

Changing the way we heat our homes



Now is the time to rethink the way we heat our homes and hot water. Central heating systems as we know them today are about to change dramatically.

Why? Fuel prices are rising.

Fossil fuel sources are becoming increasingly restricted. Everyone is concerned about reducing their energy bills. And the more eco-conscious among us also want to reduce our impact on the environment by using renewable energy sources.

Whether for environmental or financial reasons (or even better, both), finding a more energy efficient and economical way to heat our homes is now a real priority – for the Government, for housing providers and for forward thinking home owners alike.

The good news is that you can get cheaper and 'greener' heat, without compromising on system performance.

Daikin's efficient heating solutions makes maximum use of the renewable energy all around us, converting free heat from the air and the sun to deliver completely reliable and controllable heating and hot water for homes, even when temperatures outside are below zero.

Daikin's heating and renewables range offers:

- Savings on running costs
- Reduction in CO₂ emissions
- Easy installation
- Space saving, low noise units
- Safe, easy maintenance
- High reliability
- Solutions for new homes and for retrofit



Why the time is right for a new approach to heating our homes



“ I want to see more homes, communities and businesses generating their own energy. We can literally bring power back to the people.”

Climate Change Minister, **Gregory Barker**

A Green Deal for householders

Our homes account for almost 27% of the UK's CO₂ emissions, more than 80% of which is attributed to our heating and hot water provision. Older, harder to heat properties make up the majority of homes in the UK and many have poor insulation, leading to excessive heat loss. The Government is committed to reducing CO₂ emissions and improving energy efficiency in our homes through a new Green Deal, announced in 2010, which will help individuals to invest in home energy-efficiency improvements.



A new Microgeneration Strategy

A new Microgeneration Strategy was published with the express purpose of promoting microgeneration technologies. The Department of Energy and Climate Change is also planning a Renewable Heat Incentive to encourage the uptake of renewables.

The European RES Directive

The European RES Directive has set a goal that 20% of our total energy production must be produced from renewable energy sources by 2020. Air source heat pumps and solar thermal systems are recognised as renewable energy sources, so the market for these will grow fast over the next decade.

The Code for Sustainable Homes

The Code for Sustainable Homes (CfSH) was implemented in April 2007 as a voluntary standard designed to encourage construction of new homes to higher environmental and sustainable standards. It replaced the previous EcoHomes voluntary standard. Building Regulations Part L were updated in October 2010 and the energy requirements were increased to reflect CfSH Level 3, i.e. 25% reduction against the previous Building Regulations 2006. There are many local requirements to encourage new homes to meet CfSH Level 3 and even CfSH Level 4.



How to choose a system that suits your project



To get a better idea of which Daikin system would best suit your installation, please follow the flow chart showing the preferred applications of the Daikin heating products.

Daikin offers a whole range of systems to suit your requirements:

Daikin Altherma heat pump systems

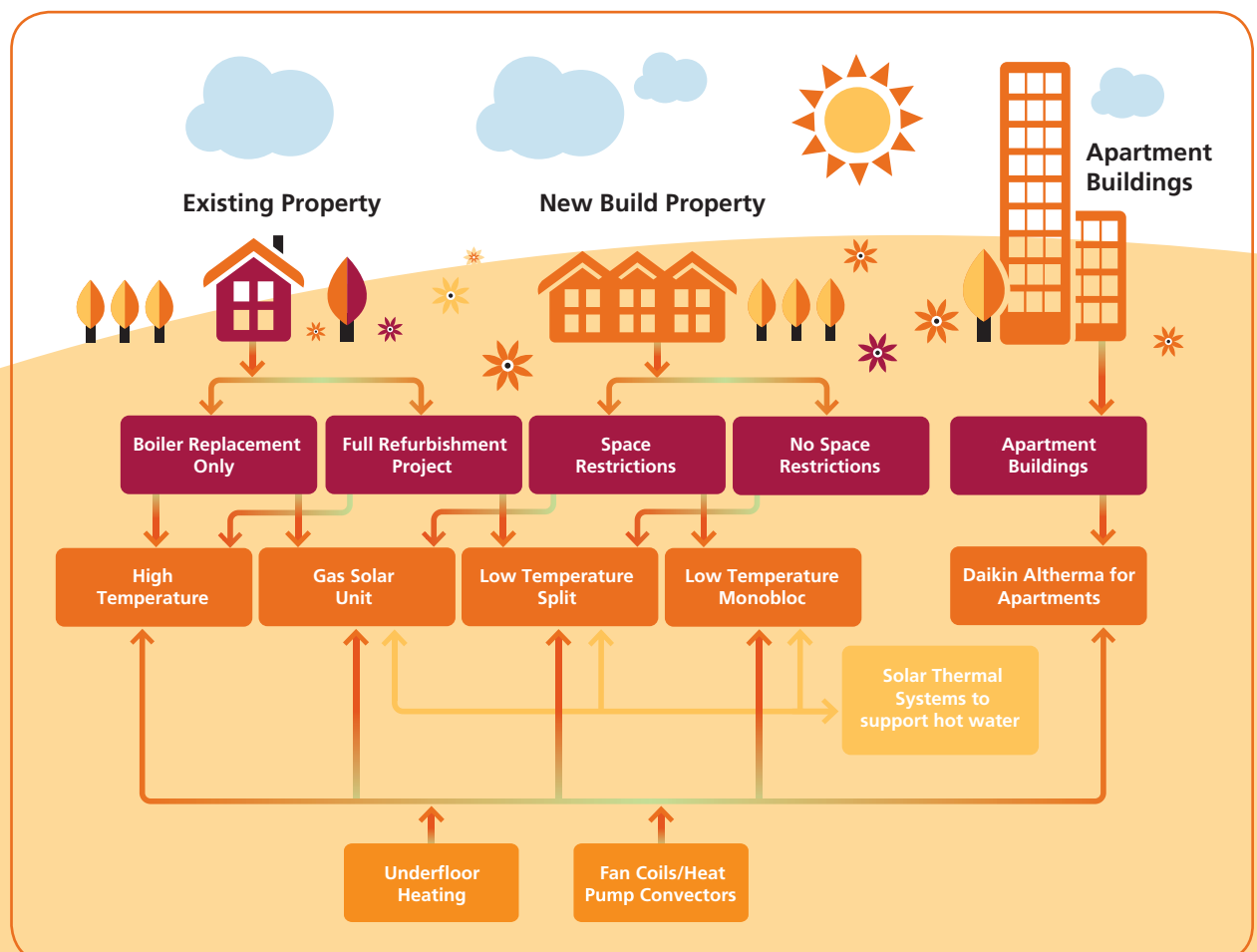
- Low temperature monobloc
- Low temperature split systems
- High temperature split systems

Solar and GasSolarUnits

- Solar thermal systems
- GasSolarUnits for the combined benefits of gas and solar energy

Heat emitters

- Fan coils
- Heat pump convectors
- Underfloor heating



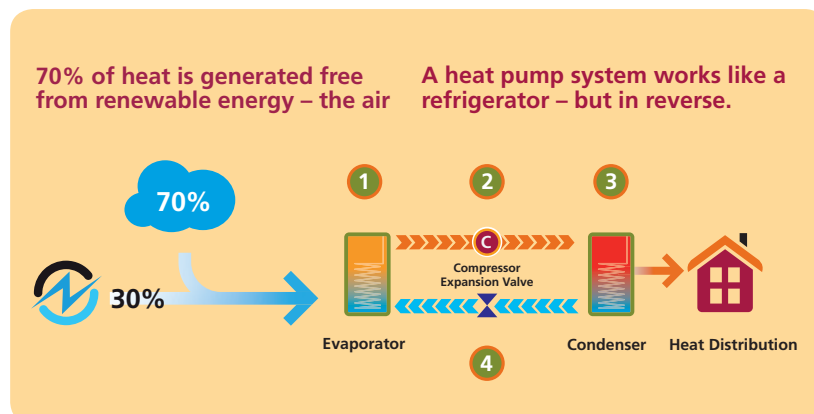
Daikin Altherma Air Source Heat Pumps



Innovation and quality are constantly at the forefront of Daikin's philosophy. Daikin's systems provide highly efficient solutions, which minimise the impact on the environment and running costs.

Daikin Altherma is a domestic heating and hot water system based on air source heat pump (ASHP) technology. It represents a flexible and cost-effective alternative to a fossil fuel boiler.

How does a heat pump work?



1 A heat exchanger contains refrigerant, which is colder than the outside air. As the air passes the exchanger, the refrigerant absorbs the latent heat from the outside air and evaporates.

2 The vapour passes into the compressor and is compressed, increasing its pressure and temperature, effectively concentrating the heat.

3 Hot vapour is condensed in the second heat exchanger where heat is rejected and the vapour condenses back into a liquid. The rejected heat passes into the central heating and hot water system, ready for use in the home.

