



HEATING SOLUTIONS



Water and ground source heat pumps

61WG

20-100 kW

AQUASNAP
Heating

A new carrier unit - **designed for heating**



Trust Carrier's expertise for your heating needs

Carrier is a leader in air conditioning and offers a wide range of cooling, heating and reversible units. Following the success of our air-to-water heating range, including the 61AF, 30AWH and 38AW, this is Carrier's first unit in this capacity range that is designed specifically for heating applications, using ground water or well water as the heat source.

Simple and energy-efficient solutions

The 61WG is specifically designed for heating applications with a wide range of options to allow easy integration into any new or existing heating system. Its high leaving water temperature of 65°C without supplementary heating, makes it ideal for space heating and domestic hot water production.

The high leaving water temperature allows the 61WG to be installed in new or existing buildings with any terminal unit type: fan coils, radiators or under-floor heating.

With a COP up to 5.42, 61WG deliver among the highest performance in the market. It is a cost effective alternative to fossil fuel option.

Make it simple with Carrier service

Wherever you are, there is always a competent team nearby to help. How? Simply connect to www.carrier.com to find spare parts and all the information you need.



Carrier participates in the ECC programme for Liquid Chilling Packages.

Check ongoing validity of certificate:
www.eurovent-certification.com
or www.certiflash.com

** models so marked are not ECC certified*

Carrier GREEN



Green heating with this new heating unit!

The environment and personal comfort are longstanding priorities for Carrier. The new 61WG heating unit takes its place among renewable energy solutions:

- A water-to-water heat pump that uses geothermal energy. Water is heated using free heat energy extracted from the ground.
- The range is Eurovent-certified.
- The amount of copper and steel used for the manufacture of 61WG was reduced by 44 and 41%. The amount of refrigerant was also reduced by 25% over the previous range.



High performance in heating

- High leaving water temperature of 65°C without supplementary heating
- Underground water : COP from 4.19 to 5.49
- Bore holes : COP 3.03 to 4.28
- Design to stringent quality standards such as 2005/32/EC "ecodesign" or 2002/96/CE "RoHS"

Modular range

- Ideal for schools, community buildings, swimming pools, leisure centres, offices, retirement homes, etc...
- For new and existing buildings and any terminal unit type: fan-coils, radiators, under-floor heating
- Reversible on the water side as standard
- Space heating and domestic hot water production



Carrier SERVICE

Three easy steps to order spare parts

Our website www.carrier.com gives you direct access to spare parts. It provides references, item availability and uses a simple three-step order process:

- browse for the item
- check availability
- download the order form!

Don't choose between **performance** and **compactness**



Adapt the solution to your needs

■ 65°C leaving water temperature (LWT)

Unit can produce hot water from 20 to 65°C suitable for any terminal unit type, domestic hot water and space heating.

■ Domestic hot water

The 61WG can control an external diverting valve and move hot water from space heating to a domestic hot water tank. When the unit produces domestic hot water, it uses second setpoint to deliver the maximum leaving water temperature. The domestic hot water production mode can be activated in off-peak electricity hours or manually via the user interface. Domestic hot water can still be produced in summer time.

■ Back-up and booster heater control

The unit can control either a fossil-fuel boiler or external staged electric heaters that will only be activated on the coldest winter days and when required.

■ Heating System Manager (HSM)*

The application range is extended when the 61WG and 61AF units are used together with the Carrier HSM, for example to control modulating valves in systems that combine radiators and under-floor heating. The Carrier HSM is installer-friendly - only a few parameters need to be defined, even if the unit is interfaced with district heating.



* See options section

Save money

■ High performances

Among the best coefficient of performance in the market, up to 5.49 COP, the 61WG offers one of the most cost-saving solutions.

■ A self-adjusting system

To avoid over-consumption, the 61WG automatically adjusts its leaving water temperature to the lowest possible value to improve seasonal energy efficiency. The water running through the terminal units has the exact temperature required, not more and not less.

■ Variable water flow pumps

The optional hydronic kit is available with a self-adjusting circulating pump to ensure unit operation at the best possible conditions, reducing running costs.



A unit that is easy to install and simple to maintain

■ Compact high-performance design

The 61WG is very efficient, but has a surprisingly small footprint and easily fits through a door or in a lift.

■ Easy access to components

Even though the unit is very compact, all components are easily accessible due to easily removable side panels and there is only one screw type and size for the entire chassis.

■ Flexible water connections

To better suit your installation constraints, the 61WG is available with water connections either at the top or rear, with or without hydronic kit.

■ Master/slave and stackability

If space is limited and the required capacity high, two units can be connected, stacked and controlled together.

