

# MULTIPOINT 75 / 100

## Fitting Instructions and User Guide

## INTRODUCTION

Thank you for purchasing a Heatrae Sadia Multipoint 75 / 100 unvented water heater. The Multipoint water heater is manufactured in the UK to the highest standards and has been designed to meet all the latest relevant safety specifications.

To make installation quicker and easier the Multipoint 75 / 100 water heaters incorporate an internal check valve, Expansion relief valve, expansion vessel and factory fitted temperature / pressure relief valves.

Please read and understand these instructions before installing your Multipoint water heater. Particular attention should be paid to the section headed IMPORTANT INSTALLATION POINTS.

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

The Multipoint unit is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.

Children should be supervised to ensure they do not play with the Multipoint unit.

The Multipoint unit does not contain any substances harmful to health; it does not contain any asbestos.

## TECHNICAL SPECIFICATIONS

Electrical Rating	3.0kW @ 240v / 2.8kW @ 230v 6.0kW @ 240v / 5.5kW @ 230v
Capacity	75 and 100 litres
Weight (100 Litre)	50Kg (empty), 160Kg (full)
Weight (75 Litre)	38Kg (empty), 123Kg (full)
Operating pressure	0.35 MPa (3.5 bar)
Rated pressure	0.6 MPa (6.0 bar)
Expansion vessel charge pressure	0.35 MPa (3.5 bar)
Expansion relief valve setting	0.6 MPa (6.0 bar)
Minimum supply pressure	0.08 MPa (0.8 bar)
Maximum supply pressure to PRV	1.6 MPa (16.0 bar)
Temperature / Pressure Relief Valve	90°C / 0.7 MPa (7.0 bar)

## PERFORMANCE

Model	Heat up (minutes)	Recovery (minutes)	Heat loss in 24hr (kWh)
75 litre 3kW	88	62 (cylinder one) 88 (cylinder two)	1.13
75 litre 6kW	44	31 (cylinder one) 44 (cylinder two)	1.13
100 litre 3kW	120	84 (cylinder one) 120 (cylinder two)	1.27
100 litre 6kW	60	42 (cylinder one) 60 (cylinder two)	1.27

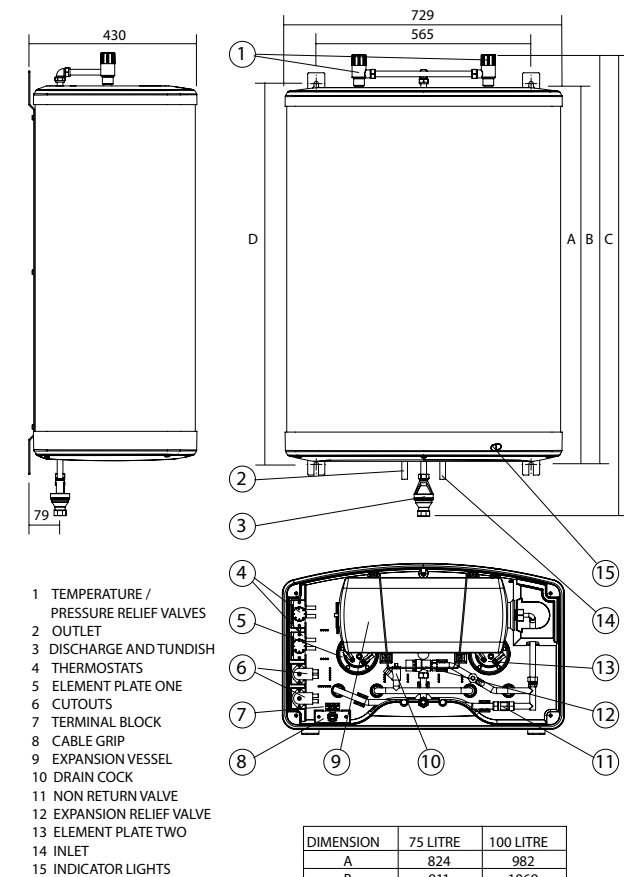


Figure1: Multipoint Water Heater - Dimensions and Important Features

## COMPONENT CHECKLIST

Before commencing installation please check that the following components have been supplied in the Installation Kit:

- Combined pressure reducing valve and strainer (x1)
- Tundish (x1)
- Mounting brackets (x2)
- Mounting bracket fixing bolts (x6)

## 1.0 IMPORTANT INSTALLATION POINTS

- 1.1 The Multipoint unvented water heater is factory fitted with two Temperature/Pressure Relief Valves which must not be removed, blocked or restricted in any way.
- 1.2 Expansion MUST be accommodated within the system. The Multipoint 75/100 incorporates an expansion vessel and check valve for this purpose.
- 1.3 The Multipoint water heater must be installed by a competent installer in accordance with Building Regulation G3 (England and Wales), Technical Standard P3 (Scotland) or Building Regulation P5 (Northern Ireland).

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

**WARNING: IF WATER FLOWS FREELY FROM THE PRESSURE RELIEF VALVE OR THE TEMPERATURE/PRESSURE RELIEF VALVES, THE ELECTRICITY SUPPLY MUST BE SWITCHED OFF IMMEDIATELY. CONTACT THE HEATRAE SADIA SERVICE TEAM**

## 2.0 GENERAL REQUIREMENTS:

- 2.1 The Multipoint must be vertically wall mounted using the wall bracket supplied. The water connections must always be at the bottom of the unit.
- 2.2 Enough space should be left below the unit for pipe connections and above the unit for access to the Temperature/Pressure Relief Valves (400 mm minimum). Refer to Figure 1 and the Dimensions Table to determine a suitable position for the heater.
- 2.3 Ensure that the wall can support the full weight of the unit and that there are no hidden services (electricity, gas or water) below the surface of the wall.
- 2.4 DO NOT install where the unit may freeze.
- 2.5 National Wiring Rules may contain restrictions concerning the installation of these units in bathrooms.

## 3.0 WALL MOUNTING

- 3.1 Fit the heater wall brackets to the rear of the unit using the bolts provided (see Figure 2, step 1 below).
- 3.2 Using Figure 1 and the dimensions table as a guide mark the positions of the fixing points. Drill and plug the wall with suitable fixings.
- 3.3 Fix the top two fixings first (Figure 2 step 2) followed by the bottom two fixings (Figure 2, step 3).

**NOTE: THE MULTIPOINT WATER HEATER IS HEAVY. PRIOR TO FIXTURE ENSURE THE WALL IS STRONG ENOUGH TO TAKE THE WEIGHT OF THE WATER HEATER WHEN FULL.**