4 The liquid refrigerant passes back through an expansion valve, ready to start the cycle again.

Daikin Altherma Advantages over traditional boiler systems

- Uses renewable energy source
- 3 to 5 times more efficient
- Advanced Energy Saving Features
 - Weather compensation built in as standard
 - Inverter Compressor Technology
- 30 – 50% reduction in CO₂ emissions
- Low running and maintenance costs
- Low noise – unobtrusive and quiet
- Easy to install, no groundwork i.e. trenches or boreholes
- Ideal for off gas grid properties
- Single phase power supply with low starting current
- Flexible, can be connected to underfloor heating, radiators or fan coils
- As a package of energy saving measures, helps towards higher rating in the Code for Sustainable Homes
- Can be connected with a solar thermal system which can provide up to 60% of your hot water needs.



Heat Pumps

Low Temperature Systems – Split System



The Daikin Altherma LT Split system offers complete flexibility for both new build and refurbishment projects.

System elements

Solar thermal system

Option to connect an indirect pressurised solar thermal system to create a fully renewable system.

Heat emitters

The system can work with low temperature radiators, underfloor heating, fan coils or heat pump convectors.

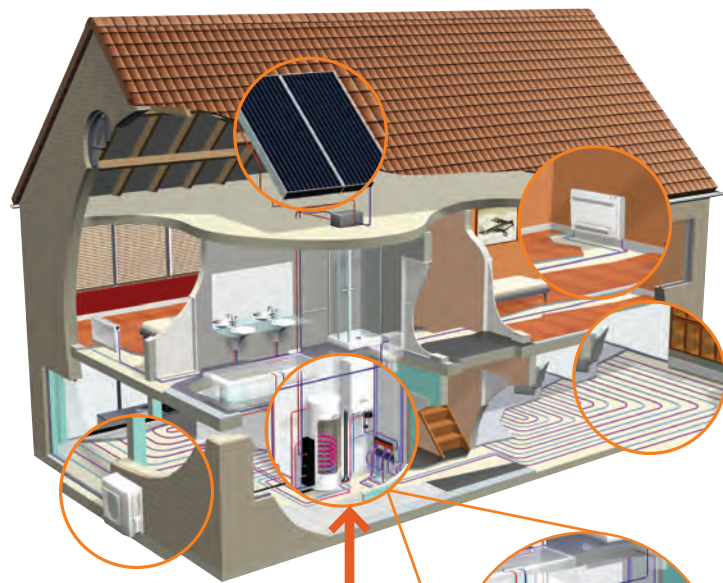
Outdoor unit options

The outdoor unit extracts energy from the outside air and can be located up to 70 metres from the indoor unit.

Two ranges of Split Outdoor Units are compatible with either the wall hung or integrated indoor unit.

The B Series is available in 6 -16kW capacities.

The new, high performance **C Series** is available in 11-16kW capacities and is designed for severe weather conditions.



Indoor unit options

Two types of indoor units are available to suit every kind of property.

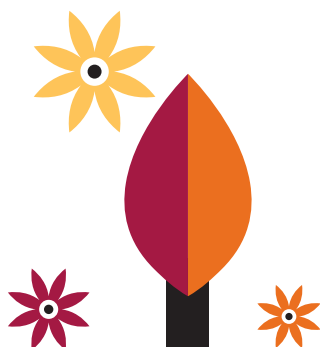
1. Wall Hung

A wall hung indoor hydrobox unit generates water temperatures of up to 50°C (55°C is possible with some units) for heating and for hot water. It is used together with a separate unvented hot water cylinder which can be sited flexibly to suit your requirements. The hot water cylinder is specially designed to maximise hot water supply and comes in three sizes: 150, 200 and 300 litres.

2. Integrated

Alternatively, a new integrated indoor unit is available, combining a floor standing hydrobox with integrated domestic hot water cylinder above. This all-in-one solution offers excellent hot water performance.

- Highly insulated unvented stainless steel cylinder for high flow rates, low energy losses and excellent re-heat times
- Simplified installation for installer and reduced installation time
- Ideal for high specification applications
- Cylinder available in 200 or 260 litre capacities.







