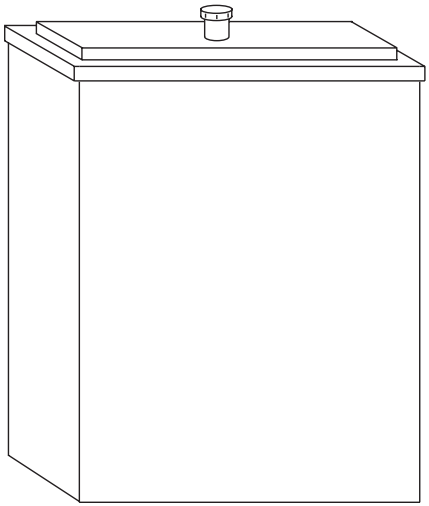
SANTON

Installation and User Instructions
Rectangular Combination Water Heaters
Models: R25, R45, R70, R115



PACK CONTENTS

Heater, Float Valve & Arm, Float, Overflow Fitting, Dip Tube, Screened Breather, Wall Mounting Collars & Installation and User Instructions.

WARNING

This water heater must only be installed by qualified persons.

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

SY0019200 Revision 6.

INTRODUCTION

The R Series units are designed to supply hot water for handwashing, dishwashing and general purposes to cloakrooms, canteens and kitchen areas. Containing an integral cold water cistern, they are ideal for installations where the cold feed is from the mains supply but an unvented situation is impractical.

Please read and understand these instructions prior to installing your R Series vented water heater. Particular attention should be paid to the section headed **IMPORTANT INSTALLATION POINTS**. Following installation and commissioning the operation of the heater should be explained to the customer and these instructions left with them for future reference.

TECHNICAL SPECIFICATION

Electrical rating -
2.8 kW @ 230V
3.0 kW @ 240V

Maximum inlet pressure
1 MPa (10 bar)(145psi)

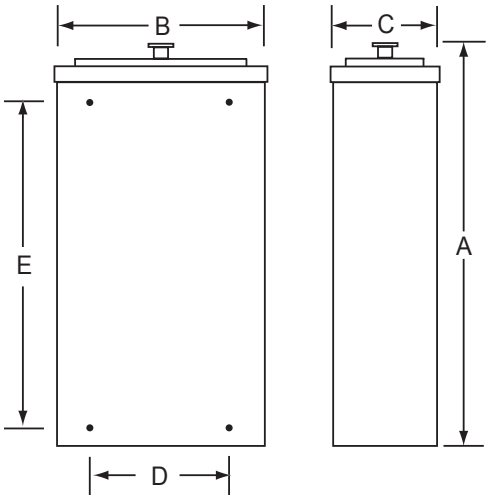


Table 1

Model	Capacities (litres)		Dimensions (mm)					Weights (kg)	
	Hot Tank	Cistern Tank	A	B	C	D	E	Empty	Full
R25	25	4.5	880	452	215	307	680	15	45
R45	45	8	846	610	290	410	647	21	74
R70	70	8	1055	610	290	410	856	25	103
R115	115	8	1011	610	445	410	817	30	153

1.0 IMPORTANT INSTALLATION POINTS

1.1 Ensure that the wall or supporting structure is of adequate strength to support the heater. (Refer to table 1.)

1.2 The Water Regulations require a minimum of 350 mm unobstructed space above the heater lid to allow the float valve to be replaced. However, a space of 200 mm is sufficient to replace the R Series float valve.

1.3 The base of the heater MUST be level with, or higher than, the highest draw off point. (Refer to figure1)

1.4 To meet the requirements of the Water Supply (Water Fittings) Regulations 1999, Water Byelaws 2000 Scotland and the Water Regulations Northern Ireland:

1. A servicing valve shall be installed on the inlet pipe adjacent to the storage cistern. Schedule 2 - Section 16(2).

2 . A servicing valve shall be installed on the outlet pipe. Schedule 2 - Section 16(3).

