DAIKIN

altherma

The natural choice

INSTALLER LEAFLET

DAIKIN ALTHERMA

LOW TEMPERATURE

HEAT PUMP

Providing the highest savings on running costs

resulting in best seasonal efficiencies

- 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

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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

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Saving installation space and time

thanks to the integrated heating and hot water unit

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

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Easy to use, commission and service

with the new control panel

- 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

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Best seasonal efficien

providing the highest savings

1. HIGH HEAT PUMP EFFICIENCIES AT ALL OUTDOOR AND WATER TEMPERATURES

Daikin Altherma low temperature uses a range of efficient compressors, limiting electrical compressor 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 to avoid over-dimensioning
- optimised efficiency at all outside and water temperatures, thanks to a pressure sensor and an individual dimensioned plate heat exchanger per capacity class

This means the end user only pays for the capacity he really needs to obtain the best energy efficiency.

2. HIGH HEATING CAPACITIES DOWN TO LOW OUTSIDE TEMPERATURE

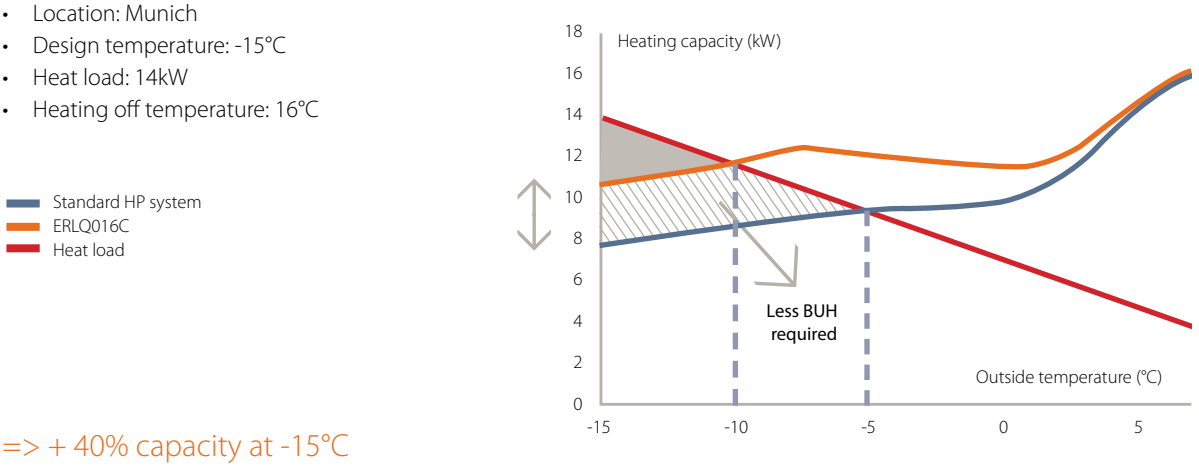
Daikin Altherma low temperature maintains its high heating capacities down to low outdoor temperatures. The electrical back-up heater assistance is no longer required or only very limited.

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

Comparison between standard air-to-water heat pump and new Daikin Altherma units (ERLQ-C range - 11-16 kW)

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



=> + 40% capacity at -15°C

=> No need for back up heater from -10°C onwards (compared to -5°C for standard heat pump)

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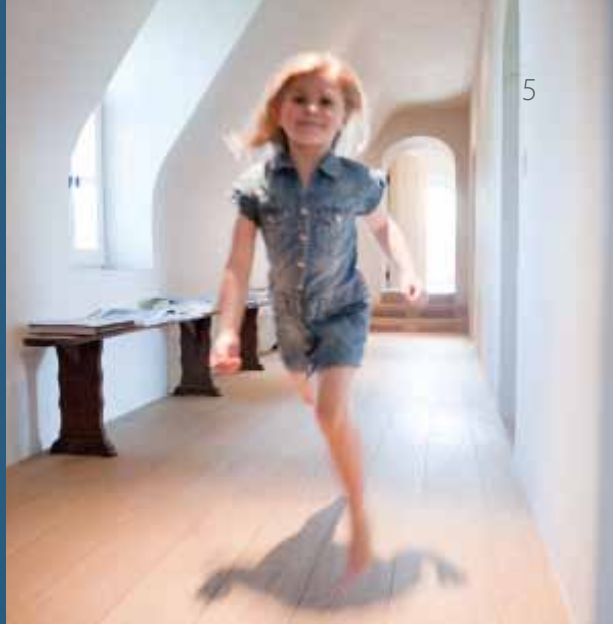
on running costs



