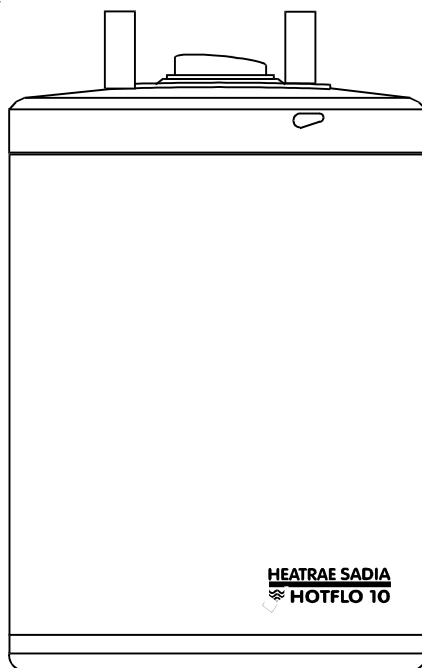


HEATRAE SADIA

The quality name in water heating

Installation and User Instructions
for the
HOTFLO

10 and 15 litre Unvented Water Heaters



Please read and understand these instructions before starting work.

Please leave this leaflet with the user following installation

36 00 5719 Issue 3

HOTFLO

Please read and understand these instructions prior to installing your Hotflo unvented 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 SPECIFICATIONS

| | |
|---|----------------------|
| Electrical rating | 2.0/2.2kW 230/240V ~ |
| Capacities | 10 or 15 litres |
| Weight (full) | 10 litre - 16.5kg |
| | 15 litre - 23.4kg |
| Rated pressure | 6 bar |
| Minimum recommended supply pressure | 0.8 bar |
| Temperature/Pressure Relief Valve | 90°C/7 bar |

1.0 IMPORTANT INSTALLATION POINTS

- 1.1** The Hotflo 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**
- 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 Diagram 1 for expansion pipe lengths).
- N.B. 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.).**
- 1.3** If any of the conditions in 1.2 above cannot be met expansion must be accommodated using an Expansion Vessel. To ensure all expansion takes place in the vessel a Check Valve **must** also be fitted (see Diagram 2). Use Accessory Pack U5 code no. 95 970 356.
- 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 Diagram 3). Use Accessory Packs U1 and U5 code no.'s 95 970 352 and 95 970 356.
- 1.5** Where specifications demand the fitting of a Temperature/Pressure Relief Valve one can be fitted on site (see Diagram 4). Use Accessory Pack U6 code no. 95 970 359. **NOTE** the fitting of Pack U6 does not alter the requirements detailed in points 1.1 to 1.4 above.

WARNING: IF WATER FLOWS FROM THE PRESSURE RELIEF VALVE OR TEMPERATURE/PRESSURE RELIEF VALVE THE ELECTRICITY SUPPLY MUST BE SWITCHED OFF IMMEDIATELY. CONTACT THE HEATRAE SADIA SERVICE TEAM (Tel: 01603 420330) OR AN APPROVED INSTALLER.

Diagram 1 For inlet pressures up to 4.1 bar (60 p.s.i.)

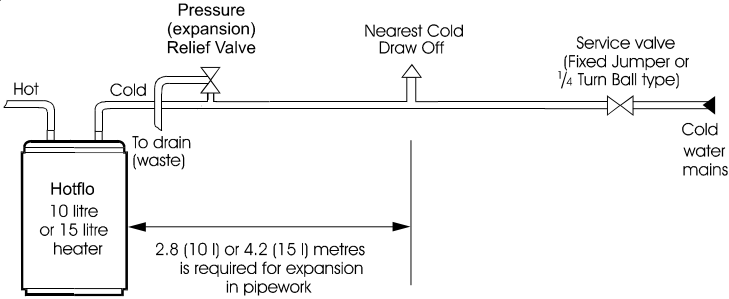


Diagram 2 For inlet pressures up to 4.1 bar (60 p.s.i.) where expansion in main supply is not possible

