DAIKIN

altherma

all-in-one Comfort

for residential & commercial applications

INSTALLER CATALOGUE

DAIKIN ALTHERMA

HEATING CATALOGUE

Heating, domestic hot water and cooling

Sustainable energy solutions

for residential and commercial use

You and your customer have decided to switch to an energy-efficient heating system that produces low CO_2 emissions. Daikin Altherma is a **total heating and domestic hot water system** based on air source heat pump technology. One that represents a flexible and cost-effective alternative to a fossil fuel boiler. It also has an option for cooling.*

The inherent energy-efficiency characteristics of Daikin Altherma make it an ideal solution for **reduced energy consumption and low CO_2 emissions**. Its high- and low-temperature heating systems provide optimal comfort. Highly **energy-efficient** heat pumps with advanced compressor technology transform unused and inexhaustible heat from the surrounding air into usable heat, either as part of the overall climate-control system or to heat domestic hot water. Moreover, the system is easy to install.

*The Daikin Altherma cooling option is available for low-temperature heating systems (under floor heating system, heat pump convectors).

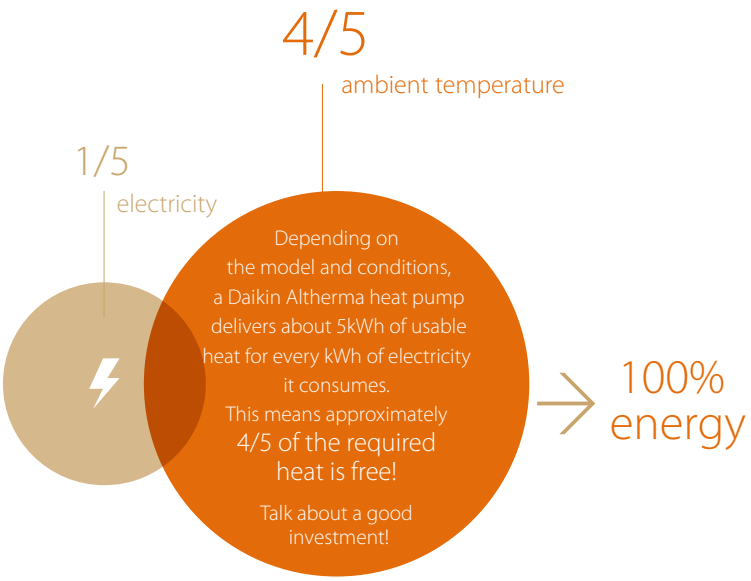
& efficient

Offer your customer the benefits of Daikin technology

1. 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, compression, condensation 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, heat pump convectors 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.

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.

Ecolabel

Daikin is the first manufacturer to receive the Eco-label for heat pumps!
Daikin Altherma low temperature with under floor heating received the EU Ecolabel* because it has a higher energy efficiency and a lower global warming impact than other heat pump products in its class.

BE/31/001

* Scan this QR code for more information and the latest overview of certified products on daikin.eu

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 final

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.

Energy savings calculator

Go to ecocalc.daikin.eu and see how a Daikin Altherma heat pump saves on both running costs and CO_2 emission.

* Simulation for a new build detached house (room in roof) with low temperature emitters, for 4 people and a heated surface of 125m², taking into account Belgian climate conditions, an electricity price of 0.17 EUR/kWh and a gas price of 0.06 EUR/kWh.

2. DAIKIN ALTHERMA: THE ECONOMICAL ALTERNATIVE

Daikin Altherma heats up to 5 times more efficiently than a traditional heating system based on fossil fuels or electricity, achieving an excellent coefficient of performance (COP) rating of 5.04*. 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.

3. 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.

*EHV(H/X)04C OR EHB(H/X)04C WITH ERLQ004CV3 - TA DB/WB 7°C/6°C - LWC 35°C (DT=5°C)

4. 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.

5. 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 and cooling for new houses

Daikin Altherma low-temperature heating system

Split system: indoor + outdoor unit

Monobloc system: outdoor unit only

Heat emitters

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

Optional

- Solar connection for hot water production

p. 12

Heating & domestic hot water

for renovations

Daikin Altherma high-temperature heating system for replacement of traditional boilers

Heat emitters

- High temperature radiators

Optional

- Solar connection for hot water production

p. 30

Heating, domestic hot water and cooling

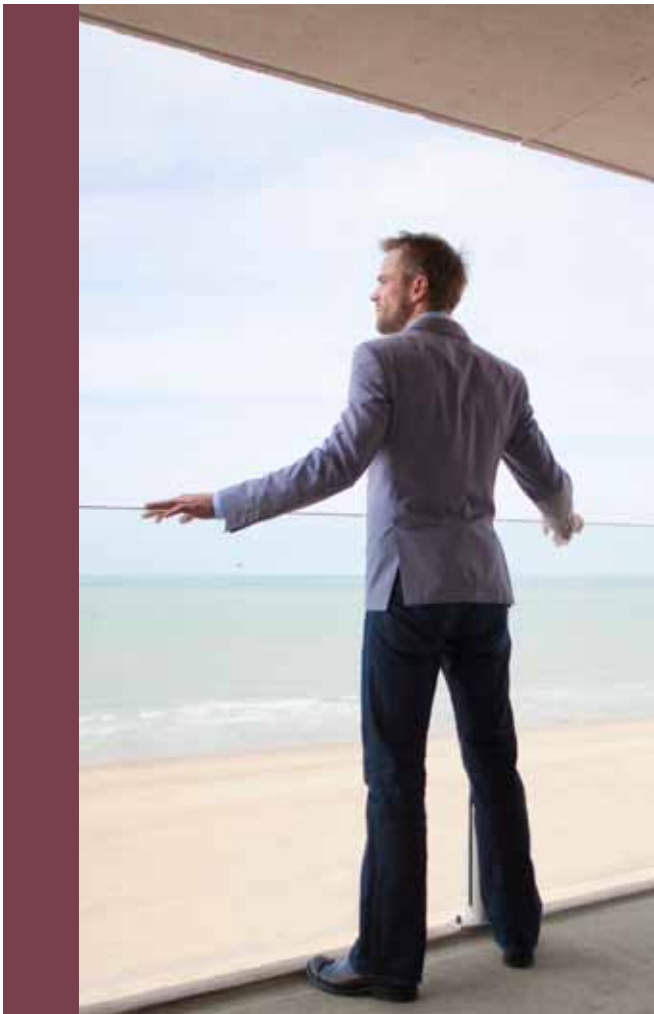
for residential and commercial applications

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

Heat emitters

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

p. 40



Heating, domestic hot water and cooling

for new

Daikin Altherma offers two low temperature systems both offering **heating and cooling, including a domestic hot water system** all of which connect to the same range of accessories.

houses

Split system

Whether it is a newly-built house or an existing low-energy home, the Daikin Altherma low-temperature split permits completely integrated components for total climate control.
Will you choose an integrated floor-standing indoor unit to provide heating and domestic hot water, or go for a wall-mounted indoor unit? Does the house use under floor heating, or heat pump convectors? Does the electricity come from the grid, or from a renewable eco-friendly source like solar power?
For all of these situations, **the Daikin Altherma low-temperature system is a total solution for your customer.**

4 brand new benefits

Best seasonal efficiencies,
providing the highest savings on running costs

With many years of air-to-water heat pump experience and over 150,000 units installed throughout Europe, we continuously strive to optimise Daikin Altherma's performance. This is achieved by a constant focus on limiting electrical inputs during each new product development process, resulting in further reducing the running costs.

Perfect fit for new builds,
as well as for low energy houses

The Daikin Altherma low emperature is fully optimised to fulfill the efficiency, comfort and application needs of newly built houses. In addition, the extended product range now offers the perfect solution for low-energy houses, even for very low heat loads.

Integrated heating and hot water unit, saving installation space and time

The new Daikin Altherma low temperature integrated indoor unit is a floor-standing heat pump unit including the domestic hot water tank (available in 180l and 260l). This makes it the easiest and fastest installation when domestic hot water is required, and provides the highest domestic hot water heating efficiency and comfort for the end user in a compact, sleek design. When domestic hot water is preferred in combination with the Daikin Altherma low temperature , the integrated indoor unit is the best solution, for the installer and the end user! A wall-mounted indoor unit is available as well, to offer the best solution in specific situations, e.g. when no domestic hot water heating is required or when a combination with thermal solar energy is preferred.

New control panel:
easy to use, commission and service

The Daikin Altherma low temperature is equipped with a new user interface. Commissioning, servicing and day-to-day operation become straightforward the multi-lingual and graphical interface that provides full-text representation, easy menu navigation and intelligent control features.

1. OUTDOOR UNIT: SUITABLE FOR ALL CLIMATES, EVEN WITHSTANDING SEVERE WINTER CONDITIONS

Daikin is renowned for its know-how related to frost protection on its heat pump range. The outdoor units are specifically designed to avoid ice build-up problems, even in the most severe winter conditions.

Daikin Altherma low temperature has a guaranteed operation down to an outside temperature of -25°C. This ensures sufficient heat pump operation for even the coldest climates.

1. The 4-8kW range of Daikin Altherma has a specifically designed casing to avoid the risk of ice formation on the outdoor unit coil.

- The outdoor unit has a free hanging coil, ensuring no ice accumulates in the lower part of the outdoor unit. This is key to offering appropriate frost protection and has the additional advantage that no electrical bottom plate heater is required.
- The discharge grill is also specifically designed to avoid ice accumulation.

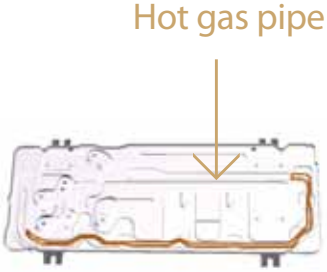
This adequate frost protection results in one product offering throughout Europe, from the south of Spain to the north of Finland.

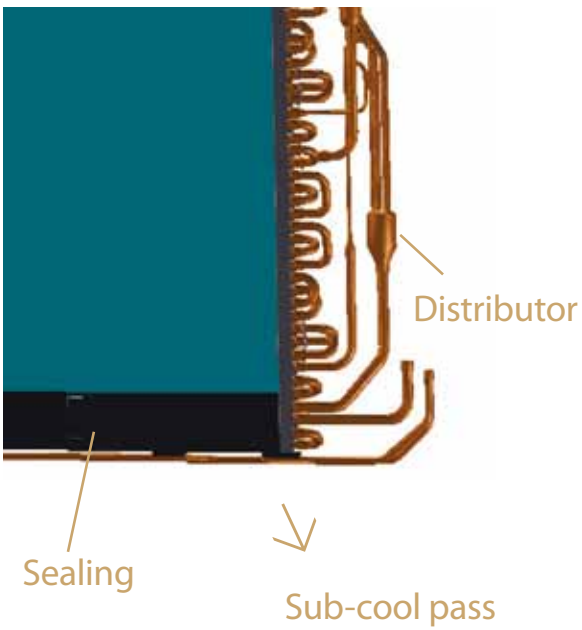
New discharge grille

2. The 11-16kW range of Daikin Altherma has specific frost protection to avoid the risk of ice forming on the outdoor unit coil.

- Hot gas pass: hot gaseous refrigerant coming from the compressor runs through the bottom plate to keep the base free of ice and all the drain holes open
- Sub-cool pass: before the refrigerant pipe is split by the distributor to the hairpins, the refrigerant passes through the bottom of the coil to keep this lower part free of ice

Only a small capacity bottom plate heater is installed (35W) on the ERLQ-C range, with smart operation logic only operating during defrost cycles. This saves around 90% of electricity consumption compared to a traditional heat pump system with a thermostatically controlled bottom plate heater.





