DAIKIN

altherma

Heating Catalogue

All seasons

CLIMATE COMFORT

- Heating
- Air conditioning
- Applied Systems
- Refrigeration

Heating - Domestic hot water - Cooling

Durable & efficient energy solutions for residential use

Heating - Domestic hot water - Cooling

- ✓ Energy efficient
- ✓ Economical
- ✓ Low CO_2 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 CO_2 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 CO_2 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

See pages 10-11
for all systems & applications

See pages 46-59
for all specifications

Offer your clients the benefits of Daikin technology

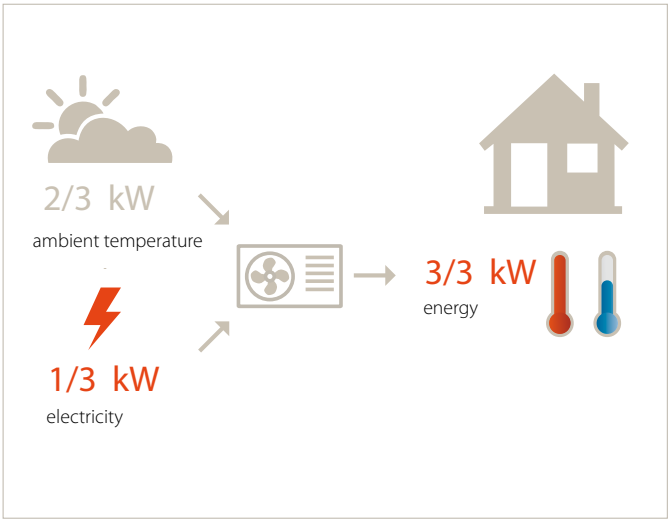
✓ Energy efficient operation

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!

Fuel oil boiler
100%

Gas boiler
82%

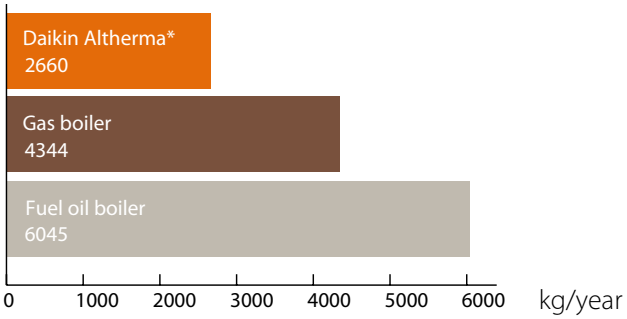
Daikin Altherma heat pump
68%

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

✓ Low CO_2 emissions

Daikin Altherma produces no direct CO_2 emissions, so you personally contribute to a better environment. The pump does use electricity, but even without renewable electricity the CO_2 emissions are still much lower than boilers that use fossil fuels.

AVERAGE ANNUAL CO_2 EMISSIONS



Calculation based on data from Eurelectric (organisation of European electricity producers), "Eurelec Progam - 2001" for EU27
* Valid for Daikin Altherma low temperature split (small capacities)

✓ Low installation cost

Daikin Altherma takes heat form 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

p12

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

p24

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

Domestic hot water

for replacement of your water heater p42

The Daikin domestic hot water heat pump is a stand alone system that supplies domestic hot water whenever it is needed

Heating, domestic hot water & cooling

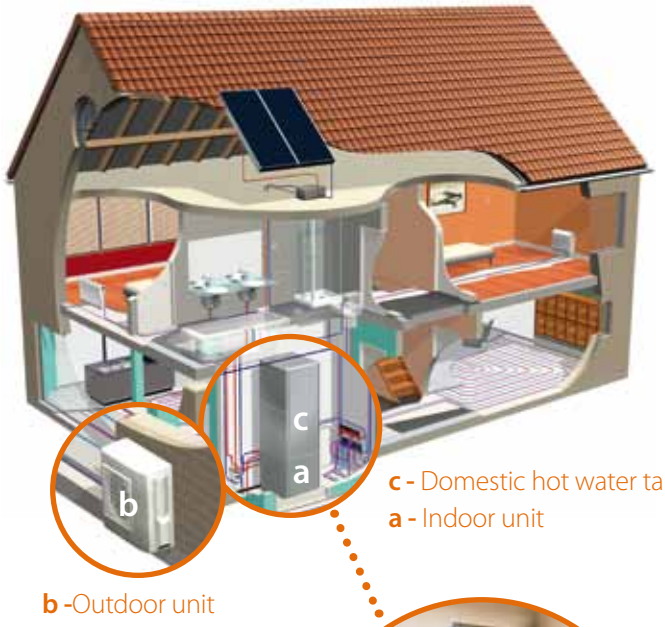
for new houses

1 Split system p14

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



c - Domestic hot water tank
a - Indoor unit

b -Outdoor unit

New
floor standing model

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

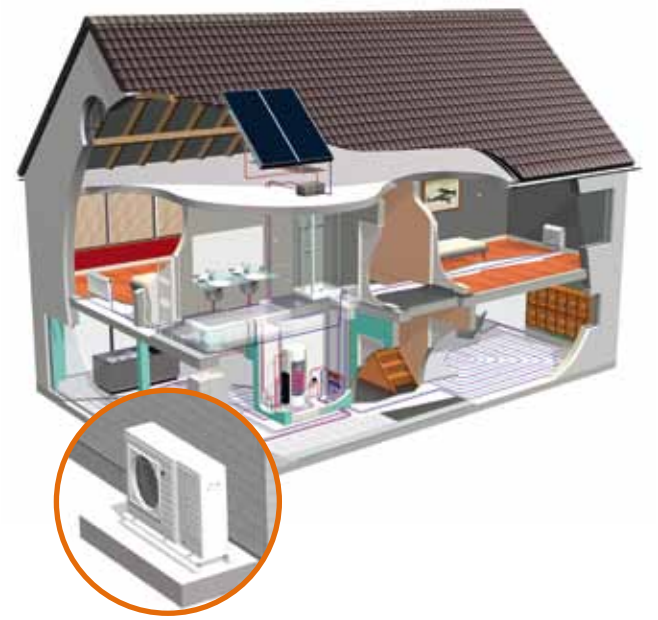
With the wired or wireless room thermostat*, the ideal temperature can be easily, quickly and conveniently regulated. It allows for more precise measurement , thus allowing your customer to regulate the comfort levels optimally and more energy efficiently.

*EKRTW for wired wall mounted and EKRTR 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

2 Monobloc system p18

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

New
extra small
casing

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.

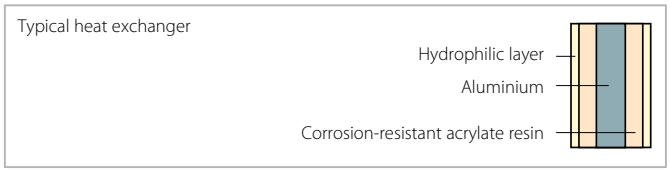
1 Split system: Outdoor + indoor unit

OUTDOOR UNIT:
STANDARD TO -20C° 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 -20C° outside temperature

HEAT EXCHANGER ANTI-CORROSION TREATMENT

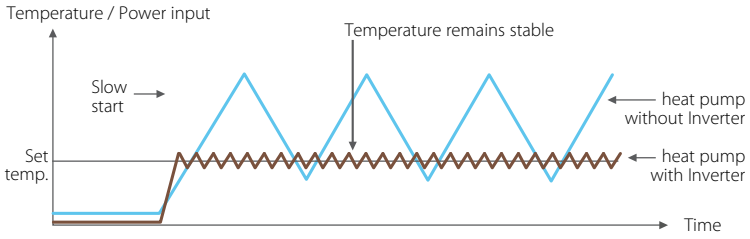
As a standard, the heat exchanger in the outdoor group is provided with an anti-corrosion treatment. This treatment guarantees a noticeable increase in resistance against acid rain and salt corrosion.



