



# Daikin GCU compact



Outstanding heating and water sanitation in a space-saving design.



"When we decided to modernise our heating system, our installer recommended Daikin's GCU compact. Combining gas and solar energy, the GCU compact uses the latest technology to achieve higher energy efficiency. We knew we made the right choice when we saw the energy savings on our invoice."

Steffi and Thomas Klar, home owners

# The ideal combination

## for heating and hot water

As the price of fuel continues to increase each year, selecting the right boiler for your home is more important than ever.

Combining the power of modern gas condensing technology with a thermal store and solar storage tank, our GCU compact is an ideal boiler to meet your heating and hot water needs. With a cohesive design and unique features, the GCU compact also serves as a thermal heating source to attain higher energy savings without compromising on reliability and comfort.

### ✓ Energy efficiency

#### Condensing technology

Using latent heat in the flue gas, our condensing technology achieves 108% more energy efficiency by using renewable energy to produce hot water.

### ✓ Reliability

#### Easy installation and service

All parts are accessible from the front and are low maintenance due to the gas-adaptive combustion system Lambda Gx, a fully electronic gas-air combination. The Lambda Gx is compatible with wall mounted and floor standing units.

### ✓ Comfort

Daikin's gas condensing boilers deliver the ultimate comfort. Optimal heating ensures seamless operation to deliver reliable year-round heating, even in extreme weather conditions. Instant hot water is possible with our combi range, but also possible with a separate thermal store featuring the ECH<sub>2</sub>O tank.

## Key benefits

#### Optimal water sanitation

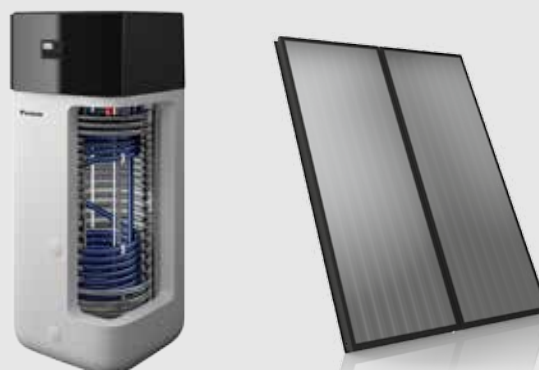
› thermal store provides fresh, clean water

#### Future-proof and flexible

› easily combines with solar applications or existing heating systems

#### Space-saving design

› combines the power of a gas condensing boiler and thermal store



# Efficiency made transparent



Since September 2015, heating products such as heat generators and water heaters are required to have their own EU energy efficiency label. These labels are important because they categorise products into efficiency classes, making it easier for consumers to compare applications.

## How the energy efficiency classes are determined

What determines a product's energy efficiency is its seasonal efficiency, or a unit's total energy input and useful heat output.

- › The more renewable energy used, the higher a unit's efficiency class
- › Applications such as heat pumps usually rank the highest in energy efficiency (A+ and above), followed by gas and oil condensing boilers and then conventional boilers

## Efficiency classes for products and systems

The energy efficiency of a heating system depends not only on the heat generator, but also several other components. That is why a combined efficiency label for heating products was introduced.

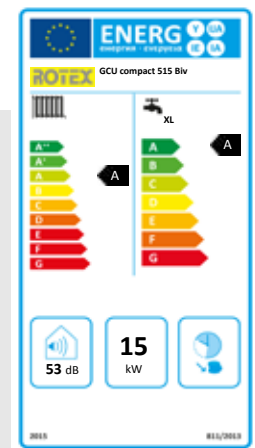
By combining the efficiency ratings of a heat generator as well as other controllers, such as cylinders, solar thermal systems and/or additional heat generators, consumers can understand the total efficiency of a heating product.

## Expert advice

Every building is different. That's why your choice of a heating system, especially if it's a modernisation project, should not be based solely on an energy efficiency rating. We recommend speaking with a Daikin expert to help you select the right heating system to meet your needs.

## Safe in the knowledge it's Daikin

All Daikin products are tested and proven to meet criteria set by the EU Ecodesign Directive. We guarantee our individual products and packaged solutions offer maximum convenience, while upholding the highest safety standards.



