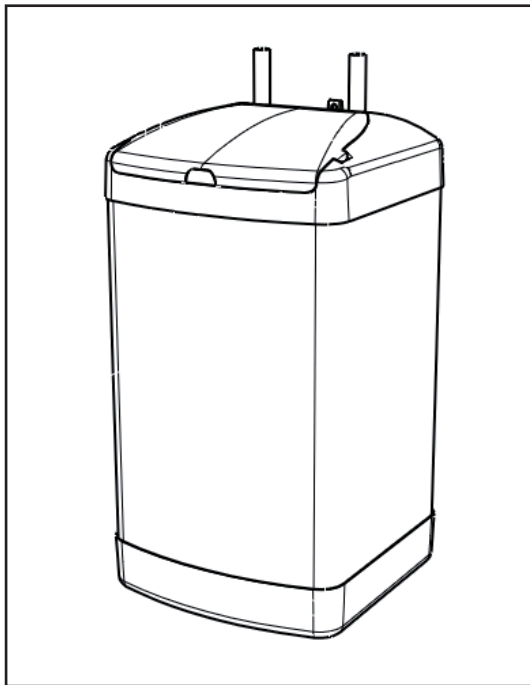


SANTON

Installation and User Instructions Aquaheat Unvented Water Heaters Models: AH7/2.2, AH10/2.2, AH15/2.2



Please read and understand these instructions before starting work.
Please leave this leaflet with the user following installation.

PACK CONTENTS

Heater, Pressure relief valve, Fixing screws and plugs, Installation and User Instructions.

WARNING

This water heater must only be installed by qualified persons.

36005791 Issue 05

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1.0 INTRODUCTION

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Thank you for purchasing an Aquaheat water heater. The unit is manufactured in the UK to the highest standards and has been designed to meet all the latest relevant safety specifications. The Aquaheat units are designed to supply hot water for handwashing, dishwashing and general purposes to cloakrooms, canteens and kitchen areas.

The Aquaheat water heater must be installed and commissioned by a competent person. Please read and understand these instructions before installing. Following installation and commissioning, the operation of the Aquaheat should be explained to the user and these instructions left with them for future reference.

2.0 TECHNICAL SPECIFICATION

| | |
|------------------------|-----------------------------|
| Electrical rating | 2.2kW @ 240V~ / 2.0kW@230V~ |
| Capacities | 7, 10 or 15 litres |
| Weight (full) | 7 litre - 11.9 kg |
| | 10 litre - 15.9 kg |
| | 15 litre - 25.0 kg |
| Rated pressure | 0.6MPa (6 bar) |
| Minimum inlet pressure | 0.08MPa (0.8 bar) |
| Pressure Relief Valve | 0.6MPa (6 bar) |

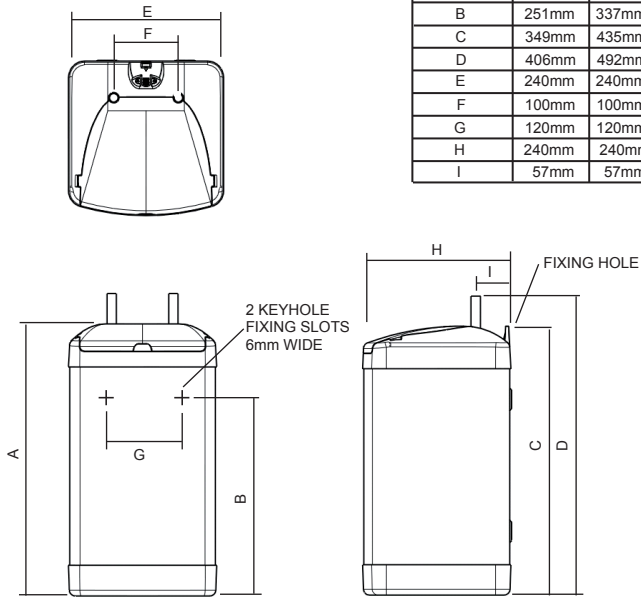
| Direct | | | |
|---|--------------------|----------------|----------------|
| Supplier's name or trade mark | Aquaheat | | |
| Supplier's model identifier | 7L (2.2kW) | 10L (2.2kW) | 15L (2.2kW) |
| Storage volume V in litres | 7.0 | 10.0 | 15.0 |
| Mixed water at 40 °C V40 in litres | 13 | 18 | 21 |
| The declared load profile | XXS | XXS | XXS |
| The water heating energy efficiency class of the model | B | B | B |
| The water heating energy efficiency in % | 33.6 | 32.8 | 33.9 |
| The annual electricity consumption in kWh | 549 | 562 | 545 |
| Daily fuel consumption Q elec in kWh | 2.620 | 2.690 | 2.600 |
| The thermostat temperature settings of the water heater, as placed on the market by the supplier | 60°C | | |
| Specific precautions that shall be taken when the water heater is assembled, installed or maintained and disposed of at end of life | See Section 1 to 9 | | |

