



**ELECTRIC WATER HEATER**  
Instructions for use and maintenance



Thank you for purchasing a quality Redring appliance.

To enjoy your new unit at its best, please take time to read this manual thoroughly to familiarise yourself with all instructions, BEFORE beginning installation.

If you experience any difficulty with the installation or operation of your new water heater, then please refer to the "What to do if things go wrong" section in this manual before contacting us.

THIS APPLIANCE CAN BE USED BY CHILDREN AGED FROM 8 YEARS AND ABOVE AND PERSONS WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE IF THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THE APPLIANCE IN A SAFE WAY AND UNDERSTAND THE HAZARDS INVOLVED.

CHILDREN SHALL NOT PLAY WITH THE APPLIANCE.

CLEANING AND USER MAINTENANCE SHALL NOT BE MADE BY CHILDREN

THE WATER MAY DRIP FROM THE DISCHARGE PIPE OF THE PRESSURE-RELIEF DEVICE AND THE PIPE MUST BE LEFT OPEN TO THE ATMOSPHERE;

THE PRESSURE-RELIEF DEVICE IS TO BE OPERATED REGULARLY TO REMOVE LIME DEPOSITS AND TO VERIFY THAT IT IS NOT BLOCKED;

IF THE POWER CORD (OF MODELS THAT HAVE ONE) IS DAMAGED, IT MUST BE REPLACED IMMEDIATELY BY AN APPROPRIATELY QUALIFIED PERSON, IN ORDER TO AVOID ANY RISKS.

### REDRING AFTER SALES SERVICE

We offer a technical advisory service on the telephone to installers and other customers with problems in the field.

RING 0844 372 7766\* (UK ONLY)

Or alternatively email us on:

***Service.request@redringxpelair.com***

Remember to quote the exact type of unit, as written on the front of the unit and on this leaflet. The model and serial number are located on the unit.

Make a note of those numbers here, and be sure to quote them if you call for advice.

**Model Number:** .....

**Serial Number:** .....

 **NOTE:** You may be charged for a service call if you do not have the serial number

### IMPORTANT SAFETY INFORMATION

Your TS Line Heater has been designed for convenience, economy and safety of use, provided that it is installed, used and maintained in good working order and in accordance with our instructions and recommendations.

- All wiring and installation must be supervised by a suitably qualified person.
- THIS APPLIANCE MUST BE EARTHED.
- The installation must be in accordance with the current edition of BS.7671 (the "IEE Wiring Regulations") and "Part P" of the "Building Regulations" in force at the time of installation. Installations outside England and Wales must also conform to any local regulations in effect.
- This appliance is intended to be permanently connected to the fixed electrical wiring of the mains supply with its own dedicated supply OR using the plug provided.
- Ensure that the mains water supply meets the requirements listed.
- This appliance must NOT be fitted where it may be subjected to freezing conditions. DO NOT switch the appliance on if you suspect it of being frozen. Wait until you are sure it has thawed out.
- The unit MUST NOT be mounted upside down.
- The unit MUST NOT be fitted to any type of THERMOSTATIC mixer valve or tap.
- If a non-return valve is fitted in the Inlet feed to the unit, then the installation should also include a 3.5 BAR Pressure Reducing Valve and a 6 BAR Pressure Relief (Expansion) Valve.
- Isolate the mains electrical and water supply before removing the front cover of the appliance.

**THIS APPLIANCE CAN BE USED BY CHILDREN AGED FROM 8 YEARS AND ABOVE AND PERSONS WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE ONLY IF THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THE APPLIANCE IN A SAFE WAY AND UNDERSTAND THE HAZARDS INVOLVED.**

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\*Calls to this number cost 7p per minute plus your telephone company's network access charge

## HOW TO INSTALL YOUR TS LINE HEATER



**WARNING:** All wiring and installation must be supervised by a suitably qualified person.



**WARNING:** Do not install this unit where it may be subjected to freezing conditions.

This electric water heater complies with the requirements of EN 60335-1, EN 60335-2-21.