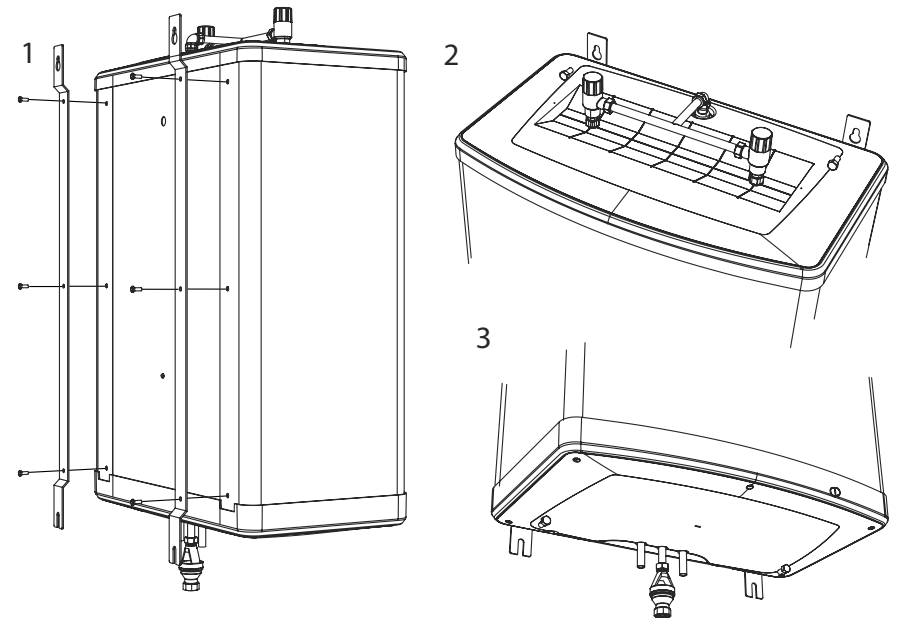


Figure 2: Fixture of brackets and wall mounting

## 4.0 PLUMBING

- 4.1 To make installation of the Multipoint easier it is supplied with an integral Non Return Valve, Expansion Vessel and Pressure Relief Valve.
- 4.2 Plumb the Multipoint water heater as shown below in Figure 3. Ensure the Pressure Reducing Valve is installed in the correct orientation by reference to the direction of the flow arrow marked on it.
- 4.3 The water connections to the unit are 15mm diameter copper tubes suitable for compression fittings. Do not use solder joints as this will damage the heater and may prevent servicing under warranty.
- 4.4 Inlet and Outlet are marked accordingly. Several hot outlets via conventional taps can be served, however, individual site demands should be considered when choosing capacity and the number of outlets.
- 4.5 It is recommended that a WRAS listed isolating valve (not supplied) is fitted on the cold water supply to the heater before the Pressure Reducing Valve.

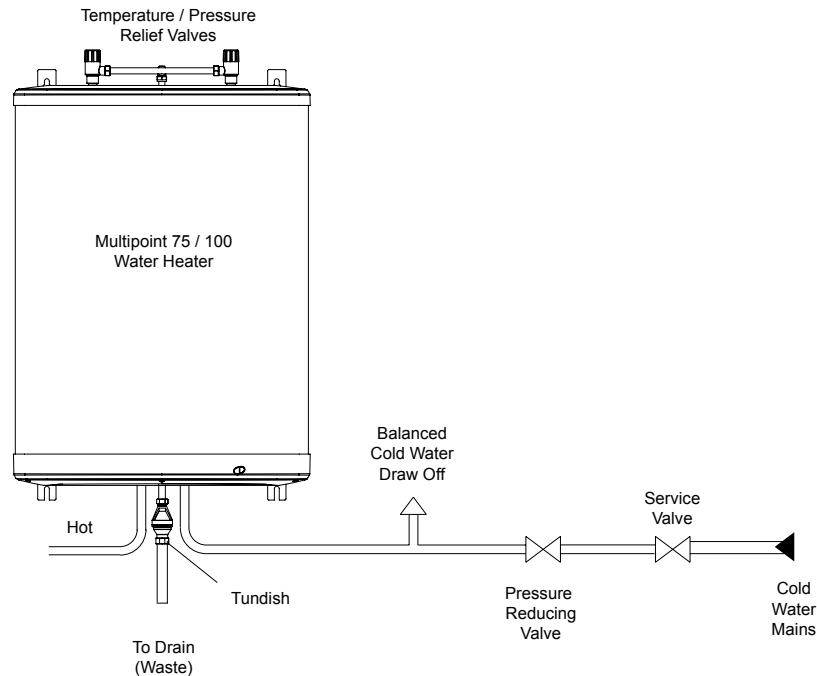


Figure 3: Plumbing Schematic

## 5.0 ELECTRICAL

WARNING: THIS APPLIANCE MUST BE EARTHED. IT IS SUITABLE FOR A.C. SUPPLY ONLY. DISCONNECT THE ELECTRICAL SUPPLY BEFORE REMOVING THE BASE COVER. INSTALLATION MUST BE IN ACCORDANCE WITH THE CURRENT I.E.E. REGULATIONS.

