

AURIGA HP+ R290 HEAT PUMP RANGES 50 - 170KW

Designed for efficient heating and
hot water up to 70°C and cooling



PRODUCT OVERVIEW

The AURIGA HP+ ranges are air-cooled reversible heat pumps for heating, cooling and domestic hot water production by means of technical water accumulation. Perfect for new buildings or replacement of existing systems with low energy consumption, also in combination with an existing boiler.



Energy saving at its core
AURIGA HP+ ranges offer a simple and reliable comfort management solution for all seasons, with the utmost attention to energy savings. They are compliant with ERP directives.



100% Natural Refrigerants
The heat pumps use the R290 natural refrigerant (Propane), with very low global warming potential (GWP=3), already in compliance with future developments of the European Directive F-Gas for the progressive reduction of the use of greenhouse gases.



Efficiency and comfort all year round
Hot water up to 70°C with high performance, excellent energy efficiency and reduced noise level. Heating operation with hot water production starting from an outdoor air temperature of -20°C during winter and up to +38°C in the summer.

PRODUCT RANGE



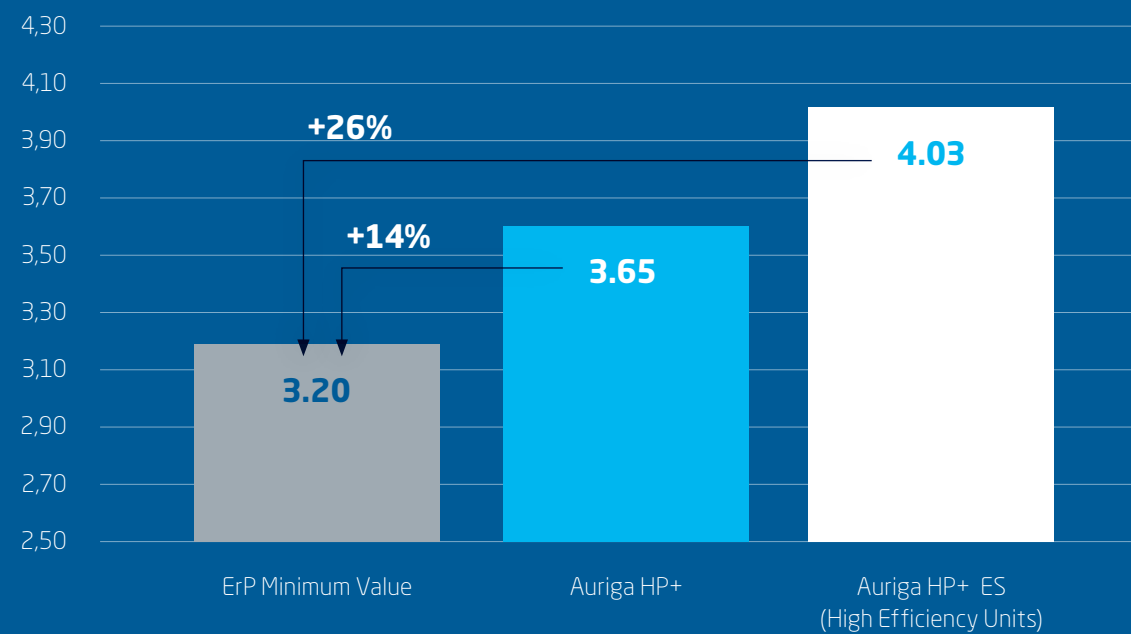
High Efficiency Units

AURIGA HP+	AURIGA HP+ 50-170kW	AURIGA HP+ 55-170kW ES
Reversible Heat Pump	•	•
Models nr.	8	8
Heating (kW) A 7°C / W 35°C	49.2-170	51-171
Cooling (kW) A 35°C / W 7°C	40-130	40.6-133
Key features	ErP SCOP	ErP SCOP
		
