PremierPlus
Unvented Hot Water Cylinders
PremierPlus

Mains Pressure Unvented Water Heating

Designed and manufactured in the UK the PremierPlus range of unvented cylinders lead the way in cost effective mains pressure water heating.

Built to the highest standards from Duplex stainless steel, the units offer exceptional corrosion resistance and long-life expectancy. Advanced primary coil and cold water controls design gives rapid reheat and good flow rate performance. It provides mains pressure showering and is suitable for use in new-build or refurbishment schemes for domestic and commercial applications. PremierPlus cylinders are available from 100 to 300 litres, in both direct and indirect models with pre-plumbed and solar options.

All models have 50mm of CFC/HCFC-free (ODP zero) foam insulation to give improved heat loss and are finished in a stylish and durable white plastic-coated, corrosion-proofed steel casing with grey high impact thermoplastic moulded top and bottom covers.

PremierPlus Unvented System Benefits

To Specifiers and Builders

- Duplex stainless steel for longer life.
- Flexible siting of cylinder installation.
- Complete package incorporates safety and hot water controls.
- Savings on installation from simplified plumbing and electrical connections.
- Mains pressure hot water for balanced supply to showers and mixers – no shower pump to consider.
- High flow rates give improved hot water delivery.
- Equally suited to new build or refurbishment projects.
- Fully indemnified design service.

To Installers

- A complete package for simple on-site installation.
- Simplified plumbing and electrical connections.
- No cold feed cistern required.
- No head problems.
- No shower pump to consider.
- No anode to maintain or replace.
- Fully factory tested for reliability.
- 30 year on-site parts and labour cylinder guarantee.

To Consumers

- High performance showers and balanced mixers.
- High flow rates – fast filling baths.
- Fast recovery rates.
- Safe, economical performance.
- No anode to check or maintain.
- No loft pipes to freeze up.*
- 30 year on-site parts and labour cylinder guarantee.
- 5 year on-site parts and labour expansion vessel guarantee.
- 2 year on-site parts and labour guarantee on element and all other controls.

*Assumes sealed system boiler installation.
**PremierPlus**

**PremierPlus Unvented System Benefits**

**Duplex Stainless Steel Construction**
This high strength, high quality material ensures an unsurpassed standard of corrosion protection without the need for anodes. Manufactured in the UK in a BS EN ISO 9001:2008, ISO 14001:2004 and BS OHSAS 18001:2007 registered factory.

**Simple Installation**
PremierPlus has been designed with the installer in mind. All plumbing and electrical connections are located to give easy access during installation. Plumbing connections are 22mm compression. Electrical connections are made to an integrated wiring centre which facilitates a neater, trouble-free and simpler installation.

**Heat Exchanger – Indirect Units**
A high efficiency ‘coil-in-coil’ heat exchanger is situated at the base of the unit which ensures that virtually all of the water is heated. This compares with a typical side entry single coil heat exchanger which typically heats only approximately 80% of the water content. The design also ensures that there is rapid reheat when water is used, bettering CHeSS* recommend good practice.

*CHeSS – Central Heating System Specifications General information leaflet 59*

**Cold Water Controls**
An integrated cold water control set, exclusively designed for the PremierPlus comprising of a pressure reducing valve and strainer, expansion relief valve and check valve, reduces installation time by incorporating three components into one and gives significant improvements in flow rate across a range of inlet pressures.

**Standing Heat Loss**
When comparing heat loss figures between brands it is essential that the heat loss is calculated on the same basis for each brand. To enable a fair comparison we publish two sets of figures resulting from the two different tests which are widely used in our industry. The first test is with the temperature and pressure relief valve fitted and the second test is with the valve removed and replaced by a blanking plug. Santon recommends that you check the tests used by other brands before making a comparison.

