DAIKIN

altherma

The natural choice

INSTALLER CATALOGUE

DAIKIN ALTHERMA

LOW TEMPERATURE

HEAT PUMP

DAIKIN ALTHERMA

LOW TEMPERATURE

Brand new

4

THE NEW DAIKIN ALTHERMA
LOW TEMPERATURE HEAT PUMP,
AN INNOVATIVE PRODUCT RANGE,
DESIGNED TO DELIVER ONLY THE BEST
IN CLIMATE CONTROL

you

Best seasonal efficiencies,
providing the highest savings on running costs

- excellent COP ratings for incentive and certification schemes
- no need for or only very limited use of electrical assistance
- best efficiencies achieved within the most relevant temperature range

p. 6

4 benefits

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

- custom-made product for very low heat loads
- build to withstand most severe winter conditions
- heating, cooling and domestic hot water in one system

p. 14

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

- all components and connections factory-made
- very small installation footprint required
- minimum electrical input with constant availability of hot water

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New control panel:
easy to use, commission and service

- self-explanatory controller for easy and quick commissioning
- possibility of preparing and uploading field setting via a PC
- feedback on operation conditions and energy consumption

p. 30

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.

Best seasonal

providing the **highest savings** on **running costs**

efficiencies

1. LOW RUNNING COSTS: HIGH HEAT PUMP EFFICIENCIES AT ALL OUTDOOR AND WATER TEMPERATURES

Daikin Altherma low temperature uses a range of efficient compressors, limiting electrical inputs to its maximum. This results in optimal efficiencies at several rated conditions, providing excellent ratings, complying with incentive and certification schemes (e.g. EPBD regulations) throughout Europe.

Each capacity class has an individually sized compressor, dimensioned to provide optimal efficiencies per capacity range. This avoids having an over-dimensioned compressor, leading to lower seasonal efficiencies.
For example, the compressor of the new 4kW class is designed to work at optimal frequencies, delivering the low capacities needed by houses with low heat loads.

In addition to its efficient compressor range, the Daikin Altherma optimises efficiency at all outside and water temperatures with the use of:

- a pressure sensor for detailed measurement of condensing pressure level to evaluate the optimal amount of subcool.
- an individual dimensioned plate heat exchanger per capacity class, to offer optimal efficiencies per capacity range.

SWING SCROLL

- Low-capacity 4-8kW range is equipped with swing compressor: integration of main moving parts in one component, assuring no abrasion and no refrigerant leakages, guaranteeing optimal reliability and efficiency;
- High-capacity 11-16kW range is equipped with scroll compressors: quiet, compact and robust, guaranteeing optimal operational reliability (no valves and built-in swing-link coupling) and efficiency (through a low initial flow and a constant compression ratio).

The seasonal efficiency (also called SCOP) of a heat pump is the average efficiency over a whole year, taking into account specific climatic conditions and house specifications (heat load, required water temperatures, etc.). This means the SCOP value can be seen as the real operating efficiency of a heat pump system, taking into account all the required inputs and specific application conditions.

$$\text{Heat pump efficiency} = \text{SCOP} = \frac{\text{heating output / year}}{\text{electricity input / year}}$$

The total heating output per year is defined by the climatic conditions and house specifications and is independent to the type of heating system. The total electricity input per year is the critical parameter as this is what the customer pays for.

2. GUARANTEED PERFORMANCES: HIGH HEATING CAPACITIES DOWN TO LOW OUTSIDE TEMPERATURE

Daikin Altherma low temperature maintains its high heating capacities down to low outdoor temperatures.

The electrical back-up heater assistance is no longer required or only very limited.

These high heating capacities, available on the whole Daikin Altherma low temperature 4kW-16kW range, are achieved thanks to the combination of:

- Optimised controls to achieve higher frequency of use at low outdoor temperatures
- Liquid injection to avoid too high discharge temperatures when high water temperatures are required at low outdoor temperatures
- Perfectly dimensioned plate heat exchangers to maximise the heat exchange surface

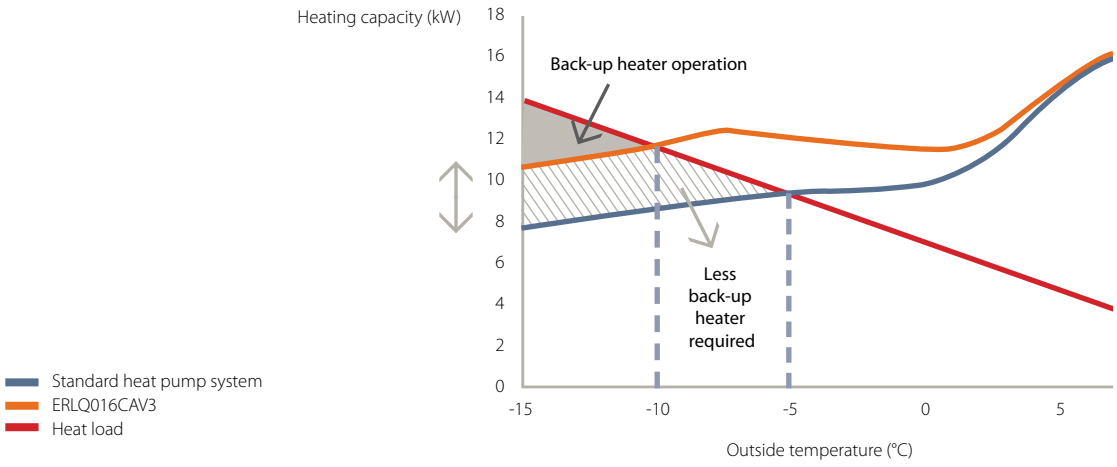
This is illustrated by a typical application in Munich

Typical application:

- Location: Munich
- Design temperature: -15°C
- Heat load: 14kW
- Heating off temperature: 16°C

A comparison is made between a standard low-temperature air-to-water heat pump system, and the new Daikin Altherma units (ERLQ-C range – 11-16kW):

- New range delivers around 3kW additionally at -15°C (+40%)
- Equilibrium temperature shifts from -5°C to -10°C
- Operation of electrical assistance (BUH) is very limited



3. MINIMUM ENERGY CONSUMPTION: DAIKIN INVERTER COMPRESSORS WITH HIGH MODULATING RANGE

When the heat load is lower than the maximum capacity of the heat pump system, the compressor can turn in partial load operation. This reduced compressor frequency results in:

- Higher compressor efficiency in partial load operation
- Delivered capacities exactly matching the actual heating demand of the building
- Obtaining the capacities needed with minimum energy consumption
- Less on/off operation, increasing the operation life cycle of the compressor

