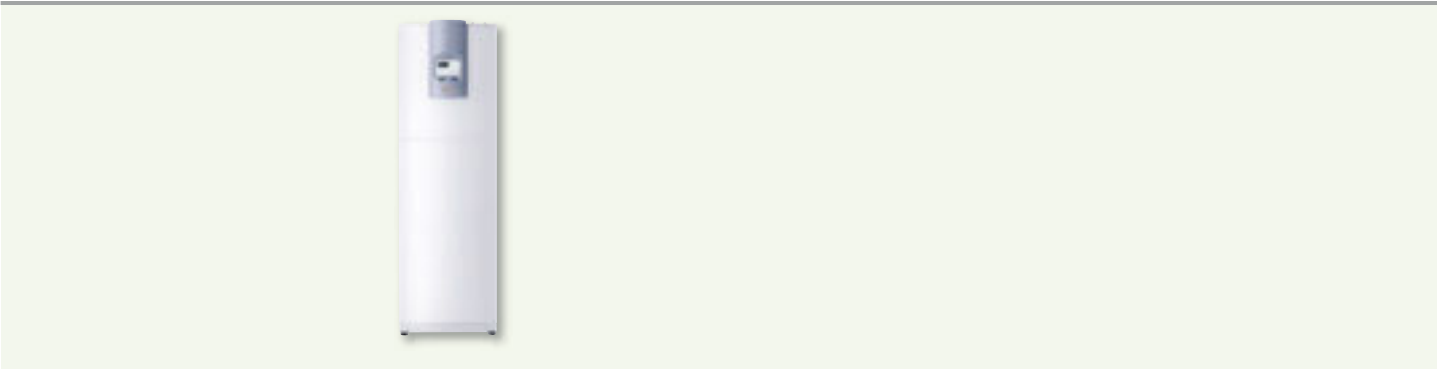
Model	Air Water heat pumps WPL cool						Accessories ¹⁾	
- Type	WPL 13 cool		WPL 18 cool		WPL 23 cool		WPIC	
- Part no.	223400		223401		223402		187909	
Characteristics ³⁾								
- Application limit WQA	°C	- 20 to + 30					-	
- Max. flow temperature	°C	+ 60					-	
- Refrigerant		R407C					-	
- Heat source temperature WQA	°C	+ 2		+ 2		+ 2	-	
- Flow temperature WNA	°C	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50	-
- Output	kW	7.1	7.4	10.8	11.2	12.9	13.3	-
- Power consumption	kW	2.1	2.8	3.0	4.1	3.8	5.1	-
- Coefficient of Performance	ε	3.4	2.6	3.6	2.7	3.4	2.6	-
- Cooling capacity with A30 / W7	kW	7.2		10.1		13.0		-
- Installation		All WPL heat pumps are available as internal or external versions					-	
- Suitable for heat pump		-	-	-	-	-	-	WPL 13 / 18 / 23 cool
Dimensions and weight								
- Standard equipment (HxWxD)	mm	1,116x784 x 1,182					1,819x800 x 1,240	
- Weight	kg	210		220		225		80

Key ¹⁾ Accessories for internal installation.

²⁾ Partial/full load details are specified for WPL 33.

³⁾ Output details to DIN EN 14511.

BRINE | WATER HEAT PUMPS



Model		Brine Water heat pumps WPC														
- Type		WPC 5		WPC 5 S		WPC 7		WPC 7 S		WPC 10		WPC 10 S		WPC 13		
- Part no.		220251		221480		220252		221481		220253		221482		220254		
Characteristics ¹⁾																
- Application limit WQA		°C	- 5 to + 20													
- Max. flow temperature		°C	+ 60													
- Nominal cylinder capacity		l	175				175				162				162	
- Refrigerant		R410A														
- Heat source temperature WQA		°C	± 0													
- Flow temperature WNA		°C	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50
- Output		kW	5.8	5.5	5.8	5.5	7.8	7.3	7.8	7.3	9.9	9.5	9.9	9.5	13.4	12.7
- Power consumption		kW	1.3	2.0	1.3	2.0	1.8	2.5	1.8	2.5	2.2	3.1	2.2	3.1	3.1	4.3
- Coefficient of Performance		ε	4.3	2.8	4.3	2.8	4.4	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.4	3.0
Dimensions and weight																
- Dimensions (HxWxD)		mm	2,100x600x650													
- Weight		kg	275		275		285		285		295		295		305	