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-convertor 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 -25C° 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:

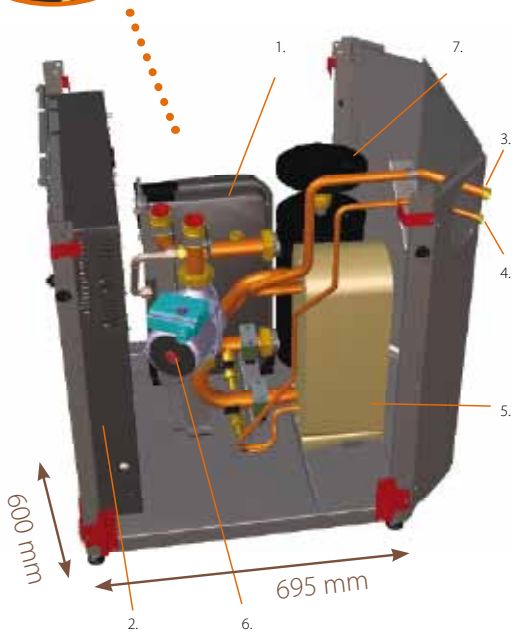
the side of the outdoor unit does not have metal grids thus preventing ice built up on the grid.

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…

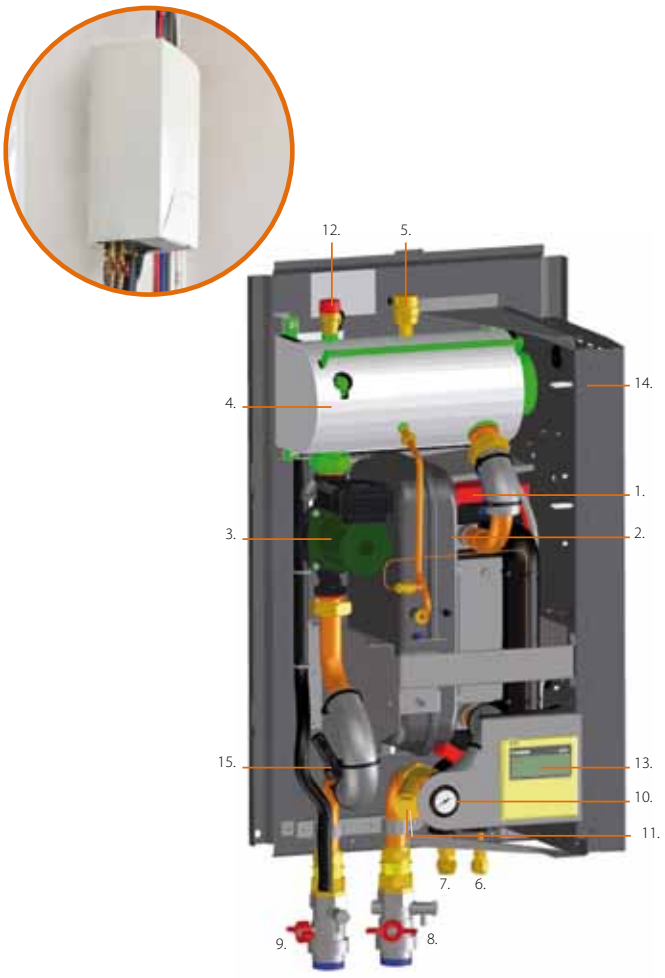
Heating and Cooling

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



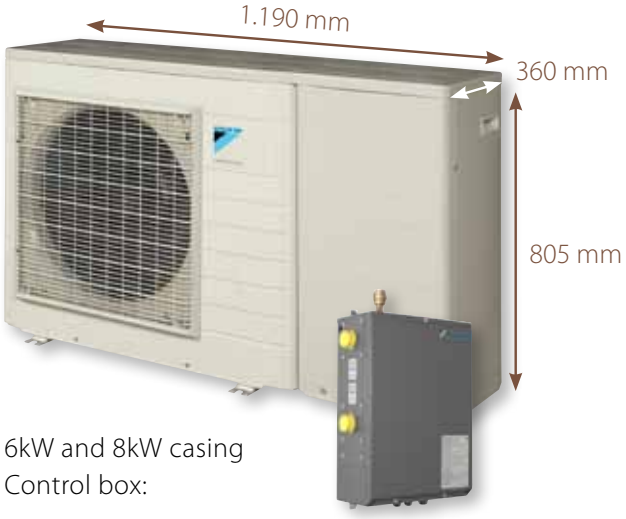
1. Heat exchanger
2. Expansion tank (10 litres)
3. Circulator
4. Tank with back-up heating
5. Air purge valve
6. Refrigerant fluid connection
7. Refrigerant gas connection
8. Water inlet connection
9. Water outlet connection
10. Pressure gauge (water circuit)
11. Water filter
12. Pressure relief valve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

2 Monobloc system: Outdoor unit only

> All hydraulic parts are located within the outdoor unit

> H_2O piping between outdoor unit and indoor heating appliances

✓ New extra small casing



6kW and 8kW casing
Control box:

✓ H_2O 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

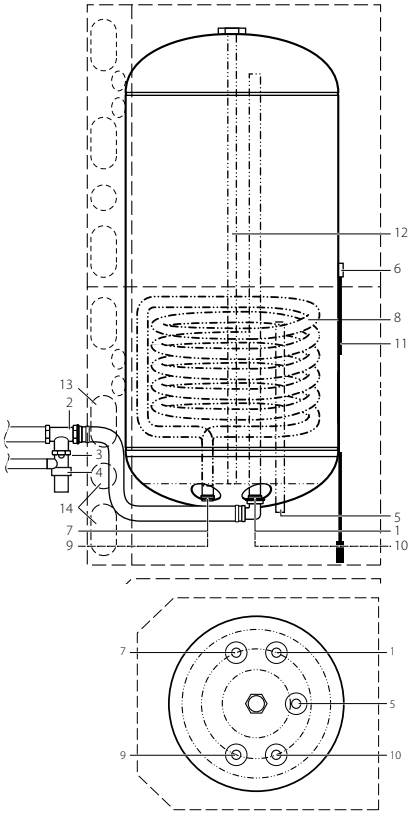
Whether your customer wants domestic hot water only or the advantage of solar energy, Daikin offers you the domestic hot water tank that meets his or her requirements.

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.

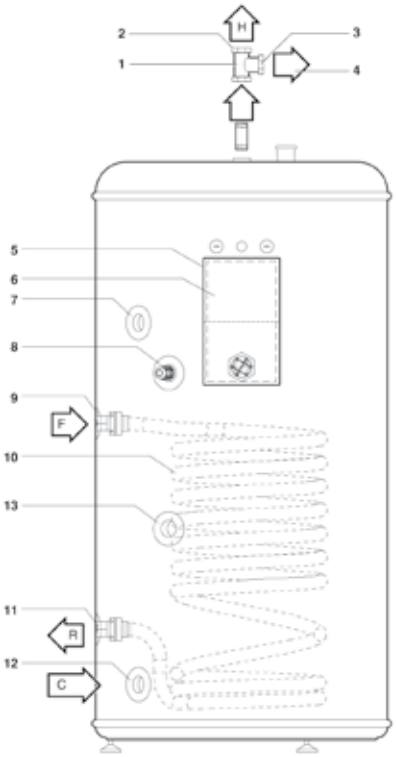
* Test done with a 16kW outdoor unit at ambient temperature of 7°C, 200L tank



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

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.



