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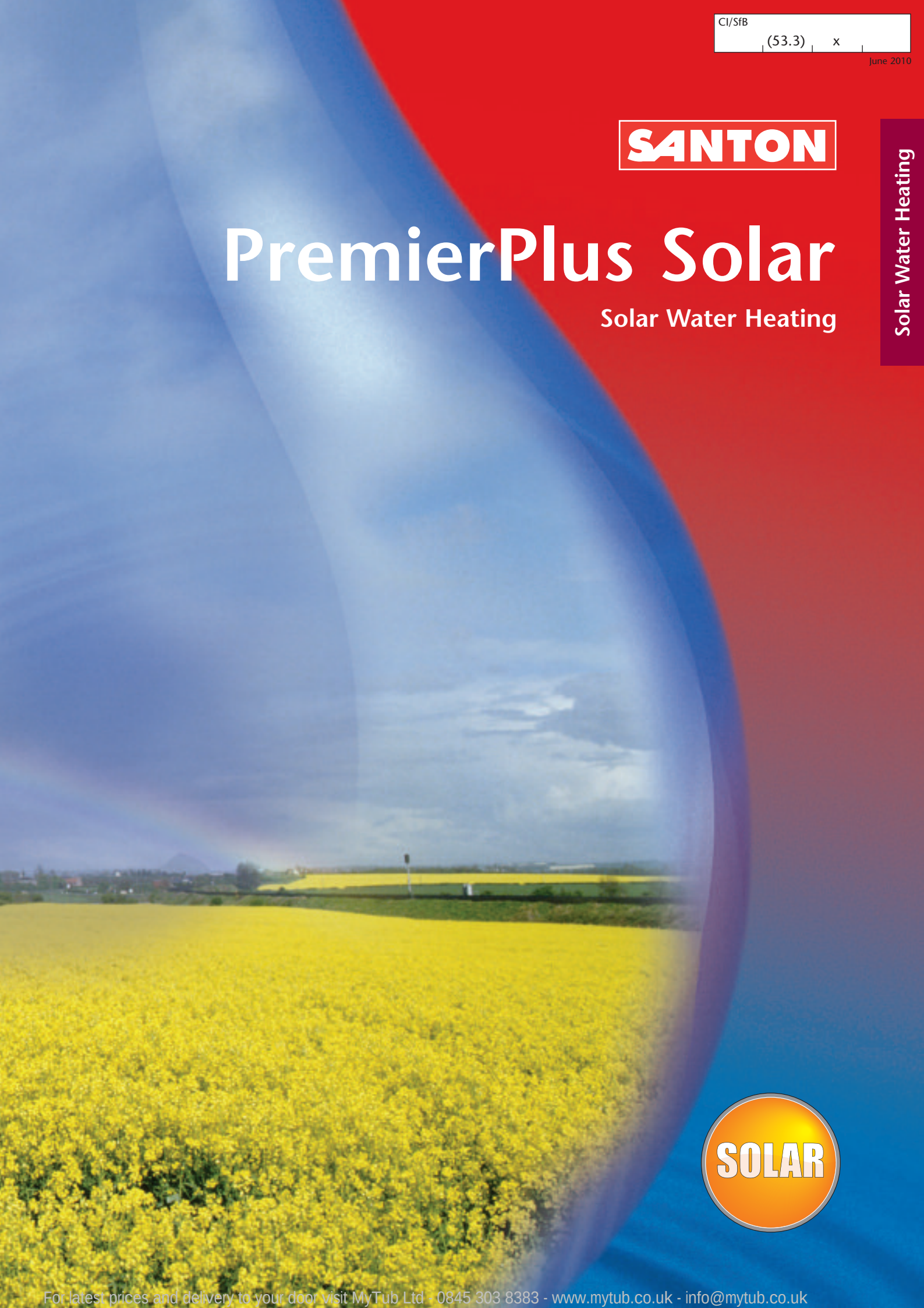
SANTON

Solar Water Heating

PremierPlus Solar

Solar Water Heating



Solar Water Heating

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Climate change is now 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 has been designed specifically for solar applications. It 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.

