BAXI

Baxi Auriga+

High-Temperature Air To Water Heat Pump

Specification overview

BAXI | remeha | megaflo | ANDREWS WATER HEATERS | HEATRAESADIA | MAIN HEATING

Residential and commercial heating and hot water solutions

Note: content provided in this document is correct as of publication, subject to change without notice. Please refer to the Installation, Operation and Maintenance Manual which can be found at **baxi.co.uk/Auriga+**

In the interests of the quality of our products, we strive constantly to improve them. We therefore reserve the right to modify the specifications and details provided within this document.

Contents

Explore
the range

Introducing the Baxi Auriga+ High-Temperature Air to Water Heat Pump, perfect for commercial applications in both fully-electric and hybrid heating systems.

Built from over 30 years' experience in commercial air source heat pumps and low carbon heating systems across Europe, Baxi's Auriga+ HP ASHP is a monobloc design, self-contained heat generator, extracting renewable heat from the atmosphere and amplifying it using R290 refrigerant compression.

Available in two outputs of 20kW, & 30kW Baxi Auriga+ HP ASHPs can be used as part of a hybrid or standalone system in both new build and retrofit applications. With operating temperatures up to 80*C, the Baxi Auriga+ is also ideal for Domestic Hot Water production.

Whatever the size or complexity of your project, our dedicated experts are on hand to advise you on the right product accessories to support your installation.

Auriga HP+ 20T

- Up to 80°C flow temperature
- Operation down to -20°C
- COP at A7/W35 = 4.6
- 4.35kW at A7/W35

Auriga HP+ 30T

- Up to 80°C flow temperature
- Operation down to -20°C
- COP at A7/W35 = 4.6
- 6.52kW at A7/W35

A total solution

We've unified our diverse portfolio of product brands, from Remeha to Heatrae Sadia to Baxi Packaged Solutions, creating one seamless integrated suite of heating and hot water solutions from names can trust.

We understand that every building project is different, and one size never fits all. That's why we tailor our solutions for every type of building; from new and refurbished buildings to hotels and leisure facilities, education and healthcare, and so much more.

Our dedicated experts are on hand to advise you on the right product accessories to support your installation.

We're committed to guiding every customer through the energy transition. Our design team is there from the start, helping developers and specifiers in choosing the right solution for the application. Our technical teams help with everything from installation and commissioning, to servicing and maintenance; all supported by our nationwide network of expert engineers, and excellent parts and labour warranties.

We also design and manufacture prefabricated bespoke rigs or full turnkey-enabled plant rooms via our Baxi Packaged Solutions service – for easy on-site installation that ensures better health and safety, as well as cost savings.

Our customer training supports best practice across the industry, developing all the skills and knowledge needed for a low-carbon future – and our friendly customer support offers expert advice as and when you need it.

Together, we're everything you need in a heating and hot water solution.

Accessories compatibility table

Model	Part number	Auriga HP+ 20T	Auriga HP+ 30T
Rubber Shock Absorber	7848648	✓	✓
Water Filter 1 ¼"	7841694	✓	✓
Refrigerant detector	7854446	✓	✓

Auriga+ HP 20T - 7832039
Auriga+ HP/TX 20T (Coastal Protection) -7837274

Technical specification

Performance	20T
Heating capacity at A7/W35	20 kW
Power input at A7/W35**	4.35
COP at A7/W35	4.6
Heating capacity at A-10/W35	13.9 kW
Power input at A-10/W35**	4.96
COP at A-10/W35	2.8
SCOP at Water 35	5
SCOP at Water 55	3.86
Seasonal efficiency at Water 35	197%
Seasonal efficiency at Water 55	151%
ERP data	
Energy label rating at Water 35	A+++
Sound power rating at A7/W35	58 dB(A)
Refrigerant	
Refrigerant type	R290
Refrigerant weight	4.45kg
Refrigerant GWP	3
Equivalent CO_2	0.01335 Tn
Hydraulics	
Nominal volume flow rate	1 l/s
Minimum volume flow rate	0.3 l/s
Water temperature min/max	+25/+80°C
Available water pressure	6.9 mwc
Max operating pressure	6 bar
Min operating pressure	0.5 bar
Max supply temperature	+80°C
Flow connection size***	1 ¼ inch
Return connection size***	1 ¼ inch
Circulated pump integrated	Yes
Pressure relief valve integrated	Yes
Expansion vessel integrated	No
Source data	
Operating limits, source (air)	-20 to +40°C
Nominal volume flow rate, source	15500 m3/h

Electrical	20T
Protection class	IP24
Power source	
Power supply compressor	3 Phase + Neutral
	50 Hz
Nominal voltage compressor	400 V
Nominal voltage fans	400 V
Number of compressors	1 x Scroll Inverter
Number of fans	2 x DC Inverter
Starting current	4.6 A
Minimum cable size****	6mm²
Max operating current FLC	20 A
Circuit protection type	25 A Type C
General	
Nominal sound power level LwA*	77 dB(A)
Nominal sound pressure LpA @5m	55 dB(A)
Unit dimensions (mm)	1806 (H)
	1881 (W)
	672 (D)
Unit Net weight	378 kg
Service clearances (mm)	1500 front
	1500 rear
	800 left side
	800 right side
	800 top

* In accordance with EN 9614-2 under condition A7/W55.

** Calculated from Line-to-Line voltage of 400v and a Power Factor of 0.85.

*** Ensure a flexible pipe is utilised for the flow and return connections to prevent vibration transmission. A water filter must be installed on the return line to the appliance.

**** The wiring installation must comply with BS 7671, cable size may need to be increased depending on length of cable, cable type and any other installation factors that need to be taken into account.

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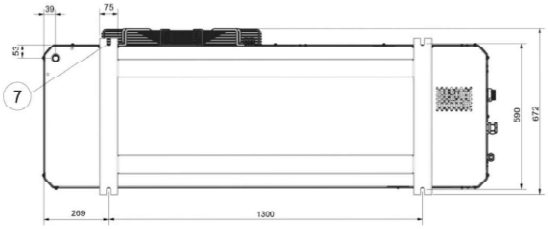
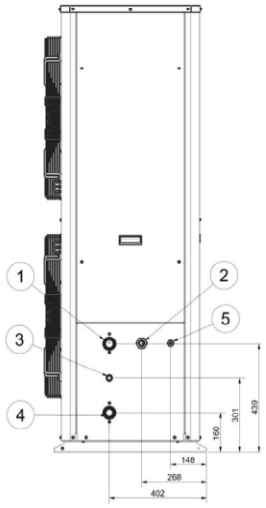
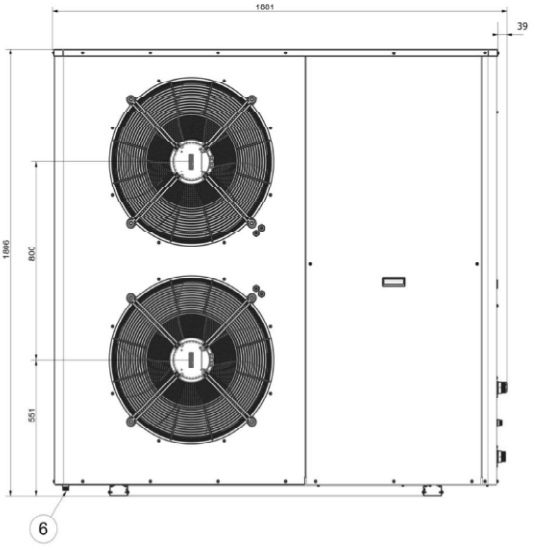
Auriga+ HP 20T
Auriga+ HP/TX 20T

Dimensions

Marker	Description	Dimension
1	BSPP male thread hydraulic connection - water outlet	Ø 1¼"
2	Electrical connection - power supply	-
3	Safety valve drain connection (BSPP male thread)	Ø ½"
4	BSPP male thread hydraulic connection - water inlet	Ø 1¼"
5	Communication connection - control	-
6	Condensate drain connection (BSPP male thread)	Ø ¾"
7	Anti-vibration feet housing†	Ø 16mm