Heat Pumps

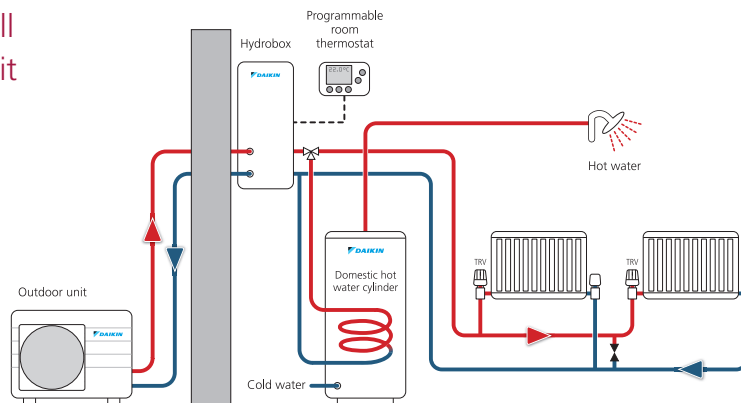
Low Temperature Systems – Split System



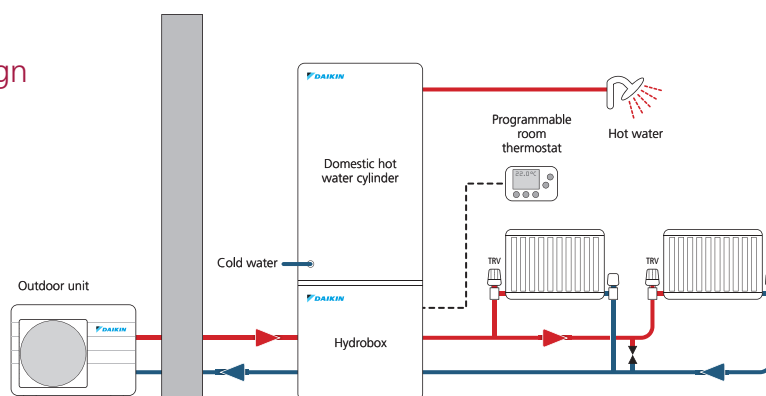
The Daikin Altherma LT Split system is available in four configurations, offering 18 possible combinations.

	INDOOR UNIT	CYLINDER CAPACITY	OUTDOOR UNIT	CAPACITY RANGE	BENEFITS
1	Wall Hung Indoor Unit & Separate Cylinder 	150, 200 and 300 litre 	B Series	6-16 kW	Hydrobox generates hot water up to 50°C (can be 55°C for some applications). Cylinder can be sited to suit requirements. Outdoor unit can be sited up to 70 metres from indoor unit.
			C Series	11-16kW	In addition to the above benefits, the C-series is designed for severe weather and offers higher capacity at low ambient conditions.
2	Floor Standing Integrated Indoor Unit & Cylinder 	200 and 260 litre 	B Series	6-16 kW	Stylish design and space saving configuration. Improved hot water performance. Outdoor unit can be sited up to 70 metres from indoor unit.
			C Series	11-16kW	In addition to the above benefits, the C-series is designed for severe weather and offers higher capacity at low ambient conditions.

1. LT Split with wall hung indoor unit



2. LT Split with integrated design



Heat Pumps

Low Temperature Systems – Monobloc System



When there are internal space constraints, the Daikin Altherma LT Monobloc system offers a perfect solution as it combines all the main hydraulic components in a single outdoor unit. No refrigerant handling qualification is required to install the system.

System elements

Solar thermal system

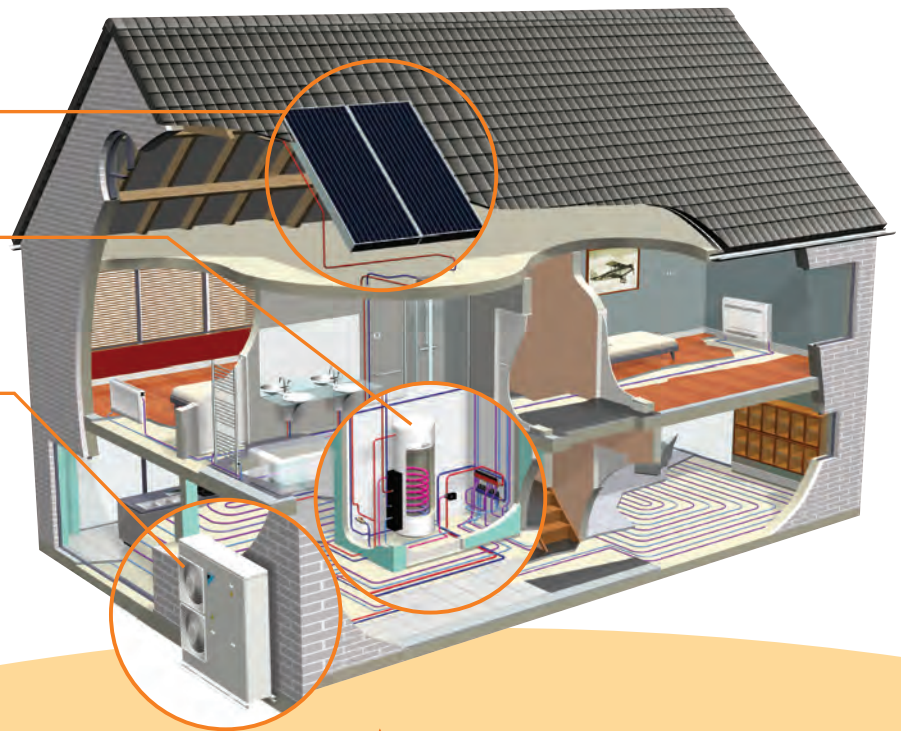
Optional connection with solar panels to create a fully renewable system