Strong system solution:

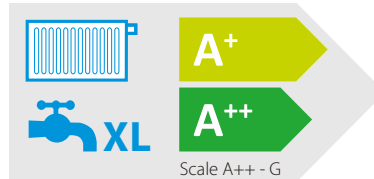
# Gas condensing and solar

## Excellent energy efficiency ratings

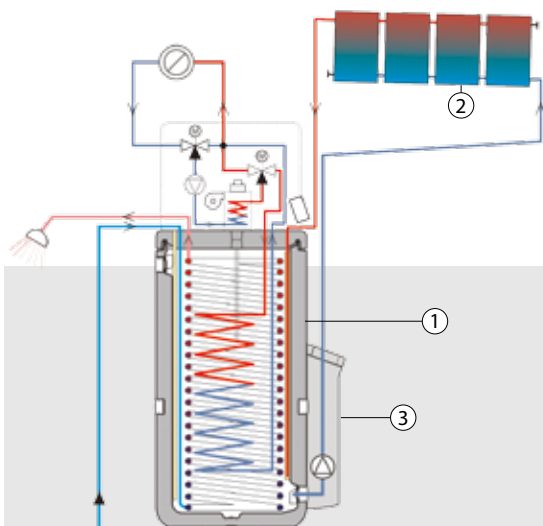
Connecting a solar thermal system is the most effective way to reach a higher energy efficiency class.

- > You can connect the GCU compact with a solar thermal system to create your own 'solar heater'
- > Integral central heating and storage volume raises your system's energy efficiency ratings for both domestic hot water and space heating

## System efficiency with Solar\*



\* Daikin system consisting of:  
GCU compact 515 Biv, RoCon Control,  
4 solar collectors V26P



## System diagram: GCU compact with solar thermal

- 1 Gas condensing/solar unit with integral thermal store and built-in electronic controller
- 2 Solar thermal collectors
- 3 Solar pump station



**ECH<sub>2</sub>O**

Innovative heat storage concept:  
Hygienic, flexible and future-proof

All Daikin products with the ECH<sub>2</sub>O label are characterised by a unique heat storage principle. When combined with extra heat sources, your unit can achieve the best in comfort and efficiency.



# Made for your home

## Dream dimensions for your heating system

The GCU compact sets a completely new standard for energy efficiency and space.

Comprising an area of only 0.36m<sup>2</sup> (GCU compact 315/320) or 0.64m<sup>2</sup> (GCU compact 515/520/524/528), the GCU compact is an all-in-one-system that includes heating, hot water and a solar stratified storage tank.

## Clear separation

The Daikin thermal store combines a domestic hot water tank and an instantaneous hot water heater.

The heat is not stored in the domestic hot water itself, but in a separate water tank to ensure hygienic hot water is always available.

## Solar option

The GCU compact is available with solar energy from the start, but it can also easily receive a retrofit if you decide to install a solar thermal system later on.

## Advantages of the GCU compact

### Highest efficiency

- › Gas condensing technology achieves up to 108% energy savings

### Innovative technology

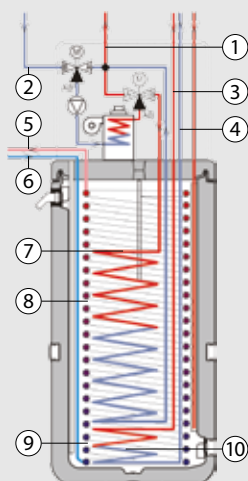
- › Integration of boiler and thermal store
- › Gas-adaptive Lambda-Gx combustion system for optimum fuel utilisation even for variable gas quality
- › Power output from 500 watts - Intelligent Storage Management (ISM)
- › Intuitive electronic regulation

### Domestic water sanitation

- › Separate water tank keeps your drinking water supply safe and healthy
- › No deposits or legionella

### Made just for you

- › Provides heating and hot water
- › Compact dimensions make it easy to install in small spaces
- › Flexible use: can combine with solar system or existing fireplace with water pocket