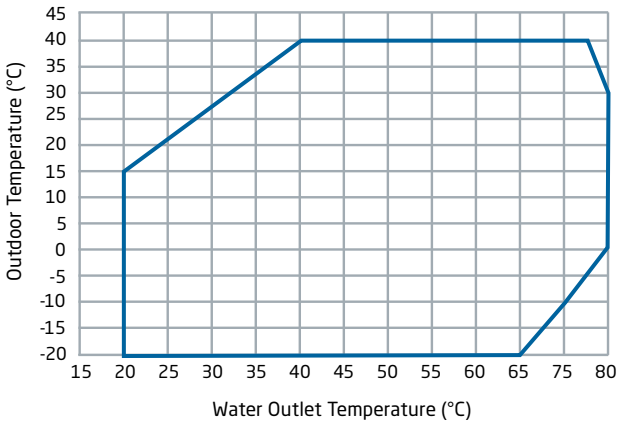




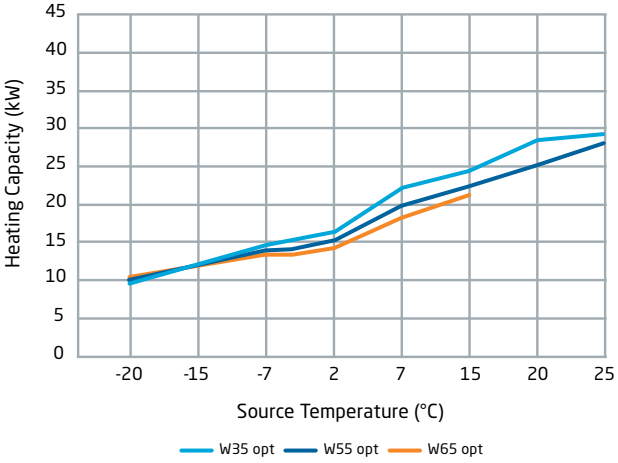
† Support rail is prepared for housing the anti-vibration feet. The given diameter information corresponds to the metal rod of the anti-vibration feet.

Performance

Heating Operation Limits



Heating Capacity



Auriga+ HP 30T - 7832040
Auriga+ HP/TX 30T (Coastal Protection) - 7837275

Technical specification

Performance	30T
Heating capacity at A7/W35	30 kW
Power input at A7/W35**	6.52
COP at A7/W35	4.6
Heating capacity at A-10/W35	15.9 kW
Power input at A-10/W35**	5.68
COP at A-10/W35	2.8
SCOP at Water 35	5.17
SCOP at Water 55	3.96
Seasonal efficiency at Water 35	204%
Seasonal efficiency at Water 55	155%
ERP data	
Energy label rating at Water 35	A+++
Sound power rating at A7/W35	64 dB(A)
Refrigerant	
Refrigerant type	R290
Refrigerant weight	4.75kg
Refrigerant GWP	3
Equivalent CO^2	0.01425 Tn
Hydraulics	
Nominal volume flow rate	1.5 l/s
Minimum volume flow rate	0.5 l/s
Water temperature min/max	+25/+80°C
Available water pressure	4.2 mwc
Max operating pressure	6 bar
Min operating pressure	0.5 bar
Max supply temperature	+80°C
Flow connection size***	1 ¼ inch
Return connection size***	1 ¼ inch
Circulated pump integrated	Yes
Pressure relief valve integrated	Yes
Expansion vessel integrated	No
Source data	
Operating limits, source (air)	-20 to +40°C
Nominal volume flow rate, source	15500 m^3/h

Electrical	30T
Protection class	IP24
Power source	
Power supply compressor	3 Phase + Neutral
	50 Hz
Nominal voltage compressor	400 V
Nominal voltage fans	400 V
Number of compressors	1 x scroll inverter
Number of fans	2 x DC inverter
Starting current	4.6 A
Minimum cable size****	10 mm^2
Max operating current FLC	29.5 A
Circuit protection type	32 A Type C
General	
Nominal sound power level LwA*	77 dB(A)
Nominal sound pressure LpA @5m	55 dB(A)
Unit dimensions (mm)	1806 (H)
	1881 (W)
	672 (D)
Unit Net weight	390 kg
Service clearances (mm)	1500 front
	1500 rear
	800 left side
	800 right side
	800 top

* In accordance with EN 9614-2 under condition A7/W55.

** Calculated from Line to Line voltage of 400V and a Power Factor of 0.85.

*** Ensure a flexible pipe is utilized for the flow and return connections to prevent vibration transmission. A water filter must be installed on the return line to the appliance.

**** The wiring installation must comply with BS 7671, cable size may need to be increased depending on length of cable, cable type and any other installation factors that need to be taken into account.

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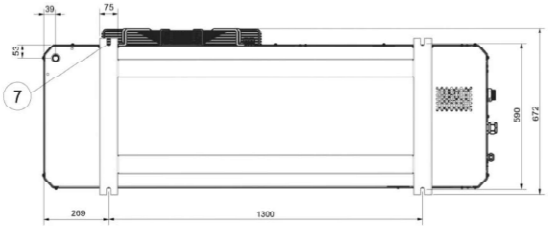
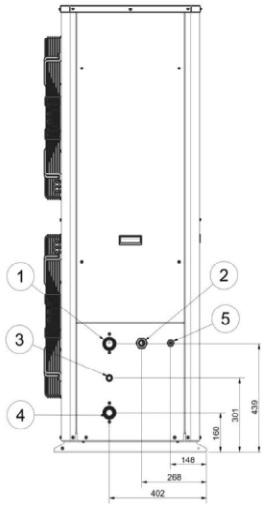
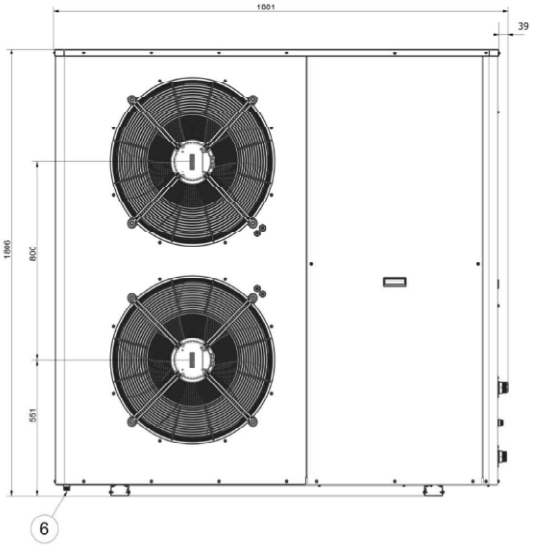
Auriga+ HP 30T
Auriga+ HP/TX 30T

Dimensions

Marker	Description	Dimension
1	BSPP male thread hydraulic connection - water outlet	Ø 1¼"
2	Electrical connection - power supply	-
3	Safety valve drain connection (BSPP male thread)	Ø ½"
4	BSPP male thread hydraulic connection - water inlet	Ø 1¼"
5	Communication connection - control	-
6	Condensate drain connection (BSPP male thread)	Ø ¾"
7	Anti-vibration feet housing†	Ø 16mm