Refrigerant	R290	R290
Operating limits outdoor temperature (for heating)	-20°C to 42°C	-20°C to 42°C
Operating limits outdoor temperature (for cooling)	-10°C to 45°C	-10°C to 45°C
Hot water up to	70°C	70°C
Compressors	Scroll	Scroll
Fans	Axial	Axial EC Inverter
Water side exchanger	Plate	Plate
Air side exchanger	CuAl with hydrophilic treatment	CuAl with hydrophilic treatment
Standard Noise level	•	
Low Noise level	(optional)	
Super Low Noise level		•

FEATURE HIGHLIGHTS

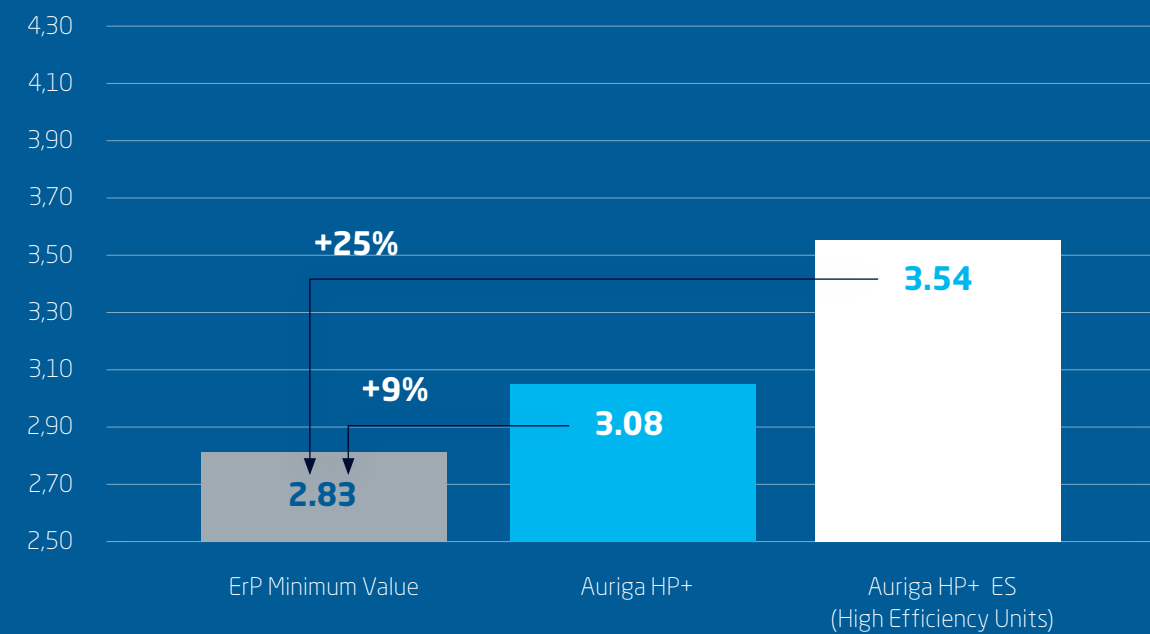
1. HIGH SEASONAL EFFICIENCY

Low temperature SCOP* 30/35°C, average climatic conditions



*Based on average SCOPS across the range

Medium temperature SCOP* 47/55°C, average climatic conditions



*Based on average SCOPS across the range

2. HIGH ENERGY EFFICIENCY AND OPTIMISED LAYOUT

The AURIGA HP+ ranges are designed to respond flexibly and specifically to different market requirements. The AURIGA HP+ 50-170 is optimised for applications where high standards of comfort and reliability are required, while the High Efficiency AURIGA HP+ 55-170kW ES is perfect for minimising energy consumption and acoustic impact, making it well suited for installations in residential and urban contexts particularly sensitive to noise and operating costs. With the two ranges, AURIGA HP+ and HP+ ES are versatile and innovative solutions, designed to meet the varied priorities of designers and users.