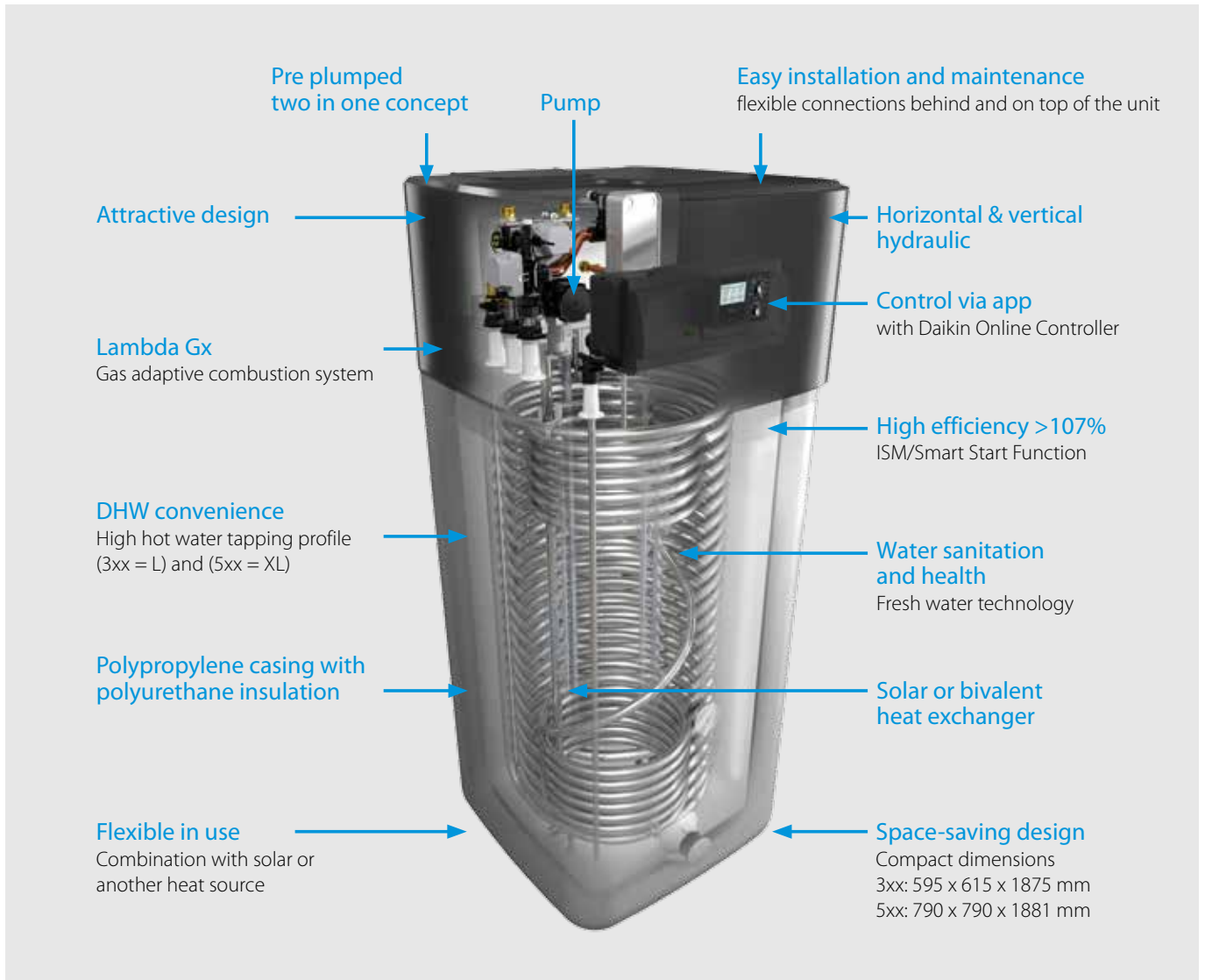
### GCU compact

- 1 Heating flow
- 2 Heating return
- 3 Solar flow
- 4 Solar return
- 5 DHW outlet
- 6 Cold water inlet
- 7 Tank loading and central heating backup heat exchanger
- 8 DHW indirect coil
- 9 Non-pressurised tank water
- 10 Biv/solar indirect coil