### I. PURPOSE OF USE

The appliance is designed to supply hot water to household facilities equipped with a piping system operating with pressure not greater than 5.5 bars.

It is designed to operate only in closed and heated premises where the air temperature is not lower than 4°C and it is not designed to operate in a continuous protracted regime.

### II. TECHNICAL SPECIFICATIONS

1. Nominal volume 10 or 15 litres - see the appliance's rating plate
2. Nominal voltage - see the appliance's rating plate
3. Nominal power consumption - see the appliance's rating plate
4. Nominal pressure - see the appliance's rating plate



**ATTENTION!** This is not the water mains pressure. This is the pressure that is rated for the appliance and refers to the requirements of the safety standards.

5. Water heater type - closed accumulating water heater, with thermal insulation
6. Inner coating: Glass-ceramic
7. Daily energy consumption – see Annex I
8. Rated load profile - see Annex I
9. Quantity of mixed water at 40°C 10 & 15 litres - see Annex I
10. Maximum temperature of the thermostat - see Annex I
11. Default temperature settings - see Annex I
12. Energy efficiency during water heating - see Annex I

### III. IMPORTANT RULES

- Do not switch on the water heater until you are sure that it is filled with water.
- A suitably qualified person must perform the connecting of the water heater to the water supply.

- A suitably qualified electrician must perform the connecting of the water heater to the electric network (for models without a fitted plug).
- Connecting the water heater to the electric mains via a plug must only use the plug supplied
- If the water-heater will not be used for longer than 3 days and the temperature in the premises could drop below 4°C, the water in the water heater must be drained to avoid any possible damage of the appliance. (please observe the procedure outlined in subsection 2)
- During operation, the appliance may produce a "hissing" noise (the boiling water). This is normal and does not indicate any damage or a fault. This noise may increase in volume over time as limescale is deposited. To remove the noise, the appliance must be de-scaled thoroughly. Failure to de-scale the appliance regularly in hard water areas may impair its performance and affect the warranty.
- For safe operation, the safety return-valve must undergo regular cleaning and inspection for normal functioning, the valve must not be obstructed, and for the regions with hard water it must be de-scaled as necessary. This service is not provided under warranty maintenance.
- All alterations and modifications to the water heater's construction and electrical circuitry are undertaken entirely at the purchaser's risk and are NOT recommended. **Any such alterations or modifications may invalidate the appliance's warranty.**
- Alterations and modifications shall include any instances of removal of elements incorporated by the manufacturer, building in additional components, replacement of elements by those not approved by the manufacturer.
- If the power cord (of models that have one) is damaged, it must be replaced immediately by an appropriately qualified person, in order to avoid any risks

### IV. DESCRIPTION OF THE APPLIANCE

The appliance consists of a body, flange, plastic control panel & safety return valve.

1. The body consists of a steel reservoir (water tank) and plastic housing (outer shell) with thermal insulation placed in-between, and two threaded pipes for the cold water supply IN (marked with a blue ring) and hot water discharge OUT (marked with a red ring). The inner reservoir is steel protected against corrosion by a special glass-ceramic coating.
2. The flange is fitted with the electric element and a magnesium anode. The flange is fixed to the water tank with bolts.

The element heats the water in the tank and is controlled by the thermostat, automatically maintaining the preset temperature. The plastic control panel incorporates: switch (depending on model), adjustable thermostat (depending on model), and thermal cut-out and control lamps.

The thermal cut-out switches off the power supply should the water temperature reach excessive values. If this device is actuated, you should call a the service helpline above.

The signal lights on the control panel indicate the current mode of the unit.

The magnesium anode provides additional anticorrosion protection to the internal tank.

3. The safety valve prevents the appliance from emptying in the event of cold water supply interruption. The valve protects the appliance from pressure increases higher than the allowed value during heating (note: pressure will increase when temperature increases), by releasing the excess pressure through the drain outlet. Excess water exiting into the drain during the heating process is a normal event that must be taken into consideration when the boiler is installed.