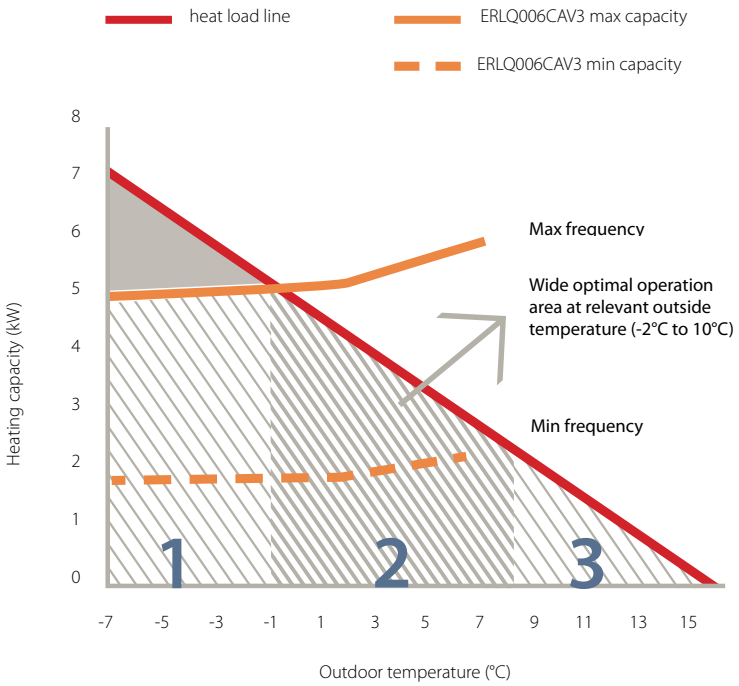
The new Daikin Altherma low temperature has a high modulating range, meaning the compressor can modulate down to low frequencies to offer the highest efficiencies over the relevant temperature range.

Each inverter compressor has a certain maximum and minimum frequency, and works in between the optimal operation area with the highest operating efficiencies. This is illustrated by the graph bellow.

1 Heat load > max capacity: full load
Compressor will operate at 100% frequency, with additional electrical assistance if required

2 **Max capacity > heat load > min capacity: partial load compressor will reduce its frequency delivering the capacities required by the house, with high operating efficiencies** → Optimal operation area

3 Min capacity > heat load: partial load with on/off
Compressor will work at its minimum frequency with high operating efficiencies, but switching on/off to deliver the capacities required



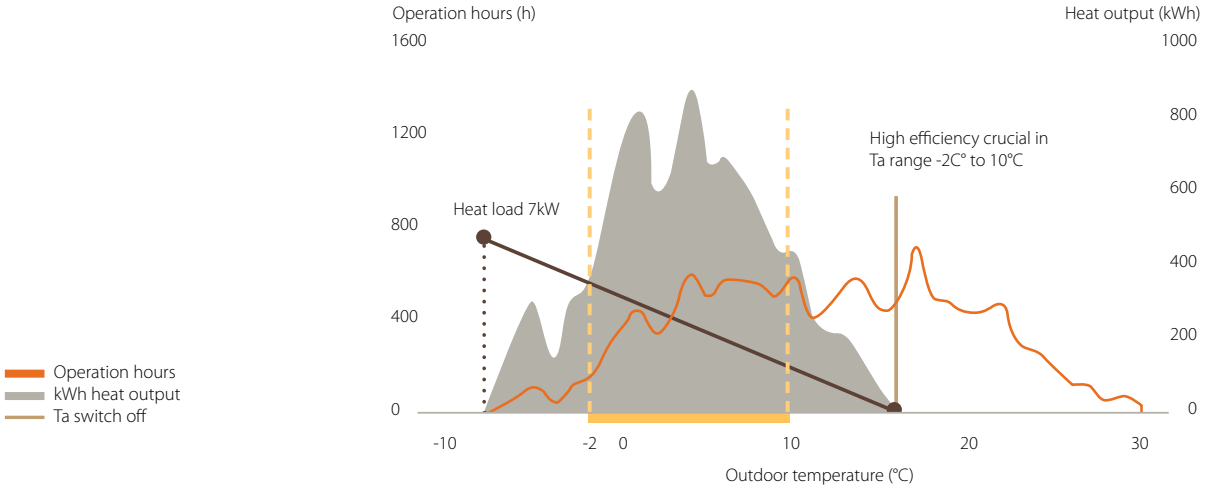
The partial load operation and optimal operation area can be illustrated by a typical application in Paris

Typical application:

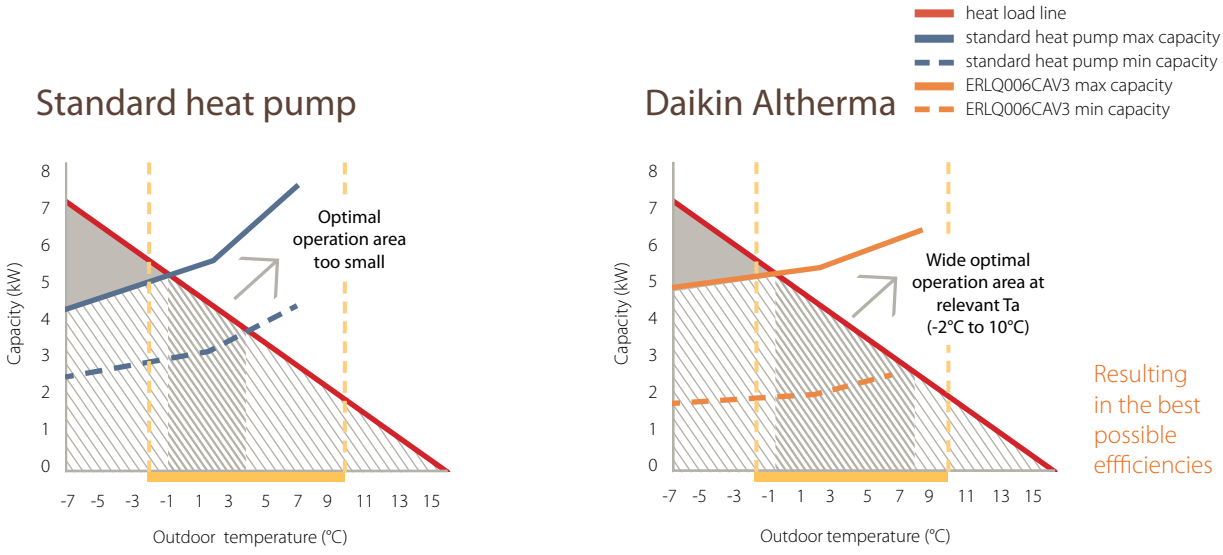
- Location: Paris
- Design temperature: -7°C
- Heat load: 7kW
- Heating off temperature: 16°C

Efficient partial-load operation is especially important for the temperature range where the highest heat output is required. Typically, 80% of the total heat output is required in an outdoor temperature range of -2°C to 10°C. Achieving high efficiencies in this temperature range, contributes strongly to high seasonal efficiencies.

- Largest part of heat output delivered at optimal efficiencies
- Less on/off operation when heat load becomes lower than the minimum capacity the heat pump can deliver, optimising efficiency and comfort



- Modulating range doubled vs standard air-to-water heat pumps
- New range delivers around 1kW additional in full-load condition at -7°C (+25%)



4. SMART HEATING CONTROLS

The combined effect of the Daikin Altherma weather-dependent set-point control and the Daikin Altherma inverter compressors maximises the efficiency at each outdoor temperature, assuring stable room temperatures.

