ONE SYSTEM
COUNTLESS FEATURES

COMPACT P BY NILAN

GO GREEN BY NILAN

Certified for use in passive houses

Compact ventilation and heating solution on only 0.5 m²

NILAN®
OUTSTANDING INDOOR CLIMATE

A MODULAR SYSTEM OF SEVERAL SOLUTIONS

The Compact P range from Nilan comprises future-safe and environmentally friendly ventilation and heating systems. You get a solution that can be tailor-made to fit your needs, is efficient, easy to install and use – and able to reduce your heating bill substantially.

Modularity = flexibility and choice
The Compact P is a modular system that offers not only one but several solutions, thus enabling you to select the solution most suitably proportioned to match the size of your house and accommodate the requirements of your family.

From a complementary to an all-inclusive heating competence, it combines up to five features: *Ventilation with heat recovery, comfort heating, comfort cooling, production of sanitary hot water and heating of your home*. The result is a pleasant, well-ventilated and healthy indoor climate while saving money on your heating bill.

Based on renewable energy
The Compact P is based on renewable energy, and the system's main operating principle is to use as little energy as possible and get the most out of what is already in play. The more heat your choice of solution is able to produce and maintain, the less you depend on traditional energy sources, thus curbing the CO_2 emission and reducing the exploitation of traditional energy reserves at the same time.

Passive House Certification
As only one of very few compact ventilation and heating solutions in the world, Compact P from Nilan has received the internationally recognised Passive House Certification – as an unquestionable recognition of the environmental benefits it stands up to due to its high effectiveness. The certification means that the Compact P is pre-approved for passive housing without any additional documentation ever being needed.

BENEFITS IN PLENTY

A sound investment

Irrespective of which Compact P solution you choose, it will prove its worth as a healthy and profitable investment. All solutions start with Compact P as a base system to which the optional extra of a supplementary heating system in the form of a ground source or air pump can be added. All optional extras are based on renewable energy, and you are guaranteed exceptional quality, long life and short payback times. And you will never have to worry about rising fuel prices ever again.

Space-saving

As the name of the system implies, the Compact P system has a compact and space-saving design that does not need to be hidden in a special plant room but can be placed anywhere convenient such as in the laundry room. Not only because of its physical measurements and slim proportions, but because of the anonymously look as well. In spite of its versatile functioning the system calls for only one single installation with no unsightly cords and cables that need concealment. This is in striking contrast to traditional ventilation and heating systems that are typically made up of many individual systems that require each their seperate installation.

Healthy indoor climate

All life activities produce moisture. Breathing itself produces moisture, as do showering, bathing, dishwashing, clothes washing, etc. Too much humidity is harmful to our health and our houses, but the Compact P eliminates humidity and condensation and removes dust and smells. By exhausting stagnant and stale air and replacing it with fresh, filtered air, it reduces the humidity level and leaves the indoor climate well-ventilated and healthy – protecting everybody in the house against allergies, mold, mildew and other ill effects at the same time.

From complimentary to all-inclusive

The modular framework of the Compact P system makes it suitable for houses of almost any size. The more extensive the system, the higher the efficiency output and the greater the savings on the heating bill. However, bigger is not just better per se. Perfection is a relative factor and a perfect ventilation and heating solution is adapted to the size of the house and matches the requirements of the people living in it. Compact P is specially designed for flexibility and adaptability and is the obvious choice for all needs.

Features

Ventilation
The system extracts the stale, humid air from the home and draws in fresh, temperate and filtered air.

Comfort cooling (optional)
The system cools the fresh air drawn into the home relative to the outdoor air temperature.

Comfort heating
The system heats the fresh air drawn into the home to a temperature level which reduces the energy consumption for central heating.

Active heat recovery
The system exploits the energy stored in either the air or ground and converts it to heat via a heat pump.

Passive heat recovery
The system exploits the energy stored in the air extracted from the home and converts it to heat without the addition of extra energy.