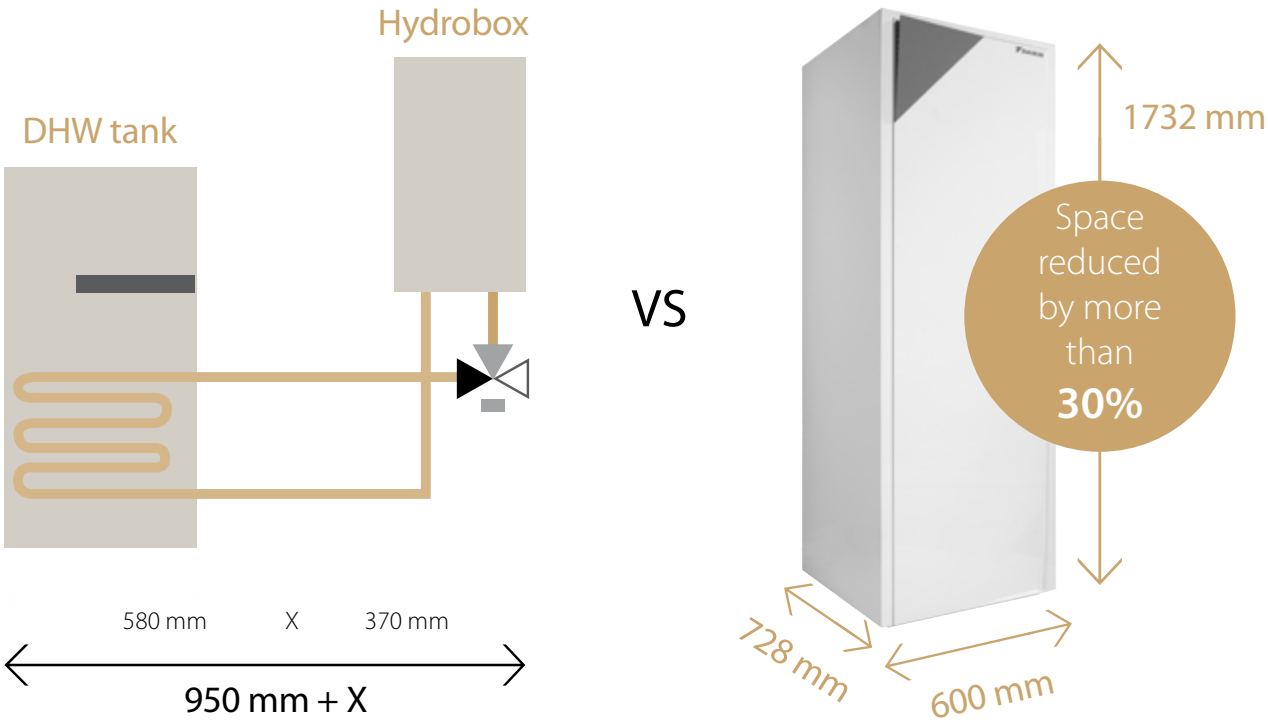
2.a INTEGRATED FLOOR STANDING INDOOR UNIT: EASIEST AND FASTEST INSTALLATION, DOMESTIC HOT WATER TANK INCLUDED

- The stainless steel domestic hot water tank is included in the unit, with all connections between heat pump module and tank factory made. This allows for a fast installation compared to a traditional set-up (wall-mounted with separate domestic hot water tank) with only water and refrigerant pipes to be connected.
- All hydraulic components are included (circulating pump, expansion vessel, back-up heater, etc. No need to look for third party components.
- The electric PCB board and hydraulic components are accessible from the front. This ensures easy serviceability and avoids the risk of any damage to electrical components due to water leakages.
- All water and refrigerant connections are at the top of the unit, assuring easy connection and accessibility. This means no connections are required at the back of the unit, resulting in a lower installation footprint.

Components are accessible from the front

Thanks to the all-in-one design, the installation space is minimised both in terms of footprint and height

1 Compared to the traditional split-up version for a wall-mounted indoor unit and separate domestic hot water tank, the integrated indoor unit greatly reduces the installation space required.



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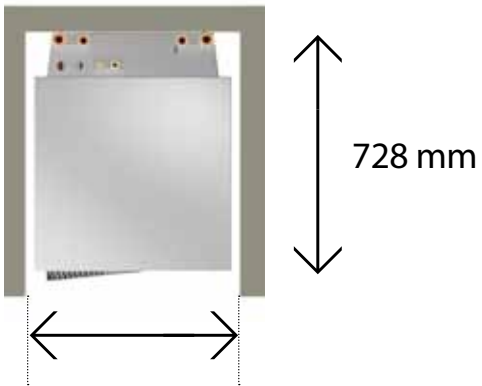


Smaller footprint: with a width of only 600 mm and a depth of 728 mm, the integrated indoor unit has a similar footprint compared to other household appliances.

Smaller installation footprint: almost no side clearances are required, and no space is required behind the unit for the piping, as the piping connections are at the top. This results in an installation footprint of only 0.45 m^2.

3 Low installation height: both the 180l and 260l version come with a height of 173 cm. The required installation hight is less than 2 m.

4 The compactness of the integrated indoor unit is emphasised by its sleek design and modern look, easily fitting with other household appliances.

2.b WALL-MOUNTED INDOOR UNIT: INCLUDING ALL HYDRAULIC COMPONENTS

The wall-mounted indoor unit is the perfect solution, in certain applications

1. When no domestic hot water is required in combination with the Daikin Altherma system:

- All hydraulic components are included in the heat pump unit (circulating pump, expansion vessel, back-up heater, etc), no need to look for third-party components
- All hydraulic components and the PCB board, are accessible from the front for easy serviceability
- Compact unit: height 88.1 cm, width 48 cm, depth 34.4 cm
- Small installation space as almost no side clearances are required
- Modern outlook easily fits in with other modern household appliances.

2. The wall-mounted indoor unit can be combined with a separate domestic hot water tank.

- stainless steel tank: 150l, 200l or 300l
- enamel tank: 150l, 200l or 300l.

3. Connection to Daikin solar system

- Pressurised thermal hot water
- Separate domestic hot water tank can be used (stainless and enamel)
- Specific designed solar kit selects most relevant source (solar or heat pump) to heat up the tank, assuring optimal efficiency and maximum comfort.

3. DOMESTIC HOT WATER TANK

3.a Domestic hot water tank integrated in floor standing unit

The domestic hot water tank of the integrated floor standing indoor unit is equipped with thick polystyrene insulation which results in 50% less heat loss compared to a standard insulated tank. This results in high savings on running costs as less energy is required for the next heat-up cycle.

- Heat loss from the 180l tank: only 1.4kWh per 24h (temperature difference of 45°C between tank and room temperature).

Daikin Altherma low temperature can heat the domestic hot water tank up to high tank temperatures with heat pump operation only. This avoids the use of electrical assistance for heating up the hot water tank, maximising the efficiency of hot water production.

- Tank temperature up to 55°C with heat pump operation only. Tank temperature can be further raised to 60°C with the standard back-up heater of the heat pump module.

This results in high hot water volumes. Following volumes can be achieved with only one heat-up cycle.

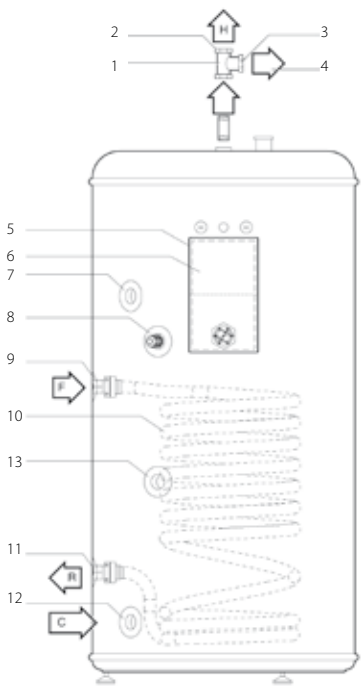
- Hot water volume of 300l is available at 40°C, sufficient for six showers, without any electrical assistance required (260l tank, tank temperature 50°C, cold water temperature 10°C, one heat-up cycle)
- The hot water volume can be further increased to 375l using the standard back-up heater (260l tank, tank temperature up to 60°C).

Daikin Altherma uses a smart control principle to heat-up the domestic hot water tank, maximising efficiency and comfort for the end-user. The combination of the reheat and schedule function guarantees minimum electrical input and ensures the constant availability of hot water.

- Schedule function: heat-up the tank at a specified time during the day, up to a pre-set tank temperature. This action can be repeated four times per day, with the possibility of setting two different tank temperatures (storage comfort and storage economic.)
- Reheat function: when the tank temperature goes below a specified minimum reheat temperature, Daikin Altherma switches automatically to domestic hot water heating, heating up the tank to a specified maximum reheat temperature.
- These two control functionalities can be used individually, but also in combination to provide the best efficiency and maximum comfort.
  The schedule function can be used to heat up the tank during the night with the low electricity tariff, up to a relatively low tank temperature (e.g. 50°C avoiding the use of electrical assistance). When higher hot water consumption occurs during the day, lowering the tank temperature to the minimum reheat temperature, the heat pump will switch automatically to domestic hot water heating with the reheat function to guarantee the constant availability of hot water.
  Thanks to the large coil surface of the tank (coil surface of 1.56m^2) heating up the tank with the scheduled function or reheat function occurs very quickly.

3.b Domestic hot water tank in combination with wall-mounted indoor unit (EKHWS - EKHWE)

- 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 on the side.
- 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.

4. EASY CONTROL

Quick and easy commissioning

At the first start-up, a quick configuration wizard will guide the installer through the commissioning process. Through a series of short questions, the set-up of basic parameters will automatically be completed. Fine-tuning these parameters remains possible using the menu-based navigation. As a result of the quick configuration wizard, only the parameter settings relevant to the installation will be shown in the menus. The irrelevant parameters will be hidden and thus inaccessible.

The parameters can be downloaded to a PC as a back-up, or be duplicated to other similar installations. If preferred, the parameter settings can also be prepared on beforehand and uploaded to the units during commissioning.

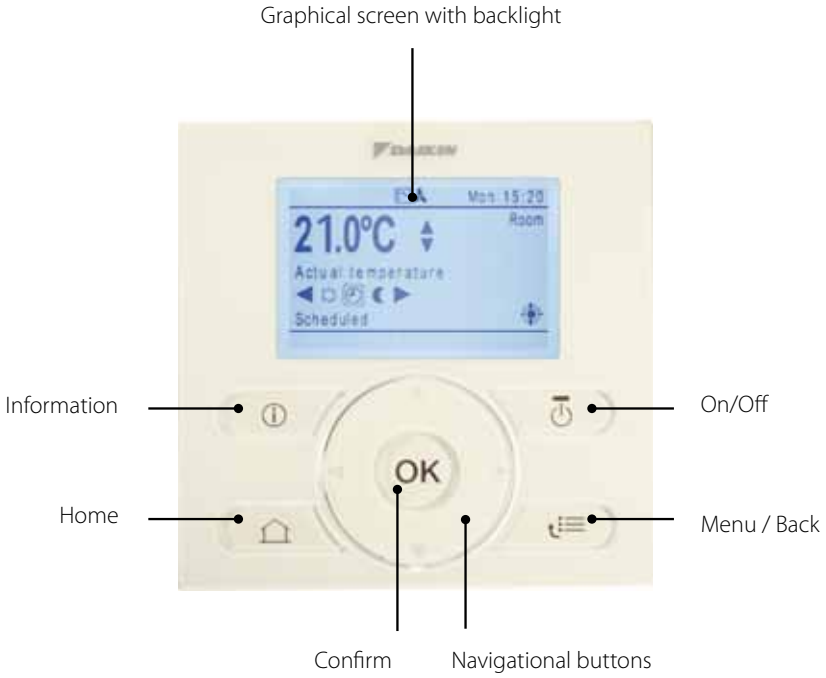
Before the actual test-run of the unit, an actuator test mode allows all the wired components to be activated one by one. This allows for a quick and easy check of all connections and wirings made to ensure a correct operation. An automatic screed drying function can be activated to proceed through a gradual heat-up of an under floor heating system to avoid cracks in the floor during the first heat-up. Individual and easy-to-programme schedule timers for heating, cooling, domestic hot water operation and recirculation noise-sensitive operation and electrical booster heater allow to adjust the operation of the unit to match the end-user's typical daily schedule.

