

Heating Catalogue

° All seasons
CLIMATE COMFORT



Durable & efficient energy solutions for residential use

Heating - Domestic hot water - Cooling



- ✓ Energy efficient
- ✓ Economical
- ✓ Low CO₂ emissions
- ✓ Low cost installation
- ✓ Family friendly



So, you and your customer realise it is time to switch to a heating system that is energy efficient and produces low CO₂ emissions.

Daikin Altherma is a total domestic heating and hot water system based on air source heat pump technology. It represents a flexible and cost-effective alternative to a fossil fuel boiler and has a cooling option*. The inherent energy efficiency characteristics of Daikin Altherma make it an ideal solution for reduced energy consumption and low CO₂ emissions and it achieves **optimal comfort** through its high and low temperature heating systems.

The **easy-to-install** Daikin Altherma system uses highly energy-efficient, advanced compressor technology in its heat pumps to transform unutilised and inexhaustible heat from the surrounding air into usable heat for the system, either as part of the over all climate control system or as a stand alone source of domestic hot water.

* low temperature heating systems





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for all systems & applications

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for all specifications

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Offer your clients the benefits of Daikin technology

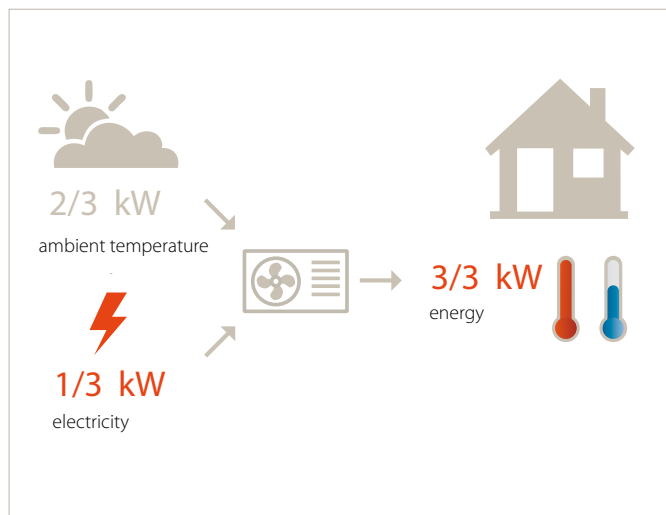
✓ Energy efficient operation

The air to water heat pump from Daikin Altherma uses a **sustainable energy source**. In fact, it extracts heat from the outside air. The system consists of a closed circuit containing a refrigerant. A thermodynamic cycle is created through evaporation, condensation, compression and expansion.

A heat pump “pumps” heat from a low to a higher temperature level. The heat raised is transferred to the water distribution system (under floor heating, low temperature radiators and/or fan coil units for low temperature heating systems and high temperature radiators for high temperature heating systems) in the home via a heat exchanger.

Depending on the model and the conditions, a Daikin Altherma air to water heat pump delivers about 3kWh of usable heat for every kWh of electricity it uses. So this means that approximately 2/3 of the required heat is free!

TWO BASIC CONCEPTS OF HEAT PUMP TECHNOLOGY



COP (Coefficient of Performance) or gain factor

The COP indicates the amount of usable heat the heat pump delivers for every kWh electricity the heat pump uses. This number is dependent on the interior and exterior temperature and is therefore only a snapshot indicator.

SPF (Seasonal Performance Factor) or performance factor of the heat pump system

The SPF takes into consideration both the energy consumption of the heat pump system as well as the consumption by peripheral equipment, such as pumps, over the entire heating season.

LESS ENERGY, PLEASANT WARMTH IN THE HOME

Daikin Altherma heats up to 5 times more efficiently than a traditional heating system based on fossil fuels or electricity. By making use of the heat in the outside air, the system uses much less energy while your customer can still enjoy a stable and pleasant level of comfort.

Also, maintenance requirements are minimal making the running cost low. Thanks to the inverter technology, the energy savings are even greater.

ECO-LABEL

Daikin is the first manufacturer to receive the Eco-label for heat pumps!

Daikin Altherma low temperature with under floor heating received the EU ECO-LABEL* because it has a higher energy efficiency and a lower global warming impact than other heat pump products in its class.



Please refer to
<http://www.daikinaltherma.eu/eco-label.jsp>
for the certified products

AIR AS RENEWABLE ENERGY SOURCE

The European RES directive* recognises air as a renewable energy source. One of the goals of this directive is that by 2020, 20% of the total energy production needs to be produced by a renewable energy source. As a result, several heat pump incentives are already available to homeowners.

* EU objective COM (2008) /30

RENEWABLE, INEXHAUSTIBLE ENERGY WITH SOLAR COLLECTORS

In combination with solar collectors, Daikin Altherma uses thermal energy from the sun which will keep up its good work for another five billion years.

DAIKIN HEAT PUMP EXPERIENCE

Daikin has more than 50 years of experience with heat pumps, and supplies more than one million of them to homes, shops and offices each year. This success is not just a quirk of fate: Daikin has always been at the cutting edge of technology and its goal is to provide you with turn-key comfort. Only a market leader can guarantee you this level of service and quality control!



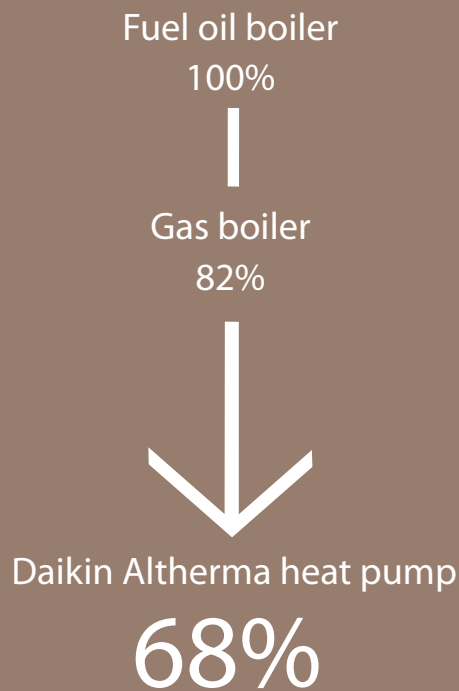
DID YOU KNOW...?

Daikin has set up a number of monitoring sites (in Scandinavia, Portugal, France, Belgium, ...), where Daikin Altherma has been tested under totally different climate conditions. High satisfaction has been achieved with increased comfort, stable indoor temperature, low energy consumption and hot water always available ... whatever the weather conditions at the monitoring site.

✓ Daikin Altherma: the economical alternative

REDUCED OPERATION COSTS

A Daikin Altherma heat pump works more efficiently than a traditional fossil-fuel boiler, generating 3kW of usable heat for every 1kW of electricity used. Talk about a good investment!

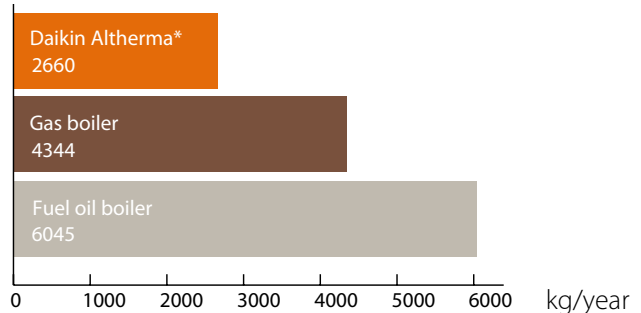


Conditions: Required annual heating energy: 20,000 kWh. Source: Energy prices based on EUROSTAT statistics [first semester 2007].

✓ Low CO₂ emissions

Daikin Altherma produces no direct CO₂ emissions, so you personally contribute to a better environment. The pump does use electricity, but even without renewable electricity the CO₂ emissions are still much lower than boilers that use fossil fuels.

AVERAGE ANNUAL CO₂ EMISSIONS



Calculation based on data from Eurelectric (organisation of European electricity producers), "Eurelec Program - 2001" for EU27

*Valid for Daikin Altherma low temperature split (small capacities)



✓ Low installation cost

Daikin Altherma takes heat from the air. No digging or excavation works are required. Both the outdoor and indoor units are compact. The external unit can be located easily outside any building, including flats. Without flames or fumes, there is no need for a chimney or constant ventilation in the room where the Daikin Altherma unit is installed.

✓ Family friendly

Daikin Altherma works without oil, gas or other hazardous substances, thus reducing the risk associated with these. Moreover, you don't need a gas connection or a fuel tank. No risk of intoxication, smell or pollution from leaking tanks.

Top energy-efficient solutions for every application:



Heating, domestic hot water & cooling

for new houses

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Daikin Altherma low temperature heating system

- Split system: indoor + outdoor unit
- Monobloc system: outdoor unit only

HEATING EMITTERS

- Under floor heating
- Low temperature radiators
- Heat pump convectors
- Fan coil units

OPTIONAL

- Solar connection for hot water production



Heating & domestic hot water

for renovations

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Daikin Altherma high temperature heating system
for replacement of traditional boilers

HEATING EMITTERS

- High temperature radiators

OPTIONAL

- Solar connection for hot water production

Use the available Daikin Altherma selection and software tools. See page 40.



Heating, domestic hot water & cooling

for apartment buildings and collective housing p32

A modular system combining VRV® technology
with the energy-efficient Daikin Altherma heat pump technology

HEATING EMITTERS

- Under floor heating
- Low temperature radiators
- Heat pump convectors
- Fan coil units

Heating, domestic hot water & cooling for new houses

1 Split system

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A SPLIT SYSTEM CONSISTS OF AN OUTDOOR UNIT AND AN INDOOR UNIT

The outdoor unit is compact and requires no drilling or excavation work, making it easy to install in houses and apartments. This unit extracts heat from the outside air and raises its temperature to a level high enough to provide heating. This heat is then transferred - via refrigerant pipes, which, of course, can never freeze - to the indoor unit, which is available as either a floor standing or wall-mounted unit. Here the heat (up to 55°C) is transferred to the under floor heating, heat pump convectors, low temperature radiators or regular fan coil units and the domestic hot water system. If a heating and cooling combination is desired, then the indoor unit can lower the temperature to distribute a refreshing coolness. Available capacities for split systems: 6, 7, 8 kW and 11, 14, 16 kW



3 Domestic hot water tank p19

As for the domestic hot water, Daikin Altherma is just as clever. The water inside the storage tank is initially warmed up by thermal energy from the outside air, thanks to the connection with the indoor unit.

The standard domestic hot water tank with a stainless steel finish is available in different sizes and capacities.

EASY CONTROL p21

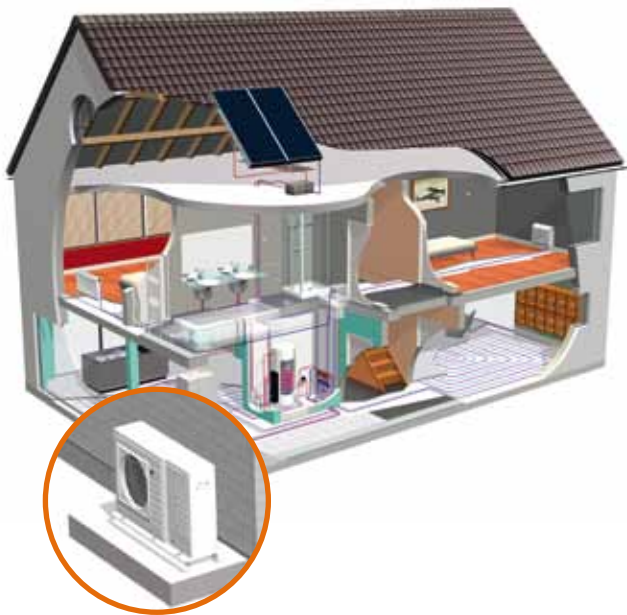
With the wired or wireless room thermostat*, the ideal temperature can be easily, quickly and conveniently regulated. It allows for more precise measurement, thus allowing your customer to regulate the comfort levels optimally and more energy efficiently.

*EKRTW for wired wall mounted and EKRTT for the wireless type.

HEAT PUMP CONVECTOR p22

Although the Daikin Altherma system is compatible with all types of heat emitters such as under floor heating, radiators and fan coil units, the optimal solution is the heat pump convector which is much more than a fan coil unit or any other heat emitter. It can provide both heating and cooling if required and obtains optimal energy efficiency by approximately 25% when connected to a Daikin Altherma low temperature system in combination with under floor heating.

Daikin Altherma offers two low temperature systems including a domestic hot water system all of which connect to the same range of accessories.



Outdoor unit only

New
extra small
casing



2 Monobloc system

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EVERYTHING COMBINED IN ONE OUTDOOR UNIT

In addition to Daikin Altherma split systems, Daikin has introduced a monobloc version in which all hydraulic parts are located within the outdoor unit. In this system, the water pipes, rather than the refrigerant pipes, run indoors from the outdoor unit, making installation much quicker and easier for the domestic installer.

Available capacities for monobloc: 6, 8 kW and 11, 14, 16 kW

..... Accessories for low temperature applications



Under floor heating

As Rotex is part of the Daikin group, all heating supplies can be offered. For more information, contact your local supplier.

SOLAR CONNECTION p23

To save even more energy on your domestic hot water production, the Daikin Altherma system can be connected to a solar system. The high-efficiency collectors transfer all the short-wave solar radiation into heat as a result of their highly selective coating. The collectors can be mounted on the roof tiles.

1 Split system: Outdoor + indoor unit

OUTDOOR UNIT:

STANDARD TO -20°C OUTSIDE TEMPERATURE

- > compact, weather-resistant and easy to install
- > contains an inverter controlled compressor for energy efficiency and precise temperature regulation
- > heat pump operational range: heating and domestic hot water down to -20°C outside temperature

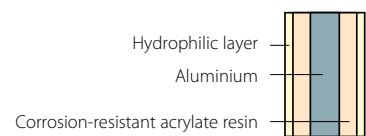


HEAT EXCHANGER

ANTI-CORROSION TREATMENT

As a standard, the heat exchanger in the outdoor group is provided with an anti-corrosion treatment. This treatment guarantees a noticeable increase in resistance against acid rain and salt corrosion.

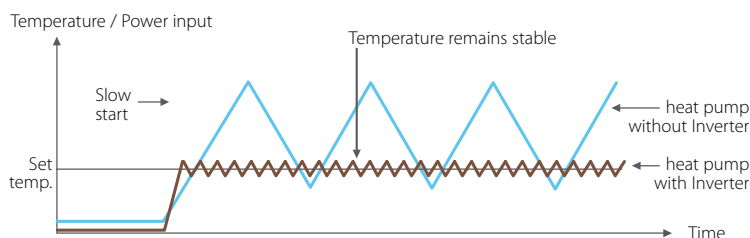
Typical heat exchanger



SUPER PERFORMANCE THANKS TO THE INVERTER PRINCIPLE

The coefficient of performance (COP) of the Daikin Altherma heat pump is also largely attributable to the Daikin inverter principle. An integrated frequency-converter adjusts the rotational speed of the compressor to suit the heating demand. Therefore, the system seldom operates at full capacity and your customer only pays for the energy which he actually needs.

Heating operation:



HIGH EFFICIENCY COMPRESSORS



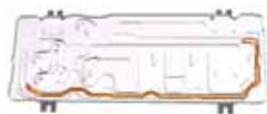
Daikin Altherma small capacity models (6 to 8 kW) are equipped with a **swing-compressor**. Swing-compressors have been setting trends in the area of energy efficient performance for the past 10 years in thousands of outdoor units (leaks and friction are basically non-existent).



The Daikin developed **scroll-compressors** provided in the Daikin Altherma large capacity models (11 to 16 kW) are designed as compact, robust, low-noise devices to guarantee optimal operational reliability (no valves and built-in swing-link coupling) and efficiency (through a low initial flow and a constant compression ratio). A technology already used in many Daikin heat pumps.

FOR COLD CLIMATES TO **-25°C°** OUTSIDE TEMPERATURE

To operate down to -25°C, several features have been added to the standard features to improve the performance in cold weather.



HOT GAS PASS:

hot gas runs through the bottom plate to keep its temperature positive and all drain holes open to ensure proper drainage.



