

Fitting Instructions

Immersion Heater Upgrade Kit



Introduction

This immersion heater upgrade kit has been produced in line with the recommendations of the Hot Water Association (<https://hotwater.org.uk>), which state that all electrical installations of water heating products MUST fully comply with IEE regulations, and be properly maintained, particularly with regard to checking of electrical connections as part of a maintenance schedule, checking that thermal cut-outs are in place and operational, and taking preventative actions to prolong product safety and reliability.

Replacement Immersion Heater Upgrade Kits

The kits comprise of:

- 2 x 11" low Watts density immersion heaters with integral control and manual reset cut out
- 1 x 4.5m long 180°C heat resistant silicone insulated flexible cord 2.5 mm². The cord is terminated at both ends for direct connection to the immersion heaters.
- 1 x Earth connection cable.
- 1 x Manual fill top up label.
- 1 x Service record label.
- 1 x Set of instructions.
- 1 x Warranty card.

General Guidance

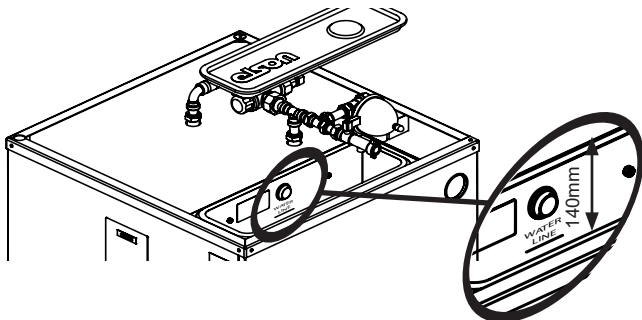
- 1) Check that the immersion heater rating label shows the voltage that conforms to your mains supply.

RECOMMENDATION: ALWAYS REPLACE BOTH ELEMENTS

- 2) The immersion heater may be installed into an Elson thermal store of any size.

WARNING: THE IMMERSION HEATER MUST OPERATE BELOW THE WATER LEVEL. NEVER ALLOW THE IMMERSION HEATER TO OPERATE IN DRY AIR.

- 3) It is essential that the installer checks that the water level in the thermal store is up to the "WATER LINE" which can be found within the feed and expansion tank at the top of the unit before switching the electrical supply back on (see below).



DANGER: NEVER ALLOW THE ELEMENT TO RUN DRY, SERIOUS DAMAGE TO THE UNIT COULD OCCUR AND CAN POSE A SERIOUS HEALTH AND SAFETY RISK

WARNING: DO NOT REUSE EXISTING CABLE OR SEALING GASKET, EVEN IF THEY ARE IN GOOD CONDITION.

IMPORTANT: IT IS THE INSTALLER'S RESPONSIBILITY TO CHECK ALL CONNECTIONS; THIS INCLUDES ALL FACTORY MADE CONNECTIONS.

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- 1) Cool the thermal store down before attempting to drain it.

ADVICE: To save time, contact the customer prior to the engineer's visit and ask them to turn off the power supply to the thermal store and run a hot tap until the hot water from the store goes tepid.

- 2) Ensure the mains cold water and mains electricity are isolated prior to carrying out the works.

- 3) Connect a hose to the drain valve located at the bottom of the thermal store and drain the thermal store into the waste water system

Note: Fluid drained from the thermal store may contain inhibitor solution

- 4) Disconnect the wiring to the immersion heater and manipulate the incoming cable out of the way. Use an 8mm nut driver for the earth nut.

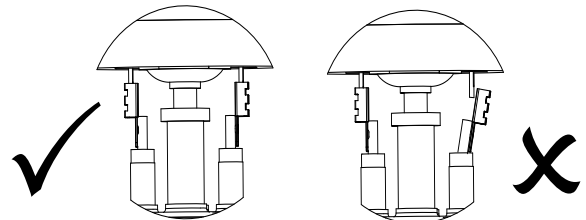
DO NOT CUT THE INCOMING CABLE AT THIS STAGE, it can be used later to aid installation of the new cable.

- 5) Unscrew the immersion heater using an immersion heater socket.

WARNING: STILLSONS SHOULD NOT BE USED.

IMPORTANT: ENSURE THERMOSTAT TERMINALS ARE CORRECTLY ENGAGED TO ELEMENT TERMINALS.

NOTE: THE THERMOSTAT DOES NOT NEED TO BE REMOVED TO INSTALL THE IMMERSION
See Thermostat alignment diagram below



- 6) Ensure the EPDM gasket (Not "O" Ring type) is in place and screw in the new immersion heaters. **DO NOT OVER TIGHTEN.**

IMPORTANT: DO NOT USE THREAD SEALANT ON THE IMMERSION HEATER AS THE IMMERSION HEATER ONLY SEALS ON THE GASKETTED FLAT FACE.

- 7) Once BOTH elements have been fitted, ensure the drain cock is closed and refill the thermal store using a suitable corrosion inhibitor such as Fernox F1 or MB-1.

- 8) Refill the unit to the WATER LINE as detailed earlier.

- 9) Check for leaks and tighten if required.

- 10) The heater must be wired in accordance with the latest IEE Wiring Regulations with cable having a minimum size of 2.5mm² SIHF High Temperature Silicone 180°C (supplied).