Table: Technical parameters in accordance with European Commission regulations 814/2013 & 812/ 2013.

The HWA Charter Statement requires that all members adhere to the following:

- To supply fit for purpose products clearly and honestly described.
- To supply products that meet or exceed appropriate standards and building and water regulations.
- To provide pre and post sales technical support.
- To provide clear and concise warranty details to customers

FIGURE 01: DIMENSIONS



| DIMENSION | 7 LITRE | 10 LITRE | 15 LITRE |
|-----------|---------|----------|----------|
| A | 356mm | 442mm | 417mm |
| B | 251mm | 337mm | 312mm |
| C | 349mm | 435mm | 410mm |
| D | 406mm | 492mm | 467mm |
| E | 240mm | 240mm | 330mm |
| F | 100mm | 100mm | 100mm |
| G | 120mm | 120mm | 170mm |
| H | 240mm | 240mm | 330mm |
| I | 57mm | 57mm | 102mm |

WARNING: IF WATER FLOWS FROM THE PRESSURE RELIEF VALVE OR TEMPERATURE / PRESSURE RELIEF VALVE (IF FITTED) THE ELECTRICITY SUPPLY MUST BE SWITCHED OFF IMMEDIATELY. CONTACT THE SANTON SERVICE TEAM (TEL: (0844) 8711530 OR AN APPROVED INSTALLER.

3.0 INSTALLATION

3.1 IMPORTANT INSTALLATION POINTS

3.1.1 The Aquaheat unvented water heater **MUST** be fitted with a Pressure (Expansion) Relief Valve. This **MUST** be fitted to the cold water supply near the heater.

FAILURE TO PROVIDE ADEQUATE PRESSURE RELIEF WILL INVALIDATE ANY GUARANTEE AND LEAD TO A DANGEROUS INSTALLATION

3.1.2 Expansion can take place within the cold water supply

PROVIDED THAT BOTH

(a) Backflow in the main is not prevented by any stopvalve with loose jumper, check valve, pressure reducing valve or similar,

AND

(b) Hot water expansion **does not** enter a branch to a cold water outlet (see Figure 2 for expansion pipe lengths).

NOTE: Both the above conditions must be met. Additionally expansion within the cold water supply will not be possible if the static supply pressure exceeds 4.1 bar (60p.s.i.).

3.1.3 If any of the conditions in 3.1.2 above cannot be met, expansion must be accommodated using an Expansion Vessel. To ensure all expansion takes place in the vessel a Non Return Valve **must** also be fitted together with a Pressure (Expansion) Relief Valve (see Figure 3). Use Accessory Pack ALK05 (94970012).

3.1.4 If the static supply pressure exceeds 4.1 bar (60p.s.i.) a Pressure Reducing Valve **must** be fitted to the cold main supply. If a Pressure Reducing Valve is used an Expansion Vessel **must** also be used (see Figure 3). Use Accessorius Pack ALK04 (94970011).