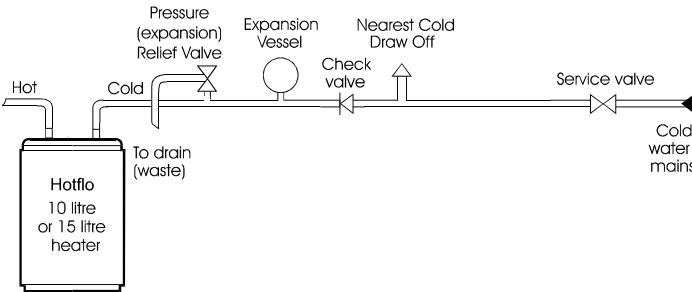
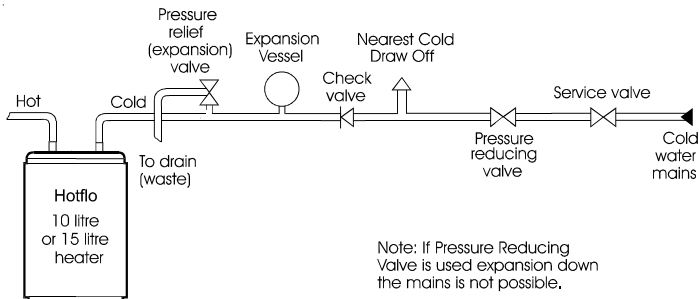


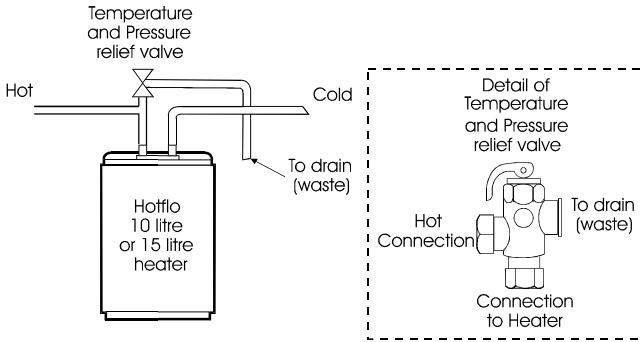
Diagram 3 For inlet water pressures above 4.1 bar (60 p.s.i.)



Note: If Pressure Reducing Valve is used expansion down the mains is not possible.

Diagram 4 Temperature/Pressure Relief Valve

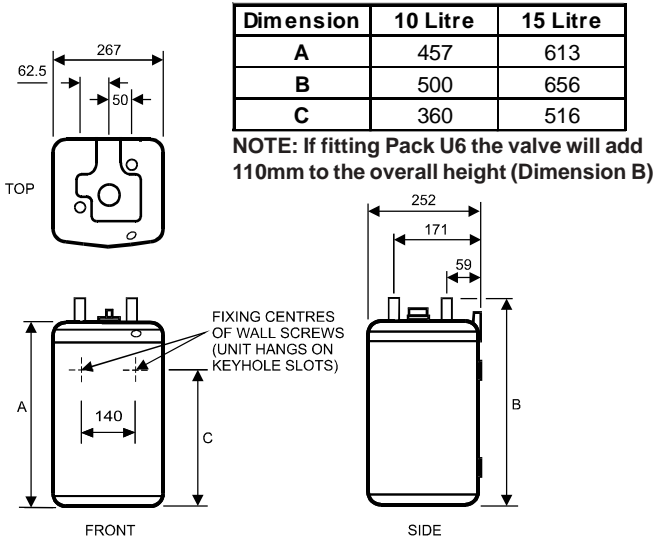
NOTE: The fitting of Pack U6 **does not** alter the requirements detailed in Points 1.1 to 1.4 (Diagrams 1 to 3)



2.0 INSTALLATION - GENERAL REQUIREMENTS:

- 2.1 National Wiring rules may contain restrictions concerning the installation of these units in bathrooms.
- 2.2 The unit should be vertically wall mounted using the fixing points provided. Alternatively it can be floor mounted on its base. The water connections must always be to the top of the unit.
- 2.3 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 Diagram 5 and the Dimensions Table to determine a suitable position for the heater.
- 2.4 **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.
- 2.5 The unit should be fixed to the wall using No. 12 screws into suitable wall plugs.
- 2.6 **DO NOT** install where the unit may freeze.
- 2.7 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 1 to 4.
- 2.8 The water connections are 15mm diameter copper tubes suitable for compression fittings. Do not use solder joints as this will damage the heater.
- 2.9 The **INLET** is marked **BLUE**, the **OUTLET** is marked **RED**. It is recommended that a WBS Listed isolating valve be fitted on the cold water supply to the heater. Several hot outlets can be served.
- 2.10 Plumbers Paste must not be used as it can impair the operation of the valves.

