DAIKIN

altherma

FOR END USERS

Heating Catalogue

All Seasons

CLIMATE COMFORT

- **Heating**
- Air Conditioning
- Applied Systems
- Refrigeration

Heating - Domestic hot water - Cooling

Daikin Altherma, TOP ENERGY EFFICIENT SOLUTIONS

for residential use!

DAIKIN ALTHERMA AT A GLANCE

Daikin Altherma is a total domestic heating and hot water system based on air source heat pump technology. It represents a flexible and cost-effective alternative to a fossil fuel boiler, with a cooling option. The inherent energy efficiency characteristics of Daikin Altherma make it an ideal solution to reduce energy consumption and CO_2 emissions.

WITH ENERGY PRICES SOARING

People are becoming more and more aware of the cost of heating. Traditional heating systems and boilers use fossil fuels, making them an expensive and not sustainable option for the environment. Nobody wants to waste their money. Since two thirds of the heat generated by the Daikin Altherma air source heat pump system is free of charge and maintenance is minimal, the perfect solution is just around the corner.

NECESSITY IS THE MOTHER OF INVENTION

House building technology has taken giant leaps forward. Insulation techniques have improved drastically. For new and recently refurbished houses and flats Daikin Altherma provides the latest heat pump boiler technology to save you money.

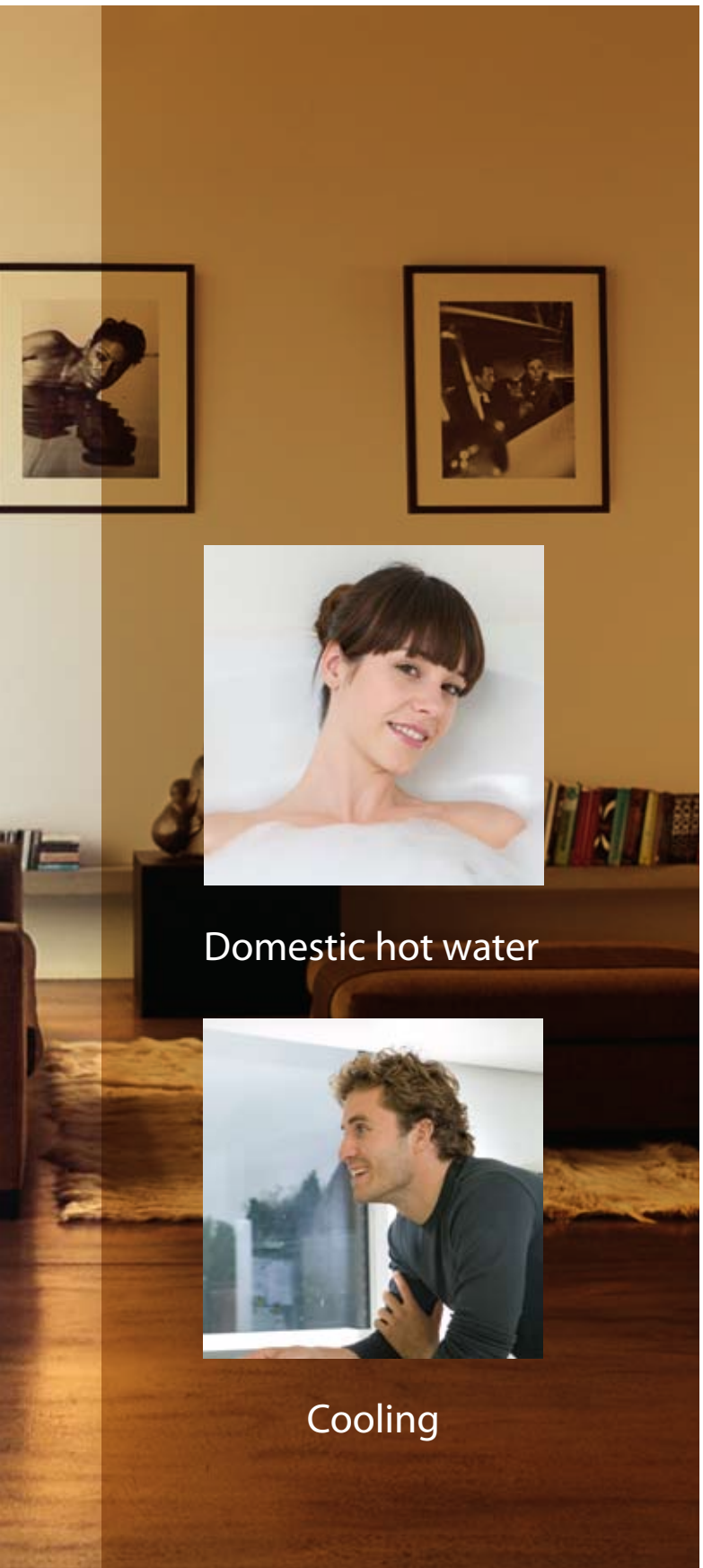
SO IF YOU TAKE A CLOSER LOOK

It is no surprise that people throughout Europe are becoming aware of new heating technology. In less than a decade practically all properly insulated homes from Italy to Norway will be heated with heat pump boilers. Millions of heat pumps have already been installed. So… WHY WAIT?

MEANWHILE HEAT PUMP TECHNOLOGY ITSELF HAS MATURED

Daikin Altherma, which extracts and converts an increased natural heat from the ambient air to your home, is the perfect example. The Daikin Altherma heat pump boiler satisfies your heating requirements but it can also supply your domestic hot water. For hot summer days, as an option, Daikin Altherma can also give you cooling. It is an all-in-one, all year round heating and cooling solution.

Heating - Domestic hot water - Cooling



DAIKIN ALTHERMA, TOP ENERGY EFFICIENT SOLUTIONS FOR RESIDENTIAL USE 2

› Daikin Altherma advantages 4

› Basics of a heat pump 8

› Compare Daikin Altherma with a traditional heating system 10

› A Daikin Altherma system for every application 11

DAIKIN ALTHERMA FOR NEW HOUSES 12

DAIKIN ALTHERMA FOR RENOVATIONS 16

EXTRA COMFORT 18

› Domestic hot water with solar energy 18

› Heat pump convector 19

FAQ 20

DAIKIN ALTHERMA FOR NEW HOUSES TECHNICAL DATA 22

DAIKIN ALTHERMA FOR RENOVATIONS TECHNICAL DATA 26

Daikin Altherma ADVANTAGES

123

3 BENEFITS FOR NEW CONSTRUCTIONS & RENOVATION

- Cost effective low energy consumption
- Reduced CO_2 emissions
- Full comfort

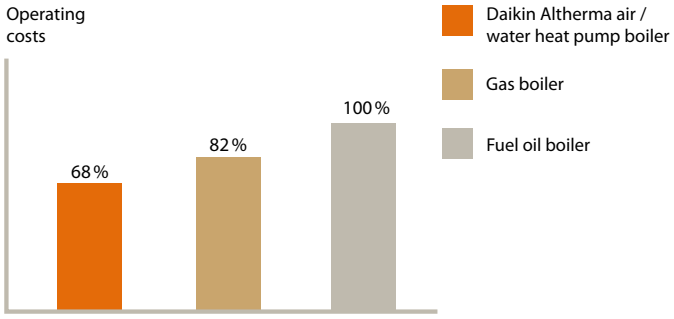
1/ DAIKIN ALTHERMA ECONOMICALLY

Today, people are, more than ever, conscious of the cost of heating. There is not only the increasing cost of fuel oil and natural gas, but also the limited supply of fossil fuels and the problem of CO_2 emissions. Energy efficient heating solutions are gaining in popularity. The graphic below illustrates the positive influence of the Daikin Altherma heat pump on energy consumption and in comparison with heating systems which operate on gas or fuel oil.