After the commissioning, access to the installer's menu can be restricted (manually or automatically after one hour) to avoid wrong manipulation of the unit by the end-user.

Easy serviceability

In case something goes wrong, full-text error messages will guide the end-user to take appropriate action to try and resolve the problem. If the problem persists and a site intervention is necessary, the service engineer will be able to review the last 20 error occurrences.

Detailed information on the operational conditions of the unit, such as the running hours of the different elements, operating temperatures or number of starts, can easily be read out from the extended end-user's menu.



Room temperature control functionality

The user interface itself is equipped with a temperature sensor and can be installed remotely from the Daikin Altherma low temperature indoor unit.

- Installed on the unit, it will allow quick and easy access to the unit's operating information and settings.
- Installed remotely (e.g. in a living room) it will also act as a room thermostat with more advanced features than a standard room thermostat, resulting in more stable room temperatures, increased efficiency and operation life cycle. A second optional interface can still be installed on the unit for service purposes.

User-friendly with intuitive controls

In the detailed display mode, the large graphical display of the user interface displays the actual room temperature and the operation mode of the unit. Depending on the end-user's preference, a simplified basic display is available that shows just the actual room temperature and only allows the room temperature set-point to be changed.

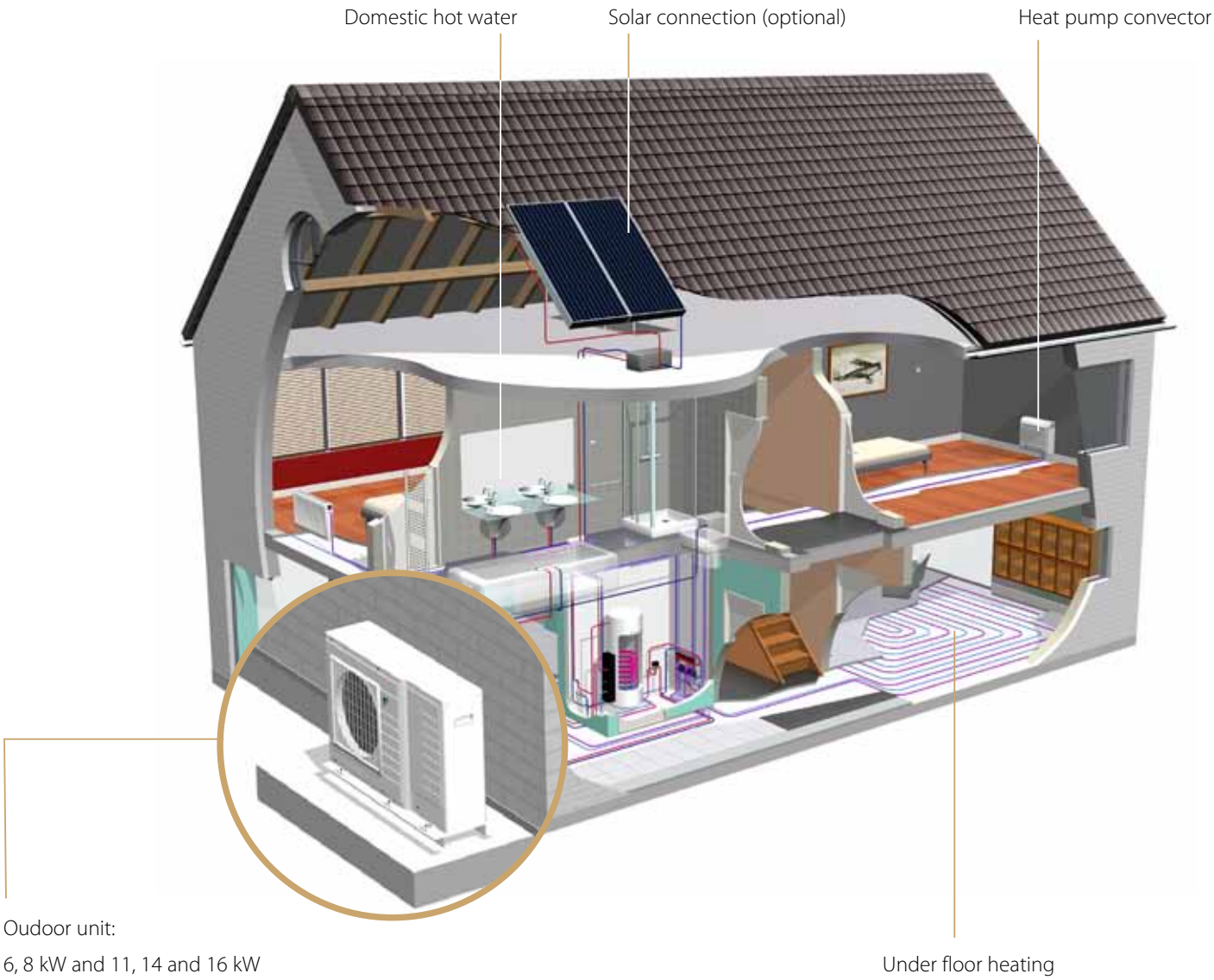
User settings can be accessed through an intuitive and self-explanatory menu. This menu will also give access to additional information such as the energy consumption and heat production of the system, split up between heating, cooling and domestic hot water operation, enabling close monitoring of the unit's efficient operation.

Monobloc system

Everything combined in one outdoor unit

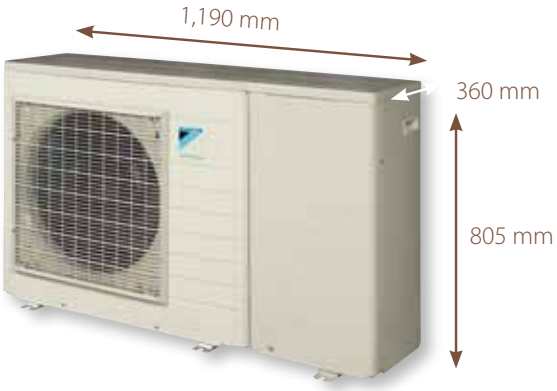
In addition to Daikin Altherma split systems, Daikin has introduced a monobloc version in which all hydraulic parts are located within the outdoor unit.
In this system, the water pipes, rather than the refrigerant pipes, run indoors from the outdoor unit, making installation much quicker and easier for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

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



1. OUTDOOR UNIT ONLY

Extra small casing



6kW and 8kW casing

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.

2. DOMESTIC HOT WATER TANK

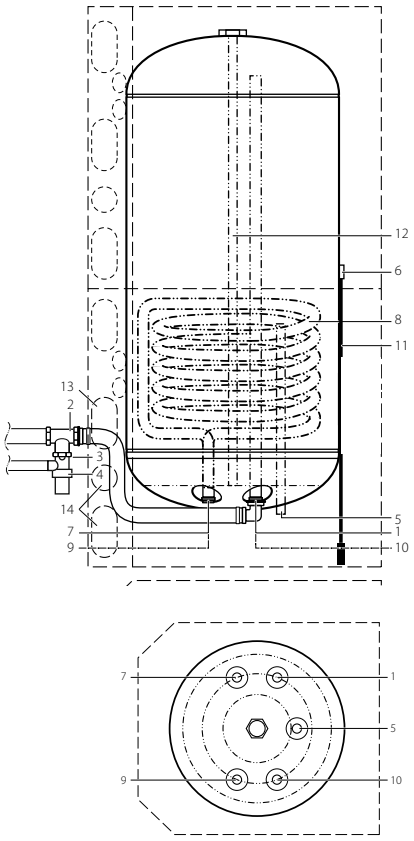
Whether your customer wants domestic hot water only or the advantage of solar energy, Daikin offers you the domestic hot water tank that meets his or her requirements.

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



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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

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- 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.
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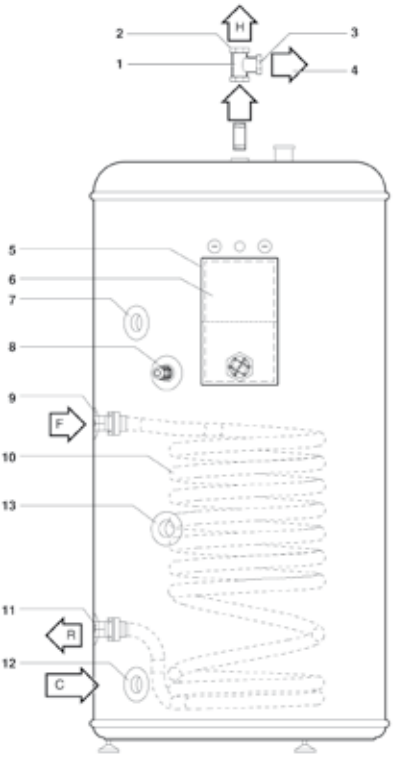

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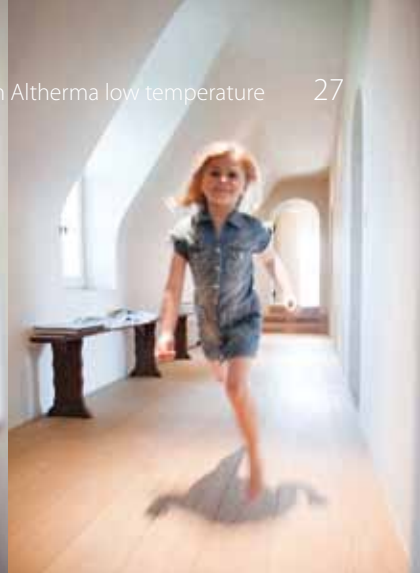


3. EASY CONTROL

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 under floor 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.
The heat pump convector also has a 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 saves on running costs thanks to the improved 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 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)

