AA FIRST

Counter Top

Models: AA1000C, AA1500VI

Quality – Reliability – Integrity

AA First verified original instructions: EN version.

INSTALLATION INSTRUCTIONS Table of contents

SECTION 1 Before you start 3
Before you start 3
Explanation of symbols 3
Explanation of acronyms 3
SECTION 2 IMPORTANT SAFETY INSTRUCTIONS 4
SECTION 3 WARNINGS & REGULATORY INFORMATION 5
4.1 Technical data table 7
SECTION 5 General product description 8
5.1 Introduction 8
5.2 Principle of operation 8
SECTION 6 Switch on 8
6.1 Switch on commissioning and system status 8
SECTION 7 Servicing the internal components 9
7.1 Removing the access covers 9
7.2 The sensing probes 10
7.3 The thermistor (thermal resistor) 11
7.4 Heating element 12
7.5 Boil-dry Protection 13
7.6 Over boil protection (air-vent) 14
7.7 The Triac 15
7.8 Printed circuit boards 16
7.9 Solenoid valve 17
7.10 The storage tank 18
7.11 De-scaling (including cleaning probes) 19
7.12 Silicone Tubes & Gaskets 20
7.13 Tap maintenance 20
SECTION 8 Safety testing 21
8.1 Earth continuity test 21
SECTION 9 Troubleshooting 22
9.1 Fault finding 22
9.2 Troubleshooting table 23
SECTION 10 Spare parts 24
10.1 AA1000C Spare Parts 24
10.2 AA1500VI Spare Parts 26
SECTION 11 Wiring diagrams 28
11.1 Wiring diagram for all models 28
Contact details 29

Before you start

Read and use the instructions supplied with individual kit components to understand the product and to ensure a safe installation and servicing.

This manual is also available at our website https://www.aafirst.co.uk/

Explanation of symbols

Read the instructions

WARNING

Danger of electric shock

Hot surface

Highly flammable

Explanation of acronyms

DMM - Digital multi meter.

SECTION 2 IMPORTANT SAFETY INSTRUCTIONS

Compliance

In the UK the system must be installed and maintained in accordance with water supply byelaws, current IEEE regulations and local authority byelaws.

Safety

This appliance is not intended for use by children under 8 years or persons (including children under 8 years) 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 that they do not play with the appliance.

Cleaning and user maintenance shall not be made by children without supervision.

Qualifications

To avoid hazards, all installation procedures must be carried out by a suitably qualified tradesperson. The power cable and power outlet must be in a safe visible position for connection.

Venting

Sometimes steam and / or boiling water droplets may discharge through the vent / overflow outlet.

Lifting

Take care when lifting. The appliance may exceed safe lifting limits. If you feel this is beyond your personal capabilities, please seek assistance with the lift. Do not lift the appliance by the tap.

Airflow

Th appliance operates within the ambient temperature range 5ºC - 30ºC. Proper air circulation must be provided. The system will operate satisfactorily only if the recommended air gaps are provided.

Frost protection

This appliance is not designed for outdoor use. Ensure that the appliance is not installed in an area where the ambient air temperature cannot fall below 5ºC.

If the ambient air temperature should fall below 5ºC when the system is not in use, do not turn off the appliance electrically to prevent it from freezing. This safeguard does not offer the same protection to the connecting pipework and fittings.

In case of accidental freezing, ensure that ambient environmental conditions around the appliance are above the minimum operating temperature of the appliance.
Turn off the electricity and water supplies for 12 hours to allow defrost, then turn back on.

Servicing

Service procedures must be carried out by a suitably qualified and trained tradesperson.
Access to the interior of the appliance to perform service operations is restricted. A screwdriver is required to remove the access covers.
The appliance must be disconnected from its power source during service and when replacing parts.
During service the person servicing the appliance must be able to check from any of the points around the appliance to which he has access, that the appliance is disconnected from its power source.

Application

The appliance is intended to be installed in a commercial environment, where it is supervised by a trained operator, who can also train staff in it's safe use.

Special national conditions

This appliance does not comply with special national conditions for Denmark, Sweden, Finland and Norway.

Mains plug

This appliance is supplied for the UK market and is supplied with a UK mains plug compliant with BS1363.

SECTION 3 WARNINGS & REGULATORY INFORMATION

- FOR CONTINUED SAFETY OF THIS APPLIANCE IT MUST BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- The appliance must be earthed, earthing is provided via the power cable. The resistance of the earth connection to each exposed metal part must be less than 1Ω. It is the responsibility of the installer to ensure the power point is earthed.
- All installation and service work must be completed by trained and suitably qualified tradespeople. Faulty operation due to unqualified persons working on this product may void warranty coverage.
- Electrical installation must conform to current IEEE wiring regulations.
- When using fixed wiring, the bare section of earth must be sleeved to within 8mm of the end.
- As the installer, it is your responsibility to install the appliance safely to local regulations and relevant standards and to supply and install all valves as required by local regulations and relevant standards.
- The appliance is rated for 220-240V 50Hz AC operation.
- All appliances must be connected to the mains supply via an all-pole disconnection isolator switch.
- In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device such as a timer, or connected to a mains supply that is regularly switched on and off.
- For service work, do not remove the cover of the appliance under any circumstances without first isolating it from the power supply.
- Connect only to a potable (wholesome, cat1) mains water supply.
- Never locate the system near, or clean with water jets.
- Do not expose the appliance to the elements of nature.
- A pressure limiting valve must be fitted for mains water pressures above the max. limits stated.
- Use of tools can be hazardous, assess the risks before you start.
- A clearance envelope around the appliance must be provided to allow adequate ventilation and service access for safe and effective use.
- Valve and fitting threads must be sealed appropriately with PTFE tape where compression seals are not provided. Do not over tighten plumbing and hose connections.
- The power cord and power outlet must be in a safe and accessible position after installation. When positioning the appliance, ensure the power supply cord is not trapped or damaged. If it is damaged it must be replaced by an service provider or a qualified electrician.
- For safe operation, the appliance is designed to be installed, commissioned and used within 48 hours. Should it not be required for an extended period of time, do not fill and commission until ready for first use.
- For water taste and quality reasons, following any non-use period of more than 48 hours, AA First recommends to perform a system flush. Failure to flush the system may affect water quality.
- For UK, this appliance only contains materials that conform to the requirements of BS6920:2014 'Suitability of non metallic materials and products for use in contact with water intended for human consumption with regard to their effect on the quality of water'.
- AA First cannot be held responsible for any appliance malfunction if the water pressure exceeds that stated. If in doubt, consult your water supply company.
- AA First cannot be held responsible for lime-scale related problems even when a lime-scale reducer has been installed.
- Whilst reasonable precaution is taken to prevent an overflow, AA First cannot be held responsible for any damage caused as a result of incorrect installation or blockage of the overflow or failure to direct

the overflow to a safe outlet.

- To meet WRAS installation requirements, an approved single-check valve providing back-flow prevention protection, should be fitted at the point of connection between the water supply and the appliance.
- Water that has been treated by the reverse osmosis process can become aggressive (due to lack of minerals or Ions), and in extreme cases can cause leaching and corrosion of pipes, fittings and other metal parts within the appliance.
- If the appliance is being fed by water treated by reverse osmosis, strongly recommend that the water is tested regularly.
- If micro-bore pipe is used instead of the inlet hose supplied, the size must be minimum OD 3/8”(10mm).
- Only use a new detachable hose set. Do not re-use old hose sets.
- Place the appliance in an environment suitable for its size and use, making sure that it is placed in a horizontal position, make sure that the appliance does not have an inclination greater than 2º.
- The appliance does not use materials containing flammable blowing gases.
- The appliance does not contain asbestos or oils containing polychlorinated biphenyl.

SECTION 4 Technical data

4.1 Technical data table

Model	Unit	AA1000C	AA1500VI
Width	mm	218	243
Depth inc. drip tray	mm	465	510
Height	mm	440	610
Tap clearance	mm	150	190
Supply voltage	V	230V 50Hz AC	
Power rating	kW	3	3
Power supply required		Single phase	
Fill type		Automatic	
Capacity	L	5	10
Rapid draw off	L	5	10
Weight (empty)	kg	8.9	13.2
Weight (full)	kg	15.9	26.7
Water inlet connection		3/4" BSP	
Water supply pressure range	bar (MPa)	2.0 - 7.0 0.2 - 0.7	
A weighted emission sound pressure	dB(A)	less than 70	

SECTION 5 General product description

5.1 Introduction

This manual has been designed to be a guide for service engineers.
It includes descriptions of all serviceable parts and an exploded drawing of a complete appliance, sub-assemblies and wiring diagrams.
Units are inspected and tested in accordance with the manufacturers ISO9001 Quality Management System and ISO14001 Environmental Management System.
All models are constructed in the same way but are different in size.

5.2 Principle of operation

When switched on, the appliance first checks for water at the bottom probe. If no water is sensed on the probe (e.g. on first installation), the solenoid is energised allowing water to enter the tank. The LED-light will glow amber to indicate that the boiler is filling. When the water level reaches the bottom probe, the indicator lamp will change to red to show that the appliance is heating. When the water has reached the correct temperature (approximately 96^{0}C), the boiler switches to a heat/fill cycle; the solenoid being pulsed on and off allowing short, controlled bursts of water into the tank. The heating element remains on throughout the heat/fill cycle. This continues until the water level in the tank reaches the top probe were it will then go into “idle” mode. The heating element is pulsed periodically to maintain boiler temperature.

SECTION 6 Switch on

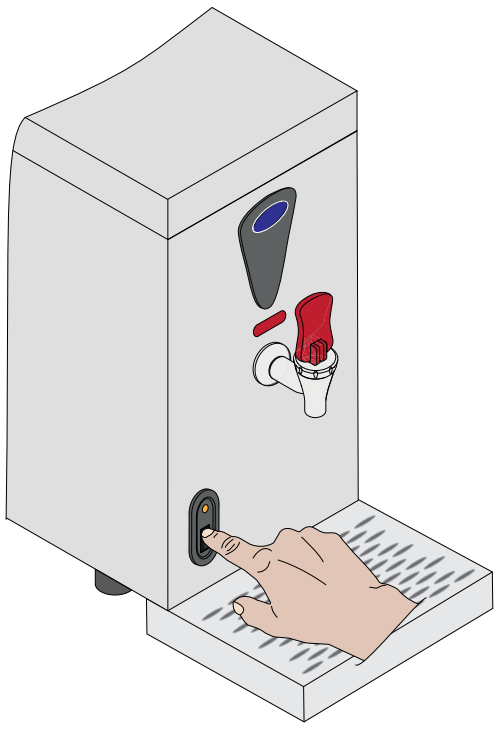
6.1 Switch on commissioning and system status

Use with caution, the appliance dispenses near-boiling water.

