

BAXI

Baxi Assure

Air Source Heat Pumps

Knowledge, efficiency
and reliability built in



The housing landscape is changing

With energy costs rising, heating and hot water accounts for over half of average household monthly bills and the majority of the total energy consumed in UK homes. Meanwhile, depleting land stocks combined with an ever-growing demand for housing has brought about an increased need for flexible and cost-effective new build developments.

On top of that, the UK Government is ushering in a nationwide energy transition for homes, with big changes to building regulations that will safeguard for the future. As part of the Climate Change Act's target of reducing greenhouse gas emissions to net-zero by 2050, The Future Homes Standard will require low carbon heating when introduced.

With all these factors combined, we know that developers and contractors need a fresh approach. That's exactly what we're offering.

We're changing too

As proven experts in residential heating and with an in-depth knowledge of the building industry, we understand the challenges you face. So, we're expanding our range to bring you future-proof solutions that will meet these challenges head on, and a service that will help guide you to a carbon-neutral future – with our Baxi Assure Air Source Heat Pump (ASHP) solutions.

A full service, for the future of residential heating

Each ASHP system delivers exceptional reliability and performance. Our team of experts will help you get comfortable with the technology and define the right heating and hot water solution to meet your requirements. From our upfront design service that maximises efficiency and cost-effectiveness, to enhanced warranty options for homeowners, we've got every base covered.



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Ultra-efficient heating, for today and tomorrow

Air Source Heat Pumps (ASHPs) are forming a key part of the residential energy transition. They work by taking heat from the air and converting it into usable heat in the home.

The Baxi Assure HP50 ASHP and compatible Assure ASHP cylinder can be tailored to meet each property's needs without compromising performance or user-friendliness.

With a seasonal efficiency of up to 503% the renewable contribution to the dwelling heating and hot water production is maximised, providing a future proof, green heating solution.

All part of The Complete Home Service

ASHPs are a key part of our comprehensive Baxi Assure range, which also features high-performance boilers, cylinders and efficiency boosters for any new build or social housing development. We also offer heat network options for multi-occupancy sites.

Every tailored heating solution comes with end-to-end personalised service that supports our developers and contractor partners in every phase of a project. Our experienced Baxi Design team, provide tailored specifications that optimise performance, efficiency and cost-effectiveness.

Whatever your project requirement our team will guide you through selecting the right solution. Our comprehensive project approach supports you from installation and commissioning, right through to servicing and aftercare. We also offer hands-on technical training on everything from installation to legislation.

How our ASHPs work

1

The fan draws in ambient air from the outside, into the evaporator.

2

Liquid refrigerant absorbs the air's heat and evaporates into a vapour, even at low temperatures.