Model		Brine Water heat pumps WPC cool							
- Type		WPC 5 cool		WPC 7 cool		WPC 10 cool		WPC 13 cool	
- Part no.		220255		220256		220257		220258	
Characteristics ¹⁾									
- Application limit WQA	°C	- 5 to + 20							
- Max. flow temperature	°C	+ 60							
- Nominal cylinder capacity	l	175		175		162		162	
- Refrigerant		R410A							
- Heat source temperature WQA	°C	± 0							
- Flow temperature WNA	°C	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50
- Output	kW	5.8	5.5	7.8	7.3	9.9	9.5	13.4	12.7
- Power consumption	kW	1.3	2.0	1.8	2.5	2.2	3.1	3.1	4.3
- Coefficient of Performance	ε	4.3	2.8	4.4	2.9	4.5	3.0	4.4	3.0
Dimensions and weight									
- Dimensions (HxWxD)	mm	2,100 x 600 x 650							
- Weight	kg	283		293		303		313	

BRINE | WATER HEAT PUMPS

Model	Air heater module LWM 250	
- Type	LWM 250	
- Part no.	189999	
Characteristics		
- Air flow rate	m³/h	90 - 270
- Air connection	ø mm	160
Dimensions and weight		
- Dimensions (HxWxD)	mm	360x600x420
- Weight (incl. packaging)	kg	31



Model	Cooling module WPAC	
- Type	WPAC 1	WPAC 2
- Part no.	221357	221358
Characteristics		
- Suitable for heat pump	WPF 5/7/10/13	WPF 5/7/10/13
Dimensions and weight		
- Dimensions (HxWxD)	mm	540x510x350 500x600x170
- Weight	kg	25 25



Model	Brine Water heat pumps WPF														
- Type	WPF 5		WPF 5 S		WPF 7		WPF 7 S		WPF 10		WPF 13		WPF 16		
- Part no.	074294		074425		074295		074426		074296		074297		220818		
Characteristics ¹⁾															
- Application limit WQA	°C	- 5 to +20													
- Max. flow temperature	°C	+ 60													
- Refrigerant		R410A													
- Heat source temperature WQA	°C	± 0													
- Flow temperature WNA	°C	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50	+ 35	+ 50
- Output	kW	5.8	5.5	5.8	5.5	7.8	7.3	7.8	7.3	9.9	9.5	13.4	12.7	16.1	15.1
- Power consumption	kW	1.35	2.0	1.35	2.0	1.78	2.5	1.78	2.5	2.2	3.1	3.05	4.3	3.6	5.0
- Coefficient of Performance	ε	4.3	2.8	4.3	2.8	4.4	2.9	4.4	2.9	4.5	3.0	4.4	3.0	4.5	3.0
Dimensions and weight															
- Dimensions (HxWxD)	mm	960x510x680													
- Weight	kg	107.5		107.5		113.5		113.5		120.5		128.5		131.0	

BRINE | WATER HEAT PUMPS



Model		Modular series Brine Water heat pumps WPF				
- Type		WPF 20	WPF 27	WPF 40	WPF 52	WPF 66
- Part no.		223374	223375	223376	223377	223378
Characteristics ¹⁾						
- Application limit WQA	°C	- 5 to + 20				
- Max. flow temperature	°C	+ 60				
- Refrigerant		R410A				
- Heat source temperature WQA	°C	± 0				
- Flow temperature WNA	°C	+ 35				
- Output	kW	21.8	29.7	45.7	55.8	69.0
- Coefficient of Performance	ε	4.8	4.9	4.9	4.8	4.8
Dimensions and weight						
- Dimensions (HxWxD)	mm	1,154 x 1,242 x 860				
- Weight	kg	345	376	415	539	655