<table>
<thead>
<tr>
<th>Capacity (litres)</th>
<th>With T&amp;P valve fitted (kWh/24h)</th>
<th>Without T&amp;P valve fitted (kWh/24h)</th>
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**Safety**
The high strength Duplex stainless steel cylinder is manufactured using stringent quality control procedures and is pressure tested to over 1½ times its maximum operating pressure. All PremierPlus units have fully integrated thermostatic controls and thermal cut outs for both direct and indirect heating. A higher level of thermal safety is provided by the factory fitted temperature and pressure relief valve.

**Guarantee**
The PremierPlus comes with a 30 year on-site parts and labour guarantee for the cylinder. The expansion vessel and the cold water controls have a 5 year on-site parts and labour guarantee and all other valves and fittings supplied with the unit are covered for a period of 2 years provided that:

- It has been correctly installed as per the instructions contained in the instruction manual and all relevant Codes of Practice and Regulations in force at the time of installation.
- It has not been modified in any way, other than by Santon.
- It has not been frost damaged.
- It has only been used for the storage of potable water.
- It has not been tampered with or been subjected to misuse or neglect.
- Within 60 days of installation the user completes and returns the certificate supplied along with the proof of purchase to register the product.
- It has been installed in the United Kingdom.
# PremierPlus

## Data / Selection Charts

### Performance

<table>
<thead>
<tr>
<th>Direct Model</th>
<th>Volume (litres)</th>
<th>Time from 15ºC to 60ºC (mins)</th>
<th>Coil rating (kW)</th>
<th>Coil pressure drop (bar)</th>
<th>Draw-off to 40ºC (litres)</th>
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<th>Coil pressure drop (bar)</th>
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## Selection guide

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<td>2 bed, 1 bath/shower</td>
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<td>PP170B or PP210B</td>
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<tr>
<td>2/3 bed, 2 bath/shower</td>
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<td>PP210B or PP250B</td>
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<td>4/5 bed, 2 bath/shower</td>
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<td>PP250B or PP300B</td>
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<td>PP250B or PP300B</td>
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Note: All sizings calculated using BS6700.

60 litres of hot water per bath, 60 litres of hot water per shower, 15 litres of hot water per sink, 7 litres of hot water per basin.

This selection chart is for guidance only. Hot water requirements will vary dependant on bath size, usage patterns, etc. Please contact the Specification Department for further advice.
PremierPlus SystemFit

Key Components

SystemFit has been designed to significantly reduce on-site installation time whilst offering cost effective mains pressure water heating.

Each factory-assembled unit comes pre-plumbed and pre-wired with 230V central heating controls, pump, two 2-port motorised valves, automatic bypass and balancing valves. This timesaving package not only speeds installation but also significantly enhances the quality and integrity of the central heating system thus eliminating costly callbacks.

1. Motorised valve to radiator circuit – 22mm on 120L/150L models / 28mm on other models.
2. 22mm motorised valve to PremierPlus coil heat exchanger.
3. Wiring centre.
4. Programmable thermostat and room sensor with timed Domestic Hot Water (DHW) control.
5. Hot water temperature thermostat.
6. Automatic bypass valve.
7. 3 speed circulator pump with quality isolating valves.
9. 22mm cold water combination valve (supplied loose).
10. Combined expansion valve/check valve housing.
11. 22mm or ¾" BSP hot outlet to taps.
12. 22mm Primary flow to PremierPlus coil heat exchanger.
13. 22mm Primary return from PremierPlus coil heat exchanger.
15. Drain cocks.
16. Filling loop.
17. Auto air vent.
18. Primary system pressure gauge.
19. Primary expansion vessel.
20. Temperature and pressure relief valve operating at 90°C / 10 bar.
21. Tundish.
22. High limit hot water thermal cut-out.
23. Primary flow connection from boiler – 22mm on 125L/145L models / 28mm on other models.
24. Discharge pipe connection 22mm.
25. Cold water inlet connection 22mm.
26. Primary flow to radiators (CH circuit).
27. 28mm connection for 2nd CH zone (supplied capped) (170 litre and above only).
28. 15mm connection for secondary return and domestic hot water expansion vessel (supplied capped).
29. Primary circuit return connection.
30. Domestic hot water expansion vessel.
PremierPlus Solar

System Benefits

Climate change is an undeniable fact which has increased the focus on alternative energy sources. Solar energy direct from the sun is such a source of energy which, when harnessed, can be converted into heat to generate hot water for the home, whilst at that same time helping to reduce carbon emissions and reduce global warming.