1. Field supply
2. Hot water connection
3. Pressure relief valve connection
4. Pressure relief valve (field supply)
5. Electrical box
6. Electrical box lid
7. Recirculation hole
8. Thermistor socket
9. Flow inlet connection
10. Heat exchanger coil
11. Return outlet connection
12. Cold water inlet
13. Threaded thermistor hole for use with solar kit option. Refer to the Installation manual EKSOLHWAV1.

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.

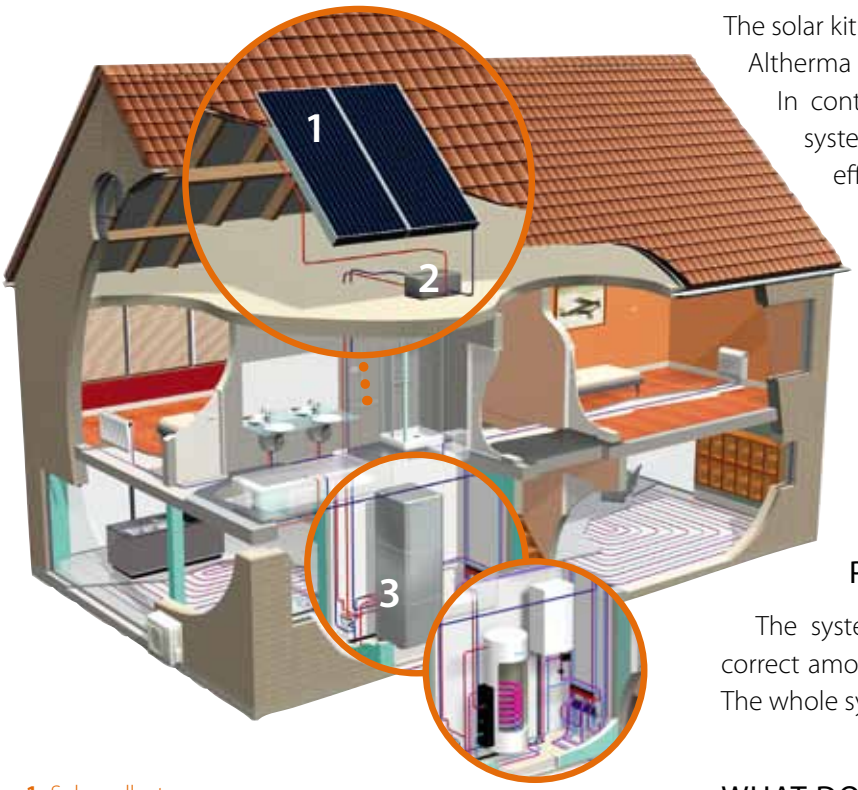
The heat pump convector solves this problem.

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



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

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.

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 Atherma 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.

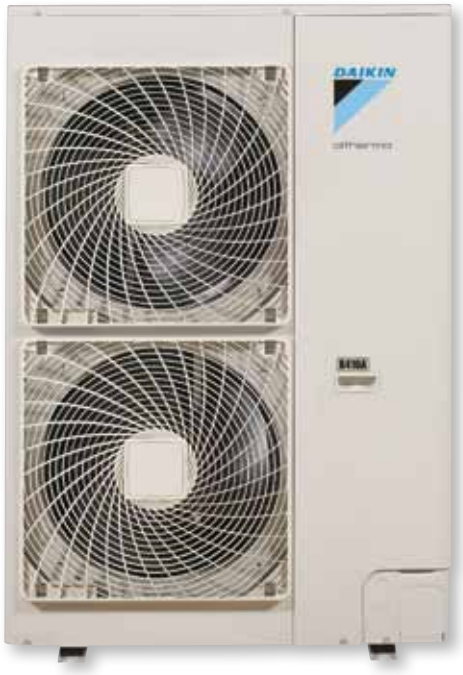
SOLAR CONNECTION p 29

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

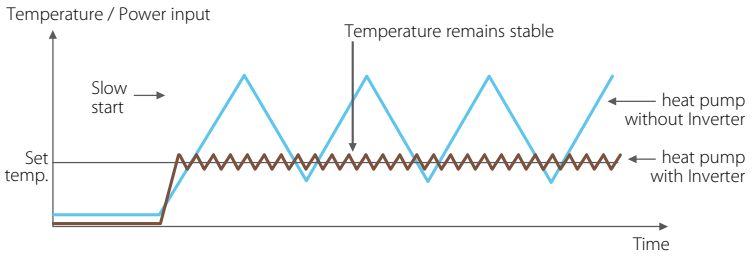
Daikin Altherma high temperature uses 100% thermo-dynamic energy to obtain water temperatures up to 80°C without using an additional heater.



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.

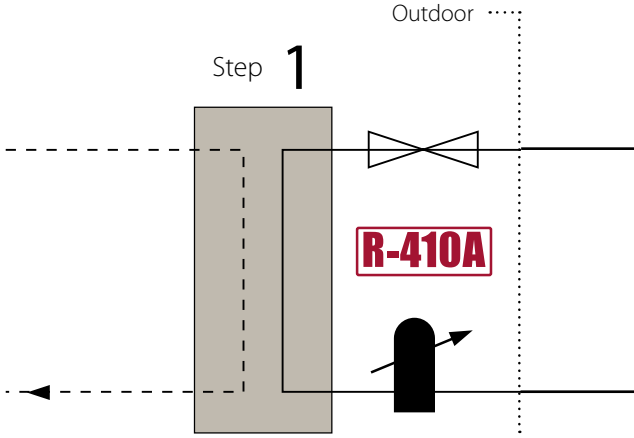
Heating operation:



Daikin Altherma cascade technology

High performance in 3 steps:

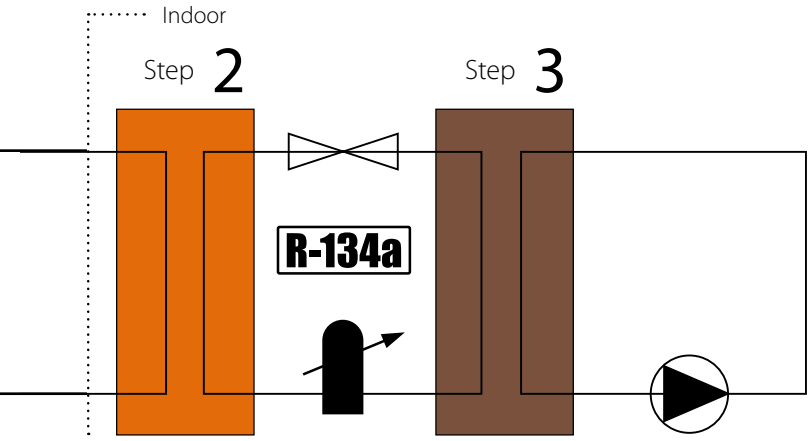
1 The outdoor unit extracts heat from the ambient outdoor air. This heat is transferred to the indoor unit via R-410A refrigerant.