DHW HEAT PUMPS



Model		DHW heat pumps WWK and WWP						
- Type		WWK 300	WWK 300 SOL	WWP 300	WWK 300 A	WWK 300 AP	WWK 300 AH	WWK 300 AHP
- Part no.		074361	074362	227661	222422	227069	227070	227071
Characteristics								
- Application range, ambient air		°C	+ 6 to + 35				± 0 to + 42	
- Refrigerant			R134A (850 g)			R134A (900 g)		
- Cylinder capacity		l	303	284	300			
- Output		kW	approx. 1.6	approx. 1.6	approx. 1.7			
- Coefficient of Performance		ε	4.1 ²⁾	4.1 ²⁾	3.19 ³⁾			
Dimensions and weight								
- Dimensions (HxWxD)		mm	1,792 x 660 x 688	1,792 x 660 x 688	1,875 x 660 x 660			
- Weight, dry		kg	150	180	125			

HEATING / VENTILATION SYSTEM



Model	Integral system/Integral system with solar connection LWZ and LWZ SOL		
- Type	LWZ 303 Integral	LWZ 303 SOL	LWZ 403 SOL
- Part no.	074360	185281	220466
Characteristics			
- Air flow rate	m ³ /h	80 – 230	110 – 280
- DHW cylinder capacity	l	200	200
- Output at A2/W25	kW	4.2	6.0
- Electric booster heater	kW	8.8	8.8
Dimensions and weight			
- Dimensions (HxWxD)	mm	1,870x1,320x770	
- Weight (2 transport units)	kg	351	391

VENTILATION, DHW AND CENTRAL HEATING



Model	Central ventilation equipment with heat pump LWA and LWA SOL		
- Type	LWA 203	LWA 203 SOL	LWA 403
- Part no.	074260	074262	220467
Characteristics			
- DHW temperature via HP	°C	60	50
- Air flow rate	m ³ /h	70 – 290	110 – 280
- DHW cylinder capacity	l	300	200
- Output at L20/W35	kW	1.5	6.0 (at A2/W35)
- Electric booster	kW	6.6	8.8
Dimensions and weight			
- HxWxD excl. connector	mm	1,980x775x775	1,870x1,320x770
- Weight, dry	kg	187	391

CENTRAL VENTILATION EQUIPMENT



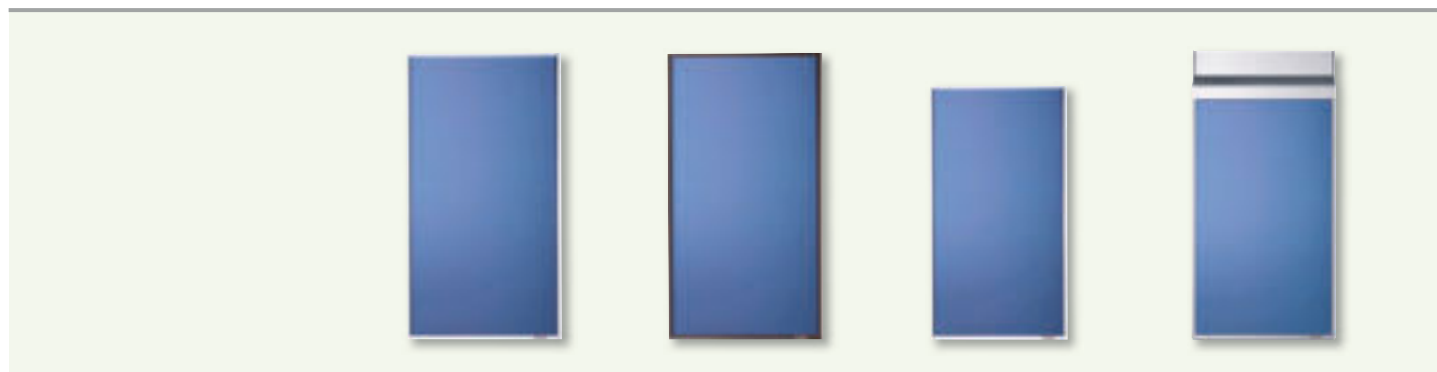
Model		Central ventilation equipment LWZ					
- Type		LWZ 70	LWZ 170	LWZ 170 plus	LWZ 270	LWZ 270 plus	LWZ 100
- Part no.		221409	221234	221235	221236	221237	221472 / 221397
Characteristics							
- Air flow rate	m³/h	70 – 150	70 – 250	70 – 250	100 – 350	100 – 350	30 – 130
- Fan power consumption	W	80	130	130	230	230	75
- Heat availability level	%	to 90					
Dimensions and weight							
- Dimensions (HxWxD)	mm	600x560x290	602x675x445	602x675x525	602x675x455	602x675x535	270x760x1,130
- Weight	kg	25	31	35	31	35	35