2.0 INSTALLATION - GENERAL REQUIREMENTS

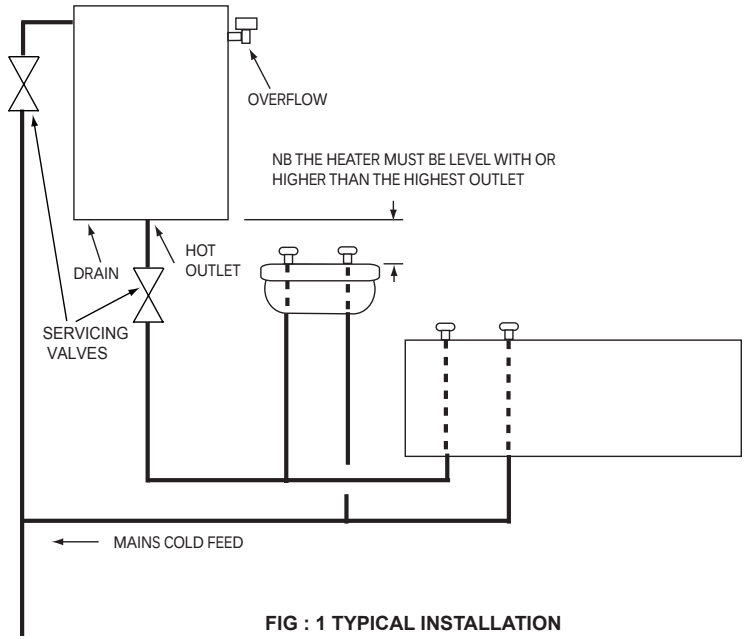


FIG : 1 TYPICAL INSTALLATION

2.1 Decide on the best position for the heater taking account of paragraphs 1.2 and 1.3 and inlet and outlet connections. The float valve and overflow assembly can be fitted on either side of the heater.

2.2 Using the template provided mark the position of the top two fixing holes. Before drilling the wall ensure there are no hidden services such as water, gas or electrical cables embedded in the area of the wall to be drilled.

2.3 10mm wall fixings are recommended
These are not supplied
Drill the wall and insert the two top wall fixings. Assemble the spacing collars as shown in figure 2. Locate the heater onto the spacing collars and mark the bottom fixing holes. Remove the heater, drill the wall and fit the bottom wall fixings.

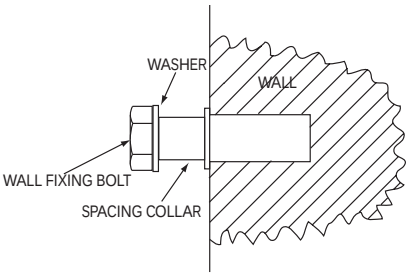


FIG 2 : HEATER FIXING DETAILS

2.4 Fit the float valve complete with float, to the cistern tank.The float valve is fitted with a white seating which is suitable for inlet pressures from 1bar to 10 bar. If the pressure is below 1 bar the seating must be swapped with the red seating attached to the float valve arm. Access to the seating is obtained by undoing the small plastic nut. (Refer to figure 3.)

