New GAHP *Plus* Range

Product Overview

ROBUR®
caring for the environment

GAHP Plus: the new generation of thermally driven heat pumps.

Our GAHP Plus range introduces the latest generation of gas absorption heat pumps, delivering hot water for space heating and domestic use, with efficiency well beyond that of a condensing boiler. Reversible models within the range also provide high-performance cooling, ensuring year-round comfort. Driven by continuous innovation, the GAHP Plus range achieves outstanding energy performance, while promoting long-term sustainability and meeting tomorrow's energy challenges.

GAHP Plus

Condensing boiler

Operates on combustible gas (fossil or renewable)
Uses 1/10 of the electrical energy compared to an electric heat pump
Can produce domestic hot water
Not affected by low outdoor temperatures

Heat pump

Uses a significant amount of renewable energy
Reduces energy consumption
Can do cooling

Energy balances of the three types of GAHP.

GAHP A Plus

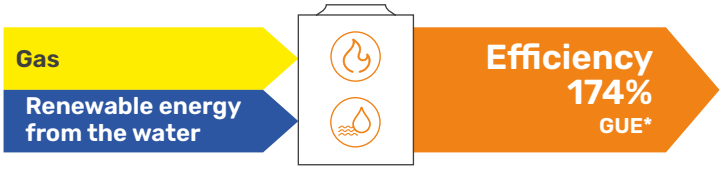
Gas and aerothermal renewable energy absorption heat pump
Operating conditions A7 W35
(Air temperature = 7 °C
Hot water outlet temperature = 35 °C)

GAHP GS Plus

Gas and geothermal renewable energy absorption heat pump
Operating conditions B0 W35
(Cold water inlet temperature = 0 °C
Hot water outlet temperature = 35 °C)

GAHP WS Plus

Gas and hydrothermal renewable energy absorption heat pump
Operating conditions W10 W35
(Cold water inlet temperature = 10 °C
Hot water outlet temperature = 35 °C)



**The efficiency expressed as GUE of a GAHP should not be confused with the COP of electric heat pumps. To compare the values correctly, multiply the GUE by 2.5.*

