

Smart heating technology

Daikin Altherma Hybrid heat pump for the installer





Hybrid technology

Daikin Altherma hybrid heat pump

Why choose Daikin Altherma hybrid heat pump?

Your customer wants:

- › More energy efficient systems
- › More cost effective systems

Your solution - a Daikin Altherma hybrid heat pump:

- › Combines gas condensing technology and air-to-water heat pump
- › Delivers up to 35% more heating efficiency
- › Optimises the operation of one of the most efficient gas condensing boiler

Your customer gains:

- › Low running costs for heating and domestic hot water
- › Low investment costs
- › Ideal for renovation applications

You gain:

- › Modular construction
- › Easy and fast installation

Result: win-win for you AND the customer

- › Heating: 
- › Hot water: up to* 

*When combined with solar thermal products

An opportunity in residential heating !



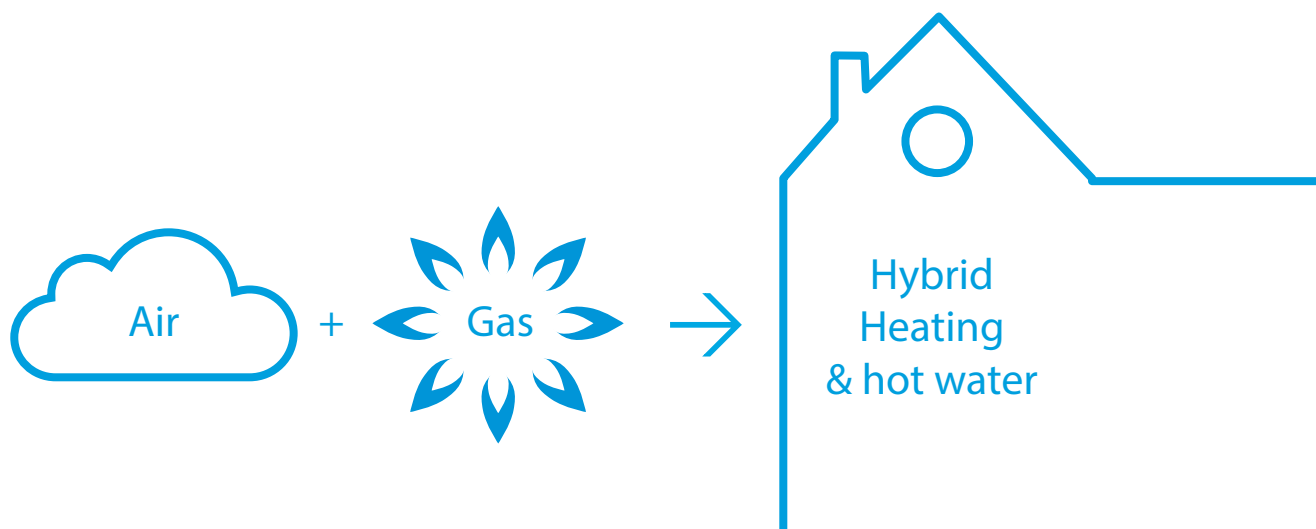
What is condensing boiler technology?

Condensing boiler technology converts the fuel used into usable heat, virtually without loss. This is both good for the environment and for economy, since lower energy consumption means lower heating costs, less use of energy resources and a reduction in CO₂ emissions. During this process, flue gases are cooled to the extent that the steam they contain is condensed. The energy released by this process is used as heating energy.

What is an air-to-water heat pump?

The Daikin Altherma air-to-water heat pump is a sustainable energy source that extracts heat from the outside air. In a closed loop containing a refrigerant, a thermodynamic cycle is created through evaporation, condensation, compression and expansion. This 'pumps' heat from a lower to a higher temperature level.

The heat gained is transferred to your home's central heating distribution system.