Sanitary hot water production
The system exploits the energy stored in either the air or ground to produce sanitary hot water.

Heating (only UVP and Geo)
The system exploits the energy stored in either the air or ground to provide space heating via radiators or underfloor heating.

BASIC SYSTEM WITH GROWTH POTENTIALS

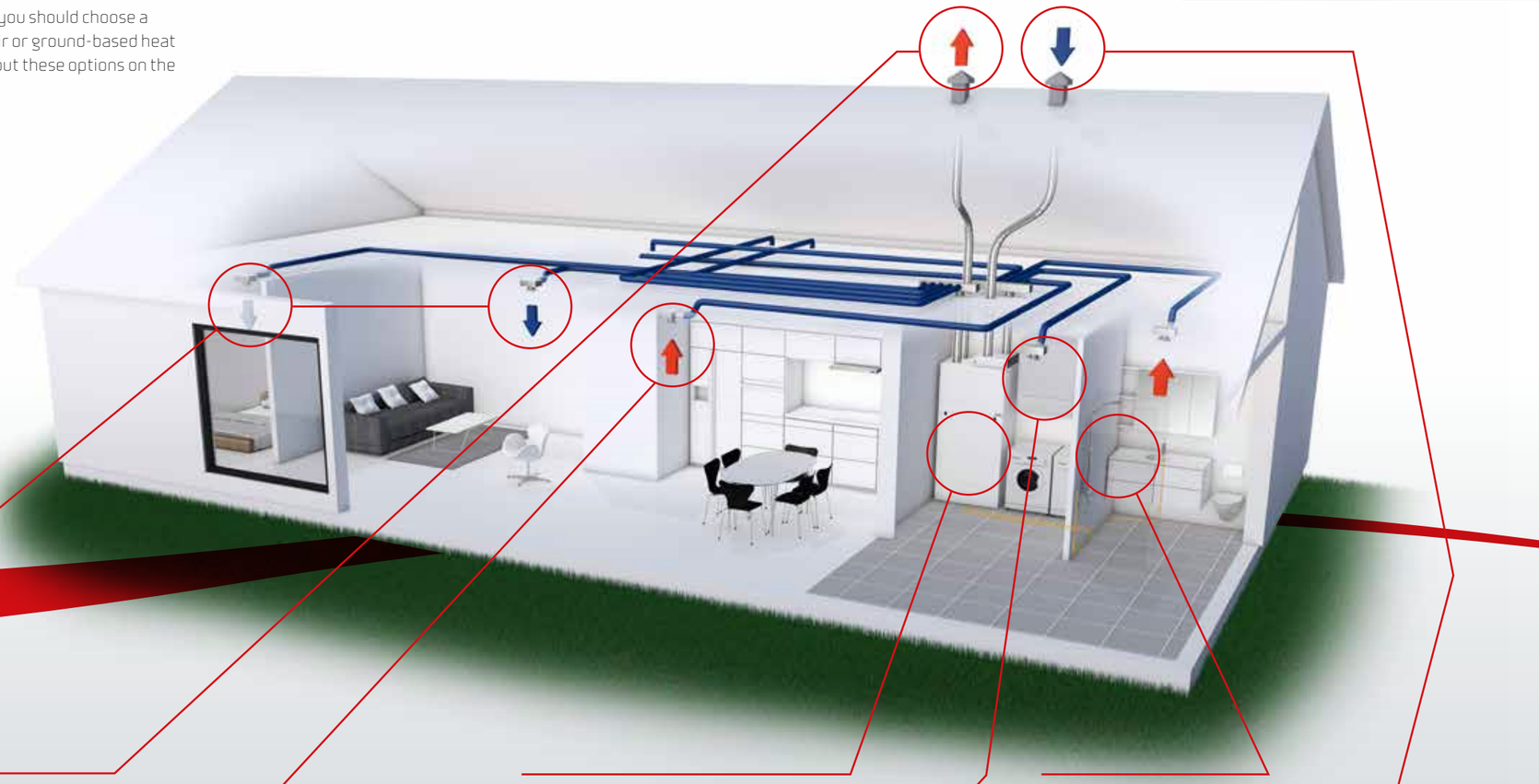
The first step in a Compact P solution is always the Compact P itself, i.e. the basic system – or the 'heart' of the solution. Compact P supplies your home with ventilation, heat recovery, production of hot water and comfort heating. It ensures daily air replacement and thereby removes dust particles, odours and moisture to create a pleasant and healthy indoor climate.