CENTRAL VENTILATION EQUIPMENT WITH DHW CYLINDER AND DECENTRALISED VENTILATION HEATER



Model	Central ventilation system		Central ventilation system	Decentralised fan heater
- Type	LWA 252	LWA 252 SOL	LWA 100	DL 13 eurovent
- Part no.	074264	074265	221470	074075
Characteristics				
- Air flow rate	m ³ /h	70 – 290	70 – 290	60 – 130
- DHW cylinder capacity	l	300	290	100
- Heat pump output	kW	1.4	1.4	0.8
- Electric booster	kW	1.5	1.5	3.0
- Heat availability level	%	-	-	-
Dimensions and weight				
- HxWxD excl. connector	mm	1,860x696x735	1,860x696x735	1,290x510x510
- Weight, dry	kg	150	180	65

SOLAR COLLECTORS



Model	Flat-plate collectors SOL			
- Type	SOL 27 plus	SOL 27 plus C34	SOL 20 Si	SOL 23 plus
- Part no.	220455	227584	221099	221363
Characteristics				
- Total area	m ² 2.63		2.2	2.7
- Aperture area	m ² 2.41		2.0	2.0
- Frame colour	Silver anodised	Dark anodised	Silver anodised	Silver anodised
- Idle temperature	°C 213		209	213
- Angle of inclination	° 20 to 90		20 to 80	30 to 90
- Max. output / collector	W 2,000		1,500	1,600
- Connection, system pipe	inch G ¾"			
- Casing	Aluminium			
- Cover	Special solar glass			
- Glass thickness	mm 4		3.2	4
- Conversion factor	η ₀ 0.81		0.82	0.81
Dimensions and weight				
- Dimensions (HxWxD)	mm 2,205x1,195x106		1,923x1,148x106	2,340x1,193x106
- Weight	kg 48		41	54
- Installation options	Tiled roof, corrugated roof, flat roof, wall		Tiled roof	Roof integration (tiled roof)

SOLAR SETS

Model	Solar sets for DHW heating			
- Type	Entry model 150/1	Entry model 300/2	Standard 300/2	Standard 400/3
- Part no.	221387	221388	222050	221389
Characteristics				
- Suitable for ... occupants ¹⁾	2	4	6	8
- Collector area	m ² 2.2	4.4	5.3	7.9
- Collector type	SOL 20 SI	SOL 20 SI	SOL 27 plus	SOL 27 plus
- Cylinder size	l 150	300	300	400
Description				
- Suitable for ...	DHW heating for approx. 2 occupants in apartments or weekend homes. Comprising 1 high performance flat-plate collector SOL 20 Si and the wall mounted solar cylinder KS 150 SOL	DHW heating for approx. 4 occupants in weekend homes or detached houses. Comprising 2 high performance flat-plate collectors SOL 20 SI and the freestanding DHW cylinder SBB 300 plus	DHW heating for approx. 6 occupants in detached houses. The set comprises 2 high performance flat-plate collectors SOL 27 and the freestanding DHW cylinder SBB 300 plus	DHW heating for approx. 8 occupants in detached houses/apartment blocks. The set comprises three high performance flat-plate collectors SOL 27 plus and the freestanding DHW cylinder SBB 400 plus
Standard delivery				
- The set includes	Fixing set for tiled roofs, solar control unit, pump assembly, expansion vessel, heat transfer medium, collector sensor well, corrugated hose for routing through the roof			

Key

¹⁾ Standard system for the stated number of occupants with 40 litre DHW consumption per day/person (45 °C DHW temperature); climate zone I – location, for example, Würzburg; orientation due south; roof pitch 45°, no shading, 10 m single pipe run length, pipework thermally insulated 100 % to EnEV [Germany] (80 % internally, 20 % externally); coverage: approx. 40 to 60 % p. a., subject to system characteristics and installation conditions.