### The hybrid heating centre

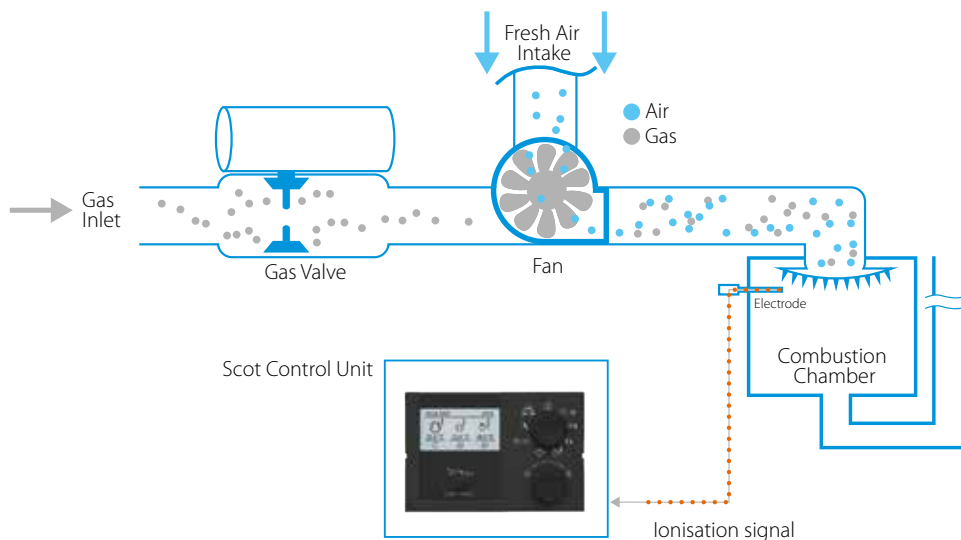
The Daikin GCU compact's indoor unit can serve as a thermal store for additional heating. But it's also backed by:

- › Oil
- › Gas and pellet boilers
- › Wood burning stoves with back boilers



## Lambda Gx, automatic gas adaptation system

The GCU compact uses a gas-adaptive Lambda Gx, which is an automatic combustion controller. This technology helps the GCU compact adapt to different gas types and use fuel efficiently to achieve optimal performance.





# Smart technology for your convenience

## Intelligent Store Management (ISM)

By using ISM for your gas condensing boilers and thermal stores, you can achieve:

- › Maximum energy efficiency, heating and DHW convenience
- › Meet the energy demands of new builds and low-energy houses
- › Reduce emissions and increase the efficiency of older systems

## Lambda-Gx

The GCU compact includes an automatic combustion controller, which allows the system to adapt to different gas types and optimise fuel use. You can lower your energy consumption by using a combination of gas condensing technology, a condensing boiler and thermal store.

## Everything under control

Our Daikin Heating Controller helps you achieve the best indoor climate. With this controller, you can easily set the operation mode yourself or with the support of our heating engineers.

This control system can:

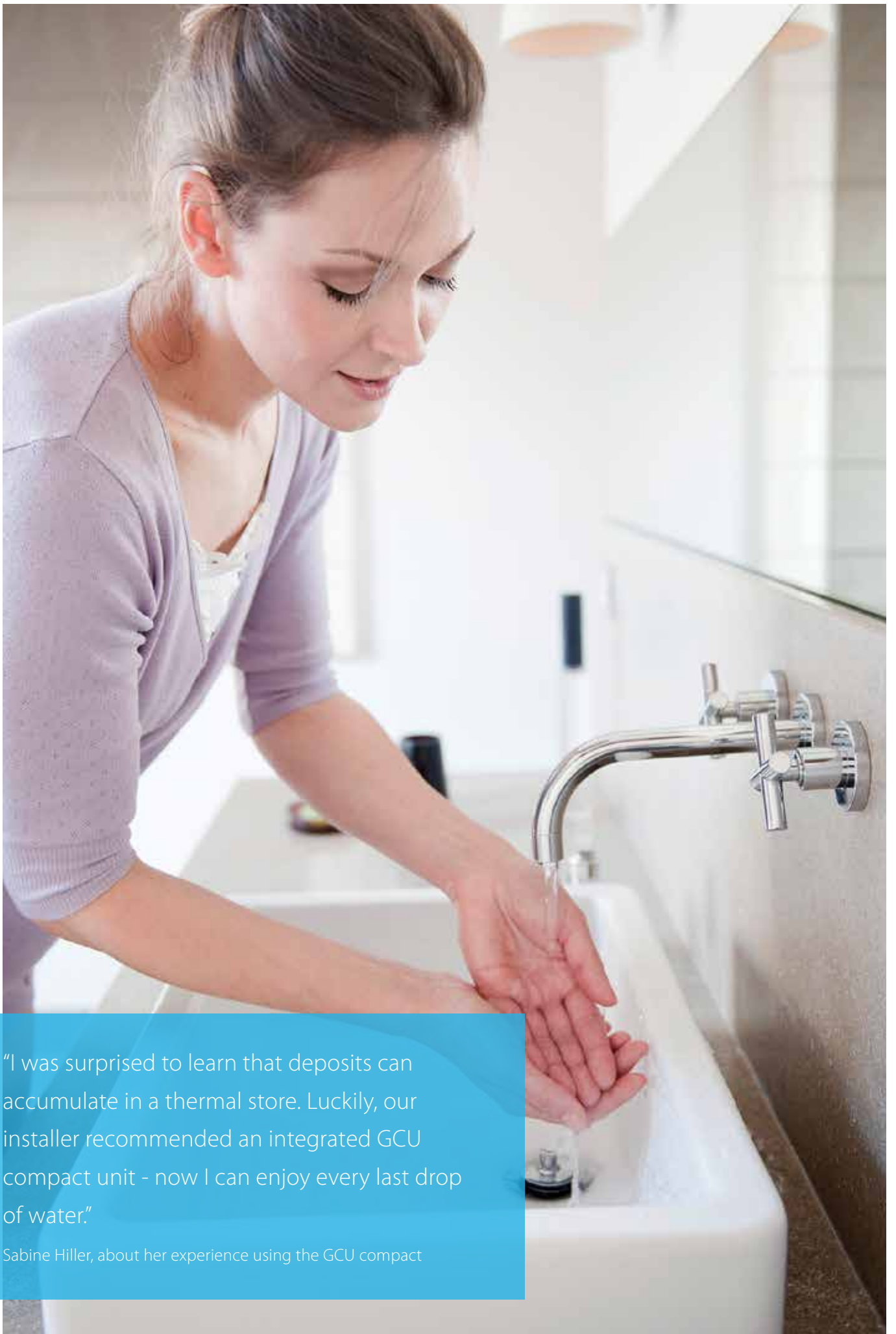
- › Regulate water temperature
- › Automatically adjust the heating mode depending on the season
- › Uses timers to control the heating circuit and DHW
- › Features a remote controller to help you easily manage your system