Optimised Component Access & Safety Features

- Full accessibility of all components of the unit.
- Forced ventilation of compressor box and optional leak detector.
- Front-facing electrical cabinet and control panel, on the opposite side of the compressor box.
- All hydraulic components for the installation of the unit can be installed without increasing dimensions.
- Lateral Hydraulic connections

3. EFFICIENT REPLACEMENT OF EXISTING SYSTEMS

AURIGA HP+ ranges are perfect for retrofitting onto existing systems, including those with traditional radiators, as it delivers hot water at temperatures of up to 70°C. In case of renovations of buildings, AURIGA HP+ is perfect to replace the traditional gas boiler as efficiently as possible and to provide cold water for air conditioning during summer. This eliminates the need for separate systems for heating and cooling: a great advantage in terms of energy savings and system simplification.



KEY COMPONENTS



1a. EC axial fans (AURIGA HP+ ES)

High efficiency fans electronically controlled by EC motor, which modulate the airflow regulating the fans' speed proportionally to the required cooling load and according to external air temperature.

1b. AC axial fans (AURIGA HP+)

Axial fans are directly coupled to a three-phase electric motor with external rotor. They are also fitted with an electronic proportional device for continuous and efficient operation of the unit.

2. Source side heat exchanger (Condenser coils)

Made up of finned coils with copper tubes and aluminium fins with hydrophilic treatment positioned in a V-shaped geometry. The anti-snow coils protection grids (GP) is optional.

3. Electronic control with LED display

PLC programmable according to IEC61131 standard, LED display installed on the electrical board door.

4. Plate exchanger

AISI 316 stainless steel brazed plate heat exchanger, complete with water differential pressure switch and antifreeze heater.

5. Pumps (optional)

4 options available for pumps: PS / PSI / PD / PDI. Please refer to the accessory list for more details.

6. Scroll compressors

Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.

7. Compressor box*

It consists of a separate compartment, housed on the side of the unit opposite the electrical board and is equipped with an ATEX-certified extraction fan, always on, installed at the bottom of the compartment.

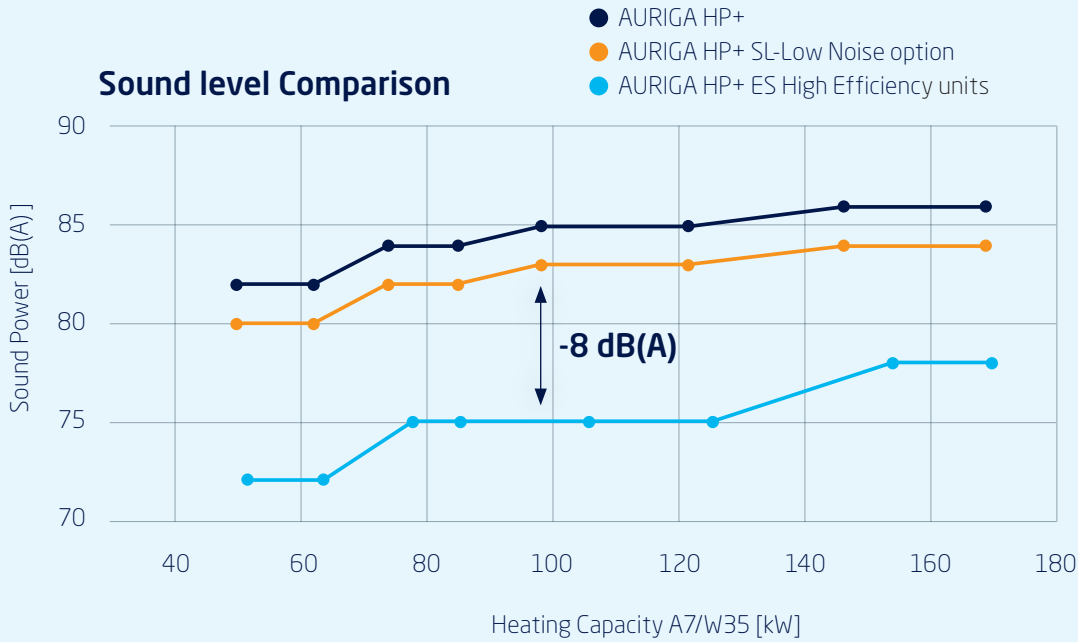
*All AURIGA HP+ ranges can be supplied with factory fitted options

TECHNICAL HIGHLIGHTS



EC INVERTER FANS: HIGH EFFICIENCY, NOISE REDUCTION

The AURIGA HP+ ES High Efficiency unit is equipped with enlarged diameter EC inverter axial fans that deliver a high airflow at reduced speeds, lowering both energy consumption and sound levels.