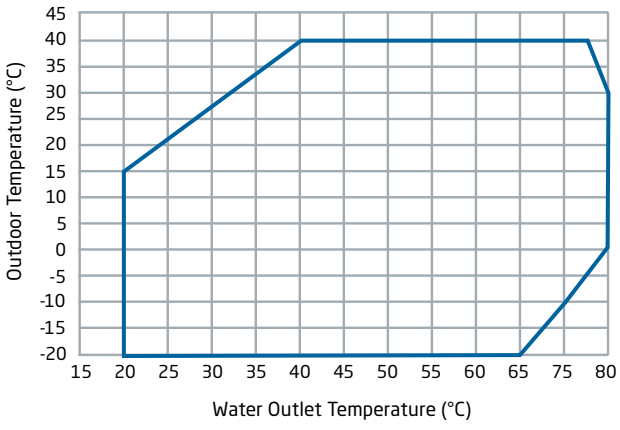




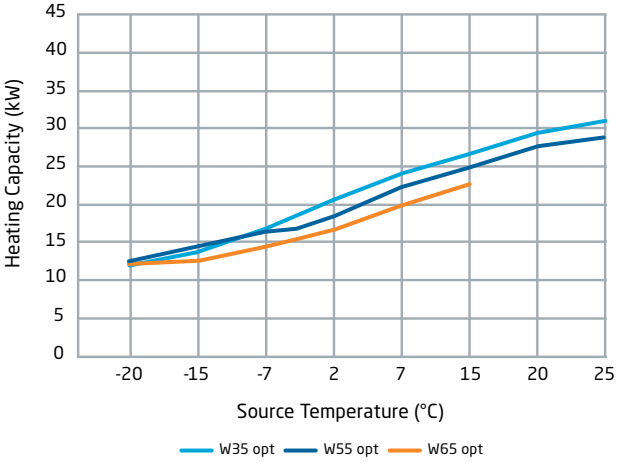
† Support rail is prepared for housing the anti-vibration feet. The given diameter information corresponds to the metal rod of the anti-vibration feet.