## Daikin Online Controller Always in control



The Daikin Heating Controller helps you manage your GCU compact to attain the highest energy efficiency levels for heating and hot water. Available as an app, you can easily control and monitor your GCU compact from your smartphone.



"I was surprised to learn that deposits can accumulate in a thermal store. Luckily, our installer recommended an integrated GCU compact unit - now I can enjoy every last drop of water."

Sabine Hiller, about her experience using the GCU compact

# Domestic hot water

## finding the best solution for your home

### Clean water is essential

Whether it's for showering, cooking or hand washing, having a continuous water supply at a desired temperature and volume is necessary for your comfort.

That's where our Daikin thermal store comes in. Using the latest thermal technology, our thermal store delivers fresh, clean water for your home. Unlike conventional water storage tanks, our thermal store uses a separate water tank to hold your drinking water supply to ensure fresh, healthy water is always available.

### High standards for water sanitation

- › Our separate tank uses a high performance heat exchanger made of stainless steel to contain your drinking water supply and ensure it stays hygienic
- › Stored tank water is not exchanged or consumed. The inner and outer walls of this storage tank are impact resistant, and the space between includes a heat insulating foam to ensure minimum surface loss

**ECH<sub>2</sub>O**



### Optimum water hygiene - day after day

The design of the GCU compact includes a state-of-the-art stratification store for hygienic water provision. This means the GCU compact can prevent sludge and rust deposits, sedimentation or legionella bacteria that can occur in other large containers.



# The perfect combination: Gas condensing and solar

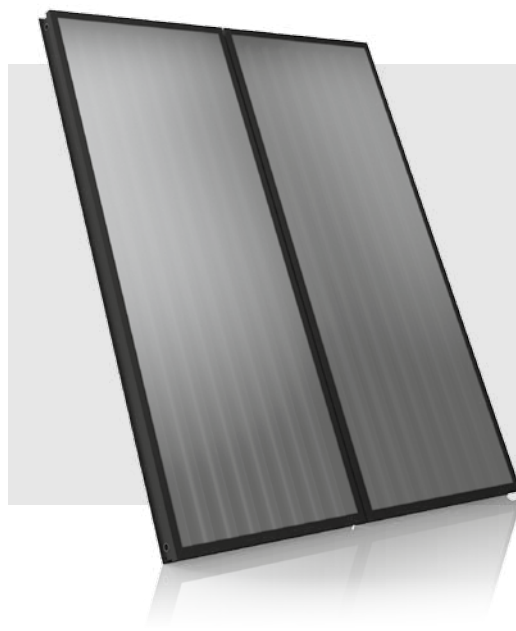
## The power of solar energy and gas

Our solar panels are also a great alternative to support your heating system. At peak level, 80% of our systems can convert solar energy into heat. Our GCU compact uses the powerful combination of solar and gas energy to achieve more energy efficiency at a low cost.