3

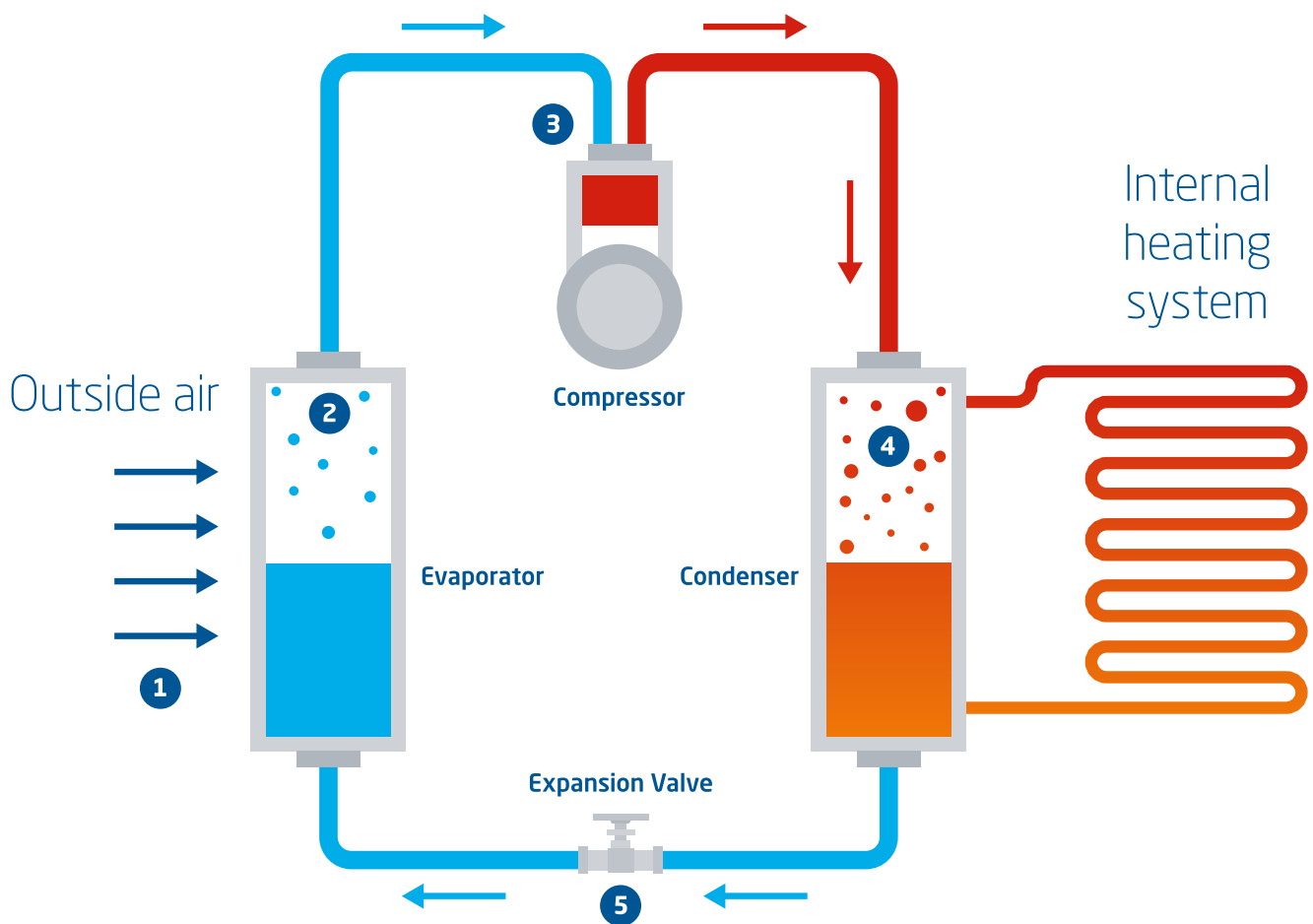
This vapour enters the compressor where the pressure and temperature are increased.

4

The heated refrigerant passes through the condenser, transferring heat into the home's heating and hot water system.

5

The refrigerant flow is then controlled by the expansion valve to continue heat pump operation.



The big benefits of our ASHP solutions



Reliable

Created by the experts in residential heating and hot water

Up to 65°C flow temperature

Operation down to -25°C ambient

Low maintenance

Service plans and enhanced warranty options of up to 5 years* for homeowners when commissioned by a Baxi Heat Pump Installer

Commissioning and servicing carried out by Baxi Engineer or Baxi Heat Pump Installer and always with genuine parts

Microgeneration Certification Scheme (MCS) certified for quality assurance



Efficient

Can significantly boost SAP ratings

DC Inverter adjusts output to suit the property's needs

Bespoke specification design service for accurate ASHP sizing

SCOP up to 3.39 at 55°C flow temperature



Convenient

With wide range of outputs from 4-13kW (A-2W45)

Easy to install and operate

Monobloc design

Saves space – single fan design on all models

No need for added fuel storage

Compatible with Baxi uSense and uSense 2 smart thermostats, so can be controlled on the move

Support at every step from a dedicated Specification Manager and award-winning customer service team

Access to a network of approved Baxi Heat Pump Installers



Cost effective

Long-term cost savings compared to oil boilers and electric storage heating

Baxi Assure HP50 Monobloc ASHP

A single self-contained outdoor ASHP unit compatible with our Baxi Assure ASHP Hot Water Cylinder range.



4kW to
13kW
outputs



Easy to
install



Reduced
noise



Commissioning
support
available



Up to
5 years'
enhanced
warranty*

Key features

In build and installation

Outputs of 4kW to 13kW

Easy to install single unit

Available with an optional back-up heater to maintain comfort levels in very cold weather

Easily-accessible internal components for servicing and maintenance

Self-contained R32 refrigerant, giving low Global Warming Potential (GWP)

Monobloc design complete with integrated water pump and expansion vessel

Built in outdoor temperature sensor enhances comfort by maintaining the right temperature at all times

In operation and performance

Up to 65°C Flow Temperature

DC Inverter technology gives reliable efficiency

Excellent SCOP: up to 5.03

A+++ ERP rating at 35°C flow temperature

Flexible multi-function controls

Compatible with Baxi uSense smart thermostats, so can be controlled on the move

Up to 5 years' enhanced warranty* for extra peace of mind

Quiet in operation

* Enhanced warranty options subject to T&Cs.