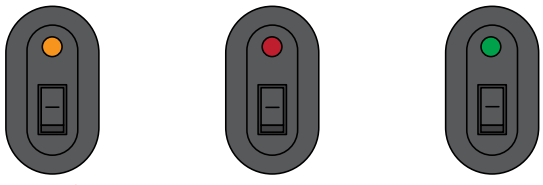
- Turn on the mains water supply.
- Switch on the mains power supply.
- Switch on the appliance with the ON/OFF switch.
- Monitor the system status indicator.
- The system status indicator turns amber to indicate that the boiler is filling with water.
- Once primed with water, system status indicator turns red to show that the appliance is heating.
- When the appliance reaches the correct temperature the system status indicator turns green to show that the appliance is ready to dispense.
- If a filter is installed, flush the filter before first use, see the installation instructions and user guide.

In normal daily use, the appliance may be used as soon as the status indicator turns green, but on first install, wait 15 minutes before starting to use.

On / Off switch



System status indicator



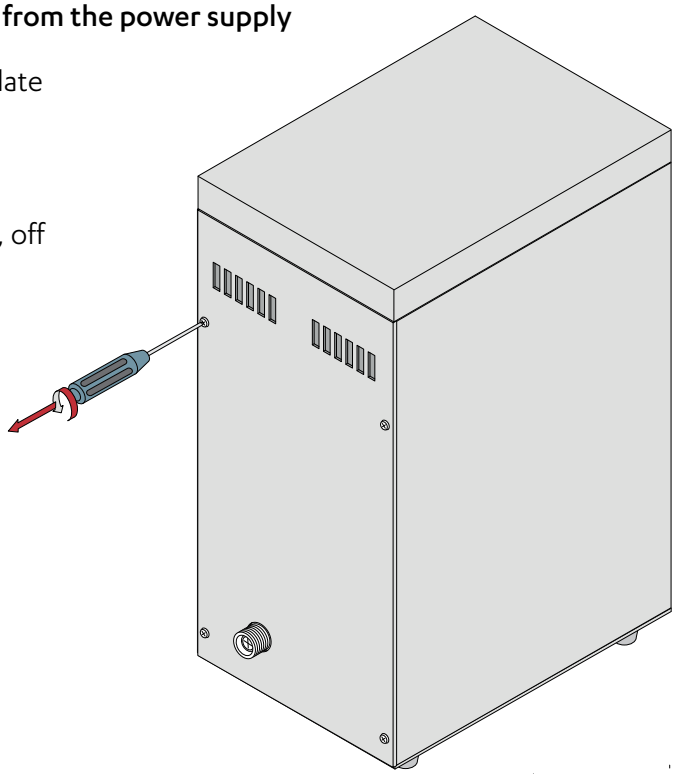
Amber - filling Red - heating Green - ready

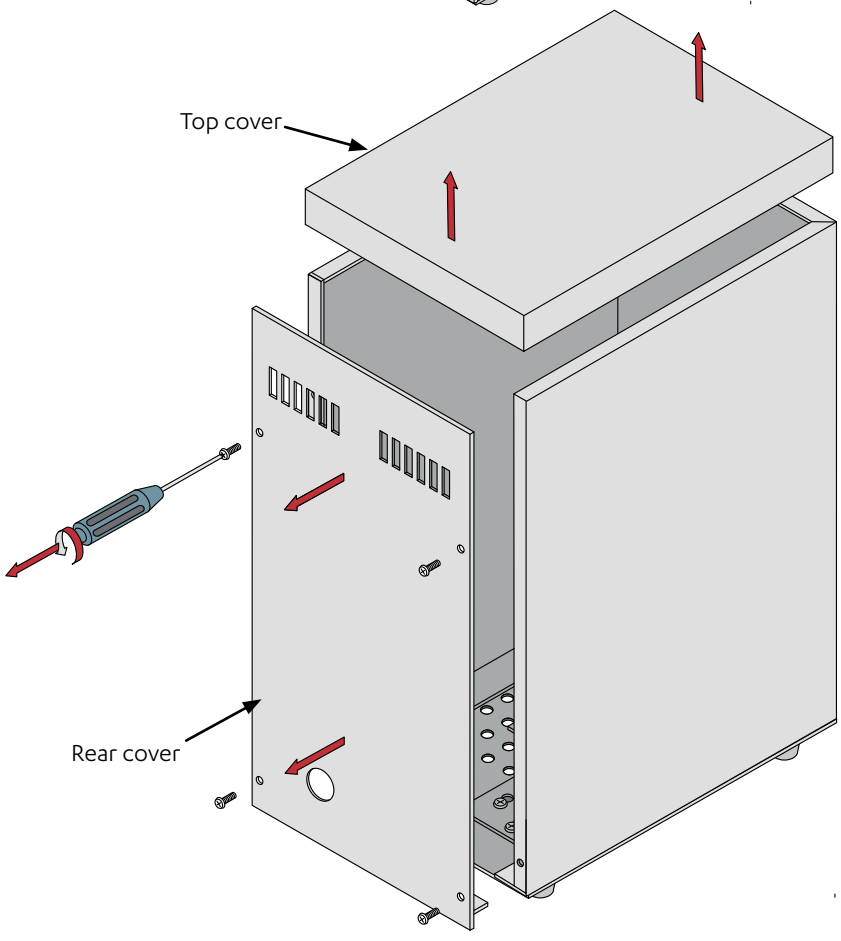
7.1 Removing the access covers

Fabricated metal edges, and limescale deposits can be sharp.
Wear appropriate PPE.

Do not remove the cover of the appliance under any circumstances without first isolating it from the power supply

- Turn off the mains electricity supply and isolate the mains water supply.
- Remove the rear cover by unscrewing the 4 screws that secure it, as shown adjacent.
- Remove the top cover by simply lifting it up, off the appliance as shown adjacent.





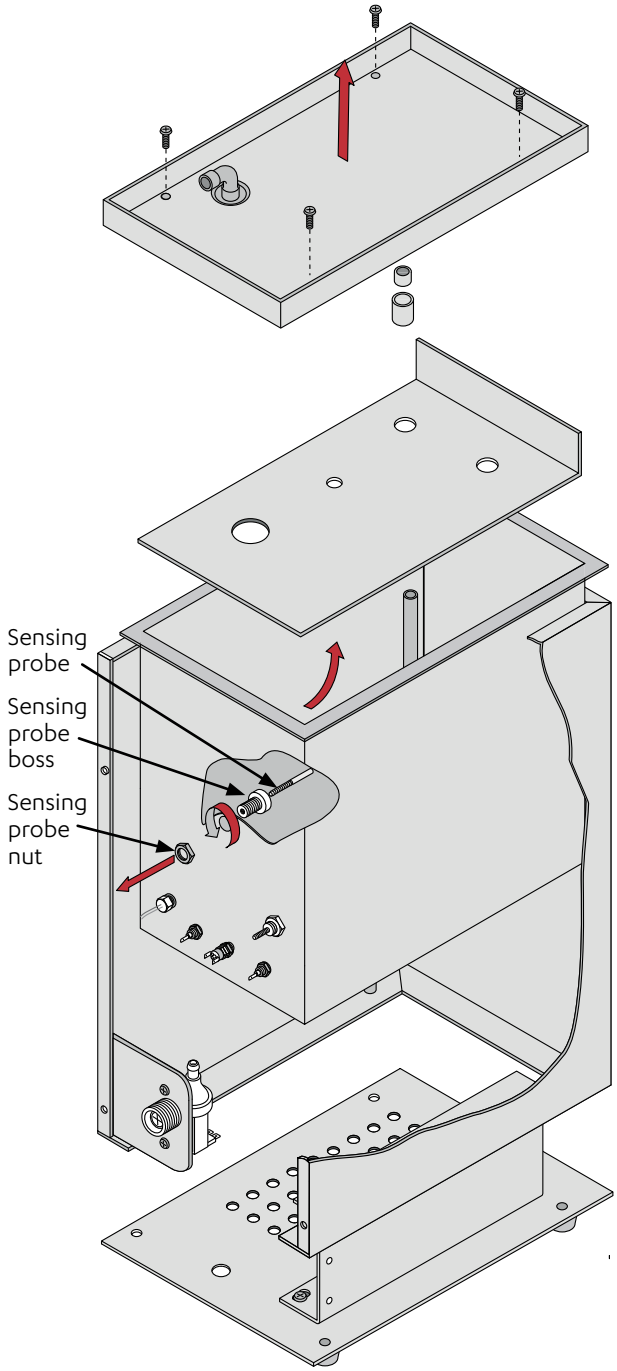
7.2 The sensing probes

- Sensing probes are used to detect the presence of water within the tank (5-13 second response time), using a small electrical current to make a circuit via the water. They are made-up from a PTFE insulator with a stainless steel rod through the centre.
- There are three level sensing probes inside the tank (from bottom to top):
- 1. Low-level Sensor - Yellow wire.
- 2. Normal Operating Sensor - Orange wire.
- 3. Overfill detection Sensor - Red wire.
- **Note** Only the low-level and normal operating sensors are used in normal operation.
- **Common problem:** Hard-water in some parts of the UK causes a build-up of lime-scale on the sensing probes, which acts as an insulator (e.g. the sensor is no-longer able to detect the presence of water). When a sensor becomes insulated, the water level will switch to a different sensor. If no action is taken, the water will reach the Overfill sensor and shut the water inlet and heating off.

Sensing probes & boss removal and replacement

Fabricated metal edges, and limescale deposits can be sharp.
Wear appropriate PPE.

- Turn off the mains electricity supply and isolate the mains water supply.
- Remove the rear cover top cover ,see page 9.
- Access the inside of the tank, see page 18.
- Drain the tank by dispensing water from the tap until it ceases to flow, then emptying the remainder with a siphon or pump.
- Disconnect the sensing probe electrical connection.
- Unscrew the sensing probe nut & remove (18mm AF spanner).
- Pull out the probe assembly from the inside of the tank.
- Sensor probe replacement is a reversal of the above procedure.