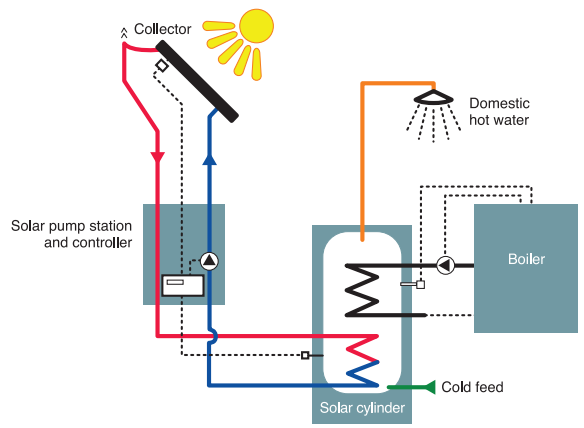
Available in a choice of capacities from 170 to 300 litres, with a choice of direct (electric auxiliary heat input) or indirect (gas, oil or electric boiler auxiliary heat input) versions.

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.

Typical Solar System with Indirect Solar Cylinder



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 in to 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.

*Savings vary depending on type of solar system used, location and usage patterns.

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PremierPlus Solar

Solar Water Heating

Features

- Mains pressure (unvented) hot water for balanced supply to showers and mixers
- Duplex stainless steel cylinder for long life 1
- Choice of direct or indirect auxiliary heat input 2
- Specially designed solar coil for maximum solar efficiency 3
- Complete package includes
  - Safety and hot water controls 4
  - Remote expansion vessel
- High flow rates for improved hot water delivery
- Compatible with a wide range of UK solar systems
- Lower running costs and reduced energy bills
- Environmentally friendly – reduced carbon emissions
- Equally suited for New Build or Refurbishment projects
- Fully indemnified design service
- 30 year on-site parts and labour cylinder guarantee

Potterton Solar

The Santon PremierPlus Solar cylinders are perfectly matched with the Potterton Solar systems.

- A range of On-roof and In-roof collector packages available.
- Reduces CO_2 emissions and domestic fuel bills.
- Easy to fit range of packaged solutions makes it easy for installers to move to solar energy.
- National Technical Support and After Sales Service from a single source.

POTTERTON

For more details call 0844 871 1560 or visit www.potterton.co.uk

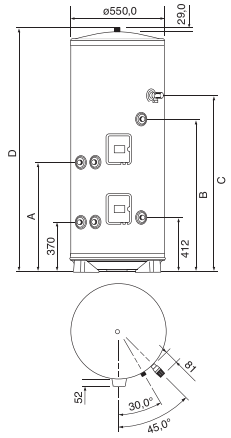
PremierPlus Solar

Technical Specification

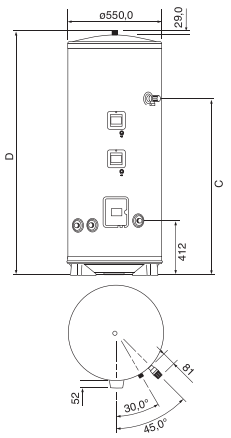
Dimensions

Model	A (mm)	B (mm)	C (mm)	D (mm)
Indirect cylinder				
PP190BSOLAR	732	923	1019	1401
PP210BSOLAR	1009	1095	1184	1502
PP250BSOLAR	1160	1258	1391	1760
PP300BSOLAR	1438	1573	1715	2067
Direct cylinder				
PP170ESOLAR	N/A	N/A	925	1245
PP210ESOLAR	N/A	N/A	1184	1502
PP260ESOLAR	N/A	N/A	1411	1795
PP300ESOLAR	N/A	N/A	1715	2067