67 TO 75% FREE HEAT

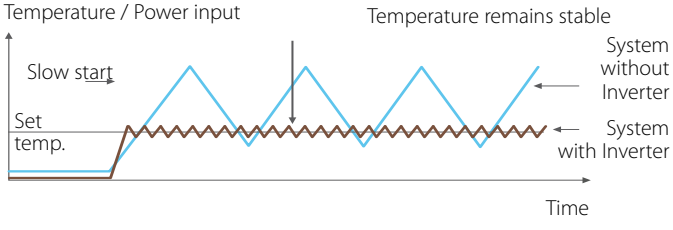
A heat pump boiler works more efficiently and saves more energy than a traditional heating system using fossil fuel. Daikin Altherma generates at least 3 kW of free heat per 1kW of electricity used. Talk about a good investment.

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



SUPER PERFORMANCE THANKS TO THE INVERTER PRINCIPLE

The coefficient of performance (COP) of the Daikin Altherma heat pump is also largely attributable to the Daikin inverter principle. An integrated frequency-convertor adjusts the rotational speed of the compressor to suit the heating demand. Therefore the system seldom operates at full capacity and you only pay for the energy that you actually need.



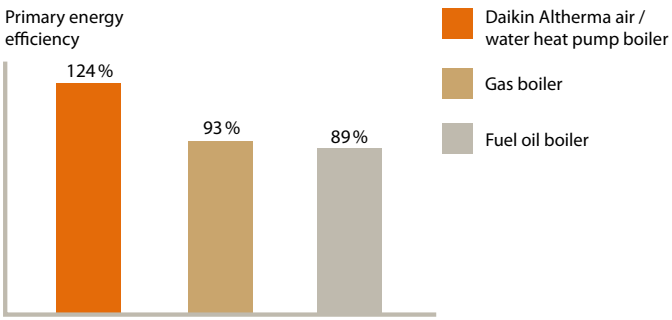
DID YOU KNOW THAT…

Daikin has more than 50 years of experience with heat pumps and provides more than a million of them to homes and commercial applications each year.

PEE (PRIMARY ENERGY EFFIENCY)

This is the relationship between the useable energy generated and the primary energy consumed, with consideration for the electricity production efficiency and the electricity distribution.

LOW PRIMARY ENERGY CONSUMPTION
Conditions : For combustion systems, the PEE indicates the overall efficiency of the system, while for heat pumps it is equal to the seasonal performance factor multiplied by the electricity production efficiency which on average is 0.4 in the EU.



MINIMAL INSTALLATION COST

Daikin Altherma takes heat from the air. 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.

FIRST HEAT PUMP MANUFACTURER TO OBTAIN THE ECO-LABEL

ECO-LABEL CERTIFICATION FOR DAIKIN ALTHERMA LOW TEMPERATURE SPLIT

2/ DAIKIN ALTHERMA ENVIRONMENTALLY

B/31/1

ECO-LABEL

Over the past ten years, the «Flower» has become a Europe-wide symbol for energy-efficient products, providing simple and accurate guidance to consumers.
All products bearing the «Flower» have been checked by independent bodies for compliance with strict ecological and performance criteria. There are currently twenty-six different product groups, and already more than 250 licences have been awarded for several hundred products.
Heat pumps have recently been added as a product group, and Daikin was the first company to obtain the Eco-label for its Daikin Altherma air-to-water heat pumps.
The EU awards an Eco-label to a heat pump when its evaluation shows it to be more energy efficient than the average for heat pumps without an Eco-label. In being awarded the EU Eco-label, Daikin Altherma was assessed in a range of categories: heating and cooling efficiency, refrigerant global warming potential (GWP), noise, absence of RoHS substances, training, documentation, availability of spare parts and detailed information at point of sale.

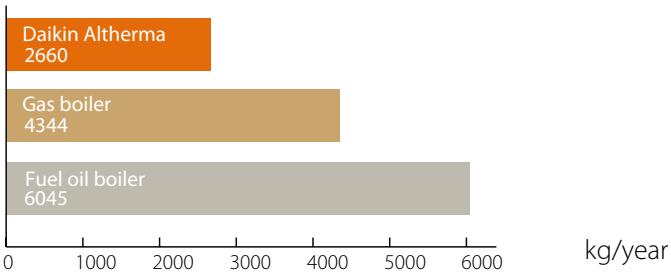
Daikin Europe N.V. obtained an Eco-Label for the following Daikin Altherma products with under floor heating valid for applications with an outlet temperature of 35°C.

The following models received the ECO-LABEL:
ERHQ006B-EKHBH008B, ERHQ007B-EKHBH008B, ERHQ008B-EKHBH008B, ERHQ011B-EKHBH016B, ERHQ014B-EKHBH016B, ERHQ016B-EKHBH016B, ERHQ006B-EKHBX008B, ERHQ007B-EKHBX008B, ERHQ008B-EKHBX008B, ERHQ011B-EKHBX016B, ERHQ014B-EKHBX016B, ERHQ016B-EKHBX016B.

LOWER CO_2 EMISSIONS

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

Average annual CO_2 emissions



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

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 with a renewable energy source. As a result, several heat pump incentives are already available to homeowners.

* EU objective COM (2008) /30

3/ FULL COMFORT

ABSOLUTELY SAFE

Daikin Altherma works without oil, gas or other hazardous substances – reducing potential risk that goes together. Moreover, you don't need a gas connection or a fuel tank. No risk of intoxication, smell or pollution from leaking tanks.

RENEWABLE, INEXHAUSTIBLE ENERGY WITH SOLAR COLLECTORS

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

BASICS OF A HEAT PUMP

1/ WHAT'S THE MAGIC BEHIND HEAT PUMPS?

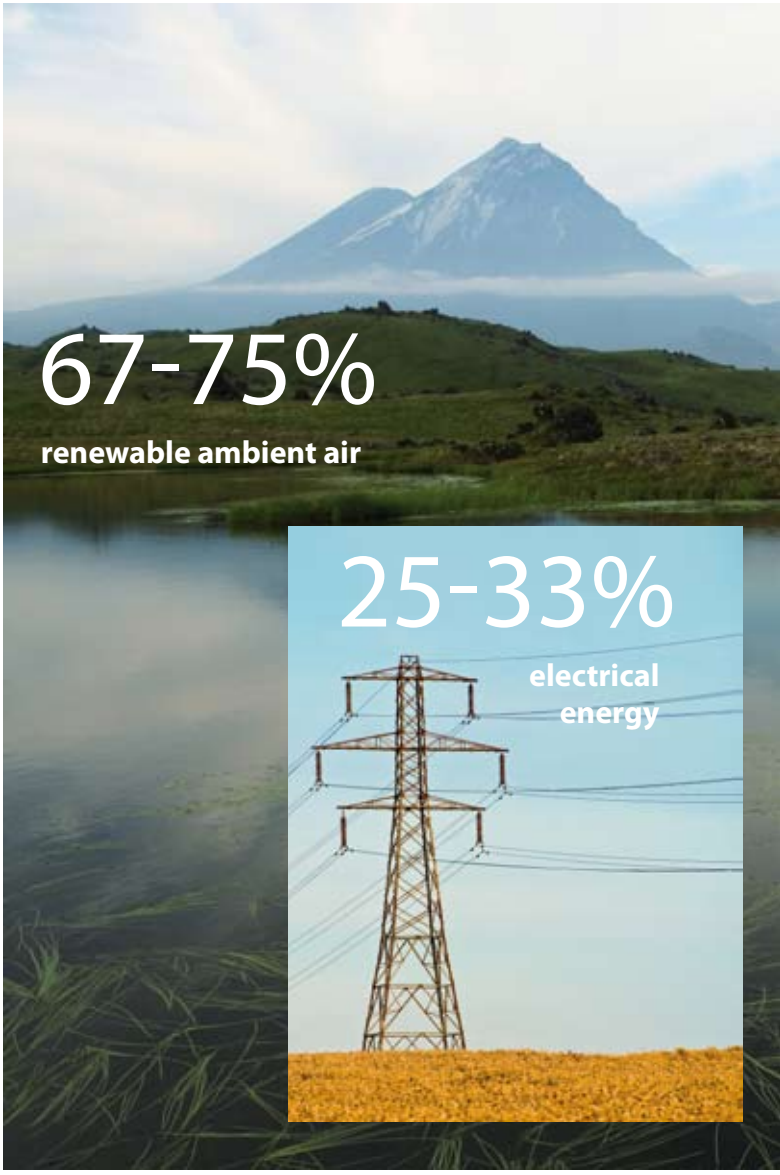
It all starts with the sun. The sun warms up our atmosphere and the outer layer of the earth's crust. In one year the energy sent to the earth by the sun is 50 times higher than the total consumption of energy on our planet. This makes the sun a vast and inexhaustible source of energy.