Hot water cylinder

The hot water cylinder is specially designed to maximise hot water supply and comes in three sizes: 150, 200 and 300 litres.

Outdoor unit

Simplified installation, as it requires only power and water connections. Sealed refrigerant circuit including back-up heater.



Daikin Altherma LT Monobloc is available in 6kW and 8kW capacities, ideal for small properties, extending the existing range:

- Quick installation
- Simplified wiring
- All hydraulic components included in the unit
- Compatible with solar thermal systems to create a completely renewable solution for even greater energy savings
- Plug and go solution for tight spaces requiring smaller capacities
- Optional back-up heater indoors.



Heat Pumps

Daikin Altherma High Temperature



In older or harder to heat properties, you need a system that reliably delivers higher water flow temperatures of up to 80°C, without necessarily replacing the whole radiator system.

System elements

Solar thermal system

The high temperature system can also be connected with a solar thermal system, for greater efficiency and cost savings.

The high temperature system works in conjunction with solar thermal system and thermal store.

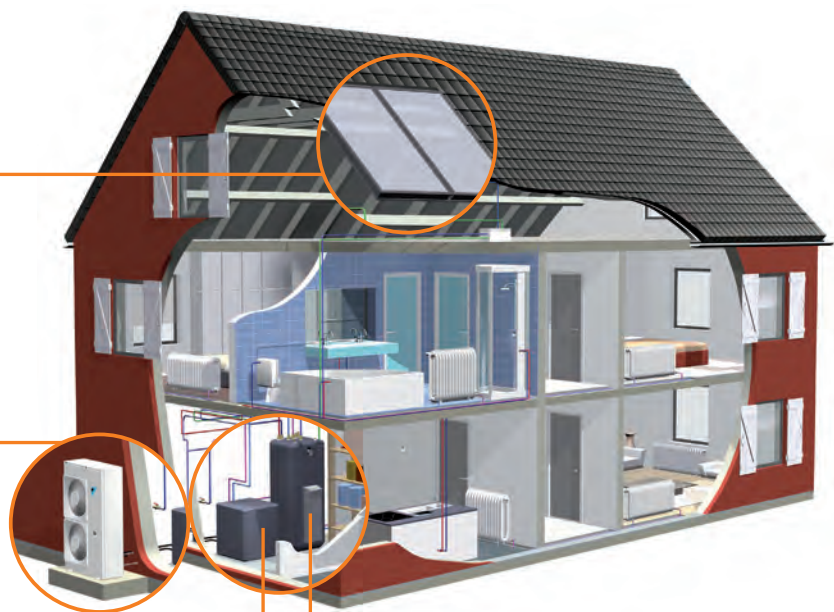
Outdoor unit

The outdoor unit extracts heat from the outside air and transfers it to the indoor unit via refrigerant piping.

For boiler replacement and retrofit projects:

The Daikin Altherma High Temperature system is ideal for straight-forward boiler replacement. The system offers:

- Superior and unique cascade heat pump technology
- Water flow temperature of up to 80°C, without need for an immersion heater
- Hot water recovery time as fast as a gas boiler
- Modular design and easy to install – all components are pre-assembled

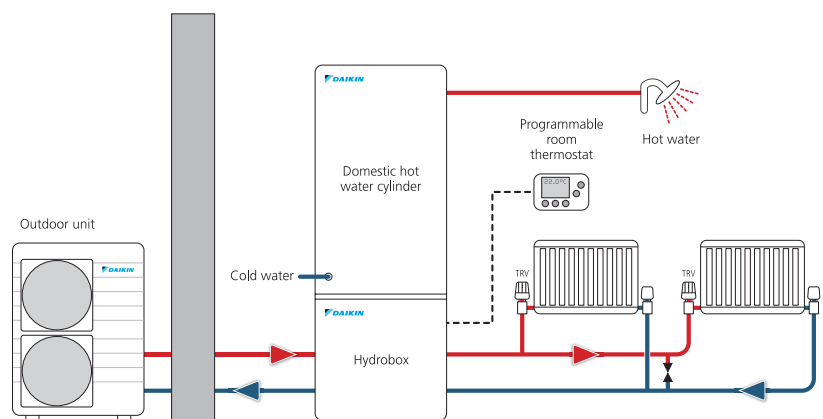


Indoor unit

The floor standing indoor hydrobox increases the temperature, generating water temperatures of up to 80°C for use with radiators and for hot water production.