PremierPlus Solar Indirect



PremierPlus Solar Direct



Which unit to use

Indirect cylinder

No. of Beds	No. of Baths / Showers	Max. Occupancy	On-roof Panels	In-roof Panels	Tube	Cylinder Volume (litres)	Dedicated Solar (litres)	On-roof (l/m²)	In-roof (l/m²)	Tube (l/m²)	Max. Property Size (m²)	Auxiliary Volume (litres)
1	1	2	1	1	20	190	70	38	31	35	60	120
2	1	2	1	1	20	210	90	49	39	45	95	120
3	1	3	2	1	20	250	105	29	46	53	123	145
3	2	4	2	2	20	250	105	29	23	53	123	145
4	1	4 or 5	2	2	30	300	125	34	27	42	164	175
4	2	4 or 5	3	2	30	300	125	23	27	42	164	175
4 or 5	2	5	3	2	30	300	125	23	27	42	164	175

Direct cylinder

No. of Beds	No. of Baths / Showers	Max. Occupancy	On-roof Panels	In-roof Panels	Tube	Cylinder Volume (litres)	Dedicated Solar (litres)	On-roof (l/m²)	In-roof (l/m²)	Tube (l/m²)	Max. Property Size (m²)	Auxiliary Volume (litres)
1	1	1	1	1	10	170	70	38	31	70	60	100
1	2	2	1	1	20	210	70	38	31	35	60	140
2	2	3	2	1	20	210	70	19	31	35	60	140
2	2	4	2	2	20	260	90	24	20	45	60	170
3	2	4	2	2	20	260	90	24	20	45	95	170
3	3	4	3	2	30	300	100	18	22	33	95	200
4	3	5	3	2	30	300	100	18	22	33	113	200

On-roof absorber area – 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.

Ordering guide

Model	Capacity (litres)	Nominal Auxiliary Element @ 240V (kW)	Auxiliary Direct Heat Up Lower 3kW	Auxiliary Direct Heat Up Upper Boost 3kW	Auxiliary Coil Rating (kW)	Auxiliary Coil Surface Area (m²)	Indirect Auxiliary Recovery* (mins)	Solar Coil Surface Area (m²)	Heat Loss Per Day (kWh/24h)	Weight Empty (kgs)	Weight Full (kgs)	Product Code
PP190BSOLAR	190	1x 3kW	N/A	60	16.0	0.61	18	1.1	1.52	45.5	235.5	94050140
PP210BSOLAR	210	1x 3kW	N/A	60	18.3	0.68	18	1.1	1.70	47.5	257.5	94050141
PP250BSOLAR	250	1x 3kW	N/A	60	20.0	0.79	19	1.1	1.96	56.5	306.5	94050142
PP300BSOLAR	300	1x 3kW	N/A	60	20.0	0.79	23	1.1	2.28	66.5	366.5	94050143
PP170ESOLAR	170	1x 3kW	130	N/A	N/A	N/A	N/A	1.1	1.40	35.5	205.5	94050209
PP210ESOLAR	210	2x 3kW	148	60	N/A	N/A	N/A	1.1	1.70	42.5	252.5	94050136
PP260ESOLAR	260	2x 3kW	183	60	N/A	N/A	N/A	1.1	1.98	58.0	318.0	94050210
PP300ESOLAR	300	2x 3kW	220	60	N/A	N/A	N/A	1.1	2.28	61.5	361.5	94050138

*Recovery time based on heating 70% of auxiliary volume through 45°C.

SPECIFICATION ADVICE: **01603 420128** FAX: **01603 420229** E-MAIL: specifier@santon.co.uk

PremierPlus Solar

Technical Specification

Specification

Nominal Capacities
Indirect models: 190, 210, 250 & 300 litres.
Direct models: 170, 210, 260 & 300 litres.

Element
Long-life Superloy 825 sheathed element, incorporated into an easily removable heater plate, should replacement be necessary.
Rated 3kW @ 240V.

Outer Casing
White with grey high impact thermoplastic moulded top and bottom covers.

Thermal Insulation
CFC/HCFC free (ODP ZERO) fire retardant expanded polyurethane. 50mm thickness. GWP 3.1 (Global Warming Potential).

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

Primary Coil (for auxiliary heating boiler)
22mm diameter stainless steel.
Coil-in-coil design for improved performance.

Solar Coil
25mm diameter stainless steel.
Coil-in-coil design and large surface area for improved performance.