Solar energy is also available for domestic hot water heating and as a backup for central heating. Alongside solar DHW heating, solar central heating can connect to a GCU compact with a 500-litre tank to store large amounts of solar energy. Heat for DHW or central heating is available up to a day later.

## The advantages of Daikin solar panels

- › Efficiently use solar energy for heating and hot water
- › Provides fresh, clean and healthy hot water
- › Optimum temperature stratification in thermal store increases solar use
- › Perfectly incorporates diverse heating systems



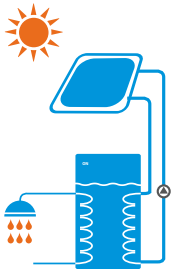
## Flexible installation

Since all buildings are different, we offer three different sizes and a range of installation options to adapt our solar panels to your roof. Our solar panels are available for tiles (on roof), into the roof itself or with a special substructure for a flat roof.

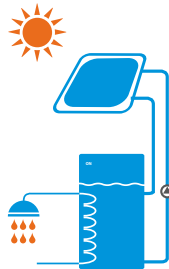
# Solar systems by Daikin

## Daikin solar panels: your installation options

Daikin solar panels are available in two different systems to meet all structural conditions and individual requirements.



Pressurised solar system



Drain-back solar system

### Pressurised solar system

A simple installation and suitable for all applications and buildings, the pressurised solar system or Solaris-P is a great choice.

- › System is filled with heat transfer fluid with the correct amount of antifreeze to avoid freezing in winter
- › System is pressurised and sealed
- › Additional heat plate exchanger is not required
- › Includes a bivalency heat exchanger for pressurised solar energy or an additional heat source
- › Simple and flexible system

### Pressureless (drain-back) solar system

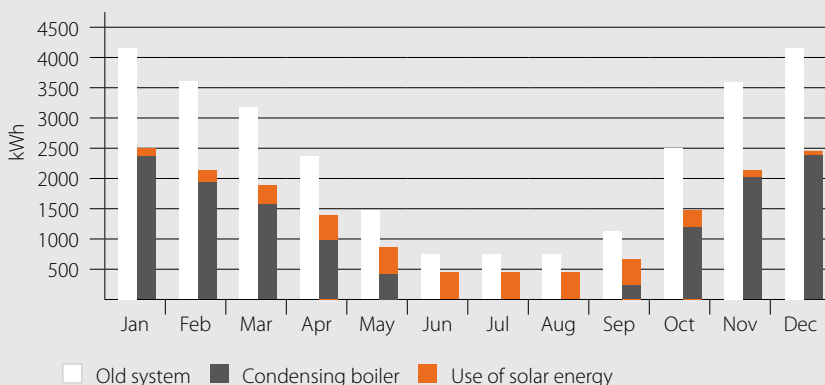
If the structure permits, we recommend installing an unpressurised and direct drain-back system. This system allows water to move directly from the thermal store to the solar panels for heating, and back to the thermal store, without the help of a heat exchanger.

- › The solar collectors are only filled with water when sufficient heating is provided by the sun
- › The pumps in the control and pump unit switch on briefly and fill the collectors with storage tank water
- › After filling, water circulation is maintained by the remaining pump
- › System significantly increases the energy efficiency of the solar collectors

## How the system works

Our solar panels are only effective if there is enough heat from the sun and if the thermal store can absorb heat. The fully-automatic control system operates the system independently to ensure optimal use of solar energy.

- › If there is not enough sunlight, or if the thermal store does not require additional heat, the feed pump switches off and the entire solar system drains into the thermal store
- › The principle function for the drain-back system only works if pipes in the building and roof include a constant gradient. If this is not possible, the pressurised system is an ideal alternative.



### Monthly energy consumption of an average single-family house

The diagram shows the monthly energy consumption of an average single-family home. It compares two system types: The white bar represents the energy consumption using an old boiler. The grey/yellow bar shows a system with the Daikin GCU compact with 4 solar panels.