Space heating



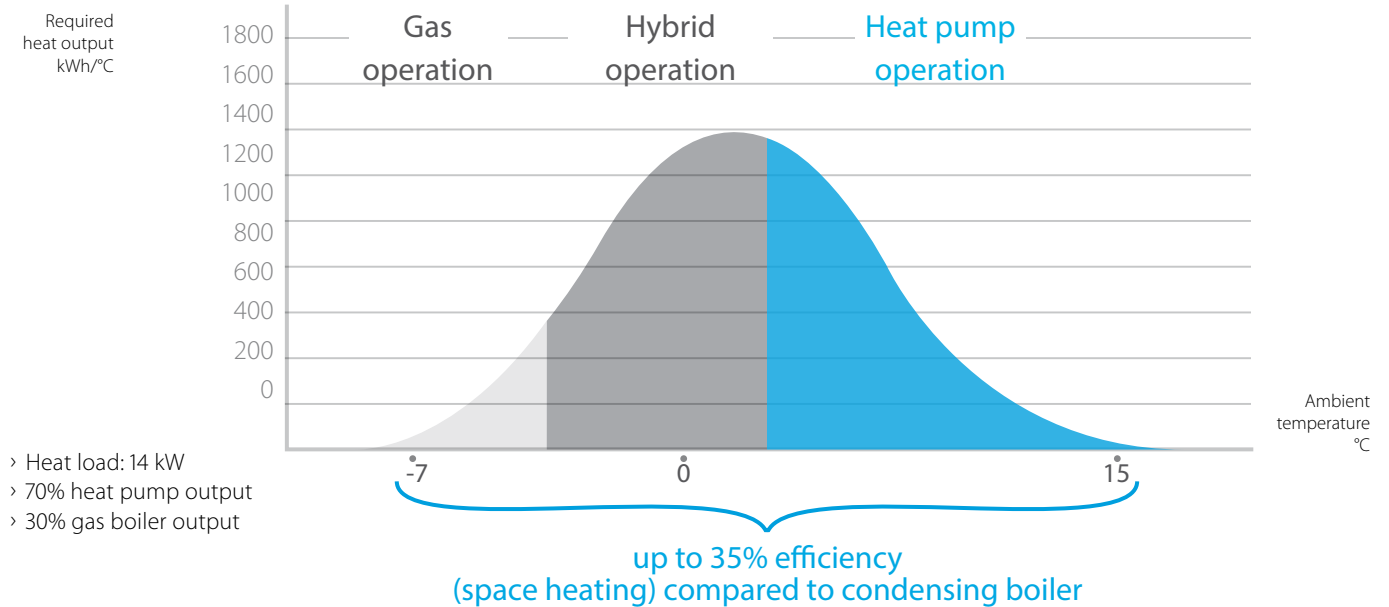
Most economical mode
 > Heat pump only
 > Hybrid mode
 > Gas only



Energy prices & efficiency

Depending on the outdoor temperature, energy prices and the internal heat load, the Daikin Altherma hybrid heat pump chooses between the heat pump and/or the gas boiler, possibly in simultaneous operation, selecting the most economical or ecological mode in which to operate, depending on user's preference.

Illustration of an average European climate



Heat load = the capacity of the space heating system required to maintain comfortable indoor temperatures at any time.

Required heat output = heat load x n° of occurring hours per year

Heat pump operation

The heat pump integrated in the Daikin Altherma hybrid heat pump is the best available technology for optimising running costs at moderate outdoor temperatures, resulting in a coefficient of performance of up to 5.04⁽¹⁾!

water temperature flowing from the radiators to the heat pump and so maximizing the heat pump efficiency.

The exact time the switch-over is made from heat pump operation to hybrid operation depends on the house characteristics, energy prices, the requested indoor temperature setting and the outdoor temperature.

Hybrid operation

If a high heat load is required, or to achieve the highest efficiencies at the current conditions, both the gas boiler and heat pump operate at the same time in the most economical way. The water flow rate will be automatically adjusted, in order to have the possibility of lowering the return

Gas operation

When outdoor temperatures are dropping drastically, it is no longer efficient to operate in hybrid mode. At that point, the unit will switch automatically to gas operation only.

(1) heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)

✓ Domestic hot water

Hot water produced with gas condensing technology

Efficiency increases up to 10-15% compared to traditional gas condensing boilers thanks to a special dual heat exchanger:

- > cold tap water flows directly into the heat exchanger
- > optimal and continuous condensing of the flue gases during domestic hot water preparation

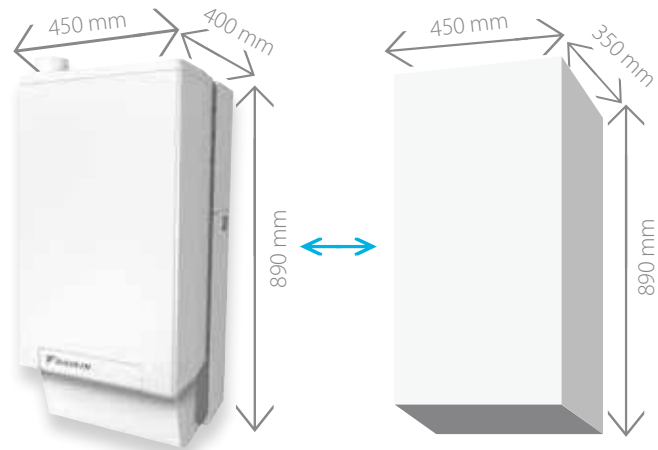


✓ Low investment benefits

The Daikin Altherma hybrid heat pump can connect directly to the existing heating system, reducing the cost and disruption of installation.

It is not a prerequisite to replace existing radiators but to benefit from even higher efficiencies it is recommended to install lower temperature radiators.

Thanks to the compact dimensions, the space needed for the new system is very similar to that of an existing system, so there is no loss of space and no need for structural modifications.



Daikin Altherma hybrid heat pump

Existing gas boiler

✓ Ideal for renovation applications

Several applications are possible using the Daikin Altherma hybrid heat pump as all heat loads. The gas boiler can be installed without the heat pump in the early stages, in order to quickly restart heating in the case of a breakdown of the existing gas boiler.