ELECTRONIC CONTROL WITH DISPLAY



Programmable control according to IEC61131 standard. Integrated connections:

- Display installed on the electrical board door (included);
- Possibility of connecting the heat pump from a smartphone or tablet via local WiFi access point (IWF, included);
- Possibility of connecting to the heat pump via Modbus RTU protocol (IS included, not compatible with additional/advanced connections ISB1, SBT1, IEH).
- Heat pump set point on the main screen;
- Controlled temperature on the main screen;
- Heat pump status through dedicated icons;
- Pressures and temperatures (I/O menu);
- Status of circuits and circuit resources through dedicated icons;
- Circuit and heat pump alarms through specific codes;
- Warnings through specific codes.

CONNECTIVITY



Remote connections: Modbus RTU protocol (Standard).

Options are:
ISB1 – BACNET MSTP PROTOCOL
ISBT1 – BACNET IP PROTOCOL
IEH – Gateway with Ethernet port. for connection via Modbus TCP-IP (IST) or SNMP (ISS) PROTOCOLS or VIA Web Server

Management of the following functions:

- Temperature control of inlet water temperature to the machine;
- Electronic expansion valve management;
- Modulating fan management;
- Adaptive activation of compressor crankcase heaters;
- Solenoid valve management on the liquid line;
- Independent and intelligent defrosting;
- Time slot management;
- Compressor safety time control;
- Safety devices time control;
- Verification of circuit and machine alarms;
- Verification of circuit and machine envelope;
- Verification of warnings;
- Configuration of alarms with automatic, semi-automatic and manual reset;
- Dedicated antifreeze protection with machine in standby;
- High discharge temperature protection for each individual compressor;
- Management of circulating pump with pump energy saving function.

WIDE WORKING RANGE AND ADVANCED FUNCTIONS

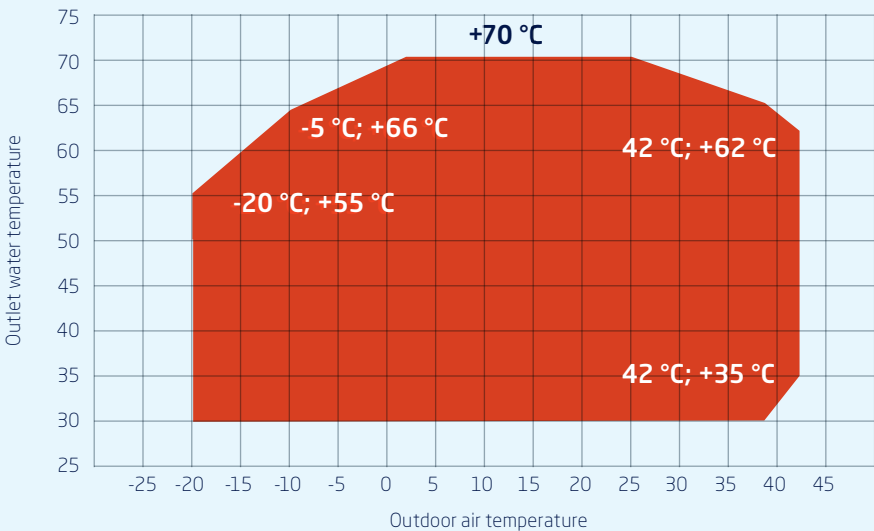
Advanced functions: There are also inputs/outputs to activate the following advanced functions that can be enabled by the user:

- Set-point variation (SSP) via digital control, 0-10V or 4-20 mA modulating input (mutually exclusive modes; enabled by the user as alternative to SGR);
- Set-point variation via outside air temperature (climate curve);
- Demand limit (LP) via digital control, 0-10V or 4-20 mA modulating input (mutually exclusive modes; enabled by the user as alternative to SSP and LP);
- SGR, Smart Grid Ready (enabled by the user as an alternative to SSP and LP);
- Hybrid systems management (HYM);
- Domestic hot water management (DHW).