BAXI



Baxi Assure HP50 Monobloc ASHP

technical specifications

OUTDOOR UNIT	4kW	5kW	7kW	8kW	11kW	13kW	11kWφ	13kWφ
Product code	7830577	7830578	7830579	7830580	7830581	7830582	7830583	7830584
PRODUCT INFORMATION								
Min/Max Operating Range (°C)	-25/+35	-25/+35	-25/+35	-25/+35	-25/+35	-25/+35	-25/+35	-25/+35
SCOP 35°C	4.66	4.77	5.03	5.03	4.67	4.49	4.67	4.49
35°C Maximum Output ⁽¹⁾								
A-5°C W+35°C	5.02	6.14	7.69	8.80	11.3	14.0	11.3	14.0
A0°C W+35°C	5.10	6.35	8.49	9.56	12.0	14.3	12.0	14.3
A+7°C W+35°C	6.26	7.41	9.11	10.3	14.6	16.8	14.6	16.8
35°C Nominal Output ⁽²⁾								
A-5°C W+35°C	4.37	5.26	6.69	7.66	9.05	11.2	9.05	11.2
A0°C W+35°C	4.60	5.74	7.67	8.63	9.19	10.9	9.19	10.9
A+7°C W+35°C	4.20	6.35	8.40	10.0	12.1	15.9	12.1	15.9
SCOP 45°C	3.93	4.06	4.11	4.19	4.01	3.88	4.01	3.88
45°C Maximum Output ⁽¹⁾								
A-5°C W+45°C	4.63	5.84	7.44	8.18	10.9	13.4	10.9	13.4
A0°C W+45°C	5.04	6.85	8.09	8.89	12.3	14.1	12.3	14.1
A+7°C W+45°C	5.96	7.13	8.98	10.3	14.5	16.6	14.5	16.6
45°C Nominal Output ⁽²⁾								
A-5°C W+45°C	4.10	5.10	6.49	7.13	8.78	10.7	8.78	10.7
A0°C W+45°C	4.46	6.06	7.16	7.87	9.43	10.8	9.43	10.8
A+7°C W+45°C	4.30	6.30	8.10	10.0	12.3	16.0	12.3	16.0
SCOP 55°C	3.19	3.39	3.23	3.37	3.34	3.30	3.34	3.30
55°C Maximum Output ⁽¹⁾								
A-5°C W+55°C	4.41	5.31	7.35	7.53	10.6	12.6	10.6	12.6
A0°C W+55°C	5.13	5.42	8.11	8.18	10.8	12.8	10.8	12.8
A+7°C W+55°C	5.74	6.90	8.43	9.72	13.9	16.2	13.9	16.2
55°C Nominal Output ⁽²⁾								
A-5°C W+55°C	3.94	4.28	5.56	6.49	8.36	9.98	8.36	9.98
A0°C W+55°C	4.43	4.75	6.33	7.30	7.93	9.77	7.93	9.77
A+7°C W+55°C	4.40	6.00	7.50	9.50	11.9	16.0	11.9	16.0
Sound Pressure Level dB(A) @1m	45.0	47.5	48.0	50.5	53.0	57.5	53.5	58.0
Sound Power Level dB(A) (EN12102-1)	55	58	59	60	65	68	65	68
ERP @ 35°C	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
ERP @ 55°C	A++	A++	A++	A++	A++	A++	A++	A++
Power Supply (V/Ph/Hz)	220- 240/1/50	220- 240/1/50	220- 240/1/50	220- 240/1/50	220- 240/1/50	220- 240/1/50	380- 415/3/50	380- 415/3/50
MCA (A)	12	14	16	17	25	27	10	12
TOCA (A)	18	18	19	19	30	30	14	14
MFA (A)	25	25	25	25	35	35	16	16
Flow/Return Connections	G 1"	G 1"	G 1 1/4"	G 1 1/4"	G 1 1/4"	G 1 1/4"	G 1 1/4"	G 1 1/4"
Internal Expansion Vessel (L)	8	8	8	8	8	8	8	8
Maximum Water Pressure (bar)	3	3	3	3	3	3	3	3
Refrigerant	R32	R32	R32	R32	R32	R32	R32	R32
Volume (kg)	1.4	1.4	1.4	1.4	1.75	1.75	1.75	1.75