Bucket loads of sanitary hot water
If a heating coil is built into the system and connected to either solar panels or a traditional energy source (gas, oil or electricity), the heating power will be boosted. This enables the Compact P to produce enough sanitary hot water for you and your family to enjoy jacuzzis, many frequent showering etc.

Avoid sweaty hands
If comfort cooling is to be part of the solution, a reversible cooling circuit can be added to the Compact P to enable the system to cool down the outdoor air before it is directed indoors on hot summer days. With a reversible cooling circuit the supply air can be lowered relative to the outdoor air temperature.

... and cold feet
If you want a total solution that covers central heating of the house as well, you should choose a Compact P solution with an air or ground-based heat pump. You can read more about these options on the following pages.

Compact P



Supply air
Fresh, filtered and temperate air is drawn into all living areas in the home to give a healthy and comfortable indoor climate around the clock.

Discharge air
When the Comport system has recovered the energy from the extract air, the stale and humid air is discharged from the home.

Extract air
Stale and humid air is extracted from the home via ceiling valves in all wet rooms and in the kitchen.

Compact P system
The system regulates the air flow, heat recovery and production of hot water. The system can be placed in a utility or plant room.

Heat source
For heating purposes an external heat source such as electricity, gas or oil-fired boiler is required. Alternatively, choose a Compact P GEO or UVP model which can be connected to the central heating system.

Sanitary hot water
Compact P recovers the energy from the outgoing air and uses it to produce sanitary hot water.

Fresh outdoor air
An air valve in the facade or roof of your home draws in fresh air and channels it on to the Compact system.

EXPLOIT THE ENERGY IN THE AIR ALL YEAR ROUND

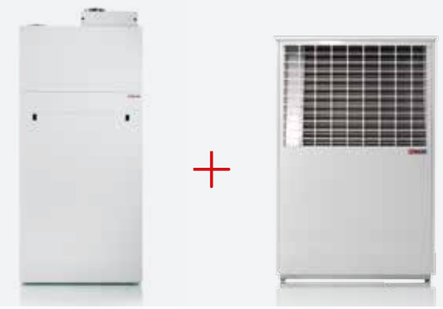
When the basic Compact P system is supplemented by an air source heat pump, it becomes a total heating solution. It has the same benefits and features as the Compact P on its own – and then some, because it is able to take over the central heating of the house too. The air heat pump extratcs the energy from the outdoor air and converts it to heating of the water for the underfloor heating system that heats up the entire house and maintains a constant and pleasant room temperature.