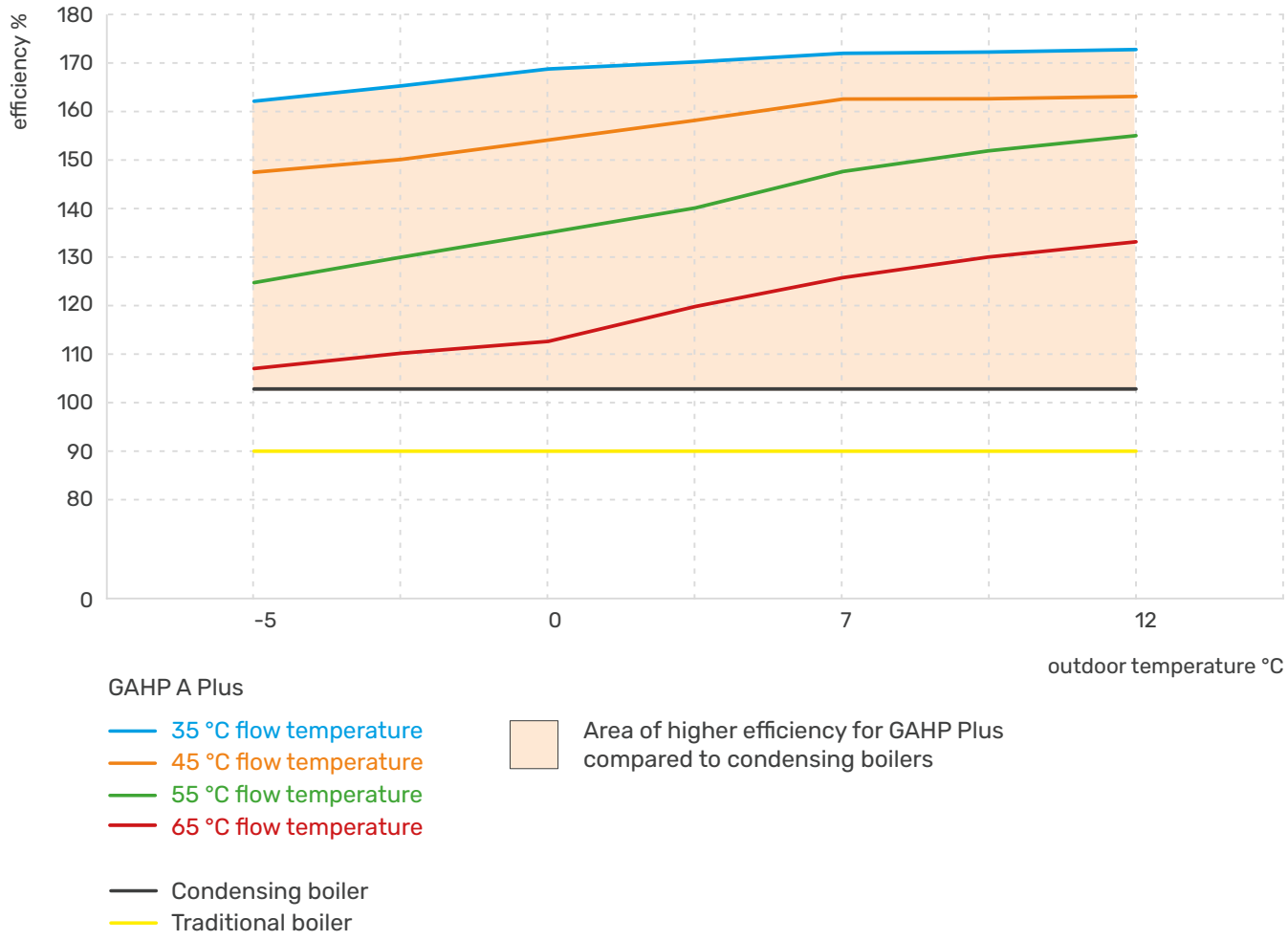
Advantages

Gas + Renewable energies: efficiency up to 174%

Seasonal efficiency: 15% above EU Ecodesign Standards

Hot water no matter what, even at -30 °C

Thanks to the special features of the thermodynamic cycle, the performance of GAHP is barely affected by outdoor climatic conditions. This results in hot water production up to 70 °C even in extremely cold climates.



R717 Natural Refrigerant - GWP = 0 and ODP = 0

The Joint Research Centre – European Commission, along with two studies from the Universities of Marche and Pisa, comparing various air conditioning technologies, have highlighted that the GAHP heat pump is the technology with the lowest overall environmental impact in terms of harmful emissions to human health (NO_x, PM, COV, CO_x).

H2 Ready 20%

Explore our Abso References

Download the full Abso Catalogue


ROBUR
GAHP | AR Plus
H2NG
HYDROGEN
READY 20%

GAHP A Plus

Modulating condensing gas and aerothermal renewable energy absorption heat pump

High-efficiency heating and domestic hot water production.

A++ A+++ ↑ D

H2NG HYDROGEN READY 20%

NATURAL REFRIGERANT R717

Efficiency **172%**	Water temperature up to **70 °C**
Modulation range **100% ÷ 28%**	Air temperature down to **-30 °C**
	Natural refrigerant
	F-Gas **exempt**

Advantages

- Exceeds a thermal efficiency (GUE) by 172%[1] due to the use of aerothermal renewable energy
- Saves up to 40% on heating costs compared to the best condensing boilers
- Increases the total efficiency of the system when integrated with boilers with lower energy performance
- Enhances the value of the property by increasing its energy performance
- At -7 °C it guarantees an efficiency of 159%. This avoids the need for back-up systems (heating elements), which reduce seasonal performance coefficients and increase consumption
- Compatible with centralized control systems and remote management via In-Cloud Watcher
- Not subject to F-Gas regulations as it uses no climate-altering fluids, only a natural refrigerant that is not restricted or subject to declaration requirements
- Modulating brushless fan
- Condensing burner
- Centralized management via DDC

[1]GUE - Gas Utilization Efficiency - equivalent to COP 4,30 calculated with a 2.5x energy conversion factor.