**ATTENTION!** The safety valve cannot protect the appliance in the event of water mains pressure exceeding the rated pressure stated for the appliance (6 Bar).

## V. INSTALLATION AND SWITCH ON

### 1. Installation

We recommend installation of the device close to the likely outlet (i.e. Tap) where hot water is used, in order to reduce heat losses. The selected installation location must be clean and dry at all times.

The appliance is affixed to a wall by means of mounting brackets attached to the unit's body.

Two hooks are used to fix the appliance (min. Ø 6 mm) firmly on the wall (included in the mounting set). The bearing plank construction for boilers installed **under sinks** is universal and allows the space between hooks to vary between 96 and 114mm. (fig.2)

**IMPORTANT:** The TS Line Boilers are designed for installation **under sinks** with the outlet/inlet pipes pointed upwards (to the ceiling). Under no circumstances should these units be fitted upside down, with the outlet/inlet pipes pointing towards the floor.

For clear understanding of wall installation schemes, please refer to fig.2.

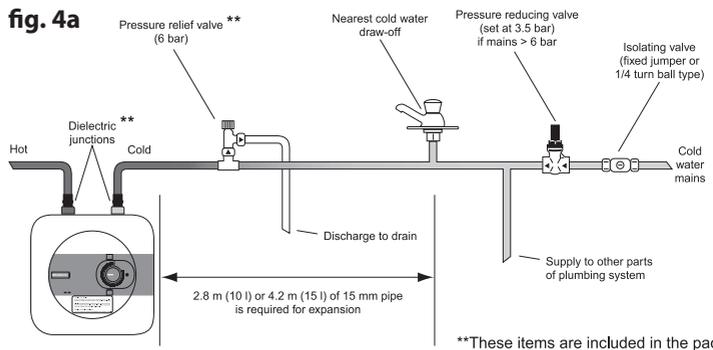
**ATTENTION!** Don't place objects, which are not waterproof under the appliance under any circumstances.

### 2. Water heater connection to the water supply system

## Cold Water Pack Instructions

When water is heated it expands. In a small unvented water heater of this type the expansion can normally be accommodated back into the cold water mains, as indicated in the Water Regulations.

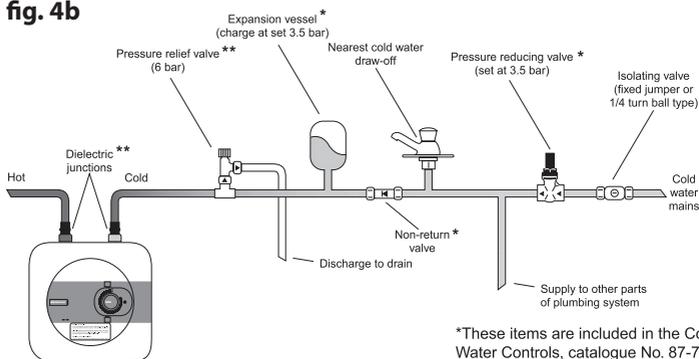
Where this is not possible the installer will need to fit a set of cold water controls



**fig. 4b**

Do not fit any stop-cocks or non-return valves within the distance required for expansion.

The distances quoted are for 15 mm pipe these can be approximately halved for 22 mm pipe to shorten the distance required for expansion.



\*These items are included in the Cold Water Controls, catalogue No. 87-783101

\*\*These items are included in the package

Using a pressure reducing valve (set at 3.5 bar), a non-return valve and expansion vessel charged to 3.5 bar, the expansion is accommodated in the vessel. This operates on the hydraulic principle; i.e. the expanded water is forced into the expansion vessel due to the in-line non-return valve. The vessel pressure charge is increased as it accommodates the expanded water, so that the water is discharged from the vessel when the hot draw off is opened.