- 11) The immersion heater MUST be fully earthed and wired through a double pole switch having a contact separation of at least 3mm in accordance with the wiring regulations.

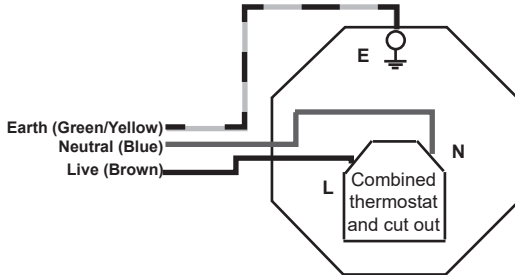
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Wiring Diagram

IMPORTANT: ALL CONNECTIONS MUST BE IN ACCORDANCE WITH THE DIAGRAM BELOW:



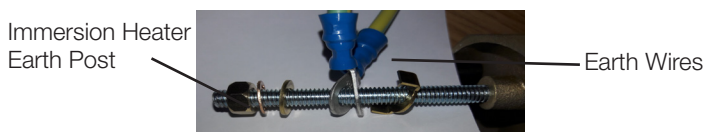
DANGER: UNDER NO CIRCUMSTANCES SHOULD THE THERMOSTAT BE BYPASSED / OMITTED.

12) Ensure all terminal connections are securely made and there are no loose strands. Do not use excessive force when tightening terminals. It is recommended that a torque set screw driver is used and set to 0.6 NM

13) Remove the front of the time clock / controller and disconnect the wiring, noting the position of each cable.

14) Place the pre terminated end of the cable at the connections to the immersion and measure the required amount of cable back to the terminals in the time clock allow enough for connection and to route the cable around the immersion heater to enter the conduit and cut cable, repeat on the second element using the other end of the cable, once this is done you should be left with a piece of cable with no terminals on, this should be used to rewire from the spur to the controller.

15) Clamp the main cable using the cable clamp and two screws provided. Once clamped, connect the Earth wires to the earth post using the components provided In the order shown in diagram, Then Connect the Live and Neutral wires to the thermostat



IMPORTANT: THE ELSON CORAL E IS A CLASS 1 CATEGORY APPLIANCE AND RELIES ON ITS METAL PARTS BEING EFFECTIVELY EARTHED. IT IS THEREFORE IMPERATIVE THAT THE EARTH WIRE FROM THE IMMERSION HEATER EARTH PIN TO THE WHITE METAL CASING IS REINSTATED, A NEW EARTH WIRE IS SUPPLIED IN THE KIT AND SHOULD BE INSTALLED BETWEEN THE EARTH POST AND THE CAPTIVE NUT ON THE OUTER CASING.

16) Join / tape the new and old cables together in order to draw the new cable through the thermal stores internal conduit.

17) Wire up the time clock / controller and refit the front panel.

18) Check that both immersion heater control thermostats are correctly set to 76°C.

19) Ensure that where separate Ranco high temperature cut-outs are fitted, they have been disconnected and removed.

DO NOT WIRE THESE IN SERIES WITH THE CONTROLS PROVIDED WITH THE NEW IMMERSION HEATERS.

20) Fit the immersion heater covers and secure with the nut provided.

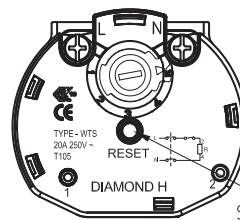
21) Fit the existing thermal store terminal covers.

IMPORTANT: NEVER SWITCH ON THE ELECTRICITY SUPPLY ON BEFORE THE THERMAL STORE IS FILLED WITH INHIBITOR TREATED WATER.

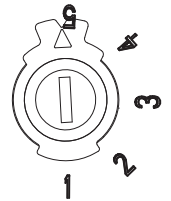
22) Switch the power supply to the unit back on.

23) Apply the labels provided to front of the thermal store and fill in the service record label, Fill out and return warranty card.

24) In the event that the manually resettable cut-out trips within the thermostat operating range, isolate the immersion heater from the mains electricity supply before removing the terminal cover, investigate and identify the cause for the operation of the cut-out and rectify if possible, before manually resetting the device by pressing the small button located on the thermostat housing (see below). At the same time, to prevent re-occurrence, it is advisable to turn down the temperature setting on the control thermostat by 5°C.



Control position
MAX = 76°C



Safety
Reset Button

25) **IMPORTANT:** It may be necessary to remove the element to ensure correct engagement of the thermostat terminals to the element terminals

Refer to alignment diagram page 1 to ensure correct alignment

26) All immersions comply with EN 60335-2-73

IMPORTANT: PLEASE LEAVE THESE INSTRUCTIONS WITH THE PRODUCT FOR FUTURE REFERENCE, AND EXPLAIN THE IMPORTANCE OF THE TOP UP LABEL INSTRUCTIONS TO THE USER

Warranty Information

All products carry a standard 12 months warranty. Normal terms and conditions apply

Warrenty card must be filled in and returned

PLEASE SEE OUR WEBSITE FOR FUTHER DETAILS:

<http://www.elsonhotwater.co.uk/html/maintenance.htm>

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