Models

Outdoor

Standard
Low-noise

Technical data

HEATING MODE

				GAHP A Plus Standard	GAHP A Plus Low-noise S1
Seasonal space heating energy efficiency class (ErP) medium-temperature application (55 °C)				A+	A++
Heat output	Outdoor temperature/ Water outlet temperature	A7W35	kW	44,6	
GUE efficiency	Outdoor temperature/ Water outlet temperature	A7W35	%	172	
Heat input	real		kW	26,0	
Hot water outlet temperature	maximum for heating		°C	65	
	maximum for DHW		°C	70	
Hot water inlet temperature	maximum for heating		°C	55	
	maximum for DHW		°C	60	
Heating water flow	nominal		l/h	2.500	
Pressure drop heating mode	nominal water flow		bar	0,31 (1)	
Ambient air temperature (dry bulb)	maximum		°C	45	
	minimum		°C	-15 (2)	

ELECTRICAL SPECIFICATIONS

Power supply	voltage		V	230	
	frequency		Hz	50	
Electrical power absorption	nominal		kW	0,84 (3)	0,77 (3)
	minimum		kW	-	0,45 (3)
Degree of protection	IP		-	25	

INSTALLATION DATA

Gas consumption	G20 natural gas (nominal)		m³/h	2,79 (4)	
	G30 (nominal)		kg/h	2,09 (5)	
	G31 (nominal)		kg/h	2,05 (5)	
Sound pressure Lp at 5 metres	maximum		dB(A)	57,6 (6)	52,0 (6)
	minimum		dB(A)	-	49,0 (6)
Water connections	type		-	F	
	thread		"	1 1/4	
Gas connection	type		-	F	
	thread		"	3/4	
Flue gas exhaust	diameter (ø)		mm	80	
Dimensions	width		mm	854 (7)	
	height		mm	1.460 (7)	1.523 (7)
	depth		mm	1.264	
Weight	in operation		kg	395	405

(1) For flows other than nominal see Design Manual, Pressure losses Paragraph.
(2) As an option, a version for operation down to -30 °C is available.
(3) ±10% depending on power voltage and absorption tolerance of electric motors.
(4) NCV (G20) 34,02 MJ/m³ (15 °C - 1013 mbar).
(5) NCV (G30/G31) 46,34 MJ/kg (15 °C - 1013 mbar).
(6) Sound pressure levels in free field, with directionality factor 2, obtained from the sound power level in compliance with standard EN ISO 9614. Data referred to 50 °C outlet temperature.
(7) Overall dimensions excluding flue gas exhaust.

GAHP AR Plus

Modulating reversible gas and aerothermal renewable energy absorption heat pump

High-efficiency gas heating and cooling with minimal electrical requirement.

A+ A+++ ↑ D

H2NG HYDROGEN READY 20%

NATURAL REFRIGERANT R717

Efficiency **154%**	Cold water down to **7 °C**	**Natural** refrigerant
Electricity **-86%**	Heating and cooling **gas-powered**	F-Gas **exempt**
Modulation range **100% ÷ 46%**		

Advantages

- Exceeds a thermal efficiency (GUE) by 154%[1] thanks to the use of aerothermal renewable energy
- Saves up to 30% on heating compared to the best condensing boilers
- Enhances the value of the property by increasing its energy performance
- Reduces electricity requirements by up to 86% through the use of natural gas
- Compatible with centralized control systems and remote management via In-Cloud Watcher
- Not subject to F-Gas regulations as it uses no climate-altering fluids, only a natural refrigerant that is not restricted or subject to declaration requirements
- Modulating brushless fan
- Centralized management via DDC

[1]GUE - Gas Utilization Efficiency - equivalent to COP 3,85 calculated with a 2.5x energy conversion factor.