Performance

Heating Operation Limits

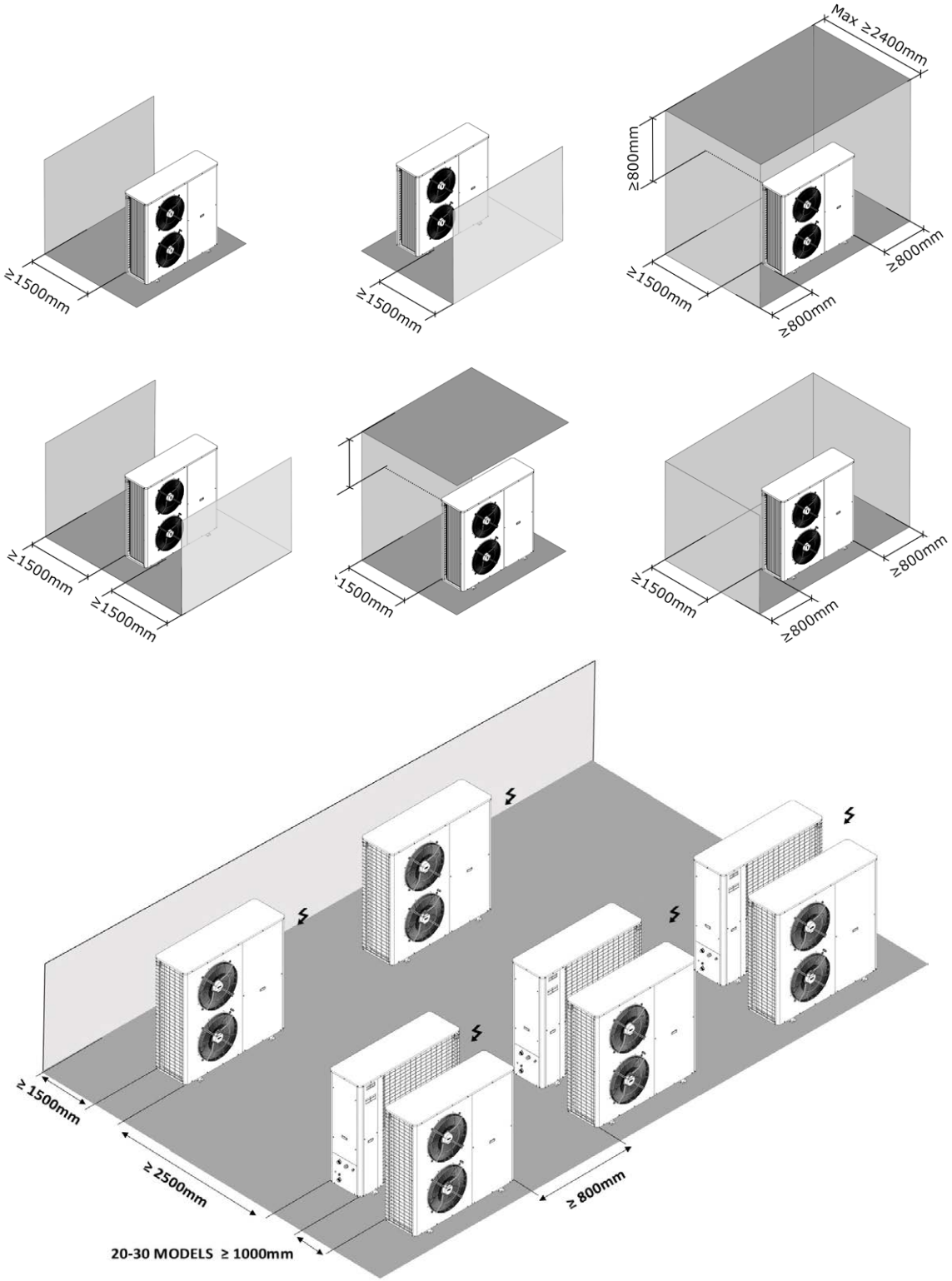


Heating Capacity



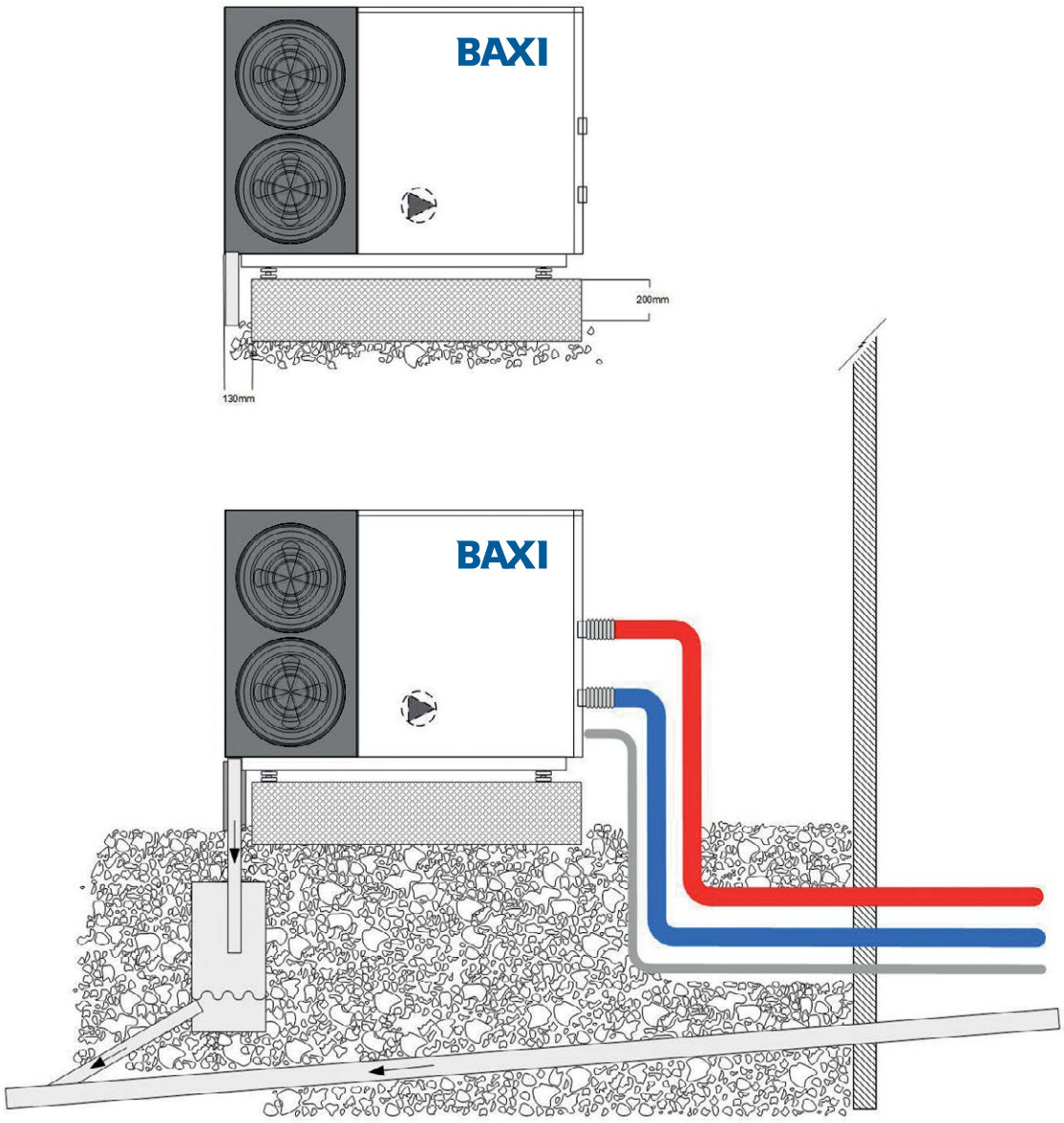
Auriga+ HP

Spatial requirements



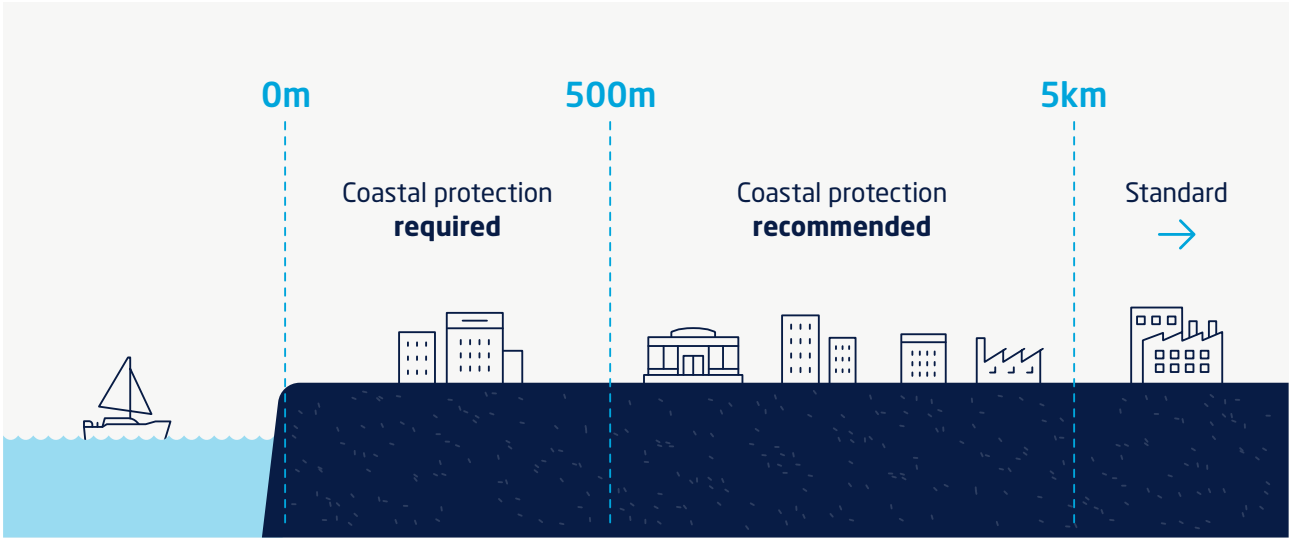
Condensate piping, hydraulic piping and cable ducting detail

- Flexible connections for the flow and return pipes are available as optional extras. We recommend that the flexible pipes or vibration absorbers are fitted to avoid the emission of vibrations to the pipework.
- The flow and return pipework should be well insulated.
- The condensate drainage connection for each unit is underneath the ASHP. In most cases further piped drainage of the condensate will be required.
- ASHP condensate can be connected to rainwater drainage as the water is clean.
- Install trace heating on the condensate pipework to avoid freezing.
- The ASHPs require both a single phase (230V) and a 3 phase (400V) electrical supplies.
- The ASHPs come with a soft starter installed as standard.
- Ensure that the building's existing or proposed electrical supply is suitable for the installation of ASHP(s).
- The ASHP (or cascade of) requires electrical metering. An application to the District Network Operator (DNO) will also be required.



Coastal Protection

Distance from the of the coast	Units required
Within 0-0.5 kilometres	Coastal units required
Between 0.5-5 kilometres	Standard units can be used but ONLY if Heat Pump(s) are sheltered from the corrosive effects of coastal environment
Over 5 Kilometres	Standard units suitable

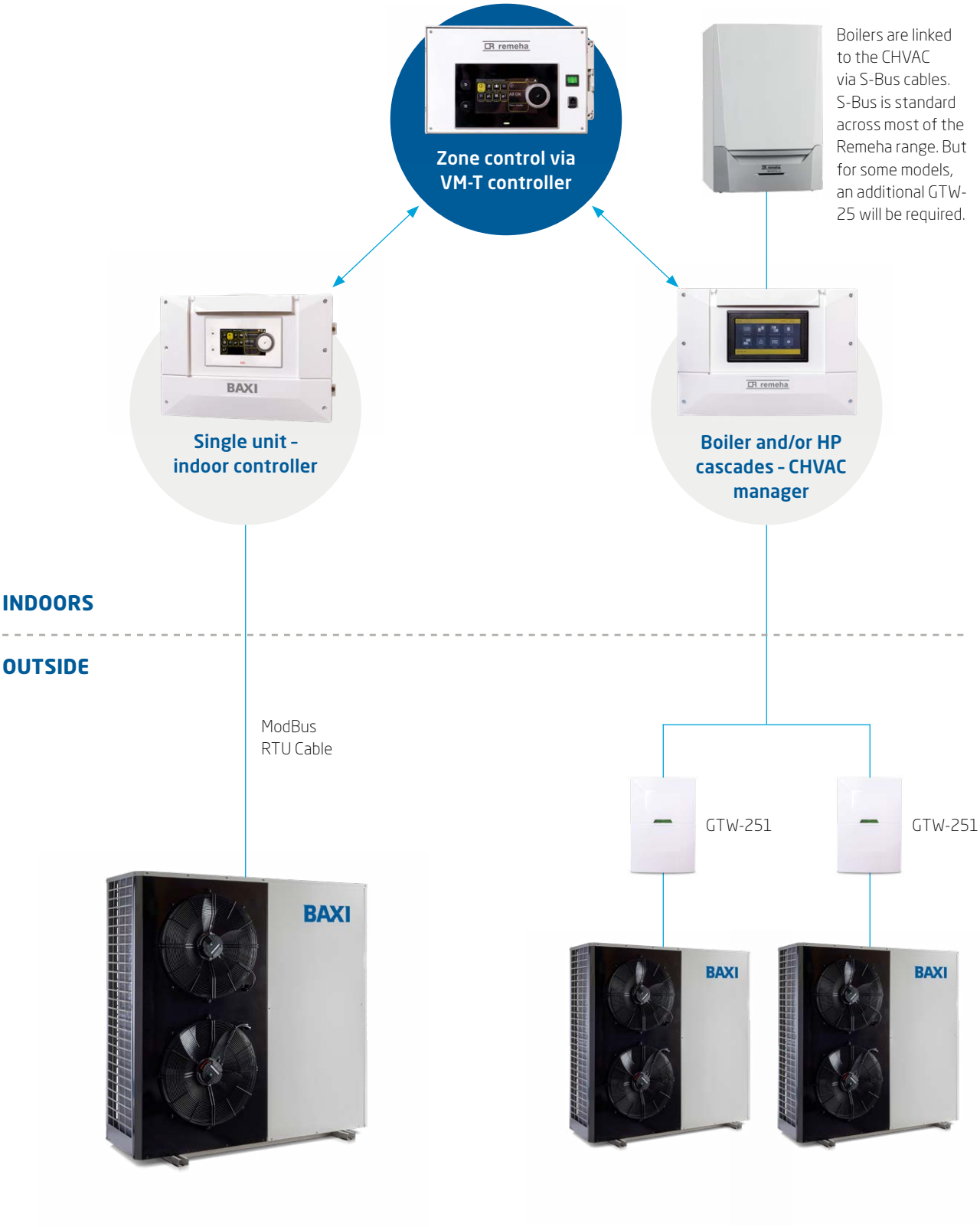


Remember...