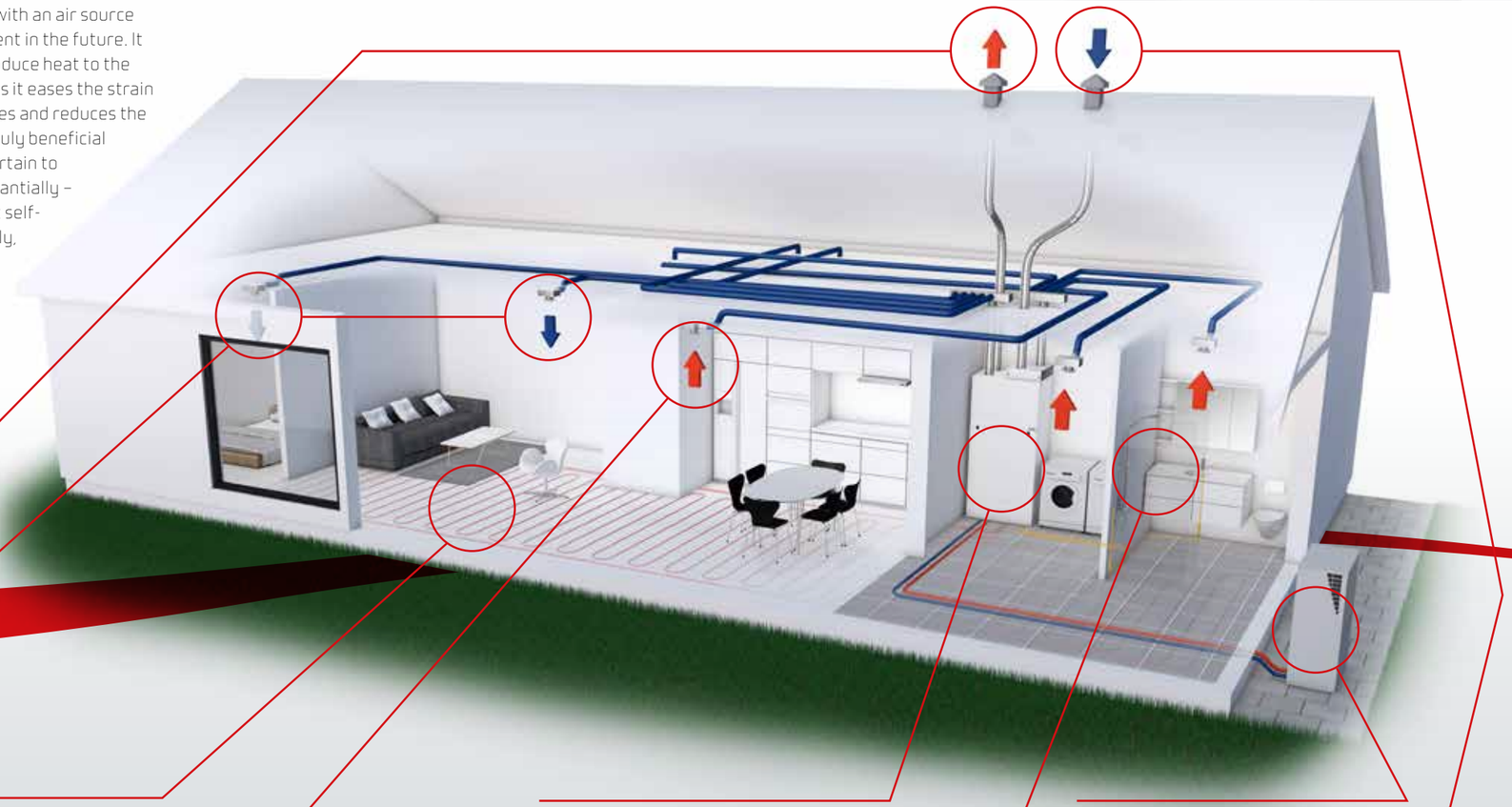
Get up to 3 kW of heat for free
An air source heat pump is useful everywhere. The outdoor air always contains energy, and for each kW of electricity that the air source heat pump consumes, it returns up to four times as much energy as heat. As the alternative to air-based energy is ground-based energy which requires buried tubes, the air source heating is quite convenient for houses and buildings that have no access to outside ground areas.

Comfort inside – heat pump outside
The air source heat pump is placed outside the house parallel to the facade or at a right angle. Although it is both hard-working and productive, it makes only little noise and does not take up much space. White and clean to look at, it is thus in no way a nuisance to the eye or ear.

Fast return on investment
The Compact P UVP solution with an air source heat pump is a great investment in the future. It uses renewable energy to produce heat to the benefit for the environment as it eases the strain on traditional energy resources and reduces the CO_2 emission. However, it is truly beneficial for you too. This solution is certain to reduce your heating bill substantially – maybe even make you almost self-sufficient in energy. And surely, you can look forward to a fast return on investment.