On sunny days you can feel the thermal energy from the sun on your skin. But actually, there is always lots of thermal energy in the air, even on cold winter days or even at night. And not only in Florida or the south of Spain, but also in countries like Sweden or Norway where thousands of houses have already heat pumps.

2/ HOW DO THEY WORK?

Heat pumps take thermal energy from the atmosphere, or from water (rivers, lakes, …) or from the ground. With Daikin Altherma energy is extracted from the outside air which is cheaper and easier than the other alternatives. In order to take energy from the air the heat pump needs a bit of energy to start with:

Daikin Altherma requires only 1 kilowatt of electricity to pump 3 to 4 kilowatt of heat into your home. In other words, 67 to 75% of the heat produced by Daikin Altherma comes from the outside air and is free of charge.



DID YOU KNOW THAT...

you probably already have 1 or 2 heat pumps in your house? Your refrigerator and freezer (and perhaps your air conditioner) use heat pump technology. When comparing a heat pump for heating to a refrigerator, think of the inside of the refrigerator as the cold outdoor air, and the radiator at the back of the fridge (which becomes warm during operation) as the heating system inside your house.

3/ WHY DO HEAT PUMPS CONTRIBUTE TO LOW CO_2 EMISSIONS?

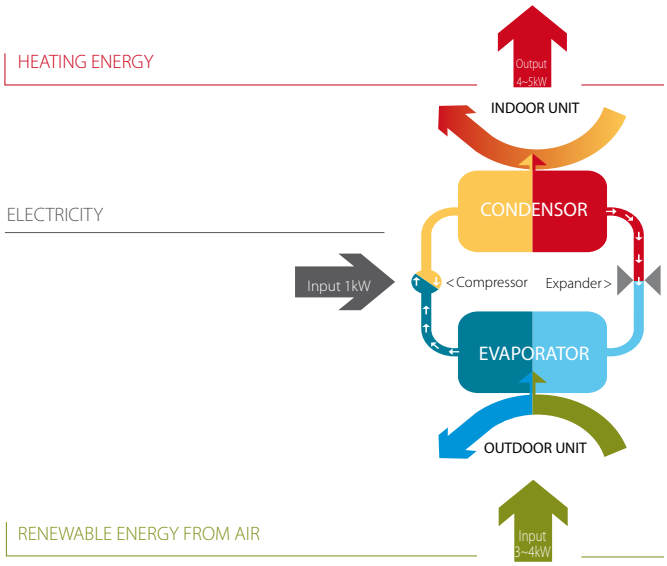
Heat pumps emissions are considerably lower than those of conventional heating systems. Because heat pumps consume little energy, CO_2 emissions are reduced too since these are restricted to the electricity the pumps need.

4/ WHERE DOES IT ALL START?

In spite of these undeniable benefits, heat pumps remain a mystery for many people. The concept of "heat" transfer from a cold source to a cold interior might not be intuitive to everybody at a first glance. But there's nothing mysterious about heat pumps.

A heat pump only needs the outside air, two heat exchangers (one to absorb and another one to release heat) and a relatively small amount of drive energy to keep the system going.

A heat pump extracts thermal energy from the environment. In the case of Daikin Altherma the source is the outside air. The pump extracts the energy at a certain temperature, increases that temperature and then releases it into a medium which in Daikin Altherma system is the water running to your low temperature radiators, under floor heating system or fan coil units. Between those two media the heat is moved by means of a refrigerant.



5/ WHAT IS A REFRIGERANT AND WHAT IS ITS ROLE?

This refrigerant is a special liquid that evaporates at a lower temperature than the temperature of the outside air. Copper coils bring the outside air into contact with the refrigerant, which absorbs thermal energy from the air. This is the first heat exchange. The refrigerant then evaporates and as you know, extracts heat. If you lick your finger and blow on the wet spot, the saliva dries up and your skin turns cold. What you feel is heat being extracted from the underlying tissues of your finger.

6/ THE CORE OF THE HEAT PUMP: THE COMPRESSOR

As the refrigerant passes through the evaporator and extracts heat from the air, it turns into a gas. This is where the compressor comes up. When you compress a gas, the heat energy in the gas is concentrated together with the molecules and as a result, the temperature rises. If you inflate the tyre of your bicycle, you can feel the air inside warming up through the rubber.

In a heat pump compressor, the temperature rises far above the original temperature of the source (outside air in the case of Daikin Altherma). Inside your house the second heat exchange takes place when the compressed gas enters the condenser, a surface which is colder than the gas itself. Finally, the gas condenses and releases heat – the heat that warms up your house.

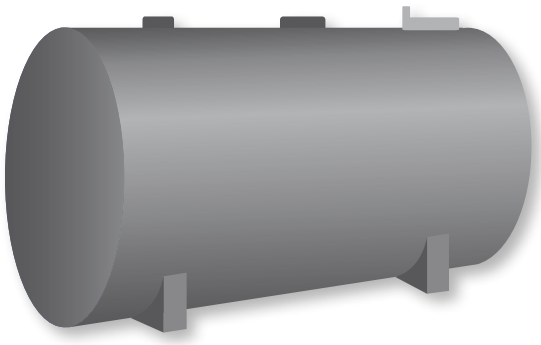
Condensing means that the gas turns into a fluid again. It passes through an expansion valve, resumes its original pressure and the whole process can start all over.

COMPARE DAIKIN ALTHERMA WITH A TRADITIONAL HEATING SYSTEM

DAIKIN ALTHERMA HEATING SYSTEM

	Indoors	Outdoors	Energy source
Split system	 Indoor unit (hydraulic part)		67-75% air
Monobloc system		 (hydraulic + compressor part)	25-33% electricity

TRADITIONAL HEATING SYSTEM

	Indoors	Outdoors	Energy source
Gas	 Indoor unit + gas meter		Natural gas
Oil	 Indoor unit	 Oil storage tank	Oil

A DAIKIN ALTHERMA SYSTEM FOR EVERY APPLICATION

WARM IN JUST 1,2,3

Daikin Altherma air-to-water heat pump quickly creates an optimal room temperature for you and your family. You enjoy a comfortably warm environment in just 3 steps:

1. The heat pump extracts free low temperature heat from the outside air.
2. The system raises the temperature of the recovered heat.
3. This greater warmth is then distributed throughout your home via heating emitters.