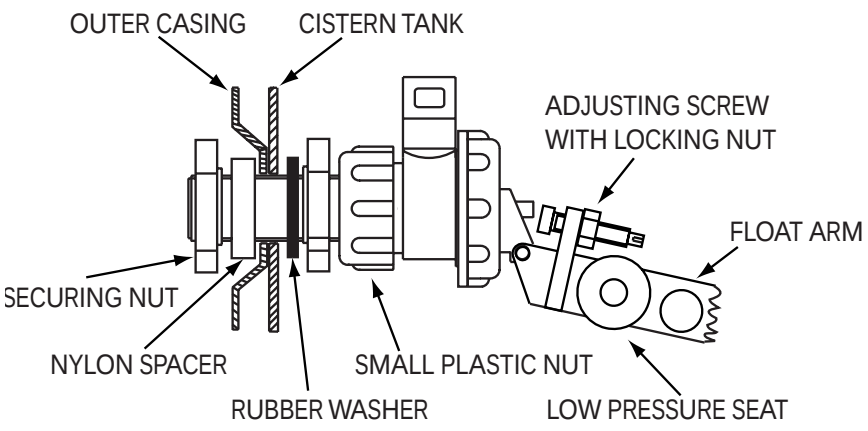


FIG 3 : FLOAT VALVE - FITTING

2.5 Fit the overflow fitting complete with dip tube. (Refer to figure 4.) Fit the blanking plugs in the unused holes.

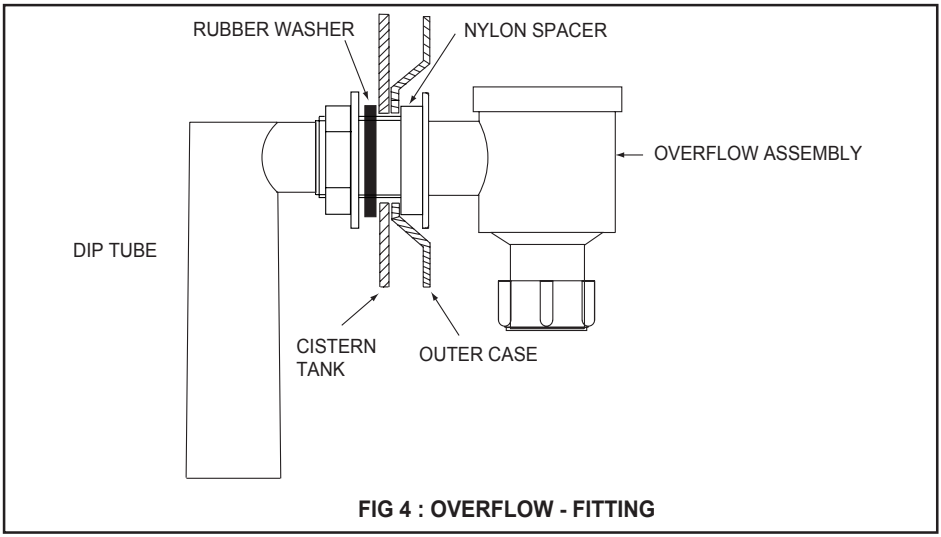


FIG 4 : OVERFLOW - FITTING

2.6 Make the electrical connection to the heater and set the controls. **Do not switch on**. See section 3.

2.7 Fit a straight 3/4" BSP female to 22mm compression fitting to the 3/4" BSP outlet boss.

2.8 Locate the heater onto the top fixing collars. Fit the two bottom fixings and tighten.

2.9 Connect the heater outlet to the services. Ensure the outlet fitting is supported during assembly to prevent unnecessary stress on the tank. When plumbing ensure that connecting pipework leaves adequate clearance for the removal of the immersion heater. Fit an isolating valve close to the heater outlet. This enables terminal fittings to be changed without draining the heater down.

2.10 Connect the mains water supply to the float operated valve using 15mm o/d pipe. NB the float valve connection is a flat face with a 1/2" BSP male thread. Fit a female 1/2" BSP to 15mm copper tap coupling to the float valve. A servicing valve must be fitted in the 15mm supply pipe close to the cistern to enable the unit to be isolated for servicing.

2.11 Connect the overflow pipe. The connection for the overflow pipe is 22 mm compression for a 22mm o/d pipe. The overflow pipe must be laid in a continuous fall and end in a safe, visible position.

2.12 Fit the washer to the screened breather, insert the screened breather into the hole in the lid and secure with the plastic nut on the underside of the lid.

3.0 INSTALLATION - ELECTRICAL REQUIREMENTS

WARNING: This appliance must be earthed.

It is suitable for 230/240V a.c. supply only.

Installation must be in accordance with BS 78671, Requirements for Electrical Installations (I.E.E. Wiring Regulations.)

3.1 The electrical supply should be fused at 13 A and be via a readily accessible double pole isolating switch with a contact separation of at least 3mm in both poles.

3.2 The connection between the heater and the connection point should be made with heat resisting (85°C) cable with a minimum cross sectional area of 1.5 mm^2

3.3 Remove the terminal cover on the bottom of the unit by removing the four screws. Check and adjust the thermostat and thermal cut-out. See "TEMPERATURE SETTINGS".