Hot water cylinder

The hot water cylinder can be stacked on top of the indoor unit, thus saving space. This cylinder is replaced by a Daikin thermal store when the heat pump is installed in conjunction with a solar system.



Typical HT system

Heat Pumps

Daikin Altherma Flex Type



New Daikin Altherma Flex Type heat pump series is ideal for apartment buildings and community heating, providing them with a renewable energy solution.

Efficient air-to-water heat pump technology for entire apartment buildings

- Applications: heating, domestic hot water and optional cooling from a single efficient system
- Up to 80°C water temperatures by heat pump only
- For a typical application this system can deliver*:
 - 27% reduction in primary energy use,
 - 59% less CO₂ emissions and
 - 33% less operating costs compared to an installation with individual gas boilers.

* Simulation calculation carried out on an apartment building in Belgium: 5 floors, 22 apartments, average size per apartment: 107m²; all apartments are assumed to be heated with under floor heating and radiators.

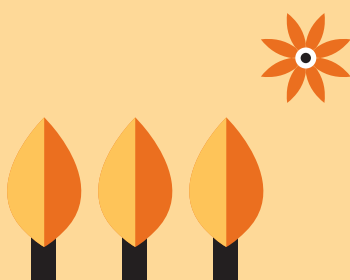
Modular system is easy to install

- One outdoor heat pump unit can serve up to 10 apartments.
- Outdoor units with capacities of between 23 and 45 kW
- Multiple outdoor units can be installed for still larger applications.
- A small footprint “plug and play” indoor unit is installed in each individual dwelling.

Flexible control

- Since connection between outdoor and indoor units is made by small diameter refrigerant pipework, a minimum sized utility shaft is all that is needed.
- Building heights of 50 metres can be accommodated.
- Each individual apartment is fitted with an intelligent user interface plus optional wired or wireless room thermostats. Features include control of:
 - room temperature,
 - domestic hot water temperature,
 - a space heating function,
 - weather dependent setpoint and
 - room temperature compensation.

World-First



Heat Pumps – Low Temperature Application

Daikin Altherma – Split



Technical Data



OUTDOOR UNIT - B SERIES			ERHQ006BV3	ERHQ007BV3	ERHQ008BV3	ERHQ011B**	ERHQ014B**	ERHQ016B**
Dimensions	H x W x D	mm	735 x 825 x 300			1170 x 900 x 320		
Nominal Capacity	Heating	kW	5.75	6.84	8.43	11.2	14.0	16.0
	Cooling	kW	5.12	5.86	6.08	10.0	12.5	13.1
Nominal Input	Heating	kW	1.26	1.58	2.08	2.46	3.17	3.83
	Cooling	kW	2.16	2.59	2.75	3.60	5.29	5.95
COP			4.56	4.33	4.05	4.55	4.42	4.18
EER			2.37	2.26	2.21	2.78	2.36	2.20
Operation Range	Heating	°C	-20 ~ 25			-20 ~ 35		
	Cooling	°C	10 ~ 43			10 ~ 46		
	Hot Water	°C	-20 ~ 43					
Sound Pressure / Power Level	Heating	dBA	48 / 61		49 / 62	49 / 64	51 / 64	53 / 66
	Cooling	dBA	48 / 63		50 / 63	50 / 64	52 / 66	54 / 69
Weight		kg	56			103		
Refrigerant Charge	R-410A	kg	1.7			3.7		
Power Supply			1-phase / 230V / 50Hz					
Recommended Fuses		A	20			32		

Nominal Capacity and Power Input based on the following conditions:

Heating: Ambient 7°CDB/6°CWB / Leaving Water Temp. 35°C (DT 5°C)

Cooling: Ambient 35°C / Leaving Water Temp. 7°C (DT 5°C)