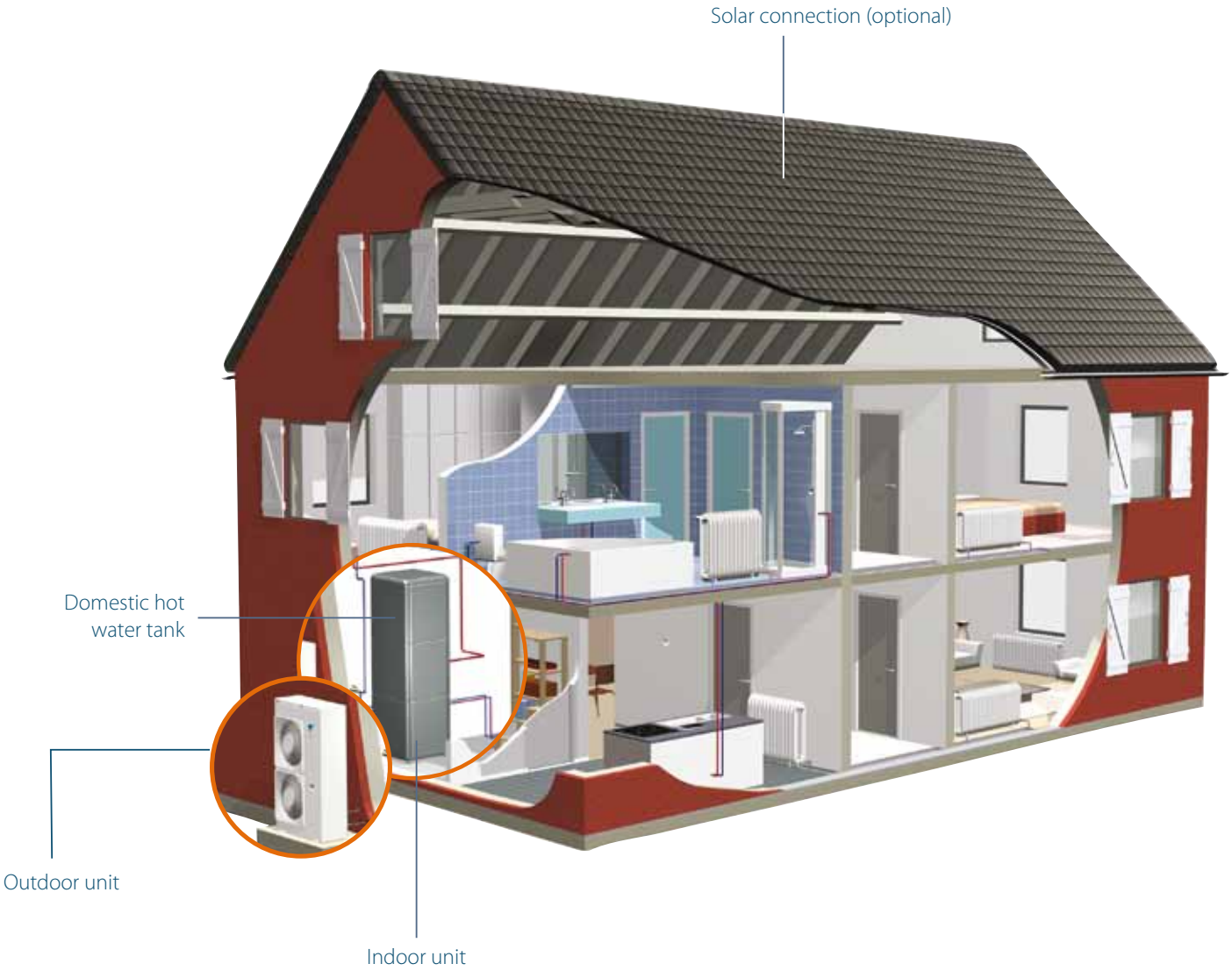
Heating & domestic hot water

Ideal for renovations

Daikin Altherma
high temperature system

For replacement of traditional boilers

Daikin Altherma high temperature system offers heating and domestic hot water for your home. This system can perfectly **replace a tradional boiler and connect to the existing piping**. Daikin Altherma high temperature is therefore the ideal solution for renovations. The split system consists of an outdoor unit and an indoor unit and can be completed with solar connection.



Split system

A split system consists of an outdoor unit and an indoor unit

The Daikin Altherma outdoor unit includes a heat pump that extracts heat from the outside air resulting in nearly 2/3 of all usable heat coming from a sustainable and free source.
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.
Available capacities are 11, 14 and 16 kW. If a greater heating capacity than 16 kW is required, you can now combine several indoor units with one single outdoor unit to give up to 40 kW of heating.
Daikin Altherma high temperature heats up to 3 times more efficiently than a traditional heating system based on fossil fuels or electricity. A lower running cost is thus achieved, while you can still enjoy a stable and pleasant level of comfort.*

* COP (Coefficient of Performance) of up to 3.08

Domestic hot water tank

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.

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.

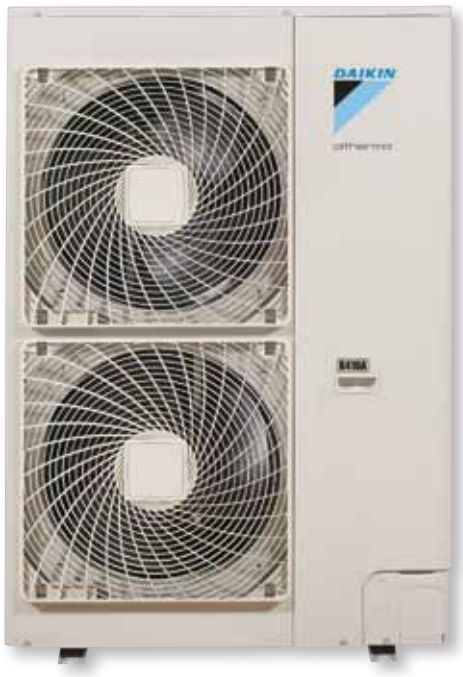
Solar connection

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. OUTDOOR UNIT AND INDOOR UNIT

OUTDOOR UNIT

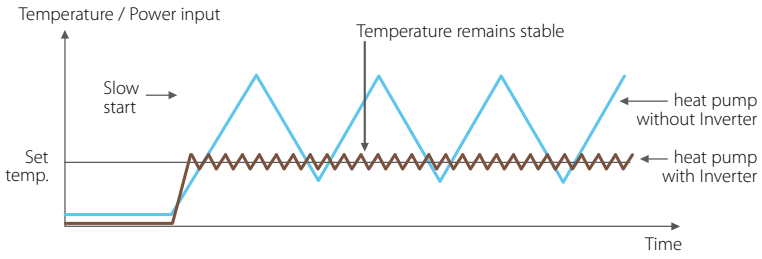
Daikin Altherma high temperature uses 100% thermo-dynamic energy to obtain water temperatures up to 80°C without using an additional heater.



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.

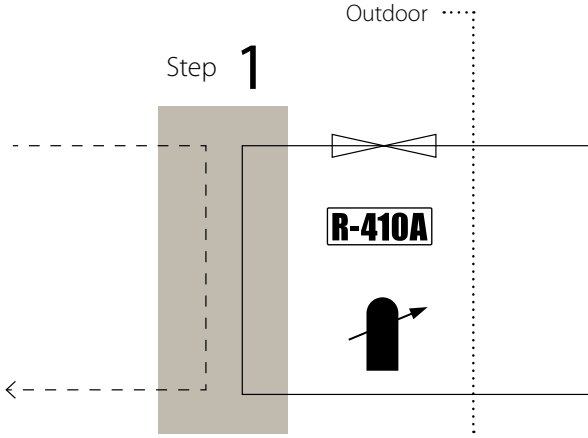
Heating operation:



Daikin Altherma cascade technology

High performance in 3 steps:

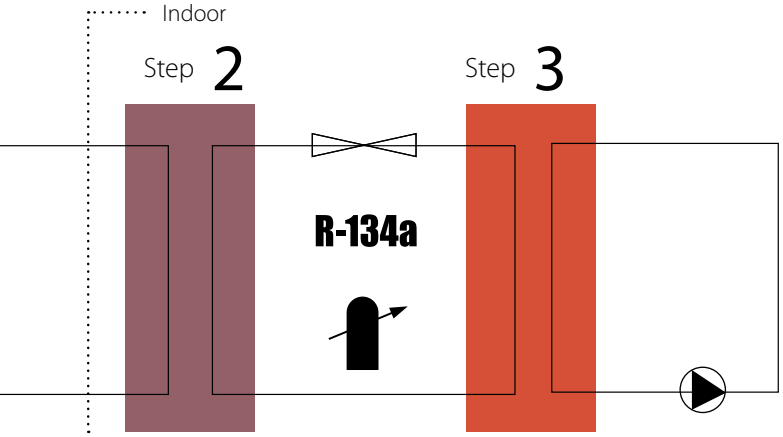
1 The outdoor unit extracts heat from the ambient outdoor air. This heat is transferred to the indoor unit via R-410A refrigerant.



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.

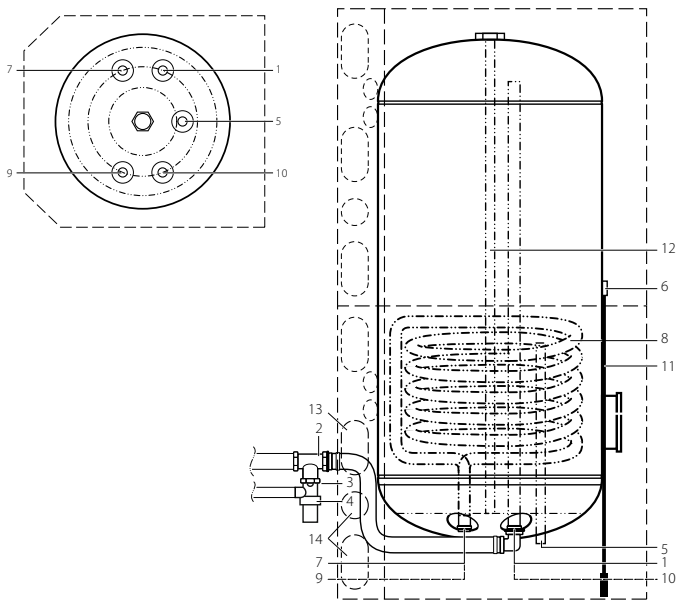
Non-stacked

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

3. 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.

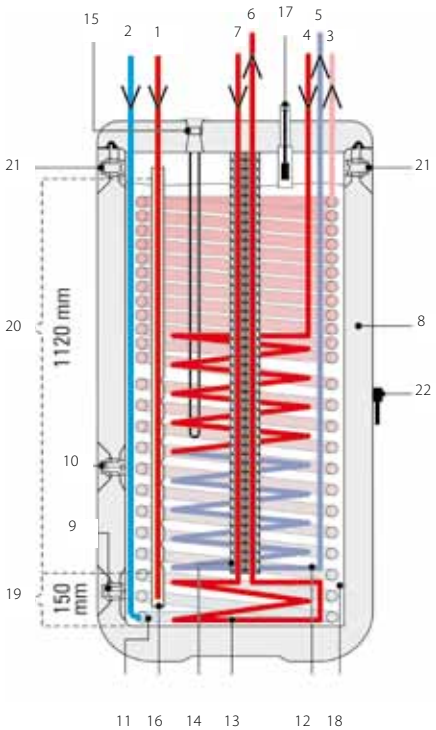
Unpressurised system

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

4. 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
- 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 *

* only in combination with EKRTETS


DAIKIN

Heating, domestic hot water and cooling

The flexible

Daikin Altherma Flex Type:
for residential
and commercial applications

solution

Daikin Altherma Flex Type for residential and commercial applications is a **3-in-1 system** offering heating, domestic hot water and cooling all-in-one which is highly **energy efficient** thanks to Daikins advanced heat pump technolgy.

Daikin Altherma Flex Type is today's answer to current and future issues of increasing energy costs and unacceptable environmental impact associated with conventional heating systems for commercial applications such as schools, hospitals, spas, gyms and hotels.

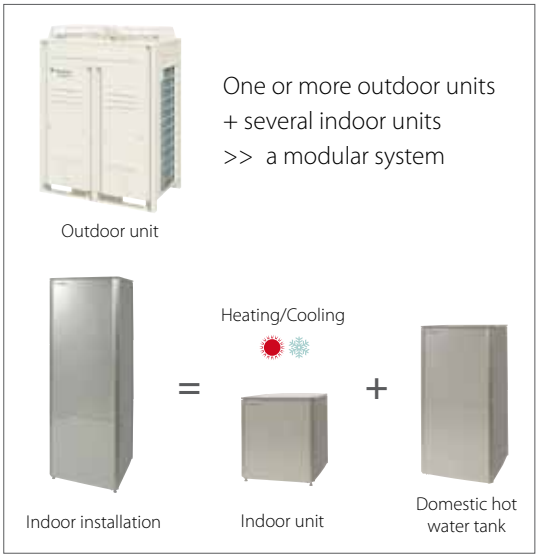
With Daikin Altherma Flex Type, 4/5 of the generated heat comes from the air, which is a renewable energy source that is free of charge!

Daikin Altherma Flex Type achieves a typical seasonal COP of 3 in the moderate Western and central European climate.

Further more, Daikin Altherma Flex Type is a **modular system**. Depending from your project one or more outdoor units can be combined with up to ten indoor units per outdoor unit.