3.4 Strip the outer sheath of the cable and the insulation of the conductors to the required lengths, ensuring that the outer sheath will be held in the cable grip in the cover when the connections are made. Slacken off the the cable grip screws and thread the cable through the grip..

3.3 Remove the terminal cover on the bottom of the unit by removing the four screws. Check and adjust the thermostat and thermal cut-out. See "TEMPERATURE SETTINGS".

3.4 Strip the outer sheath of the cable and the insulation of the conductors to the required lengths, ensuring that the outer sheath will be held in the cable grip in the cover when the connections are made. Slacken off the the cable grip screws and thread the cable through the grip..

3.5 Connect the brown (or red) conductor to the thermostat.(T)
Connect the blue (or black) conductor to the neutral element teminal (N)
Connect the green/yellow (or green) conductor to the stud marked ⏚. } Refer to figure 5

3.6 Fit the terminal cover and tighten the cable grip screws.

3.7 After fitting the heater to the wall, **ensure the electrical supply is off.** Connect the supply cable to the connection point.

DO NOT SWITCH ON THE ELECTRICAL SUPPLY UNTIL WATER FLOWS FROM THE HOT TAP.

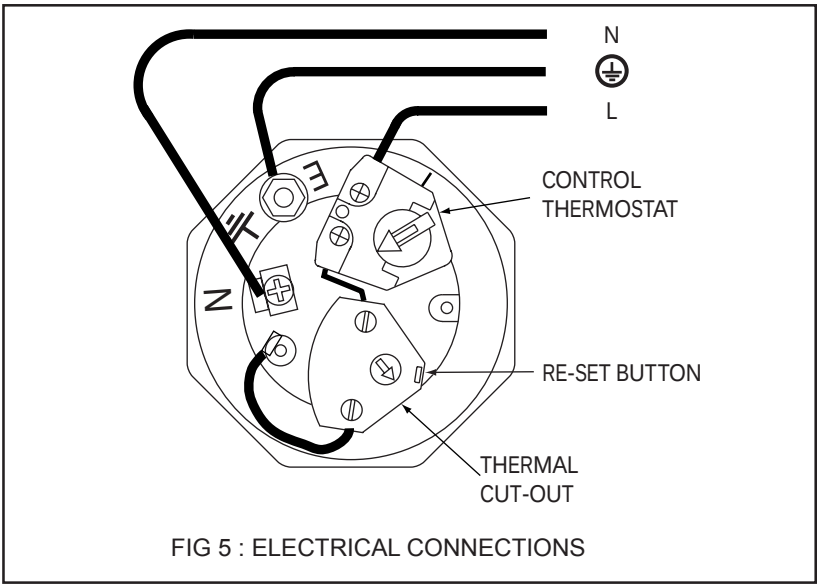


FIG 5 : ELECTRICAL CONNECTIONS

4.0 TEMPERATURE SETTINGS

Control Thermostat :
The heater is fitted with an adjustable Cotherm TSD 01105 rod type thermostat. This does not have a calibrated scale. The minimum setting (approximately18°C) is indicated by "-" and the maximum settting (approximately 70°C) by "+". It is recommended that the thermostat is set by turning to the maximum setting, and then turning back by an angle of 45° (one eighth of a turn).
Settings above 60°C are not recommended.

Thermal Cut-out
The heater is fitted with a manually re-settable thermal cut-out which will interupt the power to the element in the event of overheating . In the event of the thermal cut-out operating it is re-set by pressing the re-set button (refer to figure 5) after checking the thermostat. See section 8.
The thermal cut-out has a calibrated scale and should be set 15°C above the control thermostat setting, **but not above 85°C**.