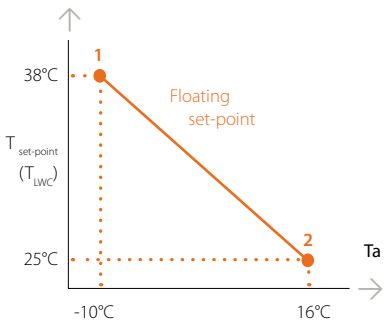
1 Weather-dependent set-point control: Daikin Altherma maximises efficiency at every outdoor temperature through its weather-dependent set-point control. This control logic will always keep the water temperatures as low as possible, to maximise the heat pump efficiency for each specific outdoor temperature. This results in:

- Higher heat pump efficiency with lower water temperatures
- No unnecessary overheating, thereby delivering the temperatures required
- Continuous heating at lower water temperatures, providing stable room temperatures

2 Inverter technology: lowering the compressor frequency with increasing outdoor temperatures, thus increasing the efficiency

The example shown is for a typical application using under-floor heating:

- A water temperature of 38°C is required at a design temperature of -10°C (1)
- A water temperature of only 25°C is required at a space heating off temperature of 16°C (2)
- For temperatures between -10°C and 16°C, the Daikin Altherma unit calculates the required water temperature, to guarantee maximum efficiency, with continuous heating, at each outdoor temperature.



5. OPTIMAL USE OF ENERGY LIMITING ELECTRICAL INPUTS OF AUXILIARY COMPONENTS

In addition to limiting the electrical input of the compressor and the electrical back-up heater, Daikin pays special attention to limiting electrical inputs of auxiliary components. This also contributes to the high seasonal efficiencies achieved by the Daikin Altherma range.

- Factory-mounted high efficiency circulating pump already qualifying for future regulations (ErP2015) with an A-energy label (EEI ≤ 0.23)
- No standby losses of inverter drive PCB, lowering electricity consumption during standby mode
- No bottom plate heater needed on 4-8kW class
- Low-capacity bottom plate heater on 11-16kW class (ERLQ-C series), only operating during defrost cycles, results in 90% less electricity consumption when compared with standard thermostatic controlled bottom plate heaters.

=> Thanks to all these improvements, COP of up to 5.04* is reached

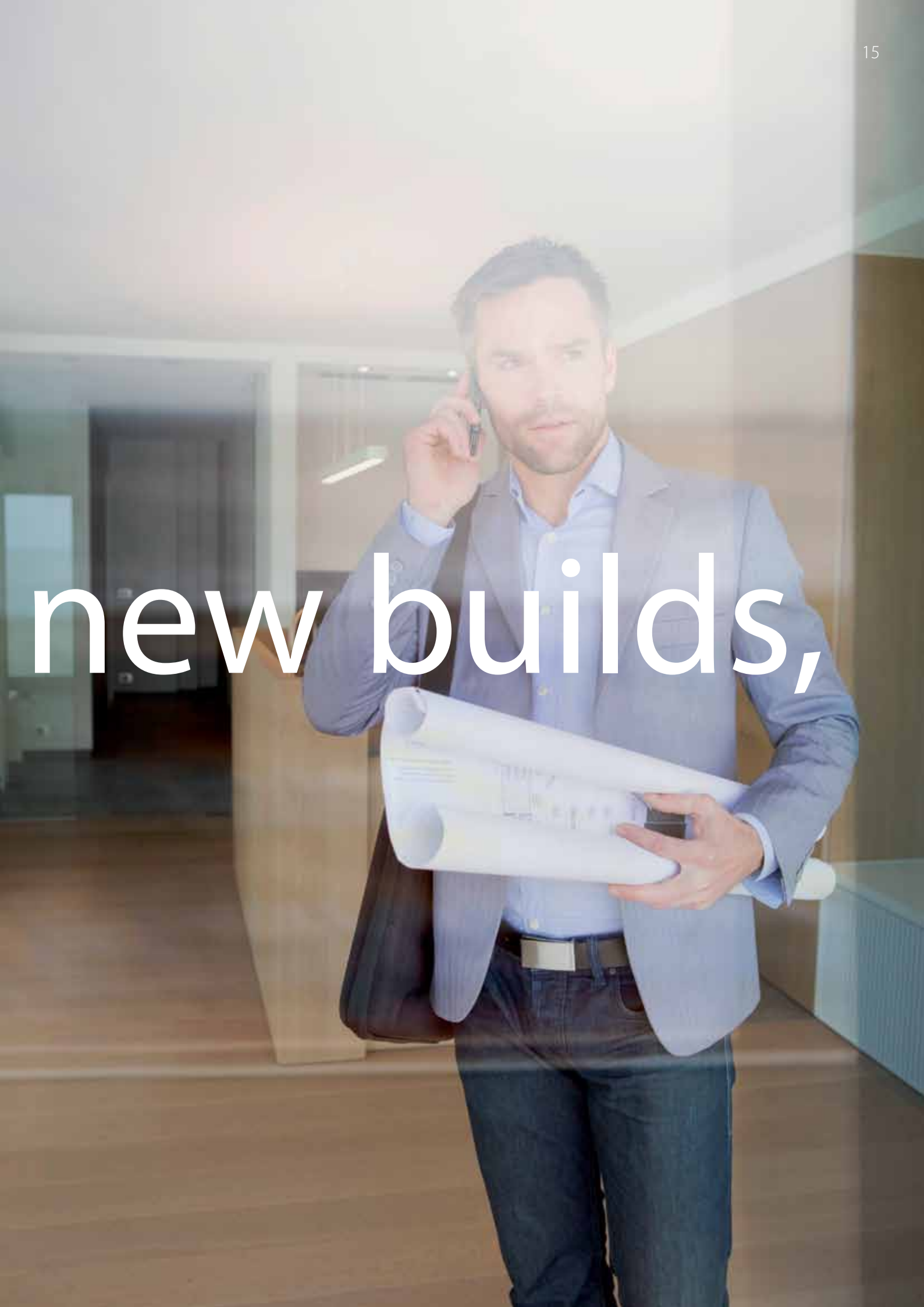
* EHV(H/X)04C or EHB(H/X)04C with ERLQ004CV3 (Ta DB/WB 7°C/6°C - LWC 35°C (DT=5°C))

Applicable units: 4-8kW Location: Munich (Germany)	Advantage compared to tradional HP system	Conditions	Operating hours per year	Yearly benefit
High efficiency circulating pump	75W less	according to EN14511	5300 hours	398 kWh
No standby losses inverter drive PCB	20W less	in standby mode	3400 hours	70 kWh
No bottom plate heater	60W less	when Ta below 4°C	2800 hours	170 kWh

Applicable units: 11-16kW Location: Munich (Germany)	Advantage compared to tradional HP system	Conditions	Operating hours per year	Yearly benefit
High efficiency circulating pump	90W less	according to EN14511	5300 hours	477 kWh
No standby losses inverter drive PCB	20W less	in standby mode	3400 hours	70 kWh
Low capacity bottom plate heater	60W less + smart logic	when Ta below 4°C	2800 hours	160 kWh

Perfect fit for
as well as for low energy houses

The Daikin Altherma low temperature 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.


new builds,

1. OPTIMISED UNIT FOR LOW HEAT LOADS

The new Daikin Altherma low temperature is designed to meet the requirements of newly built and low-energy houses characterised by low heat loads.

The low capacity 4kW unit with its high modulating range offers optimal efficiency in most relevant outdoor temperature ranges by combining compressors and plate heat exchangers that have been specificaly designed for smaller heat loads.