Efficient climate control for residential applications

1 Hot water
2 Heating
3 Cooling

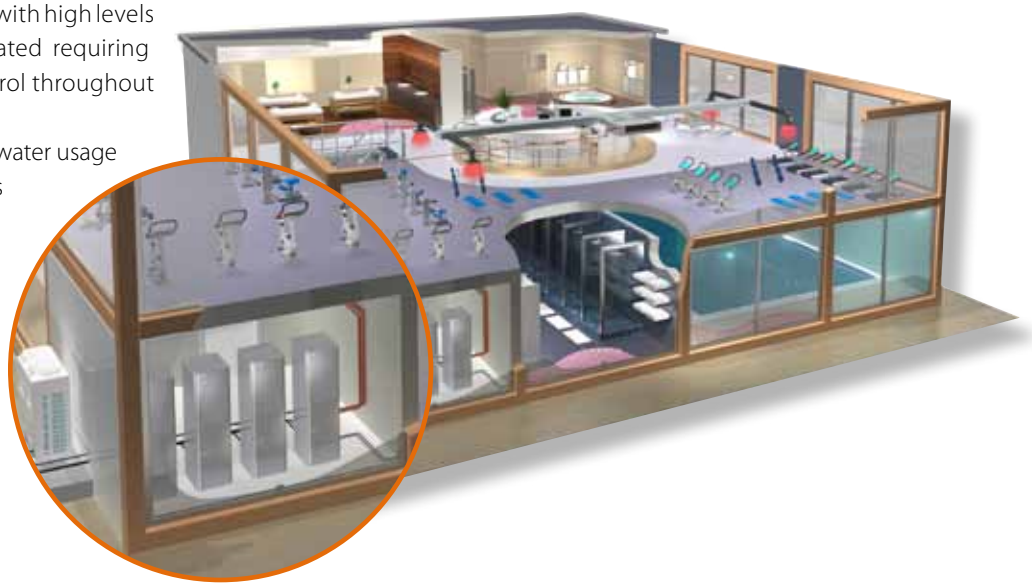


Commercial applications

Fit for purpose & Hot water on demand

The challenges for a fitness center:

- Large exercise rooms with high levels of heat being generated requiring rigorous climate control throughout the space
- High 'on demand' hot water usage in the changing rooms



The solution:

- Daikin Altherma Flex Type with its modular and flexible approach.

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
- Hot water: tank temperatures up to 75° C

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

ENERGY EFFICIENT HEAT PUMP TECHNOLGY

Compared to an oil boiler, this results in:

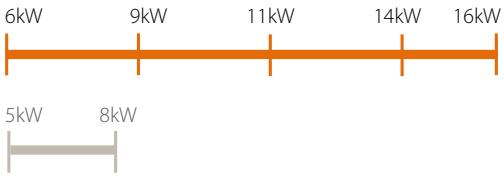
- Up to 36% less running costs*
- Up to 71% reduction of CO_2 emissions*
- Up to 35% reduction in primary energy use*

* Data calculated taking in account Belgian conditions: SCOP of 3, average energy prices 2007-2010, CO_2 emission factor for electricity production

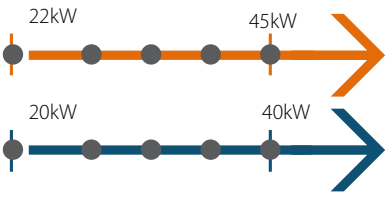
MODULAR SYSTEM

One or more inverter-controlled outdoor heat pump units can provide heating, cooling and hot water. 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.
Indoor units are available in several classes (6, 9, 11 ,14 and 16 kW), ensuring optimum efficiency. One outdoor unit can be combined with up to ten indoor units. Multiple outdoor units can be installed for larger applications.

1 Commercial space / 1 Apartment



Total building



Install separate outdoor units to reach higher capacities
(Separate system: the outdoor units are not connected to each other)

Note:
Heating capacities 7°C ambient temperature, cooling capacities 35°C ambient temperature

1. 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

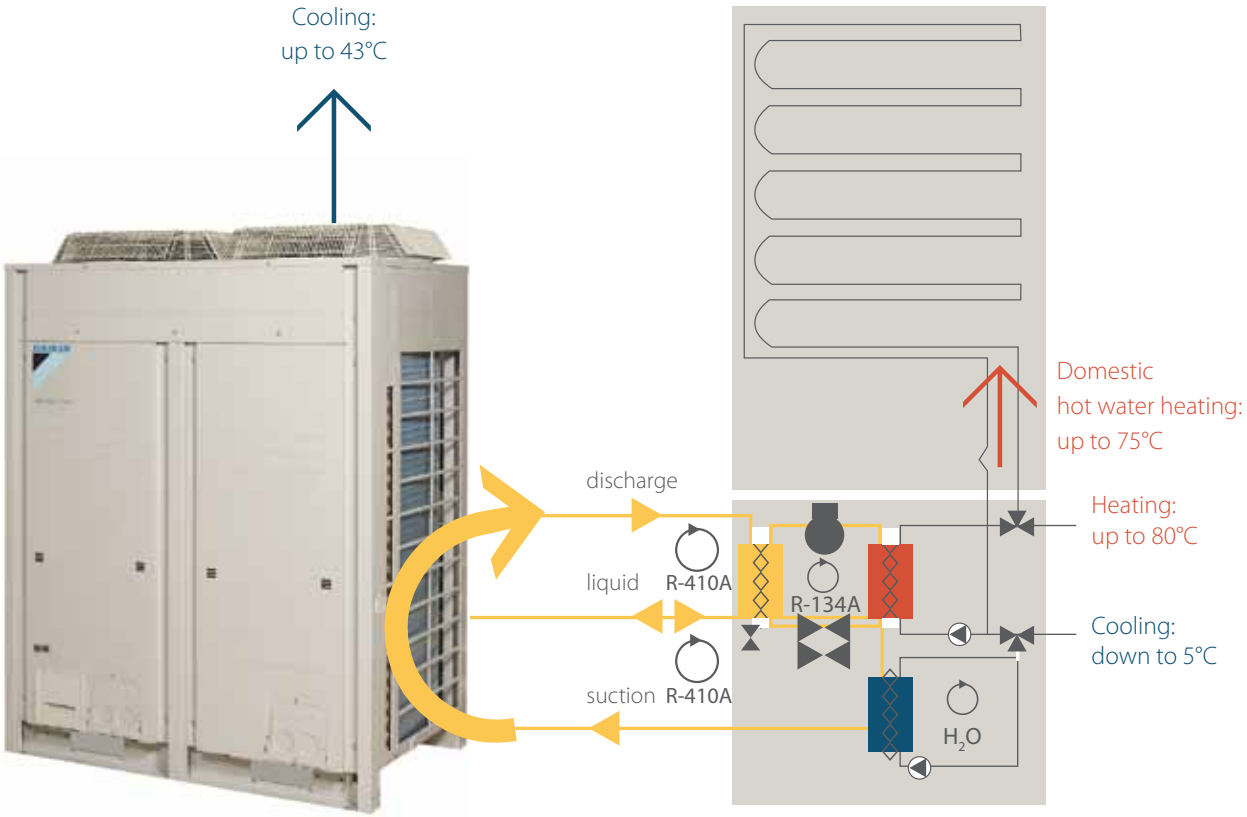
Heat absorbed while cooling one apartment can be recovered instead of being simply released into the air. This recovered heat can be used

- 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.

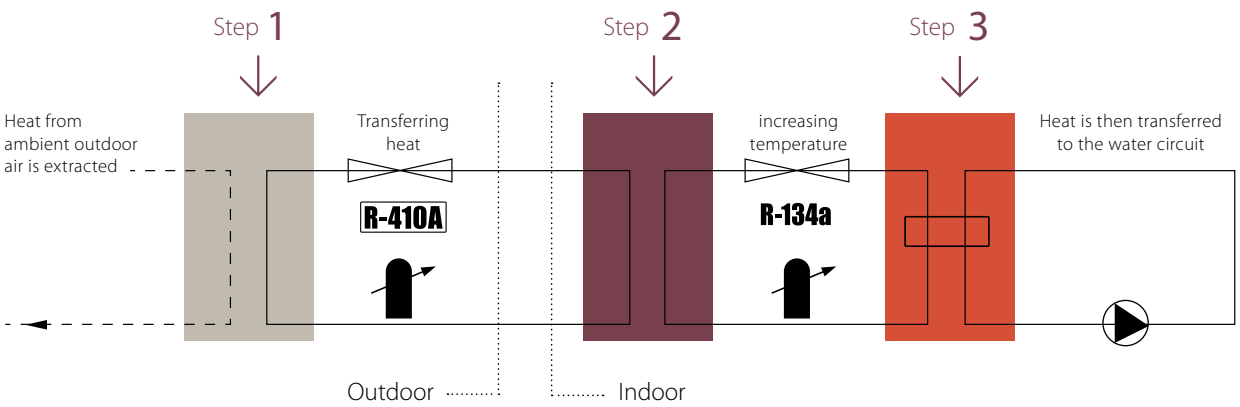
- Domestic hot water can be produced up to 75° C, without the assistance of an electric heater
- No electric heater required for Legionella disinfection
- COP of 3.0 for heating from 15° C to 60° C
- Heat-up time from 15° to 60° C in 70 minutes (200L tank)
- Equivalent hot water volume of 320L at 40° 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

Cascade technology



2. DOMESTIC HOT WATER TANK

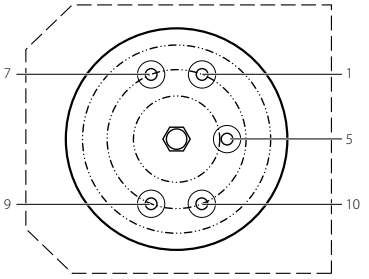
The indoor unit and domestic hot water tank can be stacked to save space, or installed next to each other, if only limited height is available.

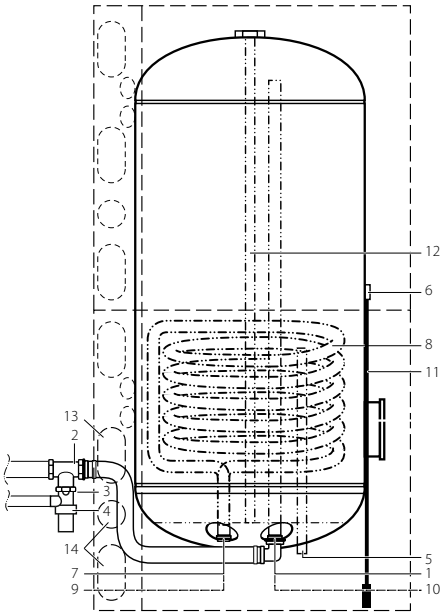
EKHTS: Domestic hot water tank

- 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

Stacked or Non-stacked





1. Hot water connection
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3. EASY CONTROL

System controller

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

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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
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- 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.
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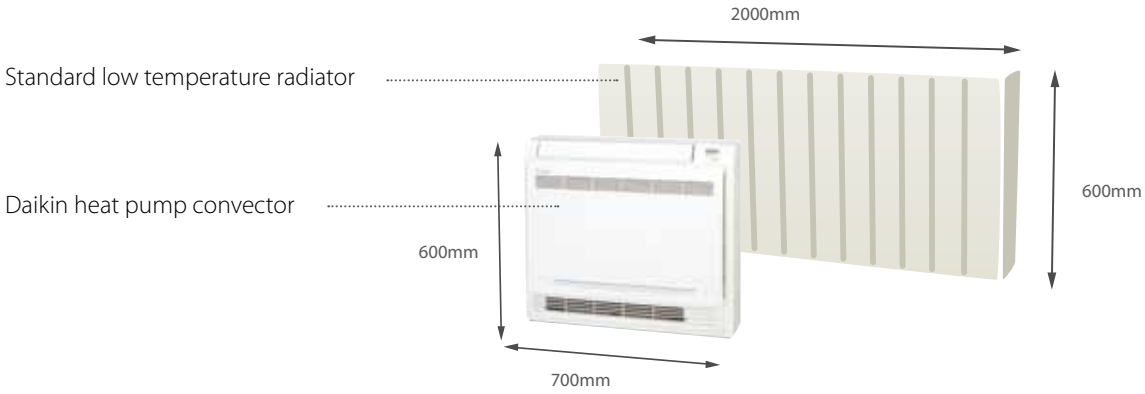
- Setting the temperature of the room based on measurements from the built-in or external sensor
- Cooling and heating mode
- Off function (with integrated frost-protection function)
- Holiday function mode
- Comfort and reduced function modes
- Time (day and month)
- Programmable week-timer with 2 user 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