- 5.1 The unit is supplied fitted with a 2.0m 3 core 1.5mm<sup>2</sup> flexible cable (3kW models) or 2.0m 3 core 4.0mm<sup>2</sup> flexible cable (6kW models). The electricity supply should be fused at 13 Amp for a 3kW model and 32 Amp for a 6kW model and be via a double pole isolating switch with a contact separation of at least 3mm in both poles.
- 5.2 The wires are colour coded as follows:
 

Green and Yellow	EARTH	⊕
Brown	LIVE	(L)
Blue	NEUTRAL	(N)
- 5.3 The Multipoint water heaters have two elements. Each element has its own thermostat and thermal cut out, refer to Figure 4 for wiring details.
- 5.4 The Cable Bush can be removed and conduit fitted to the plate the bush is fitted to.

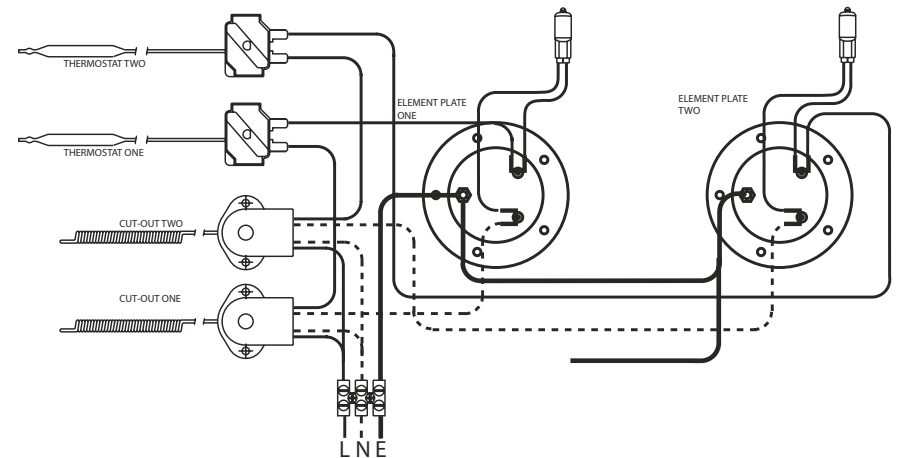


Figure 4: Wiring diagram



## 6.0 DISCHARGE

It is a requirement of Building Regulation G3 that any discharge from an unvented system is conveyed to where it is visible, but will not cause danger to persons in or about the building.

### G3 REQUIREMENT

“...there shall be precautions...to ensure that the hot water discharged from safety devices is safely conveyed to where it is visible but will not cause danger to persons in or about the building.”

The Multipoint 75/100 includes a pre plumbed discharge pipe (D1) from the T&P and ERV valves to the tundish.

The pre plumbed pipe terminates in a 1/2” female threaded fitting which the supplied tundish MUST be fitted to.

This ensures that the location of the tundish is visible, and in the same space of the water heater as required by G3.

This pipe must be left open to atmosphere and water may drip from the valve.

Discharge pipe (D2) from the tundish should be plumbed in accordance with section 3.9 of G3 which is reproduced in the following sections

### G3 GUIDANCE SECTION 3.9

The discharge pipe (D2) from the tundish should terminate in a safe place where there is no risk to persons in the vicinity of the discharge, preferably be of metal and:

- 1 Be at least one pipe size larger than the nominal outlet size of the safety device unless its total equivalent hydraulic resistance exceeds that of a straight pipe 9m long i.e. discharge pipes between 9m and 18m equivalent resistance length should be at least two sizes larger than the nominal outlet size of the safety device, between 18 and 27m at least 3 sizes larger, and so on. Bends must be taken into account in calculating the flow resistance. Refer to Table 1 on page 10 and the worked example.
- 2 An alternative approach for sizing discharge pipes would be to follow BS 6700:1987 Specification for design installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages, Appendix E, section E2 and table 21.
- 3 Have a vertical section of pipe at least 300mm long, below the tundish before any elbows or bends in the pipework.
- 4 Be installed with a continuous fall and in a frost free environment.
- 5 Have discharges visible at both the tundish and the final point of discharge but where this is not possible or is practically difficult there should be clear visibility at one or other of these locations. Examples of acceptable discharge arrangements are:

- i Ideally below a fixed grating and above the water seal in a trapped gully.
- ii Downward discharges at low level; i.e. up to 100mm above external surfaces such as car parks, hard standings, grassed areas etc. are acceptable providing that where children may play or otherwise come into contact with discharges a wire cage or similar guard is positioned to prevent contact, whilst maintaining visibility.
- iii Discharges at high level; e.g. into a metal hopper and metal down pipe with the end of the discharge pipe clearly visible (tundish visible or not) or onto a roof capable of withstanding high temperature discharges of water and 3m from any plastics guttering system that would collect such discharges (tundish visible).
- iv Where a single pipe serves a number of discharges, such as in blocks of flats, the number served should be limited to not more than 6 systems so that any installation discharging can be traced reasonably easily. The single common discharge pipe should be at least one pipe size larger than the largest individual discharge pipe (D2) to be connected. If unvented hot water storage systems are installed where discharges from safety devices may not be apparent i.e. in dwellings occupied by blind, infirm or disabled people, consideration should be given to the installation of an electronically operated device to warn when discharge takes place.

NOTE: The discharge will consist of scalding water and steam. Asphalt, roofing felt and non-metallic rainwater goods may be damaged by such discharges.

### WORKED EXAMPLE OF DISCHARGE PIPE SIZING:

The example below is for a G1/2 temperature relief valve with a discharge pipe (D2) having 4 No. elbows and length of 7m from the tundish to the point of discharge.

From Table 1 (overleaf):

- Maximum resistance allowed for a straight length of 22mm copper discharge pipe (D2) from a G1/2 temperature relief valve is 9.0m.
- Subtract the resistance for 4 No. 22mm elbows at 0.8m each = 3.2m
- Therefore the permitted length equates to: 5.8m
- 5.8m is less than the actual length of 7m therefore calculate the next largest size.
- Maximum resistance allowed for a straight length of 28mm pipe (D2) from a G1/2 temperature relief valves equates to 18m.
- Subtract the resistance of 4 No. 28mm elbows at 1.0m each = 4.0m  
Therefore the maximum permitted length equates to: 14m
- As the actual length is 7m, a 28mm (D2) copper pipe will be satisfactory.

VALVE OUTLET SIZE	MINIMUM SIZE OF DISCHARGE PIPE D1	MINIMUM SIZE OF DISCHARGE PIPE D2 FROM TUNDISH	MAXIMUM RESISTANCE ALLOWED, EXPRESSED AS A LENGTH OF STRAIGHT PIPE (I.E. NO ELBOWS OR BENDS)	RESISTANCE CREATED BY EACH ELBOW OR BEND
G 1/2	15MM	22mm 28mm 35mm	UP TO 9M UP TO 18M UP TO 27M	0.8M 1.0M 1.4M
G 3/4	22MM	28mm 35mm 42mm	UP TO 9M UP TO 18M UP TO 27M	1.0M 1.4M 1.7M
G 1	28MM	35mm 42mm 54mm	UP TO 9M UP TO 18M UP TO 27M	1.4M 1.7M 2.3M

Table 1. Sizing of copper discharge pipe (D2) for common T&P relief valve sizes.