Models

Outdoor

Standard
Low-noise

Technical data

HEATING MODE				GAHP AR Plus Standard	GAHP AR Plus Low-noise S1
Seasonal space heating energy efficiency class (ErP) medium-temperature application (55 °C)				A+	
Heat output	Outdoor temperature/ Water outlet temperature	A7W35	kW	38,8	
GUE efficiency	Outdoor temperature/ Water outlet temperature	A7W35	%	154	
Heat input	real		kW	25,2	
Hot water outlet temperature	maximum for heating		°C	60	
	maximum for DHW		°C	65	
Hot water inlet temperature	maximum for heating		°C	50	
	maximum for DHW		°C	55	
Heating water flow	nominal		l/h	3.040	
Pressure drop heating mode	nominal water flow		bar	0,29 (1)	
Ambient air temperature (dry bulb)	maximum		°C	40	
	minimum		°C	-15(*)	
COOLING MODE					
Cooling output	Outdoor temperature/ Water outlet temperature	A35W7	kW	16,9	
GUE efficiency	Outdoor temperature/ Water outlet temperature	A35W7	%	67	
Cold water temperature (outlet)	minimum		°C	3	
Cold water temperature (inlet)	maximum		°C	45	
	minimum		°C	8	
Cold water flow	nominal		l/h	2.900	
Pressure drop cooling mode	at nominal water flow		bar	0,31 (1)	
Outdoor temperature	maximum		°C	45	
	minimum		°C	0	
ELECTRICAL SPECIFICATIONS					
Power supply	voltage		V	230	
	frequency		Hz	50	
Electrical power absorption	nominal		kW	0,84 (2)	0,77 (2)
	minimum		kW	-	0,50 (2)
Degree of protection	IP		-	25	
INSTALLATION DATA					
Gas consumption	G20 natural gas (nominal)		m^3/h	2,72 (3)	
	G30 (nominal)		kg/h	2,03 (4)	
	G31 (nominal)		kg/h	2,00 (4)	
Sound pressure Lp at 5 metres	maximum		dB(A)	57,6 (5)	52,0 (5)
	minimum		dB(A)	-	49,0 (5)
Water connections	type		-	F	
	thread		"	1 1/4	
Gas connection	type		-	F	
	thread		"	3/4	
Flue gas exhaust	diameter (ø)		mm	80	
Dimensions	width		mm	854	
	height		mm	1.446 (6)	1.523 (6)
	depth		mm	1.266	
Weight	in operation		kg	385	395

(1) For flows other than nominal see Design Manual, Pressure losses Paragraph.
(2) ±10% according to the power supply voltage and tolerance on electrical motors consumption. Measured at outdoor temperature of 30 °C.
(3) NCV (G20) 34,02 MJ/m³ (15 °C - 1013 mbar).
(4) NCV (G30/G31) 46,34 MJ/kg (15 °C - 1013 mbar).
(5) Maximum sound pressure levels in free field, with directionality factor 2, obtained from the sound power level in compliance with standard EN ISO 9614.
(6) Overall dimensions excluding flue gas exhaust.
(*) A special version for operation down to –30 °C is available as an option.

GAHP GS Plus

Modulating condensing gas and geothermal renewable energy absorption heat pump

High-efficiency heating and domestic hot water production in systems using geothermal renewable energy.

A++ A+++ D

H2NG HYDROGEN READY 20%

NATURAL REFRIGERANT R717

Efficiency **165%**	**Natural** refrigerant
Geothermal probe cost **-50%**	F-Gas **exempt**
Modulation range **100% ÷ 28%**	

Advantages

- Exceeds a thermal efficiency (GUE) by 165%[1], thanks to the use of renewable geothermal energy
- More than 50% cost savings on geothermal probes compared to electric heat pumps
- An efficient solution for domestic hot water production as well
- Saves up to 40% on heating costs compared to the best condensing boilers
- Enhances the value of the property by increasing its energy performance
- Minimises the need for electricity, thanks to the use of natural gas
- Compatible with centralized control systems and remote management via In-Cloud Watcher
- Not subject to F-Gas regulations as it uses no climate-altering fluids, only a natural refrigerant that is not restricted or subject to declaration requirements
- Condensing burner
- Centralized management via DDC

[1]GUE - Gas Utilization Efficiency - equivalent to COP 4,13 calculated with a 2.5x energy conversion factor.