The new-build house market in Europe is moving towards smaller heat loads, due to :

1. Growing importance of low- energy houses
2. Strengthened legislation on energy consumption in new residential constructions (e.g. EPBD regulations)
3. Decreasing size of new- build houses
4. EU member states planning to reach their 20-20-20 targets

With the new 4kW unit, Daikin Altherma low temperature offers a full product line-up with a specifically dimensioned heat pump system (compressor, modulating range, plate heat exchanger, …) to deliver the required capacities for the house, with the best possible efficiencies.

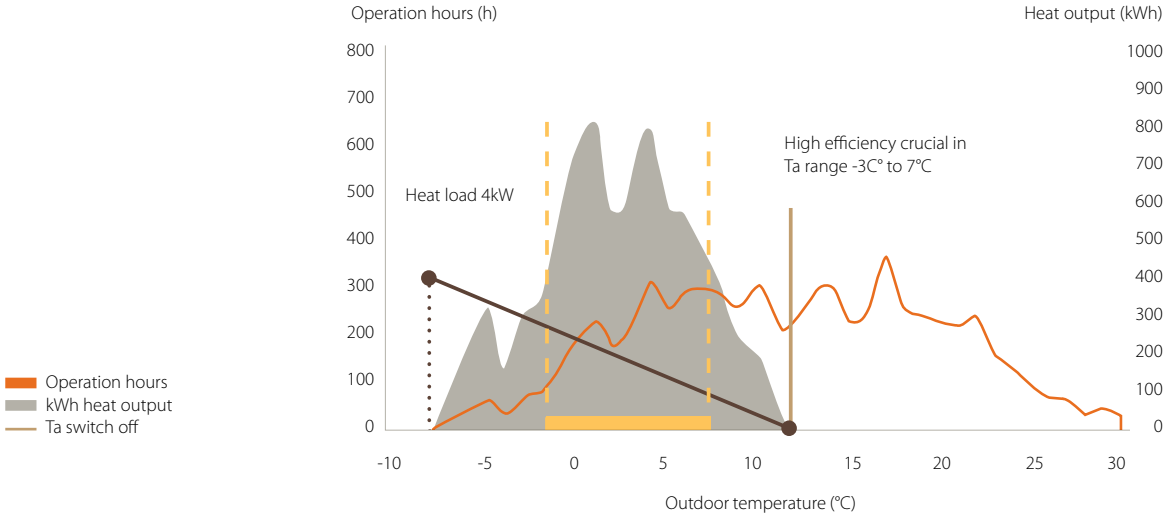
The new Daikin Altherma 4kW unit is developed and dimensioned to reach optimal efficiencies at the most relevant temperature range, thanks to its high modulating range.

This is illustrated by the practical example below

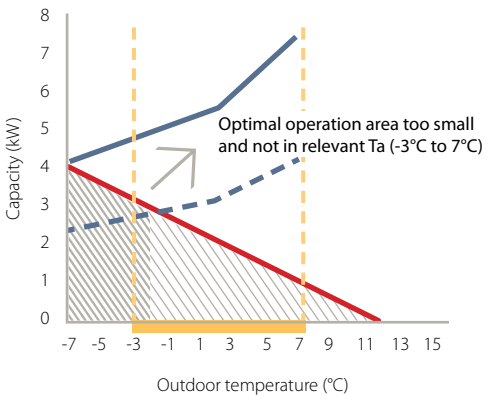
Typical application:

- Location: Paris
- Design temperature: -7°C
- Heat load: 4kW
- Heating off temperature: 12°C

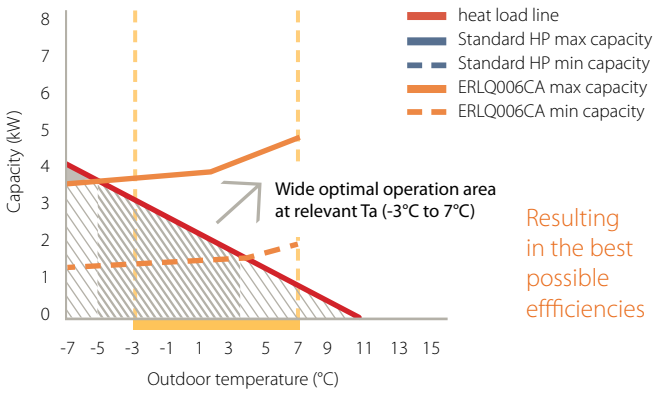
Low-energy houses have a lower space heating off temperature (12°C) than normal insulated houses (16°C). This means that the most relevant outdoor temperature-range for low-energy houses, shifts towards lower temperatures. A typical low-energy house (see details below) has 80% of its total heat output in the outdoor temperature range of -3°C to 7°C.



Standard heat pump



Daikin Altherma



Resulting in the best possible effficiencies

2. MAXIMUM COMFORT

Daikin Altherma
low temperature:
one system for optimal
year-round comfort

Optimal comfort conditions:

Keeping the house at the desired temperature the whole year, with both heating and cooling possible

- Only one outdoor unit required to provide heating and cooling
- Same emitters can be used for heating and cooling (Daikin heat pump convector or under-floor system)

Stable room temperatures:

The combined effect of the Daikin inverter compressors and weather-dependent set-point control guarantees a continuous heating operation.

With higher outdoor temperature, the water temperature will be lowered and the frequency of the compressor reduced, in order to ensure a continuous heating operation, providing stable room temperature.

Room thermostat:

The Daikin user interface can be installed in the living room using the room thermostat function, which can additionally lower or raise the set-point water temperature in function of actual room temperature, to even better match the set-point room temperature.

3. CONNECTABLE HEAT EMITTERS

The Daikin Altherma low temperature has an operation range up to 55°C leaving water temperature, allowing for connection to all types of low-temperature heat emitters.