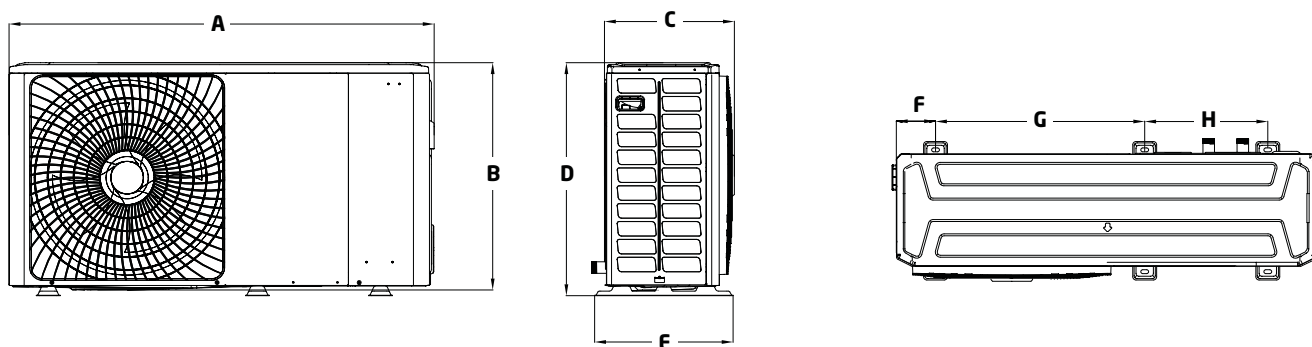
OUTDOOR UNIT	4kW	5kW	7kW	8kW	11kW	13kW	11kW ϕ	13kW ϕ
Product code	7830577	7830578	7830579	7830580	7830581	7830582	7830583	7830584
VOLUMETRICS								
Height (mm)	700	700	850	850	850	850	850	850
Width (mm)	1309	1309	1388	1388	1388	1388	1388	1388
Depth (mm)	400	400	448	448	448	448	448	448
Weight (kg Net)	86	86	105	105	129	129	144	144
Weight (kg Gross)	107	107	132	132	155	155	172	172

⁽¹⁾ Output values tested at maximum compressor frequency

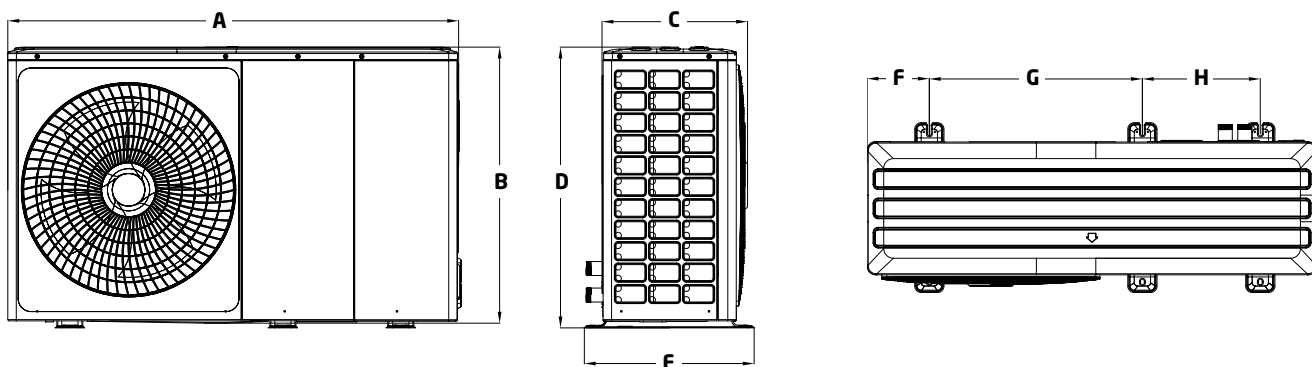
⁽²⁾ Nominal values under test conditions EN14825:2013

Selections and sizing offered by Baxi utilise nominal values unless otherwise stated.