3.1.5 Where specifications demand the fitting of a Temperature/Pressure Relief Valve, one can be fitted on site (see Figure 4). Use Accessory Pack ALK06 (94970013). Note the fitting of ALK06 does not alter the requirements detailed in points 3.1.2 to 3.1.4 above.

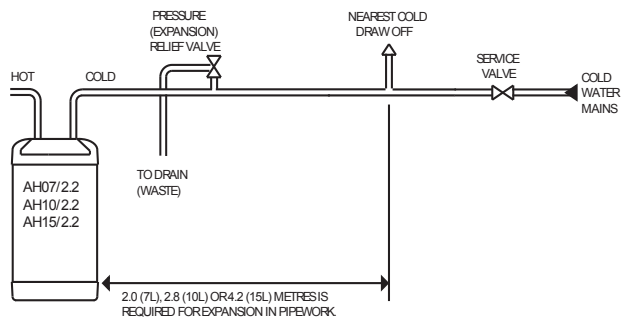
3.1.6 National Wiring rules may contain restrictions concerning the installation of these units in bathrooms.

3.1.7 The installation must be carried out in accordance with the relevant requirements of:

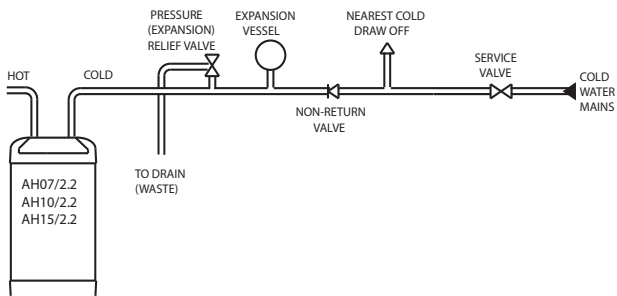
- The appropriate Building Regulations either The Building Regulations, The Building Regulations (Scotland) or Building Regulations (Northern Ireland).
- The Water Fittings Regulations or Water Byelaws in Scotland.



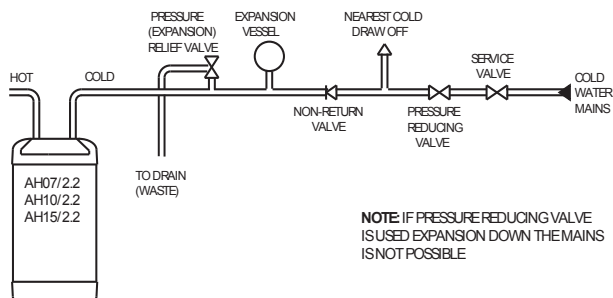
**FIGURE 02 : FOR INLET WATER PRESSURES UP TO 0.41MPa (4.1 BAR)
NO ADDITIONAL KITS USED.**



**FIGURE 03 : FOR INLET WATER PRESSURES UP TO 0.41 MPa (4.1 BAR)
WHERE EXPANSION IN MAIN SUPPLY IS NOT POSSIBLE
USING KIT ALK05 (94970012)**