SOLAR SETS

Model	Solar sets for DHW heating		
- Type	Standard 400/4	Standard 600/5	Standard 600/6
- Part no.	221390	221391	221392
Characteristics			
- Suitable for ... occupants ¹⁾	10	12	15
- Collector area m ²	10.5	13.2	15.8
- Collector type	SOL 27 plus	SOL 27 plus	SOL 27 plus
- Cylinder size l	400	600	600
Description			
- Suitable for ...	DHW heating for approx. 10 occupants in detached houses/apartment blocks. The set includes four high performance flat-plate collectors SOL 27 plus and one freestanding DHW cylinder SBB 400 plus	DHW heating for approx. 12 occupants in detached houses and apartment blocks. The set includes five high performance flat-plate collectors SOL 27 plus and one freestanding DHW cylinder SBB 600 plus	DHW heating for approx. 15 occupants in detached houses and apartment blocks. The set includes six high performance flat-plate collectors SOL 27 plus and one freestanding DHW cylinder SBB 600 plus
Standard delivery			
- The set includes	Fixing set for tiled roofs, solar control unit, pump assembly, expansion vessel, heat transfer medium, collector sensor well, corrugated hose for routing through the roof.		

Model	Solar sets for DHW heating and central heating backup		
- Type	Premium 600/4	Premium 600/6	Profi 300 – 700/8
- Part no.	221393	221394	221395
Characteristics			
- Suitable for ... occupants ²⁾	4	6	8
- Collector area m ²	10.5	15.8	21.1
- Collector type	SOL 27 plus	SOL 27 plus	SOL 27 plus
- Cylinder type	SBK 600/150	SBK 600/150	SBB 300 plus/SBP 700 ESOL
- For heating demand up to ... kW	12	12	12
Description			
- Set for ...	DHW heating and central heating backup for approx. 4 occupants. Comprising 4 flat-plate collectors SOL 27 plus and one solar combi cylinder SBK 600/150	DHW heating and central heating backup for approx. 6 occupants. Comprising 5 flat-plate collectors SOL 27 plus and one solar combi cylinder SBK 600/150	DHW heating and central heating backup for approx. 8 occupants. Comprising 6 flat-plate collectors SOL 27 plus, one solar DHW cylinder SBB 300 plus and the buffer cylinder SBP 700 E SOL
Standard delivery			
- The set includes	Fixing sets for tiled roofs, solar control unit, pump assembly, expansion vessel, heat transfer medium, collector sensor well, corrugated hose for routing through the roof		

Key

¹⁾ Standard system for the stated number of occupants with 40 litre DHW consumption per day/person (45 °C DHW temperature); climate zone I – location, for example, Würzburg; orientation due south; roof pitch 45°, no shading, 10 m single pipe run length, pipework thermally insulated 100 % to EnEV [Germany] (80 % internally, 20 % externally); coverage: approx. 40 to 60 % p.a., subject to system characteristics and installation conditions.

²⁾ Standard system with 40 litres DHW consumption per day/person each (45 °C DHW temperature); heating system with a heat demand of up to 12 kW; climate zone I – location, for example Würzburg; orientation due south; roof pitch 45°, no shading, 15 m single pipe run length, pipework thermally insulated 100 % to EnEV [Germany] (80 % internally, 20 % externally); coverage: approx. 15 to 25 % p.a., subject to system characteristics and installation conditions as well as the prevailing heating demand. Size the system differently if a different climate zone, number of occupants, a different DHW consumption per day or a different solar coverage applies.

ACCESSORIES FOR PERFECTLY CONTROLLED ENERGY MANAGEMENT

Tailor-made convenience | Expensive energy requires careful handling. The advanced control technology from STIEBEL ELTRON puts control right into your hand. No matter whether you control a single device, an entire system or complex plant with diverse energy sources – control units from STIEBEL ELTRON put you in charge. The easy to operate programming units enable all devices to be regulated as required, ensuring perfect convenience and comfort in next to no time.

ACCESSORIES HEAT PUMPS



FE 7 | The remote control with room temperature sensor ensures the adjustment in line with the set room temperatures. In addition, it changes the operating modes over between day mode, setback mode and heating programs. It can be used for both heating circuits in conjunction with the heat pump managers WPM II and WPM i.



FEK remote control "cooling" | The digital remote control unit enables the convenient input, display and control of the cooling and the heating mode. For this, the device takes the relative humidity into account, it monitors the dew point and thereby actively prevents condensation.