**Please note that in ALL cases the DIELECTRIC JUNCTIONS MUST be connected to the heater before any other connection is made. This is very important as they prevent an electrolytic reaction occurring and safeguard the heater against potential aggressive corrosion.**

**Only the use of copper pipe is recommended for connection to the heater. If any other material is used it must be able to withstand 90°C at 7 bar pressure for long periods.**

Upon connecting the water heater to the water supply system, take note of the indicative color markings on the pipes:

**BLUE** - for cold /in-flowing water,  
**RED** - for hot /out-flowing water.

The mounting of the safety return-valve supplied with the water heater is obligatory. The safety return-valve must be installed on the cold water supply pipe, according to the arrow stamped on its body that indicates the supplied water direction.

**Exception:** If local regulations (norms) require the usage of another protection valve or mechanism (in accordance with EN 1487 or EN 1489), then it must be bought and fitted separately. For mechanisms operating in accordance with EN 1487, the rated operational pressure must be no more than 0.7 Mpa (7 Bar). For other protection valves, the pressure at which they are calibrated must be 1 Bar lower than the one marked on the appliance.

**! ATTENTION!** Fixing the safety return-valve to threads longer than 10 mm should not be attempted as this could damage the valve.

**! ATTENTION!** The safety valve and the pipe between the valve and the water heater must be protected from freezing. During hose draining - its free end must be always open to the atmosphere (not immerse in water).

The boiler is filled with water by opening the tap on the cold water supply system and the tap on the hot water mixing area. After the filling process is complete, a constant stream of water should flow from the watermixing faucet. Now you can shut the hot water tap on the mixing area.

If emptying the water heater, you must first cut off the power supply.

### Draining procedure

#### UNDER SINKS

1. Switch the boiler off the power supply network.
2. Dismantle the connecting water fittings from the boiler.
3. Disassemble the boiler from its installation place, turn it so the pipes point to the floor and pour the water in a bucket or similar, ensuring that all the water drains out of the boiler

**! NB-** In the circumstances above only, the safety valve which the appliance is supplied with should not be used.

**! ATTENTION!** Any other type of device should not be fitted between the protection return valve and the appliance.

If the standard water mains pressure exceeds the value pointed out in the above paragraph I, then it is necessary to fit a pressure reducing valve (not supplied) for the heater to function correctly.

The Manufacturer does not accept any liability for problems arising out of the appliance's improper use.

### 3. Water heater's electrical connection (fig.3)



**ATTENTION!** Before you switch the power supply, make sure the appliance is full of water.

3.1. Models fit with power supply cord combined with a plug shall be plugged in a socket. The boiler can be disconnected from the power supply by unplugging.



**ATTENTION!** The wall-plug must be properly connected to a separate electrical circuit fitted with a circuit breaker. It must be earthed.

3.2. Water heaters fitted with a supply cord without a plug

The appliance has to be connected to a separate electrical circuit of the stationary electrical wiring via a hard wired connection.

A safety fuse (16A) (20A for power > 3700W) and RCD or similar should be used to ensure safety.

The connection of the conductors of the power cord of the appliance is as follows:

- conductor with brown insulation – to the phase conductor of the electrical wiring (L)
- conductor with blue insulation- to the neutral conductor of the wiring (N)
- conductor with yellow-green insulation – to the safety conductor of the wiring (⊕)

## VI. OPERATING THE DEVICE

Before initial start of the device, please make sure that the water heater has been correctly connected to the electrical network and that it is full of water.

Switching on the water heater is done through the device incorporated in the installation, which is described in subitem 3.2 of paragraph V, or by inserting the plug into an electrical socket (for models with cord with a plug).

Clarification to Fig. 6:

### Operation modes:

1. Position (❄️) anti-freezing mode



**WARNING:** The electrical power supply of the device should be switched on. The safety valve and the pipe connecting it to the device must be secured against freezing.