- Coastal units should be inspected and maintained at least every 6 months.
- Any detected damage should be repaired as soon as possible by qualified professionals only.

Controls

Indoor controller and CHVAC manager



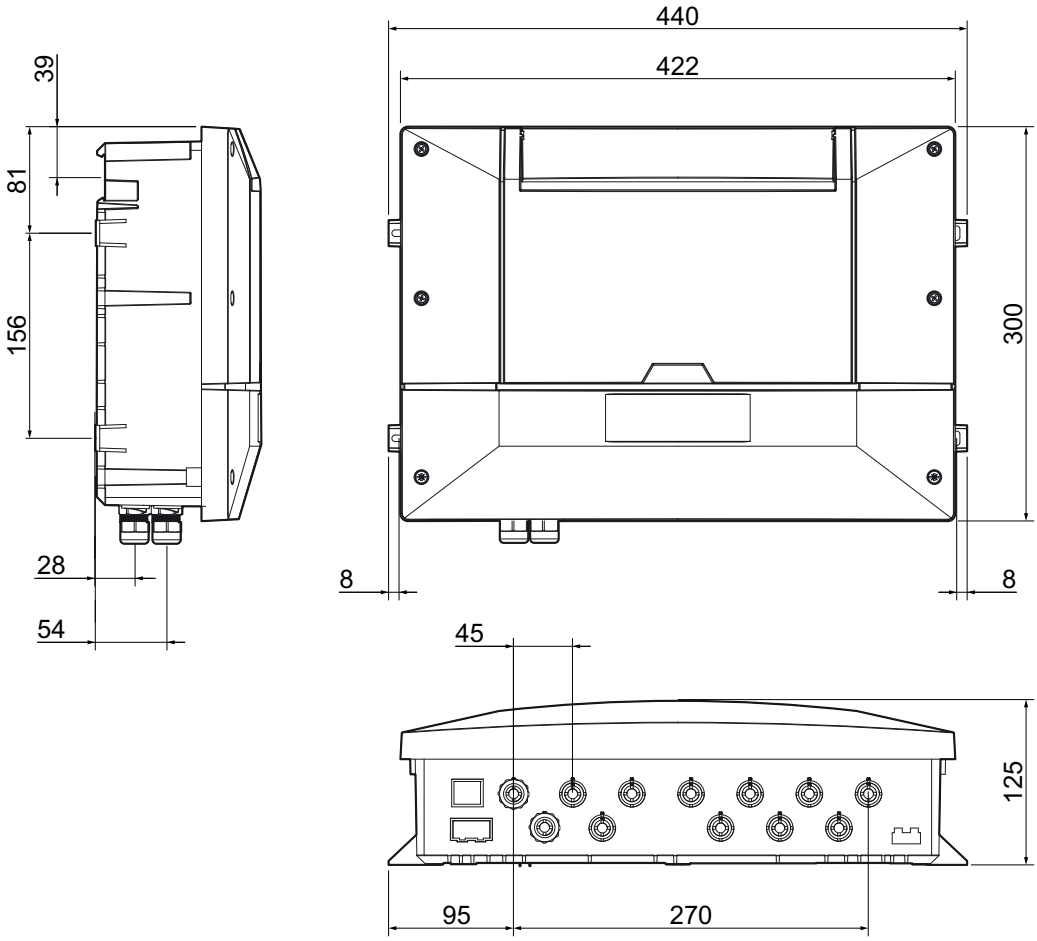
	Small applications 2 ODU + 1 boiler	Larger applications or cascading up to 8 producers	Control of additional zones	Advanced multi-boiler control
	Indoor Controller	**CHVAC Manager**	**VM-T Controller**	**iSense Pro**
Heating		Only control the producers, cannot control pumps, mixing valves etc: will need the VM-T	As standard 2 hydraulic circuits (VT/CT), directly controls pumps and mixing valves (optional AD249 for an additional hydraulic circuit)	As standard, 2 hydraulic circuits (VT/CT). Directly controls pumps and mixing valves
DHW		With the use of an optional VM-T Control	As standard, 1 DHW circuit (optional AD249 for an auxiliary circuit)	As standard, 1 DHW circuit and an auxiliary circuit
Cooling			Not known to control cooling	Not known to control cooling
Hybrid	Only 1 boiler, max 2 HP	Max 8 producers	Only known to control boilers	Only known to control boilers
All electrics with electrical backup	Up to 2 stages		Requires 230V, 50Hz, 6A power supply. Clock power reserve for 2 years, with values and programming saved in memory	Requires 230V, 50Hz, 6A power supply. Clock power reserve for 2 years, with values and programming saved in memory
Producers management				
Direct connection to HP		Need GTW 251 per HP that needs connection	Not known to control HP	Not known to control HP
Manage 2 ODU		Need a GTW 251 per HP	Not known to control HP	Not known to control HP
Cascade up to 8 Producers (inc. ODU)	Cascade possible via a VM-T	Need a GTW 251 per HP	As master can control up to 7 boilers in cascade	Controls up to 10 boilers in cascade, not known to control HP
Zone management				
Control 1 zone		With VM-T		
Control up to 5 zones, or 3 mixing zones	Only with additional accessory or VM-T	With VM-T	With the optional AD249 Controls 3 Mixing Zones + 1 DHW + 1 Aux	In a network with additional iSense Pro units
Output management				
Cascade with different HP outputs - i.e. not identical		Only for MB2C	Not known to control HP	Not known to control HP
Output control capacity up to 80kWs			Not known to be limited	Not known to be limited
Unlimited output control capacity		Might need additional accessories inc. GTW 251 for HP		
Connection				
BACnet connection	Need GTW 21	Need GTW 21		
ModBus connection	Need GTW 08 RTU ModBus	Need GTW 08 RTU ModBus	Mini - Din Connectors × 2	Need ModBus interface AD 286 / AD 287
Mandatory stable internet connection	Can have one, but is not mandatory			
Cloud access	With use of GTW-30 or RU2	If a service contract is in place it's recommended it be mandatory to have access to the unit to do remote optimisaton		
Setting				
Set by point set value for comfort - i.e. °C				
Set by proportion for higher efficiency of the devices				
Other				
Connection to external PV		With the use of an optional VM-T Control		
Connection to solar modules				Via SCU-C (not applied in UK)
Din rail connection			Mini - Din Connectors × 2	Mini - Din Connectors × 2
System distribution components	Need Low Loss Header	Need Buffer and Low Loss Header	Need Low loss Header (in circuit with > 2 boilers), motorised 3-way valve, pumps, sensors (Room, Flow (common and zone))	Need Low Loss Header (in circuit with > 2 boilers), motorised 3-way valve, pumps, sensors
Boiler connection	Via: On/OFF, OpenTherm, BDR Bus 0-10V with an accessory	Limitation when retrofit on the boiler due to the connections please consult list	Via: OpenTherm, BDR Bus	Via: OpenTherm, BDR Bus

Key: Integral Function · Function possible with additional item / accessory · Not possible with the device