WPM II | The heat pump manager regulates the optimum heat pump operation, and calculates the efficient handling of the heating energy. Numerous functions and the combined symbolic and plain text display enable the easy control of this advanced technology.



MSM mixer module | The SMS mixer module was designed as additional controller with its own timer program and further activation options as well as for controlling in swimming pools.



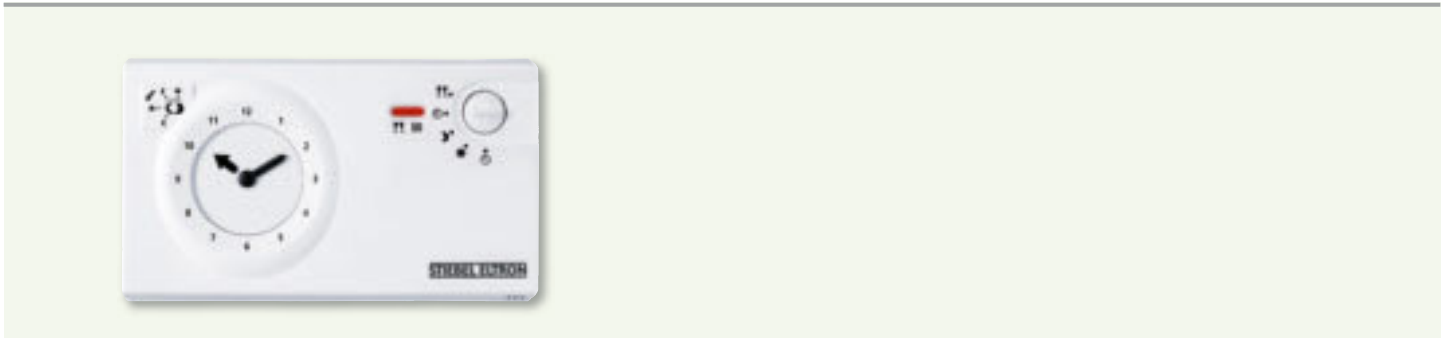
Installation example

DCO aktiv GSM | The interactive control unit for heat pumps automatically links up to the customer service. The service partner can scan and adjust parameters via a commercially available GSM or analog modem, and frequently remove faults from afar. Available as fully wired COMBOX module including analog or GSM modem in a wall mounted enclosure (COMBOX analog / COMBOX GSM).

ComSoft | The ComSoft service program records all information with relevance to the customer service. This allows the service partner to scan all settings and immediately diagnose any faults. The program supports the remote monitoring of the DCO aktiv GSM.

ACCESSORIES

VENTILATION



Remote control | The remote control regulates the fan stages in ventilation systems. In addition, it indicates in good time when the filter needs changing. In the special party mode, it safeguards a more rapid filter replacement.

ACCESSORIES

SOLAR



SOM 8 electronic comfort | The solar control unit with multi-function display is suitable for small and large solar heating systems alike. It regulates the heating backup and the DHW heating. An additional function organises the heat control for systems on roofs with an east-west orientation, and integrates the central heating and heat boosting for up to four cylinders.



SOM 6 plus | The differential controller for a single consumer measures the temperature differential between the collector and the cylinder, and intervenes in the process when the set default value is exceeded.

SOM 7 plus | The solar controller for use in standard solar heating systems for DHW heating and central heating backup. This temperature differential controller is designed for two consumers.

BUFFER CYLINDER

FOR HEAT PUMP | SOLAR OPERATION



Model	Buffer cylinder SBP 100, SBP 200 400 E, SBP 200 400 E cool, SBP 700 E and E SOL						
- Type	SBP 100	SBP 200 E	SBP 400 E	SBP 200 E cool	SBP 400 E cool	SBP 700 E	SBP 700 E SOL
- Part no.	185443	185458	220824	227590	227591	185459	185460
Characteristics							
- Nominal capacity	l	100	200	400	200	400	700
- Solar heat exchanger area	m ²	-	-	-	-	-	2
Weight and dimensions, incl. ins.							
- Height	mm	955	1,550	1,710	1,550	1,710	1,890
- Width	mm	Ø 510	Ø 630	Ø 750	Ø 630	Ø 750	Ø 910
- Weight	kg	42.5	56	79	58	81	176
Application areas							
- EFH/ZFH/MFH/Commercial		(•)/-/-/-	•/-/-/-	•/-/-/-	•/-/-/-	•/•/-/-	•/•/-/-
- Heating/cooling/DHW		•/-/-	•/-/-	•/-/-	•/•/-	•/-/-	•/-/-
- May be combined with a heat pump/ solar/other heat sources		•/-/-	•/-/-	•/-/-	•/-/-	•/-/•	•/•/•