Under-floor heating 25°C → 35°C

Heat pump convector 35°C → 45°C

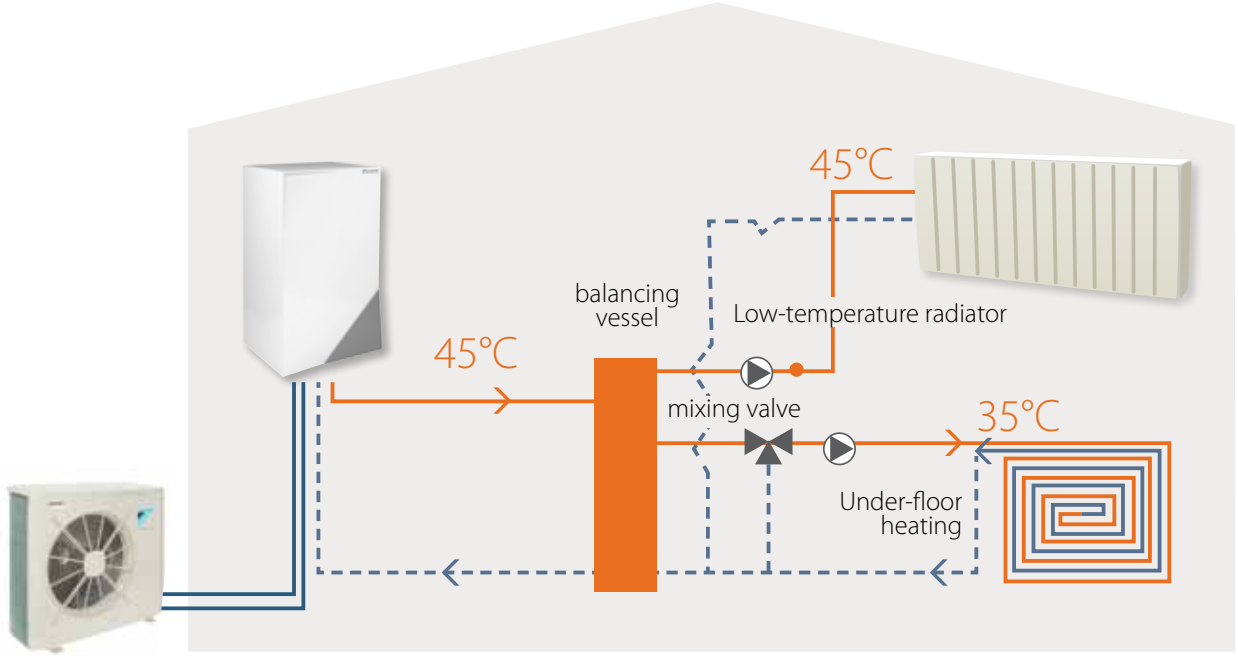
The Daikin heat pump convector is specifically designed to offer optimal efficiencies and comfort for residential applications.

- Small dimensions compared to low-temperature radiators
- Low sound level, optimal for bedroom applications (down to 19 dBA)
- High-capacity cooling with water temperatures down to 6° C

Low-temperature radiators 40°C → 55°C

Thanks to the multiple set-point function, a combination of different types of heat emitters operating at different water temperatures is possible. When there is no heating request from the higher temperature zone, the water temperature will be lowered to the temperature required by the low temperature zone. This ensures keeping the water temperatures as low as possible, while always guaranteeing the highest efficiency.

	Tset	Thermo status			
Space 1 low-temperature radiator	45°C	OFF	ON	ON	OFF
Space 2 under-floor heating	35°C	OFF	ON	OFF	ON
Heat pump		OFF	45°C	45°C	35°C



4. GUARANTEED OPERATION: DAIKIN ALTHERMA IS SUITABLE FOR ALL CLIMATES, EVEN WITHSTANDING SEVERE WINTER CONDITIONS

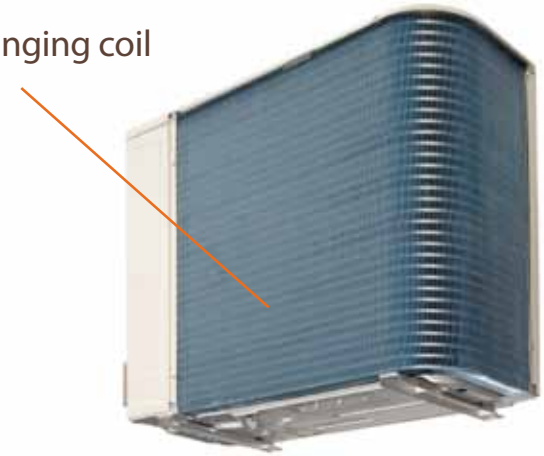
Daikin is renowned for its know-how related to frost protection on its heat pump range. The outdoor units are specifically designed to avoid ice build-up problems, even in the most severe winter conditions.

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 that 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 grille is also specifically designed to avoid ice accumulation.

Free hanging coil



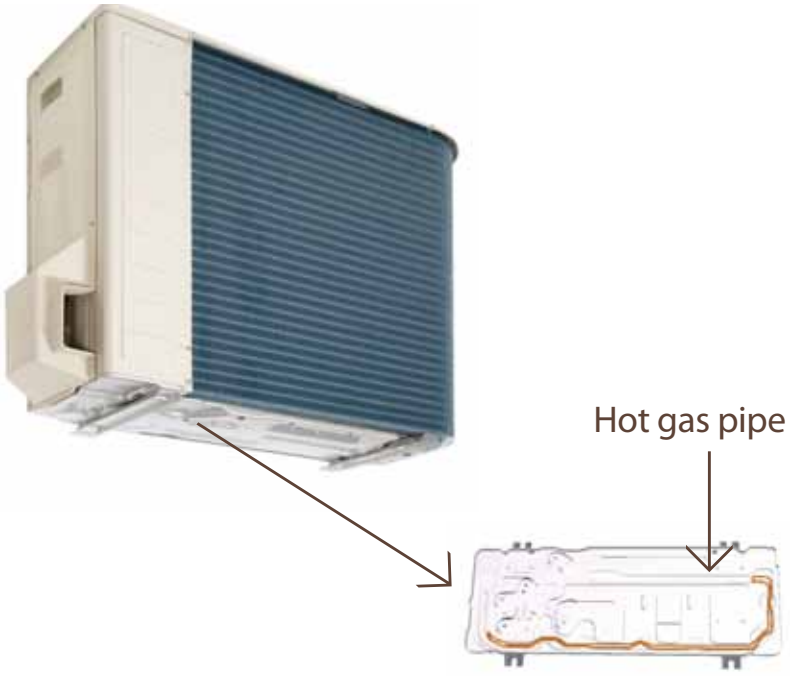
This adequate frost protection results in one product offering throughout Europe, from the south of Spain to the north of Finland.

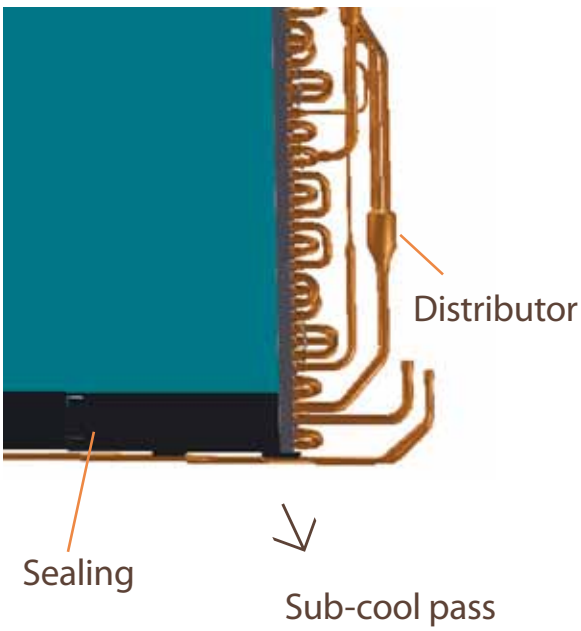
New discharge grille

2. The 11-16kW range of Daikin Altherma (ERLQ-C) 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.





Integrated heating and

saving installation space and time

all in ONE

hot water unit,

The new Daikin Altherma low temperature integrated indoor unit is an all-in-one 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 a combination with thermal solar energy is preferred.