5.0 COMMISSIONING

5.1 Do not switch on the electrical supply until the unit has been filled with water and checked for leaks.

5.2 Ensure the isolating valve on the outlet is open and that all the taps connected to the outlet are closed.

5.3 Check the cold feed and vent pipe are free from obstruction. (Refer to figure 6).

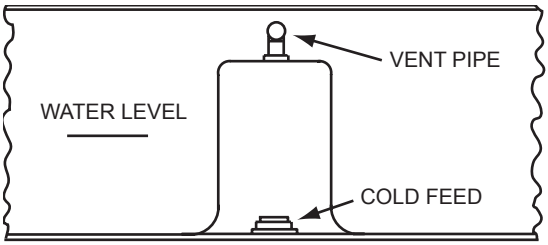


FIG 6 : INSIDE CISTERN TANK

5.4 Open the isolating valve on the inlet. Open a hot water tap on the outlet, turn on mains water supply to the heater.

5.5 Allow unit to fill and run the hot tap for a short while to purge any air and flush out the pipework. Close the hot tap.

5.6 When the float valve has shut off check the level of water in the cistern tank and adjust as necessary.

5.7 Check the installation for leaks.

5.8 Fit the lid and secure with the four screws provided.

5.9 Turn on the electrical supply.

Table 2 - Approximate heat up times with an inlet temperature of 10°C and a thermostat setting of 60°C.

Capacity (litres)	25	45	70	115
Heat Up time (minutes)	30	50	80	135

6.0 MAINTENANCE - HEATING ELEMENT REPLACEMENT

6.1 Isolate the unit from the electrical supply.

6.2 Check the water temperature from a hot tap, and run until cold.

6.3 Turn off the water supply to the unit at the servicing valve.

6.4 Drain the unit by opening a outlet hot tap and removing the drain nut on the underside. Take care as the water from the drain pipe may be very hot.

6.5 Slacken off the cable grip screws in the terminal cover; remove the four fixing screws and remove the terminal cover.

6.6 Disconnect the supply cable from the heating element and unscrew the immersion heater.

6.7 Check the settings of the thermostat and thermal cut-out on the new immersion heater.

6.8 Re-assemble in reverse order, taking care to use the new gasket but do not fit the terminal cover.

6.9 Refit the drain nut and turn on the water. Check for leaks.

6.10 Refit the terminal cover.

6.11 When water runs from the hot tap, close the tap and turn on the electrical supply.

7.0 SPARE PARTS

The following spare parts are available for your Santon water heater. Please refer to the Rating Label on the bottom of your heater before ordering to ensure the correct spare part is obtained.

IMPORTANT NOTE

On all heaters installed outside the UK it is essential to quote all the model details on the rating label especially voltage and kW rating.

DO NOT REPLACE WITH PARTS NOT RECOMMENDED BY SANTON - THIS WILL INVALIDATE YOUR GUARANTEE AND MAY RENDER THE INSTALLATION DANGEROUS.

DESCRIPTION	CODE NO.
Immersion heater	EY311E
Gasket	S278
Thermal cut-out	S687
Feed Pan Cover 25 litre	S3408
Feed Pan Cover 45 litre & 70 litre	S3409
Feed Pan Cover 115 litre	S3411
Bylaw 30 Kit	S3412
Float Valve Assembly	S5512
Control Thermostat	95980025

NOTE: Use only Santon approved spare parts. Replacement of any parts with components not recommended by Santon will invalidate the guarantee and may render the installation dangerous.

8.0 FAULT FINDING

Disconnect the electrical supply before removing the terminal cover. It is recommended that any service operations on this Santon heater are carried out by a competent person.

FAULT	POSSIBLE CAUSES	ACTION
Water not heating	1. Electrical supply fault.	1. Check switches closed. 2. Check fuses/MCB. If blown/tripped identify cause and and rectify before replacing/re-setting. 3. Check supply cord not damaged.
	2. Thermal cut-out tripped.	2. Check cut-out. If operated, reset and check thermostat for failure in the closed position or too high a setting. See section 3.0 If necessary replace thermostat/thermal cut-out .
	3. Element failure.	3. Replace element. See section 6
	4. Thermostat faulty - open circuit.	4. Check thermostat for failure open circuit, replace if necessary.
Water too hot	1. Thermostat set too high.	1. Check thermostat setting.

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 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.

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.

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