Daikin Altherma

FOR NEW HOUSES

Preferred application

For new houses or
together with existing boiler (bivalent)

Heating emitters

- Under floor heating
- Low temperature radiators
- Fan coil units

Extra comfort (optional)

- Domestic hot water
- Cooling
- Solar system for hot water production

Daikin Altherma

FOR RENOVATION

Preferred application

Renovation:
Replacement of existing boilers

Heating emitters

- High temperature radiators

Extra comfort (optional)

- Domestic hot water
- Solar system for hot water production

Daikin Altherma Low Temperature FOR NEW HOUSES

Choose your air to water heat pump

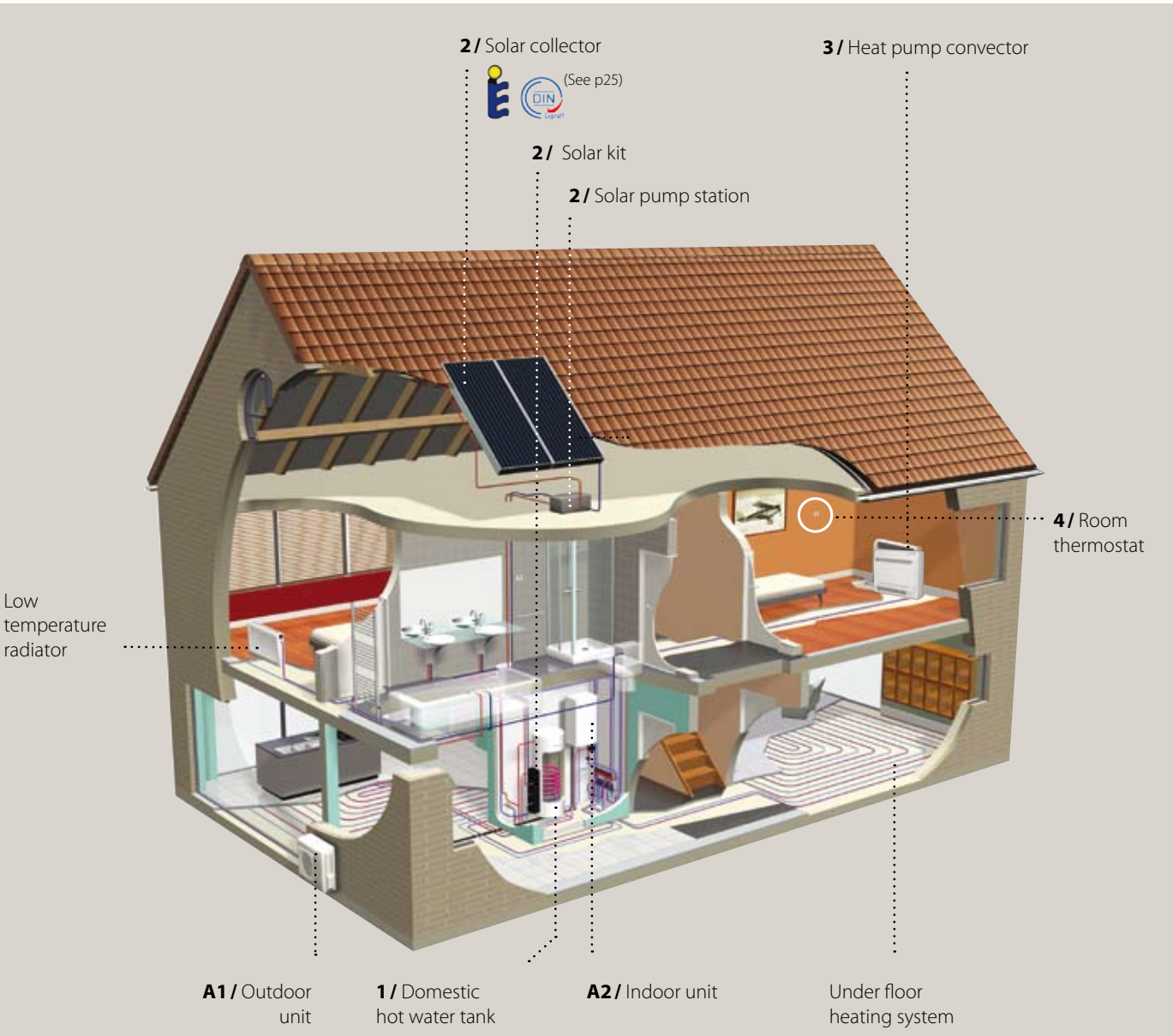
A / SPLIT:

A1 / OUTDOOR UNIT :
AN EFFICIENT USE OF ENERGY FROM THE AIR

Daikin Altherma uses a natural source of energy. The **outdoor unit** extracts heat from the outside air and raises its temperature to a level high enough to supply heating. This heat is then transferred to the indoor unit through refrigerant pipes. The compact outdoor unit is easily installed and, as no drilling or excavation work is required, it can also be installed in flats and apartments.

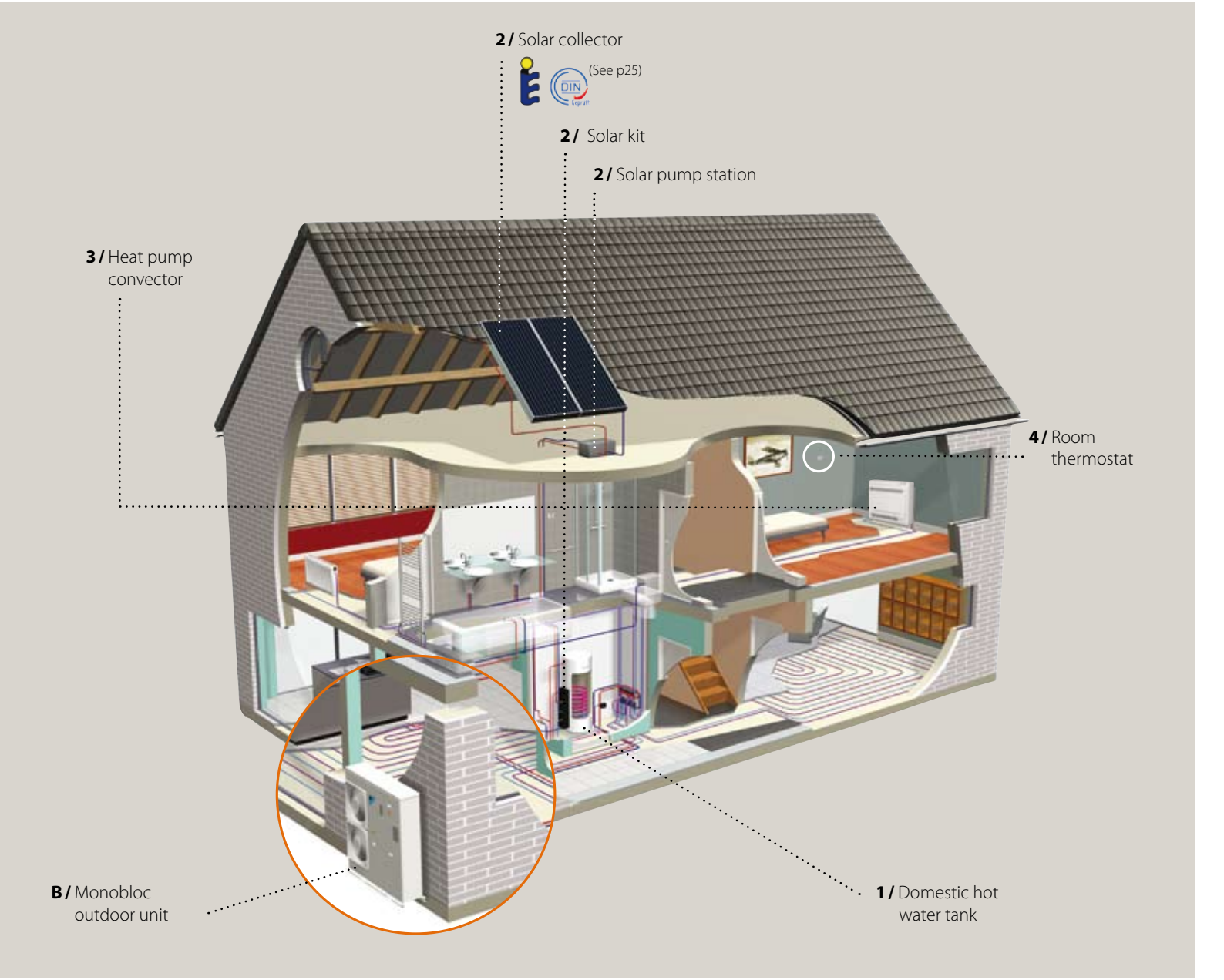
A2 / INDOOR UNIT:
THE HEART OF THE DAIKIN ALTHERMA SYSTEM

The **indoor unit** heats the water that circulates through low temperature radiators, floor heating systems or fan coil units and also provides domestic hot water. If you opt for the combination of heating and cooling, then the indoor unit can also decrease the water temperature to distribute a refreshing coolness.