✓ Easy and fast installation: 3 components

- > Heat pump outdoor unit
- > Heat pump indoor unit
- > Gas condensing boiler



Heat pump outdoor unit

Gas condensing boiler



Heat pump indoor unit

As the heat pump indoor unit and gas condensing boiler are delivered as separate units, they are easier to handle and install. The heat pump indoor unit is easily mounted on the wall with a standard back plate.

With the quick interconnections, the gas condensing boiler is easily attached to the heat pump indoor unit, resulting in a very compact unit. Similar to all wall mounted gas boilers, all the connections are at the bottom and all the components can be accessed from the front, which makes the unit easy to service and maintain.

Daikin Altherma hybrid heat pump



EHYHBH-AV32 / EHYKOMB33AA2

EVLQ-CV3

EHYHBH/EHYKOMB (Indoor) + EVLQ (Outdoor)

Efficiency data		EHYHBH + EVLQ		05AV32 + 05CV3	08AV32 + 08CV3
Heating capacity	Min.		kW	1.80 (1) / 1.80 (2)	
	Nom.		kW	4.40 (1) / 4.03 (2)	7.40 (1) / 6.89 (2)
	Max.		kW	5.12 (1) / 4.90 (2)	10.02 (1) / 9.53 (2)
Power input	Heating	Nom.	kW	0.87 (1) / 1.13 (2)	1.66 (1) / 2.01 (2)
COP				5.04 (1) / 3.58 (2)	4.45 (1) / 3.42 (2)

Indoor Unit		EHYHBH		05AV32	08AV32	EHYKOMB33A2/3	
Gas	Natural gas	Min-Max	m ³ /h		-	0.78-3.39	
	LPG	Min-Max	m ³ /h		-	0.30-1.29	
	Connection	Diameter	mm		-	15	
Central heating	Heat input Q _n	Nom	Min-Max	kW			
	(net calorific value)				-	7.6-27 (3)	
	Output P _n at 80/60°C	Min-Nom		kW		8.2-26.6 (3)	
	Efficiency	SEDBUK 2009		%		89.1 (NG) / 90.1 (LPG)	
Domestic hot water	Operation range	Min-Max		°C		15-80	
	Output	Min-Nom		kW		7.6-32.7	
	Water flow	Rate	Nom	l/min		9.0 / 15.0	
Supply air	Operation range	Min-Max		°C		40-65	
	Connection			mm		100	
Flue gas	Concentric					Yes	
	Connection			mm		60	
Casing	Colour				White	White - RAL9010	
	Material				Precoated sheet metal		
Dimensions	Unit	HeightxWidthxD	Depth	mm	902x450x164	820x490x270	
Weight	Unit			kg	30	31.2	
Power supply	Phase/Frequency/Voltage			Hz/V		1~/50/230	
Electrical power consumption	Max.			W		55	
	Standby			W		2	
Operation range	Heating	Ambient	Min.-Max.	°C	-25~-25	-	
		Water side	Min.-Max.	°C	25~55	-	
Notes						-	For water circuit central heating, safety valve: refer to EHYHB*

Outdoor Unit		EVLQ		05CV3	08CV3	
Dimensions	Unit	HeightxWidthxD	Depth	mm	735x832x307	
Weight	Unit			kg	54	56
Compressor	Quantity				1	
	Type				Hermetically sealed swing compressor	
Operation range	Heating	Min.-Max.		°CWB	-25~-25	
Refrigerant	Type / GWP				R-410A / 2,087.5	
	Charge			kg/TCO ₂ Eq	1.45/3.0	1.60/3.3
Sound power level	Heating	Nom.		dBA	61	62
Sound pressure level	Heating	Nom.		dBA	48	49
Power supply	Name/Phase/Frequency/Voltage			Hz/V	V3/1~/50/230	
Current	Recommended fuses			A	20	

(1) Condition: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C) (2) Condition: Ta DB/WB 7°C/6°C - LWC 45°C (DT=5°C) (3) Values according to G20 (4) 80/60 (5) 40/30 (30%)

Contains fluorinated greenhouse gases

Options for Daikin Altherma Hybrid

EKRUCBL/EKRUCBS (Controller)

Indoor unit		USER INTERFACE		OPTIONAL SIMPLIFIED ROOM THERMOSTAT
		EKRUCBL2		EKRUCBS
Control systems	Class of temperature control			VI
	Contribution to seasonal space heating efficiency	%		4.0





Trust Daikin

Daikin makes world-class heat pumps. In fact, more than 250,000 Daikin Altherma heat pumps have been fitted across Europe since its initial launch in 2006.

We focus on doing only what we're best at: creating the most efficient heating, ventilation and air conditioning solutions, renowned for design excellence, quality and reliability.

So you can depend on Daikin for the ultimate in comfort, for your customers, leaving you free to focus growing your business with a leading innovator in heating and renewable technologies.

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daikin.co.uk

Heating installer line: 0845 641 9070

Dedicated homeowner support line: 0845 641 9271

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