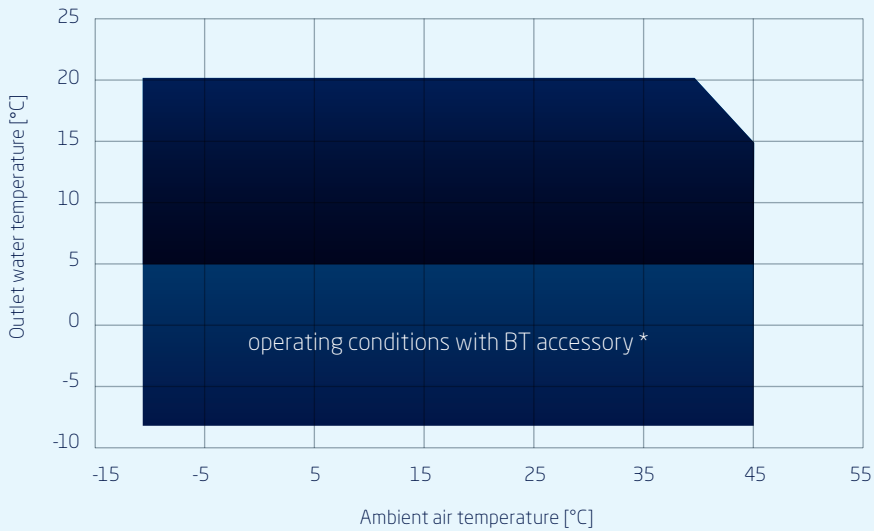


Wide working range and advanced functions

Heating mode



Cooling mode



* BT accessory is a low water temperature kit that extends the allowable outlet water temperature range in cooling mode.

DOMESTIC HOT WATER (DHW) PRODUCTION MANAGEMENT

The on-board control can manage an external 3-way valve for the production of domestic hot water when a call is made, which can be managed by a thermostat or probe installed in the technical tank (not supplied).

There are 3 possible operating modes:



Summer operation and Domestic hot water production (priority management)