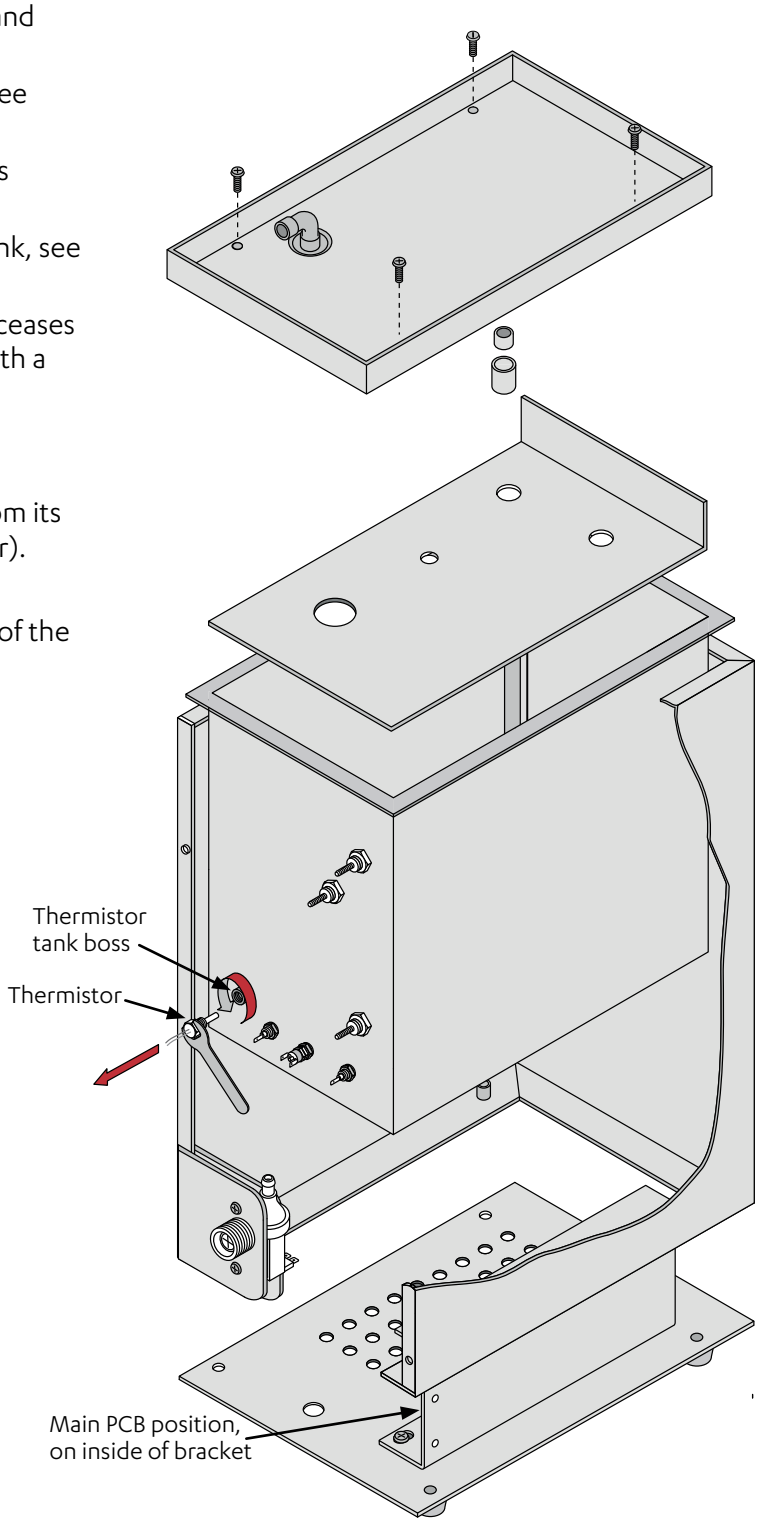
7.3 The thermistor (thermal resistor)

- The thermistor is an electronic device used in place of a thermostat, to measure the temperature of water. It is constructed using a thermally sensitive resistor which exhibits changes in electrical resistance with even a slight change in water temperature, making it extremely accurate (+/- 1.2 degrees Celsius).
- The appliance uses a screw in type thermistor and is sealed with an o-ring.

Thermistor removal and replacement

Fabricated metal edges, and limescale deposits can be sharp. Wear appropriate PPE.

- Turn off the mains electricity supply and isolate the mains water supply.
- Remove the rear cover & top cover ,see page 9.
- In order to remove the thermistor it is necessary to drain the tank.
- To do this, access the inside of the tank, see page 18.
- Dispense water from the tap until it ceases to flow, then empty the remainder with a siphon or pump.
- Disconnect the thermistor electrical connections from the main PCB.
- Unscrew the thermistor & remove from its tank boss (13mm open ended spanner).
- Pull out the thermistor.
- Thermistor replacement is a reversal of the above procedure.



7.4 Heating element

- The heating elements are made from Incoloy 800 material, which gives them a long life expectancy. They are sealed into the tank by three black silicone rubber washers and secured by 1/4"BSP brass lock-nuts.

Element rating

- XEN200 3.0kW 240V Heating element for models AA1000C, AA1500.

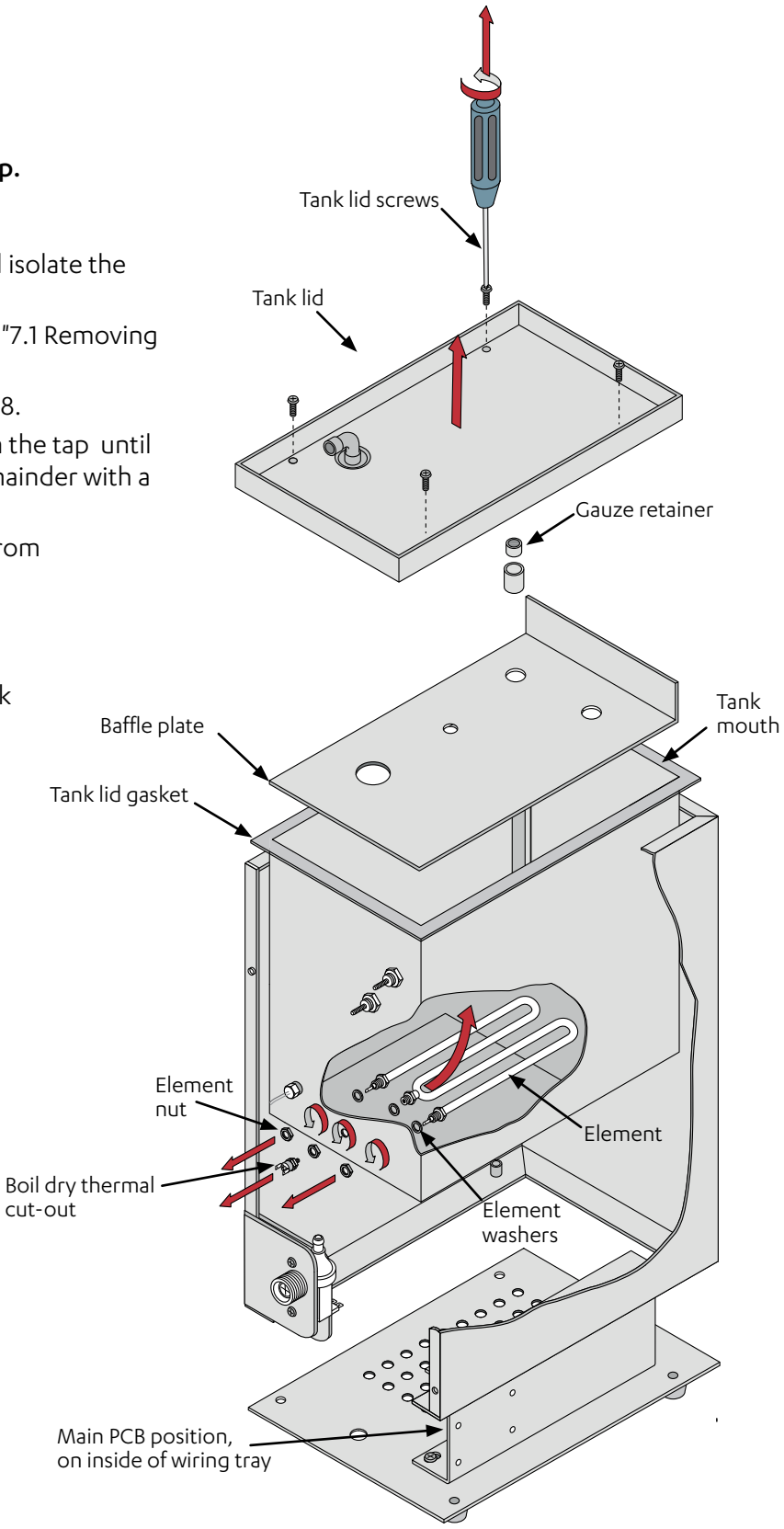
Element Resistance

- XEN200 (3.0kW) : 18-19 Ω.

Element removal and replacement

Fabricated metal edges, and limescale deposits can be sharp. Wear appropriate PPE.

- Turn off the mains electricity supply and isolate the mains water supply.
- Remove the rear cover & top cover ,see "7.1 Removing the access covers" on page 9.
- Access the inside of the tank, see page 18.
- Drain the tank by dispensing water from the tap until it ceases to flow, then emptying the remainder with a siphon or pump.
- Disconnect the electrical connections from the element and thermal cut-out.
- Unscrew the boil dry thermal cut out.
- Unscrew the 3 element nuts.
- Manoeuvre out the element, via the tank mouth.
- Element replacement, is a reversal of the above procedure.