INDOOR UNIT

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

1. Heat exchanger R-134a ⟷ H_2O
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.

OR

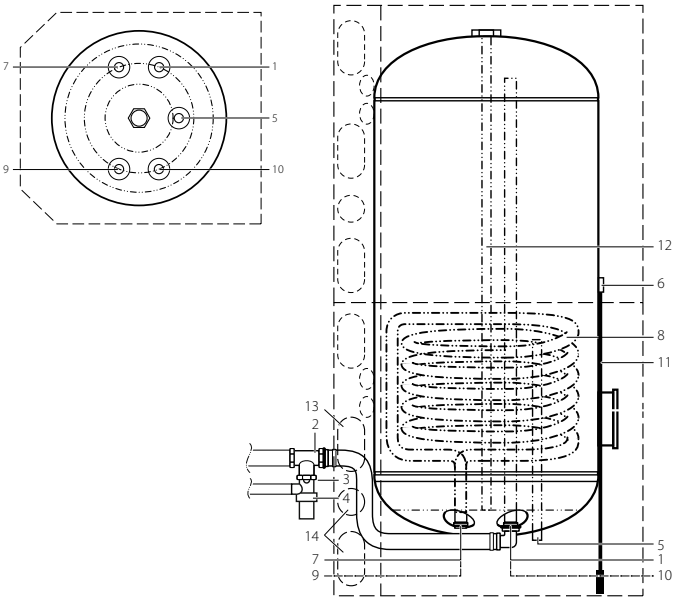
Stacked

Non-stacked

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

Solar connection

SOLAR COLLECTORS

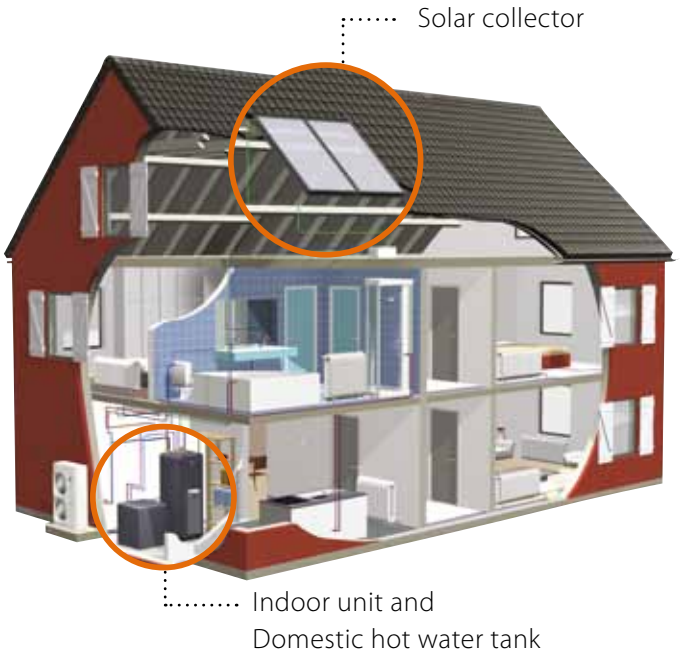
Averaged over an entire year, the sun delivers half of the energy we need to bring our domestic hot water up to the desired temperature. High-efficiency collectors with highly selective coating transfer all the short-wave solar radiation into heat. The collectors can be mounted on roof tiles.

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

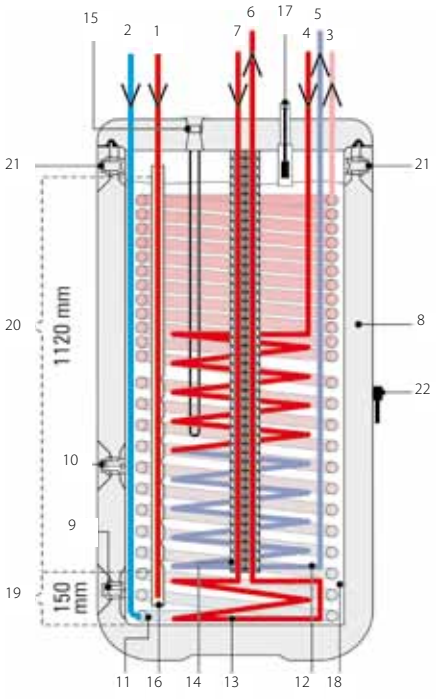
If there is insufficient sunshine or if the solar storage tank does not need more heat, the feed pump switches off and the entire Solar System drains into the storage tank. The addition of antifreeze is not necessary since, if the installation is not in use, the collector surfaces are not filled with 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)
2. Cold water inlet (1"M)
3. Hot water outlet (1"M)
4. Inlet from heat pump (1"M)
5. Return to heat pump (1"M)
6. Heating support outlet (1"M)
7. Heating support inlet (1"M)
8. Domestic hot water tank
9. Fill and drain valve
10. Connection for equalisation pipe (not used)
11. Heat exchanger domestic hot water
12. Heating heat exchanger
13. Heat exchanger for solar heating support
14. Heat insulation shell for solar heating support.
15. Insertion hole for electric heater option (not used)
16. Solar collector inlet stratification pipe
17. Filling level indicator
18. Pressure-free storage tank water
19. Solar zone
20. Service water zone
21. Safety overflow fitting
22. Handle

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

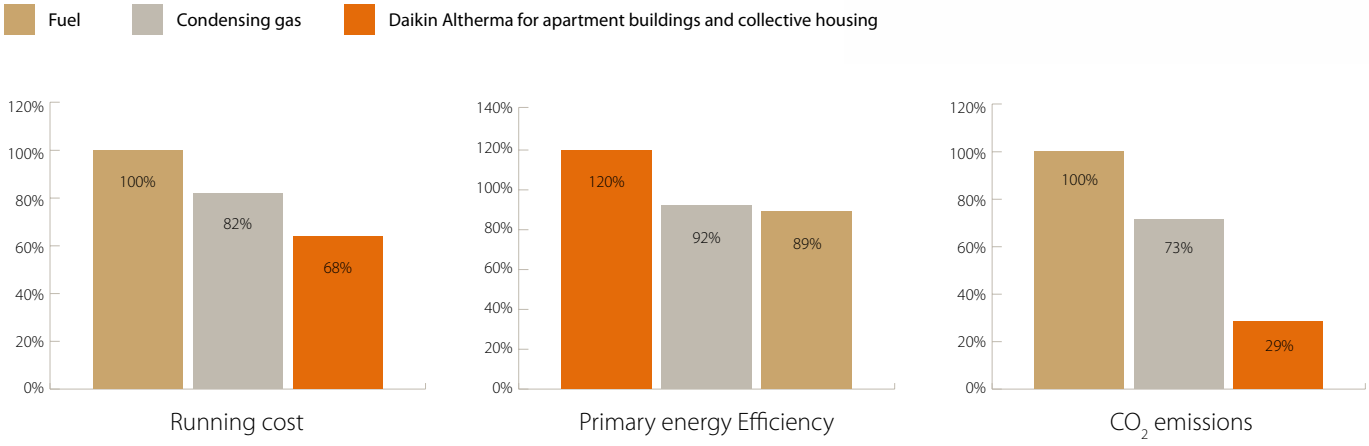
A modular system integrating Daikin's state of the art VRV® technology into the energy-efficient Daikin Altherma concept

ENERGY EFFICIENT HEAT PUMP TECHNOLGY

The Daikin Altherma Flex Type 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 Flex Type, 2/3 of the heat generated comes from the air, recognised as a renewable energy source, that is free of charge! Daikin Altherma Flex Type 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 CO_2 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



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

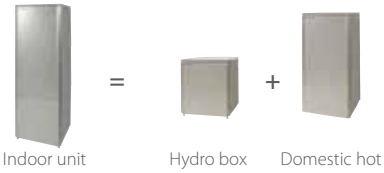
Daikin Altherma Flex Type heats, cools, and produces domestic hot water:

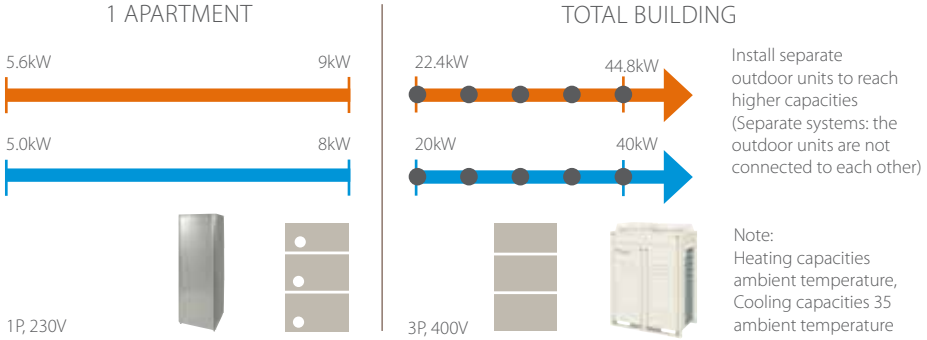
› Heating: leaving water temperatures up to 80° C
› Cooling: leaving water temperatures down to 5° C
› Domestic hot water: tank temperatures up to 75° C

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





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

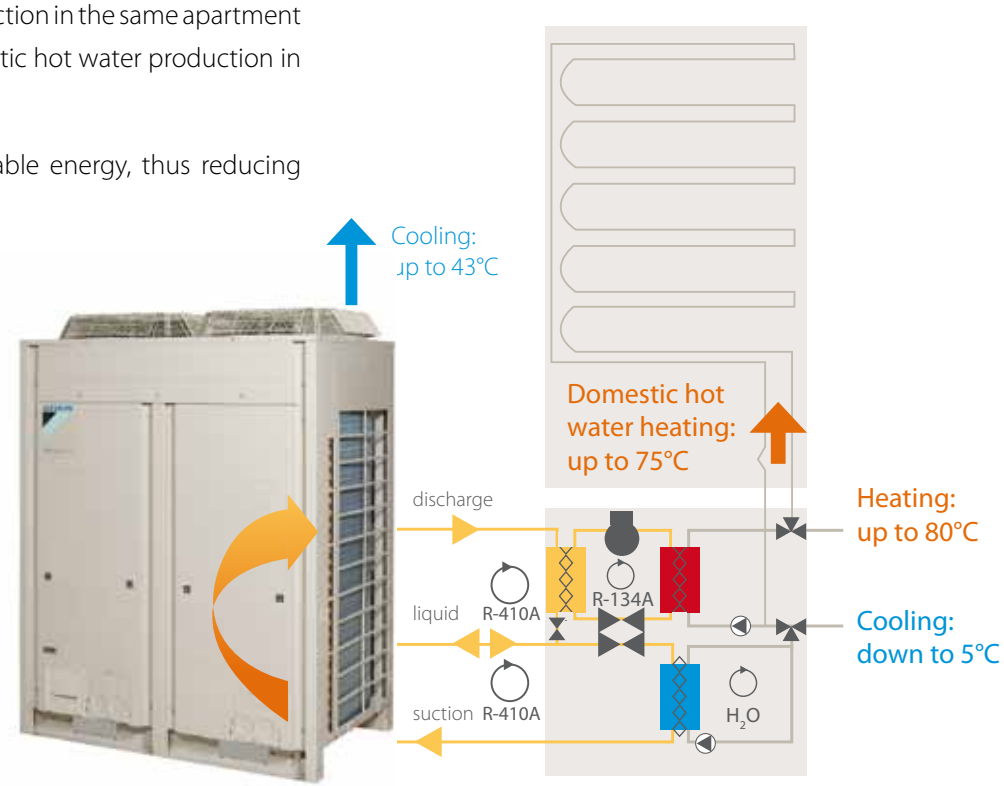
Heat absorbed while cooling one apartment can be recovered instead of being simply released into the air. This recovered heat can be used

- 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:

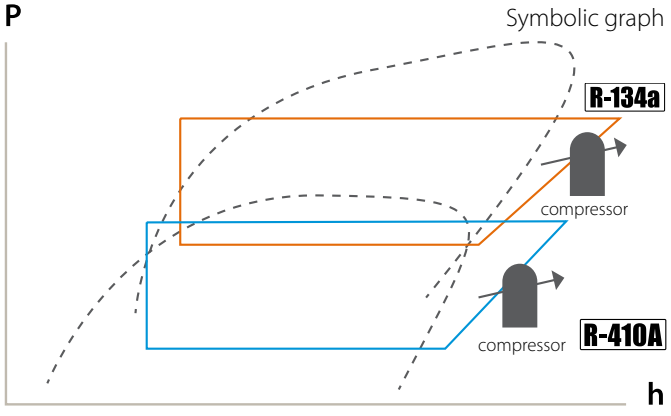
DAIKIN ALTHERMA CASCADE TECHNOLOGY

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 80º 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 spacing heating supplied because it has a number of significant advantages over single refrigerant heat pumps:

- it provides for a wide range of water temperatures (25º - 80ºC) 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 -20ºC
- 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.

Stacked OR Non-stacked

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- Available in 200 and 260 litres
- Efficient temperature heat-up: from 10°C to 50°C in only 60 minutes*
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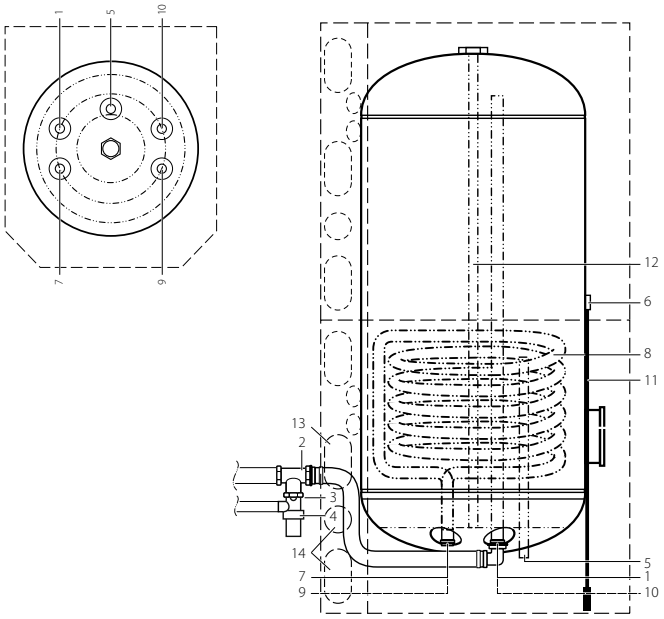
* Test done with a 16kW outdoor unit at ambient temperature of 7°C, 200L tank



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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 *