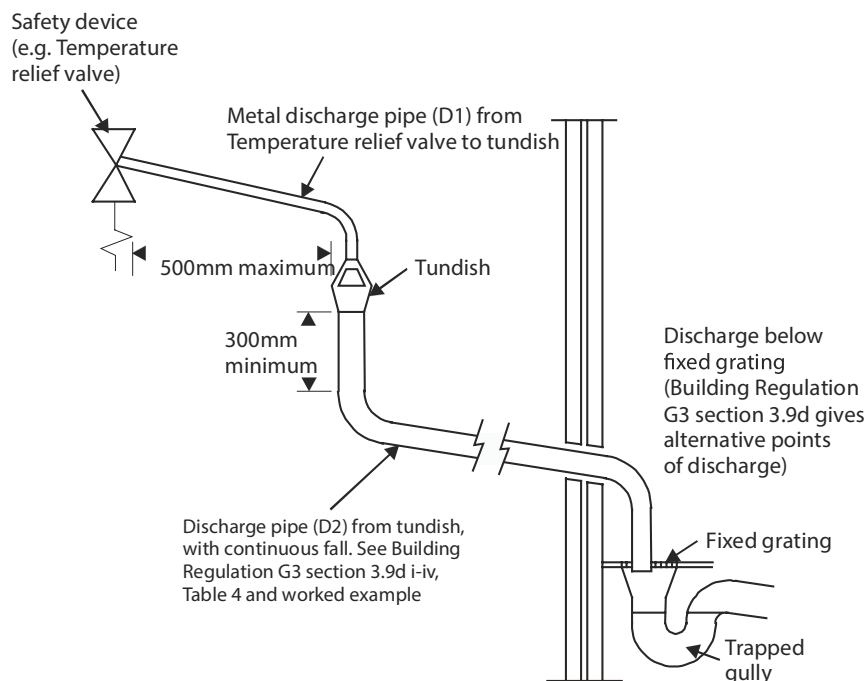


Figure 5. Schematic discharge pipe arrangement.

## 7.0 COMMISSIONING

- 7.1 Do not switch on the electrical supply until the Multipoint has been filled with water and checked for leaks.
- 7.2 Check that all installation, electrical and discharge pipe requirements have been met.
- 7.3 Check that all water and electrical connections are tight.
- 7.4 Open a hot water tap, turn on mains water supply to the Multipoint.
- 7.5 Allow Multipoint 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.
- 7.6 Manually test the operation of the Temperature/Pressure Relief Valves and the Pressure (expansion) Relief Valve. Ensure water flows freely from the valves and through the discharge pipes.
- 7.7 Switch on the electrical supply. The indicator lights will illuminate during heating. When the set temperature is reached the indicator lights will go out.
- 7.8 The set temperature can be adjusted by rotating the thermostat controls located inside the terminal cover. It is recommended that both thermostats are set at position 6 (approximately 60°C) however they can be adjusted between settings 1 to 7 (5°C to 75°C). In hard water areas it is advised that the maximum temperature is restricted to prevent build up of scale.

## 8.0 MAINTENANCE

Little maintenance is required, however in hard water areas the unit will require periodic descaling to ensure efficient operation. To descale the unit:

- 8.1 Switch off and disconnect the electrical supply. Turn off the water supply to the unit.
- 8.2 Open a hot tap to relieve any system pressure.
- 8.3 Remove the terminal cover by removing the five supporting screws holding it in place.
- 8.4 Drain water by opening internal drain cocks.
- 8.5 Unclip the expansion vessel retaining clip and locate the expansion vessel into the nest detail at the front on the right (see Figure 6 overleaf).
- 8.6 Disconnect the electrical terminals to the element and the earth link to the earthing stud. Withdraw the thermostat and thermal cut-out capillary tubes from the pockets on the element plate.
- 8.7 Remove the element plate assembly by unscrewing the five securing screws. Tapped jacking holes are provided (NOTE: a quantity of water may still be present in the container, it is recommended that a container be placed under the unit to collect any spillage).

- 8.8 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.
- 8.9 Re-assemble the element plate assembly fitting a new sealing gasket. Rewire the unit with reference to Figure 4 (wiring diagram).
- 8.10 Repeat this for both element plate assemblies.
- 8.11 Re-commission the unit following the INSTALLATION and COMMISSIONING instructions.

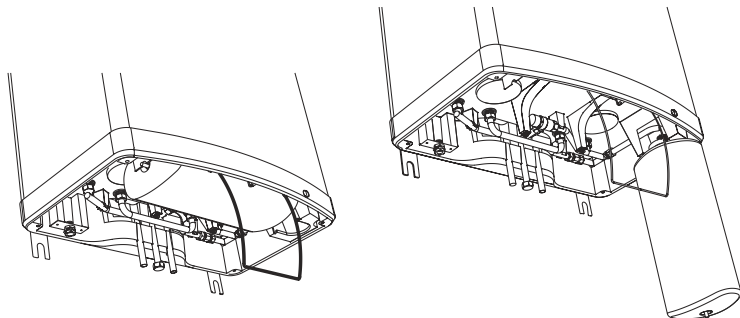


Figure 6. Removal of expansion vessel for maintenance purposes.