7.5 Boil-dry Protection

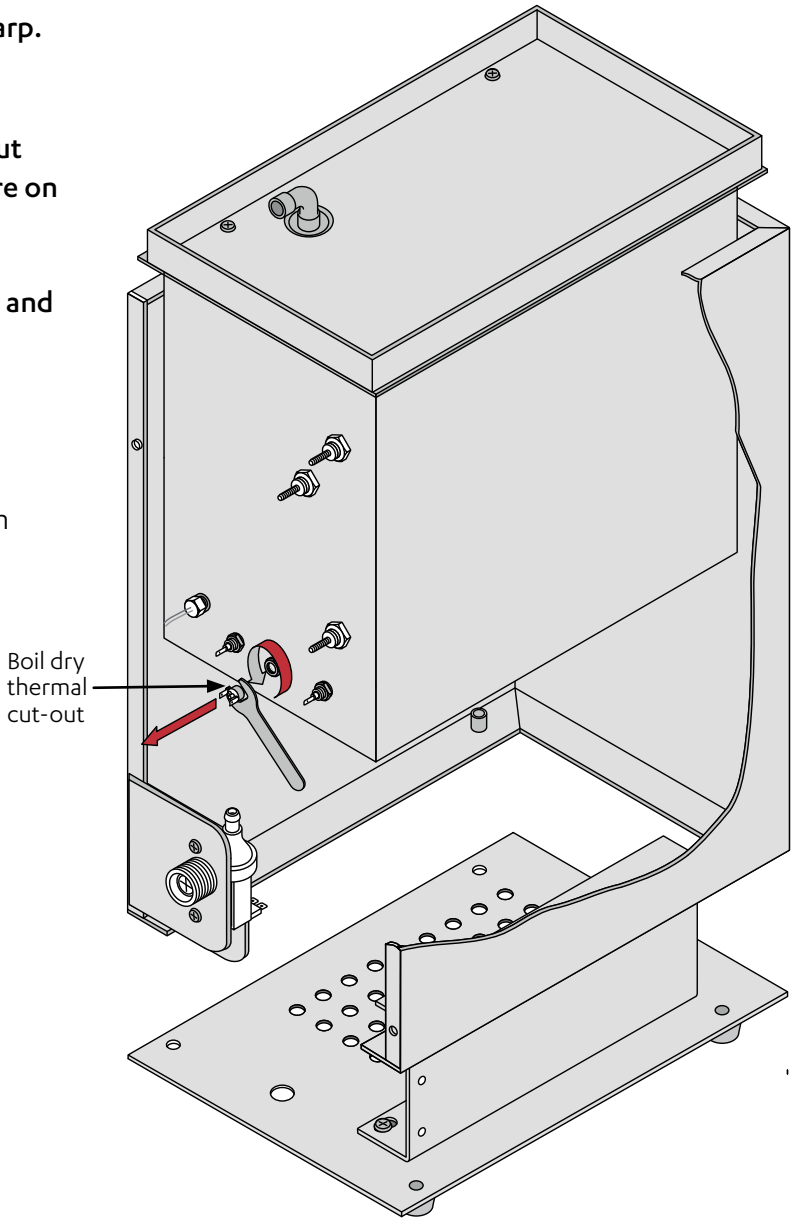
- Each element has a brazed “hot-return” fitting, which accepts a stud-mounted thermal cut-out.
- If the element overheats (boil-dry situation etc,), the thermal switch picks up the rise in temperature and breaks the live supply to the heater. The thermal switch will need to be reset by pushing in the small button on the back of the switch-body.

Boil dry thermal cut-out removal and replacement

Fabricated metal edges can be sharp. Wear appropriate PPE.

When replacing the boil dry cut-out ensure LIVE and NEUTRAL wires are on the correct connections. (LIVE – 1 to 1 & NEUTRAL 2 to 2). Failure will results in a DEAD short and destroy both cut-out and triac.

- Turn off the mains electricity supply and isolate the mains water supply.
- Remove the rear cover,see page 9.
- Disconnect the electrical connections from the boil dry thermal cut out.
- Unscrew the boil dry thermal cut out (17mm AF spanner).
- Apply heat-sink compound to the mating face of the new boil dry thermal cut-out.
- Replacement, is a reversal of the above procedure.



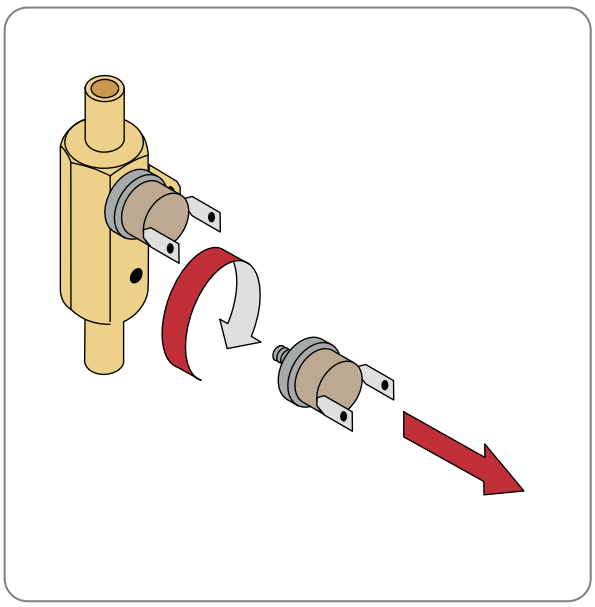
7.6 Over boil protection (air-vent)

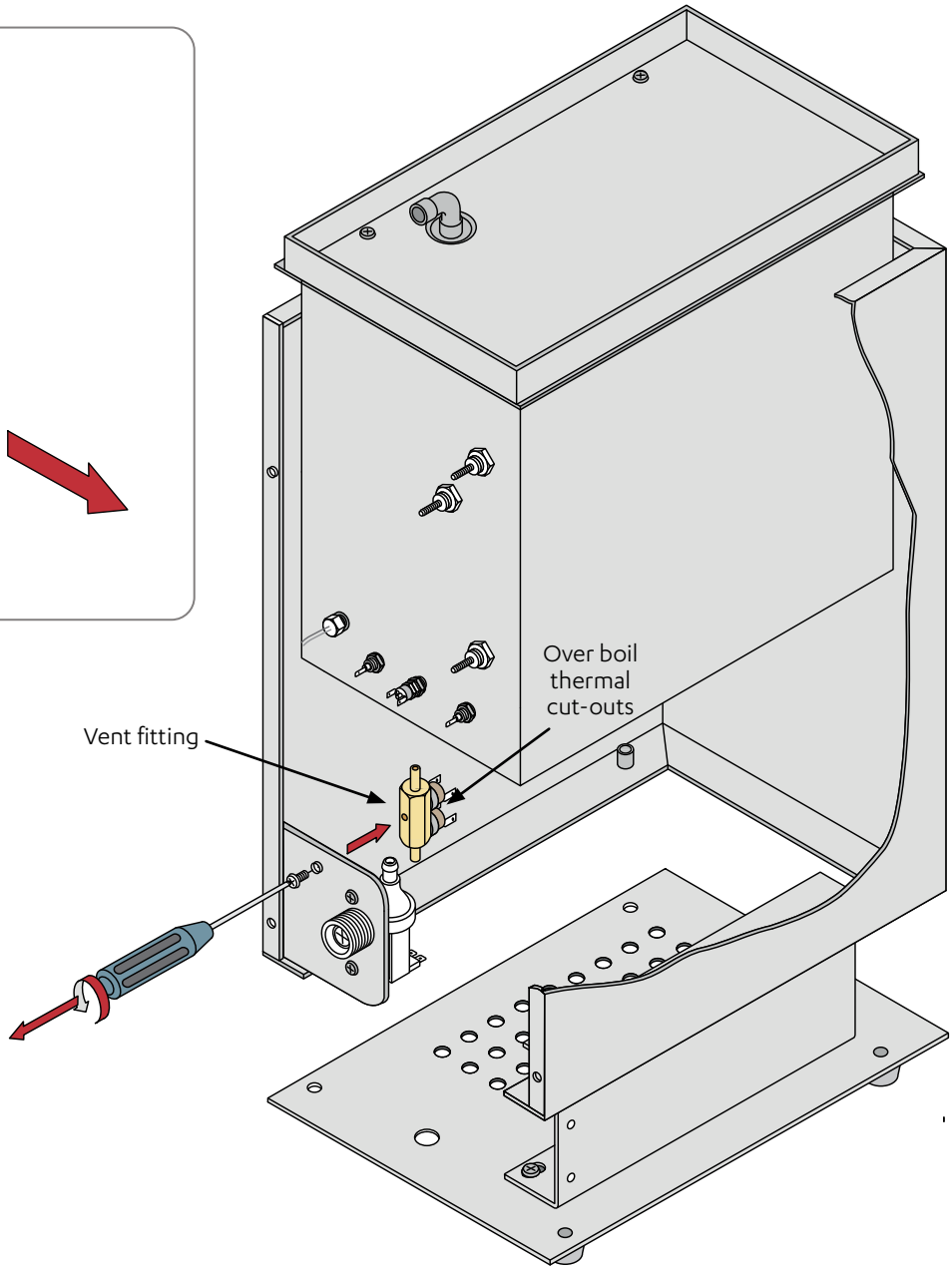
- The appliance has a pair of thermal cut-out switches situated on the air vent. Their function is to protect the appliance in the event of an over-boil situation arising - the thermal switch will cut power to the element.

Fabricated metal edges can be sharp.
Wear appropriate PPE.

Over boil thermal cut out removal and replacement

- Turn off the mains electricity supply and isolate the mains water supply.
- Remove the rear cover,see page 9.
- Disconnect the electrical connections from the over boil thermal cut out.
- Remove the vent fitting from the solenoid valve bracket.
- Unscrew the over boil thermal cut out.
- Replacement, is a reversal of the above procedure.





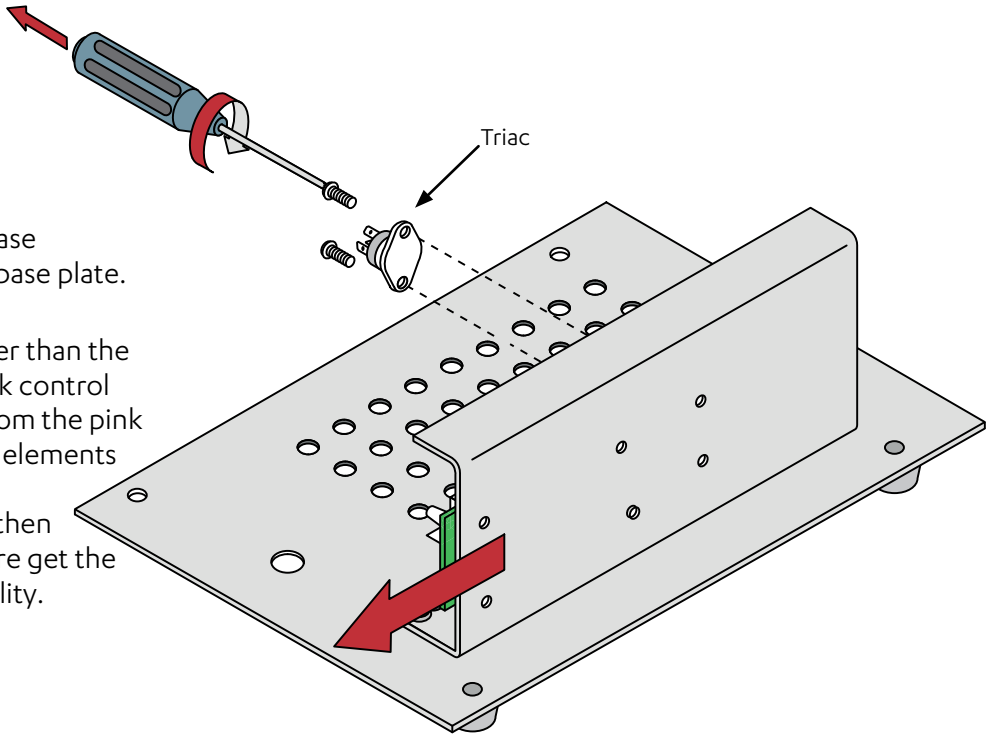
7.7 The Triac

- The triac is a device used to switch the heating element on via a control signal from the PCB The triac generates heat, which has to be dissipated. This is done by bolting it to the wiring tray using heat-sink compound between the surface of the triac and the aluminium tray.
- If the triac fails, in 90% of cases it will fail in the closed position. This causes the heating element(s) to remain on. If this happens, the appliance will overheat. When steam enters the air-vent pipe, the over-boil safety cut-out will detect a rise in temperature and switch off power to the elements.
- If the triac has failed in the closed position there will be continuity between the grey and brown cables on triac.
- To test if the triac has failed (closed circuit), re-set thermal cut-out (if necessary), leave appliance plugged in and turn off at the ON/OFF switch (front panel). If the appliance continues to heat when switched off, the triac is faulty. If not, refer to fault finding “overboiling”.