Model	Buffer cylinder SBP 1000 1500 E, SBP 1000 1500 E SOL, SBP 1000 1500 E cool					
- Type	SBP 1000 E	SBP 1500 E	SBP 1000 E SOL	SBP 1500 E SOL	SBP 1000 E cool	SBP 1500 E cool
- Part no.	227564	227565	227566	227567	227588	227589
Characteristics						
- Nominal capacity	l	1 000	1,500	1,000	1,500	1,000
- Solar heat exchanger area	m ²	-	-	3	3.6	-
Weight and dimensions, incl. ins. ¹⁾						
- Height	mm	2,350	2,290	2,350	2,290	2,350
- Width	mm	Ø 1,010	Ø 1,220	Ø 1,010	Ø 1,220	Ø 1,010
- Weight	kg	163	226	210	282	165
Application areas						
- EFH/ZFH/MFH/Commercial		-/•/•/•	-/-/•/•	-/•/•/•	-/-/•/•	-/-/•/•
- Heating/cooling/DHW		•/-/-	•/-/-	•/-/-	•/•/-	•/•/-
- May be combined with a heat pump/ solar/other heat sources		•/-/•	•/-/•	•/•/•	•/-/-	•/-/-

Key

¹⁾ Thermal insulation as accessory: Type WD 1000 | 1500 SBP and WD 1000 | 1500 cool.

BUFFER AND DHW CYLINDER

FOR HEAT PUMP | SOLAR OPERATION



Model	Instantaneous water cylinder SBS 800/1000/1500 W and SBS 800/1000/1500 W SOL					
- Type	SBS 800 W	SBS 1000 W	SBS 1500 W	SBS 800 W SOL	SBS 1000 W SOL	SBS 1500 W SOL
- Part no.	227568	227569	227570	227571	227572	227573
Characteristics						
- Nominal capacity	800	1,000	1,500	800	1,000	1,500
- Heat exchanger contents (DHW)	41	53	65	41	53	65
- Solar heat exchanger area	m ²	-	-	2.4	3.0	3.6
Weight and dimensions, incl. ins. ¹⁾						
- Height	mm	1,940	2,350	2,290	1,940	2,350
- Width	mm	ø 1,010	ø 1,010	ø 1,220	ø 1,010	ø 1,220
- Weight	kg	172	201	268	217	246
Application areas						
- EFH/ZFH/MFH/Commercial	•/-/-/-	•/•/-/-	•/•/-/-	•/-/-/-	•/•/-/-	•/•/-/-
- Heating/cooling/DHW	•/-/•	•/-/•	•/-/•	•/-/•	•/-/•	•/-/•
- May be combined with a heat pump/ solar/other heat sources	•/-/•	•/-/•	•/-/•	•/•/•	•/•/•	•/•/•



Model	Solar combi cylinder 600/150	
- Type	SBK 600/150	
- Part no.	074067	
Characteristics		
- Nominal capacity	l	600
- Capacity (DHW) Buffer cylinder	l	150/450
- Standby loss	kWh/24h	2.9
- Solar heat exchanger area	m²	1.8
Weight and dimensions, incl. ins.		
- Height	mm	1,760
- Width	mm	ø 910
- Weight	kg	241
Application areas		
- EFH/ZFH/MFH/Commercial	•/-/-/-	
- Heating/cooling/DHW	•/-/•	
- May be combined with a heat pump/ solar/other heat sources	•/•/•	

Key
¹⁾ Thermal insulation as accessory: Type WD 800 | 1000 | 1500 SBS.