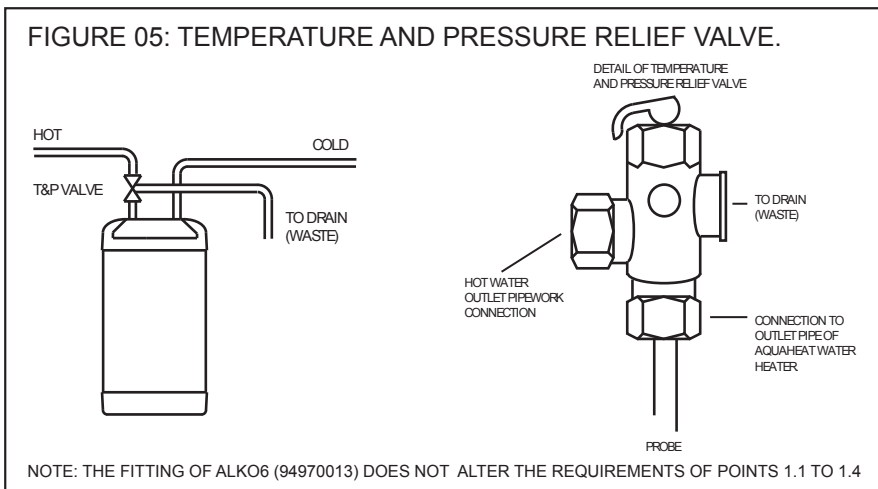


**FIGURE 04 : FOR INLET WATER PRESSURES ABOVE 0.41 MPa (4.1 BAR)
USING KIT ALK04 (94970011)**



NOTE: IF PRESSURE REDUCING VALVE IS USED EXPANSION DOWN THE MAINS IS NOT POSSIBLE





3.2 LOCATION

- 3.2.1. The unit should be vertically wall mounted using the screws and plugs provided. Position the bottom two screws as shown in Figure 1 with heads 3mm from the wall. Hang the heater and secure with the top screw. Alternatively it can be floor mounted on it's base. The water connections must always be to the top of the unit.
- 3.2.2 Enough space should be left at the top above the unit for pipe connections and access to the Temperature/Pressure Relief Valve (if fitted). Refer to Figure 1 and the Dimensions Table to determine a suitable position for the heater.
- 3.2.3 NOTE: Ensure that the wall can support the full weight of the unit (see TECHNICAL SPECIFICATIONS) and that there are no hidden services, (electricity, gas, or water) below the surface of the wall.
- 3.2.4 DO NOT install where the unit may freeze.

3.3 TERMINAL COVER REMOVAL

- 3.3.1 To remove the terminal cover use a large flat bladed screwdriver to relieve the snaps located towards the front, at either side, of the cover. Gripping the cover at the front, pull upwards.
- 3.3.2 To re fit the cover, locate the hinge at the back. Slide the snaps into place. Apply pressure to the front of the cover pushing back and down until it snaps securely in place.





3.4 PLUMBING

- 3.4.1 Refer to the section IMPORTANT INSTALLATION POINTS to determine which valves and accessories are required. Plumb in the valves in the sequence shown in the relevant Diagrams (Figures 2, 3, and 4).
- 3.4.2 Both inlet and outlet pipes are clearly labelled. The pipes are 15mm copper tube and are suitable for compression fittings. It is recommended that a WRAS listed isolating valve (not supplied) is fitted on the cold water supply to the heater. Several hot outlets can be served.
- 3.4.3 Do not use solder joints as this will damage the heater and may prevent servicing under warranty.
- 3.4.4 Plumbers Paste must not be used as it can impair the operation of the valves.

3.5 DISCHARGE

- 3.5.1 The discharge outlet from the Pressure (Expansion) Relief Valve and the Temperature & Pressure Relief Valve (if fitted) must be connected to a discharge pipe. It is recommended that a tundish (not supplied) be installed in the discharge pipe to give a visible indication that the valves are operating.
- 3.5.2 The discharge pipe must be installed in a continuously downward direction and in a frost free environment.
- 3.5.3 The pipe from the valves to the tundish should be 15mm o/dia minimum. From the tundish to the point of discharge the pipe should be 22mm o/dia minimum and have a resistance to flow equivalent to 9 metres of straight pipe. Long discharge pipe runs should have an increased internal diameter.
- 3.5.4 The pipe material should be capable of conveying water/steam at 100°C.
- 3.5.5 The final discharge point should be in a safe, visible position.