4/5kW OUTDOOR UNIT DIMENSIONS



7/8/11/13kW OUTDOOR UNIT DIMENSIONS

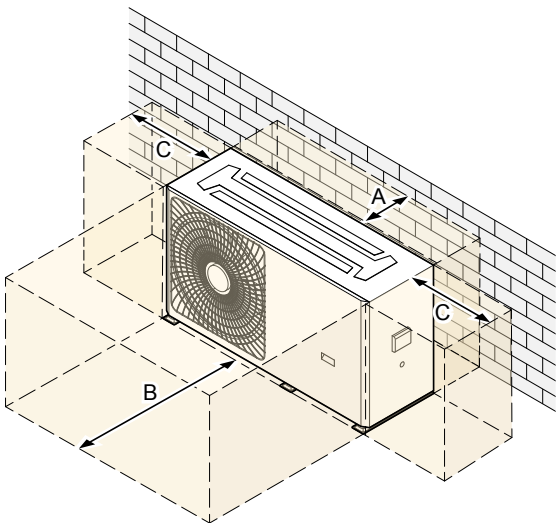


Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
4/5kW	1309	700	400	717	426	121	644	379
7/8/11/13kW	1388	850	448	864	523	191	656	363

Baxi Assure HP50 Monobloc ASHP technical specifications

SITING THE UNIT

Minimum clearances shown below. Please refer to installation manual for further details.

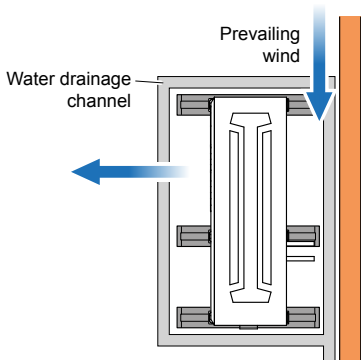


In case of strong wind towards the heat pump, the orientation can be reversed. Turn the air outlet side towards the building, fence or screen.

Model	A (mm)	B (mm)	C (mm)
4/5kW	>300	>1000	500
7/8/11/13kW	>300	>1500	500

Make sure there is enough room to do the installation.

Set the outlet side at a right angle to the direction of the wind.



- Prepare a water drainage channel around the foundation, to drain waste water from around the unit.
- If water does not easily drain from the unit, mount the unit on a foundation of concrete blocks, etc. (the height of the foundation should be about 100 mm (3.93 in)).
- If you install the unit on a frame, please install a waterproof plate (about 100 mm) on the underside of the unit to prevent water from coming in from the low side.
- When installing the unit in a place frequently exposed to snow, pay special attention to elevate the foundation as high as possible.

Selecting a location in cold climates

NOTE:

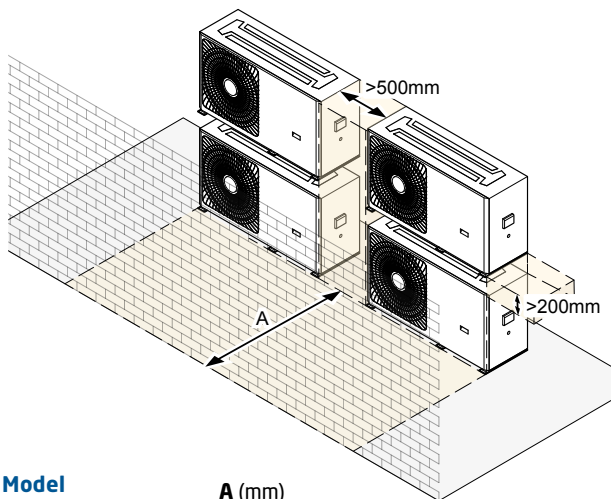
When operating the unit in cold climates, be sure to follow the instructions described below.

- To prevent exposure to wind, install the unit with its suction side facing the wall.
- Never install the unit at a site where the suction side may be exposed directly to wind.
- To prevent exposure to wind, install a baffle plate on the air discharge side of the unit.
- Avoid locations where the unit can be covered by snow. In areas where heavy snow fall is anticipated, special precautions such as raising the installation location or installing a hood on the air intake must be taken to prevent the snow from blocking the air intake or blowing directly against it. This can reduce the airflow and a malfunction may result.