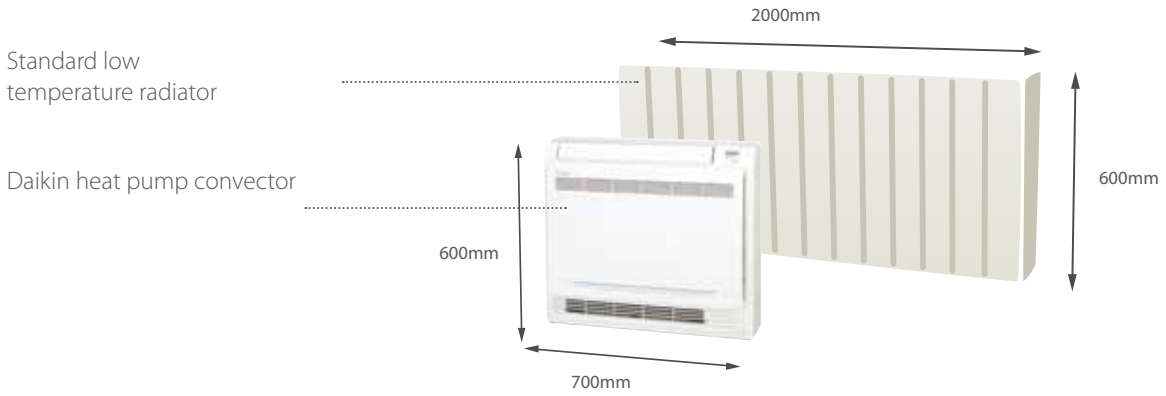
* only in combination with EKRTETS

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

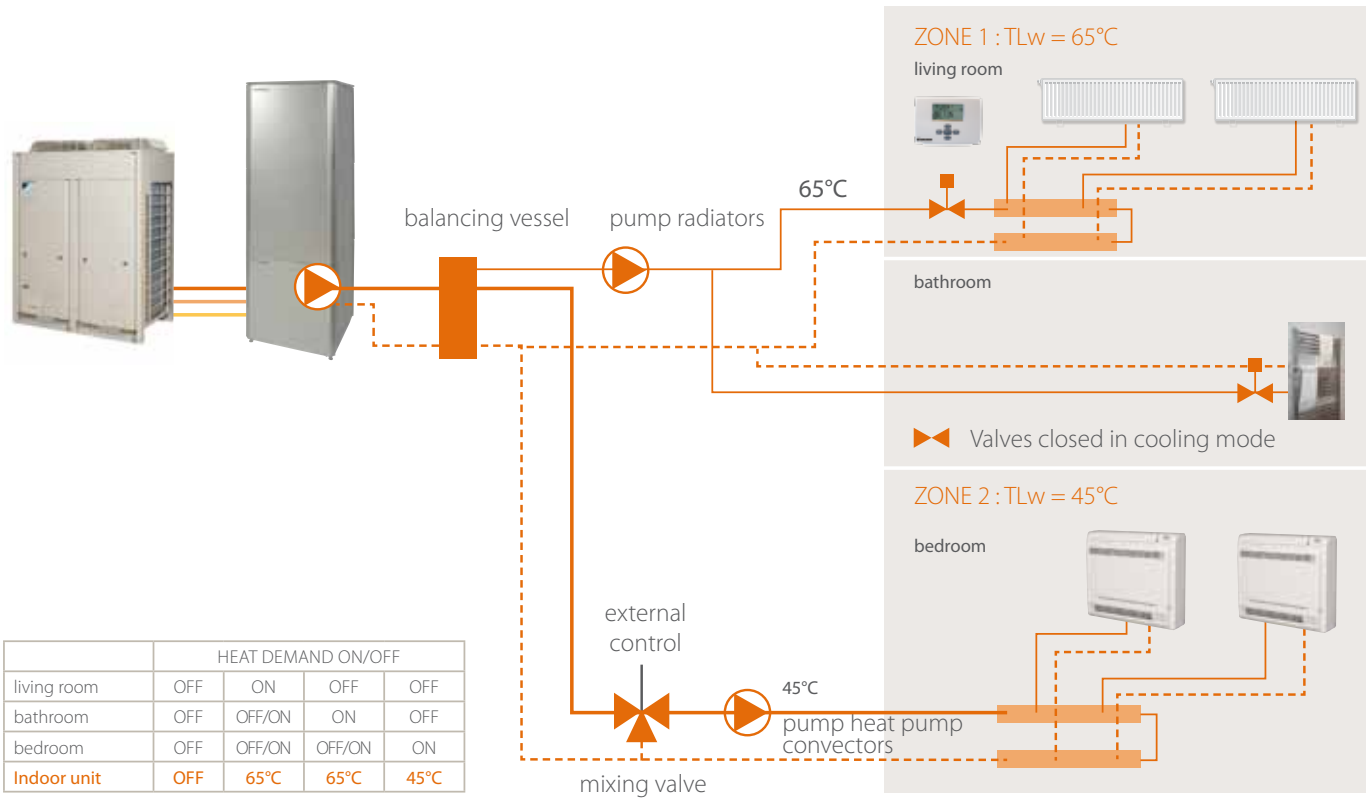
> High-capacity cooling with water temperatures down to 6° C

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.



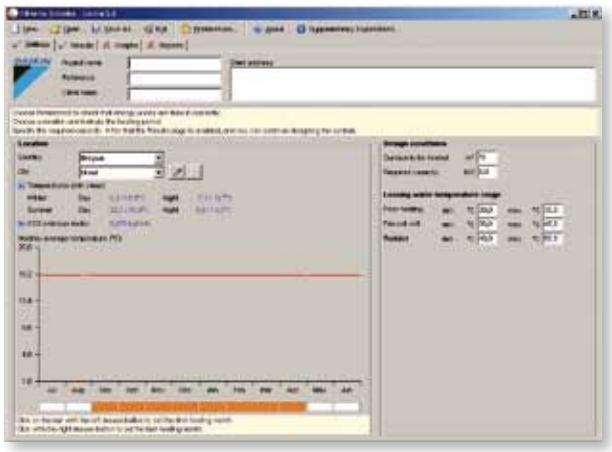
	HEAT DEMAND ON/OFF			
living room	OFF	ON	OFF	OFF
bathroom	OFF	OFF/ON	ON	OFF
bedroom	OFF	OFF/ON	OFF/ON	ON
Indoor unit	**OFF**	**65°C**	**65°C**	**45°C**

Selection software

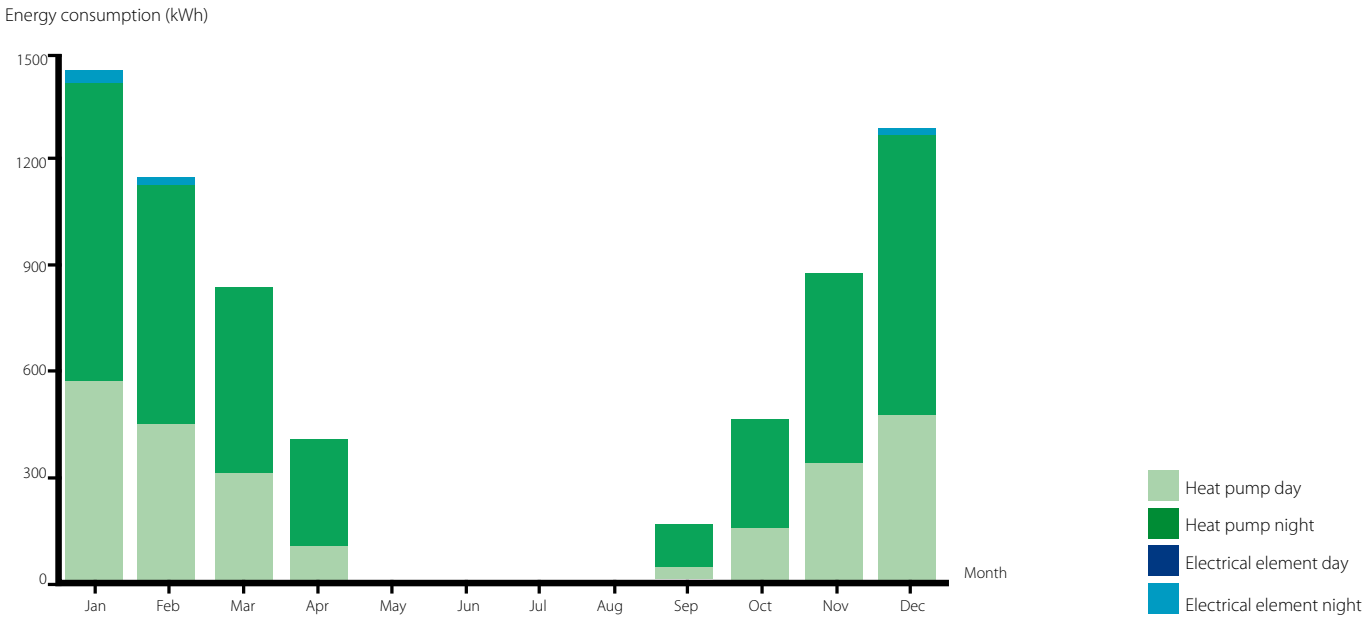
Selection and simulation software for new houses and renovations