4. 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

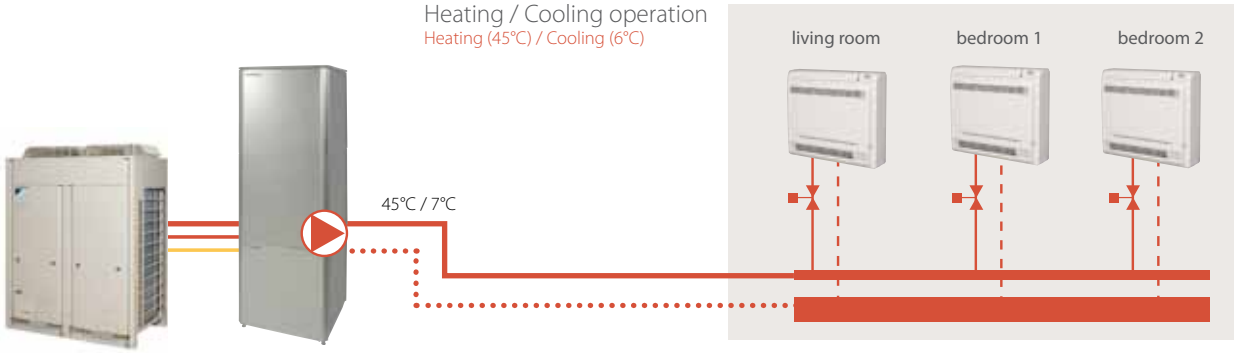


- Low sound level down to 19 dB(A), optimal for bedroom applications
- High-capacity cooling with water temperatures down to 6° C

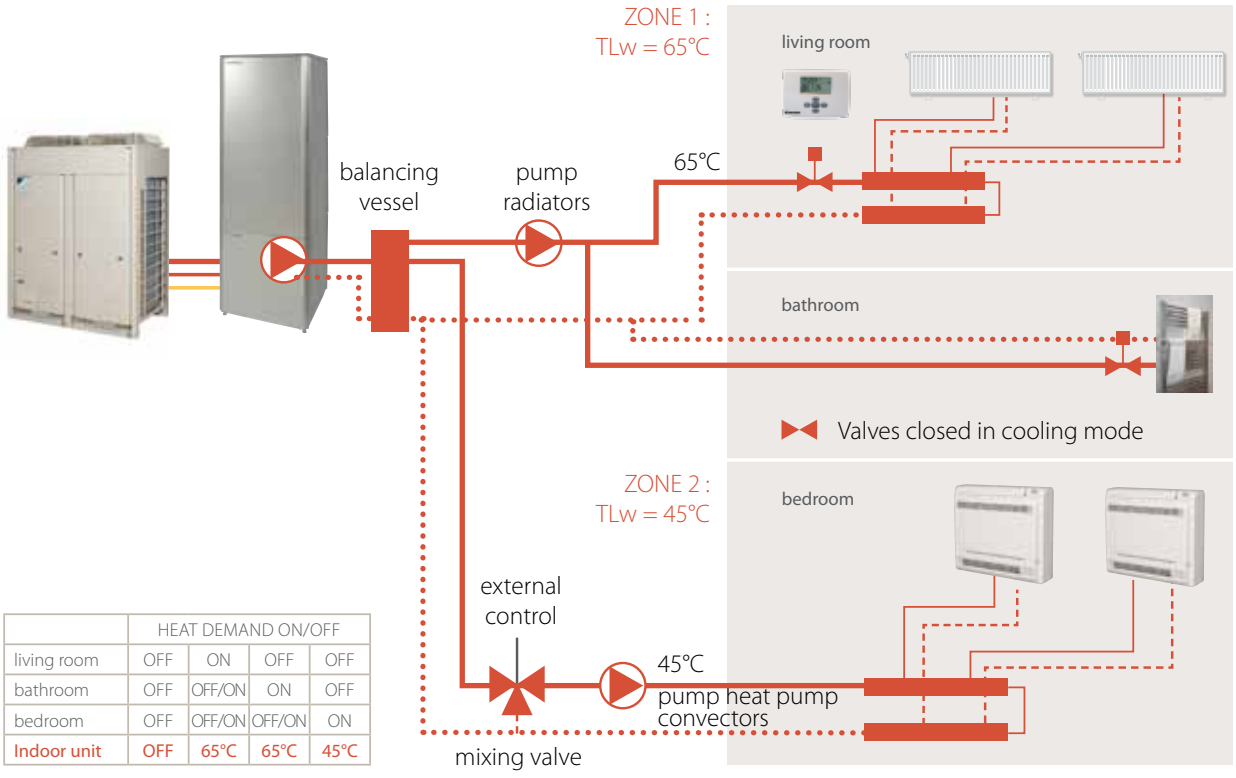
Control

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

At your service, with the Daikin selection

Daikin worked out three selection tools for an accurate estimation of your specific project and doing so Daikin provides a maximum of comfort, even in the early stage of choosing! / even when considering the options!

Make a quick estimation of savings on running costs and savings on CO_2 emissions thanks to the **Energy Savings Calculator**. Then the Daikin Altherma **simulation software** provides for every specific application and appropriate heat pump selection based on the specific house and location details. And for new houses or renovations the Daikin Altherma **selection and simulation software** allows quick and easy identification of the optimal mix of components.

tools

1. ENERGY SAVINGS CALCULATOR

Daikin provides a web-based tool to give a quick estimation of savings on running costs and savings on CO_2 emissions. Based on a few inputs from the customer (location, house type, floor area, number of people), a comparison is made between the Daikin Altherma heat pump system and traditional heating systems. This comparison includes the space heating and domestic hot water heating. This is available for both new builds and refurbishment applications.
http://ecocalc.daikin.eu

2. SIMULATION SOFTWARE

The Daikin Altherma simulation software provides for every specific application and appropriate heat pump selection, taking into account the needs of the building and specific climate data. An installer can provide the following data:

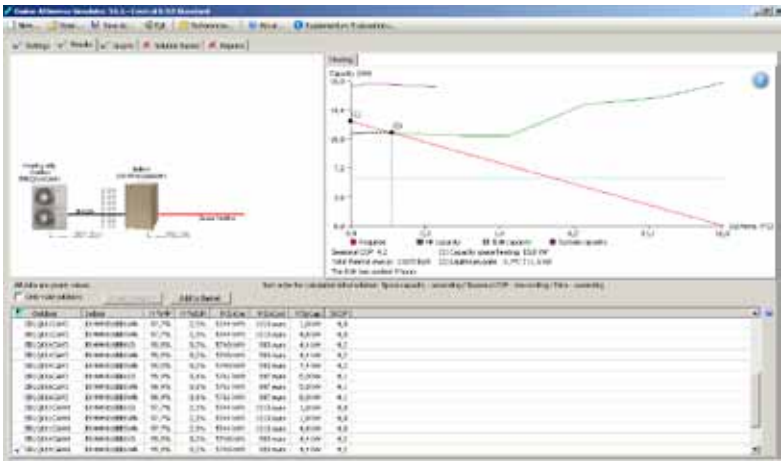
- house application: heat/cool load, water temperatures, power supply
- climate conditions: location, design temperature
- domestic hot water requirements: tank volume, material, solar connection
- preferences: "heating off" temperature, night setback function

Based on the specific house and location details, the software provides a full dimensioning assuring a correct material selection.

As well as a full material selection, the software provides detailed information for the installer and the end-user, on the expected outcome of the specified Daikin Altherma unit for its specific application and climate:

- seasonal efficiency of the heat pump system
- amount of back-up heater operation
- energy consumption and energy cost per month
- savings on running costs compared to traditional heating systems

All this information will be summarised in a detailed report.



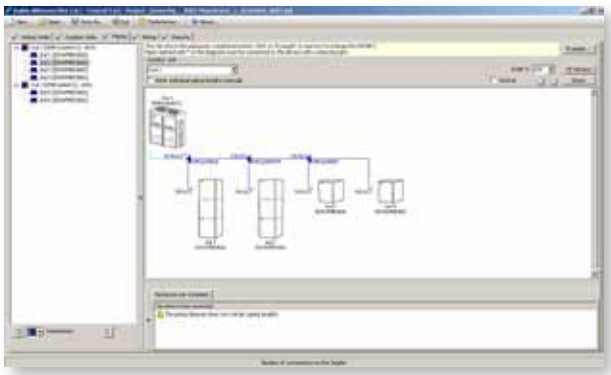
Check your local Daikin website for availability of this simulation software.

3. SELECTION AND DESIGN SOFTWARE FOR DAIKIN ALTHERMA FLEX TYPE

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

1. DAIKIN ALTHERMA LOW TEMPERATURE

HEATING ONLY

INDOOR UNIT					EHVH04S18C3V	EHVH08S18C3V	EHVH08S26C9W	EHVH16S18C3V	EHVH16S26C9W
Casing	Colour				White			White	
	Material				Precoated sheet metal			Precoated sheet metal	
Dimensions	Unit	HeightxWidthxDepth		mm	1,732x600x728			1,732x600x728	
Weight	Unit			kg	115	116	126	120	129
Operation range	Heating	Ambient	Min.~Max.	°C	-25~25			-25~25	-25~35
		Water side	Min.~Max.	°C	15~55			15~55	
	Domestic hot water	Ambient	Min.~Max.	°CDB	-25~35			-20~35	
		Water side	Min.~Max.	°C	25~60			25~60	
Sound power level	Nom.			dBA	42			47	
Sound pressure level	Nom.			dBA	28			33	

OUTDOOR UNIT				ERLQ004CV3	ERLQ006CV3	ERLQ008CV3	ERLQ011CV3/CW1	ERLQ014CV3/CW1	ERLQ016CV3/CW1
Heating capacity	Min.		kW	1.80[1] / 1.80[2]	1.80[1] / 1.80[2]	1.80[1] / 1.80[2]	-		
	Nom.		kW	4.40[1] / 4.03[2]	6.00[1] / 5.67[2]	7.40[1] / 6.89[2]	11.38	14.55	16.10
	Max.		kW	5.12[1] / 4.90[2]	8.35[1] / 7.95[2]	10.02[1] / 9.35[2]	-		
Power input	Heating	Nom.	kW	0.87[1] / 1.13[2]	1.27[1] / 1.59[2]	1.66[1] / 2.01[2]	2.64	3.43	3.83
COP				5.04[1] / 3.58[2]	4.74[1] / 3.56[2]	4.45[1] / 3.42[2]	4.31	4.24	4.20
Dimensions	Unit	HeightxWidthxDepth	mm	735x832x307			1,345x900x320		
Weight	Unit		kg	54	56		113 /114		
Operation range	Heating	Min.~Max.	°CWB	-25~25			-25~35		
	Domestic hot water	Min.~Max.	°CDB	-25~35			-20~35		
Refrigerant	Type			R-410A			R-410A		
	Charge		kg	1.45	1.60		3.4		
Sound power level	Heating	Nom.	dBA	61		62	64		66
Sound pressure level	Heating	Nom.	dBA	48		49	51		52
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230			V3/1~/50/230 // W1/3N~/50/400		
Current	Recommended fuses		A	20			40/20		

(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)