3.6 ELECTRICAL

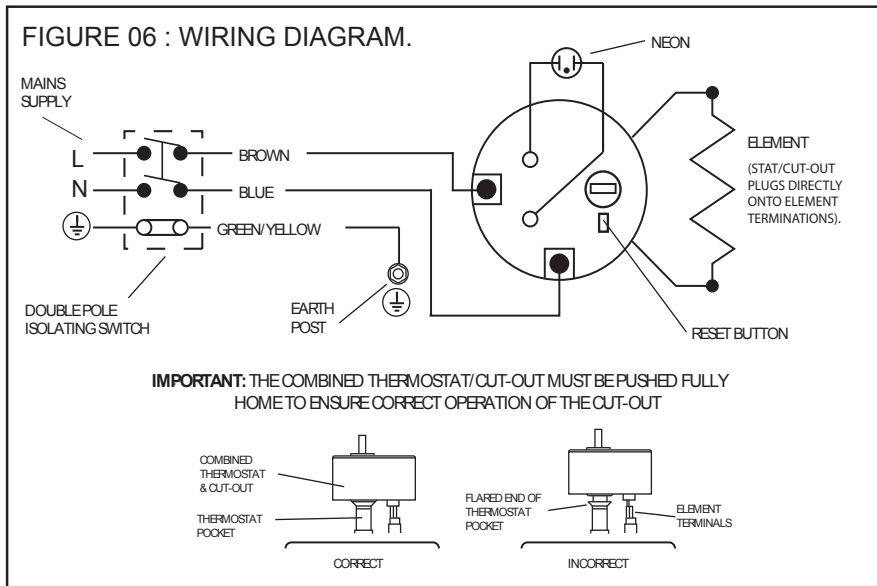
WARNING: This appliance must be earthed. It is suitable for a.c. supply only. Electrical installation must be carried out by a competent electrician and be in accordance with the latest i.e.e wiring regulations.

Ensure the electrical supply is switched off before making any connections to the water heater.

- 3.6.1 The unit is supplied fitted with a 0.75m 3 core 1.5mm² flexible cable. The electricity supply should be fused 13 Amp and be via a double pole isolating switch with a contact separation of at least 3mm in both poles. Refer to the figure 6 below.
- 3.6.2 The wires are colour coded as follows:

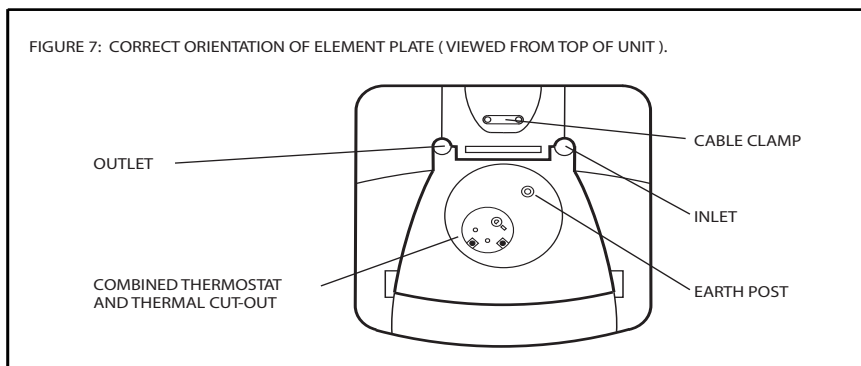
| | | |
|------------------|---------|-----|
| Green and Yellow | EARTH | |
| Brown | LIVE | (L) |
| Blue | NEUTRAL | (N) |





3.7 SETTING THE TEMPERATURE

- 3.7.1 The temperature should be set during installation by the installer.
- 3.7.2 The temperature can be set between the minimum setting (10°C) indicated by a '1' and the maximum setting (70°C) indicated by a '5' by rotating the dial on the thermostat.
- 3.7.3 It is recommended that the temperature is set above 60°C.



4.0 COMMISSIONING

- 4.1 Do not switch on the electrical supply until the unit has been filled with water and checked for leaks.
- 4.2 Check that all installation, electrical and discharge pipe requirements have been met.
- 4.3 Check that all water and electrical connections are tight.
- 4.4 Open a hot water tap, turn on mains water supply to the heater.
- 4.5 Allow unit to fill and leave hot tap running for a short while to purge any air and flush out the pipework. Close the hot tap and check the system for leaks.
- 4.6 Manually test the operation of the Pressure (Expansion) Relief Valve and, if fitted, the Temperature/Pressure Relief Valve. Ensure water flows freely from the valve(s) and through the discharge pipes.
- 4.7 Switch on the electrical supply. The indicator light will illuminate during heating. When the set temperature is reached the indicator light will go out.