Triac removal and replacement

Fabricated metal edges, and limescale deposits can be sharp. Wear appropriate PPE.

- Turn off the mains electricity supply and isolate the mains water supply.
- Remove the rear cover, see "7.1 Removing the access covers" on page 9.
- Loosen screw that secures aluminium wiring tray to base, and carefully pull the wiring tray forward.
- Locate triac.
- Disconnect the 3 wires from the triac (remembering which wires go to each terminal).
- Loosen the two M3 pozi-hd screws that clamp the triac to the base.
- Replace with new triac. REMEMBER to apply heat-sink paste to the flat base of the triac before fixing to base plate.
- Re-connect wires:
  Note: One terminal is smaller than the other two, this is for the pink control cable. Working clockwise from the pink would be the live out to the elements (Brown) leaving the other terminal for the Grey cable then Reverse the above procedure get the appliance back to functionality.



7.8 Printed circuit boards

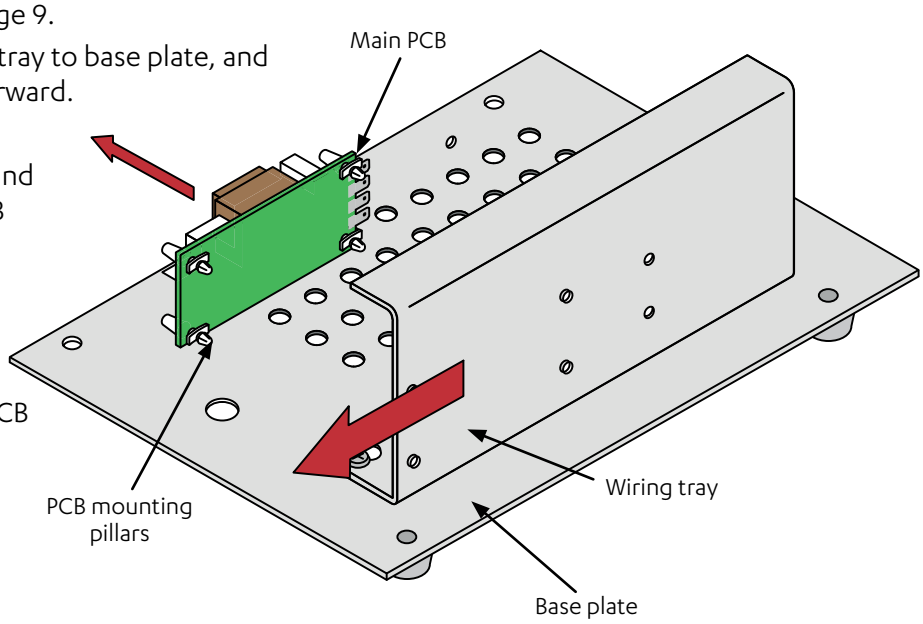
Main PCB (XE150)

- Located in the base of the appliance on a vertical wiring tray under the tank. The PCB controls the main functions of the appliance, monitoring the water level, water temperature, water supply etc.

Main PCB (XE150) removal and replacement

Fabricated metal edges, and limescale deposits can be sharp. Wear appropriate PPE.

- Turn off the mains electricity supply and isolate the mains water supply.
- Remove the rear cover, see page 9.
- Loosen screw that fixes wiring tray to base plate, and carefully pull the wiring tray forward.
- Locate PCB.
- Disconnect wire connections and JST plug connections from PCB (spade terminals on PCB are colour co-ordinated).
- Pinch the 4 plastic mounting pillars and pull the PCB from the pillars.
- Replace in reverse of above.



Potentiometer & temperature adjustment

- The potentiometer, mounted on the main PCB, is used to adjust the temperature setting of the appliance. It is a small PCB-board-mounted component, which can be adjusted using a very small electrical screwdriver.
- Locate the potentiometer on the main PCB.
- To adjust temperature; turn anti-clockwise to increase temperature and clockwise to decrease temperature.

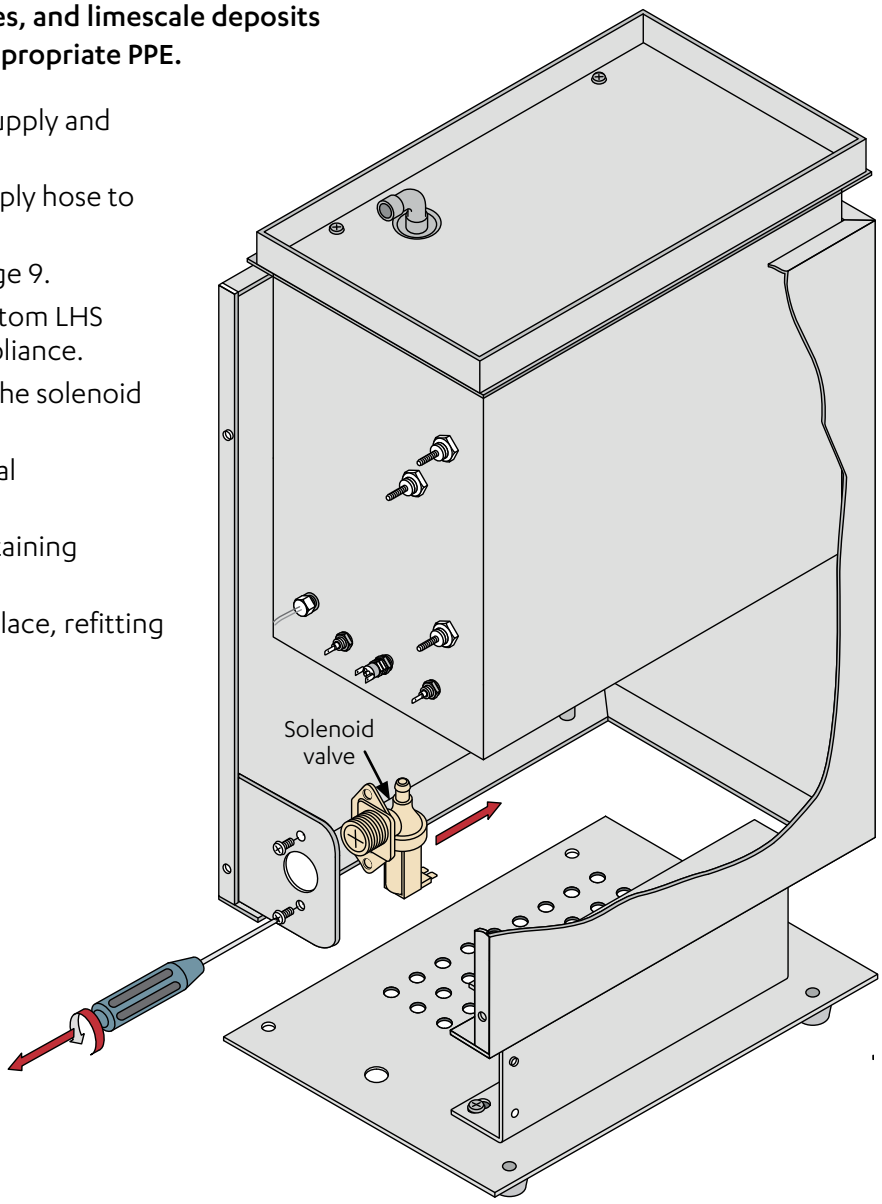
7.9 Solenoid valve

- The cold-water inlet valve can operate between 0.2 -0.7 MPa (2 bar and 7bar) mains pressure. It contains a 2-litre per minute restrictor to control the incoming water flow. If a valve without this restrictor is used, it could cause the temperature to be lower than expected. The only serviceable part on the valve are the coils. The coils are susceptible to water damage from steam or water leaks. The coil has a small constant voltage to it which is normal. When energized they should be 230V.
- Mains water pressure range 0.2 MPa and 0.7MPa (2 and 7 bar).
- Incoming mains water pressure can vary wildly from site to site and can also fluctuate dependent on the time of day (water pressure often increases at night). In extreme cases, this can take the mains water pressure outside that at which the boiler can operate. An install rail (not supplied) which includes a PR valve, factory-set at 0.3MPa (0-3 bar), will protect the inlet valve from excessive in-coming mains water pressure.
- Very low in-coming mains water pressure (below 0.1MPa [1bar]) can result in the solenoid valve bypassing as insufficient water pressure prevents the valve from seating correctly, although this is much less common.

Solenoid valve removal and replacement

Fabricated metal edges, and limescale deposits can be sharp. Wear appropriate PPE.

- Turn off the mains electricity supply and isolate the mains water supply.
- Remove the external water supply hose to the appliance.
- Remove the rear cover, see page 9.
- Locate the solenoid on the bottom LHS appliance of the rear of the appliance.
- Remove the silicone tube and the solenoid connections.
- Remove the solenoid's electrical connections.
- Unscrew the solenoid valve retaining screws.
- Remove solenoid valve and replace, refitting the electrical connections.