SUB COOL PASS:

before the refrigerant pipe is split up by the distributor to the hairpins, it passes through the bottom of the coil. This results in a higher temperature of the refrigerant.



SIDE PLATE:

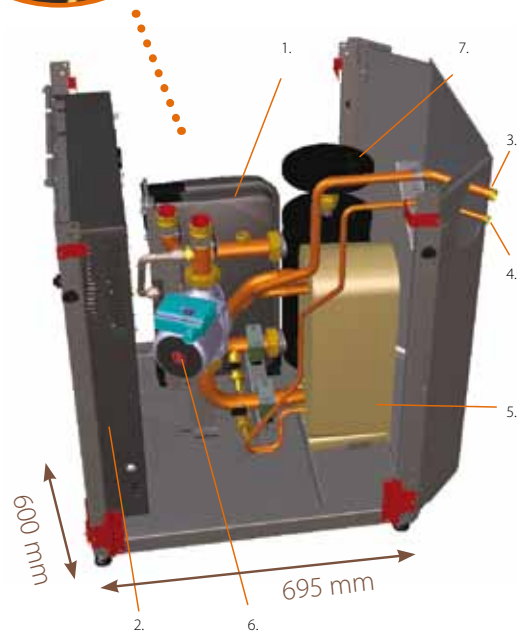
the side of the outdoor unit does not have metal grids thus preventing ice built up on the grid.

1 Split system: Outdoor + indoor unit

INDOOR UNIT:

- > available in two versions: floor standing (EKHV*) and wall mounted (EKHB*). Both are available in a heating only or a heating and cooling model.
- > **built-in electric back-up heater** as additional heating during extremely cold outdoor temperatures or as back-up in case of problems with the outdoor unit
- > **2 shut-off valves** to assemble the water outlet and inlet
- > **compact and easy to install:** all components are pre-assembled, and all parts are easy to reach for maintenance. Wall-mounting is comparable to a traditional gas heater.

✓ Compact floor standing unit



1. Expansion tank
2. Switch box
3. Gas pipe
4. Liquid pipe
5. Heat exchanger
6. Circulator
7. Back-up heater

EXTRA POSSIBILITIES THANKS TO THE INDOOR UNIT...

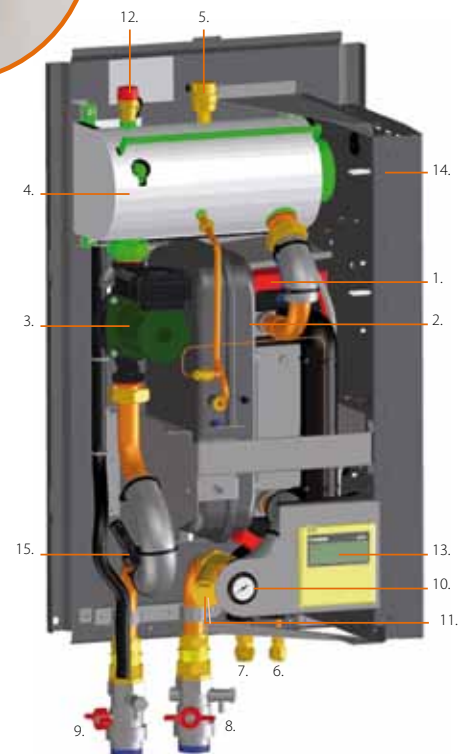
Heating and Cooling

If you select a Daikin Altherma with a reversible indoor unit (EKHVX or EKHBX) it can both heat and cool the house. The heat pump is then equipped with a reversible 4-way valve whereby the cooling cycle is reversed and heat is removed from the rooms. The indoor unit can cool rooms via under floor cooling or via fan coil units.

Set temperature limits

To prevent incorrect manual adjustments, temperature limits can be implemented for both cooling and heating. With under floor heating, for example, it is important that the temperature of the water is adapted to the type of floor element. To prevent condensation problems, the temperature for floor cooling can never be lower than 18°C. For heat pump convectors or fan coil units, the water temperature can be allowed to decrease to 5°C.

✓ Wall mounted unit

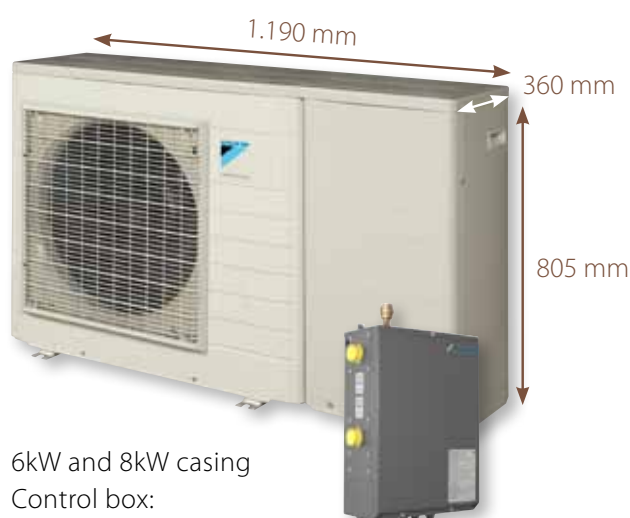


- | | |
|---------------------------------|------------------------------------|
| 1. Heat exchanger | 9. Water outlet connection |
| 2. Expansion tank (10 litres) | 10. Pressure gauge (water circuit) |
| 3. Circulator | 11. Water filter |
| 4. Tank with back-up heating | 12. Pressure relief valve |
| 5. Air purge valve | 13. User interface |
| 6. Refrigerant fluid connection | 14. Switch box |
| 7. Refrigerant gas connection | 15. Flow switch |
| 8. Water inlet connection | |

2 Monobloc system: Outdoor unit only

- > All hydraulic parts are located within the outdoor unit
- > H₂O piping between outdoor unit and indoor heating appliances

✓ New extra small casing



✓ H₂O piping,
No refrigerant



11kW, 14kW and 16kW casing

> **Freeze protection of hydraulic parts**

In order to protect the water pipes from freezing up during winter, insulation is provided for all hydraulic components and special software has been applied to activate the pump and back-up heater if necessary. This prevents the water temperature from dropping below freezing point and obviates the need for the addition of glycol to the water pipes.

> **Daikin Altherma monobloc is available in the following versions**

- heating only or heating and cooling
- with or without bottom plate heater
- single phase or three phase
- 6kW, 8kW, 11kW, 14kW or 16kW

- > **Built-in electric back-up heater** as additional heating during extremely cold outdoor temperature. The Daikin Altherma monobloc can be equipped with a 6 kW back-up heater, which can be adjusted to 3 kW (single phase units) or 2 kW (three phase units) by changing the wiring.

If necessary, an optional "in line" back-up heater of 6 kW can be mounted indoors (also adjustable to 2 kW or 3 kW)

- > Daikin Altherma small capacity models (6 to 8 kW)



are equipped with a **swing-compressor**. Swing-compressors have been setting trends in the area of energy efficient performance for the past 10 years (leaks and friction are basically non-existent) in thousands of outdoor units.

The **scroll-compressors** provided in the Daikin Altherma monobloc models (11 to 16 kW) are designed as compact, robust, low-noise device to guarantee optimal operational reliability (no valves and built-in swing-link coupling) and efficiency (through a low initial flow and a constant compression ratio).



A technology already used in many Daikin heat pumps.

3 Domestic hot water tank

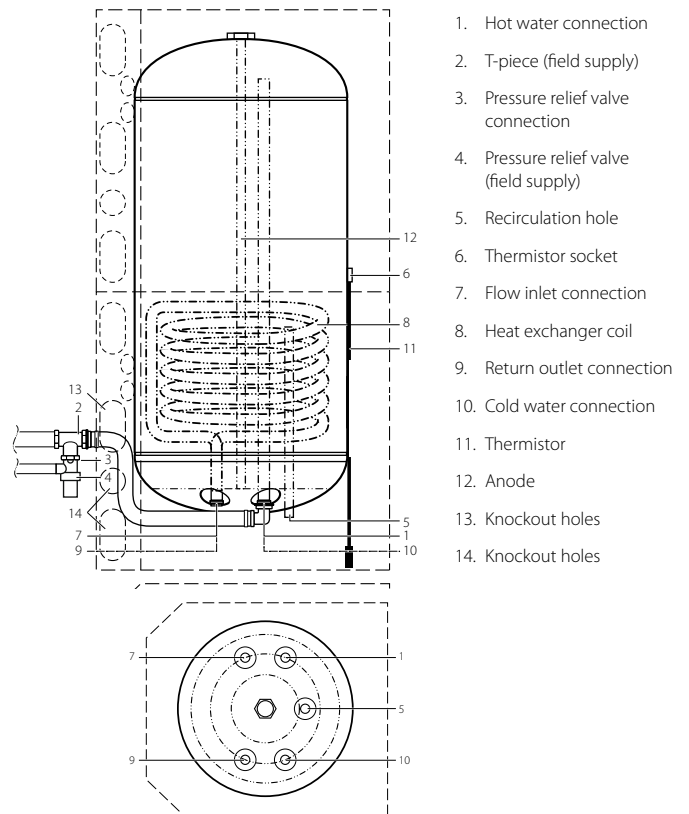
Whether your customer wants domestic hot water only or the advantage of solar energy, Daikin offers you the domestic hot water tank that meets his or her requirements.

EKHTS – DOMESTIC HOT WATER TANK

The indoor unit and domestic hot water tank can be stacked to save space, or installed next to each other, if only limited height is available.

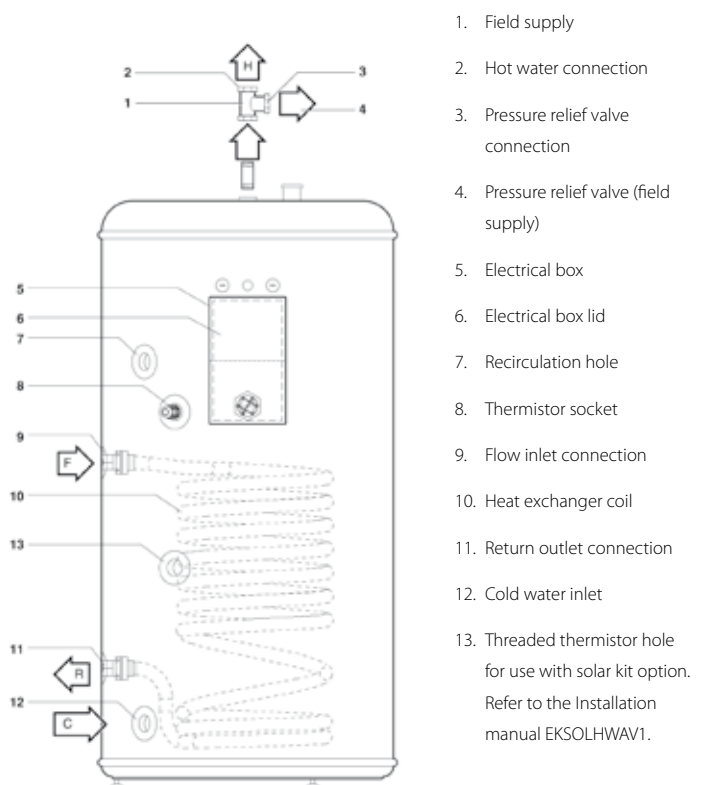
- > Available in 200 and 260 litres
- > Efficient temperature heat-up: from 10°C to 50°C in only 60 minutes*
- > Heat loss is reduced to a minimum thanks to the high quality insulation
- > At necessary intervals, the indoor unit can heat up the water to 60°C to prevent the risk of bacteria growth.

* Test done with a 16kW outdoor unit at ambient temperature of 7°C, 200L tank



EKHWS – EKHWE DOMESTIC HOT WATER TANK

- > hygienic design in stainless steel (EKHWS) or enamelled steel (EKHWE).
- > in combination with wall mounted and monobloc heating system
- > available in 3 capacities: 150, 200 and 300 litres.
- > 40 mm cfc-free insulation material (polyurethane) for stainless steel tanks and 50 mm enamelled steel tanks.
- > contains 2 heating elements: a heat exchanger at the bottom where the hot water from the indoor unit circulates and an extra 3 kW electric heater at the top.
- > a thermistor in the hot water tank controls a 3-way valve and/or booster heater via the indoor unit.





Easy control



SYSTEM CONTROLLER

WEATHER DEPENDANT FLOATING SET POINT

When the floating set point functionality is enabled, the set point for the leaving water temperature will be dependant on the outside ambient temperature. At low outside ambient temperatures, the leaving water temperature will increase to satisfy the increasing heating requirement of the building. At warmer temperatures the leaving water temperature will decrease to save energy.

OPTIONAL ROOM THERMOSTAT

An external sensor (EKRTETS) can be placed between the under floor heating and the floor, as an option to the wireless room thermostat. The thermostat measures the room temperature and communicates directly to the user interface.

The LCD screen of the room thermostat indicates all the necessary information regarding the setting of the Daikin Altherma system in the blink of an eye. The user can easily navigate between the different menus, the most common of which include:

- > Setting the temperature of the room based on measurements from the built-in or external sensor
- > Cooling and heating mode
- > Off function (with integrated frost-protection function)
- > Holiday function mode
- > Comfort and reduced function modes
- > Time (day and month)
- > Programmable week-timer with 2 user defined and 5 pre-set programmes, with up to 12 actions per day
- > Keylock function
- > Setting limits. The installer can change the upper and lower limits
- > Floor temperature protection and protection against condensation for underfloor cooling *

* only in combination with EKRTETS

Heat pump convector

The heat pump convector unit can provide both heating and cooling if required, since the heat pump convector is more than just a fan coil unit.



- ✓ Heats and cools
- ✓ Saves on running costs
- ✓ Compact size
- ✓ Very low noise level

When combining under floor heating and fan coil units, the low leaving water temperatures, important for efficiency, are adequate for under floor heating, but the fan coil units then need to be oversized in order to emit the proper levels of heat at these low water temperatures.

The heat pump convector solves this problem.

The heat pump convector is able to emit the required levels of heat at low leaving water temperatures, while retaining a modest size.

Instead of the leaving water circuit being switched on and off via a thermostat in a single master room, each heat pump convector can be directly wired to the Daikin Altherma indoor unit, the system's intelligence centre. This allows all rooms to have heat when required, regardless of the state of the other rooms.

The heat pump convector improves efficiency by approximately 25% compared to a heating system that combines under floor heating and regular fan coil units. The heat pump convector can easily replace existing heat emitters, thanks to its plug and play installation.



Solar connection

SOLAR KIT

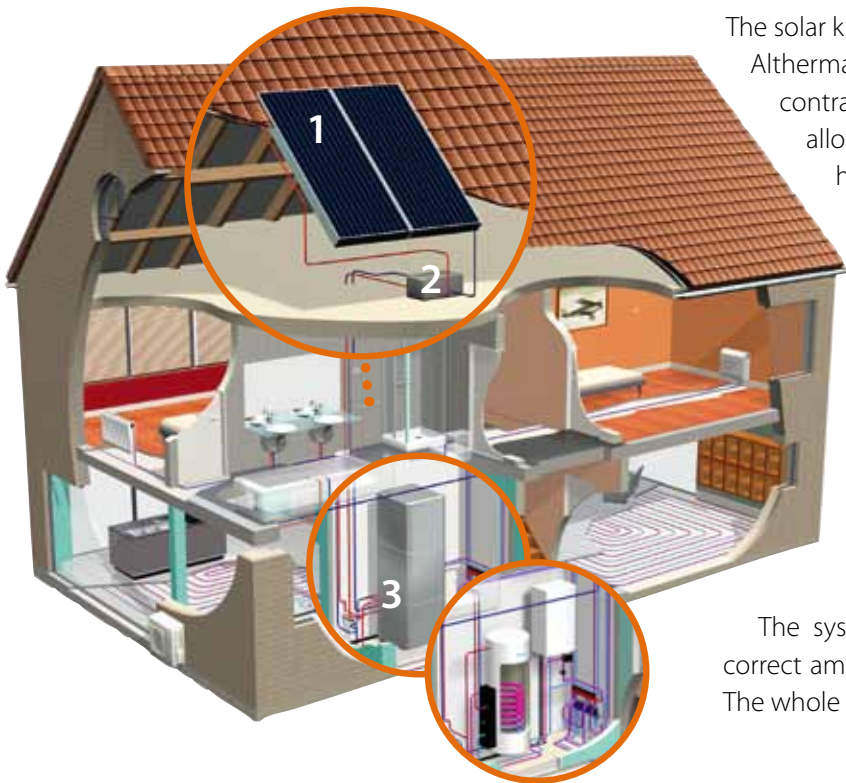
The solar kit provides the transfer of solar heat to the Daikin Altherma hot water tank via an external heat exchanger. In contrast to tanks with two heat exchangers, this system allows the entire content of the tank to be efficiently heated with solar heat and, if necessary, with heat pump energy.