# GCU compact

Combining modern gas condensing technology with a thermal store

- › Space-saving gas condensing boiler with integrated heat / solar storage
- › Auto Adaptive Lambda Gx combustion technology for all gas types
- › Universal use thanks to intelligent store management and a power output of 0.5 - 28 kW
- › High heat and DHW comfort with integrated ECH2O Thermal store: fresh water hygiene technology
- › Easy integration of thermal solar and a further additional heat generator
- › Note: Solar controller (shown on picture) is an option, not standard on boiler



				GC	2U30GC015A	2U30GC020A	2U50GC015A	2U50GC020A	2U50GC024A	2U50GC028A	
Central heating	Heat input Qn (net calorific value)	Nom	Min/Max	kW	3.0/15.0	3.0/20.0	3.0/15.0	3.0/20.0	4.0/24.0	4.0/28.0	
	Heat input Qn (gross calorific value)	Nom	Min/Max	kW	3.3/16.7	3.3/22.2	3.3/16.7	3.3/22.2	4.4/26.6	4.4/31.1	
	Output Pn at 80/60°C	Min/Nom		kW	2.9/14.6	2.9/19.5	2.9/14.6	2.9/19.5	3.9/23.4	3.9/27.2	
	Output Pnc at 50/30°C	Min/Nom		kW	3.2/15.7	3.2/20.9	3.2/15.7	3.2/20.9	4.3/25.0	4.3/29.1	
	Water pressure (PMS)	Max		bar	3						
	Water temperature	Max		°C	90						
Domestic hot water	Operation range	Min/Max		°C	10/90						
	Heat input (net calorific value)	Nom	Min/Max	kW	3.0/15.0	3.0/20.0	3.0/15.0	3.0/20.0	4.0/24.0	4.0/28.0	
	Heat input (gross calorific value)	Nom	Min/Max	kW	3.3/16.7	3.3/22.2	3.3/16.7	3.3/22.2	4.4/26.6	4.4/31.1	
	Output	Min/Nom		kW	3.0/15.0	3.0/20.0	3.0/15.0	3.0/20.0	4.0/24.0	4.0/28.0	
	Temperature	Factory setting		°C	58						
	Operation range	Min/Max		°C	10/85						
Piping connections Gas	Cold in-Hot out			Inch	G 1" (male)						
	Connection	Diameter		mm	20						
	Consumption (G20)	Min/Max		m³/h	0.32/1.59	0.32/2.11	0.32/1.59	0.32/2.11	0.42/2.54	0.42/2.96	
	Consumption (G25)	Min/Max		m³/h	0.35/1.75	0.35/2.33	0.35/1.75	0.35/2.33	0.47/2.80	0.47/3.26	
Supply air	Consumption (G31)	Min/Max		m³/h	0.16/0.62	0.16/0.82	0.16/0.62	0.16/0.82	0.27/0.98	0.27/1.15	
	Connection			mm	100						
	Concentric			mm	1						
	Flue gas	Connection		mm	60						
Water circuit	Piping connections			Zoll	G 1" (female)						
	Space heating	General	ηs (Seasonal space heating efficiency)	%	91	92	91	92	92	92	
Domestic hot water heating	General	Declared load profile	ηwh (water heating efficiency)	%	L		XL		XL		
					Water heating energy efficiency class	A		A		A	
Casing	Colour	Material	Traffic white (RAL9016) / Dark grey (RAL7011)								
			Dimensions	Unit	HeightxWidthxDepth	Casing	mm	1,895x595x615		1,895x790x790	
Weight	Unit	Empty	kg	76		102		104		104	
				Power supply	Phase/Frequency/Voltage	Hz/V	1~/50/230		1~/50/230		1~/50/230
Electrical power consumption	Max.	Standby	W	76	98	76	98	104	108	104	108
				Drain-back solar	Piping connections	solar-flow	Inch	G 1" (female)			
				GB	2U30GB015A	2U30GB020A	2U50GB015A	2U50GB020A	2U50GB024A	2U50GB028A	
Central heating	Heat input Qn (net calorific value)	Nom	Min/Max	kW	3.0/15.0	3.0/20.0	3.0/15.0	3.0/20.0	4.0/24.0	4.0/28.0	
	Heat input Qn (gross calorific value)	Nom	Min/Max	kW	3.3/16.7	3.3/22.2	3.3/16.7	3.3/22.2	4.4/26.6	4.4/31.1	
	Output Pn at 80/60°C	Min/Nom		kW	2.9/14.6	2.9/19.5	2.9/14.6	2.9/19.5	3.9/23.4	3.9/27.2	
	Output Pnc at 50/30°C	Min/Nom		kW	3.2/15.7	3.2/20.9	3.2/15.7	3.2/20.9	4.3/25.0	4.3/29.1	
	Water pressure (PMS)	Max		bar	3						
	Water temperature	Max		°C	90						
Domestic hot water	Operation range	Min/Max		°C	10/90						
	Heat input (net calorific value)	Nom	Min/Max	kW	3.0/15.0	3.0/20.0	3.0/15.0	3.0/20.0	4.0/24.0	4.0/28.0	
	Heat input (gross calorific value)	Nom	Min/Max	kW	3.3/16.7	3.3/22.2	3.3/16.7	3.3/22.2	4.4/26.6	4.4/31.1	
	Output	Min/Nom		kW	3.0/15.0	3.0/20.0	3.0/15.0	3.0/20.0	4.0/24.0	4.0/28.0	
	Temperature	Factory setting		°C	58						
	Operation range	Min/Max		°C	10/85						
Piping connections Gas	Cold in-Hot out			Inch	G 1" (male)						
	Connection	Diameter		mm	20						
	Consumption (G20)	Min/Max		m³/h	0.32/1.59	0.32/2.11	0.32/1.59	0.32/2.11	0.42/2.54	0.42/2.96	
	Consumption (G25)	Min/Max		m³/h	0.35/1.75	0.35/2.33	0.35/1.75	0.35/2.33	0.47/2.80	0.47/3.26	
Supply air	Consumption (G31)	Min/Max		m³/h	0.16/0.62	0.16/0.82	0.16/0.62	0.16/0.82	0.27/0.98	0.27/1.15	
	Connection			mm	100						
	Concentric			mm	1						
	Flue gas	Connection		mm	60						
Water circuit	Piping connections			Zoll	G 1" (female)						
	Space heating	General	ηs (Seasonal space heating efficiency)	%	91	92	91	92	92	92	
Domestic hot water heating	General	Declared load profile	ηwh (water heating efficiency)	%	L		XL		XL		
					Water heating energy efficiency class	A		A		A	
Casing	Colour	Material	Traffic white (RAL9016) / Dark grey (RAL7011)								
			Dimensions	Unit	HeightxWidthxDepth	Casing	mm	1,895x595x615		1,895x790x790	
Weight	Unit	Empty	kg	78		104		106		106	
				Power supply	Phase/Frequency/Voltage	Hz/V	1~/50/230		1~/50/230		1~/50/230
Electrical power consumption	Max.	Standby	W	76	98	76	98	104	108	104	108
				Drain-back solar	Piping connections	solar-flow	Inch	G 1" (female)			