Compact P UVP





Discharge air
When the Compact system has recovered the energy from the extract air, the stale and humid air is discharged from the home.

Supply air
Fresh, filtered and temperate air is drawn into all living areas in the home to give a healthy and comfortable indoor climate around the clock.

Underfloor heating
The central heating water from the Compact P UVP system is used for heating using a hydronic underfloor heating system.

Extract air
Stale and humid air is extracted from the home via ceiling valves in all wet rooms and in the kitchen.

Compact P UVP system
The system regulates the air flow, heat recovery, production of hot water and heating of the home using a built-in air heat pump. The system can be placed in a utility or plant room.

Sanitary hot water
Compact P UVP recovers the energy from the outgoing air and uses it to produce hot water.

UVP Compact
The air source heat pump extracts the energy in the outdoor air and transfers it to the Compact P UVP system where the energy is used to heat the water for the central heating system.

Fresh air
An air valve in the facade or roof of your home draws in fresh air and channels it on to the Compact P system.

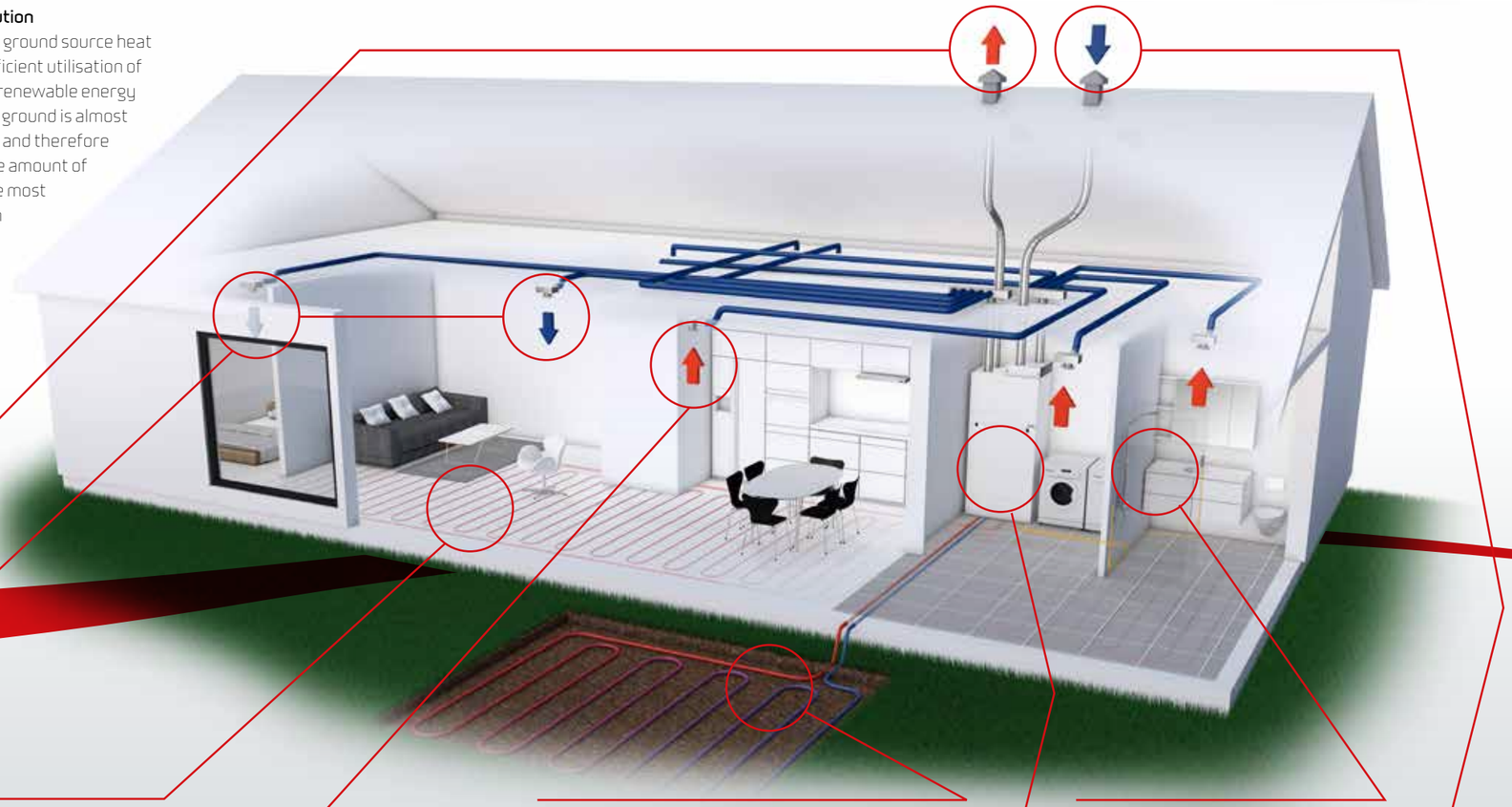
WELL-GROUNDED IS WELL HEATED

A Compact P GEO system with built-in ground source heat pump ensures very reliable heating of the home as well as a constant and pleasant room temperature. On top of that, the solution is one of the most energy-friendly heat supplies you can get. A ground source heat pump absorbs the energy stored in the ground and converts it into heat that does both the environment and your pocket a favour.

Get up to 3 kW of heating for free
The ground source heat pump has the same energy benefits as the air source heat pump. For each kW of electricity the pump uses, it gives four times as much energy back again. This means that you are able to reduce your heating bill substantially if you are currently using traditional forms of heating such as a gas or oil-fired boiler. The ground source heat pump, however, requires a larger outdoor area than the air source heat pump due to the pipes that need to be buried in the ground. On the other hand, the pipes are invisible when they have been installed. The ground source heat pump itself is integrated into the Compact P cabinet so that it does not take up additional space in the plant or utility room.

Matches all heating requirements