1. EASIEST AND FASTEST INSTALLATION, DOMESTIC HOT WATER TANK INCLUDED

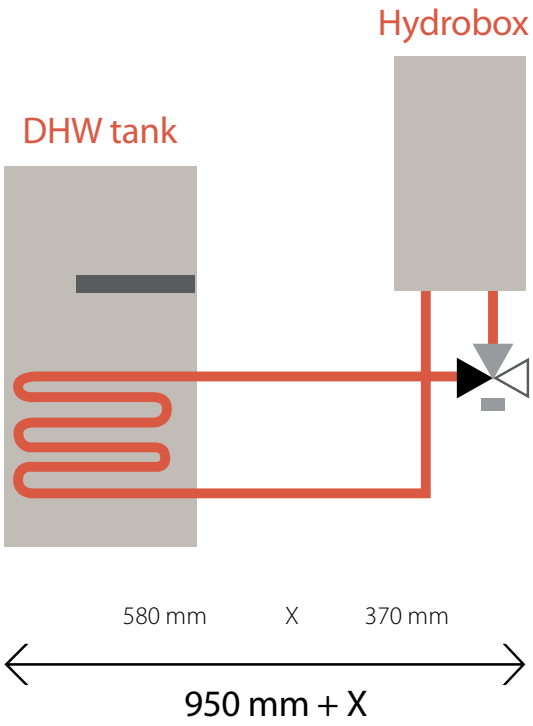
- The stainless steel domestic hot water tank is included in the unit, with all connections between heat pump module and tank factory made. This allows for a fast installation compared to a traditional set-up (wall-mounted with separate domestic hot water tank) with only water and refrigerant pipes to 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

2. SPACE SAVING: COMPACT INDOOR UNIT WITH SLEEK DESIGN

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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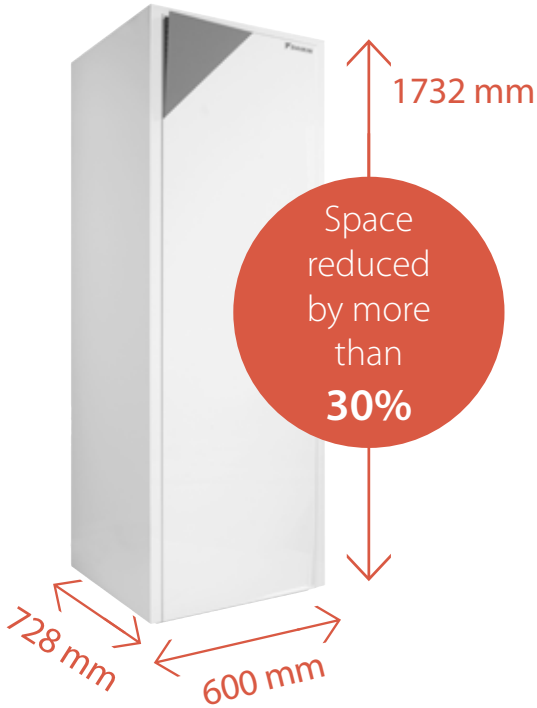

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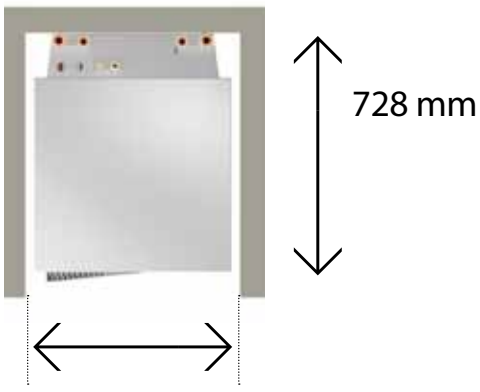


Smaller footprint: with a width of only 600 mm and a depth of 728 mm, the integrated indoor unit has a similar footprint compared to other household appliances.

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.

3. BEST SOLUTION FOR DOMESTIC HOT WATER HEATING: HIGH EFFICIENCY – HIGH COMFORT

The domestic hot water tank of the integrated 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 only operation is possible. 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.

4. ALTERNATIVE SET-UP: WALL-MOUNTED INDOOR UNIT INCLUDING ALL HYDRAULIC COMPONENTS

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

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: 890 mm (height) x 480 mm (width) x 344 mm (depth)
- 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**

- EKHWS stainless steel tank: 150l, 200l or 300l
- EKHWE enameled tank: 150l, 200l or 300l.

3. When solar connection for hot water is required: 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.

Unpressurised thermal hot water

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. 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 polypropylene tank: 300l or 500l with integrated solar pump station
- High efficiency as no glycol is needed in the system
- Well insulated tank to minimize heat loss
- Support for space heating possible
- Improved frost protection for snow covered solar collectors

Pressurised solar system

If needed, a pressurised thermal hot water system can also be offered. The system is filled with heat transfer fluid with the correct amount of antifreeze to avoid freezing in winter. The whole system is pressurised and sealed. A solar kit and solar pump station will be needed to connect the domestic hot water tank (EKHWS or EKHWE) to the solar collector.