Cooling / Domestic hot water production

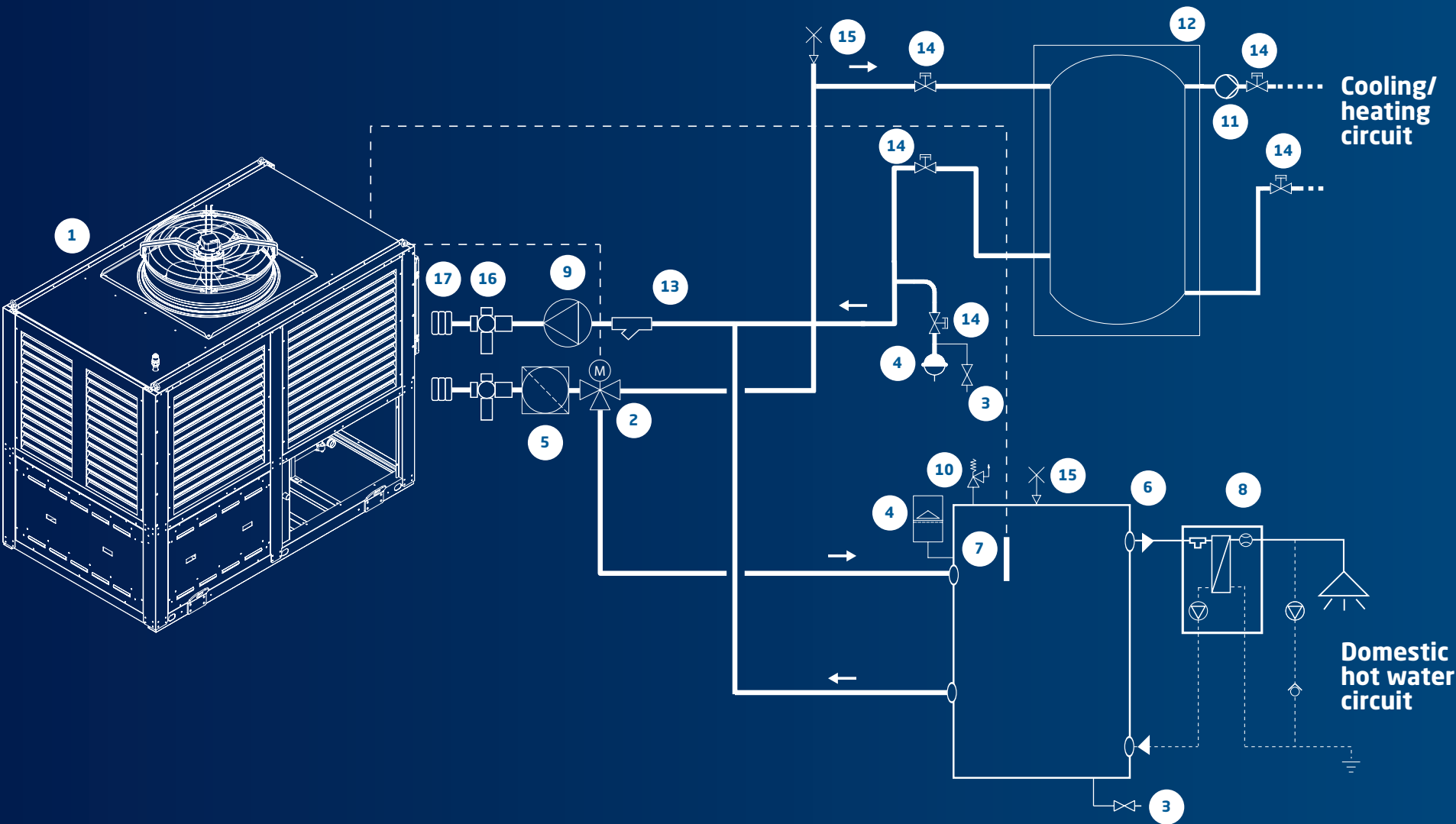


Heating / Domestic hot water production

Winter operation and Domestic hot water production (priority management)



Domestic hot water production only



- 1. Heat pump
- 2. Domestic hot water 3-way valve (V3D accessory)
- 3. Drain valve
- 4. Expansion vessel
- 5. Air separator
- 6. Domestic hot water technical tank
- 7. Domestic hot water technical tank probe/thermostat
- 8. Aqua Insta - instantaneous DHW production
- 9. Circulating pump
- 10. Safety valve
- 11. Adjustment for heating flow
- 12. Heating water technical tank
- 13. Water filter
- 14. Shut-off valve
- 15. Air vent valve
- 16. Antifreeze valves
- 17. Anti-vibration joints