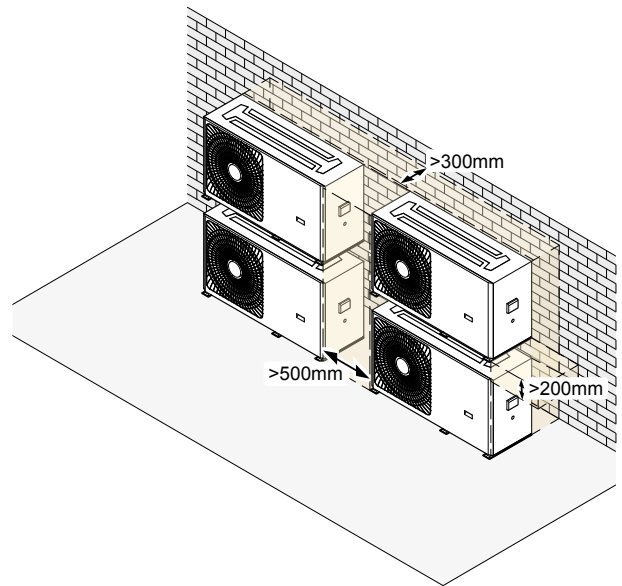
CLEARANCE AROUND THE UNIT

Service space requirements in case of stacked installation

1. In case obstacles exist in front of the outlet side.
2. In case obstacles exist behind the outlet side.

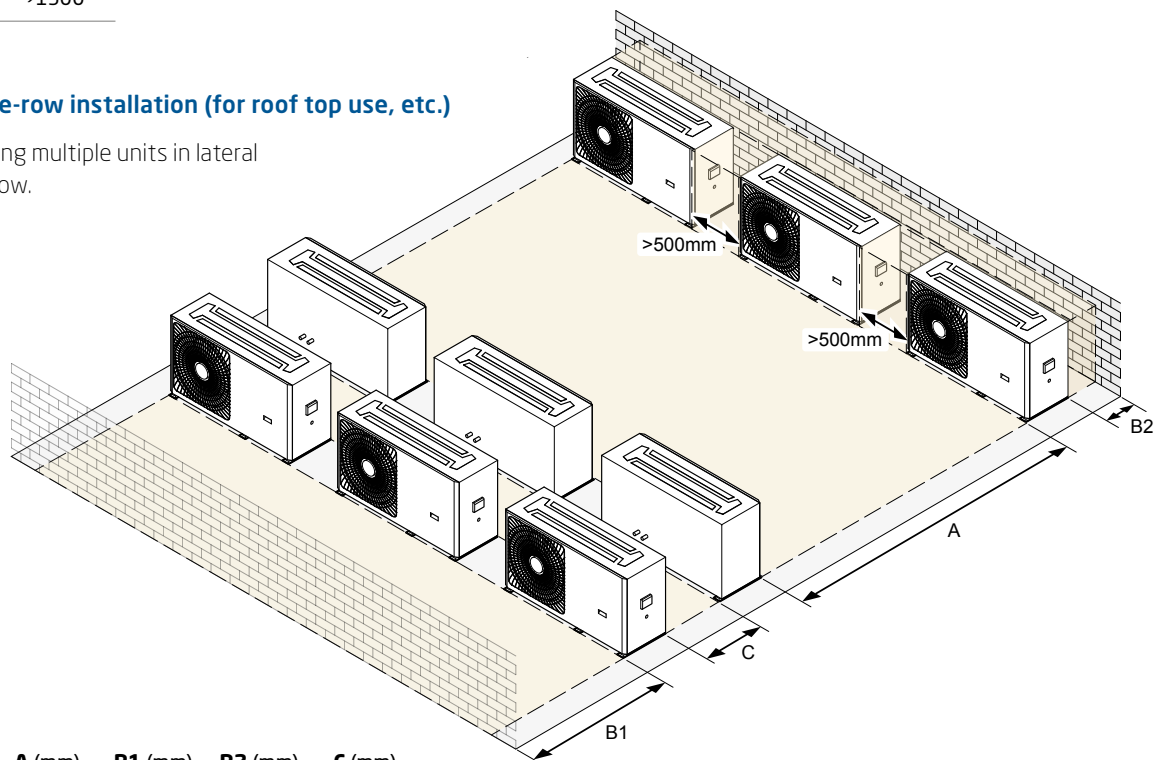


Model	A (mm)
4/5kW	>1000
7/8/11/13kW	>1500



In case of multiple-row installation (for roof top use, etc.)

1. In case of installing multiple units in lateral connection per row.



Model	A (mm)	B1 (mm)	B2 (mm)	C (mm)
4/5kW	>2500	>1000	>300	>600
7/8/11/13kW	>3000	>1500		

Baxi Assure ASHP Cylinder

Designed specifically for Baxi Assure Air Source Heat Pumps, these cylinders deliver exceptional levels of performance.