Diagram 5



3.0 INSTALLATION - ELECTRICAL REQUIREMENTS

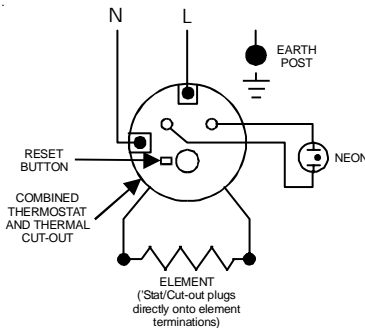
WARNING: This appliance must be earthed. It is suitable for a.c. supply only. Disconnect the electrical supply before removing the terminal cover. Installation must be in accordance with the current I.E.E. Wiring Regulations.

3.1 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 schematic wiring diagram below.

3.2 The wires are colour coded as follows:

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

Wiring Diagram



4.0 INSTALLATION - DISCHARGE PIPE REQUIREMENTS

- 4.1 The discharge outlet from the Pressure (expansion) Relief Valve and, where fitted, the Temperature/Pressure Relief Valve must be connected to a discharge pipe. It is recommended that a tundish be installed in the discharge pipe to give a visible indication that the valves are operating.
- 4.2 The discharge pipe must fall continuously from the valve outlets and be unobstructed.
- 4.3 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.
- 4.4 The pipe material should be capable of conveying water/steam at 100°C.
- 4.5 The final discharge point should be in a safe, visible position.

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 Check that all installation, electrical and discharge pipe requirements have been met.
- 5.3 Check that all water and electrical connections are tight.
- 5.4 Open a hot water tap, turn on mains water supply to the heater.
- 5.5 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.
- 5.6 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.
- 5.7 Switch on the electrical supply. The indicator light will illuminate during heating. When the set temperature is reached the indicator light will go out.
- 5.8 The set temperature can be adjusted by rotating the knob located in the terminal cover.

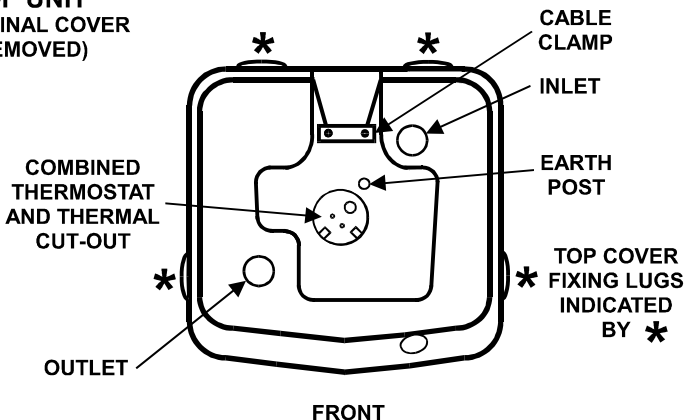
6.0 MAINTENANCE

Little maintenance is required, however if an element failure occurs the inner container of the unit must be replaced. To do this:

- 6.1 Switch off and disconnect the electrical supply. Turn off the water supply to the unit.
- 6.2 Open a hot tap to relieve any system pressure. Disconnect the plumbing connections to the unit and remove from the wall hanging screws (note full weights of units). Empty unit through the outlet connection.
- 6.3 Remove the terminal cover by using a large flat bladed screwdriver to depress the 3 snap lugs located in the top 3 rectangular depressions.
- 6.4 Remove the plastic disc from the thermostat spindle. Remove the insulating pad from the terminal housing. Disconnect the electrical terminations to the thermostat. Disconnect earth links to the earthing stud.
- 6.5 Remove the thermostat by pulling it vertically upwards.
- 6.6 Remove the top cover by gently prising the four lugs (indicated by the raised features on the edge of the cover, one on each side and two at the back, see Diagram 6 below) away from the body using a large flat bladed screwdriver. Remove earth link from the earthing tab and gently bend the earthing tab to a vertical position.

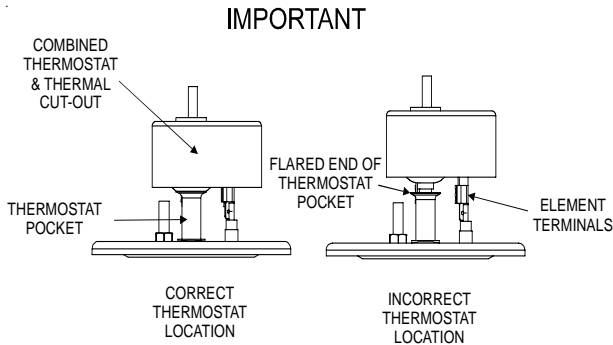
Diagram 6

VIEW ON TOP
OF UNIT
(TERMINAL COVER
REMOVED)