PremierPlus Solar offers all of the benefits of the standard PremierPlus unvented cylinder to give powerful mains pressure showering and fast filling baths, with the added benefit of lower running costs – as much as 60% less than traditional systems*.

Designed for use with a wide range of solar systems now available in the UK, PremierPlus Solar is an environmentally friendly and efficient way of providing domestic hot water. Unlike some other ‘twin coil’ cylinders (which simply use heating coils designed for traditional boiler heated cylinders), PremierPlus Solar cylinders have a purpose designed solar heating coil at the base of the cylinder, which ensures maximum heat input and efficiency from the solar energy.

Available in a choice of capacities from 170 to 300 litres, with a choice of direct (electric auxiliary heat input) or indirect (gas, oil or electric boiler auxiliary heat input) versions.

How does PremierPlus Solar work?

The Solar cylinder is used in conjunction with solar panels (not supplied) which convert energy collected from the sun’s rays to heat a water / glycol liquid in its pipe work. This liquid is circulated through a specially designed solar coil in the base of the cylinder where the liquid transfers its heat to the water stored before being pumped back to the solar panel to be re-heated. The design of this coil allows maximum solar gain to be achieved ensuring that the solar system is being used to its full potential.
PremierPlus Solar

Utilising Solar Energy

How much of your water heating energy needs can be provided by solar?
During the summer months as much as 100% of the energy used by PremierPlus could be solar*. In winter, despite the lower intensity of the sun’s rays and fewer daylight hours as much as 20% could be solar*.

On average throughout the year up to 60% of a dwelling’s hot water requirement can be provided by solar power*. The balance is provided by traditional means; either indirect (via a gas, oil or electric boiler heating a second coil within the cylinder) or direct (via electric immersion heaters in the cylinder).

Which unit to use

The choice of capacity for traditional cylinders is based on the hot water requirements of the dwelling. With solar cylinders, there are a number of other factors which need to be taken into account such as the solar collectors used and where they are sited. Additionally the amount of usable hot water will vary depending on the solar gain available on a given day. For that reason it is important to ensure that the auxiliary heated volume of the cylinder is capable of meeting the dwelling’s hot water demands on days where solar gain will be low, such as during winter months.

Our specification team are available to provide cylinder sizing advice on 01603 420128.

<table>
<thead>
<tr>
<th>Which unit to use</th>
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<tr>
<td><strong>Direct Model</strong></td>
</tr>
<tr>
<td><strong>On-roof absorber – 1.84; In-roof absorber area – 2.28; Tube absorber area – 1.00. All cylinders are SAP compliant provided the maximum property size is not exceeded.</strong></td>
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</table>

<table>
<thead>
<tr>
<th><strong>Performance</strong></th>
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<tr>
<td><strong>Nominal auxiliary element (kW @ 240V)</strong></td>
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<tr>
<td>Direct Model</td>
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<td>PP170ESOLAR</td>
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<td>PP210ESOLAR</td>
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<td>PP260ESOLAR</td>
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<td>PP300ESOLAR</td>
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<tr>
<td>Indirect Model</td>
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<td>PP190ESOLAR</td>
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<tr>
<td>PP250ESOLAR</td>
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<td>PP300ESOLAR</td>
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*Savings vary depending on type of solar system used, location and usage patterns.
## PremierPlus
### Technical Specification

![Diagram of PremierPlus Water Heater]