SOLAR COLLECTOR

The high-efficiency collectors transfer all the short-wave solar radiation into heat as a result of their highly selective coating. The collectors can be mounted on the roof tiles.

PRESSURISED SYSTEM

The system is filled with heat transfer fluid with the correct amount of of antifreeze to avoid freezing in winter. The whole system is then pressurised and sealed.



1- Solar collector

2- Solar pump station

3- Solar kit available in combination
with integrated (EKHTS) and stand alone
(EKHWS - EKHWE) domestic hot water tank

WHAT DO YOU NEED?

- > Solar collector
- > Plumbing network and solar pump station
- > Supply tank: standard Daikin Altherma domestic hot water tank
- > Solar kit
- > Re-heater (Daikin Altherma heat pump unit which also provides the home with heating)



Heating & domestic hot water for renovations

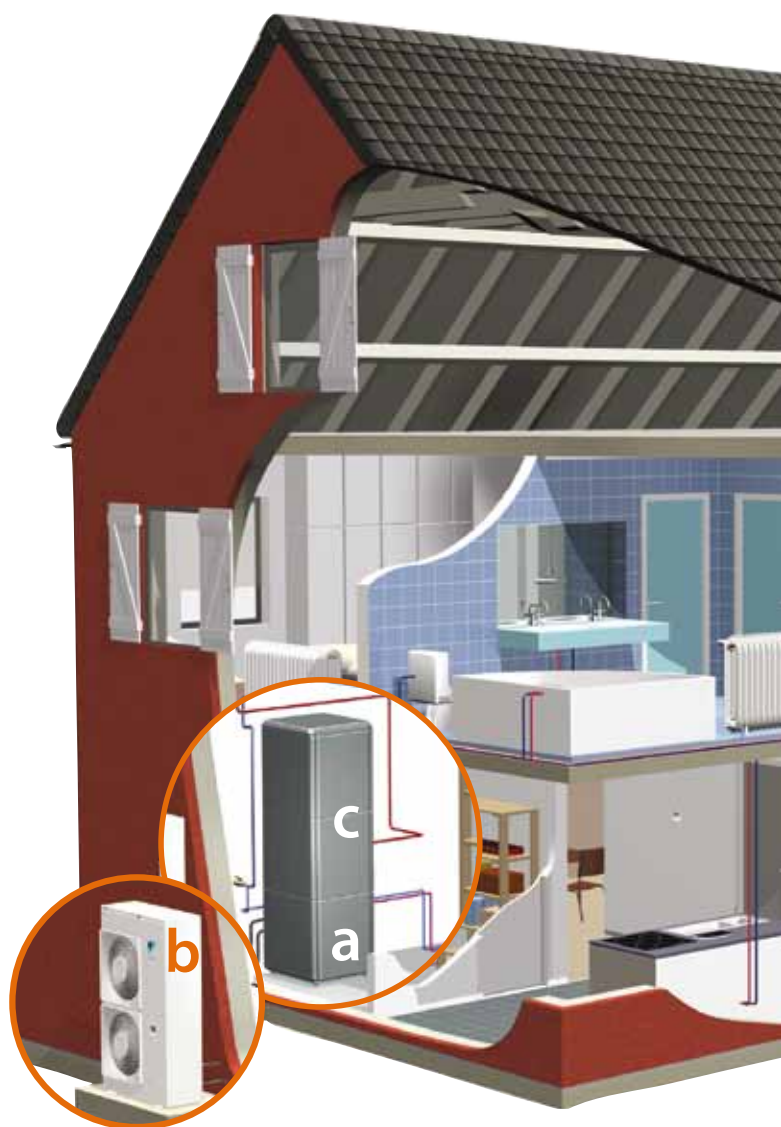
1 Split system

p26

**A SPLIT SYSTEM CONSISTS
OF AN OUTDOOR UNIT AND AN INDOOR UNIT**

The **outdoor unit** extracts heat from the ambient outdoor air. This heat is transferred to the indoor unit via refrigerant piping.

The **indoor unit** receives the heat from the outdoor unit and further increases the temperature, allowing water temperatures up to 80°C for heating through radiators and for domestic hot water use. Daikin's unique cascade compressor approach to the heat pumps (one in the outdoor unit/one in the indoor unit) means optimum comfort at even the coldest outdoor temperatures, without the need for an electric back-up heater.



Accessories for high temperature applications

EASY CONTROL p 30

With Daikin Altherma's user interface, the ideal temperature can be easily, quickly and conveniently regulated. It allows for more precise measurement and can regulate your comfort even more optimally and energy efficiently.



2 Domestic hot water tank p28

FOR LOW ENERGY CONSUMPTION

Daikin Altherma's high water temperature is ideal for heating domestic hot water without the need for an additional electric heater. Rapid heating of domestic hot water also means smaller heaters are needed. For a family of approximately 4 people, the standard tank is the best solution. Should you require more hot water, a larger tank is also available.

- a** - Indoor unit
- b** - Outdoor unit
- c** - Domestic hot water tank

HEAT EMITTERS

The Daikin Altherma high temperature system is designed to work only with high-temperature radiators, which come in various sizes and formats to suit the interior design as well as the heating requirement. Our radiators can be individually controlled or they can be regulated by the central heating control programme.

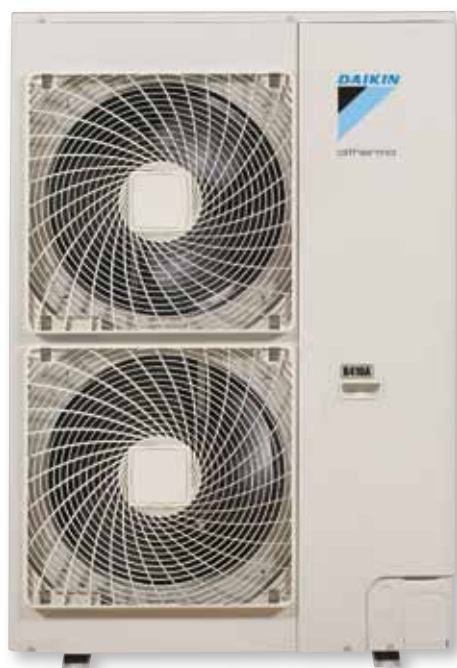
SOLAR CONNECTION p 29

The Daikin Altherma high temperature heating system can optionally use solar energy for hot water production. If the solar energy is not required immediately, the purpose-built hot water tank (EKHWP) can store large quantities of heated water for up to a day for later use as domestic hot water or for heating.

1 Daikin Altherma high temperature application

OUTDOOR UNIT

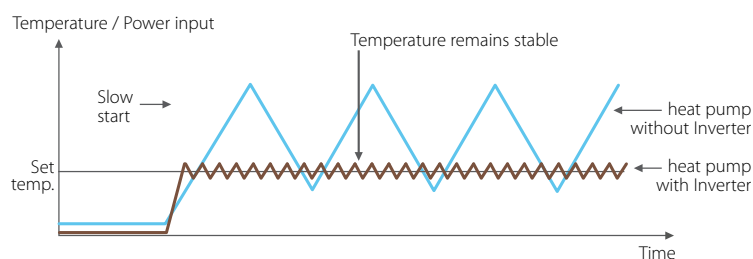
Daikin Altherma high temperature uses 100% thermodynamic energy to obtain water temperatures up to 80°C without using an additional heater.



INVERTER CONTROL MEANS EVEN MORE SAVINGS!

The inverter constantly adapts your system to actual heating demand. No need to fiddle with settings: the programmed temperature is optimally maintained regardless of outdoor and indoor factors such as the amount of sunlight, the number of people in the room, etc. This results in unmatched comfort, prolonged system life since it's only in operation when needed, and 30% additional savings in energy costs compared to non-inverter heat pumps.

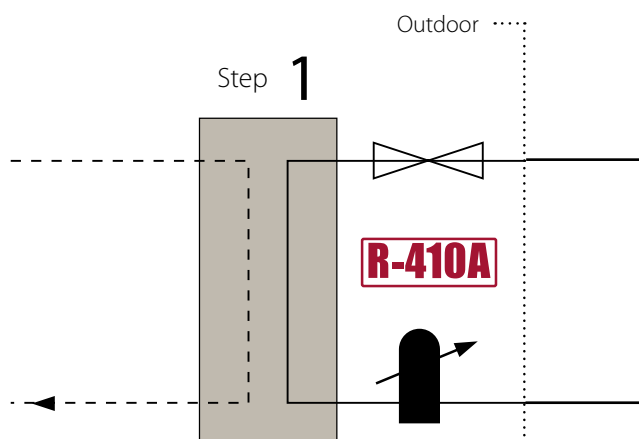
Heating operation:



Daikin Altherma cascade technology

High performance in 3 steps:

- 1 The outdoor unit extracts heat from the ambient outdoor air. This heat is transferred to the indoor unit via R-410A refrigerant.

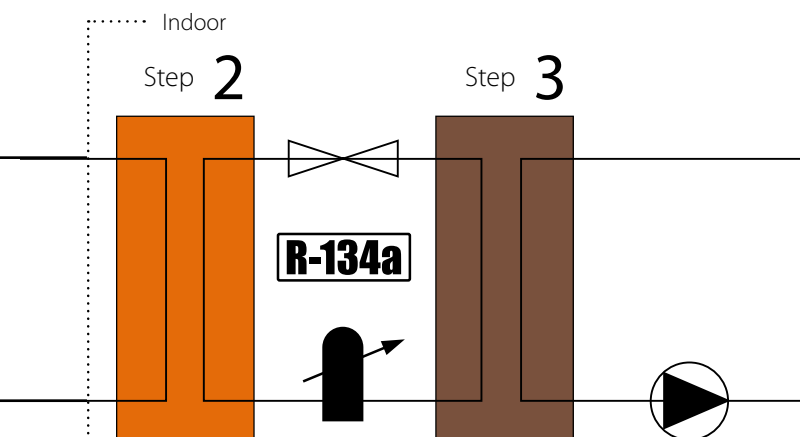


INDOOR UNIT

- › Available in heating only applications
- › No back-up heater required thanks to cascade technology



1. Heat exchanger R-134a ↔ H₂O
2. Heat exchanger R-410A ↔ R-134a
3. Pump (DC-inverter to maintain fixed ΔT)
4. Compressor R-134a
5. Air purge
6. Manometer
7. Expansion vessel (12l)



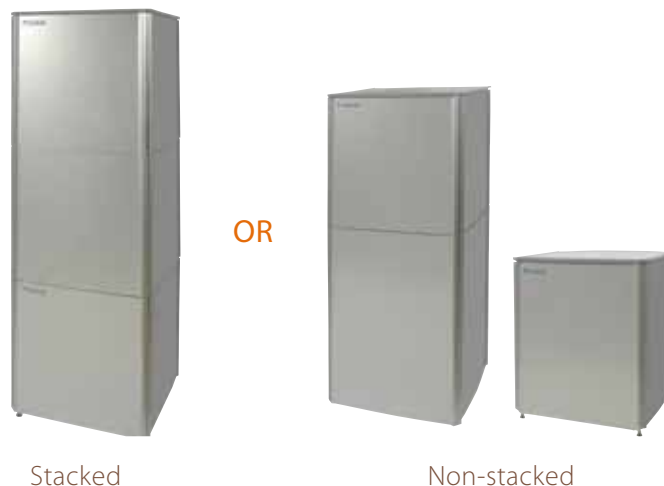
2 The indoor unit receives the heat and further increases the temperature with R-134a refrigerant.

3 The heat is transferred from the R-134a refrigerant circuit to the water circuit. Thanks to the unique cascade compressor approach, water temperatures of 80° C can be reached without using an additional back-up heater.

2 Domestic hot water tank

Whether your customer wants domestic hot water only or the advantage of solar energy, Daikin offers you the domestic hot water tank that meets his or her requirements.

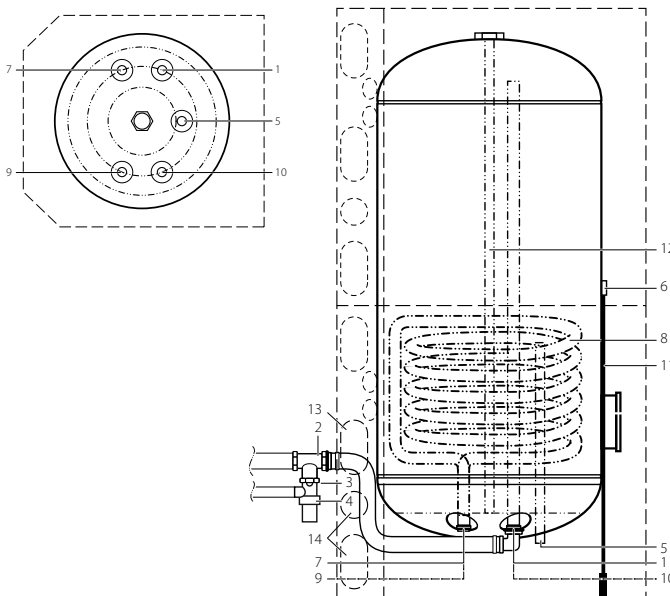
The indoor unit and domestic hot water tank can be stacked to save space, or installed next to each other, if only limited height is available.



EKHTS: DOMESTIC HOT WATER TANK

- > Available in 200 and 260 litres
- > Efficient temperature heat-up: from 10°C to 50°C in only 60 minutes*
- > Heat loss is reduced to a minimum thanks to the high quality insulation
- > At necessary intervals, the indoor unit can heat up the water to 60°C to prevent the risk of bacteria growth.

* Test done with a 16kW outdoor unit at ambient temperature of 7°C, 200L tank



- | | |
|---|-----------------------------|
| 1. Hot water connection | 9. Return outlet connection |
| 2. T-piece (field supply) | 10. Cold water connection |
| 3. Pressure relief valve connection | 11. Thermistor |
| 4. Pressure relief valve (field supply) | 12. Anode |
| 5. Recirculation hole | 13. Knockout holes |
| 6. Thermistor socket | 14. Knockout holes |
| 7. Flow inlet connection | |
| 8. Heat exchanger coil | |

Solar connection

SOLAR COLLECTORS

Averaged over an entire year, the sun delivers half of the energy we need to bring our domestic hot water up to the desired temperature. High-efficiency collectors with highly selective coating transfer all the short-wave solar radiation into heat. The collectors can be mounted on roof tiles.

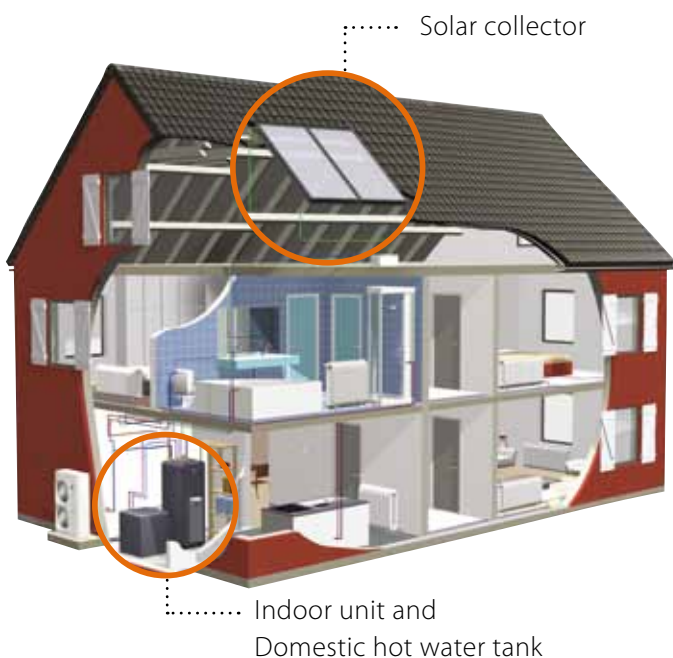
OPERATION

The solar collectors are only filled with water when sufficient heat is provided by the sun.