DHW CYLINDER

FOR HEAT PUMP | SOLAR OPERATION



Model	Freestanding DHW cylinder SBB 301 WP - 501 WP SOL			
- Type	SBB 301 WP	SBB 302 WP	SBB 401 WP SOL	SBB 501 WP SOL
- Part no.	221360	221361	221362	227534
Characteristics				
- Nominal capacity	l	300	280	400
- Heat exchanger top	m²	3.2	4.8	4
- Heat exchanger bottom	m²	-	-	1.4
- Standby loss	kWh/24h	2	2	2.3
-				2.6
Weight and dimensions, incl. ins.				
- Height	mm	1,700	1,700	1,875
- Width	mm	ø 700	ø 700	ø 750
- Weight	kg	156	184	219
-				260
Application areas				
- EFH/ZFH/MFH/Commercial		•/-/-/-	•/-/-/-	•/•/-/-
- Heating/cooling/DHW		-/-/•	-/-/•	-/-/•
- May be combined with a heat pump/ solar/other heat sources		•/-/-	•/-/-	•/•/-

DHW CYLINDER

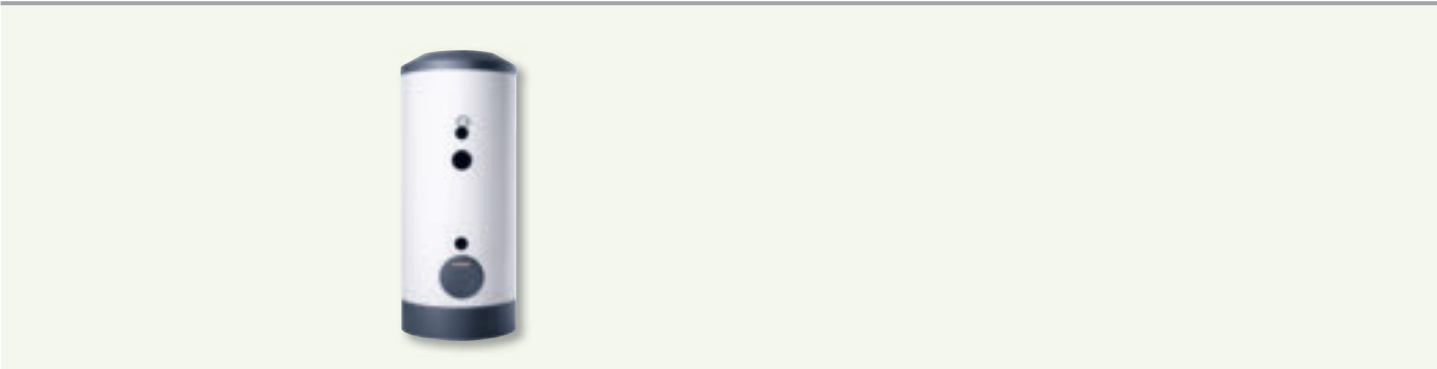
FOR HEAT PUMP | SOLAR OPERATION



Model	Wall mounted solar cylinder KS 150 SOL		
- Type	KS 150 Sol		
- Part no.	74098		
Characteristics			
- Nominal capacity	l	150	
- Solar heat exchanger area	m ²	1.2	
- Integral immersion heater	kW	2	
Weight and dimensions, incl. ins.			
- Height	mm	1,100	
- Width	mm	500	
- Weight	kg	82	
Application areas			
- EFH/ZFH/MFH/Commercial	•/-/-/-		
- Heating/cooling/DHW	-/-/•		
- May be combined with a heat pump/solar	-/•		

DHW CYLINDER

FOR SOLAR | HEAT PUMP OPERATION



Model	Freestanding solar DGW cylinder SBB 300–600 plus			
- Type	SBB 300 plus	SBB 400 plus	SBB 600 plus	
- Part no.	187873	187874	187875	
Characteristics				
- Nominal capacity	l	300	400	600
- Heat exchanger top	m²	1.1	1.3	1.9
- Heat exchanger bottom	m²	1.5	1.7	2.5
- Standby loss	kWh/24h	1.9	2.2	2.9
Weight and dimensions, incl. ins.				
- Height	mm	1,679	1,848	1,735
- Width	mm	ø 700	ø 750	ø 920
- Weight	kg	154	187	260
Application areas				
- EFH/ZFH/MFH/Commercial	•/-/-/-	•/•/-/-	•/•/•/-	
- Heating/cooling/DHW	-/-/•	-/-/•	-/-/•	
- May be combined with a heat pump/ solar/other heat sources	•/•/-	•/•/-	•/•/-	

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