

# Ground-source heat pump 2022-2023



Solutions for your home.  
Made to make you smile.



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## Why choose a Home Comfort Expert partner?



Daikin has been developing and manufacturing high-quality home solutions for over ninety years. Providing perfect comfort and complete heating, cooling, hot water and air treatment solutions to homes around the world.

**Daikin Home Comfort Expert partners are an extension of our standards and represent a quality seal you can trust.**

Because of the special support and trainings provided, our Home Comfort Experts provide you with exclusive service and personalised assistance, plus even more attractive offers.

When choosing to buy from a Home Comfort Expert Partner you can expect:



Response to your queries within 24 hours



Fast delivery time on spare parts



Completed installation within 5 working days



Professionally trained service technicians with outstanding technical knowledge and skills



First-hand information on Daikin products

**Daikin Home Comfort Experts, a network of professionals that always put you first.**

### NOTES

Units listed in this document that operate with refrigerant, operate with R-32 or R-410A refrigerant. They contain fluorinated greenhouse gases. R-32 has a GWP of 675. R-410A has a GWP of 2.088. Refrigerant leakage contributes to climate change. Refrigerant with lower global warming potential (GWP) would contribute less to global warming than a refrigerant with higher GWP, if leaked to the atmosphere. This means that if 1 kg of refrigerant would leak to the atmosphere, the impact on global warming would be 675 or 2.088 times higher than 1 kg of CO<sub>2</sub> over a period of 100 years.

Never try to interfere with the refrigerant circuit yourself or disassemble the product yourself and always ask a professional.

# Daikin ground-source heat pumps

Heat pumps are an excellent all-round heating, cooling and hot water management system.



## What is a heat pump?

A heat pump is a “middle-man” that can seamlessly manage a home’s heating, cooling and hot water needs through its connections to different emitters such as: underfloor heating, heat pump convectors and domestic hot water tanks.

## Benefits of a ground-source heat pump



### Complete integration

Heat pumps can connect to practically any heating and cooling emitters and hot water systems creating a perfect environment throughout the home, no matter the season



### Lower energy costs

For every kilowatt of electricity used in a ground-source heat pump generates between 4 to 5 kilowatts of renewable heat from the air resulting in up to 500% increased efficiency.



### Lower emissions

A heat pump produces no local emissions, and when connected to an environmentally friendly electricity source, potentially ensures a lifetime of emission-free operation.



### High life expectancy

Heat pumps typically have a once-a-year maintenance and service requirement, keeping up with maintenance needs can easily increase their lifespan to more than 10 years.

## How does a ground-source heat pump work?

A heat pump works by effectively creating a circuit. This circuit begins where the available heat is drawn from the **ground**, transferred to the **refrigerant**, which then transports and transfers it to your **heating system**, creating warm air or water for space and central heating, as well as hot water for domestic use.



## Designed in Europe, for Europe

- › Conceptualised and engineered at our own European Development Centre in Belgium
- › Built to withstand even the harshest European winters
- › Design aesthetic mirrors European interior styles and preferences
- › Adheres to European standards and targets for environmental impact







## Solutions for every kind of home



**Altherma 3 GEO**

- › Floor-standing unit with integrated hot water tank
- › Heating, cooling and hot water
- › Indoor unit and outdoor ground heat exchanger installation required



**Altherma GEO**

- › Floor-standing unit with integrated hot water tank
- › Heating and hot water
- › Indoor unit and outdoor ground heat exchanger installation required

## More than just heating

Daikin ground-source heat pumps are designed to work for you, that's why they can be combined with different emitters to meet any need you have, whether it's heating, cooling, hot water, ventilation or all of the above.



**Underfloor heating**

Completely space-saving and efficient, pairing underfloor heating with a ground source heat pump ensures a steady temperature throughout your home.



**Heat pump convectors**

One of the best connection options for your heat pump. Daikin HPCs work in a similar way as traditional radiators with added functionality of cooling and fresh air supply.



**High-temperature radiators**

Traditional radiators found in older homes or homes utilising older boiler systems and require high water temperatures (between 70°C and 80°C).



**Low-temperature radiators**

Made for efficiency using approximately 30% less energy and lower temperatures (between 45°C and 55°C) typically used in new built homes.

### Efficiency inside and out

Ground-source heat pumps offer the flexibility of choice between a vertical or horizontal ground heat exchanger. Pipework for the ground loop is usually made of high-density polyethylene pipe containing a mixture of water and anti-freeze, referred to as brine.



Horizontal ground heat exchanger

A horizontal closed loop is composed of pipes that are arranged in a plane in the ground, slightly below the frost line (approx. 1 to 2,5 m deep). The installation for these types of systems is simpler but required a large area to ensure sufficient heat can be extracted from the ground.



Vertical ground heat exchanger

A vertical system consists of pipes arranged in one or more boreholes, extending deep into the ground (approx. 15 to 120 m). Vertical systems require more extensive works and mostly used when the available area is too small to support a horizontal system.