3. 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.

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. 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

5. LIMITING ELECTRICAL INPUTS OF AUXILIARY COMPONENTS

In addition to limiting the electrical input of the compressor and the electrical back-up heater, Daikin limits 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))

Perfect fit for new

as well as for low energy hou

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.

2. MAXIMUM COMFORT

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

- Optimal comfort conditions the whole year round, with both heating and cooling possible
- Stable room temperatures thanks to Daikin inverter compressors and weather dependent set point control
- Room thermostat function to even better match the set-point room temperature with the actual room temperature

3. ALL TYPES OF HEAT EMITTERS POSSIBLE

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

Low-temperature radiators 40°C → 55°C

builds,
ses

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

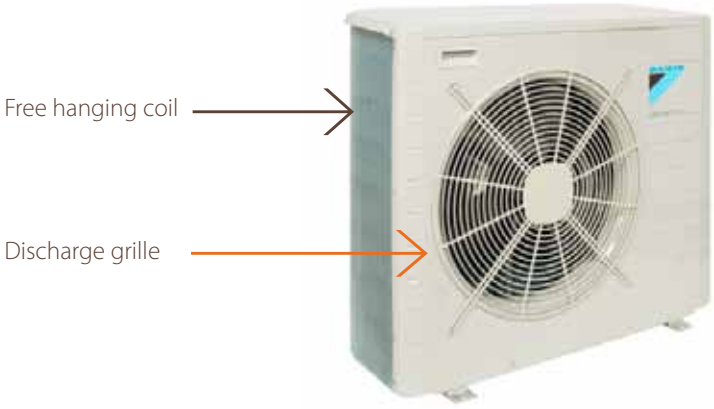
Daikin is renowned for its know-how related to frost protection on its heat pump range. Even in the most severe winter conditions.

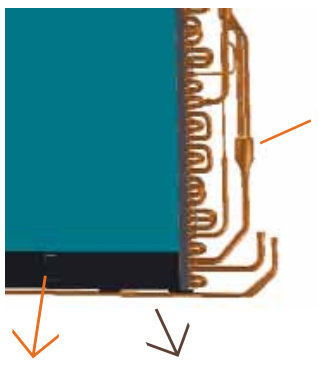
1. The 4-8kW range outdoor unit

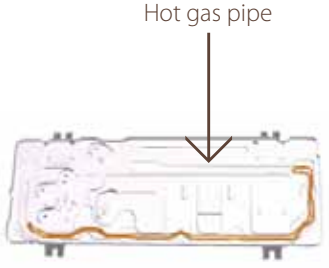
- The outdoor unit has a free hanging coil,ensuring no ice accumulates in the lower part of the outdoor unit. This is key to offering appropriate frost protection and has the additional advantage that no electrical bottom plate heater is required
- The discharge grille is also specifically designed to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

2. The 11-16kW range outdoor unit

- Hot gas pass: hot gaseous refrigerant coming fromthe compressor runs through the bottom plate to keep the base free of ice and all the drain holesopen
- 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







Integrated heating and saving installation space

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

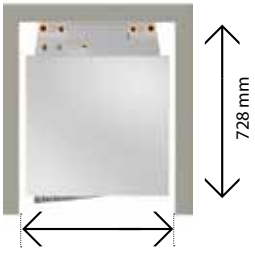
- Fast installation: the stainless steel domestic hot water tank is included in the unit, with all connections between heat pump module and tank factory made.
- All hydraulic components are included
- Easy serviceability and maintenance: the electric PCB board and hydraulic components are accessible from the front.
- Lower installation footprint: all water and refrigerant connections are at the top of the unit, assuring easy connection and accessibility.