5.0 EXPLANATION TO USER

Following Installation and Commissioning of the water heater the operation should be fully explained to the user:

5.1 HOT WATER

1. Indicate the location of the water heater and identify the outlets to which it is connected.
2. Explain that the temperature is set upon installation and confirm the temperature which the water heater is set at.
3. Explain that the indicator light will be illuminated when the unit is heating.

5.2 DISCHARGE

1. Explain that water may drip from the discharge pipe of the pressure relief valves/s and that this pipe must be left open to atmosphere.
2. Explain that if water flows from any safety valve fitted, the electrical supply to the water heater should be switched off immediately. The electrical supply should not be switched on again until the water heater has been checked and approved by a qualified installer.

5.3 SYSTEM MALFUNCTION

1. Explain how to isolate electrical and water supplies in case of a fault.
2. Explain that a qualified plumber and / or electrician should be contacted if there is a fault.
3. Explain how to identify / check basic faults.

5.4 SYSTEM MAINTENANCE

Explain the necessity to carry out regular maintenance of the water heater to ensure it's continued safe and efficient operation.

5.5 LITERATURE

Hand over the Installation and user instructions

6.0 MAINTENANCE

WARNING: Disconnect from all electrical supplies before beginning any work on the water heater. Water contained in the water heater may be very hot!

To ensure the continued safe and efficient operation of the water heater it should be regularly maintained.

In in hard water areas the water heater will require periodic descaling.

Maintenance and servicing should be carried out by a competent person and any replacement parts used should be authorized Santon spare parts.

6.1 RE SETTING THE THERMAL CUTOFF

6.1.1 Switch off and disconnect the electrical supply, turn off the water supply to the unit and remove the terminal cover.

6.1.2 Press the thermal cut out (see figure 7).

NOTE: If the thermal cut out continues to operate check the operation of the thermostat and the element plate assembly.

6.2 DRAINING THE WATER HEATER

6.2.1 Switch off and disconnect the electrical supply. Turn off the water supply to the unit.

6.2.2 Open a hot tap to relieve any system pressure. Disconnect the plumbing connections to the unit and remove (note full weights of units). Empty unit through the outlet connection.

6.2 DESCALING

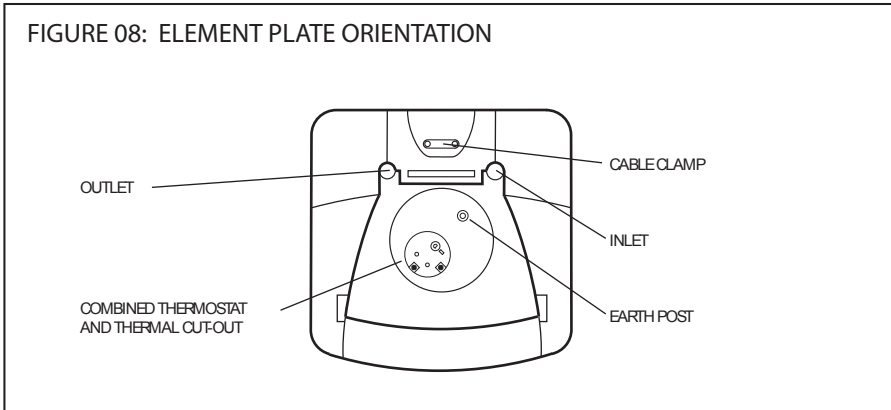
6.3.1 Switch off and disconnect the electrical supply, turn off the water supply to the unit and remove the terminal cover.

6.3.3 Disconnect the electrical terminations to the thermostat. Disconnect earth links to the earthing stud.

6.3.4 Remove the element plate assembly by unscrewing the five securing screws, tapped jacking points are provided. Remove any loose scale from the container. Carefully clean off any scale from the element and thermostat pocket. **DO NOT** clean scale from interior container walls.