### Ordering Guide

<table>
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<tr>
<th>Direct Model</th>
<th>Capacity (litres)</th>
<th>Element rating (kW @ 240V)</th>
<th>Coil rating (kW)</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>Empty (kg)</th>
<th>Full (kg)</th>
<th>Product Code</th>
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PremierPlus SystemFit

Technical Specification

Ordering Guide

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PremierPlus Solar
Technical Specification

Ordering Guide

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<tr>
<th>Direct Model</th>
<th>Capacity (litres)</th>
<th>Element rating (kW @ 240V)</th>
<th>Coil rating (kW)</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>Empty (kg)</th>
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<th>C (mm)</th>
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PremierPlus
Technical Specification and Installation

Specification

Nominal Capacities
Indirect and Direct 100, 120, 150, 170, 210, 250 & 300 litres.
SystemFit 120, 150, 170, 210, 250 & 300 litres.
Solar Indirect 190, 210, 250 & 300 litres.
Solar Direct 170, 210, 260 & 300 litres.

Element
Long-life Superloy R85 sheathed element, incorporated into an easily removable heater plate, should replace be necessary. Rated 3kW @ 240V.

Outer Casing
White plastic-coated, corrosion-proofed steel with grey high impact thermoplastic moulded top and bottom covers.

Thermal Insulation
CFC/HFC free (ODP zero) fire retardant expanded polyurethane. 50mm thickness.

Inner Container
Duplex stainless steel, pressure tested to 15 bar.

Solar Coil (Solar cylinders only)
22mm diameter stainless steel. Coil-in-coil design for improved performance.

Thermostat
Element thermostat adjustable from 10ºC to 72ºC (all models). Factory-fitted cylinder thermostat adjustable to 72ºC for auxiliary heating source. A pocket is provided for solar controls suitable for insertion of solar controller temperature probe (Solar models only).

Safety Features
All models:
Temperature and pressure relief valve, factory set to operate at 10 bar and 90ºC. High limit thermostat, factory set at 80ºC.

All Direct models:
Manually resettable cut-out, set to 80ºC.

All Solar models:
A 2-port motorised valve is supplied to provide over-temperature protection when heating using the auxiliary heating (boiler) coil. A factory-fitted thermal cut-out is provided for integration in to a solar circuit.

Anode
None required.

Installation

Unvented units over 15 litre capacity must be installed by a competent installer in accordance with Local Regulations.

England & Wales – Building Regulation G3.
Scotland – Technical Standards P3.
N. Ireland – Building Regulation P3.

Fixing
Feet on bottom moulding for floor mounting.

Plumbing Connections
All models:
Inlet / Outlet – 22mm compression fittings / 1⁄4” BSP parallel thread. Temperature and pressure relief valve – 15mm compression outlet.

SystemFit models:
Primary connections – 22mm O/D copper on 120 / 150L models / 28mm OD copper on other models. 1⁄2” T&P relief valve – 15mm compression outlet supplied fitting.

All Indirect models:
22mm compression fittings / 1⁄4” BSP parallel thread.

All Solar models:
22mm compression fittings / 1⁄4” BSP parallel thread.

Indirect Coil
22mm compression fittings / 1⁄4” BSP parallel thread.

Temperature and Pressure Relief Valve
5.5mm compression outlet.

Cold Water Control
All models:
Integrated cold water control set comprising pressure reducing valve and strainer – factory set at 3.5 bar, expansion relief valve – factory set at 6 bar and check valve.

22mm compression fittings.

Mains pressure: min 1.5 bar, max 16 bar.
A 2-port motorised valve is supplied (standard indirect models only).

Solar models:
22mm HiFlow cold water valve assembly comprising 3.5 bar pressure reducer, line strainer, non-return valve. Expansion core unit comprising 6 bar expansion valve and check valve factory fitted. Cold water control valve (3.5 bar) is supplied for use with mains pressure of 20 bar to 1.5 bar, at the lower pressure performance will be reduced accordingly. Normal working pressure is 3 bar.