Sound Pressure Level Measured at 1m from the Unit



OUTDOOR UNIT - C SERIES			ERLQ011CV3	ERLQ014CV3	ERLQ016CV3
Dimensions	H x W x D	mm	1345 x 900 x 320		
Nominal Capacity	Heating	kW	11.2	14	16
	Cooling	kW	10.98	13.57	15.2
Nominal Input	Heating	kW	2.41	3.14	3.72
	Cooling	kW	3.15	5.33	6.06
COP			4.66	4.46	4.3
EER			3.39	3.01	2.76
Operation Range	Heating	°C	-20 ~ 25		
	Cooling	°C	10 ~ 46		
	Hot Water	°C	-20 ~ 35		
Sound Pressure / Power Level	Heating	dBA	51/64		52/66
	Cooling	dBA	50/64		52/66
Weight		kg	113		
Refrigerant Charge		kg	3.4	3.4	3.4
Power Supply			1-phase / 230V / 50Hz		
Recommended Fuses		A	40		

Heat Pumps – Low Temperature Application

Daikin Altherma – Split



Technical Data

Note that specification tables refer to Product part numbers. Please check the material reference on the price list at time of ordering



INDOOR UNIT (WALL HUNG)			EKHBH008B***	EKHBX008B***	EKHBH016B***	EKHBX016B***
Function			Heating Only	Reversible	Heating Only	Reversible
Dimensions	H x W x D	mm	922 x 502 x 361			
Leaving Water Temperature Range	Heating	°C	15~50		15~55	
	Cooling	°C	-	5~22	-	5~22
Drain Valve			Yes			
Material			Epoxy Polyester Painted Galvanised Steel			
Colour			RAL 9010 (Neutral White)			



DOMESTIC HOT WATER CYLINDER			EKHWSU150B3V3	EKHWSU200B3V3	EKHWSU300B3V3
Suitable for			Unvented Systems (EKUHWB Kit also required - see below)		
Water Volume	l		150	200	300
Max Water Temperature	°C		85		
Booster Heater Capacity	kW		3		
Power Supply			1-phase / 230V / 50Hz		
Height	mm		1015	1265	1715
Diameter	mm		580		
Empty Weight	kg		38	46	60
Colour			Neutral White		
Material Inside Cylinder			Stainless Steel (DIN 1.452 1)		
Material Outside Casing			Epoxy-Coated Mild Steel		
Piping Connections (Diameter)	Water inlet H/E	inch	3/4"		
	Water outlet H/E	inch	3/4"		
	Cold water in	inch	3/4"		
	Hot water out	inch	3/4"		



INDOOR UNIT (FLOOR UNIT) INTEGRATED			EKHVH008BB***	EKHVX008BB***	EKHVH016BB***	EKHVX016BB***
Function			Heating Only	Reversible	Heating Only	Reversible
Dimensions	H x W x D	mm	860 x 680 x 800			
Leaving Water Temperature Range	Heating	°C	15~50		15~55	
	Cooling	°C	-	5~22	-	5~22
Drain Valve			Yes			
Material			Precoated sheet metal			
Colour			Metallic Grey			



DOMESTIC HOT WATER CYLINDER			EKHTSU200AC	EKHTSU260AC
Suitable for			Unvented systems (EKUWHT kit also required - See below)	
Water volume	L		200	260
Max water temperature	°C		75	
Height	mm		2010	2285
Width	mm		600	600
Depth	mm		695	695
Empty Weight	kg		70	78
Colour			Metallic Grey	
Material Inside Cylinder			Stainless Steel	
Material Outside Casing			Precoated Sheet Metal	
Piping Connections	Water inlet H/E	inch	3/4"	
	Water outlet H/E	inch	3/4"	
	Cold water in	inch	3/4"	
	Hot water out	inch	3/4"	

Heat Pumps – Low Temperature Application

Daikin Altherma – Monobloc



Technical Data



MONOBLOC 6kW-8kW (230V 1ph)			EBHQ006BAV3	EBHQ008BAV3
COP			4.56	4.05
Sound power level	Heating	dBA	61	62
	Cooling	dBA	63	63
Sound pressure level	Heating	dBA	48	49
	Cooling	dBA	48	50
Dimensions	H x W x D	mm	805 x 1190 x 360	
Refrigerant Charge (Factory)		kg	1.7	
Power Supply			1-phase / 230V / 50Hz	
Water Connection		inch	1"	
BACK UP HEATER KIT			EKMBUHB6V3	
Dimensions	Max depth	mm	170	
	Max width	mm	380	
	Max height	mm	575	
Power supply			1-phase / 230V / 50Hz	
Water connection		inch	1 1/4"	
CONTROL BOX			EKCBH008BBV3	EKCBX008BBV3
Function			HEATING ONLY	REVERSIBLE
To use with			EBHQ006~008BAV3	
Dimensions	Max depth	mm	100 (excluding user interface)	
		mm	120 (including user interface)	
	Max width	mm	412	
	Max height	mm	390	
Power supply			1-phase / 230V / 50Hz	
Colour			RAL 7011 (iron grey)	