Components are accessible from the front

2. 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. As the domestic hot water tank is integrated in the indoor unit, the installation space required is greatly reduced.

2. 

Small footprint: with a width of only 600mm and a depth of 728mm, 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 0.45m^2.

3. Low installation height: both the 180l and 260l version come with a height of 173cm. The required installation height is less than 2m, taking into account 30cm for installing the piping.

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

hot water unit, and time

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

- 50% less heat loss compared to a standard insulated tank
- Up to 55°C tank temperature with heat pump operation only
- Up to 60°C tank temperature with standard back-up heater of the heat pump module
- High hot water volumes: 300l at 40°C, enough for 6 showers without any electrical assistance
- Schedule function: heat up the tank at a specified time during the day
- Reheat function: when the tank temperature goes below a specified minimum reheat temperature, the tank is automatically reheated

4. 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

2. When the wall-mounted indoor unit should be combined with a separate domestic hot water tank
- stainless steel tank: 150l, 200l or 300l
- enamel tank: 150l, 200l or 300l

3. When the connection to Daikin solar system is required
- the solar collectors of the **unpressurised solar system** are only filled with water when sufficient heat is provided by the sun. Antifreeze is not necessary since the collector surfaces are not filled with water if the installation is not in use.
- the **pressurised solar system** is filled with heat transfer fluid with the correct amount of antfreeze to avoid freezing in winter.

solar kit - connection to Daikin pressurised solar system

Unpressurised solar system

New control pa
easy to use,

1. QUICK AND EASY COMMISSIONING

- Quick configuration wizard to guide installer through commissioning process
- Menu-based navigation to fine-tune the basic parameters
- Parameters are downloadable to PC as a back-up or to be duplicated
- Actuator test mode to activate all wired components one by one
- Automatic screed-drying function for a gradual heat-up of an under-floor heating system to avoid cracks
- Schedule timers for heating, cooling, domestic hot water operation

2. 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.

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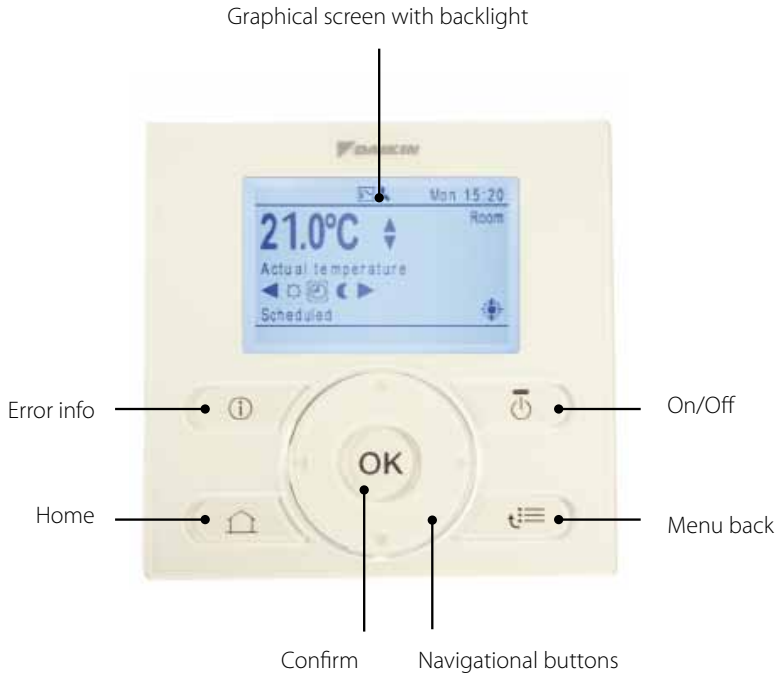
commission and service



3. 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.