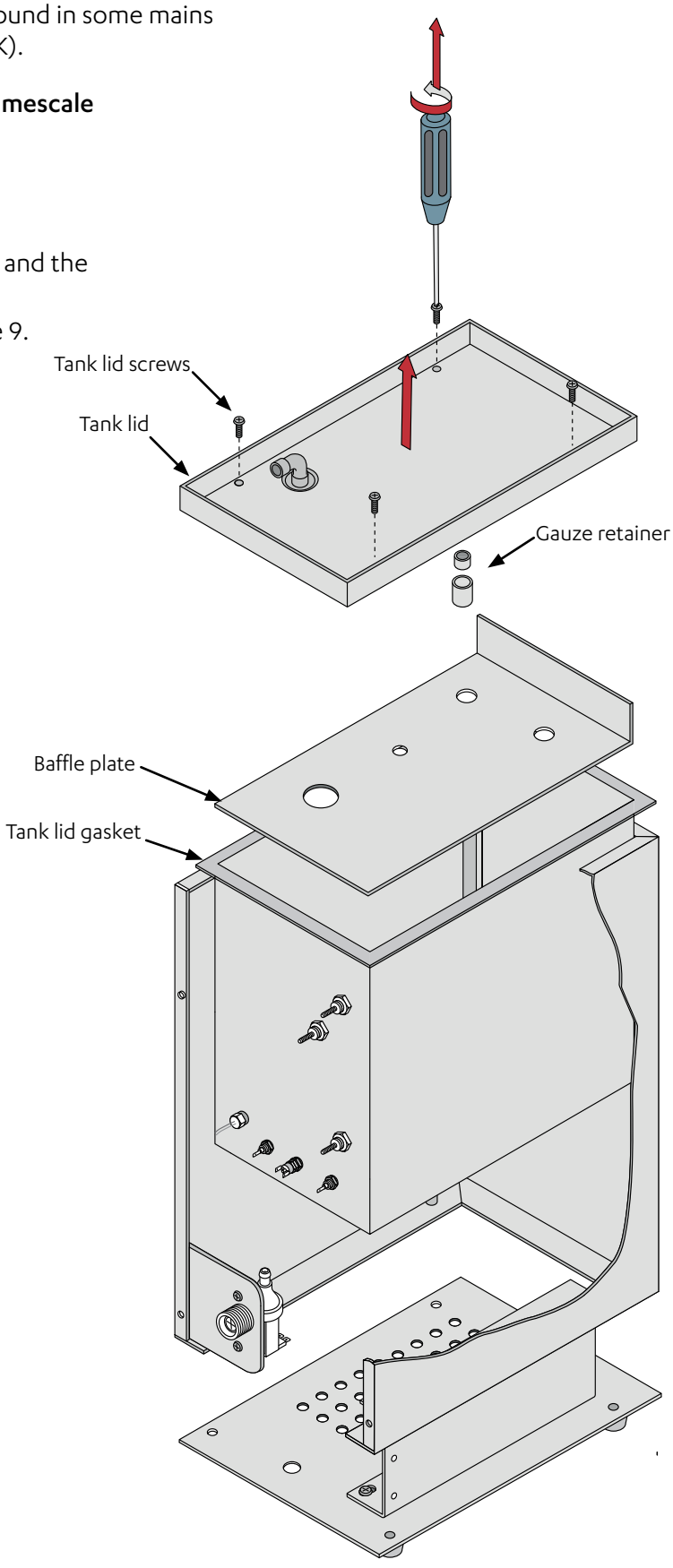


7.10 The storage tank

- The tank lid is secured using four x M4 stainless steel screws and is sealed with a silicone rubber gasket. Silicone sealant secures the gasket to the tank. The tank body and lid are made from type-304 stainless steel while the internal baffle plates are made from type-316 stainless steel (type-316 is more resistant to the corrosive properties and minerals found in some mains water supplies in specific parts of the UK).

Fabricated metal edges, and limescale deposits can be sharp.
Wear appropriate PPE.

- To access the inside of the tank:
- Disconnect the mains electricity supply and the mains water supply.
- Remove the rear & top covers ,see page 9.
- Unscrew the 4 tank lid screws.
- Lift off the tank lid.
- Pull gauze retainer off overflow pipe.
- Remove the tank baffles.
- Lift off the tank lid gasket if damaged.



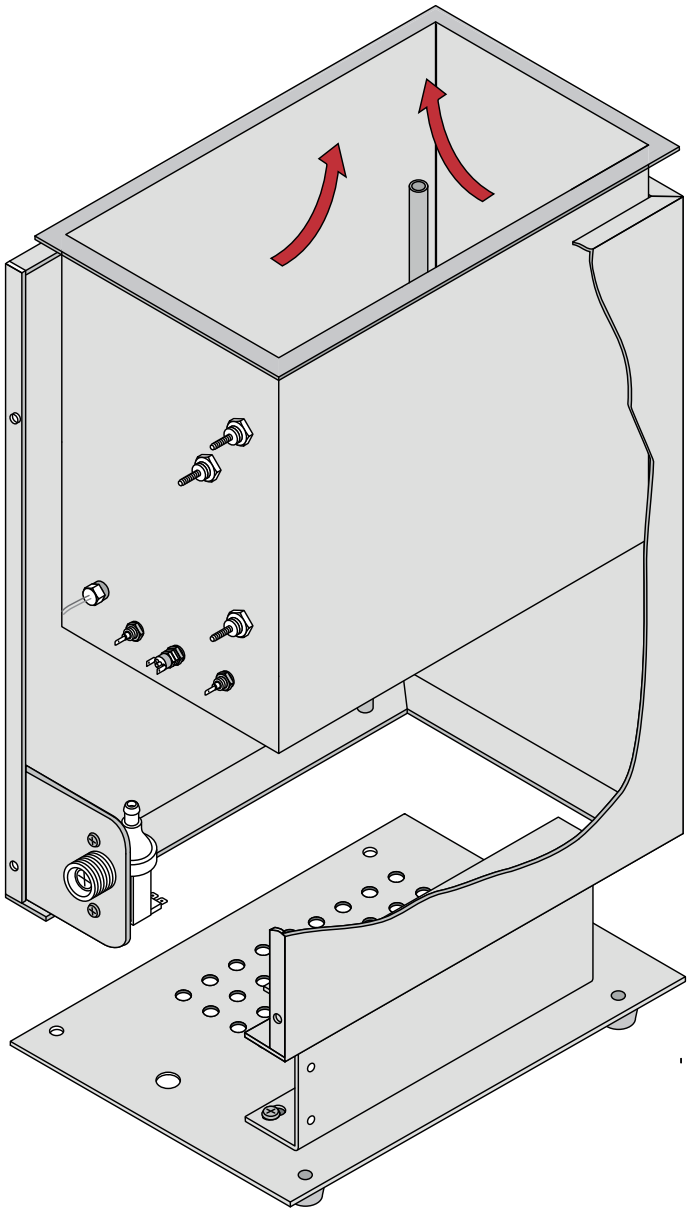
7.11 De-scaling (including cleaning probes)

- **Common problem:** Hard-water in some parts of the UK will usually result in a build-up of lime-scale within the tank. This can lead to a variety of different problems:
- One of the more common problems is caused by scale deposits coating one (or more) of the three sensing probes - The scale acts as an insulator (e.g. the sensor is no-longer able to detect the presence of water).
- Heavy scale deposits on the inside of the tank can also affect the accuracy of the temperature sensing device (thermistor), The scale acts an insulator between the water and the stainless-steel tank-body (or probe), thus reducing the responsiveness of the thermistor, which can eventually lead to an over-boil situation arising.
- A heavy build-up of scale on the heating element can also reduce their life expectancy.

De-scaling Instructions

Fabricated metal edges, and limescale deposits can be sharp.
Wear appropriate PPE.

- Disconnect the appliance from the power supply.
- Isolate the mains water supply.
- Remove the top cover, see page 9.
- Access the inside of the tank, see page 18.
- Drain the tank by dispensing water from the tap until it ceases to flow, then emptying the remainder with a siphon or pump.
- Remove as much loose scale as possible by hand. Any hard scale coating the level sensing probes and holders should be cleaned off using a non-metallic scouring pad.
- Use a good de-scaler such as “Renegite” to remove hard scale deposits. Mix 2-3 packets in hot water and pour into tank. Leave for approximately 20 minutes.
- Flush tank out with water, ensuring that all traces of de-scaler are removed before re-assembly.
- Flush tank out with copious amounts of fresh water, ensuring that all traces of de-scaler are removed before re-assembly.



7.12 Silicone Tubes & Gaskets

- All the silicone tubes and gaskets used on products are produced from Platinum Cured Silicone which is widely used in the medical field.
- Although this silicone is WRAS Approved and fit for potable water, steam attacks it and after a period of time can degrade the silicone and make it brittle.
- When carrying out a descale or any other maintenance, it worth checking the silicone pipes and gasket for this. Pay particular attention to the water inlet pipe which can degrade from the inside and become weak and burst in use.

7.13 Tap maintenance

To replace the tap washer

- Disconnect the appliance from the power supply.
- Isolate the mains water supply.
- Dispense water from tap until the water stops flowing.
- Unscrew bonnet and remove the upper tap assembly out of the tap body.
- Remove the old washer from the tap spindle and firmly push the new washer onto the spindle.
- Screw the upper assembly back onto the body.

To replace the tap spring

- Disconnect the appliance from the power supply.
- Isolate the mains water supply.
- Dispense water from tap until the water stops flowing.
- Push the pin out of the tap handle. (the pin has a bend in the middle).
- Unscrew the plastic bonnet to replace broken spring. (Small diameter down).
- Replace bonnet and handle.