Indoor controller

Dimensions

For use in installations with a single ASHP



Technical specifications

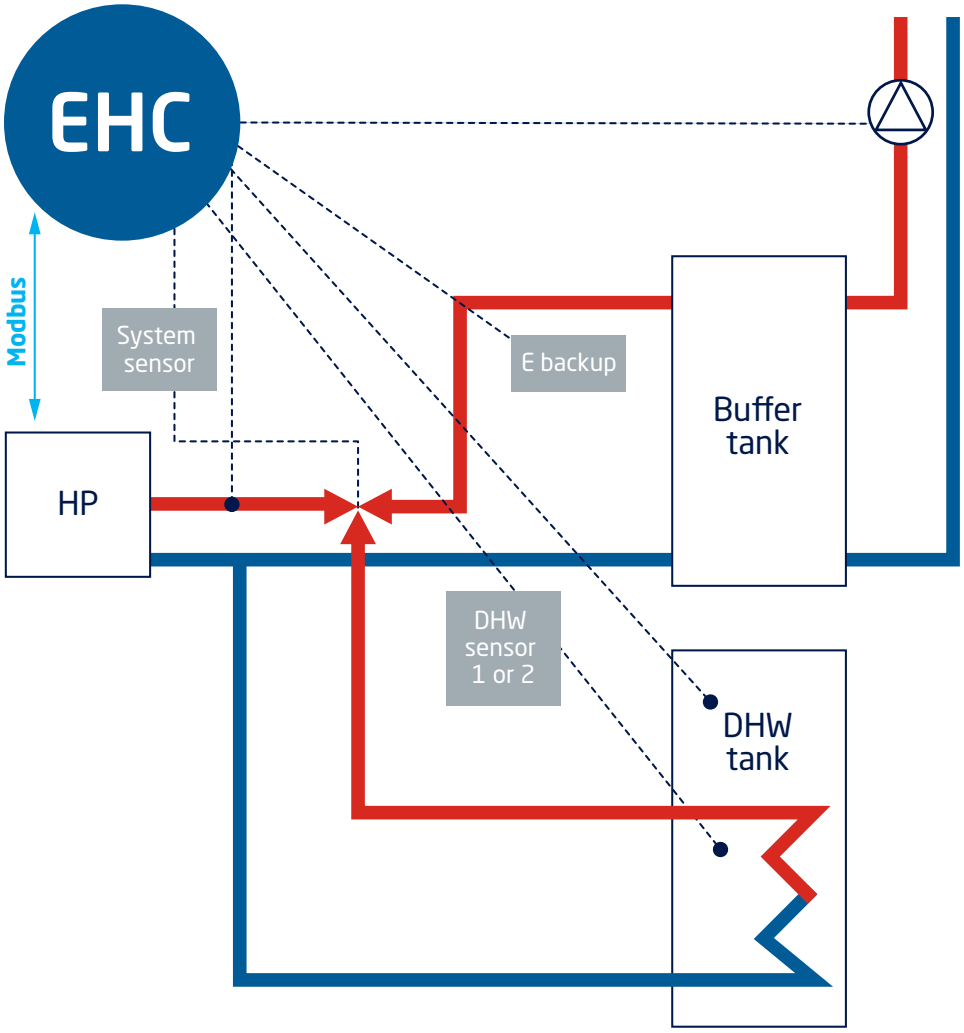
General data	Auriga control
Operating temperature	0 to 30°C
Storage temperature	-25 to 60°C
Relative humidity (non-condensing)	0 to 95%
Weight	3.08 kg
Power supply voltage	230 VAC
Power consumption (maximum)	14 W

NTC 10K heating flow sensor	Resistance (Ω)
0°C	32,014
10°C	19,691
20°C	12,474
25°C	10,000
30°C	8,080
40°C	5,372
50°C	3,661
60°C	2,535
70°C	1,794
80°C	1,290
90°C	941

Typical installations

Single ASHP providing Heat and Domestic Hot Water (DHW) with 3 way valve

Outdoor sensor



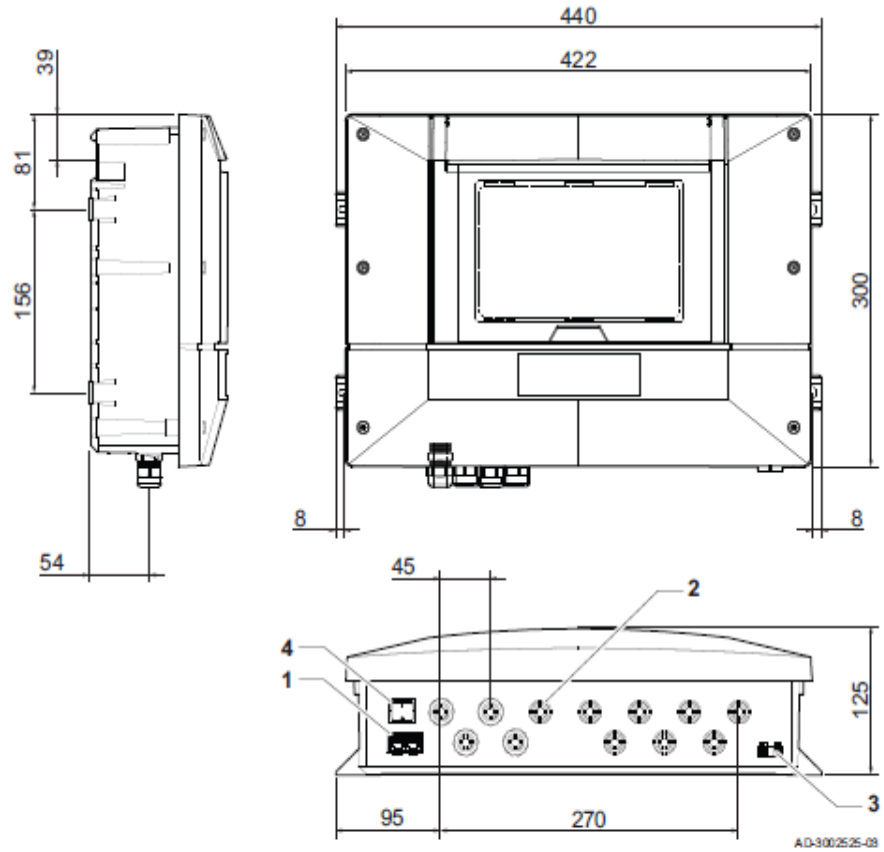
General information:

- The system will supply heating and Domestic Hot Water.
- The producer is a single Auriga+ Heat Pump.

Commercial HVAC manager

Dimensions

Fig.1 Dimensions and connections



1 S-Bus connectors
2 Cable glands
3 L-Bus connectors
4 On/off switch

The centre of the DIN rail is 39 mm from the top of the wall box.