The Temperature/Pressure Relief Valves and the Pressure (Expansion) Relief Valve should be regularly operated to remove lime deposits and verify that it is not blocked.

- 8.12 Manually operate the valves by twisting the cap. Ensure water flows freely from the valves and through the discharge pipes (NOTE: the water discharged may be very hot). Ensure the valves reseal correctly when released.
- 8.13 Clean the strainer incorporated in the Pressure Reducing Valve. To inspect and clean the strainer turn off the mains water supply to the heater and open a hot tap to relieve the system pressure. Unscrew the black cap from the Pressure Reducing Valve and remove. The strainer will be removed with the cap. Wash any particulate matter from the strainer under clean running water. Replace the cap assembly ensuring the sealing ring is correctly fitted. Do not use any other type of sealant. Close hot tap, open mains stop cock and check for leaks. The Expansion Vessel should have a precharge pressure of 3.5 bar (51p.s.i.). This can reduce over time and eventually require re-charging. To do this:
  - 8.14 Turn off water supply to the unit; open a hot tap to relieve system pressure.
  - 8.15 Switch off and disconnect electrical supply to water heater.
  - 8.16 Remove the terminal cover by removing the five supporting screws holding it in place.

- 8.17 Remove dust cap from top of Expansion Vessel.
- 8.18 Check pre-charge pressure using a tyre pressure gauge. If the pressure is lower than 3.5 bar (51 p.s.i.) it should be recharged using a tyre pump (Schraeder Valve type). DO NOT OVER CHARGE.
- 8.19 Re-check pressure and when correct replace dust cap.
- 8.20 Turn on mains water supply and close hot tap.

## 9.0 FAULT FINDING

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

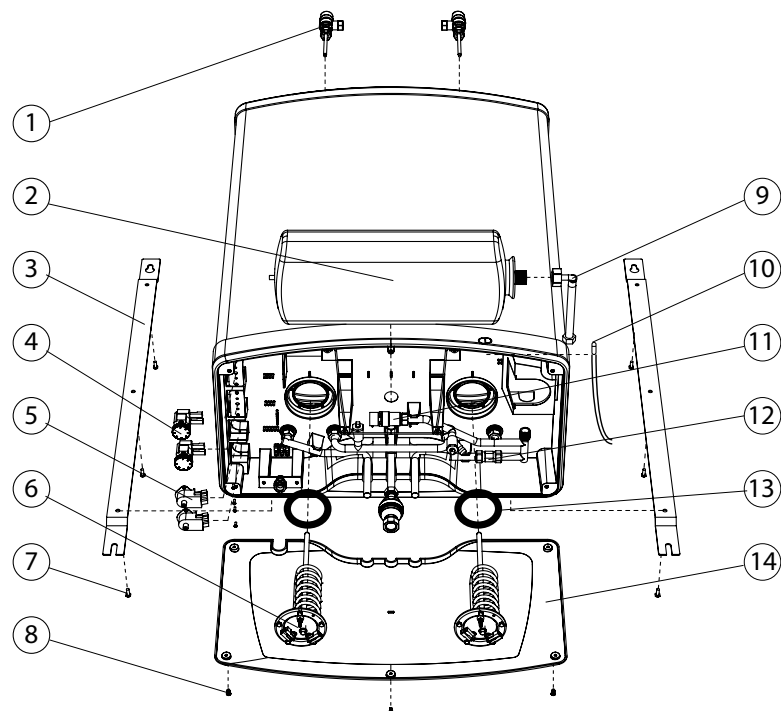
Fault Finding should be carried out by a competent person and any replacement parts used should be authorised Heatrae spare parts.