HEATING ONLY

INDOOR UNIT					EHVH16S18C3V	EHVH16S26C9W	EHVH16S18C3V	EHVH16S26C9W
Casing	Colour				White		White	
	Material				Precoated sheet metal		Precoated sheet metal	
Dimensions	Unit	HeightxWidthxDepth		mm	1,732x600x728		1,732x600x728	
Weight	Unit			kg	120	129	120	129
Operation range	Heating	Ambient	Min.~Max.	°C	-25~35		-25~35	
		Water side	Min.~Max.	°C	15~55		15~55	
	Domestic hot water	Ambient	Min.~Max.	°CDB	-20~35		-20~35	
		Water side	Min.~Max.	°C	25~60		25~60	
Sound power level	Nom.			dBA	47		47	
Sound pressure level	Nom.			dBA	33		33	

OUTDOOR UNIT				ERHQ011BV3	ERHQ014BV3	ERHQ016BV3	ERHQ011BW1	ERHQ014BW1	ERHQ016BW1
Heating capacity	Nom.		kW	11.2	14.0	16.0	11.32	14.50	16.05
Power input	Heating	Nom.	kW	2.55	3.26	3.92	2.63	3.42	3.82
COP				4.39	4.29	4.08	4.30	4.24	4.20
Dimensions	Unit	HeightxWidthxDepth	mm	1,170x900x320			1,345x900x320		
Weight	Unit		kg	103			108		
Operation range	Heating	Min.~Max.	°CWB	-20~35			-20~35		
	Domestic hot water	Min.~Max.	°CDB	-20~43			-20~43		
Refrigerant	Type			R-410A			R-410A		
	Charge		kg	3.7			2.95		
Sound power level	Heating	Nom.	dBA				64		66
Sound pressure level	Heating	Nom.	dBA	49	51	53	51		52
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230			W1/3N~/50/400		
Current	Recommended fuses		A	32			20		

HEATING & COOLING

INDOOR UNIT					EHVX04S18C3V	EHVX08S18C3V	EHVX08S26C9W	EHVX16S18C3V	EHVX16S26C9W
Casing	Colour				White			White	
	Material				Precoated sheet metal			Precoated sheet metal	
Dimensions	Unit	HeightxWidthxDepth		mm	1,732x600x728			1,732x600x728	
Weight	Unit			kg	115	117	126	121	129
Operation range	Heating	Ambient	Min.~Max.	°C	-25~25			-25~25	
		Water side	Min.~Max.	°C	15~55			15~55	
	Cooling	Ambient	Min.~Max.	°CDB	10~43			10~46	
		Water side	Min.~Max.	°C	5~22			5~22	
	Domestic hot water	Ambient	Min.~Max.	°CDB	-25~35			-20~35	
		Water side	Min.~Max.	°C	25~60			25~60	
Sound power level	Nom.			dBA	42			47	
Sound pressure level	Nom.			dBA	28			33	

OUTDOOR UNIT				ERLQ004CV3	ERLQ006CV3	ERLQ008CV3	ERLQ011CV3/CW1	ERLQ014CV3/CW1	ERLQ016CV3/CW1
Heating capacity	Min.		kW	1.80[1] / 1.80[2]	1.80[1] / 1.80[2]	1.80[1] / 1.80[2]	-		
	Nom.		kW	4.40[1] / 4.03[2]	6.00[1] / 5.67[2]	7.40[1] / 6.89[2w]	11.38	14.55	16.10
	Max.		kW	5.12[1] / 4.90[2]	8.35[1] / 7.95[2]	10.02[1] / 9.53[2]	-		
Cooling capacity	Min.		kW	2.00[1] / 2.00[2]	2.50[1] / 2.50[2]	2.50[1] / 2.50[2]	-		
	Nom.		kW	5.00[1] / 4.17[2]	6.76[1] / 4.84[2]	6.86[1] / 5.36[2]	11.72	12.55	13.12
Power input	Heating	Nom.	kW	0.87[1] / 1.13[2]	1.27[1] / 1.59[2]	1.66[1] / 2.01[2]	2.64	3.43	3.83
	Cooling	Nom.	kW	1.48[1] / 1.80[2]	1.96[1] / 2.07[2]	2.01[1] / 2.34[2]	4.31	5.09	5.74
COP				5.04[1] / 3.58[2]	4.74[1] / 3.56[2]	4.45[1] / 3.42[2]	4.31	4.24	4.20
EER				3.37[1] / 2.32[2]	3.45[1] / 2.34[2]	3.42[1] / 2.29[2]	2.72	2.47	2.29
Dimensions	Unit	HeightxWidthxDepth	mm	735x832x307			1,345x900x320		
Weight	Unit		kg	54	56		113/114		
Operation range	Heating	Min.~Max.	°CWB	-25~25			-25~35		
	Cooling	Min.~Max.	°CDB	10~43			10~46		
	Domestic hot water	Min.~Max.	°CDB	-25~35			-20~35		
Refrigerant	Type			R-410A			R-410A		
	Charge		kg	1.45	1.60		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	49	50	50	52	54
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230			V3/1~/50/230 // W1/3N~/50/400		
Current	Recommended fuses		A	20			40/20		

INVERTER

(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)

HEATING & COOLING

INDOOR UNIT					EHVX16S18C3V	EHVX16S26C9W	EHVX16S18C3V	EHVX16S26C9W
Casing	Colour				White		White	
	Material				Precoated sheet metal		Precoated sheet metal	
Dimensions	Unit	HeightxWidthxDepth		mm	1,732x600x728		1,732x600x728	
Weight	Unit			kg	121	129	121	129
Operation range	Heating	Ambient	Min.~Max.	°C	-25~35		-25~35	
		Water side	Min.~Max.	°C	15~55		15~55	
	Cooling	Ambient	Min.~Max.	°CDB	10~46		10~46	
		Water side	Min.~Max.	°C	5~22		5~22	
	Domestic hot water	Ambient	Min.~Max.	°CDB	-20~35		-20~35	
		Water side	Min.~Max.	°C	25~60		25~60	
Sound power level	Nom.			dBA	47		47	
Sound pressure level	Nom.			dBA	33		33	

OUTDOOR UNIT				ERHQ011BV3	ERHQ014BV3	ERHQ016BV3	ERHQ011BW1	ERHQ014BW1	ERHQ016BW1
Heating capacity	Nom.		kW	11.2	14.0	16.0	11.32	14.50	16.05
Cooling capacity	Nom.		kW	10.0	12.5	13.1	11.72	12.55	13.12
Power input	Heating	Nom.	kW	2.55	3.26	3.92	2.63	3.42	3.82
	Cooling	Nom.	kW	3.69	5.38	6.04	4.31	5.09	5.74
COP				4.39	4.29	4.08	4.30	4.24	4.20
EER				2.71	2.32	2.17	2.72	2.47	2.29
Dimensions	Unit	HeightxWidthxDepth	mm	1,170x900x320			1,345x900x320		
Weight	Unit		kg	103			108		
Operation range	Heating	Min.~Max.	°CWB	-20~35			-20~35		
	Cooling	Min.~Max.	°CDB	-			10~46		
	Domestic hot water	Min.~Max.	°CDB	-20~43			-20~43		
Refrigerant	Type			R-410A			R-410A		
	Charge		kg	3.7			2.95		
Sound power level	Heating	Nom.	dBA	-			64		66
	Cooling	Nom.	dBA	-			64	66	69
Sound pressure level	Heating	Nom.	dBA	49	51	53	51		52
	Cooling	Nom.	dBA	-			50	52	54
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230			W1/3N~/50/400		
Current	Recommended fuses		A	32			20		

INVERTER

HEATING ONLY

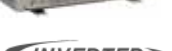
INDOOR UNIT					EHBH04C3V	EHBH08C3V	EHBH08C9W	EHBH16C3V	EHBH16C9W
Casing	Colour				White			White	
	Material				Precoated sheet metal			Precoated sheet metal	
Dimensions	Unit	HeightxWidthxDepth		mm	890x480x344			890x480x344	
Weight	Unit			kg	44	46	48	45	48
Operation range	Heating	Ambient	Min.~Max.	°C	-25~25			-25~35	
		Water side	Min.~Max.	°C	15~55			15~55	
	Domestic hot water	Ambient	Min.~Max.	°CDB	-25~35			-20~35	
		Water side	Min.~Max.	°C	25~80			25~80	
Sound power level	Nom.			dBA	40			47	
Sound pressure level	Nom.			dBA	26			33	

OUTDOOR UNIT					ERLQ004CV3	ERLQ006CV3	ERLQ008CV3	ERLQ011CV3/CW1	ERLQ014CV3/CW1	ERLQ016CV3/CW1
Heating capacity	Min.			kW	1.80[1] / 1.80[2]	1.80[1] / 1.80[2]	1.80[1] / 1.80[2]		-	
	Nom.			kW	4.40[1] / 4.03[2]	6.00[1] / 5.67[2]	7.40[1] / 6.89[2]	11.38	14.55	16.10
	Max.			kW	5.12[1] / 4.90[2]	8.35[1] / 7.95[2]	10.02[1] / 9.35[2]		-	
Power input	Heating	Nom.		kW	0.87[1] / 1.13[2]	1.27[1] / 1.59[2]	1.66[1] / 2.01[2]	2.64	3.43	3.83
COP					5.04[1] / 3.58[2]	4.74[1] / 3.56[2]	4.45[1] / 3.42[2]	4.31	4.24	4.20
Dimensions	Unit	HeightxWidthxDepth		mm	735x832x307			1,345x900x320		
Weight	Unit			kg	54	56		113 / 114		
Operation range	Heating	Min.~Max.		°CWB	-25~25			-25~35		
	Domestic hot water	Min.~Max.		°CDB	-25~35			-20~35		
Refrigerant	Type				R-410A			R-410A		
	Charge			kg	1.45	1.60		3.4		
Sound power level	Heating	Nom.		dBA	61		62	64		66
Sound pressure level	Heating	Nom.		dBA	48		49	51		52
Power supply	Name/Phase/Frequency/Voltage			Hz/V	V3/1~/50/230			V3/1~/50/230// W1/3N~/50/400		
Current	Recommended fuses			A	20			40/20		

(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)

HEATING ONLY

INDOOR UNIT					EHBH16C3V	EHBH16C9W	EHBH16C3V	EHBH16C9W
Casing	Colour				White		White	
	Material				Precoated sheet metal		Precoated sheet metal	
Dimensions	Unit	HeightxWidthxDepth		mm	890x480x344		890x480x344	
Weight	Unit			kg	45	48	45	48
Operation range	Heating	Ambient	Min.~Max.	°C	-25~35		-25~35	
		Water side	Min.~Max.	°C	15~55		15~55	
	Domestic hot water	Ambient	Min.~Max.	°CDB	-20~35		-20~35	
		Water side	Min.~Max.	°C	25~80		25~80	
Sound power level	Nom.			dBA	47		47	
Sound pressure level	Nom.			dBA	33		33	



OUTDOOR UNIT					ERHQ011BV3	ERHQ014BV3	ERHQ016BV3	ERHQ011BW1	ERHQ014BW1	ERHQ016BW1
Heating capacity	Nom.			kW	11.2	14.0	16.0	11.32	14.50	16.05
Power input	Heating	Nom.		kW	2.55	3.26	3.92	2.63	3.42	3.82
COP					4.39	4.29	4.08	4.30	4.24	4.20
Dimensions	Unit	HeightxWidthxDepth		mm	1,170x900x320			1,345x900x320		
Weight	Unit			kg	103			108		
Operation range	Heating	Min.~Max.		°CWB	-20~35			-20~35		
	Domestic hot water	Min.~Max.		°CDB	-20~43			-20~43		
Refrigerant	Type				R-410A			R-410A		
	Charge			kg	3.7			2.95		
Sound power level	Heating	Nom.		dBA	-			64		66
Sound pressure level	Heating	Nom.		dBA	49	51	53	51		52
Power supply	Name/Phase/Frequency/Voltage			Hz/V	V3/1~/50/230			W1/3N~/50/400		
Current	Recommended fuses			A	32			20		