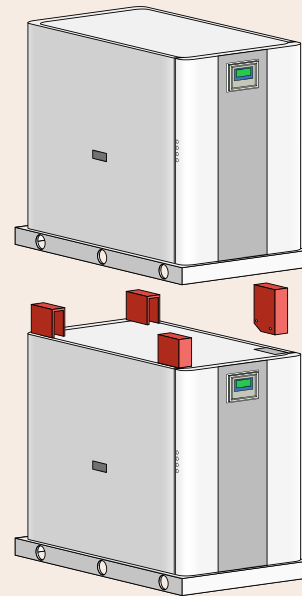
■ 100% compatible

With a maximum leaving water temperature of up to 65°C, the 61WG is compatible with even the oldest heating systems.



Innovative options to optimise **your heating unit!**

The plug-and-play design of the options ensures minimal set-up time and guaranteed peace-of-mind.



Hydronic kit and water connections

- Units can be supplied with a hydronic kit on the condenser or evaporator side.
- The hydronic kit includes a circulating pump, valves and an expansion vessel.
- The circulating pump can be fixed-speed or with variable water flow.
- Three control modes allow reduced energy consumption:
 - Constant $\Delta t(^{\circ}\text{K})$
 - Constant pressure

Stackable unit

- The stackable option allows a significant system footprint reduction and easier installation in a small plant room. This option is available for units with the water connections at the rear.



Heating System Manager for large systems

The HSM is an installer-friendly control box to manage:

- two different terminal unit types with different operating temperatures via a mixing valve,
- staged or progressive supplementary electric heater or fossil fuel burner,
- domestic hot water, interfaced with solar panels,
- district heating if used with control valves,
- weather compensation control for maximum energy efficiency.

Physical data

| 61WG | | 020 | 025 | 030 | 035 | 040 | 045 | 050 | 060 | 070 | 080 | 090 |
|----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|--------|
| Heating capacity* | kW | 29.0 | 34.4 | 38.3 | 44.2 | 50.2 | 57.2 | 68.6 | 78.2 | 88.4 | 100 | 117 |
| Power input | kW | 5.3 | 6.5 | 7.4 | 8.4 | 9.4 | 10.8 | 12.5 | 14.6 | 16.2 | 19.0 | 21.9 |
| Coefficient of performance (COP) | kW/kW | 5.42 | 5.29 | 5.20 | 5.29 | 5.34 | 5.32 | 5.49 | 5.36 | 5.46 | 5.28 | 5.33 |
| Eurovent class, heating | | A | A | A | A | A | A | A | A | A | A | A |
| Cooling capacity | kW | 23.7 | 28.0 | 31.0 | 36.0 | 40.9 | 46.6 | 56.2 | 63.8 | 72.4 | 81.3 | 94.9 |
| EER | kW/kW | 4.43 | 4.30 | 4.21 | 4.30 | 4.35 | 4.33 | 4.50 | 4.37 | 4.47 | 4.29 | 4.34 |
| Heating capacity** | kW | 21.7 | 25.7 | 29.4 | 34.1 | 37.7 | 42.1 | 50.4 | 56.7 | 67.1 | 74.6 | 87.0 |
| Power input | kW | 5.1 | 6.0 | 6.9 | 8.0 | 8.8 | 9.9 | 11.9 | 13.3 | 15.7 | 17.4 | 20.3 |
| Coefficient of performance (COP) | kW/kW | 4.24 | 4.26 | 4.28 | 4.27 | 4.27 | 4.25 | 4.25 | 4.27 | 4.26 | 4.28 | 4.29 |
| Cooling capacity | kW | 16.6 | 19.8 | 22.6 | 26.2 | 29.0 | 32.3 | 38.7 | 43.5 | 51.5 | 57.3 | 66.9 |
| EER | kW/kW | 3.25 | 3.27 | 3.29 | 3.28 | 3.28 | 3.26 | 3.26 | 3.28 | 3.27 | 3.29 | 3.30 |
| Nominal heating capacity*** | kW | 27.7 | 33.1 | 36.7 | 42.7 | 48.7 | 54.8 | 66.4 | 75.7 | 84.2 | 95.3 | 109.00 |
| Power input | kW | 6.4 | 7.6 | 8.8 | 10.0 | 11.3 | 12.6 | 14.7 | 17.5 | 19.3 | 22.3 | 25.3 |
| Coefficient of performance (COP) | kW/kW | 4.35 | 4.34 | 4.19 | 4.27 | 4.32 | 4.36 | 4.51 | 4.32 | 4.35 | 4.27 | 4.31 |
| Eurovent class, heating | | B | B | B | B | B | B | A | B | B | B | B |
| Cooling capacity | kW | 21.4 | 25.5 | 28.0 | 32.8 | 37.5 | 42.3 | 51.8 | 58.3 | 65.0 | 73.2 | 83.9 |
| EER | kW/kW | 3.36 | 3.35 | 3.20 | 3.28 | 3.33 | 3.37 | 3.52 | 3.33 | 3.36 | 3.28 | 3.32 |
| Heating capacity**** | kW | 26.1 | 31.1 | 34.2 | 40.0 | 43.8 | 49.8 | 62.0 | 71.5 | 77.2 | 86.3 | 98.6 |
| Power input | kW | 8.3 | 10.0 | 11.4 | 13.0 | 14.5 | 16.0 | 19.7 | 22.6 | 24.8 | 28.2 | 31.8 |
| Coefficient of performance (COP) | kW/kW | 3.12 | 3.12 | 3.01 | 3.08 | 3.03 | 3.11 | 3.15 | 3.16 | 3.12 | 3.06 | 3.10 |
| Cooling capacity | kW | 17.8 | 21.3 | 23.0 | 27.2 | 29.5 | 33.9 | 42.5 | 49.1 | 52.7 | 58.4 | 67.1 |
| EER | kW/kW | 2.13 | 2.13 | 2.02 | 2.09 | 2.03 | 2.12 | 2.15 | 2.17 | 2.13 | 2.07 | 2.11 |
| Sound levels***** | | | | | | | | | | | | |
| Sound power level, standard unit | dB(A) | 67.0 | 68.5 | 69.0 | 69.3 | 70.0 | 70.1 | 71.5 | 72.0 | 72.0 | 73.0 | 73.4 |
| Operating weight | kg | 191 | 200 | 200 | 207 | 212 | 220 | 386 | 392 | 403 | 413 | 441 |
| Dimensions, standard unit***** | | | | | | | | | | | | |
| Width | mm | 600 | 600 | 600 | 600 | 600 | 600 | 880 | 880 | 880 | 880 | 880 |
| Depth | mm | 1044 | 1044 | 1044 | 1044 | 1044 | 1044 | 1474 | 1474 | 1474 | 1474 | 1474 |
| Height | mm | 901 | 901 | 901 | 901 | 901 | 901 | 901 | 901 | 901 | 901 | 901 |