### Complete control, your way

#### Onecta app

Accessibility just got better with voice-controlled heating and cooling

- › Seamlessly integrates with your existing smart home functionality
- › Compatible with Google Assistant & Amazon Alexa
- › Operation mode management and heating and cooling schedules
- › Performance monitoring and energy efficiency optimisation



Monitor

Control

Schedule

#### Daikin Madoka\*

Intuitive control paired with premium design

- › Available in three colours to suit your own interior style
- › Compact size: H: 85mm, W: 85mm, D: 25mm
- › Temperature and operation mode management of your heat pump
- › Smooth touch-control



BRC1HHDW

BRC1HHD5

BRC1HHDK

#### Daikin Eye and Man-Machine Interface (MMI)\*

Taking the hassle out of your unit control

- › Both are built in to your Altherma indoor unit or available as an external controller
- › Real time status of your unit shown on the Daikin Eye, blue indicates smooth operation, red indicates error
- › Minimalistic design for straightforward operation
- › Operation mode management of heat pump



\*Available for Daikin Altherma 3 GEO



# Daikin Altherma 3 GEO

Floor-standing unit with integrated hot water tank



Energy efficiency: up to A+++ for heating, A+ for hot water

Sound pressure level  
(indoor unit – EN14825): 27 - 29 dBA

Available models: Heating, cooling and hot water  
Heating and hot water

## Quick overview

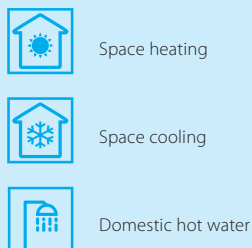
Energy labels:



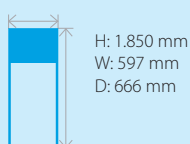
Domestic hot water temperature:

up to:  
65°C

Functions:



Dimensions:



**All-in-one:** Heating, cooling, and hot water management with just one unit.

**Ultimate efficiency:** Utilising primarily renewable energy




**Whisper quiet:** Indoor unit operation that you almost forget it's there

**Flexible control:** Manage your unit via the built in MMI, Daikin Madoka or the Onecta app

## Design & Interface

- › Sleek and elegant design that fits seamlessly into your interior
- › Easy-to-access piping on the top of the unit simplifies installation, maintenance, and service
- › Design ensures that no or minimal side space is required for installation
- › Simple interface makes it easy to adjust temperatures, scheduling and switch between heating and cooling

## Emitter combinations

		
Underfloor heating	Heat pump convectors	Low-temperature radiators
Perfect for heating Limited for cooling	Perfect for cooling Good for heating	Perfect for heating

## The perfect choice if:

- › You are committed in investing in a highly efficient and environmentally friendly system
- › You are building a new home or planning a large-scale renovation
- › You have a sufficiently large outdoor area
- › You live in an area that reaches extreme temperatures in the winter
- › You are looking for a long-term and reliable system with minimal service and maintenance needs.

# Daikin Altherma 3 GEO



## EGSAX-D9W

Heating, cooling and hot water

## EGSAH-D9W

Heating and hot water



Indoor Unit					EGSA	H06D9W	X06D9W	H10D9W	X10D9W	
	Space heating	Average climate water outlet 55°C	General	ηs (Seasonal space heating efficiency)	%	141	143	152	154	
				Seasonal space heating eff. class		A++		A+++		
		Average climate water outlet 35°C	General	ηs (Seasonal space heating efficiency)	%	195	199	197	200	
				Seasonal space heating eff. class		A+++				
	Domestic hot water heating	General	Declared load profile			L				
		Average climate	ηwh (water heating efficiency)			117				
			Water heating energy efficiency class			A+				
Casing	Colour					White				
	Material					Precoated sheet metal				
Dimensions	Unit	HeightxWidthxDepth			mm	1.850x597x666				
Weight	Unit				kg	222				
Tank	Water volume				l	180				
	Insulation	Heat loss			kWh/24h	1,2				
	Corrosion protection					Pickling				
Operation range	Installation space			Min.~Max.	°C	5 / 35				
	Brine side			Min.~Max.	°C	-10 / 30				
	Heating	Water side			Min.~Max.	°C	5 / 65			
	Domestic hot water	Water side			Min.~Max.	°C	25 / 60			
Refrigerant	Type					R-32				
	GWP					675				
	Charge				kg	1,70				
	Charge				TCO2Eq	1,15				
Sound power level	Nom.				dBA	39			41	
Sound pressure level at 1 meter	Nom.				dBA	27			29	
Power supply	Name/Phase/Frequency/Voltage				Hz/V	3~/50/400 or 1~/50/230				
Current	Recommended fuses				A	3P 16A or 1P 32A				



# Daikin Altherma GEO

Floor-standing unit with integrated hot water tank



Energy efficiency: up to A+++ for heating, A for hot water

Sound pressure level  
(indoor unit – EN14825): 32 dBA

Available models: Heating and hot water

## Quick overview

Energy labels:



up to  
**A+++**



**A**

Domestic hot water temperature:

up to:  
**65°C**

Functions:



Space heating



Domestic hot water

Dimensions:



H: 1.730  
W: 600 mm  
D: 728 mm

**Heating and hot water:** Reliable management of your entire home's heating and hot water needs.

**Ultimate efficiency:** Utilising primarily renewable energy.

**Smart control:** Operation management via the Onecta app or voice-control via Google Assistant and Amazon Alexa

## Design & Control

- › Simple design can fit into your interior
- › Easy-to-access piping on the top of the unit simplifies installation, maintenance, and service
- › Design ensures that no or minimal side space is required for installation

## Emitter combinations



Underfloor heating

Perfect for heating



Low-temperature radiators

Perfect for heating

## The perfect choice if:

- › You are committed in investing in a highly efficient and environmentally friendly system
- › You are building a new home or planning a large-scale renovation
- › You have a sufficiently large outdoor area
- › You live in an area that reaches extreme temperatures in the winter
- › You are looking for a long-term and reliable system with minimal service and maintenance needs.





# Daikin Altherma GEO

EGSQH-A9W

Heating and hot water

This model will be abolished December 2022.



Indoor Unit				EGSQH	10S18A9W
	Space heating	Average climate water outlet 55°C	General	$\eta_s$ (Seasonal space heating efficiency) %	139
				Seasonal space heating eff. class	A++
		Average climate water outlet 35°C	General	$\eta_s$ (Seasonal space heating efficiency) %	194
				Seasonal space heating eff. class	A+++
	Domestic hot water heating	General	Declared load profile		L
		Average climate	$\eta_{wh}$ (water heating efficiency) %		93,1
			Water heating energy efficiency class		A
Casing	Colour				White
	Material				Precoated sheet metal
Dimensions	Unit	Height/Width/Depth	mm		1.730/600/728
Weight	Unit				210
Tank	Water volume				180
	Insulation	Heat loss	kWh/24h		1,36
	Corrosion protection				Anode
Operation range	Installation space		Min.~Max.	°C	5 / 35
	Brine side		Min.~Max.	°C	-5 / 20
	Heating	Water side	Min.~Max.	°C	24 / 60
	Domestic hot water	Water side	Min.~Max.	°C	25 / 60
Refrigerant	Type				R-410A
	Charge			kg	1,80
				TCO <sub>2</sub> eq	3,76
		Control			Electronic expansion valve
	GWP			2.087,5	
Sound power level	Nom.			dBA	46
Sound pressure level	Nom.			dBA	32
Power supply	Name/Phase/Frequency/Voltage			Hz/V	9W/3~/50/400
Current	Recommended fuses			A	25

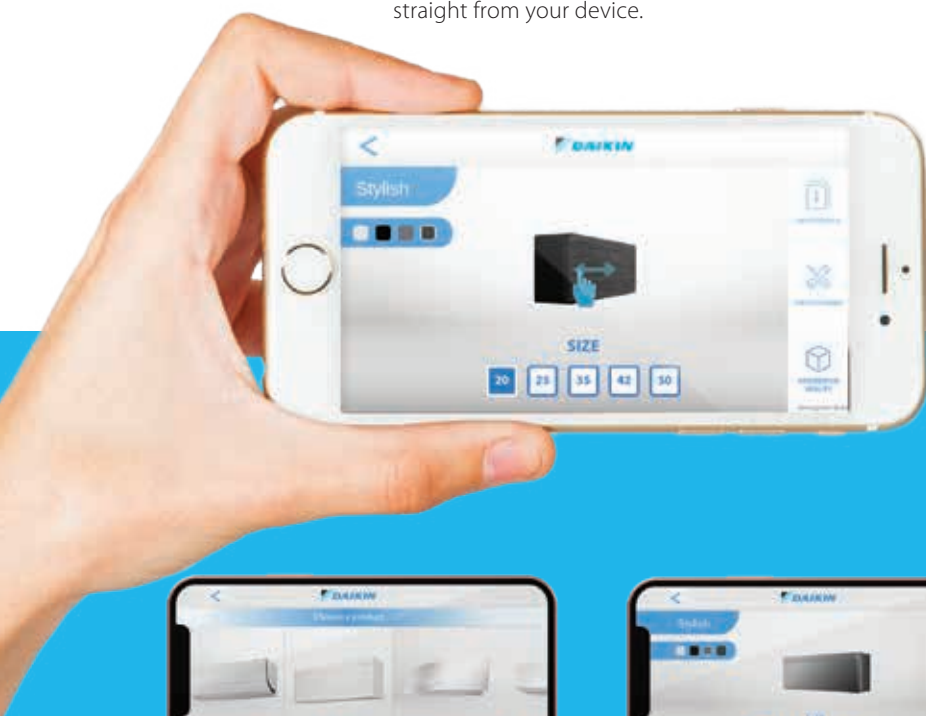


# Daikin 3D app

Get a real-time visualisation of what Daikin units  
can look like in your home.

The Daikin 3D app gives you the power to  
**virtually place** any air-conditioning unit in  
your own interior.

Experience our wide portfolio from any angle, on any wall, in any room of your home  
straight from your device.



## Full range

Browse through the entire Daikin  
air-conditioning range



## Product detail

Find all information on features,  
functions and technical data



## 3D visualisation

Place any unit you choose and move  
it across your rooms as you desire

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