4. EASY SERVICEABILITY

- Full text error messages to guide end user to take appropriate action
- The service engineer can review the last 20 error occurences
- Detailed information on the operational conditions of the unit

5. TECHNICAL SPECIFICATIONS

FLOOR STANDING INDOOR UNIT

HEATING ONLY

INVERTER

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

OUTDOOR UNIT				ERLQ004CV3	ERLQ006CV3	ERLQ008CV3	ERLQ011CV3/CW1	ERLQ014CV3/CW1	ERLQ016CV3/CW1	ERHQ011BV3	ERHQ014BV3	ERHQ016BV3	ERHQ011BW1	ERHQ014BW1	ERHQ016BW1
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	11.2	14.0	16.0	11.32	14.50	16.05
	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	2.55	3.26	3.92	2.63	3.42	3.82
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	4.39	4.29	4.08	4.30	4.24	4.20
Dimensions	Unit	HeightxWidthxDepth	mm	735x832x307			1,345x900x320			1,170x900x320			1,345x900x320		
Weight	Unit		kg	54	56		113 /114			103			108		
Operation range	Heating	Min.~Max.	°CWB	-25~25			-25~35			-20~35			-20~35		
	Domestic hot water	Min.~Max.	°CDB	-25~35			-20~35			-20~43			-20~43		
Refrigerant	Type			R-410A			R-410A			R-410A			R-410A		
	Charge		kg	1.45	1.60		3.4			3.7			2.95		
Sound power level	Heating	Nom.	dBA	61		62	64		66	-			64		66
Sound pressure level	Heating	Nom.	dBA	48		49	51		52	49	51	53	51		52
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230			V3/1~/50/230 // W1/3N~/50/400			V3/1~/50/230			W1/3N~/50/400		
Current	Recommended fuses		A	20			40/20			32			20		

HEATING & COOLING

INVERTER

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

OUTDOOR UNIT				ERLQ004CV3	ERLQ006CV3	ERLQ008CV3	ERLQ011CV3/CW1	ERLQ014CV3/CW1	ERLQ016CV3/CW1	ERHQ011BV3	ERHQ014BV3	ERHQ016BV3	ERHQ011BW1	ERHQ014BW1	ERHQ016BW1
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	11.2	14.0	16.0	11.32	14.50	16.05
	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	10.0	12.5	13.1	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	2.55	3.26	3.92	2.63	3.42	3.82
	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	3.69	5.38	6.04	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	4.39	4.29	4.08	4.30	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	2.71	2.32	2.17	2.72	2.47	2.29
Dimensions	Unit	HeightxWidthxDepth	mm	735x832x307			1,345x900x320			1,170x900x320			1,345x900x320		
Weight	Unit		kg	54	56		113/114			103			108		
Operation range	Heating	Min.~Max.	°CWB	-25~25			-25~35			-20~35			-20~35		
	Cooling	Min.~Max.	°CDB	10~43			10~46			-			10~46		
	Domestic hot water	Min.~Max.	°CDB	-25~35			-20~35			-20~43			-20~43		
Refrigerant	Type			R-410A			R-410A			R-410A			R-410A		
	Charge		kg	1.45	1.60		3.4			3.7			2.95		
Sound power level	Heating	Nom.	dBA	61		62	64		66	-			64		66
	Cooling	Nom.	dBA	63			64	66	69	-			64	66	69
Sound pressure level	Heating	Nom.	dBA	48		49	51		52	49	51	53	51		52
	Cooling	Nom.	dBA	48	49	50	50	52	54	-			50	52	54
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230			V3/1~/50/230 // W1/3N~/50/400			V3/1~/50/230			W1/3N~/50/400		
Current	Recommended fuses		A	20			40/20			32			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)