Options

- Brine to water
- Stackability
- Communication protocol: JBus, BacNet, LonTalk
- Master/slave for staged multiple-unit operation
- External main switch
- Remote human interface
- Soft starter
- Top or rear water connections
- Heating system control device

Note: All performances are net values as specified by EN14511-3 2011.

* Conditions in heating mode: evaporator water entering/leaving temp. = 10°C/7°C, condenser water entering/leaving temp. = 30°C/35°C, evaporator and condenser fouling factor = 0

** Conditions in heating mode: evaporator water entering/leaving temp. = 0°C/-3°C, condenser water entering/leaving temp. = 30°C/35°C, evaporator and condenser fouling factor = 0

*** Conditions in heating mode: evaporator water entering/leaving temp. = 10°C/7°C, condenser water entering/leaving temp. = 40°C/45°C, evaporator and condenser fouling factor = 0

**** Conditions in heating mode: evaporator water entering/leaving temp. = 10°C/7°C, condenser water entering/leaving temp. = 55°C/65°C, evaporator and condenser fouling factor = 0

***** Accordance with ISO 9614-1, measured in a free field. The sound levels only apply to units without options

***** The dimensions shown are for the standard unit. For other unit types please refer to the dimensional drawings



Carrier, for environment leadership

Carrier believes that industry leadership demands environmental leadership. In fact, environmental stewardship is one of Carrier's core values. Carrier continuously works to improve the environmental performance of its products and services, operations and culture to help achieve a sustainable society.

Carrier, for performance

Carrier strives for continuous growth to reinforce its leadership position, achieve world-class financial performance and continuously improve the productivity of its assets and resources.

Carrier, for innovation

Carrier is a company of ideas, committed to research and development, whose founder inspires the company to reach the next innovative, powerful and marketable idea.

Carrier, for service

The Carrier service delivery model maintains a reputation for high customer satisfaction and delivers service excellence with strong communication channels, industry-leading technicians, continuous improvement of contracts and a highly experienced management team.

Carrier, to be your expert

Carrier delivers global solutions across the broadest range of heating, cooling and refrigeration applications. With a proven track record of leadership and industry expertise, we are here to meet your needs with our portfolio of market-leading products and services.

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