Solaris Flat panels			V21P	V26P	H26P
Dimensions	Height	mm	2000	2000	1300
	Width	mm	1006	1300	2000
	Depth	mm	85	85	85
Weight		kg	35	42	42
Volume		l	1.3	1.7	2.1
Surface	Outer	m <sup>2</sup>	2.01	2.6	2.6
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.	°	15	15	15
	Max.	°	80	80	80

The solar panels are standstill resistant in the long-term and are tested for thermal shock. Minimum collector yield over 525 kWh/m<sup>2</sup> at 40% covering proportion, (location Würzburg, Germany).

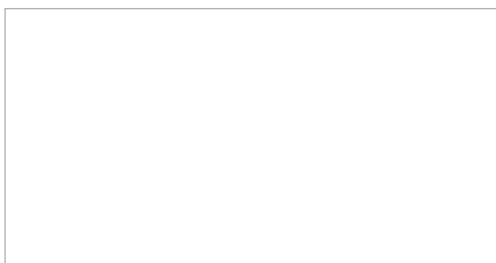


## GCU Compact

Our GCU Compact provides heating and hot water for your home by combining efficient gas condensing technology with a thermal store and solar storage tank.

With its compact size and integrated heating and hot water storage, our GCU Compact is ideal for renovations and replacing old gas boilers. Using Intelligent Storage Management (ISM) and Smart Start Function, the GCU Compact maximises energy efficiency, as well as heating and DHW convenience. It can also cover the energy demand of low-energy houses and buildings with high insulation.

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ECPEN17-782

11/17



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The present publication supersedes ECPEN15-721B. Printed on non-chlorinated paper.