FAULT	POSSIBLE CAUSES	ACTION
Water not heating	Electrical supply fault Thermal cut out tripped	Check electrical supply Check cut outs. If they have operated then reset them. If necessary replace them. Check thermostats and if necessary replace them.
	Thermostat setting too low or faulty.	Check thermostat setting. Replace if necessary.
Discharge of water from pressure relief valve (continuously).	Excessive mains water pressure	Check pressure from Pressure reducing valve. Replace if greater than 3.5 bar (51psi)
	Expansion relief valve fault	Replace expansion relief valve.
Discharge of water from pressure relief valve (intermittently).	Loss of pressure from Expansion vessel	Check and if necessary re charge expansion vessel pre charge pressure.
Discharge of water from Temperature/Pressure relief valve and/or water/steam from pressure relief valve	Thermostat and thermal cut out fault	Replace thermostats and thermal cut outs
No water flow	Product incorrectly Installed	Check inlet and outlet connections are correct. Check valves are installed in accordance with flow direction arrows.
	Mains water supply not turned on.	Check mains water supply is turned on.
	Blockage in main water supply	Check mains water supply for obstructions. Check Expansion relief valve.
"Milky water"	Oxygenated water	Water from a pressurised system releases oxygen bubbles when flowing. The milkiness will disappear after a short while.

## 10.0 SPARE PARTS

The following comprehensive list of spare parts is available for your Multipoint 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.



1. Temperature/Pressure Relief Valve .....	95 605 045
2. Expansion Vessel .....	95 607 045
3. Fixing Bracket (75 Litre) .....	95 607 046
3. Fixing Bracket (100 Litre) .....	95 607 047
4. Thermostat .....	95 612 019
5. Thermal Cut-Out .....	95 612 020
6. Element Plate Assembly - 3kW .....	95 606 926
6. Element Plate Assembly - 1.5 kW .....	95 606 960
7. Fixing Bracket Bolts (pack of 6) .....	95 607 050
8. Terminal Cover Screws (pack of 5) .....	95 607 051
9. Flexible hose .....	95 607 049

10. Indicator Light.....	95 607 048
11. Pressure (Expansion) Relief Valve .....	95 607 737
12. Check Valve.....	95 607 987
13. Gasket (pack of 10).....	95 611 708
14. Terminal Cover .....	95 614 086
15. Pressure Reducing Valve .....	95 607 989

## 11.0 ACCESSORIES

The heater can be used to supply several hot water outlets via conventional taps. 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 the Multipoint Water Heater. Heatrae Sadia supply both TMV2 approved (Pack U3, code number 95 970 354) and TMV3 approved (Pack U7 95 970 360) Thermostatic Blending Valves.

## 12.0 USER INSTRUCTIONS

12.1 The temperature can be adjusted by rotating the thermostat controls located inside the terminal cover. It is recommended that both thermostats are set at position 6 (approximately 60°C) however they can be adjusted between settings 1 to 7 (5°C to 75°C). In hard water areas it is advised that the maximum temperature is restricted to prevent build up of scale. To avoid 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 lights 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 section 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: 0844 8711535) OR AN APPROVED INSTALLER. DO NOT

TURN THE ELECTRICAL SUPPLY ON AGAIN UNTIL THE UNIT HAS BEEN CHECKED AND APPROVED BY A QUALIFIED INSTALLER.

# Spares Stockists

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

Advanced Water Company Ltd.  
Unit D5 Enterprise way  
Vale park, Evesham  
Worcs, WR11 1GS  
Tel: 01386 760066  
Fax: 01386 760077

Electric Water Heating Co.  
2 Horsecroft Place, Pinnacles  
Harlow, Essex, CM19 5BT  
Tel: 0845 0553811  
E-Mail: [sales@ewh.co.uk](mailto:sales@ewh.co.uk)

SPD  
Units 9 & 10 Hexagon Business Centre  
Springfield Road, Hayes  
Middlesex, UB40 0TY  
Tel: 020 8606 3567

Parts Center  
Tel: 0845 2709800  
[www.partscenter.co.uk](http://www.partscenter.co.uk)

Newey & Eyre  
Specialist Products Division  
Please contact your local branch

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

William Wilson Ltd.  
Unit 3A, 780 South Street  
Whiteinch, Glasgow, G14 0SY  
Tel: 0141 434 1530

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## HEATRAE SADIA

The quality name in water heating

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