B / MONOBLOC OUTDOOR UNIT: ALL IN ONE

In addition to Daikin Altherma outdoor and indoor unit 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 refrigerant lines, run indoors from the outdoor unit.
The monobloc can be used for both heating and cooling and is connectable directly to your heat emitters.



EXTRA COMFORT

1 / DOMESTIC HOT WATER TANK

As for your domestic hot water, Daikin Altherma is just as clever. The unique lay-out and special placement of the system components maximise energy efficiency. The water inside the storage tank is primarily warmed up by thermal energy from the outside air, thanks to a heat exchanger connected to the heat pump. However, an additional electrical heating element in the domestic water tank can take care of extra heat required in the shower, tub or sink. At necessary intervals the water is automatically heated to 70°C to prevent the risk of bacteria growth. With Daikin Altherma you can enjoy delightfully warm and perfectly safe water at all times. Depending on the daily consumption of hot water, Daikin domestic hot water tanks are available in different sizes.

1

2 / SOLAR SYSTEM

The high-efficiency collectors transfer all the short-wave solar radiation into heat as a result of their highly selective coating. The collectors can be mounted on the roof tiles. The solar kit controller and pump station provide the transfer of solar heat to the Daikin domestic 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.

2

3 / HEAT PUMP CONVECTOR

The heat pump convector is much more than a fan coil unit or any other heat emitter. The heat pump convector can provide both heating and cooling if required and obtains optimal energy efficiency when connected to a Daikin Altherma Low Temperature system. With an interlink function, the heat pump convector is able to emit the required levels of heat at low leaving water temperatures, while retaining a modest size. The heat pump convector improves efficiency by approximately 25% compared to a heating system that combines under floor heating and regular fan coil units. The heat pump convector can easily replace existing heat emitters, thanks to its plug and play installation.

3

4 / ROOM THERMOSTAT

With the wired or wireless room thermostat*, the ideal temperature can be easily, quickly and conveniently regulated. An external sensor (EKRTETS) can be placed between the under floor heating and the floor, as an option to the wireless room thermostat. It allows for more precise measurement and can regulate the comfort level of your customer even more optimally and energy efficiently.

*EKRTW for wired wall-mounting and EKRTR for the wireless type.

4

LOW TEMPERATURE ADVANTAGES

- Heating and cooling
- Flexible configuration with respect to heat emitters
- Low energy consumption: best COP levels in its class (up to 4.56)
- Eco-label for Low Temperature split

Daikin Altherma High Temperature FOR RENOVATIONS

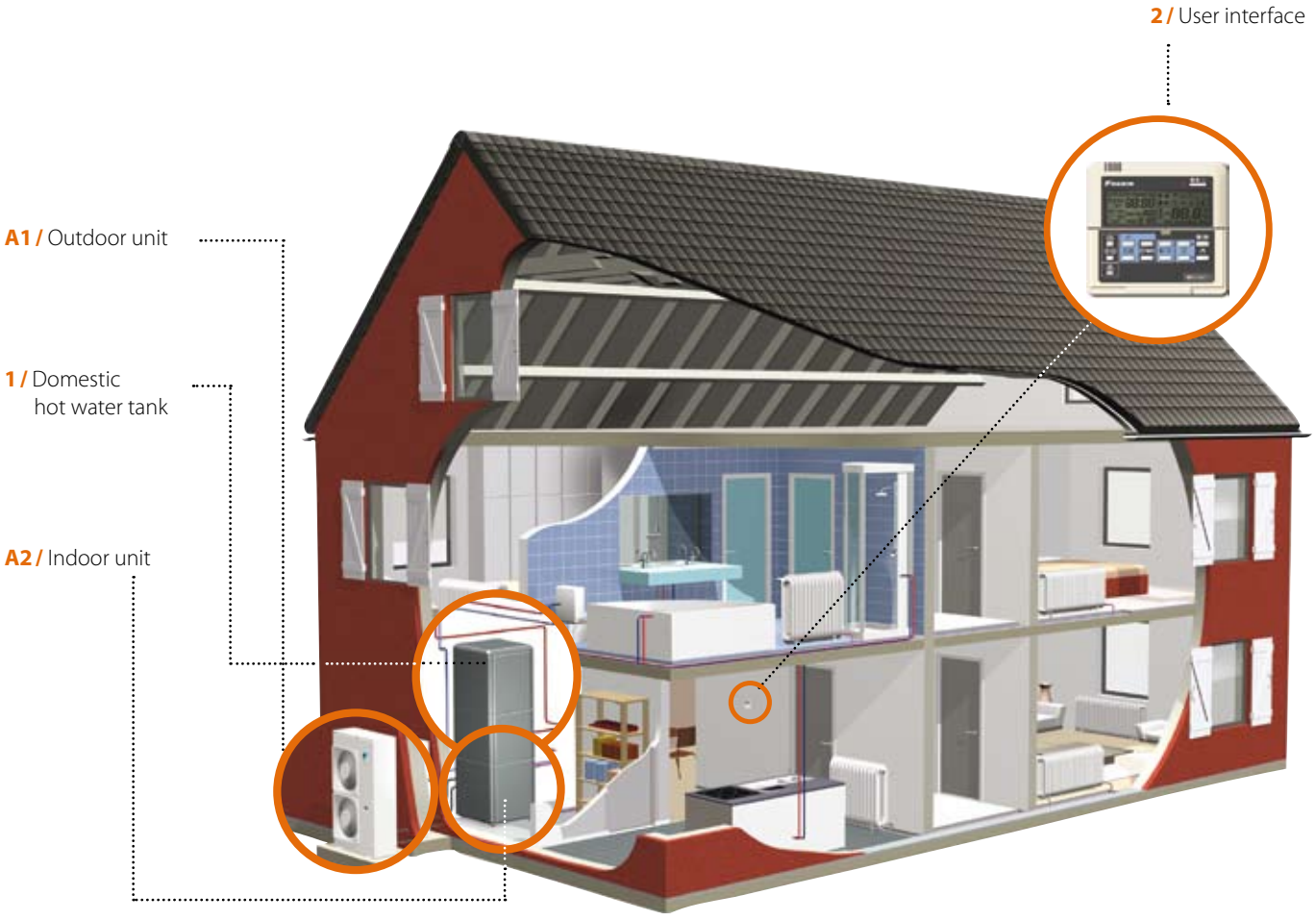
Air to water heat pump

A1/ OUTDOOR UNIT: EFFICIENT USE OF ENERGY FROM THE AIR

Daikin Altherma uses a natural source of energy. The outdoor unit extracts heat from the outside air and raises its temperature to a level high enough to supply heating. This heat is transferred to the indoor unit via refrigerant piping.

A2/ INDOOR UNIT: THE HEART OF THE DAIKIN ALTHERMA SYSTEM

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.



EXTRA COMFORT

1/ DOMESTIC HOT WATER TANK: FOR LOW ENERGY CONSUMPTION

Daikin Altherma's high water temperature is ideal for heating domestic hot water without the need for an additional electric heater. Rapid heating of domestic hot water also means smaller boilers are needed. For a family of approximately 4 people, the standard tank (EKHTS200A) is the best solution. Should you require more hot water, a larger tank is also available.

2/ USER INTERFACE

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

3/ HEATING AND DOMESTIC HOT WATER WITH SOLAR ENERGY

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.

HIGH TEMPERATURE ADVANTAGES

- Heating up to 80°C without electric heater
- Easy replacement of existing boiler, without changing heating pipes
- Combinable with high temperature radiators
- Low energy consumption: best COP levels in its class (up to 3.08)

EXTRA COMFORT

DOMESTIC HOT WATER WITH SOLAR ENERGY

When you combine Daikin Altherma heating systems with a domestic hot water tank, you can save even more energy by connecting the Daikin solar collector to your tank.