Flow Rates
Up to 55 litres per minute @ 6 bar pressure.

Operating Pressure
3.5 bar.

Expansion Relief Valve Pressure
6.0 bar.

Operating Temperature
Recommended 60ºC. Adjustable from 10-72ºC (auxiliary heating controls on Solar models).

Water Expansion
Indirect, Direct and SystemFit models:
Remote expansion vessel – 12 litre vessel supplied with 100 / 120 / 150 litre models, 18 litre vessel supplied with 170 / 210 litre models, 25 litre vessel supplied with 250 / 300 litre models. (Note: A separate expansion vessel (12 litre) is supplied for sealed primary systems).

Solar models:
24 litre remote expansion vessel with all models.

Minimum Water Supply Requirements
Recommended minimum supply pressure – 1.5 bar / 20l/min flow rate.

If there are any doubts about water supply pressure or flow rates please contact our Specification Advice Team to discuss.

Secondary Circulation
Indirect, Direct and SystemFit models:
Via 22 x 22 x 15mm swept tee which should be fitted to the inlet pipework.

A swept tee is available as an optional accessory, part number 94 970 033.

Solar models:
1⁄2” BSP female connection provided.

On all PremierPlus cylinder models secondary circulation is NOT recommended for units using off-peak electricity tariffs for auxiliary heating.

Pressure Testing
Units are tested to 15 bar.

Compatible Boilers
Electric, gas or oil fired – open vent or sealed system type, fitted with integral control thermostat and cut-out.

Tundish
15mm compression inlet and 22mm compression outlet.

Electrical

PremierPlus and SystemFit Models:
Connection is direct to terminals in the immersion heater which must be permanently connected to the supply through a double-pole linked isolating switch with a minimum breaking capacity of 13A.

Indirect controls should be wired to the boiler, in accordance with the control scheme being used. All electrical installation must conform to the latest IEE Wiring Regulations.

Our Specification Advice Team is available to discuss requirements for specific projects, applications and product selection.

Solar Models:
The solar thermal cut-out (factory-fitted) should be wired in series with the solar controls (not supplied).

Direct models:
Connection is to the combined thermostat/thermal cut-out, housed within the integrated controls housing. The electrical supply must be permanently connected via a double-pole linked isolating switch with a minimum break capacity of 13A.

Indirect twin coil models:
Controls should be wired to the boiler, programmer etc. in accordance with the control scheme being used. The solar coil must be connected to a fully pumped solar primary system that should be controlled by a suitable solar controller and hydraulic set. The solar controller temperature sensor must be inserted in the pocket supplied on the heater. All electrical wiring must conform to the latest IEE Wiring Regulations.

Approvals

heateam is Santon’s very own service division. With us on your side, you can be sure that your customers are in the very best hands. Totally committed to quality and safety, heateam is open 7 days a week, for 363 days a year, and offers:

- **Dedicated Trade Advice Line** – our helpful and qualified specialists are always on hand to help you with even the most complex technical query.
- **Installer Priority Call-Outs** – our 280 strong team of specifically trained expert heating engineers covers the UK, no one is better qualified to look after Santon’s products for the duration of the guarantee.
- **Fully Stocked Vans** – a nationwide fleet of vans, fully stocked with spare parts – meaning we can repair our appliances on the first visit in 95% of call-outs.
- **Exclusive Service Plans** – heateam also offer Santon’s customers a range of exclusive annual service plans.

Opening Times: Monday-Friday 8am-6pm, weekends and Bank Holidays* 8.30am-2pm.

*excluding Christmas Day and New Year’s Day.

Simply call 0844 8711535 or visit our website at www.heateam.co.uk

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**SANTON**

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E-mail: specifier@santon.co.uk

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**Website**
www.santon.co.uk

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