In this case, both pumps in the control and pump unit switch on briefly and fill the collectors with storage tank water. After filling, which takes less than a minute, one of the pumps switches off and water circulation is maintained by the remaining pump.

UNPRESSURISED SYSTEM

If there is insufficient sunshine or if the solar storage tank does not need more heat, the feed pump switches off and the entire Solar System drains into the storage tank. The addition of antifreeze is not necessary since, if the installation is not in use, the collector surfaces are not filled with water – another environmental advantage!

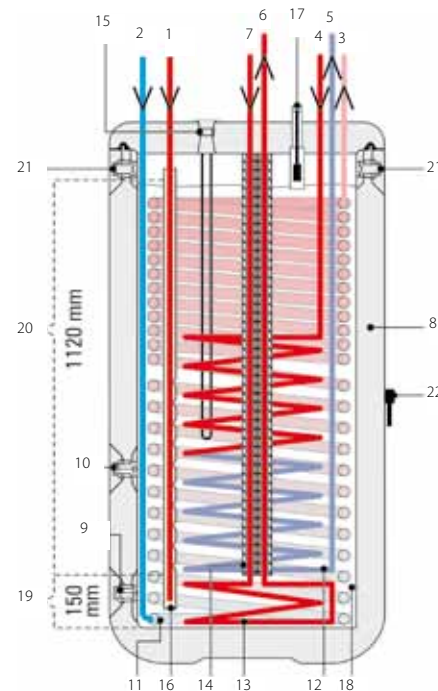


EKHWP: DOMESTIC HOT WATER TANK

The domestic hot water tank has two sections:

The upper, always hot, section – **the active water zone** – and the lower, colder section – **the solar zone**.

1. **The active water** is heated in the upper section of the storage tank. The high temperature of this zone ensures that sufficient hot water is always available.
2. Solar collectors work more efficiently when colder water flows through the solar collectors. Therefore, the water that is fed directly to the solar collectors in solar operation is stored in the **solar zone**.



- | | |
|---|--|
| 1. Inlet from solar collector (1" F junction joint) | 13. Heat exchanger for solar heating support |
| 2. Cold water inlet (1" M) | 14. Heat insulation shell for solar heating support. |
| 3. Hot water outlet (1" M) | 15. Insertion hole for electric heater option (not used) |
| 4. Inlet from heat pump (1" M) | 16. Solar collector inlet stratification pipe |
| 5. Return to heat pump (1" M) | 17. Filling level indicator |
| 6. Heating support outlet (1" M) | 18. Pressure-free storage tank water |
| 7. Heating support inlet (1" M) | 19. Solar zone |
| 8. Domestic hot water tank | 20. Service water zone |
| 9. Fill and drain valve | 21. Safety overflow fitting |
| 10. Connection for equalisation pipe (not used) | 22. Handle |
| 11. Heat exchanger domestic hot water | |
| 12. Heating heat exchanger | |

Easy control

SYSTEM CONTROLLER

The user interface controls the high temperature heating system in two ways:

1/ WEATHER DEPENDANT FLOATING SET POINT

When the floating set point functionality is enabled, the set point for the leaving water temperature will be dependant on the outside ambient temperature. At low outside ambient temperatures, the leaving water temperature will increase to satisfy the increasing heating requirement of the building. At warmer temperatures the leaving water temperature will decrease to save energy.

2/ THERMOSTAT CONTROL

With Daikin Altherma's user interface with integrated temperature sensor, the ideal temperature can be easily, quickly and conveniently regulated.

The easy-to-control user interface for high temperature applications guarantees your comfort:

- › Space heating
- › Quiet mode
- › Setback function
- › Disinfection function
- › Off function
- › Time scheduler
- › Domestic water heating mode

OPTIONAL ROOM THERMOSTAT

An external sensor (EKRTETS) can be placed between the under floor heating and the floor, as an option to the wireless room thermostat. The thermostat measures the room temperature and communicates directly to the user interface.

The LCD screen of the room thermostat indicates all the necessary information regarding the setting of the Daikin Altherma system in the blink of an eye. The user can easily navigate between the different menus, the most common of which include:

- › Setting the temperature of the room based on measurements from the built-in or external sensor
- › Cooling and heating mode
- › Off function (with integrated frost-protection function)
- › Holiday function mode
- › Comfort and reduced function modes
- › Time (day and month)
- › Programmable week-timer with 2 user defined and 5 pre-set programmes, with up to 12 actions per day
- › Keylock function
- › Setting limits. The installer can change the upper and lower limits
- › Floor temperature protection and protection against condensation for underfloor cooling *

* only in combination with EKRTETS





Heating, domestic hot water & cooling

For apartment buildings and collective housing

A modular system integrating
Daikin's state of the art VRV®
technology into the energy-efficient
Daikin Altherma concept

ENERGY EFFICIENT HEAT PUMP TECHNOLOGY

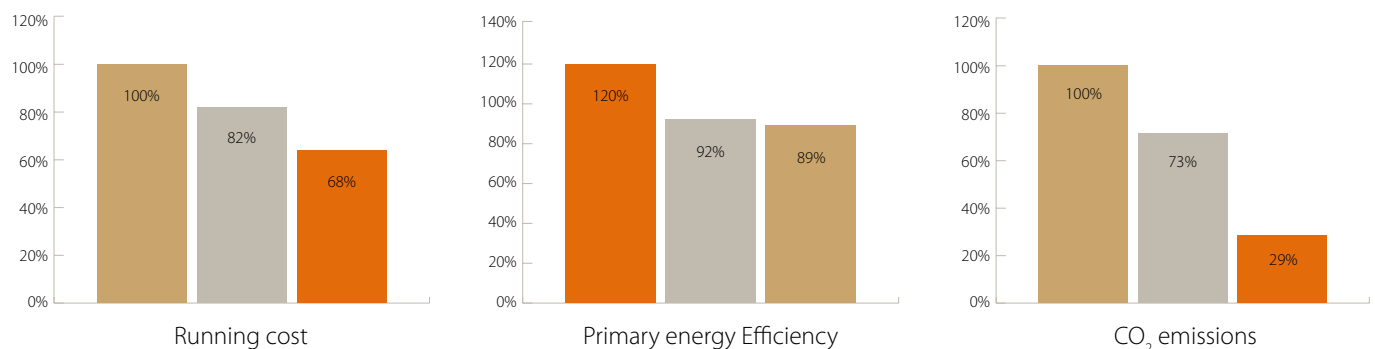
The Daikin Altherma FlexType is today's answer to current and future issues associated with conventional heating systems such as increasing energy costs and unacceptable high environmental impact. With the Daikin Altherma FlexType, 2/3 of the heat generated comes from the air, recognised as a renewable energy source, that is free of charge! Daikin Altherma FlexType achieves a typical seasonal COP of 3 in the moderate Western and central European climate. Compared to an oil boiler, this results in:

- Up to 36% less running costs*
- Up to 71% reduction of CO₂ emissions*
- Up to 35% % reduction in primary energy use*

* Data calculated taking into account Belgian conditions: SCOP of 3, average energy prices 2007-2010, CO₂ emission factor for electricity production



Fuel Condensing gas Daikin Altherma for apartment buildings and collective housing



- a -** Indoor unit
- b -** Outdoor unit
- c -** Domestic hot water tank



HEAT EMITTERS

- Under floor heating
- Radiators
- Heat pump convectors
- Fan coil units

MODULAR SYSTEM

One or more inverter-controlled outdoor heat pump units can provide heating, cooling and domestic hot water to an apartment building, with **1 outdoor unit combined with up to 10 indoor units**. Outdoor units between 23 and 45 kW extract the heat from the outdoor air, raise it to an intermediate temperature and transfer this heat energy to the individual indoor units.

A small footprint indoor unit is installed in each individual dwelling. It receives the heat energy from the central outdoor unit, raises the temperature further by means of a second (cascading) heat pump cycle and feeds heated or cooled water to emitters (under floor elements, heat pump convectors and/or radiators as needed).

Two classes of indoor units are available (6 and 9 kW), ensuring optimum efficiency for any size apartment. Multiple outdoor units can be installed for larger applications.

3-IN-1 SYSTEM

Daikin Altherma Flex Type heats, cools, and produces domestic hot water:

- › Heating: leaving water temperatures up to 80° C
- › Cooling: leaving water temperatures down to 5° C
- › Domestic hot water: tank temperatures up to 75° C

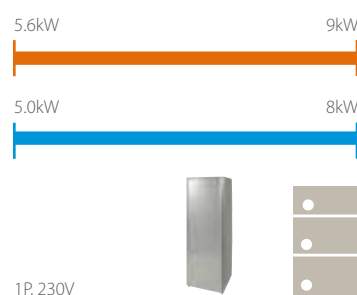
Thanks to its heat recovery function, the system can heat up the domestic hot water tank up to 60°C with rejected heat from cooling operation.

MODULAR SYSTEM

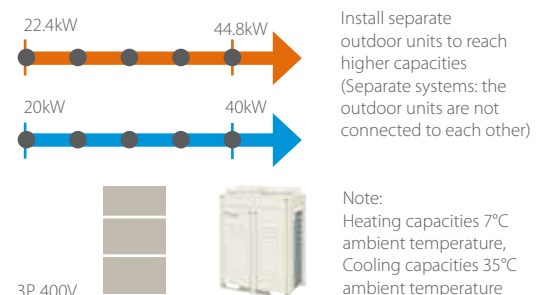
One or more outdoor units and several indoor units



1 APARTMENT



TOTAL BUILDING



Two Daikin technologies combined

OUTDOOR UNIT:

DAIKIN VRV® TECHNOLOGY

MODULAR FLEXIBILITY

The Daikin Altherma makes use of Daikin's renowned VRV® technology. Multiple indoor units can be connected to a single outdoor unit. A combination of Proportional Integral Derivative controlled compressors and electronic expansion valves in the outdoor unit continuously adjust the circulating refrigerant volume in response to load variations in the indoor units connected to it.

This allows the indoor units to operate independently of each other, assuring total flexibility.

Each apartment retains control of its own heating, hot water and cooling.

HEAT RECOVERY

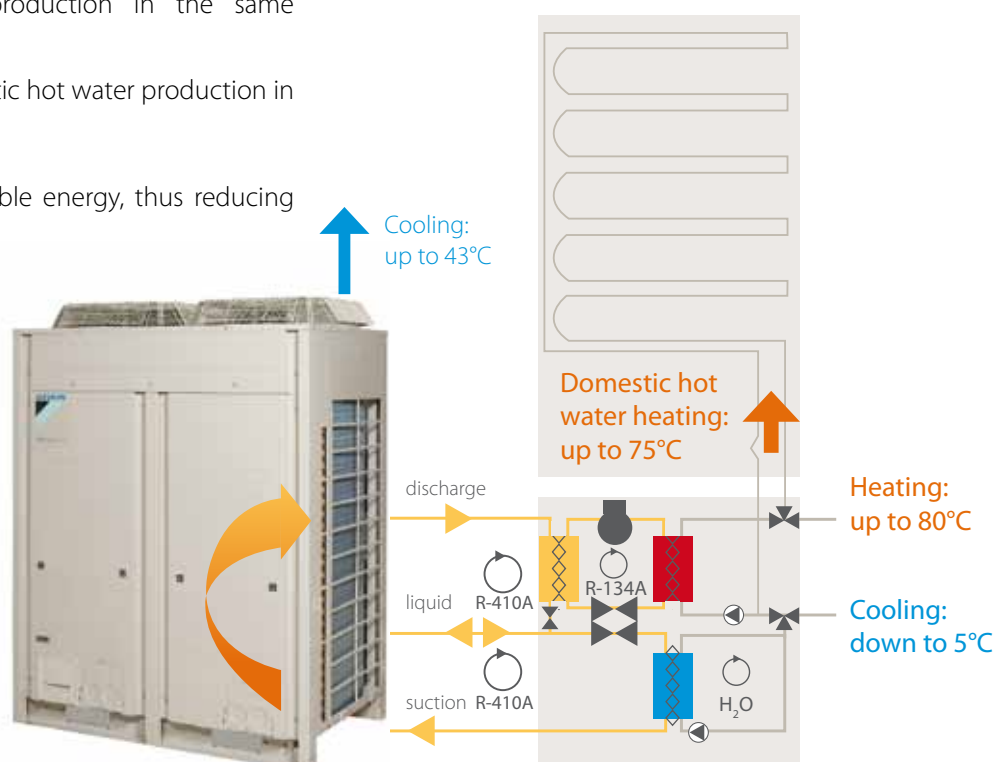
Heat absorbed while cooling one apartment can be recovered instead of being simply released into the air. This recovered heat can be used

- › for domestic hot water production in the same apartment
- › for space heating and domestic hot water production in other apartments

Maximum use is made of available energy, thus reducing electricity costs.

INVERTER COMPRESSORS

Daikin Altherma Flex Type owes its remarkable low energy consumption to a unique combination of highly efficient inverter-controlled Daikin compressors with a variable operating point. This allows capacity to be exactly matched to the actual heating demand of the building. The ability to optimally control the heat capacity of the outdoor unit also means maximum comfort and minimum energy consumption.



INDOOR UNIT:

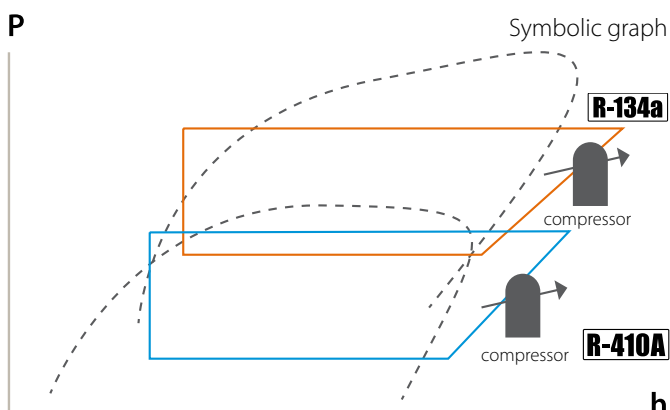
DAIKIN ALTHERMA CASCADE TECHNOLOGY

The Daikin Cascade technology uses an outdoor unit that extracts heat from the surrounding air and transfers this to the indoor unit via a R-410A refrigerant circuit. The indoor unit then increases this heat via the R-134a refrigerant circuit and it is then used to heat the water circuit. Using the unique cascade compressor approach, water temperatures of 80° C can be achieved without additional back-up heaters.

SPACE HEATING

Daikin Altherma Flex Type makes use of the cascade technology to improve the efficiency of the space heating supplied because it has a number of significant advantages over single refrigerant heat pumps:

- › it provides for a wide range of water temperatures (25° - 80°C) which enables all types of heat emitters to be connected including under floor heating, convectors and radiators and it is compatible with existing radiator systems
- › there is no drop in capacity with increasing water temperatures
- › it delivers high capacities at low ambient temperatures right down to -20°C
- › No back-up electrical heater is required



DOMESTIC HOT WATER HEATING

The cascade technology also delivers water temperatures of 75°C that can be used to heat up the domestic hot water tank, which makes it highly efficient for the production of domestic hot water.

- › Domestic hot water can be produced up to 75° C, without the assistance of an electric heater
- › No electric heater required for Legionella disinfection
- › COP of 3.0 for heating from 15° C to 60° C
- › Heat-up time from 15° to 60° C in 70 minutes (200L tank)
- › Equivalent hot water volume of 320L at 40° C (without reheat) for a 200L tank at a tank temperature of 60°C. Higher volumes of equivalent hot water are available with the 260l tank, or using a higher tank temperature.