Irrespective of the size of your home, there is a Compact P GEO solution to match your heating requirements. Choose between a 3 kW and 6 kW ground source heat pump. Both have a variable compressor so that the output can continuously be adapted to current needs with a range of 1.5-3 kW and 2-6 kW respectively. The heat pump therefore never uses more energy than necessary and meets all the varying heating requirements of the home – all year round.

The most energy-efficient solution
By combining Compact P with a ground source heat pump, you achieve the most efficient utilisation of an extremely energy-efficient renewable energy source. The temperature in the ground is almost constant all year round (6-8 °C) and therefore always delivers the same stable amount of energy. This means that it is the most long-term investment based on future-safe technology. Both you and the environment benefit from this as you get a significantly reduced heating bill, excellent overall economy and vastly reduced CO_2 emissions.



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Underfloor heating
The central heating water from the Compact P UVP system is used for heating using a hydronic underfloor heating system.

Extract air
Stale and humid air is extracted from the home via ceiling valves in all wet rooms and in the kitchen.

Ground pipes
The ground pipes extract the energy stored in the ground and supplies it to the ground source heat pump in the Compact P GEO system. The pipes are placed at a depth of approximately one metre in the ground. This means that they are well protected against frost.

Compact P GEO
The system regulates the air flow, heat recovery, production of hot water and heating of the home using a built-in ground source heat pump. The system can be placed in a utility or plant room.

Sanitary hot water
Compact P recovers the energy from the outgoing air and uses it to produce sanitary hot water.

Fresh air
An air valve in the facade or roof of your home draws in fresh air and channels it on to the Compact P system.

ACCESSORIES

The functionality of your system can be widened with the right accessories. Choose between a wide range of equipment that utilises the great potential of the Compact P systems to the full.

Nil*AIR*

A simple, inexpensive and flexible air distribution system which distributes the air that is drawn into the home in a minimal space. NilAIR can be installed in floors, walls or ceilings.

Electric heating element

With an electric heating element, the temperature of the air being drawn into the home can be further increased. The electric heating element is for integration in the duct set.