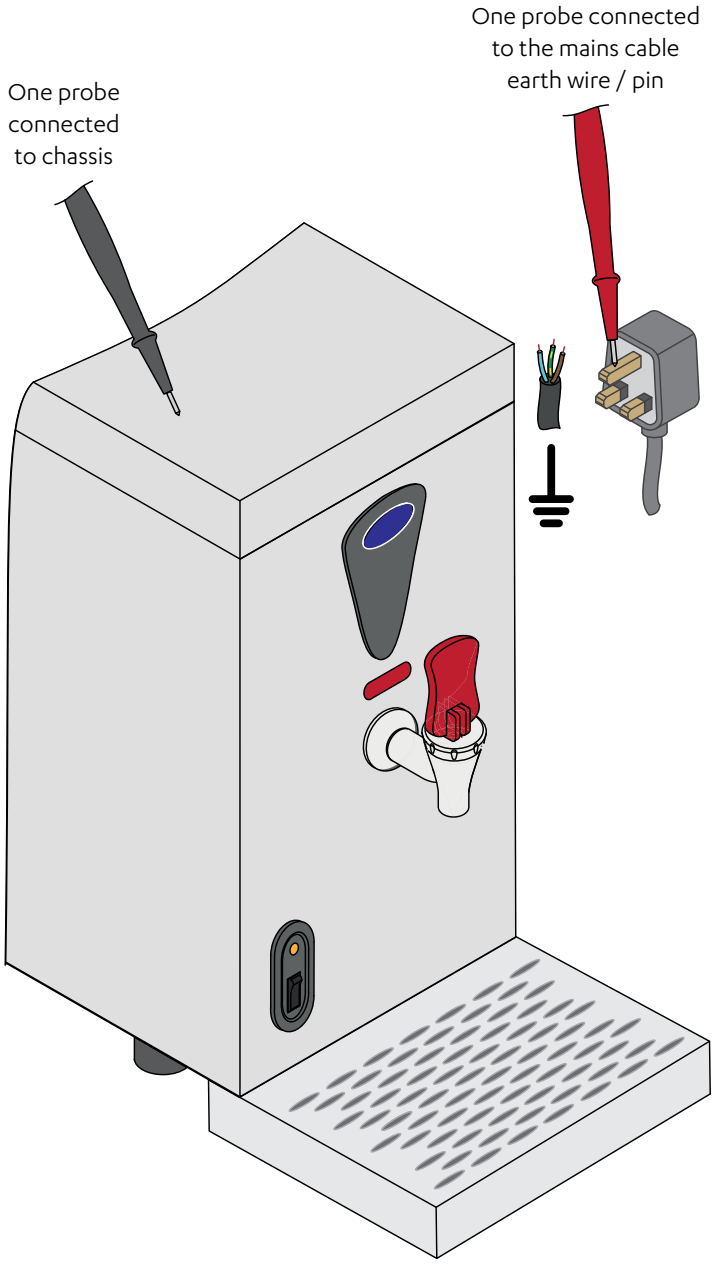
8.1 Earth continuity test

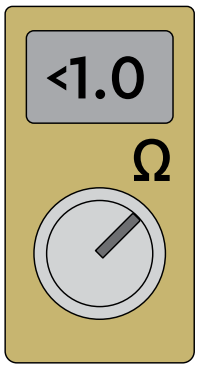
All accessible metal parts must be earthed.

- Following service work, the earth continuity must be checked. Use an insulation tester, appliance tester, DMM or continuity tester with an accuracy of Class 5 or better (±5% at full-scale deflection).

To test the earth continuity

- Isolate the appliance from the electricity supply.
- Set the meter to the lowest ohms (Ω) scale and set to a reading of 0Ω with the meter probes connected together.
- Connect one of the meter probes to the earth wire of the mains cable or earth pin of the mains plug.
- Connect the second meter probe to a bare patch of metal or a screw (the edge is best) on the appliance and read the display.
- Repeat with the second test lead touching the metal body of the tap.
- All readings should be less than 1Ω.
- If any of the reading are above this value, check the earth connection inside the appliance.





Insulation resistance meter or DMM

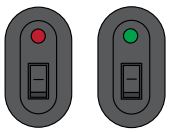
SECTION 9 Troubleshooting

9.1 Fault finding

This section contains a list of faults and causes that the appliance may encounter.

Boiler problem	Possible cause
Dead	• Thermal cut-out tripped - See over boiling. (Red L.E.D. on, but appliance dead in all other respects) P.C.B. faulty - (transformer). • No mains input (installation or outside interference fault) On/Off switch faulty. • Unsound terminal connection. • Blown fuse in plug. • Bad connection in plug (mains lead fault).
L.E.D's Flashing	• See next page.
Overfilling	• Water pressure too low or high. • Contaminant sticking valve open. • Possible PCB failure. • Faulty solenoid.
Not Filling	• Blocked inlet elbow. • Blocked solenoid filter. • Water turned off . • Kinked inlet hose. • Water pressure too low or high Solenoid coil failed. • Scaled up top probe. • Top probe wire shorted out Faulty element (See not heating).
Water Draw-Off	• Tap spring or washer fault
Over Boiling	• Potentiometer set too high or faulty thermistor . • Faulty triac. • Appliance not filling. • Appliance scaled up.
Not Heating	• Thermal cut-out tripped. • Faulty element. • Faulty traic. • Faulty P.C.B. • Unsound connection on element or triac.
P.C.B. Blown	• Steam (See over boiling) or water damage • Element blown (fuse on board) • Triac blown.
Taste Problems	• Washing appliances or dish washer on same feed BLUE or RED hoses on same feed. • Outside interference. • Expired filter on feed. • Foreign body in boiler.

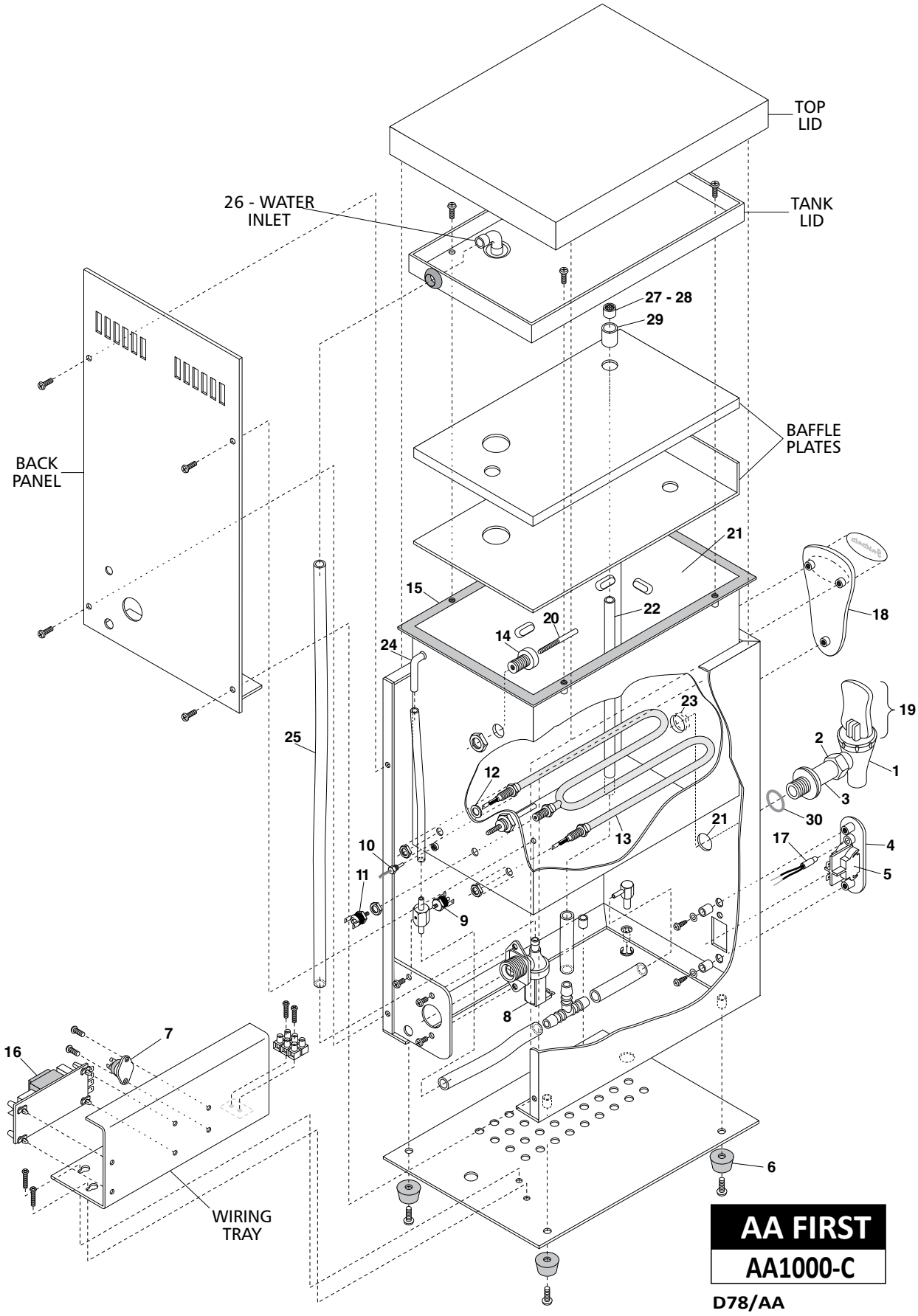
9.2 Troubleshooting table

Status indicator	Possible causes	Action
Flashing green 	The bottom probe is scaled up.	De-scale appliance.
Flashing orange 	Water turned off. Inlet hose kinked or bent. Low in-coming water pressure. No water at bottom probe. Faulty solenoid valve	Check water supply and stop-cock. Check in-coming water is at minimum of 0.2MPa. Replace valve.
Flashing red 	Safety Control has activated. Element, triac or thermistor has failed.	Reset safety cut out. Replace components.
Soild Red, changing to Flashing red 	A safety cut out has activated (due to over temperature)	Reset safety cut-out.
Alternate flashing red & green 	Over boil safety cut-out tripped on initial heat up. Faulty element. Thermistor failed Boil dry safety switch tripped.	Reset safety cut outs. Replace components.
Rapid flashing red 	The probes are scaled up and water has risen to a dangerous level. Solenoid inlet valve passing water (heating and filling functions are disabled).	De-scale required. Replace solenoid valve.