Technical specifications

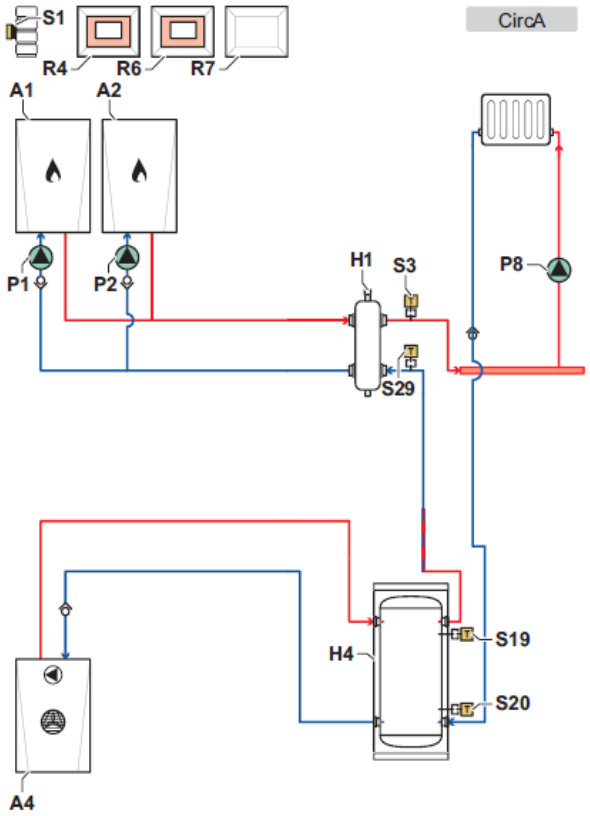
General data	CHVAC main controller
Allowed ambient temperature	0 to 40°C
Width x height x depths (maximum dimensions)	440mm x 300mm x 125mm
Storage temperature	-25 to 60°C
Relative humidity (non-condensing)	0 to 95%

Electrical data	CHVAC main controller
Supply voltage	230 VAC
Power consumption (of CHVAC main controller only)	14 W

Typical installations

Cascade of two boilers and a single ASHP - 1 circuit (direct)

Fig.9 Diagram and components - 6000098



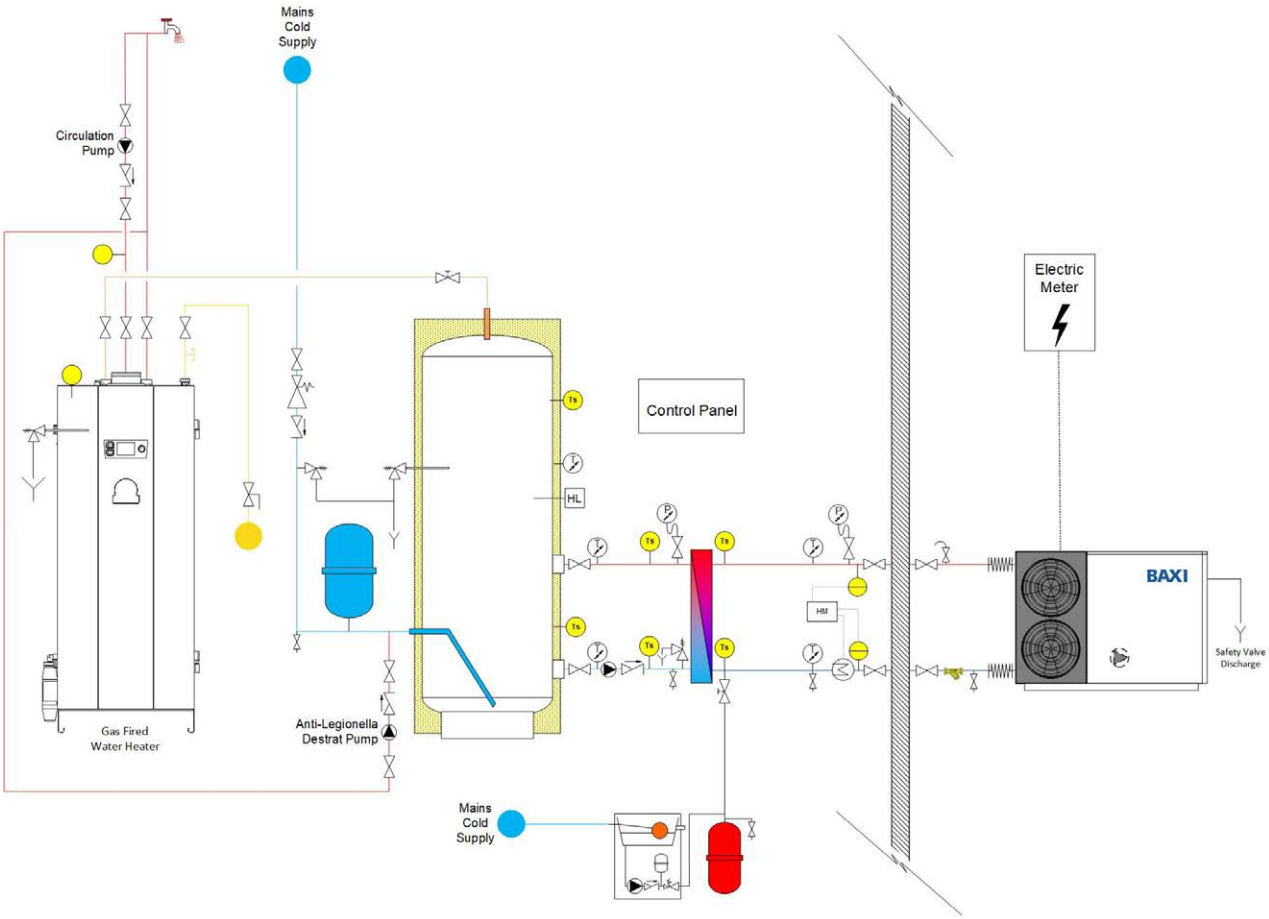
CircA	Circuit A (Direct circuit)
A1	Boiler with CB-03 and GTW-25
A2	Boiler with CB-03 and GTW-25
A4	Heat pump connected via Modbus
H1	Low loss header
H4	Buffer tank with two sensors
P1	Appliance A1 pump
P2	Appliance A2 pump
P8	Circuit A pump
R4	Cascade manager with CHVAC-01, IO-01, CB-05 and CB-20
R6	External zone controller with EEC-01 and CB-05
R7	Wall box with GTW-251
S1	Outdoor temperature sensor
S3	Low loss header flow temperature sensor
S19	Heating buffer tank top temperature sensor
S20	Heating buffer tank bottom temperature sensor
S29	Low loss header return temperature sensor

General information:

- The system will only supply heating water. Domestic hot water is decentralised and therefore not included in this system.
- The design supply temperature is 70 °C at an outdoor temperature of -10°C.
- The producers are a combination of two gas fired boilers and a heat pump, managed by the Remeha CHVAC system manager.
- The heat pump and the boilers are in series and can both deliver energy for heating.