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 CO_2 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 m^2 (in kWh/m^2) per month



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

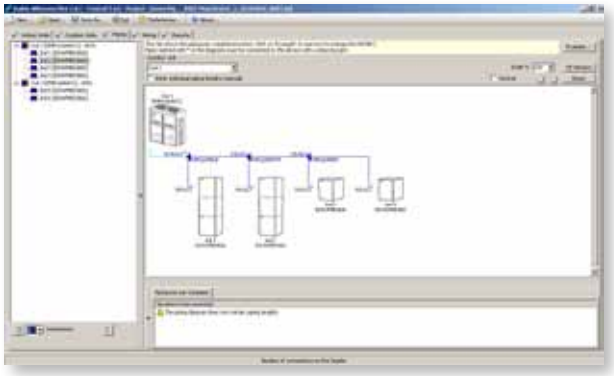


Selection and design software for apartment buildings and collective housing

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



Domestic hot water

for replacement of your water heater

Daikin domestic hot water heat pump

The Daikin domestic hot water heat pump consisting of two main components – a heat pump and a domestic hot water tank – our easy-to-install system will reduce energy consumption and lower CO_2 emissions.

- ✓ Intelligent auto-adaptive function
- ✓ Fast heat-up time
- ✓ Low environmental impact
- ✓ Low maintenance

'INTELLIGENT' AUTO-ADAPTIVE FUNCTION

The 'intelligent' control systems deliver further cost savings by learning when hot water is usually needed and adapts the settings to ensure only that water is heated. A booster function is incorporated to meet unexpected demand.

FAST HEAT-UP TIME

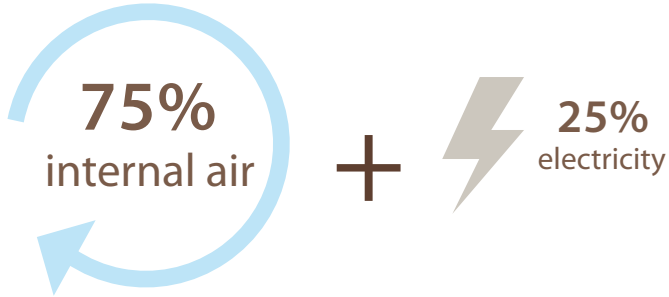
We use inverter technology in our compressors to deliver an energy-saving fast heat-up time and accurate temperature control.

LOW ENVIRONMENTAL IMPACT

By using heat from the surrounding air, our domestic hot water heat pump reduces environmentally damaging CO_2 emissions by up to 60%.*

SAVE ON YOUR ENERGY BILL

The unit delivers about 4kWh of usable heat for every kWh of electricity consumed. This means that approximately 75% of the heat is generated cost-free.



* Calculated values for a 200l unit compared to electric storage tank, medium tapping pattern, Paris climate

The efficient alternative
to electric storage tanks

60%
reduction

- in primary energy usage
- in CO_2 emissions
- in running costs

LOW MAINTENANCE

Our domestic hot water tanks are made of corrosion resistent stainless steel for high durability and low maintenance.

PLUG AND PLAY INSTALLATION

With its small 'footprint', the system can be installed in an attic, a cellar or even between the refrigerator and washing machine! All that is required is plumbing, ventilation and a power source. The domestic hot water tank can be stacked on top of the heat pump to save space, or, if only limited height is available, it can be installed separately near by.

Stacked Non-stacked

Domestic hot water heat pump

OPERATION

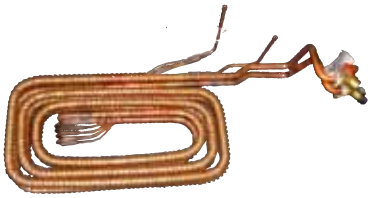
The operation of the domestic hot water part of the system is designed to maximise efficiency and minimise both cost and environmental impact. This is achieved by scheduling the main heating period for between 10 pm and 6 am when the electricity tariffs are most cost-effective – this can also be the default setting. The user can always opt for a reheat mode so that whenever the tank temperature drops below a set temperature, the heat pump will reheat the tank until a comfortable temperature is achieved – this will be below the usual maximum set for the main heating times.

PRINCIPAL COMPONENTS

HEAT EXCHANGER

The domestic hot water heat pump uses a snake condenser that optimises the use of superheat as no tank stratification is in place. This arrangement maximises the heat exchange performance, and because it works at a high maximum temperature it does not need additional heating mechanisms to prevent legionella bacteria developing.

Snake condenser



INVERTER COMPRESSOR

The Daikin domestic hot water heat pump is the first on the market with an inverter compressor and this provides cost benefits and reduced environmental impact through

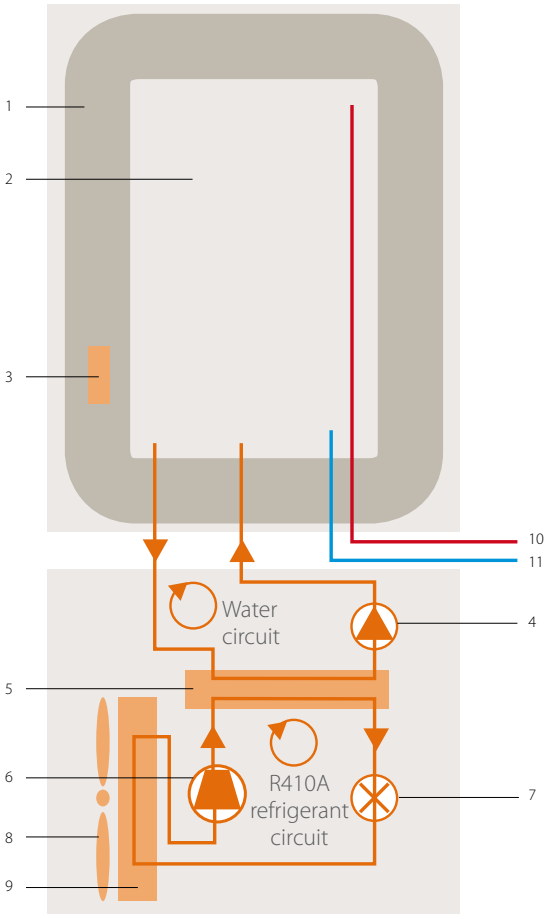
- reduced start/stop compressor cycling
- high partial-load performance
- low starting current demand
- high peak capacity
- a R-410A refrigerant system giving higher capacity at low ambient temperatures and a boost mode is possible.

FAN

As a result of the fan's high volumetric flow of ~800m3/h, the unit delivers sufficient heat exchanged capacity even when working with a small delta T° .