Models

Indoor
Outdoor

Technical data

HEATING MODE				GAHP GS Plus Outdoor/Indoor
Seasonal space heating energy efficiency class (ErP) medium-temperature application (55 °C)				A++
Heat output	Evaporator inlet temperature/ Water outlet temperature	B0W35	kW	43,0
GUE efficiency	Evaporator inlet temperature/ Water outlet temperature	B0W35	%	165
Heat input	real		kW	26,0
Hot water outlet temperature	maximum for heating		°C	65
	maximum for DHW		°C	70
Hot water inlet temperature	maximum for heating		°C	55
	maximum for DHW		°C	60
Heating water flow	nominal		l/h	3.000
Pressure drop heating mode	nominal water flow (B0W50)		bar	0,46 (1)
Ambient air temperature (dry bulb)	maximum		°C	45
	minimum		°C	-15 (2)
RENEWABLE SOURCE OPERATING CONDITIONS				
Power recovered from renewable source	Evaporator inlet temperature/ Water outlet temperature	B0W35	kW	16,9
Renewable source water return temperature	maximum		°C	45
Renewable source delivery water temperature	minimum		°C	-5
Renewable source water flow rate (with 25% glycol)	nominal		l/h	3.020
Renewable source pressure drop	at nominal water flow		bar	0,57 (1)
ELECTRICAL SPECIFICATIONS				
Power supply	voltage		V	230
	frequency		Hz	50
Electrical power absorption	nominal		kW	0,41 (3)
Degree of protection	IP		-	25
INSTALLATION DATA				
Gas consumption	G20 natural gas (nominal)		m^3/h	2,79 (4)
	G30 (nominal)		kg/h	2,09 (5)
	G31 (nominal)		kg/h	2,05 (5)
Sound pressure Lp at 5 metres	maximum		dB(A)	44,1 (6)
Water connections	type		-	F
	thread		"	1 1/4
Gas connection	type		-	F
	thread		"	3/4
Safety valve outlet duct fitting			"	1 1/4 (7)
Flue gas exhaust	diameter (ø)		mm	80
Dimensions	width		mm	923
	height		mm	1.280 (8)
	depth		mm	729
Weight	in operation		kg	300

(1) For flows other than nominal see Design Manual, Pressure losses Paragraph.
(2) Data referred to the indoor version. For the outdoor version, the minimum ambient air temperature is 0 °C. A special outdoor version is available as an option for operation down to -30 °C.
(3) ±10% depending on power voltage and absorption tolerance of electric motors.
(4) NCV (G20) 34,02 MJ/m³ (15 °C - 1013 mbar).
(5) NCV (G30/G31) 46,34 MJ/kg (15 °C - 1013 mbar).
(6) Maximum sound pressure levels in free field, with directionality factor 2, obtained from the sound power level in compliance with standard EN ISO 9614; C type installation.
(7) Only for the indoor version.
(8) Overall dimensions excluding flue gas exhaust.

GAHP WS Plus

Modulating condensing gas and hydrothermal renewable energy absorption heat pump

High-efficiency heating, cooling and domestic hot water production in systems using hydrothermal renewable energy. Simultaneous use of hot and cold water.

A++ A+++ ↑ D

H2NG HYDROGEN READY 20%

NATURAL REFRIGERANT R717

Efficiency **174%**	**Natural** refrigerant
Overall energy efficiency **248%**	F-Gas **exempt**
Modulation range **100% ÷ 28%**	

Advantages

- Exceeds a thermal efficiency (GUE) by 248%[1], in the case of simultaneous use of hot and cold water
- Thermal efficiency (GUE) of 174%[2], using more than 50% hydrothermal renewable energy
- Efficient solution for domestic hot water production as well
- Saves up to 50% on heating costs compared to the best condensing boilers
- Minimises electricity requirements by using natural gas
- Compatible with centralized control systems and remote management via In-Cloud Watcher
- Not subject to F-Gas regulations as it uses no climate-altering fluids, only a natural refrigerant that is not restricted or subject to declaration requirements
- Condensing burner
- Centralized management via DDC

[1]GUE - Gas Utilization Efficiency - equivalent to COP 6,20 calculated with a 2.5x energy conversion factor.

[2]GUE - Gas Utilization Efficiency - equivalent to COP 4,35 calculated with a 2.5x energy conversion factor.