Yearly, the sun delivers an average of 30-70% of the energy we need to heat our domestic water to the desired temperature.

High-efficiency Daikin solar collectors, with a highly selective coating, convert all the short-wave solar radiation to heat.

The solar system can be used with both low temperature and high temperature heating systems in the following configurations:

- Daikin Altherma Low Temperature: Solar collector + solar kit + pump station with controller + domestic hot water tank (EKHWS or EKHWE)
- Daikin Altherma High Temperature: Solar collector + pump station + domestic hot water tank (EKHWP only)

ADVANTAGES

- Save energy on your domestic hot water production
- Reduction in CO_2 emissions for hot water production
- Installation accessories available for all types of roofs

DID YOU KNOW THAT…

solar energy can be used for domestic hot water production, but also for effective support of the heating system when using the EKHWP500A domestic hot water tank.

Several different types of systems are available to heat your home, and Daikin Altherma is compatible with all of them.

For low temperature heating systems, choose between underfloor heating, low temperature radiators, a heat pump convector or regular fan coil units.

For high temperature heating systems, you can re-use your existing high temperature radiators.

NEW

THE HEAT PUMP CONVECTOR

The heat pump convector is much more than a fan coil unit or any other heat emitter. Fan coil units can provide both heating and cooling if required.
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.
With an interlink function, the heat pump convector is able to emit the required levels of heat at low leaving water temperatures, while retaining a modest size.

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

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

ADVANTAGES

- Able to heat and cool
- Optimal energy efficiency when connected to a Daikin Altherma Low Temperature system
- Modest size
- Low sound level

FAQ

GENERAL

Can Daikin Altherma produce hot water in the summer?

Yes, Daikin Altherma can run in hot water mode up to an ambient outdoor temperature of 35°C.

> For low temperature application, the heating and cooling version will switch between hot water mode and cooling mode. At outdoor temperatures exceeding 35°C, hot water can still be produced using the booster heater only.

> For high temperature application, the hot water is stored in the domestic hot water tank at night. The change of the outdoor temperature exceeding 35°C at night is minimal.

Can I connect radiators to the Daikin Altherma system?

Yes, Daikin Altherma can be connected to radiators.

> For low temperature application, in many cases old radiators that were sized for 70°C are highly oversized and can also be used with water temperatures of 55°C or lower.

> For high temperature applications, the system can be combined with existing radiators as the system can produce hot water up to 80°C.

Will I still have sufficient hot water capacity if the heat pump or booster heater doesn't switch to hot water mode immediately?

Yes, Daikin Altherma is not based on instant water heating like a gas boiler. The tank has a storage volume of 150-500 liters of hot water that will cover the load while the system switches to hot water mode.

Can I use separate room thermostats and programmable timers?

Yes, separate controls can be used to control room temperatures. These will tell the Daikin Altherma system when the room requires heating/cooling. Daikin Altherma will then provide the set flow temperature.

What is an inverter compressor?

An inverter compressor will gradually increase or decrease its capacity based on the output needed to cool down or heat up the room.

What is COP and EER?

The COP (Coeffient of Performance) indicates the amount of usable heat the heat pump delivers for every kWh electricity the heat pump uses.

The EER (Energy Efficiency Ratio) indicates the cooling capacity per kWh electricity the heat pump uses.

These numbers are dependent on the indoor and outdoor temperature and is therefore only a snapshot indicator.

LOW TEMPERATURE APPLICATION

Can I use the floor loops for cooling?

Yes, but a floor loop water temperature no lower than 18°C is recommended.

HIGH TEMPERATURE APPLICATION

Is it necessary to always heat to 80°C?

The system can heat to the required temperature. It works with two refrigerant circuits. The first one heats to 65°C, the second one heats from 65°C to 80°C if necessary.
In combination with domestic hot water, the water temperature will need to be raised to at least 70°C one or more days a week to prevent legionella bacteria.

Daikin Altherma Technical data FOR NEW HOUSES

LOW TEMPERATURE APPLICATION - SPLIT

B/31/1 See page 7

INDOOR UNIT

			EKHBH008B***	EKHBX008B***	EKHBH016B***	EKHBX016B***
Function			Heating only	Reversible	Heating only	Reversible
Dimensions	HxWxD	mm	922x502x361	922x502x361	922x502x361	922x502x361
Colour			Pure white (RAL 9010)			
Material			Epoxy polyester painted galvanised steel			
Weight			46		48	
Leaving water temperature range	heating	°C	15~50		15~55	
	cooling	°C	-	5~22	-	5~22

FACTORY MOUNTED HEATER	kW	capacity steps	power supply
EKHBH(X)008B3V3 / EKHBH(X)016B3V3	3	1	1~/230V/50Hz
EKHBH(X)008B6V3 / EKHBH(X)016B6V3	6	2	1~/230VV/50Hz
EKHBH(X)008B6WN / EKHBH(X)016B6WN	6	2	3~/400VV/50Hz
EKHBH(X)008B6T1 / EKHBH(X)016B6T1	6	2	3~/230VV/50Hz
EKHBH(X)008B9WN / EKHBH(X)016B9WN	9	2	3~/400VV/50Hz
EKHBH(X)008B9T1 / EKHBH(X)016B9T1	9	2	**3~/230VV/50Hz**

INVERTER

OUTDOOR UNIT

With bottom plate heater			ERLQ006BV3	ERLQ007BV3	ERLQ008BV3
Without bottom plate heater			ERHQ006BV3	ERHQ007BV3	ERHQ008BV3
Dimensions	HxWxD	mm	735x825x300		
Nominal capacity	heating	kW	5.75	6.84	8.43
	cooling	kW	7.20	8.16	8.37
Nominal power input	heating	kW	1.26	1.58	2.08
	cooling	kW	2.27	2.78	2.97
COP			4.56	4.34	4.05
EER			3.17	2.94	2.82
Operation range	heating	°C	-20~25		
	cooling	°C	10~43		
	domestic water	°C	-20~43		
Sound power level	heating	dBA	61	61	62
	cooling	dBA	63	63	63
Sound pressure level	heating	dBA	48	48	49
	cooling	dBA	48	48	50
Weight		kg	56		
Refrigerant charge	R-410A	kg	1.7		
Power supply			1~/230V/50Hz		
Recommended fuses		A	20		

Measuring conditions: Heating Ta DB/WB 7°C/6°C - LWC 35°C (DT=5°C) - Cooling Ta 35°C - LWE18°C (DT=5°C)

INVERTER

(Single phase)

(Three phase)

With bottom plate heater			ERLQ011BV3	ERLQ014BV3	ERLQ016BV3	ERLQ011BW3	ERLQ014BW3	ERLQ016BW3
Without bottom plate heater			ERHQ011BV3	ERHQ014BV3	ERHQ016BV3	ERHQ011BW3	ERHQ014BW3	ERHQ016BW3
Dimensions	HxWxD	mm	1,170x900x320			1,345x900x320		
Nominal capacity	heating	kW	11.2	14.0	16.0	11.32	14.50	16.05
	cooling	kW	13.9	17.3	17.8	15.05	16.06	16.76
Nominal power input	heating	kW	2.46	3.17	3.83	2.54	3.33	3.73
	cooling	kW	3.79	5.78	6.77	4.44	5.33	6.06
COP			4.55	4.42	4.18	4.46	4.35	4.30
EER			3.67	2.99	2.63	3.39	3.01	2.76
Operation range	heating	°C	-20~35			-20~35		
	cooling	°C	10~46			10~46		
	domestic hot water	°C	-20~43			-20~43		
Sound power level	heating	dBA	64	64	66	64	64	66
	cooling	dBA	64	66	69	64	66	69
Sound pressure level	heating	dBA	49	51	53	51	51	52
	cooling	dBA	50	52	54	50	52	54
Sound pressure level - night quiet	heating	dBA	42	42	43	42	42	43
	cooling	dBA	45	45	46	45	45	46
Weight		kg	103			108 / 110*		
Refrigerant charge	R-410A	kg	3.7			2.95		
Power supply			1~/230V/50Hz			3N~/400V/50Hz		
Recommended fuses		A	32			20		