COOLING

The second refrigerant cycle R-134a can be bypassed to offer efficient cooling. The R-410A refrigerant cycle is reversed, and the cool water circuit can be used to cool the rooms.

- › High cooling capacities with water temperatures down to 5°C, in combination with Daikin heat pump convector or Daikin fan coil units
- › Under floor cooling is possible, with water temperatures down to 18° C
- › Heat from cooling operation can be recovered to heat the domestic hot water tank

Domestic hot water tank

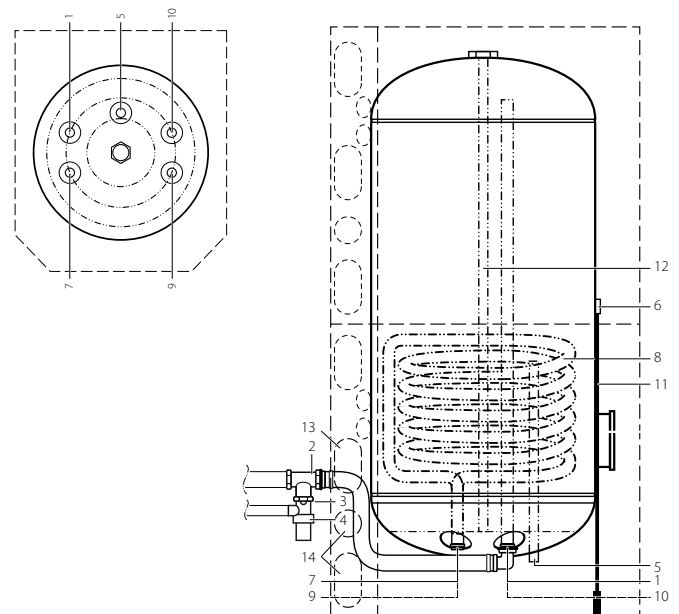
The indoor unit and domestic hot water tank can be stacked to save space, or installed next to each other, if only limited height is available.



EKHTS: DOMESTIC HOT WATER TANK

- > Available in 200 and 260 litres
- > Efficient temperature heat-up: from 10°C to 50°C in only 60 minutes*
- > Heat loss is reduced to a minimum thanks to the high quality insulation
- > At necessary intervals, the indoor unit can heat up the water to 60°C to prevent the risk of bacteria growth.

* Test done with a 16kW outdoor unit at ambient temperature of 7°C, 200L tank



- | | |
|---|-----------------------------|
| 1. Hot water connection | 9. Return outlet connection |
| 2. T-piece (field supply) | 10. Cold water connection |
| 3. Pressure relief valve connection | 11. Thermistor |
| 4. Pressure relief valve (field supply) | 12. Anode |
| 5. Recirculation hole | 13. Knockout holes |
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| 7. Flow inlet connection | |
| 8. Heat exchanger coil | |

Easy control

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- › Quiet mode
- › Setback function
- › Disinfection function
- › Off function
- › Time scheduler
- › Domestic water heating mode

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- › Keylock function
- › Setting limits. The installer can change the upper and lower limits
- › Floor temperature protection and protection against condensation for underfloor cooling *

* only in combination with EKRTETS

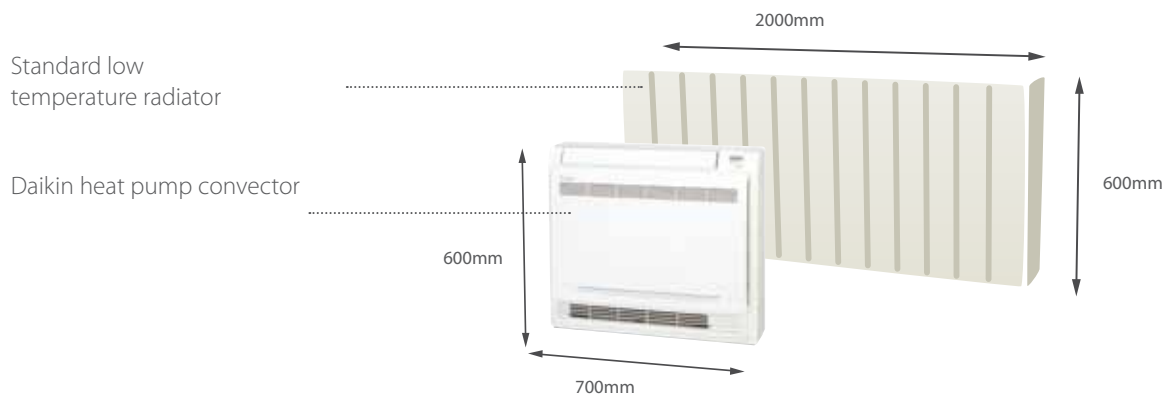


Heat pump convector

The Daikin heat pump convector operates at typical water temperatures of 45°C, which can be efficiently produced thanks to the Daikin Altherma cascade technology.

The heat pump convector is therefore the ideal heat emitter for apartment applications, providing high comfort levels:

- > **Small dimensions** compared to low temperature radiators: width is reduced with 2/3rd



- > **Low sound level** down to 19 dB(A), optimal for bedroom applications
- > **High-capacity cooling** with water temperatures down to 6° C



CONTROL

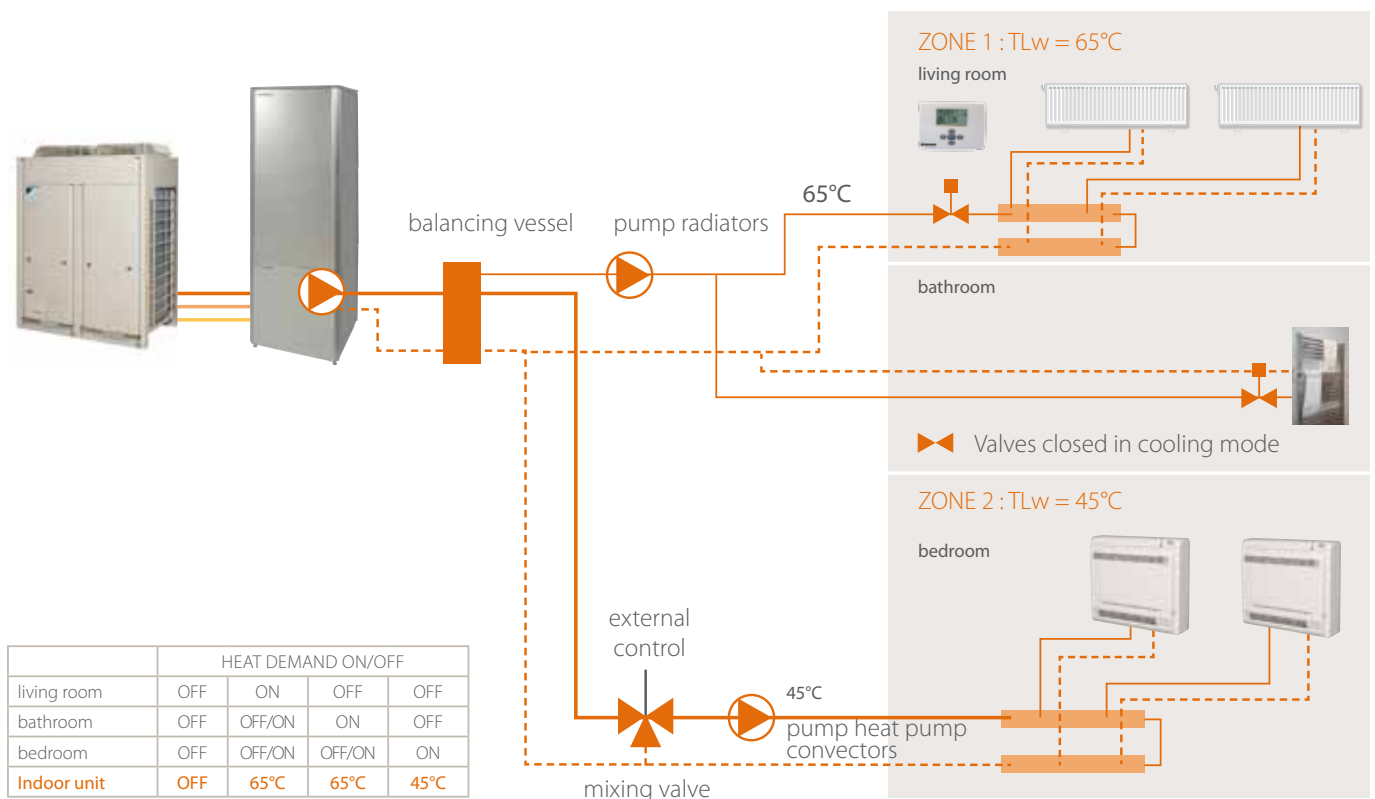
Each Daikin heat pump convector has its own control and every room can be independently heated (or cooled) as required. The remote control has a built-in weekly timer for optimum flexibility and comfort. Operation of the unit can be adapted to individual requirements.



Infrared remote control (Standard)
ARC452A15



All types of heat emitters can be connected to Daikin Altherma for apartment buildings and collective housing, thanks to its wide water temperature range and its ability to work with multiple set points, allowing a combination of different heat emitters operating at different water temperatures. The set point of the indoor unit is a function of the actual demand of the various heat emitters, ensuring optimum efficiency at all times and under all conditions.



Selection software

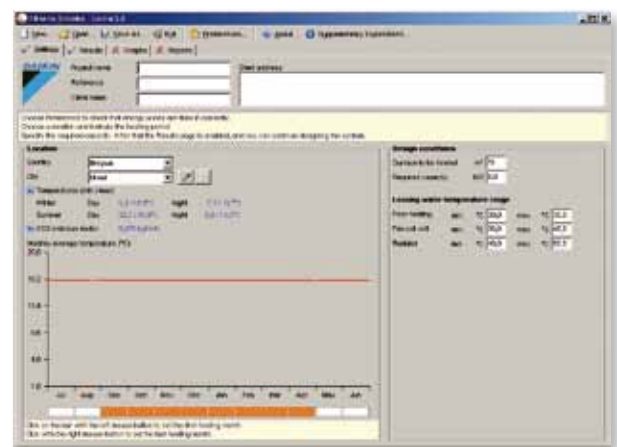
Selection and simulation software for new houses and renovations

Daikin Altherma software allows quick and easy indication of the benefits of an Daikin Altherma system.

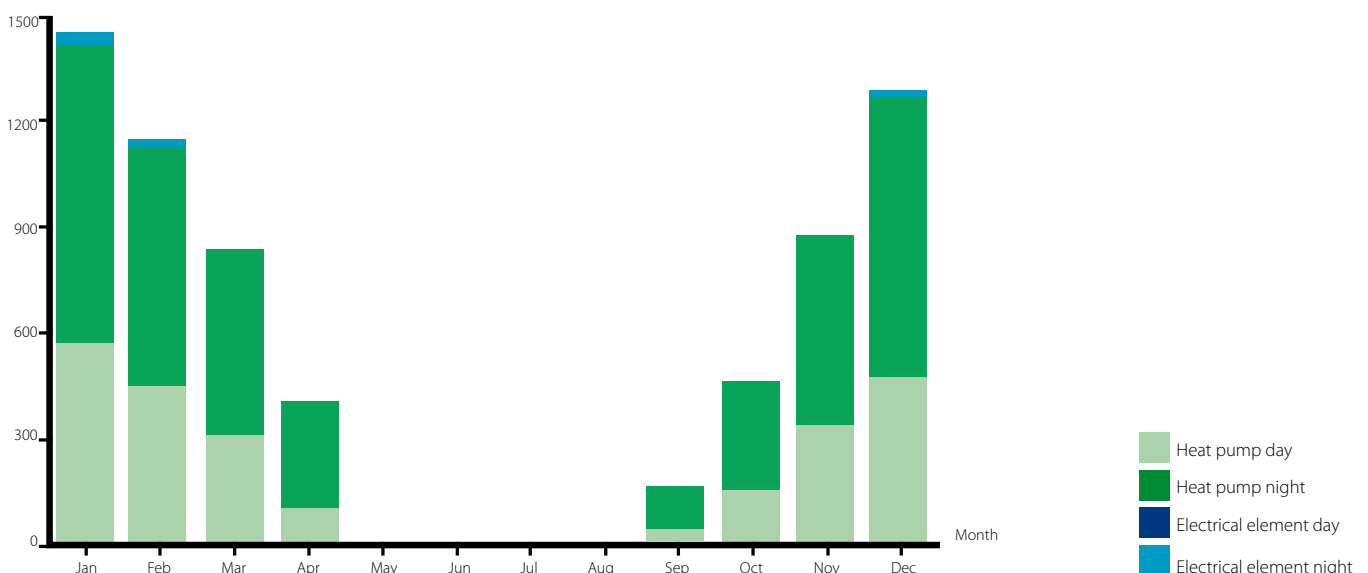
By specifying a number of parameters such as the location, the surface area to be heated, the required heating capacity, the entry and exit water temperatures of the distribution network and the local energy prices, the programme displays the following simulation details:

1. Material list with technical specification
2. Simulation graphics:
 - a) Required and available heating capacity with indication of the SPF (or Seasonal COP)
 - b) Duration of the heating period as a function of the outside temperature
 - c) The annual energy cost compared with a heating system using gas or fuel oil
 - d) The annual amount CO₂ emitted in tonnes compared with a heating system using gas or fuel oil
 - e) The monthly energy consumption in kWh
 - f) The monthly energy cost in €
 - g) The total amount of thermal energy in kWh as a function of the outside temperature
 - h) The radiated heat per m² (in kWh/m²) per month

All data is collected in a separate report. If you are interested in this software, contact your local distributor.



Energy consumption (kWh)

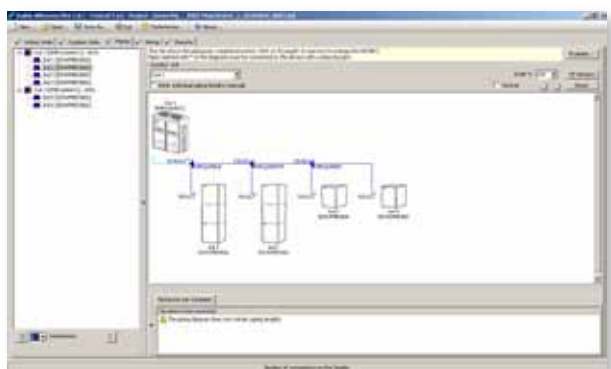


Selection and design software for apartment buildings and collective housing

The Daikin Altherma selection and simulation software for new houses or renovations allows quick and easy identification of the optimal mix of components. It automatically selects indoor and outdoor units based on the required heat loads per housing unit and calculates the required refrigerant piping dimensions.