10.1 AA1000C Spare Parts

Listed items		
Ref	Item	Desc
1	ETP15BSP	Draw-off tap
2	ETP2CSP	Chromed Tap Nut
3	ETP6CSP	Chromed Tap Extension
4	EC200SMSP	Plastic switch moulding
5	XE650SP	ON/OFF Switch
6	D207SP	Rubber Feet
7	XE851SP	Triac – 25A
8	SOL9SP	Solenoid valve
9	XETR7SP	Over-boil thermal cut-out
9	XETR6SP	Dual-pole Over-boil cut-out (from Jan 2014 – check serial number) (1000-C – CB02863 to CB05128)
10	XE853SP	Thermistor Stick On – Dwg shows fixing point on tank
10	XE853PRBSP	Thermistor Screw In – Units manufactured from Jan 2019
11	XETR5SP	Element thermal cut-out
12	XEN100WSP	Silicone rubber element washers
13	XEN200SP	Element (3.0KW)
14	E307ASP	Probe Holder
-	PRB12A	Probe Assembly
15	XEN5GSP	Tank Gasket
16	XE150BSP	Main P.C.B.
17	XE152SP	Tri-coloured L.E.D. indicator lamp
18	EC500PS5SP	Plastic front facia
19	XTP1050A	Upper Tap Assembly
20	PRB1CSP	Stainless Steel Probe
21	MTO- phone for cost	Stainless Steel Tank
22	Not available separately	Stainless Steel Overflow Tube
23	Not available separately	Stainless Steel Tank Boss
24	Not available separately	Stainless Steel Elbow
25	ACC309SSP	Grey Silicone Tube
26	Not available separately	Chrome Plated Copper Inlet Elbow
27	EOVF2SP	Brass Gauze Retainer
28	Not available separately	Gauze
29	CM28SP	Clear Silicone Pipe
30	XWSH14SP	Grey Silicone 'O' Ring

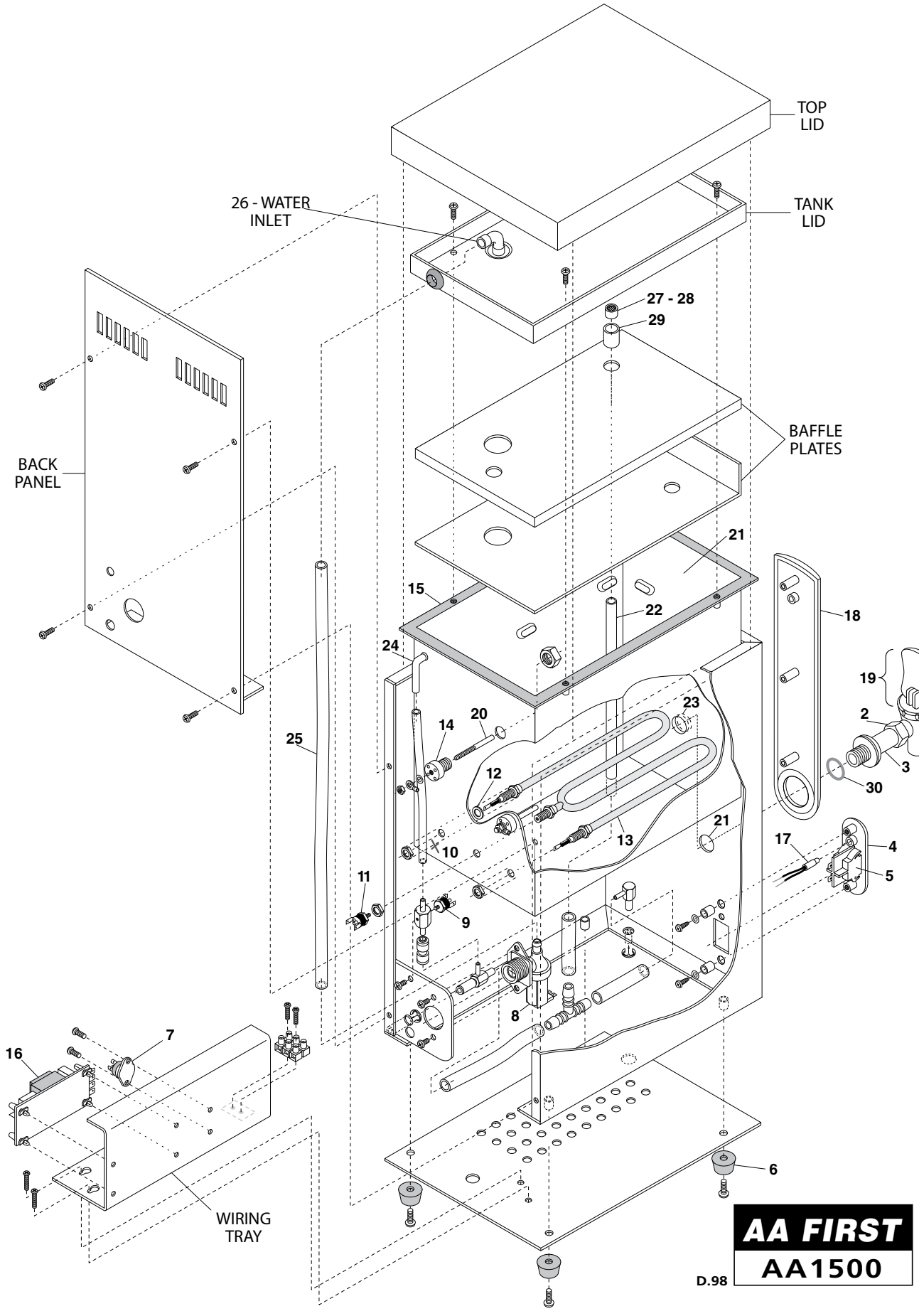
10.1 AA1000C Spare Parts continued



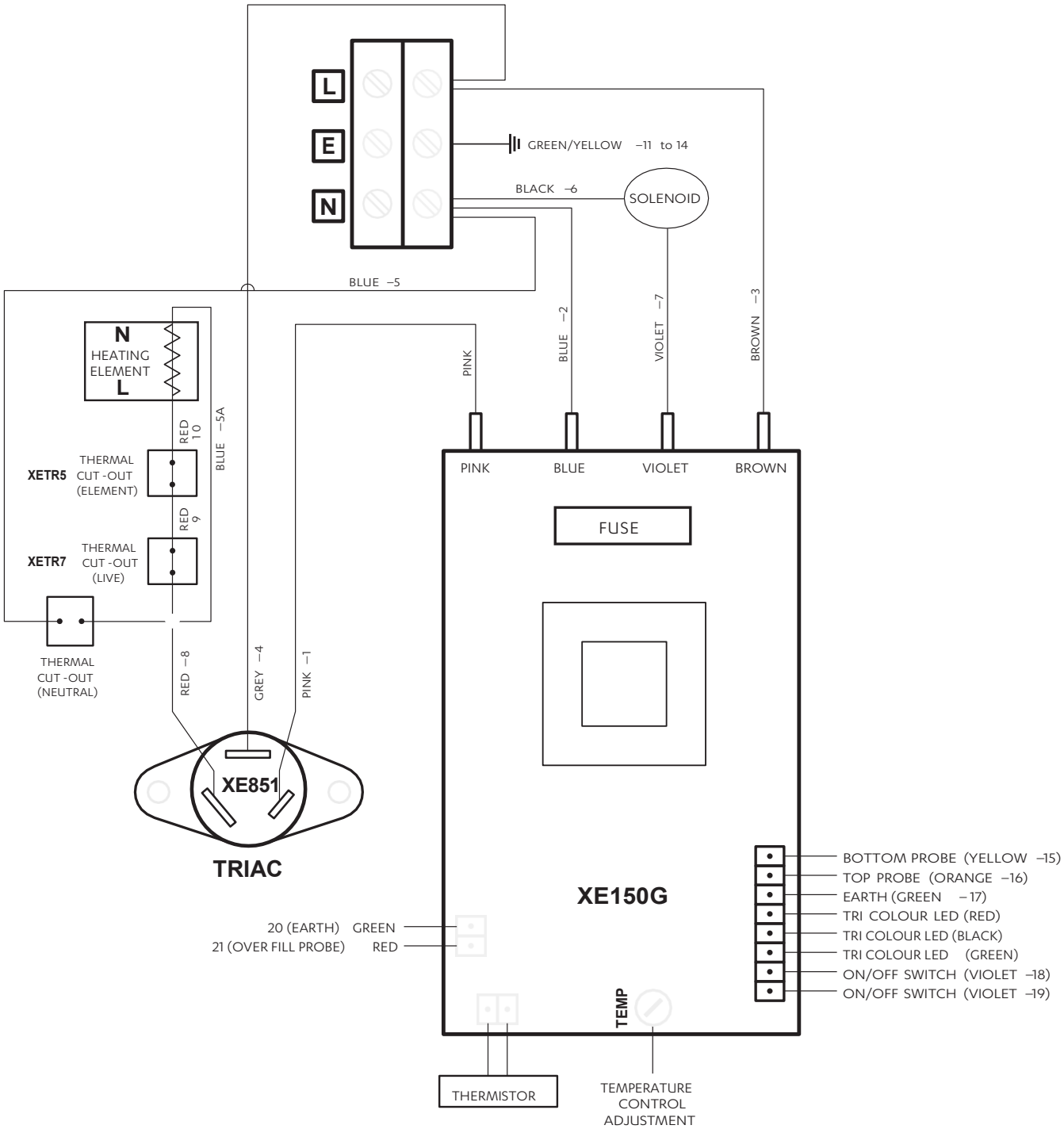
10.2 AA1500VI Spare Parts

Listed items		
Ref	Item	Desc
1	ETP15BSP	Draw-off tap
2	ETP2CSP	Chromed Tap Nut
3	ETP6CSP	Chromed Tap Extension
4	EC200SMSP	Plastic switch moulding
5	XE650SP	ON/OFF Switch
6	D207SP	Rubber Feet
7	XE851SP	Triac – 25A
8	SOL9SP	Solenoid valve
9	XETR7SP	Over-boil thermal cut-out
9	XETR6SP	Dual-pole Over-boil cut-out (from Jan 2014 – check serial number) (AA1000-C – AA00110)
10	XE853SP	Thermistor (stick-on type) - Dwg shows fixing point on tank)
10	XE853PRBSP	Thermistor (screw-in Probe type): units manufactured from Jan-2019
11	XETR5SP	Element thermal cut-out
12	XEN100WSP	Silicone rubber element washers
13	XEN200SP	Element (3.0KW) – Models from Jan 2014
14	E307ASP	PTFE Probe Holder
-	PRB12A	Probe Assembly
15	XEN5GSP	Tank Gasket
16	XE150BSP	Main P.C.B.
17	XE152SP	Tri-coloured L.E.D. indicator lamp
18	EC300PSSP	Plastic front facia
19	XTP1050A	Upper Tap Assembly
20	PRB1CSP	Stainless Steel Probe
21	MTO-phone for cost	Stainless Steel Tank
22	Not available separately	Stainless Steel Overflow Tube
23	Not available separately	Stainless Steel Tank Boss
24	Not available separately	Stainless Steel Elbow
25	ACC309SSP	Grey Silicone Tube
26	Not available separately	Chrome Plated Copper Inlet Elbow
27	XOV2SP	Brass Gauze Retainer
28	Not available separately	Gauze
29	CM28SP	Clear Silicone Pipe
30	XWSH14SP	Grey Silicone 'O' Ring

10.2 AA1500VI Spare Parts continued



11.1 Wiring diagram for all models



Contact details

AA First
Cedar House
Grange Farm
Long Lane
Shaw
Newbury
RG14 2TF

Tel: 01635 20248

https://www.aafirst.co.uk/