MONOBLOC 11-16kW (230V 1ph)			HEATING ONLY			REVERSIBLE		
			EDHQ011A6V3	EDHQ014A6V3	EDHQ016A6V3	EBHQ011A6V3	EBHQ014A6V3	EBHQ016A6V3
Nominal Capacity	Heating	kW	11.2	14	16	11.2	14	16
	Cooling	kW	-			10	12.5	13.1
Nominal Input	Heating	kW	2.47	3.2	3.79	2.47	3.2	3.79
	Cooling	kW	-			3.6	5.3	5.85
COP			4.54	4.37	4.22	4.54	4.37	4.22
EER			-			2.78	2.36	2.24
Operation Range	Heating	°C	-15 ~ 35*			-15~35*		
	Cooling	°C	-			10 ~ 46		
	Domestic Water	°C	-20 ~ 43			-20 ~ 43		
Sound Power Level	Heating	dBA	64	64	66	64	64	66
	Cooling	dBA	-			64	66	69
Sound Pressure Level	Heating	dBA	51	51	52	51	51	52
	Cooling	dBA	-			50	52	54
Dimensions	H x W x D	mm	1418 x 1435 x 382			1418 x 1435 x 382		
Weight		kg	180			180		
Refrigerant Charge	R-410A	kg	2.95			2.95		
Power Supply			1-phase / 230V / 50Hz			1-phase / 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 - LWE7°C (DT=5°C)

Heat Pumps – High Temperature Application

Daikin Altherma – HT



Technical Data



COMBINATION OUTDOOR INDOOR

OUTDOOR UNIT (230V 1ph)			ERSQ011AV1	ERSQ014AV1	ERSQ016AV1
Nominal Capacity	Heating	kW	11	14	16
Nominal Input	Heating	kW	3.57	4.66	5.57
COP			3.08	3.00	2.88
Operation Range	Heating	°C	-20 to +20		
	Domestic water	°C	-20 to +35		
Sound Power Level	Heating	dB(A)	68	69	71
Sound Pressure Level	Heating	dB(A)	52	53	55
Dimensions	H x W x D	mm	1345 x 900 x 320		
Weight		kg	120		
Refrigerant Charge	R-410A	kg	4.5		
Power Supply			1-phase / 230V / 50Hz		
Recommended Fuses		A	32		
INDOOR UNIT			EKHBRD011ABV1	EKHBRD014ABV1	EKHBRD016ABV1
Dimensions	H x W x D	mm	705 x 600 x 695		
Weight		kg	144.25		
Leaving Water Temp		°C	25-80 Without Electrical Heating		
Drain Valve / Fill Valve			Yes		
Material			Precoated Sheet Metal		



Measuring conditions: EW: 55°C; LW: 65°C; dT: 10°C; Ambient conditions: 7°CDB/6°CWB

COMBINATION TABLE INDOOR – ACCESSORIES		EKHBRD011ABV1	EKHBRD014ABV1	EKHBRD016ABV1
Stainless Steel DHW Cylinder (unvented)	EKHTSU200AC	•	•	•
	EKHTSU260AC	•	•	•
Wired Remote Control	EKRTW	•	•	•
Wireless Remote Control	EKRTR + EKRTETS	•	•	•



DOMESTIC HOT WATER CYLINDER			EKHTSU200AC	EKHTSU260AC
Suitable For			Unvented Systems (EKUHWHT Kit also required - see below)	
Water Volume	l		200	260
Max Water Temperature	°C		75	
Height	mm		1335	1610
Width	mm		600	600
Depth	mm		695	695
Empty Weight	kg		81	89
Colour			Metallic Grey	
Material Inside Cylinder			Stainless Steel	
Material Outside Casing			Precoated Sheet Metal	
Piping Connections (Diameter)	Water inlet H/E	inch	3/4"	
	Water outlet H/E	inch	3/4"	
	Cold water in	inch	3/4"	
	Hot water out	inch	3/4"	

KITS CONNECTED TO DHW CYLINDER		DOMESTIC HOT WATER CYLINDER EKHTSU
EKUHWHT	Kit for Unvented Systems includes: Combined Pressure Reducing Valve, Non Return Valve, Strainer, Expansion Relief Valve, Expansion Vessel, Tundish	•
EKFMAHTB	Option Kit for Standalone Cylinder, includes Top Plate and Adaptors (to go from quick couplers to screw connections)	•