Measuring conditions: Heating Ta DB/WB 7°C/6°C - LWC 35°C (DT=5°C) - Cooling Ta 35°C - LWE18°C (DT=5°C)
* 108 kg for ERHQ011-016BW1 / 110 kg for ERLQ011-016BW1

LOW TEMPERATURE APPLICATION - MONOBLOC

INVERTER

OUTDOOR UNIT

			HEATING ONLY			REVERSIBLE		
SINGLE PHASE	with bottom plate heater		**EDLQ011B6V3**	**EDLQ014B6V3**	**EDLQ016B6V3**	**EBLQ011B6V3**	**EBLQ014B6V3**	**EBLQ016B6V3**
	without bottom plate heater		**EDHQ011B6V3**	**EDHQ014B6V3**	**EDHQ016B6V3**	**EBHQ011B6V3**	**EBHQ014B6V3**	**EBHQ016B6V3**
Dimensions	HxWxD	mm	1,418x1,435x382			1,418x1,435x382		
Nominal capacity	heating	kW	11.20	14.00	16.00	11.20	14.00	16.00
	cooling	kW	-	-	-	12.85	15.99	16.73
Nominal power input	heating	kW	2.47	3.20	3.79	2.47	3.20	3.79
	cooling	kW	-	-	-	3.78	5.65	6.28
COP			4.54	4.37	4.22	4.54	4.37	4.22
EER			-	-	-	3.39	2.83	2.66
Operation range	heating	°C	-15~35 (1)			-15~35 (1)		
	cooling	°C	-	-	-	10~46		
	domestic water	°C	-15~43			-15~43		
Sound power level	heating	dBA	64	64	66	64	64	66
	cooling	dBA	-	-	-	65	66	69
Sound pressure level	heating	dBA	51	51	52	51	51	52
	cooling	dBA	-	-	-	50	52	54
Weight		kg	180			180		
Refrigerant charge	R-410A	kg	2.95			2.95		
Power supply			1~/230V/50Hz			1~/230V/50Hz		
Recommended fuses		A	32			32		

Measuring conditions: Heating Ta DB/WB 7°C/6°C - LWC 35°C (DT=5°C) - Cooling Ta 35°C - LWE18°C (DT=5°C)
(1) E(D/B)L* models can reach -20°C / E(D/B)L*6W1 models can reach -25°C but without capacity guarantee

INVERTER

			HEATING ONLY			REVERSIBLE		
THREE PHASE	with bottom plate heater		**EDLQ011B6W1**	**EDLQ014B6W1**	**EDLQ016B6W1**	**EBLQ011B6W1**	**EBLQ014B6W1**	**EBLQ016B6W1**
	without bottom plate heater		**EDHQ011B6W1**	**EDHQ014B6W1**	**EDHQ016B6W1**	**EBHQ011B6W1**	**EBHQ014B6W1**	**EBHQ016B6W1**
Dimensions	HxWxD	mm	1,418x1,435x382			1,418x1,435x382		
Nominal capacity	heating	kW	11.20	14.00	16.00	11.20	14.00	16.00
	cooling	kW	-	-	-	12.85	15.99	16.73
Nominal power input	heating	kW	2.51	3.22	3.72	2.51	3.22	3.72
	cooling	kW	-	-	-	3.78	5.32	6.06
COP			4.46	4.35	4.30	4.46	4.35	4.30
EER			-	-	-	3.39	3.01	2.76
Operation range	heating	°C	-15~35 (1)			-15~35 (1)		
	cooling	°C	-	-	-	10~46		
	domestic water	°C	-15~43 (1)			-15~43 (1)		
Sound power level	heating	dBA	-	-	-	64	64	66
	cooling	dBA	-	-	-	65	66	69
Sound pressure level	heating	dBA	49	51	53	49	51	53
	cooling	dBA	-	-	-	50	52	54
Weight		kg	180			180		
Refrigerant charge	R-410A	kg	2.95			2.95		
Power supply			3N~/400V/50Hz			3N~/400V/50Hz		
Recommended fuses		A	20			20		

Measuring conditions: Heating Ta DB/WB 7°C/6°C - LWC 35°C (DT=5°C) - Cooling Ta 35°C - LWE18°C (DT=5°C)
(1) E(D/B)L* models can reach -20°C / E(D/B)L*6W1 models can reach -25°C but without capacity guarantee

LOW TEMPERATURE APPLICATION - OPTIONS

DOMESTIC HOT WATER TANK

		EKHWS150B3V3	EKHWS200B3V3	EKHWS300B3V3	EKHWS200B3Z2	EKHWS300B3Z2
Water volume	l	150	200	300	200	300
Max. water temperature	°C	85				
Height	mm	900	1,150	1,600	1,150	1,600
Diameter	mm	580				
Booster heater	kW	3				
Power supply		1~/230V/50Hz			2~/400V/50Hz	
Material inside tank		Stainless steel (DIN 1.4521)				
Material outside casing		Epoxy-coated mild steel				
Colour		Neutral white				
Empty weight	kg	37	45	59	45	59

		EKHWE150A3V3	EKHWE200A3V3	EKHWE300A3V3	EKHWE200A3Z2	EKHWE300A3Z2	EKHWET150A3V3
Mounting		Floor					Wall
Water volume	l	150	200	300	200	300	150
Max. water temperature	°C	75					75
Height	mm	1,205	1,580	1,572	1,580	1,572	1,205
Diameter	mm	545	545	660	545	660	545
Booster heater	kW	3					3
Power supply		1~/230V/50Hz			2~/400V/50Hz		1~/230V/50Hz
Material inside tank		Enamel coated steel acc. (DIN4753TL2)					Enamel coated steel acc. (DIN4753TL2)
Material outside casing		Epoxy coated steel					Epoxy coated steel
Colour		Natural white (RAL 9010)					Natural white (RAL 9010)
Empty weight	kg	80	104	140	104	140	82

SOLAR KIT

			EKSOLHWAV1
Dimensions	HxWxD	mm	770x305x270
Heat exchanger	pressure drop	kPA	21.5
	max.inlet temp	°C	110
	heat exchange capacity	W/K	1,400
Ambient temperature	max.	°C	35
	min.	°C	1
Weight		kg	8
Sound pressure level		dBA	27
Power supply			1~/220-240V/50Hz
Power supply intake			Indoor unit

EKTWR

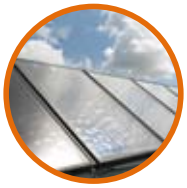
EKTWR
thermostat - receiver
(wireless)

ROOM THERMOSTAT

			EKRTW	EKRTR		Temperature sensor EKRTETS (option)
				Thermostat	Receiver	
Dimensions	HxWxD	mm	87x125x34	87x125x34	170x50x28	3m wire length
Temperature setpoint range	Heating	°C	4~37	4~37	-	-
	Cooling	°C	4~37	4~37	-	-
Clock			yes	yes	-	-
Regulation function			proportional band	proportional band	-	-

PUMP STATION

			EKSRDS1A with controller EKSR3PA
Mounting method			On wall
Dimensions	HxWxD	mm	332x230x145
Power supply			230V / 50 Hz
Control			Digital temperature difference controller with plain text
Solar panel temperature sensor			Pt1000
Storage tank sensor			PTC
Return flow sensor			PTC
Feed temperature and flow sensor (option)			Voltage signal (3,5V DC)



SOLAR COLLECTOR - FOR DOMESTIC HOT WATER

			EKSV26P	EKSH26P
Position			Vertical	Horizontal
Dimensions	HxWxD	mm	2,000x1,300x85	1,300x2,000x85
Outer surface		m^2	2.60	
Absorber surface		m^2	2.36	
Weight		kg	42	
Water content		l	1.7	2.1
Absorber			Harp-shaped copper pipe register with laser-welded highly selective coated aluminum plate	
Coating			Micro-therm (absorption max. 96%, emission ca. 5% +/- 2%	
Glazing			Single pane safety glass, transmission +/- 92%	
Heat insulation			Mineral wool, 50mm	
Max. pressure drop at 100l/h		mbar	3	0.5
Allowed roof angle			15° to 80°	
Max. standstill temperature		°C	200	
Max. operating pressure		bar	6	

The collectors are standstill resistant over a long period and are tested for thermal shock.
Minimum collector yield over 525kWh/m^2 at 40% covering proportion, location Würzburg, Germany.