Hydraulic schematics

Schematic example of Domestic Hot Water pre-heat with gas-fired water heater

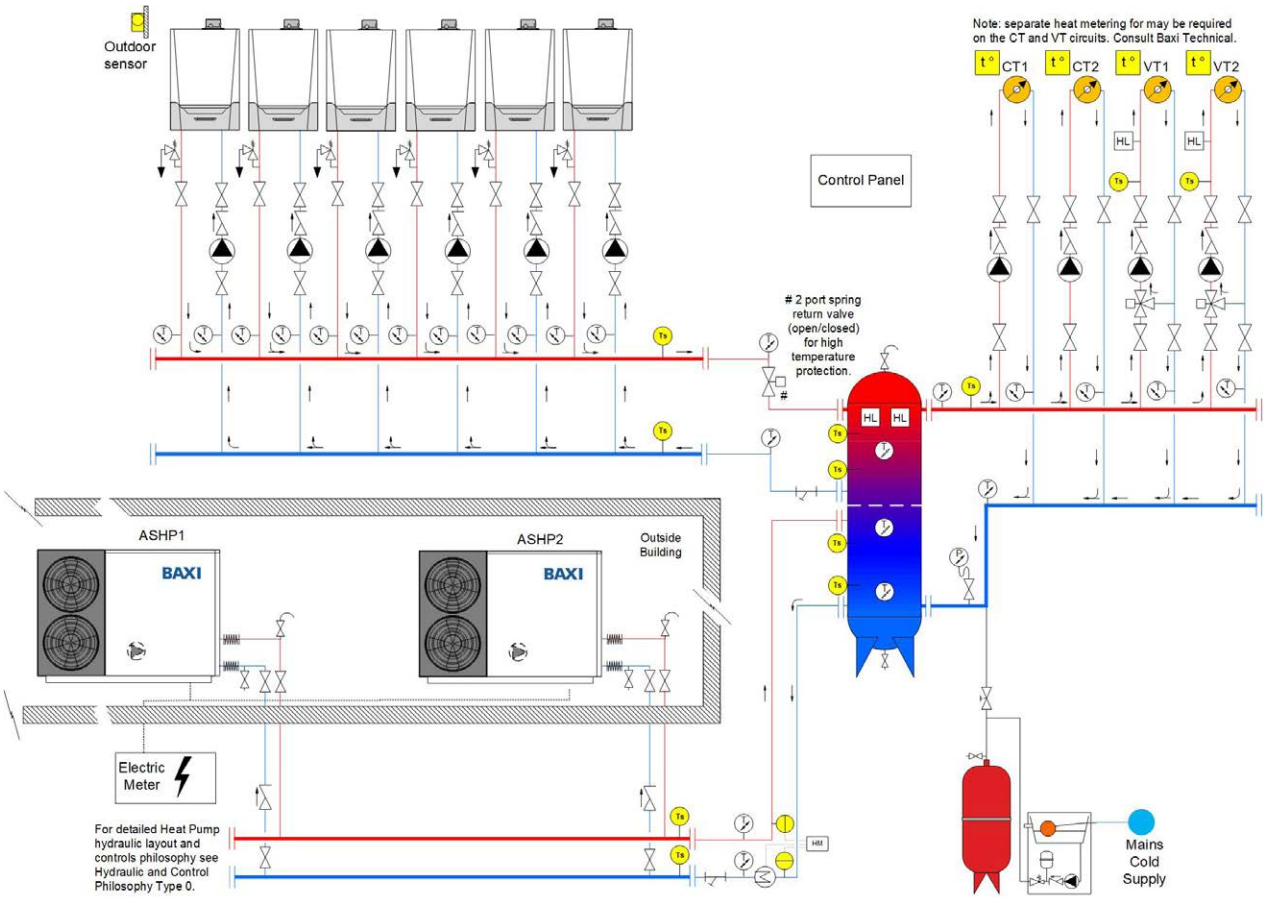


ASHP applications

The following are typical examples. These are not design intent but rather for illustration purposes only. We are happy to discuss in more detail the controls philosophies of any of these along with modifying or developing bespoke schematics for your specific project. Please get in contact to discuss your project needs.

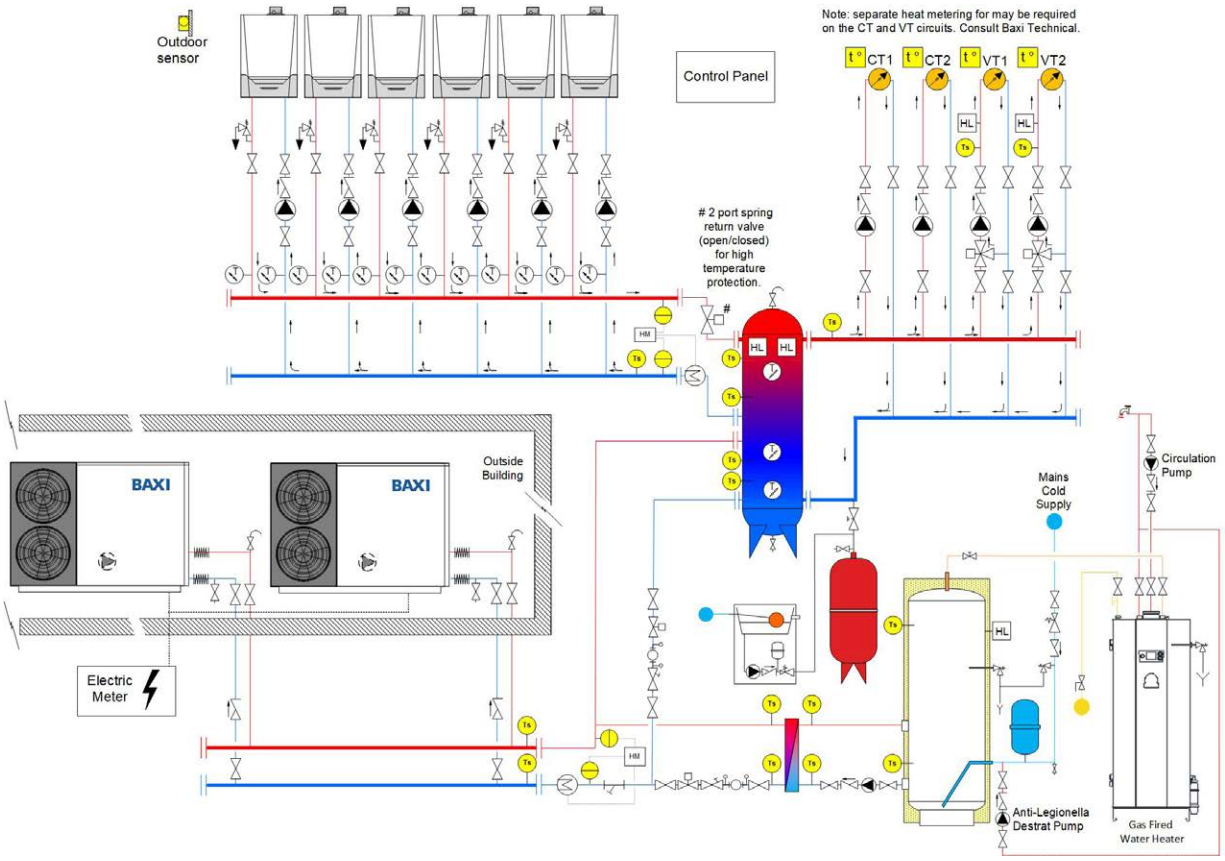
Suggested schematic, please consult your technical sales manager for more information.

Bivalent primary heating via boilers and ASHP



Suggested schematic, please consult your technical sales manager for more information.

Bivalent primary heating via boilers and ASHP with DHW pre-heat



Suggested schematic, please consult your technical sales manager for more information.

Technical **support**

From brochures to CAD drawings and BIM files, you can access all the information you need at **baxi.co.uk/Auriga+**

Or call our sales and technical departments on **0345 070 1055** We're always happy to help.

We can provide you with:

- Brochures
- Technical specification sheets
- Case studies
- Installation manuals
- BIM files
- CAD files
- Energy-related products directive data
- Commissioning
- Technical information
- Spare parts (part of our sales service)

Declaration of compliance

We hereby declare that the equipment is a product that complies with the following directives and standards. It has been manufactured and put into circulation in accordance with the requirements of the European Directives and the United Kingdom regulations. The full text of the EU declaration of conformity is supplied separately with your appliance.

Applied standards, regulations and directives:

- Machinery Directive 2006/42/EC
- Electromagnetic Compatibility Directive 2014/30/EU
- Radio Equipment Directive 2014/53/EU
- Low Voltage Directive 2014/35/EU
- Ecodesign and Energy Labelling Directive 2009/125/EC
- Energy Labelling Regulation 2017/1369/EU: No. 811/2013 and No. 812/2013 Ecodesign No. 813/2013 and No. 814/2013
- Pressure Equipment Directive 2014/68/EU
- RoHS Directive 2011/65/EU Restriction of the use of certain hazardous substances
- Generic Standard: EN 60335-1
- Relevant Standards: EN 60335-2-40, EN 60335-2-89, EN14825
- Generic Standards: EN 61000-6-4, EN 61000-6-2
- Relevant Standard: EN 55014-1 and EN 55014-2
- SI 2016/1101 : UK Electrical Equipment (Safety) Regulations 2016
- SI 2016/1091 : UK Electromagnetic Compatibility Regulations 2016
- SI 2016/1105 : UK Pressure Equipment (Safety) Regulations 2016
- SI 2008/1597 : UK Supply of Machinery (Safety) Regulations 2008
- SI 2012/3032 : UK The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
- SI 2013/3113: UK The Waste Electrical and Electronic Equipment Regulations
- SI 2019/539: The Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019