- 6.7 Lift the inner container out with the top insulation section. Put the insulation to one side. Please Note: the inner container is manufactured from recyclable materials, dispose of the old container at a Local Authority Recycling Centre. Insert the new inner container assembly ensuring it is in the correct orientation (refer to Diagram 6). Replace the top insulation section, earth link and top cover.
- 6.8 Replace the thermostat ensuring it is pushed fully home onto the terminals of the element and sits on the flared end of the thermostat pocket (see Diagram 7). Refit the insulating pad and plastic disc to ensure the correct operation of the thermostat. Re-wire referring to the Wiring Diagram.
- 6.9 Replace the terminal cover and re-commission the unit following the INSTALLATION and COMMISSIONING instructions.

Diagram 7 Correct location of combined thermostat and cut-out



7.0 MAINTENANCE - SAFETY VALVES

The Pressure (expansion) Relief Valve and, if fitted, the Temperature/Pressure Relief Valve should be regularly checked. 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) reseat correctly when released.

8.0 MAINTENANCE - EXPANSION VESSEL PRECHARGE PRESSURE

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:

- 8.1 Turn off water supply to the unit; open a hot tap to relieve system pressure.
- 8.2 Remove dust cap from top of Expansion Vessel
- 8.3 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.**
- 8.4 Re-check pressure and when correct replace dust cap.
- 8.5 Turn on mains water supply and close hot tap.

9.0 SPARE PARTS

The following comprehensive list of spare parts is available for your Hotflo water heater. Please refer to the Rating Label on the side of your heater before ordering to ensure the correct spare part is obtained.

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

| DESCRIPTION | CODE NO. |
|---|-----------------|
| Inner container 10 litre | 95 608 916 |
| Inner container 15 litre | 95 608 917 |
| Combined thermostat/thermal cut-out | 95 612 633 |
| Indicator light | 95 607 992 |
| Pressure (expansion) Relief Valve | 95 607 986 |
| Temperature/Pressure Relief Valve | 95 970 359 |
| Check Valve | 95 607 987 |
| Expansion Vessel | 95 607 988 |
| Pressure Reducing Valve | 95 607 989 |
| Top cover moulding | 95 614 186 |
| Terminal cover c/w thermostat knob | 95 614 182 |

10.0 FAULT FINDING

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

| 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) |
| | 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) |
| Discharge of water from Pressure Relief Valve (intermittently) | 1. Expansion in mains not possible | 1. Fit Pack U2 (see IMPORTANT INSTALLATION POINTS) |
| | 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 8.0) |
| 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. |

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

11.0 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 Blending Valve can be used in conjunction with this unit. Accessory Pack U3 (code no. 95 970 354) is recommended. Follow the installation instructions supplied with the valve for connection to the system.

12.0 USER INSTRUCTIONS

12.1 The Hotflo unvented heater stores water at the temperature set on the adjustable thermostat. This can be set to give temperatures in the range of 10 to 70° C. To avoid any risk of freezing when the heater is not in use for long periods during the winter months, do not switch off the electrical supply and set the thermostat to its minimum position. N.B. This will not protect other system pipework.

12.2 The indicator light will be illuminated when the unit is heating.

12.3 To ensure the heater continues to operate at its optimum performance it should be periodically maintained in accordance with the instructions given under the Sections headed MAINTENANCE.

12.4 IMPORTANT NOTES TO USER

Do not block or restrict the discharge from any safety valve fitted.

Do not tamper with any safety valve fitted.

If water discharges from any safety valve fitted, switch off the electrical supply to the unit immediately. Contact the Heatrae Sadia Service Team (Tel: 01603 420330) or an approved installer. Do not turn the electrical supply on again until the unit has been checked and approved by a qualified installer.

GUARANTEE

This water heater is guaranteed for a period of two years from the date of purchase provided:

1. The unit has been installed in accordance with these instructions and all necessary inlet controls and safety valves have been fitted correctly.
2. Any valves or controls are of Heatrae Sadia recommended type.
3. The unit has not been tampered with and has been regularly maintained as detailed in these instructions.
4. The unit has been used only for heating potable water.
5. Within 60 days of installation, the user completes and returns the certificate supplied along with proof of purchase to register the product.

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 does not affect the statutory rights of the consumer.

ENVIRONMENTAL INFORMATION

This product is manufactured from many recyclable materials. At the end of its useful life it should be disposed of at a Local Authority Recycling Centre to realise the full environmental benefits.

HEATRAE SADIA HEATING LIMITED

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