Daikin solar collectors are awarded with the Solar Keymark certification.
The Keymark for solar thermal products is recognized all across Europe and helps users to select quality solar collectors. In most European countries this certification is even mandatory to be eligible for subsidies.

HEAT PUMP CONVECTOR

				FWXV15AVEB	FWXV20AVEB
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		dBA	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

FOR RENOVATIONS

HIGH TEMPERATURE APPLICATION - SPLIT

INDOOR UNIT

INVERTER

			SINGLE PHASE			THREE PHASE		
			EKHBRD011AV1	EKHBRD014AV1	EKHBRD016AV1	EKHBRD011AY1	EKHBRD014AY1	EKHBRD016AY1
Function			Heating only			Heating only		
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 [1]		dBA	43	45	46	43	45	46
Sound pressure level [2]		dBA	46			46		
Weight		kg	144.25			147.25		
Refrigerant	Type		R-134a			R-134a		
	Charge	kg	3.2			3.2		
Power supply			1~/220-240V/50Hz			3~/380-415V/50Hz		
Recommended fuses		A	25			16		

1 Measuring conditions: Entering Water: 55°C, Leaving Water: 65°C; 1m in front of unit; integrated design (+ tank)
2 Measuring conditions: Entering Water: 70°C, Leaving Water: 80°C; 1m in front of unit; integrated design (+ tank)

OUTDOOR UNIT

INVERTER

			SINGLE PHASE			THREE PHASE		
WITH BOTTOM PLATE HEATER[3]			**ERRQ011AV1**	**ERRQ014AV1**	**ERRQ016AV1**	**ERRQ011AY1**	**ERRQ014AY1**	**ERRQ016AY1**
WITHOUT BOTTOM PLATE HEATER[3]			**ERSQ011AV1**	**ERSQ014AV1**	**ERSQ016AV1**	**ERSQ011AY1**	**ERSQ014AY1**	**ERSQ016AY1**
Dimensions	HxWxD	mm	1,345x900x320			1,345x900x320		
Nominal capacity	heating	kW	11	14	16	11	14	16
Nominal power input [1]	heating	kW	3.57	4.66	5.57	3.57	4.66	5.57
COP [1]			3.08	3.00	2.88	3.08	3.00	2.88
Nominal power input [2]	heating	kW	4.40	5.65	6.65	4.40	5.65	6.65
COP [2]			2.50	2.48	2.41	2.50	2.48	2.41
Operation range	heating	°C	-20~20			-20~20		
	domestic water	°C	-20~35			-20~35		
Sound power level	heating	dBA	68	69	71	68	69	71
Sound pressure level	heating	dBA	52	53	55	52	53	55
Weight		kg	120			120		
Refrigerant charge	R-410A	kg	4.5			4.5		
Power supply			1~/230V/50Hz			3~/400V/50Hz		
Recommended fuses		A	25			16		

1 Measuring conditions: Entering Water: 55°C, Leaving Water: 65°C, ΔT = 10°C; ambient conditions: 7°CDB/6°CWB
2 Measering conditions: Entering Water: 70°C, Leaving Water: 80°C, ΔT = 10°C; ambient conditions: 7°CDB/6°CWB
3 Bottom plate heater = anti freeze protection for cold climates

HIGH TEMPERATURE APPLICATION - OPTIONS

DOMESTIC HOT WATER TANK

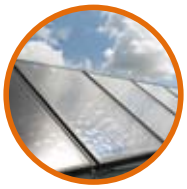
				EKHTS200A	EKHTS260A
Water volume			l	200	260
Max. water temperature			°C	75	
Dimensions	HxWxD		mm	1,335x600x695	1,610x600x695
Dimensions - integrated on indoor unit	HxWxD		mm	2,010x600x695	2,285x600x695
Material outside casing				Precoated sheet metal	
Colour				Metallic grey	
Empty weight			kg	70	78
Tank	Material			Stainless steel (DIN 1.4521)	
Domestic hot water heat exchanger	Material			Duplex steel LDX 2101	
	Volume		l	7.5	
	Heat exchanger surface		m^2	1.56	

DOMESTIC HOT WATER TANK WITH SOLAR CONNECTION

			EKHWP300A	EKHWP500A
Mounting method			Floor standing	
Casing colour			Dusty grey - RAL 7037	
Casing material			Impact resistant polypropylene	
Water volume		l	300	500
Maximum water temperature		°C	85	85
Dimensions	HxWxD	mm	1,590x595x615	1,590x790x790
Empty weight		kg	67	100
Domestic hot water heat exchanger	Material		Stainless steel 1.4404	
	Volume	l	27.8	28.4
	Maximum operation pressure	bar	6	6
	Heat exchanger surface	m^2	5.7	5.9
	Average specific thermal output	W/K	2,795	2,860
Charging heat exchanger	Material		Stainless steel 1.4404	
	Volume	l	12.3	17.4
	Heat exchanger surface	m^2	2.5	3.7
	Average specific thermal output	W/K	1,235	1,809
Supporting solar heating exchanger	Material		Stainless steel 1.4404	
	Volume	l	-	5
	Heat exchanger surface	m^2	-	1.0
	Average specific thermal output	W/K	-	313

PUMP STATION

			EKSRPS3
Mounting method			On side of tank
Dimensions	HxWxD	mm	815x230x142
Power supply			230V / 50 Hz
Max. electric power consumption			245
Control			Digital temperature difference controller with plain text
Solar panel temperature sensor			Pt1000
Storage tank sensor			PTC
Feed temperature and flow sensor (option)			Voltage signal (3,5V DC)



SOLAR COLLECTOR - FOR DOMESTIC HOT WATER

			EKSV26P	EKSH26P
Position			Vertical	Horizontal
Dimensions	HxWxD	mm	2,000x1,300x85	1,300x2,000x85
Outer surface		m^2	2.60	
Absorber surface		m^2	2.36	
Weight		kg	42	
Water content		l	1.7	2.1
Absorber			Harp-shaped copper pipe register with laser-welded highly selective coated aluminum plate	
Coating			Micro-therm (absorption max. 96%, emission ca. 5% +/- 2%	
Glazing			Single pane safety glass, transmission +/- 92%	
Heat insulation			Mineral wool, 50mm	
Max. pressure drop at 100l/h		mbar	3	0.5
Allowed roof angle			15° to 80°	
Max. standstill temperature		°C	200	
Max. operating pressure		bar	6	

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Minimum collector yield over 525kWh/m^2 at 40% covering proportion, location Würzburg, Germany.

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DAIKIN, YOUR RELIABLE PARTNER

Daikin is the specialist in climate conditioning systems – for private homes as well as for larger commercial and industrial spaces. We make every effort to make sure that you are100% satisfied.

HIGH-QUALITY, INNOVATIVE PRODUCTS

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

A CLEAN ENVIRONMENT

When you bring a Daikin product into your home, you are also making a significant contribution to the environment. In producing your comfort system, we strive for sustainable energy consumption, product recycling and waste reduction. Daikin rigorously applies the principles of eco-design, thus restricting the use of materials that are harmful to our environment.

In all of us, a green heart

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

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