HEATING & COOLING

INDOOR UNIT					EHBX04C3V	EHBX08C3V	EHBX08C9W	EHBX16C3V	EHBX16C9W
Casing	Colour				White			White	
	Material				Precoated sheet metal			Precoated sheet metal	
Dimensions	Unit	HeightxWidthxDepth		mm	890x480x344			890x480x344	
Weight	Unit			kg	44	46	48	45	48
Operation range	Heating	Ambient	Min.~Max.	°C	-25~25			-25~35	
		Water side	Min.~Max.	°C	15~55			15~55	
	Cooling	Ambient	Min.~Max.	°CDB	10~43			10~46	
		Water side	Min.~Max.	°C	5~22			5~22	
	Domestic hot water	Ambient	Min.~Max.	°CDB	-25~35			-20~35	
		Water side	Min.~Max.	°C	25~80			25~80	
Sound power level	Nom.			dBA	40			47	
Sound pressure level	Nom.			dBA	26			33	

OUTDOOR UNIT				ERLQ004CV3/CW1	ERLQ006CV3/CW1	ERLQ008CV3/CW1	ERLQ011CV3/CW1	ERLQ014CV3/CW1	ERLQ016CV3/CW1
Heating capacity	Min.		kW	1.80[1] / 1.80[2]	1.80[1] / 1.80[2]	1.80[1] / 1.80[2]	-		
	Nom.		kW	4.40[1] / 4.03[2]	6.00[1] / 5.67[2]	7.40[1] / 6.89[2]	11.38	14.55	16.10
	Max.		kW	5.12[1] / 4.90[2]	8.35[1] / 7.95[2]	10.02[1] / 9.53[2]	-		
Cooling capacity	Min.		kW	2.00[1] / 2.00[2]	2.50[1] / 2.50[2]	2.50[1] / 2.50[2]	-		
	Nom.		kW	5.00[1] / 4.17[2]	6.76[1] / 4.84[2]	6.86[1] / 5.3[2]	11.72	12.55	13.12
Power input	Heating	Nom.	kW	0.87[1] / 1.13[2]	1.27[1] / 1.59[2]	1.66[1] / 2.01[2]	2.64	3.43	3.83
	Cooling	Nom.	kW	1.48[1] / 1.80[2]	1.96[1] / 2.07[2]	2.01[1] / 2.34[2]	4.31	5.09	5.74
COP				5.04[1] / 3.58[2]	4.74[1] / 3.56[2]	4.45[1] / 3.42[2]	4.31	4.24	4.20
EER				3.37[1] / 2.32[2]	3.45[1] / 2.34[2]	3.42[1] / 2.29[2]	2.72	2.47	2.29
Dimensions	Unit	HeightxWidthxDepth	mm	735x832x307			1,345x900x320		
Weight	Unit		kg	54	56		113 / 114		
Operation range	Heating	Min.~Max.	°CWB	-25~25			-25~35		
	Cooling	Min.~Max.	°CDB	10~43			10~46		
	Domestic hot water	Min.~Max.	°CDB	-25~35			-20~35		
Refrigerant	Type			R-410A			R-410A		
	Charge		kg	1.45	1.60		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	49	50	50	52	54
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230			V3/1~/50/230 // W1/3N~/50/400		
Current	Recommended fuses		A	20			40/20		

INVERTER

(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)

HEATING & COOLING

INDOOR UNIT					EHBX16C3V	EHBX16C9W	EHBX16C3V	EHBX16C9W
Casing	Colour				White		White	
	Material				Precoated sheet metal		Precoated sheet metal	
Dimensions	Unit	HeightxWidthxDepth		mm	890x480x344		890x480x344	
Weight	Unit			kg	45	48	45	48
Operation range	Heating	Ambient	Min.~Max.	°C	-25~35		-25~35	
		Water side	Min.~Max.	°C	15~55		15~55	
	Cooling	Ambient	Min.~Max.	°CDB	10~46		10~46	
		Water side	Min.~Max.	°C	5~22		5~22	
	Domestic hot water	Ambient	Min.~Max.	°CDB	-20~35		-20~35	
		Water side	Min.~Max.	°C	25~80		25~80	
Sound power level	Nom.			dBA	47		47	
Sound pressure level	Nom.			dBA	33		33	

OUTDOOR UNIT				ERHQ011BV3	ERHQ014BV3	ERHQ016BV3	ERHQ011BW1	ERHQ014BW1	ERHQ016BW1
Heating capacity	Nom.		kW	11.2	14.0	16.0	11.32	14.50	16.05
Cooling capacity	Nom.		kW	10.0	12.5	13.1	11.72	12.55	13.12
Power input	Heating	Nom.	kW	2.55	3.26	3.92	2.63	3.42	3.82
	Cooling	Nom.	kW	3.69	5.38	6.04	4.31	5.09	5.74
COP				4.39	4.29	4.08	4.30	4.24	4.20
EER				2.71	2.32	2.17	2.72	2.47	2.29
Dimensions	Unit	HeightxWidthxDepth	mm	1,170x900x320			1,345x900x320		
Weight	Unit		kg	103			108		
Operation range	Heating	Min.~Max.	°CWB	-20~35			-20~35		
	Cooling	Min.~Max.	°CDB	-			10~46		
	Domestic hot water	Min.~Max.	°CDB	-20~43			-20~43		
Refrigerant	Type			R-410A			R-410A		
	Charge		kg	3.7			2.95		
Sound power level	Heating	Nom.	dBA	-			64		66
	Cooling	Nom.	dBA	-			64	66	69
Sound pressure level	Heating	Nom.	dBA	49	51	53	51		52
	Cooling	Nom.	dBA	-			50	52	54
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230			W1/3N~/50/400		
Current	Recommended fuses		A	32			20		

INVERTER

HEATING & COOLING MONOBLOC SYSTEM

INVERTER

OUTDOOR UNIT					EBHQ006BV3	EBHQ008B V3
Heating capacity	Nom.			kW	6.00[1] 5.58[2]	8.85[1] 8.15[2]
Cooling capacity	Nom.			kW	7.00[1] 5.12[2]	8.37[1] 6.08[2]
Power input	Heating	Nom.		kW	1.41[1] 1.79[2]	2.21[1] 2.72[2]
	Cooling	Nom.		kW	2.20[1] 2.16[2]	2.97[1] 2.75[2]
COP					4.26[1] 3.11[2]	4.00[1] 3.00[2]
EER					3.18[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 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					EKCV(B/H)008BBV3
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 ~35

HEATING ONLY MONOBLOC SYSTEM SINGLE PHASE

INVERTER

OUTDOOR UNIT WITH BOTTOM PLATE HEATER					EDLQ011BB6V3	EDLQ014BB6V3	EDLQ016BB6V3
OUTDOOR UNIT 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	2.56[1] / 3.31[2]	3.29[1] / 4.01[2]	3.88[1] / 4.71[2]
COP					4.38[1] / 3.28[2]	4.25[1] / 3.27[2]	4.12[1] / 3.20[2]
Dimensions	Unit	Height X Width X Depth		mm	1,418 X 1,435 X 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	EDLQ: -20~35 / EDHQ: -15~35		
		Water side	Min.~Max.	°C	15 ~55		
	Domestic hot water	Ambient	Min.~Max.	°CDB	EDLQ: -20~43 / EDHQ: -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		

(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)

HEATING ONLY MONOBLOC SYSTEM THREE PHASE

INVERTER

OUTDOOR UNIT WITH BOTTOM PLATE HEATER					EDLQ011BB6W1	EDLQ014BB6W1	EDLQ016BB6W1
OUTDOOR UNIT WITHOUT BOTTOM PLATE HEATER					EDHQ011BB6W1	EDHQ014BB6W1	EDHQ016BB6W1
Heating capacity	Nom.			kW	11.20[1] / 10.87[2]	14.00[1] / 13.1[2]	16.00[1]) / 15.06[2]
Power input	Heating	Nom.		kW	2.60[1]/ 3.21[2]	3.30[1] / 4.07[2]	3.81[1] / 4.66[2]
COP					4.31[1] / 3.38[2]	4.24[1] / 3.22[2]	4.20[1] / 3.23[2])
Dimensions	Unit	Height X Width X Depth		mm	1,418 X 1,435 X 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	EDLQ: -25~35 / EDHQ: -15~35		
		Water side	Min.~Max.	°C	15 ~55		
	Domestic hot water	Ambient	Min.~Max.	°CDB	EDLQ: -25~43 / EDHQ: -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)

HEATING & COOLING MONOBLOC SYSTEM 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[2]	15.99[1] / 12.50[2]	16.73[1] / 13.10[2]
Power input	Cooling	Nom.		kW	3.87[1] / 3.69[2]	5.75[1] / 5.39[2]	6.36[1] / 5.93[2]
	Heating	Nom.		kW	2.56[1] / 3.31[2]	3.29[1] / 4.01[2]	3.88[1] / 4.71[2]
COP					4.38[1] / 3.28[2]	4.25[1] / 3.27[2]	4.12[1] / 3.20[2]
EER					3.32[1] / 2.71[2]	2.78[1] / 2.32[2]	2.63[1] / 2.21[2]
Dimensions	Unit	Height X Width X Depth		mm	1,418 X 1,435 X 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	EBLQ: -20~35 / EBHQ: -15~35		
		Water side	Min.~Max.	°C	15~55		
	Cooling	Ambient	Min.~Max.	°CDB	10~46		
		Water side	Min.~Max.	°C	5~22		
	Domestic hot water	Ambient	Min.~Max.	°CDB	EBLQ: -20~43 / EBHQ: -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	5		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)

HEATING & COOLING MONOBLOC SYSTEM THREE PHASE

INVERTER

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	3.87[1] / 3.69[2]	5.40[1]/ 5.06[2]	6.15[1] / 5.75[2]
	Heating	Nom.		kW	2.60[1] / 3.21[2]	3.30[1] / 4.07[2]	3.81[1] / 4.66[2]
COP					4.31[1] / 3.38[2]	4.24[1] / 3.22[2]	4.20[1] / 3.23[2]
EER					3.32[1] / 2.71[2]	2.96[1] / 2.47[2]	2.72[1] / 2.28[2]
Dimensions	Unit	Height X Width X Depth		mm	1,418 X 1,435 X 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	EBLQ: -25~35 / EBHQ: -15~35		
		Water side	Min.~Max.	°C	15~55		
	Cooling	Ambient	Min.~Max.	°CDB	10~46		
		Water side	Min.~Max.	°C	5~22		
	Domestic hot water	Ambient	Min.~Max.	°CDB	EBLQ: -25~43 / EBHQ: -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				FWXV20A	FWXV15A
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.

2. DAIKIN ALTHERMA HIGH TEMPERATURE

INDOOR UNITS

INDOOR UNITS					EKHBRD011ACV1	EKHBRD014ACV1	EKHBRD016ACV1	EKHBRD011ACY1	EKHBRD014ACY1	EKHBRD016ACY1
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 46	45 46	46 46	43[1] 46[2]	45[1] 46[2]	46[1] 46[2]
	Night quiet mode	Level 1		dBA	40	43	45	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

OUTDOOR UNITS

INVERTER

WITH BOTTOM PLATE HEATER				ERRQ011AV1	ERRQ014AV1	ERRQ016AV1	ERRQ011A	ERRQ014A	ERRQ016A
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		

WITHOUT BOTTOM PLATE HEATER				ERSQ011A	ERSQ014A	ERSQ016A	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)

3. 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

					EKHBRD011ACV1	EKHBRD014ACV1	EKHBRD016ACV1	EKHBRD011ACY1	EKHBRD014ACY1	EKHBRD016ACY1
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

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	°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 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		°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.

SEASONAL EFFICIENCY

Today, Daikin leads the way towards more efficient, cost-effective and environmentally friendly comfort solutions, introducing products optimised for all seasons. In fact, Daikin products reduce energy and costs in a smart way. They are designed to perform under all conditions and reflect the actual performance you can expect over an entire heating and cooling season. So, with Daikin you make the right choice for your wallet... and the environment.

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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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