INSULATION

The Daikin domestic hot water tanks have high levels of insulation to minimise the heat losses to less than 50W when the temperature differential between the tank contents and the surrounding air is 45°C.



1. EPS insulation
2. Tank
3. Sensor
4. Pump
5. Heat exchanger
6. Compressor
7. Expansion valve
8. Fan
9. Coil
10. Hot tap water
11. Cold water in

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		51	53
	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)

INVERTER

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	66	69
Sound pressure level	heating	nom.	dBA	48		49	51		52
	cooling	nom.	dBA	48		50		52	54
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		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
	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.	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)

SPLIT SYSTEM FLOOR STANDING INDOOR UNIT - SINGLE PHASE

INDOOR UNITS					EKHVH008B	EKHVX008B	EKHVH016B	EKHVX016B
Casing	colour				Metallic grey			
	material				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)	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		51	53
	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)

INVERTER

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	66	69
Sound pressure level	heating	nom.	dba	48		49	51		52
	cooling	nom.	dba	48		50		52	54
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			kg	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
	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		

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
	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)

MONOBLOC SYSTEM REVERSIBLE SMALL CAPACITY

INVERTER

OUTDOOR UNITS					EBHQ006BV3	EBHQ008B V3
Heating capacity	Nom.			kW	5.75 (1) 5.03 (2)	8.43 (1) 7.64 (2)
Cooling capacity	Nom.			kW	7.20 (1) 5.12 (2)	8.37 (1) 6.08 (2)
Power input	Cooling	Nom.		kW	2.27 (1) 2.16 (2)	2.97 (1) 2.75 (2)
	Heating	Nom.		kW	1.26 (1) 1.58 (2)	2.08 (1) 2.54 (2)
COP					4.56 (1) 3.18 (2)	4.05 (1) 3.00 (2)
EER					3.17 (1) 2.37 (2)	2.82 (1) 2.21 (2)
Dimensions	Unit	Height/Width/Depth		mm	805/1,190/360	
Weight	Unit			kg	95	
Hydraulic component	Back-up heater	Type			-	
	current	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	Ambient	Min.~Max.	°CDB	-15~35	
	water	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
		Width		mm	412
		Depth		mm	100
		Depth with remocon mounted on front plate		mm	120
Weight	Unit			kg	6
Operation range	Cooling	Ambient	Min.~Max.	°CDB	4 (0.000)~35 (0.000)

INVERTER

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	Hz/V	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

INVERTER

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	Hz/V	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

INVERTER

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	Hz/V	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

INVERTER

With bottom plate heater					EBLQ011BB6W1	EBLQ014BB6W1	EBLQ016BB6W1
Without bottom plate heater					EBHQ011BB6W1	EBHQ014B6W1	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	Hz/V	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				EKHWS150B3V3	EKHWS200B3V3	EKHWS300B3V3	EKHWS200B3Z2	EKHWS300B3Z2
Casing	Colour			Neutral white				
	Material			Epoxy-coated mild steel				
Weight	Unit	Empty	kg	37	45	59	45	59
Tank	Water volume		l	150	200	300	200	300
	Material			Stainless steel (DIN 1.4521)				
	Maximum water temperature		°C	85				
Heat exchanger	Quantity			1				
	Tube material			Duplex steel LDX 2101				
Booster heater	Capacity		kW	3				
Power supply	Phase/Frequency/Voltage		Hz/V	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	Unit	Empty	kg	80	104	140	104	140
Tank	Water volume		l	150	200	300	200	300
	Material			Enamel coated steel acc.DIN4753TL2				
	Maximum water temperature		°C	75				
Booster heater	Capacity		kW	3.0				
Power supply	Phase/Frequency/Voltage		Hz/V	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	Type			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 η0		%	-
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 η0		%	-
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 η0		%	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

INVERTER

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			kg	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)	45 (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

INVERTER

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
Weight	Unit	Empty	kg	70	78
Heat exchanger	Quantity			1	
	Tube material			Duplex steel (EN 1.4162)	
	Face area		m^2	1.56	
	Internal coil volume		l	7.5	
Power supply	Phase			-	
Tank	Water volume		l	200	260
	Material			Stainless steel (EN 1.4521)	
	Maximum water temperature		°C	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 specifc 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 specifc 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 specifc thermal output	W/K	-	313
Power supply	Phase			-	
Tank	Water volume		l	300	500
	Maximum water temperature		°C	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 η0		%	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

SOLAR CONNECTION

Solar connection				EKSRPS3
Dimensions	Unit	HeightxWidthxDepth	mm	-
Control	Type			Digital temperature difference controller with plain text display
	Power consumption		W	-
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

INVERTER

INDOOR UNIT			EKHVMRD50AV1	EKHVMRD80AV1	EKHVMYD50AV1	EKHVMYD80AV1
Function			Heating only		Heating and cooling	
Dimensions	HxWxD	mm	705x600x695		705x600x695	
Leaving water temperature range	heating	℃	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℃; LW 65℃ 2 Sound levels are mesured at:EW 70℃; LW 80℃

OUTDOOR UNITS

INVERTER

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	℃	58		60	62	63
Operation range	heating	℃	-20℃~20*				
	domestic water	℃	-20℃~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 differnce 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		℃	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℃ [1]	kW	1.5	2.0
	Cooling	7℃ [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℃ / Water outlet temperature: 40℃
indoor temperature = 20℃DB
Medium fan speed

[2] Water inlet temperature = 7℃ / Water outlet temperature: 12℃
indoor temperature = 27℃DB / 19℃WB
Medium fan speed

Technical specifications

Daikin domestic hot water heat pump

INVERTER

DOMESTIC HOT WATER TANK				EKHHS200AA1V3	EKHHS260AA1V3
Dimensions	Unit	HxWxD	mm	1235x600x695	1510x600x695
Tank	Water volume		l	200	260
	Material			Galvanised steel	
Booster heater capacity			kW	1.5	
Power supply	Name			V3	
	Phase			1~	
	Frequency		Hz	50	
	Voltage		V	230	
Set temperature	Tank temperature	Heat pump only	℃	35~60	
		Heat pump + booster heater	℃	35~75	

HEAT PUMP MODULE					EKHVWQ002AAV3	
Dimensions	Unit	HeightxWidthxDepth		mm	730x600x595	
	Stacked installation	Height		mm	1940	2215
Heating capacity	Nom.			kW	2.5 [1]	
COP	Heat up COP	15°C~50°C [2]			4.00	
		15°C~60°C [2]			3.26	
		tapping COP [3]			2.06	2.72
Operation range	Domestic hot water	Ambient	Min.~Max.	°CDB	2~35 [4]	
Refrigerant	Type				R-410A	
Sound pressure level	Nom.			dBA	47	
	Night quiet mode	Level 1		dBA	43	
Power supply	Name				V3	
	Phase				1~	
	Frequency			Hz	50	
	Voltage			V	230	

(1) Average heating capacity from 15°C~60°C at ambient temperature: 15°CDB
(2) Heat up COP according to EN255-3, Tambient =15°C with heat pump only
(3) Tapping COP according to prEN255-3, Tambient =15°C, Ttank = 45°C
(4) See operation range drawing

✓ 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.

In all of us, a green heart

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.

Daikin Europe N.V. participates in the Eurovent Certification Programme for Air Conditioners (AC), Liquid Chilling Packages (LCP) and Fan Coil Units (FC); the certified data of certified models are listed in the Eurovent Directory. Multi units are Eurovent certified for combinations up to 2 indoor units.
Only applicable for Daikin Altherma low temperature units.

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

FSC

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