Thermostat
Element thermostat adjustable from 10°C to 70°C.
Factory-fitted cylinder thermostat adjustable to 70°C for auxiliary heating source. A pocket is provided for solar controls suitable for insertion of solar controller temperature probe.

Safety Features
All Models:
Temperature and pressure relief valve, factory set to operate at 10 bar and 90°C.
High limit thermostat, factory set at 80°C.
Direct Models:
Manually resettable cut-out, set to 80°C.
A 2-port motorised valve is supplied with twin coil models 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.

Approvals
Kiwa approved.
Manufactured in the UK in an ISO 9001:2008 registered factory.

Guarantee

The PremierPlus Solar Duplex stainless steel vessel carries a full 30 year on-site parts and labour transferable guarantee against faulty manufacture or materials 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.
- It has not been damaged by scale.
- 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.

Expansion vessel and hot water controls are guaranteed for a period of 5 years from the date of purchase. The PremierPlus Solar components, immersion heater and thermal controls are guaranteed for a period of 2 years from the date of purchase. Evidence of purchase and date of supply must be submitted.

The guarantee is transferable.

This guarantee does not affect your statutory rights.

SANTON 30 YEAR GUARANTEE

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 P5.

Fixing
Feet on bottom moulding for floor mounting.

Plumbing Connections
Inlet / Outlet:
22mm compression fittings / 3/4" BSP parallel thread.
Indirect Coil:
22mm compression fittings / 3/4" BSP parallel thread.
Solar Coil:
22mm compression fittings / 3/4" BSP parallel thread.
Temperature and Pressure Relief Valve:
15mm compression outlet.

Cold Water Control
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 1.0 bar, Max 16 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 60°C.
Adjustable 10–70°C on auxiliary heating controls.

Water Expansion
24 litre remote expansion vessel supplied with all models.

Minimum Water Supply Requirements
Recommended minimum supply pressure – 1.5 bar/20 l/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
1/2" BSP female connection provided. 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
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.

Products

Unvented Water Heating PremierPlus | Aquaheat | Aqualine

Solar Unvented Water Heating PremierPlus Solar

Vented Water Heating Aquarius | Taps

Drinking Water Speediboil

Hand Hygiene EV 2008 | Aqua-dri

Instantaneous Water Heating Power Pack

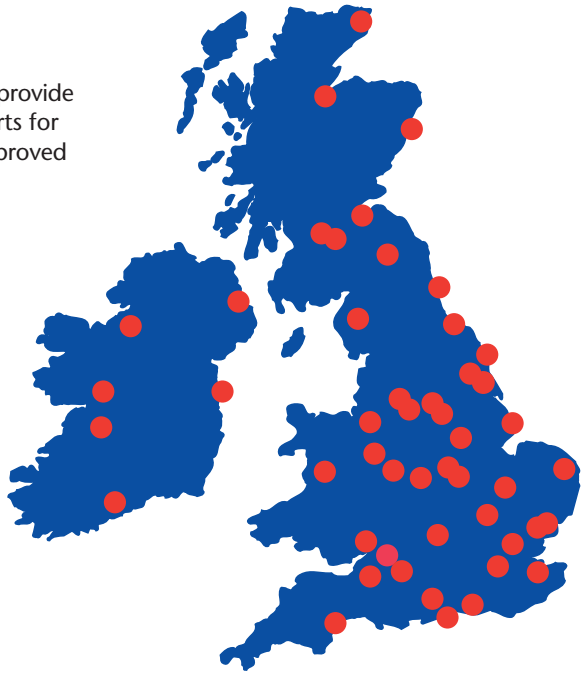
Combination Storage R Unit

Rectangular Heating and Storage DFB

Immersions Industrial

National Service Network

A nationwide network of experienced engineers is available to provide fast and efficient on-site service support if required. Spare parts for Santon products are readily available through a network of approved spares stockists.



SANTON

Santon, Hurricane Way, Norwich, Norfolk, NR6 6EA

Specification Advice Hotline
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Website
www.santon.co.uk