WALL MOUNTED INDOOR UNIT

HEATING ONLY

INVERTER

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

OUTDOOR UNIT				ERLQ004CV3	ERLQ006CV3	ERLQ008CV3	ERLQ011CV3/CW1	ERLQ014CV3/CW1	ERLQ016CV3/CW1	ERHQ011BV3	ERHQ014BV3	ERHQ016BV3	ERHQ011BW1	ERHQ014BW1	ERHQ016BW1
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	11.2	14.0	16.0	11.32	14.50	16.05
	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	2.55	3.26	3.92	2.63	3.42	3.82
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	4.39	4.29	4.08	4.30	4.24	4.20
Dimensions	Unit	HeightxWidthxDepth	mm	735x832x307			1,345x900x320			1,170x900x320			1,345x900x320		
Weight	Unit		kg	54	56		113 / 114			103			108		
Operation range	Heating	Min.~Max.	°CWB	-25~25			-25~35			-20~35			-20~35		
	Domestic hot water	Min.~Max.	°CDB	-25~35			-20~35			-20~43			-20~43		
Refrigerant	Type			R-410A			R-410A			R-410A			R-410A		
	Charge		kg	1.45	1.60		3.4			3.7			2.95		
Sound power level	Heating	Nom.	dBA	61		62	64		66	-			64		66
Sound pressure level	Heating	Nom.	dBA	48		49	51		52	49	51	53	51		52
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230			V3/1~/50/230// W1/3N~/50/400			V3/1~/50/230			W1/3N~/50/400		
Current	Recommended fuses		A	20			40/20			32			20		

HEATING & COOLING

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

OUTDOOR UNIT				ERLQ004CV3/CW1	ERLQ006CV3/CW1	ERLQ008CV3/CW1	ERLQ011CV3/CW1	ERLQ014CV3/CW1	ERLQ016CV3/CW1	ERHQ011BV3	ERHQ014BV3	ERHQ016BV3	ERHQ011BW1	ERHQ014BW1	ERHQ016BW1
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	11.2	14.0	16.0	11.32	14.50	16.05
	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	10.0	12.5	13.1	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	2.55	3.26	3.92	2.55	3.26	3.92
	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	3.69	5.38	6.04	3.69	5.38	6.04
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	4.39	4.29	4.08	4.39	4.29	4.08
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	2.71	2.32	2.17	2.71	2.32	2.17
Dimensions	Unit	HeightxWidthxDepth	mm	735x832x307			1,345x900x320			1,170x900x320			1,170x900x320		
Weight	Unit		kg	54	56		113 / 114			103			103		
Operation range	Heating	Min.~Max.	°CWB	-25~25			-25~35			-20~35			-20~35		
	Cooling	Min.~Max.	°CDB	10~43			10~46			-			-		
	Domestic hot water	Min.~Max.	°CDB	-25~35			-20~35			-20~43			-20~43		
Refrigerant	Type			R-410A			R-410A			R-410A			R-410A		
	Charge		kg	1.45	1.60		3.4			3.7			3.7		
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	49	51	53	49	51	53
	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			V3/1~/50/230			V3/1~/50/230		
Current	Recommended fuses		A	20			40/20			32			32		

(1) cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)
(2) cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)

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
Weight	Unit	Empty	kg	59	93
Heat exchanger	Domestic hot water	Tube material		Stainless steel (DIN 1.4404)	
		Face area	m^2	5.8	6.0
		Internal coil volume	l	27.9	29.0
		Operating pressure	bar	6	
		Average specifc thermal output	W/K	2,790	2,900
	Charging	Tube material		Stainless steel (DIN 1.4404)	
		Face area	m^2	2.7	3.8
		Internal coil volume	l	13.2	18.5
		Average specifc thermal output	W/K	1,300	1,800
	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
Tank	Water volume		l	300	500
	Maximum water temperature		°C	85	

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

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