Models

Indoor
Outdoor

Technical data

HEATING MODE				GAHP WS Plus Outdoor/Indoor
Seasonal space heating energy efficiency class (ErP) medium-temperature application (55 °C)				A++
Heat output	Evaporator inlet temperature/ Water outlet temperature	W10W35	kW	45,3
GUE efficiency	Evaporator inlet temperature/ Water outlet temperature	W10W35	%	174
Heat input	real		kW	26,0
Hot water outlet temperature	maximum for heating		°C	65
	maximum for DHW		°C	70
Hot water inlet temperature	maximum for heating		°C	55
	maximum for DHW		°C	60
Heating water flow	nominal		l/h	3.200
Pressure drop heating mode	nominal water flow (W10W50)		bar	0,52 (1)
Ambient air temperature (dry bulb)	maximum		°C	45
	minimum		°C	-15 (2)
RENEWABLE SOURCE OPERATING CONDITIONS				
Power recovered from renewable source	Evaporator inlet temperature/ Water outlet temperature	W10W35	kW	19,3
Renewable source water return temperature	maximum		°C	45
Renewable source delivery water temperature	minimum		°C	3
Renewable source water flow rate	nominal		l/h	2.850
Renewable source pressure drop	at nominal water flow		bar	0,40 (1)
ELECTRICAL SPECIFICATIONS				
Power supply	voltage			230
	frequency			50
Electrical power absorption	nominal		kW	0,41 (3)
Degree of protection	IP		-	25
INSTALLATION DATA				
Gas consumption	G20 natural gas (nominal)		m^3/h	2,79 (4)
	G30 (nominal)		kg/h	2,09 (5)
	G31 (nominal)		kg/h	2,05 (5)
Sound pressure Lp at 5 metres	maximum		dB(A)	44,1 (6)
Water connections	type		-	F
	thread		"	1 1/4
Gas connection	type		-	F
	thread		"	3/4
Safety valve outlet duct fitting			"	1 1/4 (7)
Flue gas exhaust	diameter (ø)		mm	80
Dimensions	width		mm	923
	height		mm	1.280 (8)
	depth		mm	729
Weight	in operation		kg	300

(1) For flows other than nominal see Design Manual, Pressure losses Paragraph.
(2) Data referred to the indoor version. For the outdoor version, the minimum ambient air temperature is 0 °C. A special outdoor version is available as an option for operation down to -30 °C.
(3) ±10% depending on power voltage and absorption tolerance of electric motors.
(4) NCV (G20) 34,02 MJ/m³ (15 °C - 1013 mbar).
(5) NCV (G30/G31) 46,34 MJ/kg (15 °C - 1013 mbar).
(6) Maximum sound pressure levels in free field, with directionality factor 2, obtained from the sound power level in compliance with standard EN ISO 9614; C type installation.
(7) Only for the indoor version.
(8) Overall dimensions excluding flue gas exhaust.

Multiple preassembled packages for heating, domestic hot water production and cooling. In a word: LINK.

The thermal energy requirements for heating, domestic hot water and cooling are typically never equal and balanced in cooling systems. In addition, the power draws are never constant, but follow very different load profiles.

That's why we created LINK. They are factory preassembled systems made up of groups of heat pumps, condensing boilers and chillers. They are appropriately mounted on a single supporting structure, hydraulically and electrically wired to form a true outdoor thermo-cooling plant best suited to the energy requirements of the system.

There are many possible combinations with a range of fittings and versions:

LINK, heating-only heat pumps

For a modular heating and domestic hot water production system

LINK, reversible heat pumps

For a modular heating and cooling system

LINK, mixed heat pump and condensing boilers

For a modular HYBRID heating and domestic hot water production system

LINK, mixed heat pump and chillers

For a system with the most appropriate ratio of heat output to cooling output

LINK, heat pumps, boilers and chillers

For systems requiring heating/cooling and domestic hot water output to be separate

LINKs can be "customised" according to different system requirements:

Water circuits	**2-**, **4-**, and **6** pipes
Fan model	**Standard** or **Low-noise**
Water circulation	with independent oversize circulation pumps (one for each installed unit) or without circulation pumps on board

ROBUR®

caring for the environment

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