6.3.5 Re-fit the element plate assembly using a new sealing gasket. Note the correct orientation of the element plate by reference to Figure 8. Rewire the unit with reference to Figure 6.

- 6.3.6 To refit the cover, locate the hinge at the back. Slide the snaps into place. Apply pressure to the front of the cover pushing back and down until it snaps securely in place.
- 6.3.7 Re-commission the unit following the INSTALLATION and COMMISSIONING instructions.



6.4 SAFETY VALVES

The Pressure (Expansion) Relief Valve and, if fitted, the Temperature/Pressure Relief Valve should be operated regularly to remove lime deposits and to verify that it is not blocked. Manually operate the valves by either twisting the cap or lifting the lever. Ensure water flows freely from the valve(s) and through the discharge pipes. Ensure the valve(s) reseal correctly when released.

6.5 EXPANSION VESSEL PRESSURE

- 6.5.1 The Expansion Vessel, if fitted, should have a precharge pressure of 4.1 bar (60 p.s.i.). This can reduce over time and eventually require re-charging. To do this:
 - 6.5.2 Turn off water supply to the unit; open a hot tap to relieve system pressure.
 - 6.5.3 Remove dust cap from top of Expansion Vessel
 - 6.5.4 Check pre-charge pressure using a tyre pressure gauge. If the pressure is lower than 4.1 bar (60 p.s.i.) it should be recharged using a tyre pump (Schraeder Valve type). **DO NOT OVER CHARGE.**
 - 6.5.5 Re-check pressure and when correct replace dust cap.
 - 6.5.6 Turn on mains water supply and close hot tap.

6.6 SUPPLY CORD

If the supply cord is damaged the water heater should be switched off until the supply cord can be replaced by a competent electrician or a Heateam Engineer in order to avoid a hazard.

7.0 FAULT FINDING

WARNING: Disconnect from all electrical supplies before beginning any work on the water heater. Water contained in the water heater may be very hot!

The water heater should give trouble free operation, however should a problem occur, the tables below should enable most faults to be identified with ease.

Fault Finding should be carried out by a competent person and any replacement parts used should be authorised Santon spare parts.

| FAULT | POSSIBLE CAUSES | ACTION |
|---|---|--|
| Water not heating | 1. Electrical supply fault | 1. Check electrical supply |
| | 2. Thermal cut-out tripped | 2. Check cut-out, if operated reset and check thermostat operation. If necessary replace thermostat/thermal cut-out (see Wiring Diagram, page 8) |
| | 3. Thermostat fault | 3. Check thermostat operation, replace if necessary |
| Discharge of water from Pressure Relief Valve (continuously) | Excessive mains water pressure | Fit Pressure Reducing Valve Pack U1 and U2 (see IMPORTANT INSTALLATION POINTS, page 4) |
| Discharge of water from Pressure Relief Valve (intermittently) | 1. Expansion in mains not possible | 1. Fit Pack U2 (see IMPORTANT INSTALLATION POINTS, page 4) |
| | 2. Mains pressure exceeds 4.1 bar (60 p.s.i.) | 2. Fit Packs U1 and U2 |
| | 3. Pack U1 fitted without Pack U2 | 3. Fit Pack U2 when using Pack U1 |
| | 4. Pressure Relief Valve Fault | 4. Replace Pressure Relief Valve |
| | 5. Loss of pressure from Expansion Vessel | 5. Check and, if necessary, re-charge Expansion Vessel pre-charge pressure (see Section 6.5) |
| Discharge of water from Temperature/Pressure Relief Valve and or water/steam from Pressure Relief Valve | Thermostat and thermal cut-out fault | Replace thermostat and thermal cut-out |
| No water flow | 1. Inlet valves incorrectly fitted | 1. Check all valves are correctly installed in accordance with flow direction arrows |
| | 2. Mains water supply not turned on | 2. Check mains water supply is on |
| | 3. Blockage in mains water supply | 3. Check for obstructions. If Pack U1 is fitted check the strainer is not blocked |
| "Milky" water | Oxygenated water | Water from a pressurised system releases oxygen bubbles when flowing. The milkiness will disappear after a short while. |

8.0 SPARE PARTS

WARNING: Disconnect from all electrical supplies before beginning any work on the water heater. Water contained in the water heater may be very hot!