Corrosion
resistant



Easy to
install



Rapid
heating



10 years'
warranty



Key features

In build and installation

Models available in 210, 250 or 300 litre volumes

Corrosion-resistant stainless steel build – made by the experts at Megaflo and Heatrae Sadia

High surface area heat exchanger specifically designed to be used with heat pumps

Easy to install

In built back-up immersion heaters to support heat pumps for continuous hot water

Immersion Heater Relay Kit in box including Immersion Heater Relay, Immersion Heater Relay Box and DHW temperature probe extension

In operation and performance

In built interdependent boost heater for rapid hot water production

Low heat loss

Excellent flow rates

Delivers up to 76L/min of hot water at 3 bar pressure

No need for shower pumps or tanks

Up to 10 years' warranty for extra peace of mind

Injected foam insulation gives optimum heat retention and energy efficiency

Baxi Assure ASHP Cylinder technical specifications

	210ltr	250ltr	300ltr
Product code	7837415	7837492	7837563
PRODUCT INFORMATION			
Nominal capacity (litres)	210	250	300
Insulation thickness (mm)	60	60	60
Immersion heater rating (1 x 3kW)	1 x 3	1 x 3	1 x 3
Boost immersion heater (1 x 3kW)	1 x 3	1 x 3	1 x 3
Standing heat loss (kWh/year)	547.5	649.7	748.3
Standing heat loss	1.5kW/24h	1.78kW/24h	2.05kW/24h
Max flow @ 3.5 bar (litres per minute)	76	76	76
Max flow @ 1 bar (litres per minute)	45	45	45
Storage volume in litres @ 3 bar	209	246	289
The water heating energy efficiency class of the model	B	C	C
Maximum supply pressure to incoming mains cold water combination valve (supplied)	1.6MPa (16 bar)		
Minimum recommended supply pressure and flow rate	0.15MPa (1.5 bar) - 20 litres per minute		
Operating pressure	0.35MPa (3.5 bar)		
Inner water container	High grade duplex stainless steel pressure tested to 15 bar		
Thermal insulation	CFC/HCFC free, fire retardant expanded polyurethane foam with zero zone depletion. GWP = 3.1		
DHW - expansion relief valve	0.6MPa (6 bar)		
Immersion heater rating (AC supply only)	3kW @ 240V / 2.8kW @ 230V		
Connections	22mm compression / 3/4" BSP male, secondary return 1/2" BSP female connection		
Domestic hot water expansion	18L (210L) and 24L (250 & 300L)		
COMPONENTS			
Immersion heaters	Factory fitted immersion heater and thermal controls. Long-life superloy 825 alloy sheathed elements		
Cold water	Cold water inlet control kit comprising of: 0.35MPa (3.5 bar) pressure reducing valve 0.6MPa (6 bar) pressure relief valve 1/4 turn isolating valve, line strainer, non return valve, drain valve		
Safety	Factory fitted temperature and pressure relief valve set at 90°C / 1MPa (10 bar) inc. T&P valve insulation kit, 22mm tundish, additional thermostat and thermal cut out, 18 and 24 litre DHW expansion vessel with brackets		
Electrical	Wiring centre - 28mm 3 port diverter valve		
Immersion Heater Relay Kit	Immersion Heater Relay, Immersion Heater Relay Box and DHW temperature probe extension		
VOLUMETRICS			
Height (mm)	1524	1837	2088
Width (mm)	579	579	579
Depth (mm)	652	652	652
Weight (kg)	60	69	74



ASHP training

With Baxi Assure ASHPs, the heating system is only part of the story. We're also passionate about giving you the service and support you need, every step of the way.

Our comprehensive, hands-on training programmes cover all Baxi Assure products, including ASHPs. Programmes are tailored for housing developers, their specifiers and contractors, as well as the installers themselves.

Courses are carried out by qualified experts at our CIPHE-approved training centres nationwide. Contractors and installers can become a Baxi Heat Pump Installer by enrolling on our Baxi Heat Pump Installer course enabling them to commission the product and register warranty directly through Baxi Project Hub and activate any agreed enhanced warranty.

ASHP specification training

For developers, specifiers and contractor partners to understand ASHPs and design considerations

This programme is designed to give planning teams all the skills and knowledge they'll need when working with ASHPs, and to ensure complete confidence in choosing the right systems for each development.