The software also features:

- > automatic or manual selection of indoor units
- > automatic selection of outdoor units
- > calculation of refrigerant piping diameters
- > automatic selection of refnet headers and joints
- > creation of piping and wiring diagrams with the possibility to export them as DXF file
- > creation of extensive selection report



Technical specifications

Daikin Altherma low temperature

SPLIT SYSTEM

WALL MOUNTED INDOOR UNIT - SINGLE PHASE



				HEATING ONLY		HEATING & COOLING		HEATING ONLY		HEATING & COOLING	
INDOOR UNITS				EKHBH008B		EKHBX008B		EKHBH016B		EKHBX016B	
Casing	colour			RAL9010							
	material			Epoxy polyester painted galvanised steel							
Dimensions	unit	height/width/depth	mm	922/502/361							
Weight	unit		kg	46				48			
Operation range	heating	water side	min.~max. °C	15~50 (9)		15~50 (9)		15~55 (9)		15~55 (9)	
	cooling	water side	min.~max. °C			5~22				5~22	
Sound power level	medium speed	0 esp	dBA	42				46			
Sound pressure level	medium speed	0 esp	dBA	28							
		nominal flow	dBA	30 (3) / 29 (4) / 29 (5)				31 (6) / 29 (7) / 28 (8)			
	high speed	nominal flow	dBA	32 (3) / 32 (4) / 31 (5)				33 (6) / 33 (7) / 32 (8)			



INVERTER

OUTDOOR UNITS				ERHQ006BAV3	ERHQ007BAV3	ERHQ008BAV3	ERHQ011BAV3	ERHQ014BAV3	ERHQ016BAV3
Heating capacity	min.		kW	4.36(1) 3.87(2)	4.36(1) 3.87(2)	4.36(1) 3.87(2)			
	nom.		kW	5.75(1) 5.03(2)	6.84(1) 6.10(2)	8.43(1) 7.64(2)	11.2 (1) 10.3 (2)	14.0 (1) 13.1 (2)	16.0 (1) 15.2 (2)
	max.		kW	7.45(1) 6.68(2)	8.79(1) 7.98(2)	9.58(1) 8.76(2)			
Cooling capacity	min.		kW	4.82(1) 3.62(2)	4.82(1) 3.67(2)	4.82(1) 3.67(2)			
	nom.		kW	7.20(1) 5.12(2)	8.16(1) 5.86(2)	8.37(1) 6.08(2)	13.90 (1) 10.00 (2)	17.30 (1) 12.50 (2)	17.80 (1) 13.10 (2)
	max.		kW	7.20(1) 5.12(2)	8.50(1) 6.13(2)	8.91(1) 7.10(2)			
Power input	heating	nom.	kW	1.26 (1) 1.58 (2)	1.58 (1) 1.95 (2)	2.08 (1) 2.54 (2)	2.46 (1) 3.06 (2)	3.17 (1) 3.88 (2)	3.83 (1) 4.66 (2)
	cooling	nom.	kW	2.27 (1) 2.16 (2)	2.78 (1) 2.59 (2)	2.97 (1) 2.75 (2)	3.79 (1) 3.60 (2)	5.78 (1) 5.29 (2)	6.77 (1) 5.95 (2)
COP				4.56 (1) 3.18 (2)	4.34 (1) 3.13 (2)	4.05 (1) 3.00 (2)	4.55 (1) 3.37 (2)	4.42 (1) 3.38 (2)	4.18 (1) 3.26 (2)
EER				3.17 (1) 2.37 (2)	2.94 (1) 2.26 (2)	2.82 (1) 2.21 (2)	3.67 (1) 2.78 (2)	2.99 (1) 2.36 (2)	2.63 (1) 2.20 (2)
Dimensions	unit	height/width/depth	mm	735/825/300			1,170/900/320		
Weight	unit		kg	56			103		
Operation range	heating	min.~max.	°CWB	-20~25			-20~35		
	cooling	min.~max.	°CDB	10~43			~~		
	domestic hot water	min.~max.	°CDB				-20~43		
Refrigerant	type			R-410A					
	charge		kg	1.7			3.7		
Sound power level	heating	nom.	dBA	61			62		
	cooling	nom.	dBA	63					
Sound pressure level	heating	nom.	dBA	48			49		
	cooling	nom.	dBA	48			50		
Power supply	name;phase;frequency;voltage			Hz/V			V3;1~;50;230		
Current	recommended fuses			A			32		

(1) cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)

(2) cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)



OUTDOOR UNITS WITH BOTTOM PLATE HEATER				ERLQ006BV3	ERLQ007BV3	ERLQ008BV3	ERLQ011CV3	ERLQ014CV3	ERLQ016CV3
Heating capacity	min.		kW	4.36(1) 3.87(2)	4.36(1) 3.87(2)	4.36(1) 3.87(2)			
	nom.		kW	5.75(1) 5.03(2)	6.84(1) 6.10(2)	8.43(1) 7.64(2)	11.2 (1) 10.98(2)	14.0 (1) 13.1 (2)	16.0 (1) 15.2 (2)
	max		kW	7.45(1) 6.68(2)	8.79(1) 7.98(2)	9.58(1) 8.76(2)			
Cooling capacity	min.		kW	4.82(1) 3.67(2)	4.82(1) 3.67(2)	4.82(1) 3.67(2)			
	nom.		kW	7.20(1) 5.12(2)	8.16(1) 5.86(2)	8.37(1) 6.08(2)	15.05 (1) 11.72 (2)	16.06 (1) 12.55 (2)	16.76 (1) 13.12 (2)
	max.		kW	7.20(1) 5.12(2)	8.50(1) 6.13(2)	8.91(1) 7.10(2)			
Power input	heating	nom.	kW	1.26 (1) 1.58 (2)	1.58 (1) 1.95 (2)	2.08 (1) 2.54 (2)	2.41 (1) 2.96 (2)	3.14 (1) 3.98 (2)	3.72 (1) 4.62 (2)
	cooling	nom.	kW	2.27 (1) 2.16 (2)	2.78 (1) 2.59 (2)	2.97 (1) 2.75 (2)	4.44 (1) 4.22 (2)	5.33 (1) 5.00 (2)	6.06 (1) 5.65 (2)
COP				4.56 (1) 3.18 (2)	4.34 (1) 3.13 (2)	4.05 (1) 3.00 (2)	4.66 (1) 3.48 (2)	4.46 (1) 3.29 (2)	4.30 (1) 3.29 (2)
EER				3.17 (1) 2.37 (2)	2.94 (1) 2.26 (2)	2.82 (1) 2.21 (2)	3.39 (1) 2.78 (2)	3.01 (1) 2.51 (2)	2.76 (1) 2.32 (2)
Dimensions	unit	height/width/depth	mm	735/825/300			1.345/900/320		
Weight	unit		kg	57			114		
Operation range	heating	min.~max.	°CWB	-20~25			-25~35		
	cooling	min.~max.	°CDB	10~43			10.0~46.0		
	domestic hot water	min.~max.	°CDB	-20~43			-20~35		
Refrigerant	type			R-410A					
	charge		kg	1.7		3.4			
Sound power level	heating	nom.	dBA	61		62	64		66
	cooling	nom.	dBA	63			64		69
Sound pressure level	heating	nom.	dBA	48		49	51		52
	cooling	nom.	dBA	48		50		52	
Power supply	name;phase;frequency;voltage		Hz;V	V3;1~;50;230					
Current	recommended fuses		A	20			40		

(1) cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)
(2) cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)



SPLIT SYSTEM

WALL MOUNTED INDOOR UNIT - THREE PHASE

INDOOR UNITS				EKHBH016B		EKHBX016B	
Casing	colour			RAL9010			
	material			Epoxy polyester painted galvanised steel			
Dimensions	unit	height/width/depth	mm	922/502/361			
Weight	unit			kg		48	
Operation range	heating	water side	min.~max.	°C		15~55 (6)	
	cooling	water side	min.~max.	°C		5~22	
Sound power level	medium speed	0 esp	dB(A)			46	
	medium speed	0 esp	dB(A)			28	
Sound pressure level	medium speed	nominal flow	dB(A)			31 (3) / 29 (4) / 28 (5)	
	high speed	nominal flow	dB(A)			33 (3) / 33 (4) / 32 (5)	



INVERTER

OUTDOOR UNITS				ERHQ011BW1		ERHQ014BW1		ERHQ016BW1	
Heating capacity	nom.		kw	11.32 (1) 10.98 (2)		14.50 (1) 13.57 (2)		16.05 (1) 15.11 (2)	
Cooling capacity	nom.		kw	15.05 (1) 11.72 (2)		16.06 (1) 12.55 (2)		16.76 (1) 13.12 (2)	
Power input	heating	nom.	kw	2.54 (1) 3.15 (2)		3.33 (1) 4.12 (2)		3.73 (1) 4.60 (2)	
	cooling	nom.	kw	4.44 (1) 4.22 (2)		5.33 (1) 5.00 (2)		6.06 (1) 5.65 (2)	
COP				4.46 (1) 3.48 (2)		4.35 (1) 3.29 (2)		4.30 (1) 3.29 (2)	
EER				3.39 (1) 2.78 (2)		3.01 (1) 2.51 (2)		2.76 (1) 2.32 (2)	
Dimensions	unit	height/width/depth	mm	1,345/900/320					
Weight	unit			kg		108			
Operation range	heating	min.~max.	°Cwb			-20~35			
	cooling	min.~max.	°Cdb			10~46			
	domestic hot water	min.~max.	°Cdb			-20~43			
Refrigerant	type			R-410A					
	charge			kg		2.95			
Sound power level	heating	nom.	dba	64				66	
	cooling	nom.	dba	64		66		69	
Sound pressure level	heating	nom.	dba	51				52	
	cooling	nom.	dba	50		52		54	
Power supply	name;phase;frequency;voltage			Hz;V		W1;3N~;50;400			
Current	recommended fuses			a		20			

(1) cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)

(2) cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)

INVERTER

OUTDOOR UNITS WITH BOTTOM PLATE HEATER				ERLQ011CW1		ERLQ014CW1		ERLQ016CW1	
Heating capacity	nom.		kW	11.20 (1) 10.98 (2)		14.00 (1) 13.57 (2)		16.00 (1) 15.20 (2)	
Cooling capacity	nom.		kW	15.05 (1) 11.72 (2)		16.06 (1) 12.55 (2)		16.76 (1) 13.12 (2)	
Power input	heating	nom.	kW	2.41 (1) 3.15 (2)		3.14 (1) 4.12 (2)		3.72 (1) 4.60 (2)	
	cooling	nom.	kW	4.44 (1) 4.22 (2)		5.33 (1) 5.00 (2)		6.06 (1) 5.65 (2)	
COP				4.66 (1) 3.48 (2)		4.46 (1) 3.29 (2)		4.30 (1) 3.29 (2)	
EER				3.39 (1) 2.78 (2)		3.01 (1) 2.51 (2)		2.76 (1) 2.32 (2)	
Dimensions	unit	height/width/depth	mm	1,345/900/320					
Weight	unit			kg		114			
Operation range	heating	min.~max.	°CWB			-25~35			
	cooling	min.~max.	°CDB			10~46			
	domestic hot water	min.~max.	°CDB			-20~35			
Refrigerant	type			R-410A					
	charge			kg		3.4			
Sound power level	heating	nom.	dB(A)	64				66	
	cooling	nom.	dB(A)	64		66		69	
Sound pressure level	heating	nom.	dB(A)	51				52	
	cooling	nom.	dB(A)	50		52		54	
Power supply	name;phase;frequency;voltage			Hz;V		W1;3N~;50;400			
Current	recommended fuses			A		20			

(1) cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)

(2) cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)

SPLIT SYSTEM

FLOOR STANDING INDOOR UNIT - SINGLE PHASE



INDOOR UNITS				EKHVH008B	EKHVX008B	EKHVH016B	EKHVX016B
Casing	colour material			Metallic grey			
				Precoated sheet metal			
Dimensions	unit	height/width/depth		mm	705/600/695		
Weight	unit			kg	65		67
Operation range	heating	water side	min.~max.	°c	15~50 (9)	15~50 (9)	15~55 (9)
	cooling	water side	min.~max.	°c		5~22	5~22
Sound power level	medium speed	0 esp	dba		42		46
	medium speed	0 esp	dba		28		
Sound pressure level		nominal flow	dba		30 (3) / 29 (4) / 29 (5)		31 (6) / 29 (7) / 28 (8)
	high speed	nominal flow	dba		32 (3) / 32 (4) / 31 (5)		33 (6) / 33 (7) / 32 (8)

OUTDOOR UNITS				ERHQ006BAV3	ERHQ007BAV3	ERHQ008BAV3	ERHQ011BAV3	ERHQ014BAV3	ERHQ016BAV3
Heating capacity	min.		kW	4.36(1) 3.87(2)	4.36(1) 3.87(2)	4.36(1) 3.87(2)			
	nom.		kW	5.75(1) 5.03(2)	6.84(1) 6.10(2)	8.43(1) 7.64(2)	11.2 (1) 10.3 (2)	14.0 (1) 13.1 (2)	16.0 (1) 15.2 (2)
	max.		kW	7.45(1) 6.68(2)	8.79(1) 7.98(2)	9.58(1) 8.76(2)			
Cooling capacity	min.		kW	4.82(1) 3.62(2)	4.82(1) 3.67(2)	4.82(1) 3.67(2)			
	nom.		kW	7.20(1) 5.12(2)	8.16(1) 5.86(2)	8.37(1) 6.08(2)	13.90 (1) 10.00 (2)	17.30 (1) 12.50 (2)	17.80 (1) 13.10 (2)
	max.		kW	7.20(1) 5.12(2)	8.50(1) 6.13(2)	8.91(1) 7.10(2)			
Power input	heating	nom.	kW	1.26 (1) 1.58 (2)	1.58 (1) 1.95 (2)	2.08 (1) 2.54 (2)	2.46 (1) 3.06 (2)	3.17 (1) 3.88 (2)	3.83 (1) 4.66 (2)
	cooling	nom.	kW	2.27 (1) 2.16 (2)	2.78 (1) 2.59 (2)	2.97 (1) 2.75 (2)	3.79 (1) 3.60 (2)	5.78 (1) 5.29 (2)	6.77 (1) 5.95 (2)
COP				4.56 (1) 3.18 (2)	4.34 (1) 3.13 (2)	4.05 (1) 3.00 (2)	4.55 (1) 3.37 (2)	4.42 (1) 3.38 (2)	4.18 (1) 3.26 (2)
EER				3.17 (1) 2.37 (2)	2.94 (1) 2.26 (2)	2.82 (1) 2.21 (2)	3.67 (1) 2.78 (2)	2.99 (1) 2.36 (2)	2.63 (1) 2.20 (2)
Dimensions	unit	height/width/depth	mm	735/825/300				1,170/900/320	
Weight	unit		kg	56				103	
Operation range	heating	min.~max.	°CWB	-20~25				-20~35	
	cooling	min.~max.	°CDB	10~43				~~~	
	domestic hot water	min.~max.	°CDB						
Refrigerant	type			R-410A					
	charge		kg	1.7				3.7	
Sound power level	heating	nom.	dBa	61		62		-	
	cooling	nom.	dBa	63				-	
Sound pressure level	heating	nom.	dBa	48		49		51	
	cooling	nom.	dBa	48		50		-	
Power supply	name;phase;frequency;voltage			Hz/V		V3;1~;50;230			
Current	recommended fuses			A		20		32	

(1) cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)
(2) cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)



OUTDOOR UNITS WITH BOTTOM PLATE HEATER				ERLQ006BV3	ERLQ007BV3	ERLQ008BV3	ERLQ011CV3	ERLQ014CV3	ERLQ016CV3
Heating capacity	min.		kw	4.36(1) 3.87(2)	4.36(1) 3.87(2)	4.36(1) 3.87(2)			
	nom.		kw	5.75(1) 5.03(2)	6.84(1) 6.10(2)	8.43(1) 7.64(2)	11.2 (1) 10.98(2)	14.0 (1) 13.1 (2)	16.0 (1) 15.2 (2)
	max		kw	7.45(1) 6.68(2)	8.79(1) 7.98(2)	9.58(1) 8.76(2)			
Cooling capacity	min.		kw	4.82(1) 3.67(2)	4.82(1) 3.67(2)	4.82(1) 3.67(2)			
	nom.		kw	7.20(1) 5.12(2)	8.16(1) 5.86(2)	8.37(1) 6.08(2)	15.05 (1) 11.72 (2)	16.06 (1) 12.55 (2)	16.76 (1) 13.12 (2)
	max.		kw	7.20(1) 5.12(2)	8.50(1) 6.13(2)	8.91(1) 7.10(2)			
Power input	heating	nom.	kw	1.26 (1) 1.58 (2)	1.58 (1) 1.95 (2)	2.08 (1) 2.54 (2)	2.41 (1) 2.96 (2)	3.14 (1) 3.98 (2)	3.72 (1) 4.62 (2)
	cooling	nom.	kw	2.27 (1) 2.16 (2)	2.78 (1) 2.59 (2)	2.97 (1) 2.75 (2)	4.44 (1) 4.22 (2)	5.33 (1) 5.00 (2)	6.06 (1) 5.65 (2)
COP				4.56 (1) 3.18 (2)	4.34 (1) 3.13 (2)	4.05 (1) 3.00 (2)	4.66 (1) 3.48 (2)	4.46 (1) 3.29 (2)	4.30 (1) 3.29 (2)
EER				3.17 (1) 2.37 (2)	2.94 (1) 2.26 (2)	2.82 (1) 2.21 (2)	3.39 (1) 2.78 (2)	3.01 (1) 2.51 (2)	2.76 (1) 2.32 (2)
Dimensions	unit	height/width/depth	mm	735/825/300				1,345/900/320	
Weight	unit		kg	57				114	
Operation range	heating	min.~max.	°cwb	-20~25				-25~35	
	cooling	min.~max.	°cdb	10~43				10.0~46.0	
	domestic hot water	min.~max.	°cdb	-20~43				-20~35	
Refrigerant	type			R-410A					
	charge		kg	1.7					
Sound power level	heating	nom.	dba	61		62		64	
	cooling	nom.	dba	63				66	
Sound pressure level	heating	nom.	dba	48		49		51	
	cooling	nom.	dba	48		50		52	
Power supply	name;phase;frequency;voltage		hz;v	V3;1~;50;230					
Current	recommended fuses		a	20				40	