To ensure the continued safe and efficient operation of the water heater it should be regularly maintained.

Maintenance and servicing should be carried out by a competent person and any replacement parts used should be authorized Santon spare parts.

| DESCRIPTION | CODE No. |
|---|------------|
| Element plate assembly - 7 litre 2.2kW | 95 606 939 |
| Element plate assembly - 10 litre 2.2kW | 95 606 940 |
| Element plate assembly - 15 litre 2.2kW | 95 606 950 |
| Combined thermostat/thermal cut-out | 95 612 687 |
| Indicator light | 95 607 992 |
| Element plate gasket | 95 611 708 |
| Pressure (Expansion) Relief Valve | 95 607 986 |
| Temperature/Pressure Relief Valve | 95 605 854 |
| Top cover moulding (7&10 litre) | 95 614 272 |
| Top cover moulding (15 litre) | 95 614 276 |
| Terminal cover (7&10 litre) | 95 614 274 |
| Terminal cover (15 litre) | 95 614 275 |

9.0 ACCESSORIES

The heater can be used to supply several hot water outlets via conventional taps. It is not recommended for supplying a shower. Individual site demands should be considered when choosing capacity and the number of outlets to be served.

A Thermostatic Mixing Valve can be used in conjunction with this unit. Accessory Pack ALK03 (94970010) is recommended. Follow the installation instructions supplied with the valve for connection to the system.



10.0 GUARANTEE

This product is guaranteed against faulty materials and manufacture for a period of 2 years from the date of purchase provided that:

1. The unit has been installed in accordance with the Installation and User Instructions and all relevant Codes of Practice and Regulations in force at the time of installation, and that all necessary controls and safety valves have been fitted correctly.
2. Any valves and controls are of the Santon recommended type and specification.
3. The unit has not been modified or tampered with in any way, and has been regularly maintained as detailed in the Installation and User Instructions.
4. The unit has been used only for heating potable water.

The unit is not guaranteed against damage by frost, and the inner container with integral immersion heater is not guaranteed against excessive scale build-up.

This Guarantee in no way affects the statutory rights of the consumer.

The policy of Santon is one of continuous product development and, as such, we reserve the right to change specifications without notice.

11.0 ENVIRONMENTAL INFORMATION

Santon products are manufactured from many recyclable materials.

At the end of their useful life they should be disposed of at a Local Authority Recycling Centre in order to realise the full environmental benefits. Insulation is by means of CFC-free polyurethane foam.

This water heater does not contain substances harmful to health; it does not contain any asbestos.



12.0 SPARES STOCKISTS

For the fast and efficient supply of spares, please contact the stockists listed below:

Electric Water Heating Co.
2 Horsecroft Place, Pinnacles,
Harlow, Essex CM19 5BT
Tel: 01845 055 3811
E-mail: sales@ewh.co.uk

SPD
Units 9 & 10 Hexagon Business Centre
Springfield Road, Hayes
Middlesex, UB4 0TY
Tel: 020 8606 3567

Parts Center
Tel: 0344 292 7057
www.partscenter.co.uk

Newey & Eyre
Unit 3 - 5 Wassage Way
Hampton Lovett Ind. Estate
Droitwich, Worcestershire WR9 0NX
Tel: 01905 791500
Fax: 01905 791501

UK Spares Ltd.
Unit 1155 Aztec West
Almsbury Bristol, BS32 4TF
Tel: 01454 620500

Alternatively, contact your local supplying merchant or wholesale branch or use our online stockist finder at www.interpartspares.co.uk

SANTON

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