EM-box

With an EM-box as an accessory, your range hood can be used for more than just extraction – it can also be used for efficient heat recovery and ventilation, thus enabling you to utilise its full potential.

Pollen filter

A pollen filter means that you avoid pollen penetrating your home during ventilation.

Electric pre-heating element

With an electric pre-heating element the outdoor air is warmed up before it enters the system. You thereby avoid having to defrost the system – which entails loss of output. The electric pre-heating element is for integration in the duct set.

CO_2 Sensor

With a CO_2 sensor installed, ventilation speeds can be pre-programmed with CTS 602 to run at a higher ventilation level if the outgoing air contains high levels of CO_2. CO_2 levels are programmable.

SHW Sol Compact

With this 250-litre hot water tank as a supplement to the built-in tank in Compact P, you are ensured an almost endless supply of hot water – for several long showers, heating of jacuzzis etc.

The tank can be connected to a solar panel to enable the use of solar energy to produce hot water. This is a plug-and-play solution that is easy to install and extremely cheap to run. If the sun is not shining, energy is taken from the heat pump in Compact P to guarantee you hot water at any time.

AN EASY-TO-USE EVERYDAY CONTROL

The Compact P solution is easy to install and just as easy to control on a daily basis. Everything is managed from just one control panel, and the status of the functions can be read at any time – and altered, if need be.

Programmed to accomodate family life

As most families have a weekly rhythm that tends to follow roughly the same pattern week after week, the control system is equipped with three weekly programs at delivery. The objective is to make the system match your family's life and leave you all with an easy everyday life and a perfectly balanced indoor climate.

Using one of the weekly programs, you can set air replacement, fan speed, desired temperature – including night-time drop, activation times, etc. Air renewal can be regulated at two different levels, Comfort and Energy. The Comfort setting ensures balanced air replacement, whereas the Energy setting ensures energy-optimisation through the regulation of incoming air relative to the temperature curve setting. Also, owing to a built-in humidity sensor, you can adjust the air change rate according to the humidity level in the home, and it is possible to monitor current operating data via the control.

If things change and the pattern of your family's rhythm moves into a new cadence, the system can easily be reprogrammed.

THE COMPACT P PACKAGE

A Compact P system is equipped with everything you need for a healthy indoor climate in your home. Read about the whole system section by section to familiarise yourself with your ventilation and heating system – every component makes a difference.

Control
Integrated control ensures optimum operation. A weekly program is pre-set when installed, but easily programmed according to your needs.

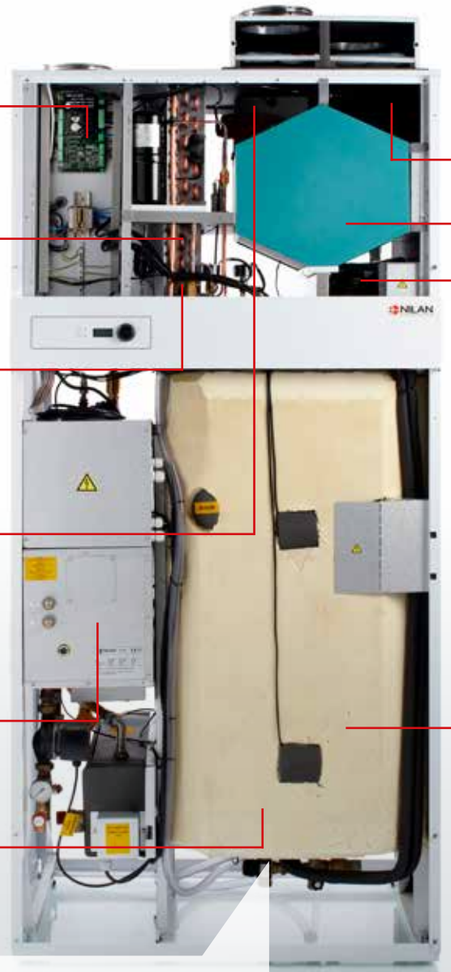
Air condenser
As one of the main components in the heat pump circuit, the condensator handles the heat emission.