(1) cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)
(2) cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)



SPLIT SYSTEM

FLOOR STANDING INDOOR UNIT - THREE PHASE

INDOOR UNITS				EKHVH016B	EKHVX016B
Casing	colour				Metallic grey
	material				Precoated sheet metal
Dimensions	unit	height/width/depth	mm	705/600/695	
Weight	unit				67
Operation range	heating	water side	min.~max. °C	15~55 (6)	
	cooling	water side	min.~max. °C	5~22	
Sound power level	medium speed	0 esp	dBA	46	
Sound pressure level	medium speed	0 esp	dBA	28	
		nominal flow	dBA	31 (3) / 29 (4) / 28 (5)	
	high speed	nominal flow	dBA	33 (3) / 33 (4) / 32 (5)	



INVERTER

OUTDOOR UNITS				ERHQ011BW1	ERHQ014BW1	ERHQ016BW1
Heating capacity	nom.	kW		11.32 (1) 10.98 (2)	14.50 (1) 13.57 (2)	16.05 (1) 15.11 (2)
Cooling capacity	nom.	kW		15.05 (1) 11.72 (2)	16.06 (1) 12.55 (2)	16.76 (1) 13.12 (2)
Power input	heating	nom.	kW	2.54 (1) 3.15 (2)	3.33 (1) 4.12 (2)	3.73 (1) 4.60 (2)
	cooling	nom.	kW	4.44 (1) 4.22 (2)	5.33 (1) 5.00 (2)	6.06 (1) 5.65 (2)
COP				4.46 (1) 3.48 (2)	4.35 (1) 3.29 (2)	4.30 (1) 3.29 (2)
EER				3.39 (1) 2.78 (2)	3.01 (1) 2.51 (2)	2.76 (1) 2.32 (2)
Dimensions	unit	height/width/depth	mm	1.345/900/320		
Weight	unit	kg		108		
Operation range	heating	min.~max.	°CWB	-20~35		
	cooling	min.~max.	°CDB	10~46		
	domestic hot water	min.~max.	°CDB	-20~43		
Refrigerant	type			R-410A		
	charge	kg		2.95		
Sound power level	heating	nom.	dBA	64	66	66
	cooling	nom.	dBA	64	66	69
Sound pressure level	heating	nom.	dBA	51	52	52
	cooling	nom.	dBA	50	52	54
Power supply	name;phase;frequency;voltage			W1;3N~;50;400		
Current	recommended fuses			20		

INVERTER

OUTDOOR UNITS WITH BOTTOM PLATE HEATER				ERLQ011CW1	ERLQ014CW1	ERLQ016CW1
Heating capacity	nom.	kW		11.20 (1) 10.98 (2)	14.00 (1) 13.57 (2)	16.00 (1) 15.20 (2)
Cooling capacity	nom.	kW		15.05 (1) 11.72 (2)	16.06 (1) 12.55 (2)	16.76 (1) 13.12 (2)
Power input	heating	nom.	kW	2.41 (1) 3.15 (2)	3.14 (1) 4.12 (2)	3.72 (1) 4.60 (2)
	cooling	nom.	kW	4.44 (1) 4.22 (2)	5.33 (1) 5.00 (2)	6.06 (1) 5.65 (2)
COP				4.66 (1) 3.48 (2)	4.46 (1) 3.29 (2)	4.30 (1) 3.29 (2)
EER				3.39 (1) 2.78 (2)	3.01 (1) 2.51 (2)	2.76 (1) 2.32 (2)
Dimensions	unit	height/width/depth	mm	1,345/900/320		
Weight	unit	kg		114		
Operation range	heating	min.~max.	°CWB	-25~35		
	cooling	min.~max.	°CDB	10~46		
	domestic hot water	min.~max.	°CDB	-20~35		
Refrigerant	type			R-410A		
	charge	kg		3.4		
Sound power level	heating	nom.	dBA	64	66	66
	cooling	nom.	dBA	64	66	69
Sound pressure level	heating	nom.	dBA	51	52	52
	cooling	nom.	dBA	50	52	54
Power supply	name;phase;frequency;voltage			W1;3N~;50;400		
Current	recommended fuses			20		

(1) cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)
(2) cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)



MONOBLOC SYSTEM

REVERSIBLE SMALL CAPACITY



OUTDOOR UNITS				EBHQ006BV3		EBHQ008B V3	
Heating capacity	Nom.		kW	6.00 (1)		8.85 (1)	
Cooling capacity	Nom.		kW	5.58 (2)		8.15 (2)	
				7.00 (1)		8.37 (1)	
Power input	Cooling	Nom.	kW	5.12 (2)		6.08 (2)	
				2.20 (1)		2.97 (1)	
	Heating	Nom.	kW	2.16 (2)		2.75 (2)	
				1.41 (1)		2.21 (1)	
COP				1.79 (2)		2.72 (2)	
				4.26 (1)		4.00 (1)	
EER				3.11 (2)		3.00 (2)	
				3.18 (1)		2.82 (1)	
				2.37 (2)		2.21 (2)	
Dimensions	Unit	Height/Width/Depth	mm	805/1,190/360			
Weight	Unit		kg	95			
Hydraulic component	Back-up heater current	Type		-			
		Power supply / Phase		-			
Operation range	Heating	Ambient	Min.~Max. °CWB	-15~25			
		Water side	Min.~Max. °C	15~50			
	Cooling	Ambient	Min.~Max. °CDB	10~43			
		Water side	Min.~Max. °C	5~22			
	Domestic hot water	Ambient	Min.~Max. °CDB	-15~35			
		Water side	Min.~Max. °C	25~80			
	Refrigerant	Type		R-410A			
		Charge		kg	1.7		
Sound power level	Heating	Nom.	dBA	61		62	
	Cooling	Nom.	dBA		63		
Sound pressure level	Heating	Nom.	dBA	48		49	
	Cooling	Nom.	dBA	48		50	
Compressor component	Main power supply	Name		V3			
		Phase		1			
		Frequency	Hz	50			
		Voltage	V	230			

(1) cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)

(2) cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)

MONOBLOC SYSTEM

CONTROL BOX



INDOOR UNIT				EKCBH008BAV3
Dimensions	Unit	Height	mm	390
				412
				100
				120
Weight	Unit	Height	mm	6
				4 (0.000)~35 (0.000)
Operation range	Cooling	Ambient	Min.-Max. °CDB	



MONOBLOC SYSTEM

HEATING ONLY LARGE CAPACITY - SINGLE PHASE

With bottom plate heater				EDLQ011BB6V3	EDLQ014BB6V3	EDLQ016BB6V3
Without bottom plate heater				EDHQ011BB6V3	EDHQ014BB6V3	EDHQ016BB6V3
Heating capacity	Nom.		kW	11.20 (1) 10.87 (2)	14.00 (1) 13.10 (2)	16.00 (1) 15.06 (2)
Power input	Heating	Nom.	kW	2.47 (1) 3.22 (2)	3.20 (1) 3.91 (2)	3.79 (1) 4.62 (2)
COP				4.54 (1) 3.37 (2)	4.37 (1) 3.35 (2)	4.22 (1) 3.26 (2)
Dimensions	Unit	Height/Width/Depth	mm	1,418/1,435/382		
Weight	Unit		kg	180		
Hydraulic component	Back-up heater current	Type		6V3		
		Power supply	Phase/ Frequency/ Voltage	1~/50/230		
Operation range	Heating	Ambient	Min.-Max. °CWB	-15~35		
		Water side	Min.-Max. °C	15~55		
	Domestic hot water	Ambient	Min.-Max. °CDB	-15~43		
		Water side	Min.-Max. °C	25~80		
Refrigerant	Type			R-410A		
	Charge		kg	2.95		
Sound power level	Heating	Nom.	dBA	64	65	66
Sound pressure level	Heating	Nom.	dBA	51		52
Compressor component	Main power supply	Name		V3		
		Phase		1		
		Frequency	Hz	50		
		Voltage	V	230		

MONOBLOC SYSTEM

HEATING ONLY LARGE CAPACITY - THREE PHASE



With bottom plate heater				EDLQ011BB6W1	EDLQ014BB6W1	EDLQ016BB6W1
Without bottom plate heater				EDHQ011BB6W1	EDHQ014BB6W1	EDHQ016BB6W1
Heating capacity	Nom.		kW	11.20 (1) 10.87 (2)	14.00 (1) 13.10 (2)	16.00 (1) 15.06 (2)
Power input	Heating	Nom.	kW	2.51 (1) 3.12 (2)	3.22 (1) 3.98 (2)	3.72 (1) 4.58 (2)
COP				4.46 (1) 3.48 (2)	4.35 (1) 3.29 (2)	4.30 (1) 3.29 (2)
Dimensions	Unit	Height/Width/Depth	mm	1,418/1,435/382		
Weight	Unit		kg	180		
Hydraulic component	Back-up heater current	Type		6W1		
		Power supply	Phase/ Frequency/ Voltage	3~/50/400		
Operation range	Heating	Ambient	Min.-Max. °CWB	-15~35		
		Water side	Min.-Max. °C	15~55		
	Domestic hot water	Ambient	Min.-Max. °CDB	-15~43		
		Water side	Min.-Max. °C	25~80		
Refrigerant	Type			R-410A		
	Charge		kg	2.95		
Sound power level	Heating	Nom.	dBA	64	65	66
Sound pressure level	Heating	Nom.	dBA	49	51	53
Compressor component	Main power supply	Name		W1		
		Phase		3N		
		Frequency	Hz	50		
		Voltage	V	400		

(1) cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)

(2) cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)

MONOBLOC SYSTEM

REVERSIBLE LARGE CAPACITY - SINGLE PHASE



With bottom plate heater				EBLQ011BB6V3	EBLQ014BB6V3	EBLQ016BB6V3
Without bottom plate heater				EBHQ011BB6V3	EBHQ014BB6V3	EBHQ016BB6V3
Heating capacity	Nom.		kW	11.20 (1) 10.87 (2)	14.00 (1) 13.10 (2)	16.00 (1) 15.06 (2)
Cooling capacity	Nom.		kW	12.85 (1) 10.00	15.99 (1) 12.50 (2)	16.73 (1) 13.10 (2)
Power input	Cooling	Nom.	kW	3.78 (1) 3.60 (2)	5.65 (1) 5.30 (2)	6.28 (1) 5.85 (2)
	Heating	Nom.	kW	2.47 (1) 3.22 (2)	3.20 (1) 3.91 (2)	3.79 (1) 4.62 (2)
COP				4.54 (1) 3.37 (2)	4.37 (1) 3.35 (2)	4.22 (1) 3.26 (2)
EER				3.39 (1) 2.78 (2)	2.83 (1) 2.36 (2)	2.66 (1) 2.24 (2)
Dimensions	Unit	Height/Width/Depth	mm	1,418/1,435/382		
Weight	Unit		kg	180		
Hydraulic component	Back-up heater current	Type		6V3		
		Power supply	Phase/Frequency/Voltage	1~/50/230		
Operation range	Heating	Ambient	Min.~Max. °CWB	-15~35		
		Water side	Min.~Max. °C	15~55		
	Domestic hot water	Ambient	Min.~Max. °CDB	-15~43		
		Water side	Min.~Max. °C	25~80		
Refrigerant	Type			R-410A		
	Charge		kg	2.95		
Sound power level	Heating	Nom.	dBA	64	65	66
	Cooling	Nom.	dBA	65	66	69
Sound pressure level	Heating	Nom.	dBA	51		52
	Cooling	Nom.	dBA	50	52	54
Compressor component	Main power supply	Name		V3		
		Phase		1		
		Frequency	Hz	50		
		Voltage	V	230		

(1) cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)
(2) cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)

MONOBLOC SYSTEM

REVERSIBLE LARGE CAPACITY - THREE PHASE



With bottom plate heater				EBLQ011BB6W1	EBLQ014BB6W1	EBLQ016BB6W1
Without bottom plate heater				EBHQ011BB6W1	EBHQ014BB6W1	EBHQ016BB6W1
Heating capacity	Nom.		kW	11.20 (1) 10.87 (2)	14.00 (1) 13.10 (2)	16.00 (1) 15.06 (2)
Cooling capacity	Nom.		kW	12.85 (1) 10.00 (2)	15.99 (1) 12.50 (2)	16.73 (1) 13.10 (2)
Power input	Cooling	Nom.	kW	3.78 (1) 3.60 (2)	5.32 (1) 4.98 (2)	6.06 (1) 5.65 (2)
	Heating	Nom.	kW	2.51 (1) 3.12 (2)	3.22 (1) 3.98 (2)	3.72 (1) 4.58 (2)
COP				4.46 (1) 3.48 (2)	4.35 (1) 3.29 (2)	4.30 (1) 3.29 (2)
EER				3.39 (1) 2.78 (2)	3.01 (1) 2.51 (2)	2.76 (1) 2.32 (2)
Dimensions	Unit	Height/Width/Depth	mm	1,418/1,435/382		
Weight	Unit		kg	180		
Hydraulic component	Back-up heater current	Type		6W1		
		Power supply	Phase/Frequency/Voltage	3~/50/400		
Operation range	Heating	Ambient	Min.~Max. °CWB	-15~35		
		Water side	Min.~Max. °C	15~55		
	Domestic hot water	Ambient	Min.~Max. °CDB	-15~43		
		Water side	Min.~Max. °C	25~80		
Refrigerant	Type			R-410A		
	Charge		kg	2.95		
Sound power level	Heating	Nom.	dBA	64	65	66
	Cooling	Nom.	dBA	65	66	69
Sound pressure level	Heating	Nom.	dBA	49	51	53
	Cooling	Nom.	dBA	50	52	54
Compressor component	Main power supply	Name		W1		
		Phase		3N		
		Frequency	Hz	50		
		Voltage	V	400		

(1) cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)
(2) cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)



DOMESTIC HOT WATER TANK

Stainless steel domestic hot water tank				EKHS150B3V3	EKHS200B3V3	EKHS300B3V3	EKHS200B3Z2	EKHS300B3Z2
Casing	Colour			Neutral white				
	Material			Epoxy-coated mild steel				
Weight Tank	Unit	Empty	kg	37	45	59	45	59
	Water volume		l	150	200	300	200	300
	Material			Stainless steel (DIN 1.4521)				
Heat exchanger	Maximum water temperature			85				
	Quantity			1				
	Tube material			Duplex steel LDX 2101				
Booster heater	Capacity			3				
Power supply	Phase/Frequency/Voltage			1~/50/230			2~/50/400	

Enameled steel domestic hot water tank				EKHWE150A3V3	EKHWE200A3V3	EKHWE300A3V3	EKHWE200A3Z2	EKHWE300A3Z2
Casing	Colour			RAL9010				
	Material			Epoxy coated steel				
Weight Tank	Unit	Empty	kg	80	104	140	104	140
	Water volume		l	150	200	300	200	300
	Material			Enamel coated steel acc.DIN4753TL2				
Booster heater	Maximum water temperature			75				
	Capacity			3.0				
	Power supply			1~/50/230			2~/50/400	



ROOM THERMOSTAT

Wired room thermostat				EKRTWA
Dimensions	Unit	Height/Width/Depth	mm	87/125/34
Weight	Unit		g	215
Ambient temperature	Storage	Min./Max.	°C	-20/60
	Operation	Min./Max.	°C	0/50
Temperature setting range	Heating	Min./Max.	°C	4/37
	Cooling	Min./Max.	°C	4/37
Clock				Yes
Regulation function				Proportional band
Power supply	Voltage		V	Battery powered 3* AA-LR6 (alkaline)
Connection				Wired