TECHNICAL DATA*

AURIGA HP+				50	60	75	85	100	120	150	170
Heating performances	A7/W35	Heating capacity	kW	49.2	61.6	73.6	84.8	98.3	122	147	170
		COP		3.8	4.04	3.89	3.93	3.8	4.03	3.87	3.92
		SCOP		3.52	3.77	3.49	3.57	3.69	3.94	3.65	3.54
		Energy efficiency	%	138	148	137	140	145	155	143	139
		Energy class		A+	A+	A+	---	---	---	---	---
	A7/W55	Heating capacity	kW	47.2	58.1	68.8	78.8	94.3	116	137	158
		COP		2.76	2.91	2.81	2.85	2.75	2.88	2.77	2.82
		SCOP		2.99	3.15	2.94	3.03	3.03	3.28	3.07	3.13
		Energy efficiency	%	117	123	115	118	118	128	120	122
		Energy class		A+	A+	A+	---	---	---	---	---
Cooling performances	A35/W7	Cooling capacity	kW	40	47.1	58.4	65.7	79.8	93.5	117	130
		EER		2.45	2.4	2.49	2.51	2.46	2.4	2.5	2.49
		SEER		3.21	3.17	3.23	3.22	3.46	3.4	3.46	3.21
		Energy efficiency		125	124	126	126	135	133	135	125
	A35/W18	Cooling capacity	kW	53.9	63.2	78.9	89	104	122	153	169
		EER		3.01	2.89	3.04	3.08	2.98	2.87	3.01	2.98
		SEER		3.33	3.28	3.34	3.34	3.6	3.52	3.58	3.33
		Energy efficiency	%	130	128	131	131	141	138	140	130
Compressors / Refrigerant circuits				2 / 1	2 / 1	2 / 1	2 / 1	4 / 2	4 / 2	4 / 2	4 / 2
Power noise level			dB(A)	82	82	84	84	85	85	86	86
		SL-Low Noise option	dB(A)	80	80	82	82	83	83	84	84
Dimensions		Length	mm	2480	2480	2480	2480	4990	4990	4990	4990
		Width	mm	1350	1350	1350	1350	1350	1350	1350	1350
		Height	mm	2100	2100	2100	2100	2100	2100	2100	2100
Weight (without fitted accessories)			Kg	810	840	890	920	1530	1590	1710	1790

AURIGA HP+ ES				55 ES	65 ES	80 ES	85 ES	105 ES	125 ES	155 ES	170 ES
Heating performances	A7/W35	Heating capacity	kW	51	63.2	77.6	85.3	106	126	155	171
		COP		4.26	4.43	4.53	4.37	4.4	4.42	4.5	4.35
		SCOP		4.19	4.31	4.32	4.11	4.37	4.48	4.47	4
		Energy efficiency	%	165	170	170	162	172	176	176	157
		Energy class		A++	A++	A++	---	---	---	---	---
	A7/W55	Heating capacity	kW	48.5	59.8	72.3	80	101	119	145	160
		COP		2.99	3.14	3.16	3.12	3.07	3.11	3.12	3.09
		SCOP		3.47	3.52	3.52	3.41	3.61	3.66	3.65	3.49
		Energy efficiency	%	136	138	138	134	141	143	143	136
		Energy class		A++	A++	A++	---	---	---	---	---
Cooling performances	A35/W7	Cooling capacity	kW	40.6	48.1	60.3	67.9	80.7	96.5	119	133
		EER		2.64	2.61	2.82	2.78	2.64	2.63	2.79	2.69
		SEER		3.36	3.3	3.57	3.49	3.61	3.55	3.81	3.36
		Energy efficiency		131	129	140	137	141	139	149	131
	A35/W18	Cooling capacity	kW	55	64.5	81.8	91.4	106	126	156	172
		EER		3.27	3.14	3.45	3.37	3.22	3.13	3.39	3.21
		SEER		3.49	3.42	3.71	3.62	3.77	3.7	3.96	3.48
		Energy efficiency	%	137	134	145	142	148	145	155	136
Compressors / Refrigerant circuits			2 / 1	2 / 1	2 / 1	2 / 1	4 / 2	4 / 2	4 / 2	4 / 2	
Power noise level		dB(A)	72	72	75	75	75	75	78	78	
Dimensions	Length	mm	2480	2480	2480	2480	4990	4990	4990	4990	
	Width	mm	1350	1350	1350	1350	1350	1350	1350	1350	
	Height	mm	2200	2200	2200	2200	2200	2200	2200	2200	
Weight (without fitted accessories)			Kg	900	930	970	980	1700	1770	1880	

*All data shown is based on simulated calculations and is for reference only. Actual values may vary. Please contact your sales representative for project-specific performance data.