Evaporator
The evaporator recovers the energy from the exhaust air and is one of the main components in the heat recovery circuit.

Humidity sensor
An integrated humidity sensor makes it possible to regulate the air change rate of the home according to its level of humidity.

Heating system
When a ground source or outdoor air heat pump is needed for extra heat production, it is added here. The ground source is based on variable compressors that ensure optimum operation and high energy efficiency (COP).

Water condenser
As one of the main components in the heat pump circuit, the condensator handles the heat emission.



Bypass
A 100 % bypass is very effective when it is warmer inside than outside. It improves the cooling efficiency by allowing the outdoor air to go around the counter flow heat exchanger and be blowed directly into the house.

Counter flow heat exchanger
Polystyrene exchangers have a temperature efficiency of up to 95 %, which is more than can be expected from alu-exchangers. Consequently, Nilan uses polystyrene to optimise the efficiency. The extra efficiency comes from the fact that the polystyrene exchangers lose less heat than the alu-exchangers because they do not lead the heat to the surface.

Compressor
The hermetic compressor is a main component in the heat recovery circuit. Our high-quality compressor ensures optimum operation and high energy efficiency (COP).

Sanitary hot water tank
A foamed, double enamelled tank ensures effective insulation and less heat loss along with a long service life. It has a built-in heating element, which is automatically activated when the heat pump needs extra volume. With a capacity of 180 litres, the tank is manufactured and quality controlled by Nilan..

Tekniske detaljer:

- Passive House certified for buildings from 60 m^2 to 240 m^2
- Exchanges up to 330 m^3/h
- Measurements: W900 x D610 x H2060 (mm)
- Thermal output up to 9 kW
- Built-in filter and filter drawer for pollenfilter
- Hot water tank of 180 litres

For further technical details, please consult the technical brochure.

QUALITY AND EFFICIENCY GO HAND IN HAND

Nilan's solutions are tailored to a sustainable future. The innovative and energy-efficient technology is based on renewable energy and the wish to make a difference to both environment and people. Each component in our solutions has been carefully chosen to ensure outstanding quality. This means efficiency throughout with a guaranteed long service life.

All components – from metal plates to valves and bolts – are tested from literally all angles in the production process. The finished systems are also tested before they leave the factory. Our quality control reflects our high standards which do not only meet market requirements, but go several steps further.

Our high quality and efficiency are a result of our belief in the fact that there is always room for improvement. We are not afraid to learn and to try to improve things next time around. That is why we work continuously to streamline our workflows so that we are able to continue to offer solutions in which quality and efficiency go hand in hand.

INFORMATION FROM A TO Z

Nilan develops and manufactures premium-quality, energy-saving ventilation and heat pump solutions that provide a healthy indoor climate and low-level energy consumption with the greatest consideration for the environment. In order to facilitate each step in the construction process – from choosing the solution through to planning, installation and maintenance – we have created a series of information material which is available for download at www.nilan.dk.

Brochure

General information about the solution and its benefits.

Product data

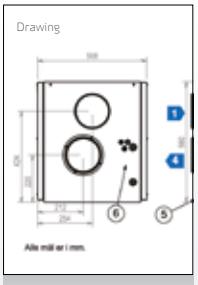
Technical information to ensure correct choice of solution.

Installation instruction

Detailed guide for installation and initial adjustment of the solution.

User manual

Detailed guide for regulation of the solution to ensure optimum day-to-day operation.



Drawing material

Nilan is happy to make 2D CAD drawings available for planning with the solution.

WWW.NILAN.DK | Visit us at www.nilan.dk to find out more about our company and solutions, download further information and find your nearest dealer.

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Nilan A/S
Nilanvej 2
8722 Hedensted
Denmark
Tel. +45 76 75 25 00
Fax +45 76 75 25 25
nilan@nilan.dk
www.nilan.dk