The one day programme covers:

- Why ASHPs are important
- The unique features and benefits of our ASHPs
- A hands-on practical overview of how they operate
- Refrigeration and heating circuits
- The basics of installation
- Co-efficient of Performance (CoP)
- Commissioning, servicing and maintenance
- Fault-finding



ASHP installer training

Installation and commissioning training for our contractor partners and their engineers or installers

Here, we go into more detail on how to install our ASHP systems quickly and accurately, and how they should be calibrated to achieve the best possible performance.

Air Source Heat Pump Product Day

This one day course is for anyone wanting to know more about our range of heat pumps, the day will cover how a heat pump works, our product range and some installation considerations.

BPEC Accredited Training

This three day course is designed to give installers the skills and knowledge required to correctly install heat pumps and has been developed with the intention of meeting the requirement of the National Occupational Standards and industry working groups. The course provides a nationally recognised qualification that can be used to gain entry to the Microgeneration Certification Scheme (MCS).

Delegates will be sent a home study pack that needs to be completed prior to attending the course. During the hands-on session individuals will learn the principles of design, installation, commissioning, and servicing of air source heat pump systems. This is followed by a formal assessment.

Baxi Heat Pump Installer Training

The course is for delegates who are MCS or have a recognised heat pump qualification. It will provide in depth knowledge and practical skills through 2 one day modules:

- **Module 1- Design and application:**

Understand how accurate design can deliver the best outcome and different applications to suit your customer's needs (1 day)

- **Module 2 - Installation and commissioning:**

Learn all about Baxi heat pumps, installation requirements and how to set the system up for the best results. Covering commissioning and fault finding, you will really get to understand our products (1 day)

On the completion of the course installers will be able to book a supervised commissioning visit to sign-off their first installation.

Register your interest for training at baxi.co.uk/assuretraining or speak to your Baxi Specification or Business Development Manager.

A person wearing a light blue button-down shirt is leaning over a table, looking at architectural drawings. Their hands are visible, with one hand holding a green pencil and pointing at a specific part of the plan. The background is slightly blurred, showing more of the person's shirt and the table surface.

How else we can help

Specification design service

The efficiency of ASHP systems can vary depending on differences between outside air temperatures and central heating water temperatures. That means the design and siting of the system is crucial in maintaining maximum efficiency. That's where Baxi Design comes in.

Our in-house design team has completed over 10,000 unique heating and hot water system designs over the course of two decades. And now, the team is bringing that experience and know-how into the future, supporting developers and specifiers to plan, configure and implement new ASHP installations.

Every design is planned carefully in partnership with SAP assessors. Designs are created bespoke to each property's unique requirements, using the latest design processes and technology. We'll also provide all necessary schematics and data for each installation.

All system designs are fully indemnified and compliant with the latest legislation.

Designs have every base covered, factoring in:

- Accurate ASHP and cylinder sizing to suit each property
- The best location for the system to maximise performance and convenience – preferably south-facing, whilst keeping Monobloc outdoor sensors out of direct sunlight
- Economical use of water pipework
- Refrigeration pipework
- Pipework brazing mitigation
- Integration with underfloor heating
- Expansion and buffer vessels
- Controllers and thermostats
- Plant room specification if required

Expert technical support

Our team of experienced engineers can provide support during or after construction and help with specifications, installations, commissioning and servicing.

We always use genuine parts to rectify issues, and because all Assure products are easy to maintain, our engineers will be in and out in no time, meaning minimal disruption for residents.

Unique service plans

With comprehensive warranty agreements tailored to insure against breakdown, our new build service plans are designed to provide complete peace of mind for homeowners and developers alike.

Baxi Project Hub

Baxi Project Hub is our intuitive project management portal and app, where specifiers and contractor partners can register warranty notifications for Baxi Assure installed products.

The app is built for both Android and iOS and features a barcode scanner and quick access to boiler registration history.

Visit **baxi.co.uk/projecthub** to find out more.

If you're interested in a Baxi Design for your next ASHP project, contact us.

Email: **baxidesign@baxi.co.uk**

Call: **0344 871 1538**

Visit: **baxi.co.uk/design**



Get in touch

Call: 0330 678 0917

Email: specification@baxi.co.uk

Visit: baxi.co.uk/assure

baxi.co.uk/trade/terms-and-conditions

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Baxi Heating UK Limited is registered in England and Wales with company number 03879156 and registered office address Brooks House, Coventry Road, Warwick, CV34 4LL. VAT registration number is 604665837.
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BAXI

remeha

megaflo

ANDREWS
WATER HEATERS

HEATRAESADIA

MAIN
HEATING

POTTERTON
COMMERCIAL

**Residential and
commercial solutions**