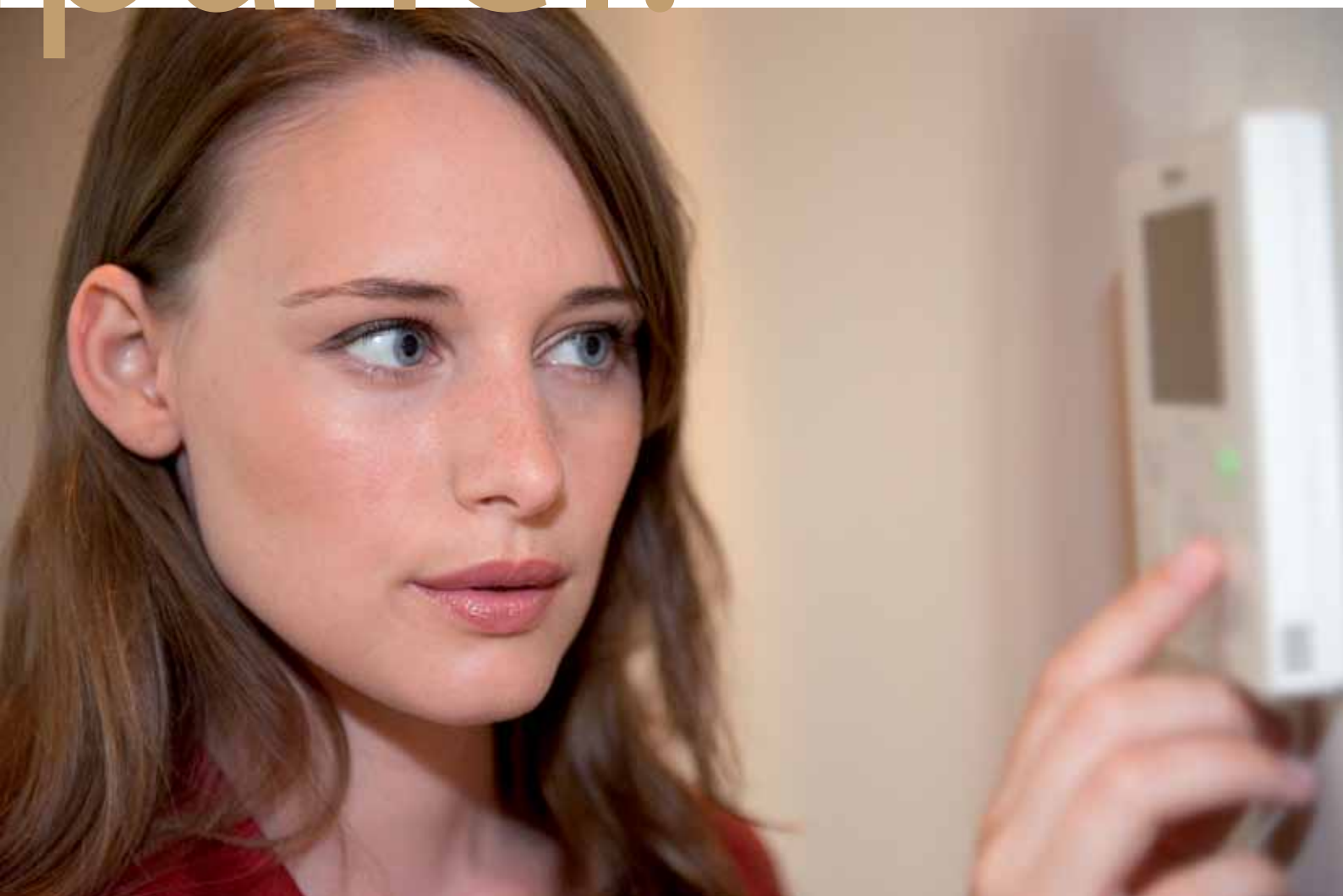
New control

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.

panel:



1. 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.

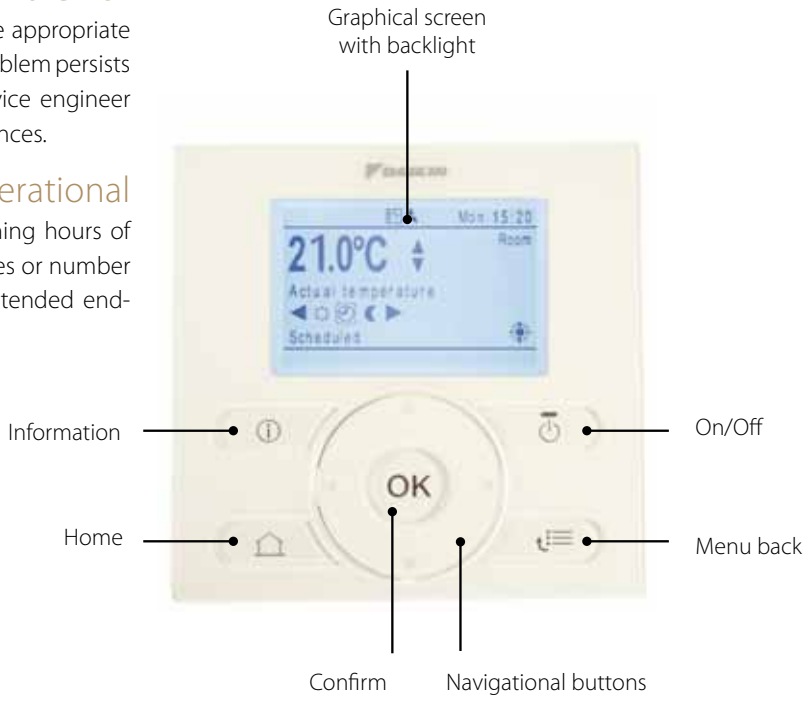
Before the actual test-run of the unit, an actuator test mode allows all the wired components to be activated one by one. This allows for a quick and easy check of all connections and wirings made to ensure a correct operation. An automatic screed-drying function can be activated to proceed through a 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.

2. 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.



3. 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.

4. 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.

Heat pump in practice

1. EXAMPLE ON RUNNING COST AND CO_2 COMPARISON

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.

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 0.17EUR/kWh and a gas price of 0.06 EUR/kWh.

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:

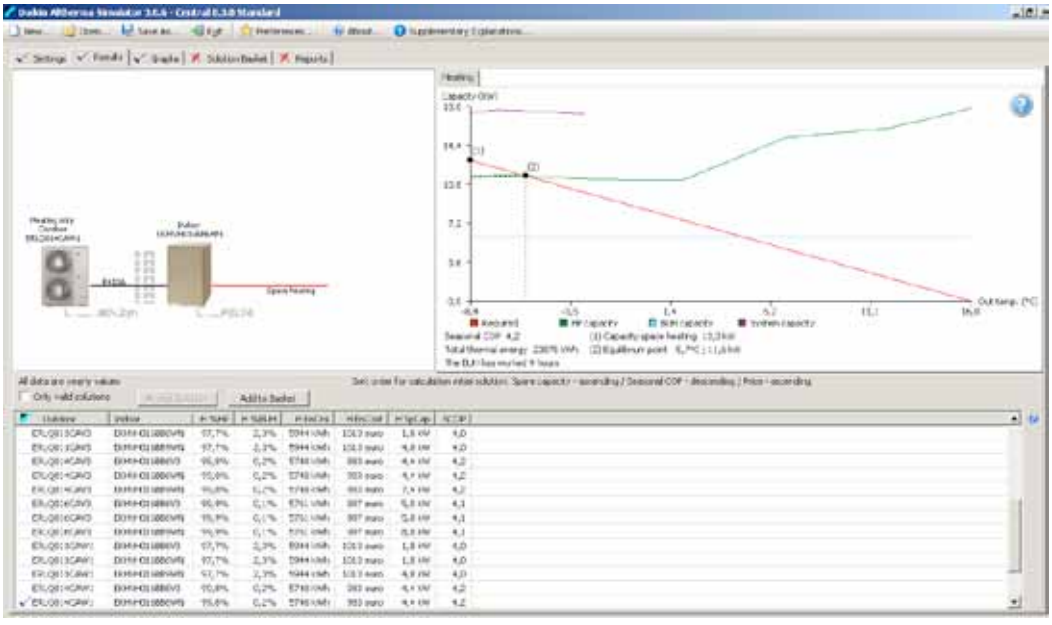
- house application: heat/cool load, water temperatures, power supply
- climate conditions: location, design temperature
- domestic hot water requirements: tank volume, material, solar connection
- preferences: "heating off" temperature, night setback function

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:

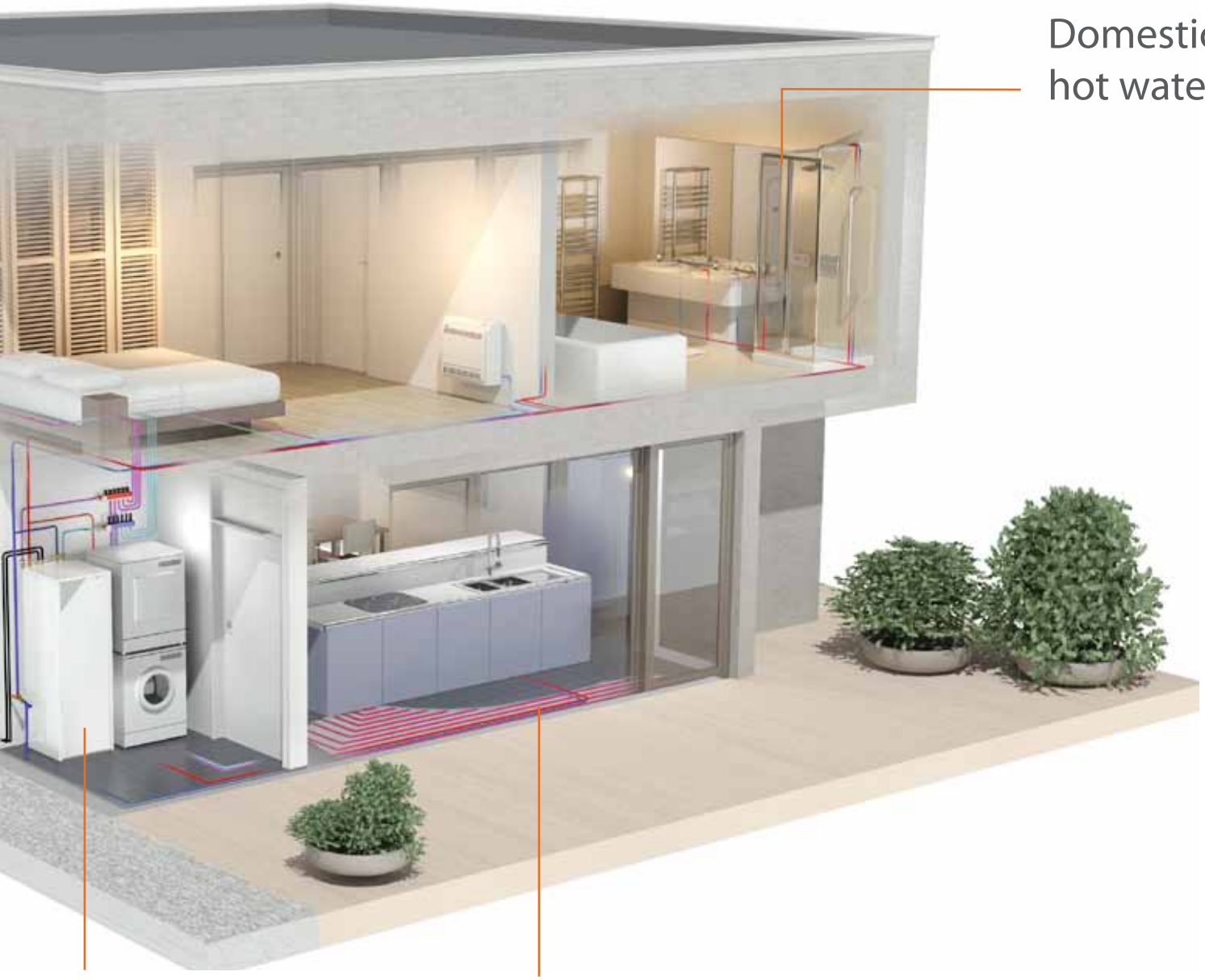
- seasonal efficiency of the heat pump system
- amount of back-up heater operation
- energy consumption and energy cost per month
- savings on running costs compared to traditional heating systems

All this information will be summarised in a detailed report.



3. INTEGRATION FOR A TOTAL SOLUTION

Whether you have a newly built house or live in an existing low energy home, the Daikin Altherma low temperature split allows for completely integrated components for total climate control. Whether you opt for the integrated floor standing indoor unit to provide heating and domestic hot water or go for a wall mounted indoor unit, whether you use under-floor heating or heat pump convectors, whether your electricity comes from the grid or from a renewable eco-friendly resource like solar power, the Daikin Altherma low temperature is a total solution 4 you.


Domestic
hot water
Integrated
indoor unit
Under-floor
heating

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

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	

DOMESTIC HOT WATER TANK FOR UNPRESSURIZED SOLAR CONNECTION

DOMESTIC HOT WATER TANK				EKHWP300B	EKHWP500B
Casing	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	

Note: grey cells contain preliminary data

SOLAR CONNECTION - UNPRESSURIZED SYSTEM

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)

SOLAR CONNECTION - PRESSURIZED SYSTEM

SOLAR CONNECTION				EKSOLHWAV1
Dimensions	Unit	HeightxWidthxDepth	mm	770x305x270
Weight	Unit		kg	8
Operation range	Outdoor temperature	Min.~Max.	°C	1~35
Sound pressure level	Nom.		dBA	27
Thermal performance	Zero loss collector efficiency η0		%	-
Power supply	Phase/Frequency/Voltage		Hz/V	1~/50/220-240
Power supply intake				Indoor unit

ACCESSORY				EKSR3PA
Mounting				On wall
Dimensions	Unit	HeightxWidthxDepth	mm	332x230x145
Thermal performance	Zero loss collector efficiency η0		%	-
Control	Type			Digital temperature difference controller with plain text display
	Power consumption		W	2
Sensor	Solar panel temperature sensor			Pt1000
	Storage tank sensor			PTC
	Return flow sensor			PTC
	Feed temperature and flow sensor			Voltage signal (3.5V DC)
Power supply	Frequency/Voltage		Hz / V	50/230

SOLAR COLLECTOR

SOLAR COLLECTOR				EKSV26P	EKSH26P
Dimensions	Unit	HeightxWidthxDepth	mm	2,000x1,300x85	1,300x2,000x85
Weight	Unit		kg	43	
Volume			l	1.7	2.1
Surface	Outer		m^2	2.601	
	Aperture		m^2	2.364	
	Absorber		m^2	2.354	
Coating				Micro-therm (absorption max.96%, Emission ca. 5% +/-2%)	
Absorber				Harp-shaped copper pipe register with laser-welded highly selective coated aluminium plate	
Glazing				Single pane safety glass, transmission +/- 92%	
Allowed roof angle	Min.~Max.		°	15~80	
Operating pressure	Max.		bar	6	
Stand still temperature	Max.		°C	200	
Thermal performance	Zero loss collector efficiency η0		%	78.7	
	Heat loss coefficient a1		$W/m^2.K$	4.270	
	Temperature dependence of the heat loss coefficient a2		$W/m^2.K^2$	0.0070	
	Thermal capacity		kJ/K	6.5	
	Incident angle modifier	AM at 50°		0.94	
Installed position				Vertical	Horizontal

HEAT PUMP CONVECTOR

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

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

ROOM THERMOSTAT

WIRED ROOM THERMOSTAT				EKRTWA
Dimensions	Unit	Height/Width/Depth	mm	87/125/34
Weight	Unit		g	215
Outdoor 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
Outside 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

Daikin Altherma

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Daikin in general

Daikin is known worldwide as one of the biggest AC players, with a wide product range for residential, commercial and industrial applications

Daikin Altherma is the market creator of the air-to-water heat pump business

- first inverter-driven split low-temperature heat pump system
- first heat pump system for true high-temperature applications
- first inverter-driven split heat pump system for apartment and commercial applications
- full range of heating solutions for any kind of application, including solar collectors, domestic hot water tanks, under-floor heating, heat pump convector etc.

Daikin Altherma is the reference on quality and reliability

- 50 years of heat pump experience
- 6 years of air-to-water heat pump experience
- Daikin Altherma is the most sold air-to-water heat pump system throughout Europe, with over 150,000 systems sold

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.

In all of us, a green heart

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

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

Daikin Europe N.V. participates in the Eurovent Certification programme for Air conditioners (AC), Liquid Chilling Packages (LCP) and Fan coil Units (FCU), Check ongoing validity of certificate online: www.eurovent-certification.com or using: www.certiflash.com

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