Wireless room thermostat				EKRTR1
Dimensions	Thermostat	Height/Width/Depth	mm	87/125/34
	Receiver	Height/Width/Depth	mm	170/50/28
Weight	Thermostat		g	210
	Receiver		g	125
Ambient temperature	Storage	Min./Max.	°C	-20/60
	Operation	Min./Max.	°C	0/50
Temperature setting range	Heating	Min./Max.	°C	4/37
	Cooling	Min./Max.	°C	4/37
Clock				Yes
Regulation function				Proportional band
Power supply	Thermostat	Voltage	V	Battery powered 3x AA-LRG (alkaline)
	Receiver	Voltage	V	230
	Frequency		Hz	50
	Phase			1~
Connection	Thermostat			Wireless
	Receiver			Wired
Maximum distance to receiver	Indoor		m	approx.30m
	Outdoor		m	approx.100m



SOLAR CONNECTION

Solar connection				EKSOLHWAV1
Dimensions	Unit	HeightxWidthxDepth	mm	770x305x270
Weight	Unit		kg	8
Operation range	Ambient temperature	Min.~Max.	°C	1~35
Sound pressure level	Nom.		dBA	27
Thermal performance	Zero loss collector efficiency η_0		%	-
Power supply	Phase/Frequency/Voltage		Hz/V	1~/50/220-240
Power supply intake				Indoor unit

Accessory				EKSR3PA
Mounting				On wall
Dimensions	Unit	HeightxWidthxDepth	mm	332x230x145
Thermal performance	Zero loss collector efficiency η_0		%	-
Control	Type			Digital temperature difference controller with plain text display
	Power consumption	W		2
Sensor	Solar panel temperature sensor			Pt1000
	Storage tank sensor			PTC
	Return flow sensor			PTC
	Feed temperature and flow sensor			Voltage signal (3.5V DC)
Power supply	Frequency/Voltage		Hz/V	50;230

SOLAR COLLECTOR



Solar collector				EKSV26P	EKSH26P
Dimensions	Unit	HeightxWidthxDepth	mm	2,000x1,300x85	1,300x2,000x85
Weight	Unit		kg	43	
Volume			l	1.7	2.1
Surface	Outer		m ²	2.601	
	Aperture		m ²	2.364	
	Absorber		m ²	2.354	
Coating				Micro-therm (absorption max.96%, Emission ca. 5% +/-2%)	
Absorber				Harp-shaped copper pipe register with laser-welded highly selective coated aluminium plate	
Glazing				Single pane safety glass, transmission +/- 92%	
Allowed roof angle	Min.~Max.		°	15~80	
Operating pressure	Max.		bar	6	
Stand still temperature	Max.		°C	200	
Thermal performance	Zero loss collector efficiency η_0		%	78.7	
	Heat loss coefficient a1		W/m ² .K	4,270	
	Temperature dependence of the heat loss coefficient a2		W/m ² .K ²	0.0070	
	Thermal capacity		kJ/K	6.5	
	Incident angle modifier	AM at 50°		0.94	
Installed position				Vertical	Horizontal

HEAT PUMP CONVECTOR



Indoor units				FWXV20AVEB	FWXV15AVEB
Heating capacity	Total capacity	Nom.	kW	2.0	1.5
Cooling capacity	Total capacity	Nom.	kW	1.7	1.2
	Sensible capacity	Nom.	kW	1.4	0.98
Power input	Heating	Nom.	kW	0.015	0.013
	Cooling	Nom.	kW	0.015	0.013
Dimensions	Unit	Height/Width/Depth	mm	600/700/210	
Weight	Unit		kg	15	
Piping connections	Drain/OD/Inlet/Outlet		mm/inch	18/G 1/2/G 1/2	
Sound pressure level	Heating	Nom.	dBA	29	19
	Cooling	Nom.	dBA	29	19
Power supply	Phase/Frequency/Voltage		Hz/V	1~/50/60/220-240/220	

(1)Cooling: indoor temp. 27°CDB, 19°CWB; entering water temp. 7°C, water temperature rise 5K.(2)Heating: room temperature 20°CDB and entering water temperature 45°C, water temperature drop 5K.

Technical specifications

Daikin Altherma high temperature



INDOOR UNITS



Indoor units				EKHBRD011ABV1	EKHBRD014ABV1	EKHBRD016ABV1	EKHBRD011ABY1	EKHBRD014ABY1	EKHBRD016ABY1	
Heating capacity	Nom.		kW	11 (1) 11 (2) 11 (3)	14 (1) 14 (2) 14 (3)	16 (1) 16 (2) 16 (3)	11 (1) 11 (2) 11 (3)	14 (1) 14 (2) 14 (3)	16 (1) 16 (2) 16 (3)	
Power input	Heating	Nom.	kW	3.57 (1) 4.40 (2) 2.61 (3)	4.66 (1) 5.65 (2) 3.55 (3)	5.57 (1) 6.65 (2) 4.31 (3)	3.57 (1) 4.40 (2) 2.61 (3)	4.66 (1) 5.65 (2) 3.55 (3)	5.57 (1) 6.65 (2) 4.31 (3)	
COP				3.08 (1) 2.50 (2) 4.22 (3)	3.00 (1) 2.48 (2) 3.94 (3)	2.88 (1) 2.41 (2) 3.72 (3)	3.08 (1) 2.50 (2) 4.22 (3)	3.00 (1) 2.48 (2) 3.94 (3)	2.88 (1) 2.41 (2) 3.72 (3)	
Casing	Colour			Metallic grey						
	Material			Precoated sheet metal						
Dimensions	Unit	Height/Width/Depth	mm	705/600/695						
Weight	Unit			144.25			147.25			
Operation range	Heating	Ambient	Min.~Max.	°C	-20~20					
		Water side	Min.~Max.	°C	25~80					
	Domestic hot water	Ambient	Min.~Max.	°CDB	-20~35					
		Water side	Min.~Max.	°C	25~80					
Refrigerant	Type				R-134a					
	Charge	kg			3.2					
Sound pressure level	Nom.			dBA	43 (1) 46 (2)	45 (1) 46 (2)	46 (1) 46 (2)	43 (1) 46 (2)	45 (1) 46 (2)	46 (1) 46 (2)
	Night quiet mode	Level 1			dBA	40 (1)	43 (1)	45 (1)	40 (1)	43 (1)
Power supply	Name			V1			Y1			
	Phase			1~			3~			
	Frequency			Hz			50			
	Voltage			V			220-240 380-415			
Current	Recommended fuses		A	25			16			

(1)EW 55°C; LW 65°C; Dt 10°C; ambient conditions: 7°CDB/6°CWB(2)EW 70°C; LW 80°C; Dt 10°C; ambient conditions: 7°CDB/6°CWB(3)EW 30°C; LW 35°C; Dt 5°C; ambient conditions: 7°CDB/6°CWB



OUTDOOR UNITS



OUTDOOR UNITS				ERRQ011AV1	ERRQ014AV1	ERRQ016AV1	ERRQ011AAY1	ERRQ014AAY1	ERRQ016AAY1
Dimensions	Unit	Height/Width/Depth	mm	1,345/900/320					
Weight	Unit		kg	120					
Operation range	Heating	Min.~Max.	°CWB	-20~20					
	Domestic hot water	Min.~Max.	°CDB	-20~35					
Refrigerant	Type			R-410A					
	Charge		kg	4.5					
Sound power level	Heating	Nom.	dBA	68	69	71	68	69	71
Sound pressure level	Heating	Nom.	dBA	52	53	55	52	53	55
Power supply	Name;Phase;Frequency;Voltage		Hz;V	V1;1~;50;220-440			Y1/3~;50/380-415		
Current	Recommended fuses		A	25			16		

OUTDOOR UNITS WITH BOTTOM PLATE HEATER				ERSQ011AAV1	ERSQ014AAV1	ERSQ016AAV1	ERSQ011AY1	ERSQ014AY1	ERSQ016AY1
Dimensions	Unit	Height/Width/Depth	mm	1.345/900/320					
Weight	Unit		kg	120					
Operation range	Heating	Min.~Max.	°CWB	-20~20					
	Domestic hot water	Min.~Max.	°CDB	-20~35					
Refrigerant	Type			R-410A					
	Charge		kg	4.5					
Sound power level	Heating	Nom.	dBA	68	69	71	68	69	71
Sound pressure level	Heating	Nom.	dBA	52	53	55	52	53	55
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V1/1~/50/220-440			Y1;3~/50;380-415		
Current	Recommended fuses		A	25			16		



DOMESTIC HOT WATER TANK

DOMESTIC HOT WATER TANK				EKHTS200AC	EKHTS260AC
Casing	Colour			Metallic grey	
	Material			Galvanised steel (precoated sheet metal)	
Dimensions	Unit	Height/Integrated on indoor unit/Width/Depth	mm	1,335/2,010/600/695	1,335/2,285/600/695
	Unit	Empty	kg	70	78
Heat exchanger	Quantity			1	
	Tube material			Duplex steel (EN 1.4162)	
	Face area			1.56	
	Internal coil volume			7.5	
Power supply	Phase			-	
Tank	Water volume			200	260
	Material			Stainless steel (EN 1.4521)	
	Maximum water temperature			75	

Domestic hot water tank				EKHWP300A	EKHWP500A
Casing	Colour			Dust grey (RAL7037)	
	Material			Impact resistant polypropylene	
Weight	Unit	Empty	kg	59	92
Heat exchanger	Domestic hot water	Tube material		Stainless steel (DIN 1.4404)	
		Face area	m ²	5.7	5.9
		Internal coil volume	l	27.8	28.4
		Operating pressure	bar	6	
		Average specific thermal output	W/K	2,795	2,860
	Charging	Tube material		Stainless steel (DIN 1.4404)	
		Face area	m ²	2.5	3.7
		Internal coil volume	l	12.3	17.4
		Average specific thermal output	W/K	1,235	1,809
	Auxiliary solar heating	Tube material		Stainless steel (DIN 1.4404)	
		Face area	m ²	-	1.0
		Internal coil volume	l	-	5
		Average specific thermal output	W/K	-	313
Power supply	Phase			-	
Tank	Water volume			300	500
	Maximum water temperature			85	



SOLAR COLLECTOR

SOLAR COLLECTOR				EKSV26P	EKSH26P
Dimensions	Unit	HeightxWidthxDepth	mm	2,000x1,300x85	1,300x2,000x85
Weight	Unit		kg	43	
Volume			l	1.7	2.1
Surface	Outer		m ²	2.601	
	Aperture		m ²	2.364	
	Absorber		m ²	2.354	
Coating	Micro-therm (absorption max.96%, Emission ca. 5% +/-2%)				
Absorber	Harp-shaped copper pipe register with laser-welded highly selective coated aluminium plate				
Glazing	Single pane safety glass, transmission +/- 92%				
Allowed roof angle	Min.~Max.		°	15~80	
Operating pressure	Max.		bar	6	
Stand still temperature	Max.		°C	200	
Thermal performance	Zero loss collector efficiency η ₀		%	78.7	
	Heat loss coefficient a ₁		W/m ² .K	4,270	
	Temperature dependence of the heat loss coefficient a ₂		W/m ² .K ²	0.0070	
	Thermal capacity		kJ/K	6.5	
	Incident angle modifier	AM at 50°		0.94	
Installed position				Vertical	Horizontal

SOLAR CONNECTION

Solar connection				EKSRP3
Dimensions	Unit	HeightxWidthxDepth	mm	-
Control	Type			Digital temperature difference controller with plain text display
	Power consumption			-
Mounting	On side of tank			
Sensor	Solar panel temperature sensor			Pt1000
	Storage tank sensor			PTC
	Return flow sensor			PTC
	Feed temperature and flow sensor			Voltage signal (3.5V DC)

Technical specifications

Daikin Altherma Flex Type



INDOOR UNITS



INDOOR UNIT			EKHVMRD50AV1	EKHVMRD80AV1	EKHVMYD50AV1	EKHVMYD80AV1
Function			Heating only		Heating and cooling	
Dimensions	HxWxD	mm	705x600x695		705x600x695	
Leaving water temperature range	heating	°C	25~80		25~80	
Material			Precoated sheet metal		Precoated sheet metal	
Colour			Metallic grey		Metallic grey	
Sound pressure level	nominal	dB(A)	40 ¹ / 43 ²	42 ¹ / 43 ²	40 ¹ / 43 ²	42 ¹ / 43 ²
Weight		kg	92		120	
Refrigerant	Type		R-134a		R-134a	
	Charge	kg	2	2	2	2
Power supply			1~/ 50Hz /220-240V		1~/ 50Hz /220-240V	

1 Sound levels are mesured at:EW 55°C; LW 65°C

2 Sound levels are mesured at:EW 70°C; LW 80°C



OUTDOOR UNITS



OUTDOOR UNIT			EMRQ8AY1	EMRQ10AY1	EMRQ12AY1	EMRQ14AY1	EMRQ16AY1
Nominal capacity	heating	kW	22.4	28	33.6	39.2	44.8
	cooling	kW	20	25	30	35	40
Capacity range		HP	8	10	12	14	16
Dimensions	HxWxD	mm	1680x1300x765				
Weight		kg	331			339	
Sound power level	heating	dB(A)	78		80	83	84
Sound pressure level	heating	°C	58		60	62	63
Operation range	heating	°C	-20°C~20*				
	domestic water	°C	-20°C~35*				
Refrigerant	type	kg	R-410A				
Power supply			3~/50Hz/380-415V				
Piping connections	liquid	mm	9.52		12.7		
	suction	mm	19.1	22.2	28.6		
	high&low pressure gas		15.9	19.1		22.2	
	max total length	m	300				
	level difference OU-IU	m	40				
Recommended fuses		A	20	25	40		

Heating conditions: Ta = 7°CDB / 6°CWB, 100% connection ratio

Cooling conditions: Ta = 35°CDB, 100% connection ratio

*Capacity not guaranteed between -20°C and -15°C



DOMESTIC HOT WATER TANK

DOMESTIC HOT WATER TANK			EKHTS200AC	EKHTS260AC
Water volume		l	200	260
Max. water temperature		°C	75°C	
Dimensions	HxWxD	mm	1,335x600x695	1,610x600x695
Dimensions - integrated on indoor unit	HxWxD	mm	2,010x600x695	2,285x600x695
Material outside casing			Galvanised metal	
Colour			Metallic grey	
Empty weight		kg	70	78



HEAT PUMP CONVECTOR

HEAT PUMP CONVECTOR				FWXV15A	FWXV20A
Capacity	Heating	45°C ¹	kW	1.5	2.0
	Cooling	7°C ²	kW	1.2	1.7
Dimensions	HxWxD		mm	600x700x210	
Weight			kg	15	
Air flow rate	H/M/L/SL		m3/h	318/228/150/126	474/354/240/198
Sound pressure	M		dB(A)	19	29
Refrigerant				Water	
Power Supply				1~/220-240V/50/60Hz	
Piping connections	Liquid (OD)/Drain			12.7 / 20	

¹ Water inlet temperature = 45°C / Water outlet temperature: 40°C
indoor temperature = 20°CDB
Medium fan speed

² Water inlet temperature = 7°C / Water outlet temperature: 12°C
indoor temperature = 27°CDB / 19°CWB
Medium fan speed





✓ Daikin: your reliable partner

Daikin is the specialist in climate conditioning systems – for private homes as well as for large commercial and industrial spaces. We make every effort to ensure that your customers are 100% satisfied.

✓ High-quality, innovative products

Innovation and quality are constantly at the forefront of Daikin's philosophy. The entire Daikin team is continually trained to provide you with optimal information and advice.

✓ A clean environment

In producing your customer's climate control system, we strive for sustainable energy consumption, product recycling and waste reduction. Daikin rigorously applies the principles of eco-design, thus restricting the use of materials that are harmful to our environment.



Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.



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Daikin Altherma high temperature units are not in scope of the Eurovent certification programme.



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