Factory fitted accessories	
SL	Low Noise option. The compressors and the compressor box are equipped with sound-absorbing covering (for AURIGA HP+ only)
GP	Anti-snow coils protection grids
Refrigerant circuit + Coastal protection for condenser coils	
BT	Low water temperature kit in cooling mode
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
LDS	Leak detection sensor R290
TX	Coil with precoated fins. Resistance to neutral salt spray (ASTM B117): 1000h
TXK	Coil with black epoxy treatment. Resistance to neutral salt spray (ASTM B117): 1500h
TXI	Coil with Heresite treatment + UV top coat. Resistance to neutral salt spray (ASTM B117): >6000h

Water circuits	
SI	Inertial tank
FL	Flow switch
PS	Single circulating pump
PD	Double circulating pump
PSI	Single inverter circulating pump
PDI	Inverter double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
FX	Antifreeze heater for evaporator and pipes
FQ	Antifreeze heater for evaporator, tank and pipes
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
FU	Antifreeze heater for evaporator, tank, single pump and pipes
FD	Antifreeze heater for evaporator, tank, double pump and pipes
FEV	Antifreeze heater for fans (for High Efficiency Version only)

Power and Electrical	
RE	Adjustable minimum/maximum voltage and phase control relay
SS	Soft start
Connectivity	
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified
ISBT1	Bacnet IP protocol, Ethernet port, BTL certified
IEH	Gateway with Ethernet port. Possibility of connection via Modbus TCP-IP (IST) or SNMP (ISS) protocols or via Web Server

Loose accessories	
V3D	3-Way valve for domestic hot water production
DG	Degasser
AFV	Anti-Freeze Valve
AG	Rubber shock absorbers
AM	Spring shock absorbers

Heat pumps are at the core of future low-carbon solutions for commercial buildings

AURIGA HP+ R290 heat pumps can be integrated with our other products and monitoring systems. Suitable for the following use cases:

 Apartment Buildings New Build and Renovation	 Education	 Healthcare and Care Homes
 Hotels and Leisure	 Ministry of Defence and Ministry of Justice	 Retail

Why choose Baxi For HVAC Commercial Solutions?

Innovation with purpose
Driven by 160 years of Baxi and over 300 years of BDR Thermea Group, we develop customer-focused HVAC solutions that create real, lasting value. Our ongoing investment in R&D and sustainable technologies keeps us ahead of changing regulations and the energy transition. Foundation-owned and purpose-led, we focus on long-term progress over short-term profit, helping you achieve greater efficiency, reliability, and sustainability in every building.

Expertise that's close to you
Behind our solutions lies proven expertise and local knowledge. With decades of HVAC experience across Europe and hands-on teams on the ground, we combine technical know-how with an in-depth understanding of local regulations and how systems work better together to offer hands on support and deliver reliable, compliant, and sustainable systems with confidence - because real expertise works best when it's local.

The right solution for every building
We deliver one of the industry's widest portfolios of high-performance, energy-efficient HVAC solutions tailored entirely around your needs. From design to aftercare, our technology-agnostic approach brings together products that integrate seamlessly for maximum efficiency, reliability, and sustainability. Whatever your project - new build or renovation, rooftop or cellar - we deliver scalable, compliant, and future-ready solutions.

Partnership that lasts
We're with you every step of the way - from system design and specification to installation, commissioning, and long-term aftercare. Our collaborative approach and digital tools make every stage seamless, while expert training, assisted commissioning, and tailored maintenance plans keep your systems performing at their best. We're your go to partner for the lifecycle of your project.

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*Information is correct at time of publishing - July 2026

Baxi commercial solutions:
Customer - driven. Solution - led

At BAXI, we empower every building to perform better, delivering smart, sustainable HVAC solutions built around real customer needs. With one of the widest portfolios in the market, deep local expertise and a commitment to innovation that lasts, we make efficiency simple, reliability certain, and progress achievable; for every project, everywhere.

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