2. Position (☀️) maximum temperature
3. Position (🔥) at this mode the water temperature reaches about 60°C. In this way heat losses are reduced.
4. Light indicator – at heating mode it is lit in red, and it is lit in blue when the water has been heated up and the thermostat has switched off.
5. Regulator knob – for temperature setting

### Water heaters with electrical-mechanical POP-UP operation

1. Push the knob to pop-up Fig. 7a.
2. Set the temperature of the water heater Fig. 7b

This setting allows for gradual temperature adjustment.

3. Push the knob to retract Fig. 7c



**WARNING!** Once a month, set the knob to 'maximum temperature' for a period of 24 hours (unless the device is constantly operated in this mode) – this ensures that no bacteria can cultivate in the appliance.

## VII. MAGNESIUM ANODE.

The magnesium anode protects the water tank's inner surface from corrosion. It undergoes wear and tear and is should be replaced periodically by the user.

Redring recommend periodic inspections of the magnesium anode's condition by a qualified technician and replacement whenever required to keep your appliance working correctly.

## VIII. PERIODIC MAINTENANCE

In hard water areas, with normal use lime scale will be deposited upon the heating element's surface. Over time, this builds up and lessens the heat exchange between the heating element and water, which could make the system run hotter and the thermoregulator may switch on and off more frequently.

Redring recommends preventive maintenance of your water heater at least every every two years by a qualified technician - protective maintenance must include cleaning and inspection of the anode protector, replacing it if necessary.

**In order to clean the appliances use a damp cloth.  
Do not clean with abrasive or solvent content detergents.  
Do not pour water over the appliance.**

## DISPOSAL OF THE APPLIANCE

Old electric appliances contain Precious materials and must not be treated as domestic waste! Please dispose of the appliance in the correct area of your local recycling centre or similar facility.

## GUARANTEE AND CONTACT DETAILS

### GUARANTEE

Terms and Conditions for UK only (outside UK contact your local distributor)

In the unlikely event of a product breakdown during the guarantee period you should contact our Service and Repair Helpline who will be able to assist with the repair and advise of the best course of action to be taken.

Please DO NOT remove the product prior to making this call as this may invalidate your guarantee

Service and Repair Tel: 0844 372 7766\* or email: [technical.services@redringxpelair.com](mailto:technical.services@redringxpelair.com)

We guarantee this product for a period of 12 months from the date of purchase.

Within the guarantee period we will resolve, free of charge, any manufacturing defects in the product resulting from faulty workmanship or material on condition that:

- A. The product has been correctly installed and commissioned in accordance with our instructions and is being used on the supply circuit or voltage printed on the rating plate.
- B. The product has been used in accordance with these instructions and has not been tampered with or otherwise subject to misuse, neglect or accident.
- C. The product has not been taken apart, modified or repaired except by a person authorised by us.
- D. Evidence of the date of purchase in the form of an invoice or receipt will be required in order to qualify under the terms of this guarantee.
- E. For the service work to be undertaken free of charge, the work must only be undertaken by Redring Xpelair Group Limited, or our approved agents.
- F. Service under guarantee has no effect on the expiry date. The guarantee on any exchanged parts or product ends when the original guarantee period ends.

### EXCLUSIONS

This guarantee DOES NOT cover damage or defects arising from poor or incorrect installation, improper use or lack of maintenance, including the build-up of limescale. The unit MUST NOT be fitted to any type of thermostatic mixer valve or tap.

The unit MUST NOT be fitted to a bath or kitchen sink other than for hand-washing purposes.

It is the responsibility of the installer to check that the installation parameters meet the requirements of the products, and any relevant regulations.

If we are called out to a fault, which is subsequently identified as being an installation fault, we will make a charge, it is important that the routine checks are completed before calling us out, as many issues can be simply diagnosed and resolved.

A charge will be made where a call under the terms of the guarantee has been booked and a failure was not product related, or an engineer arrives and is not able to gain access.

We make no guarantees as to response time for repairs.

We will endeavour to achieve the most timely response possible but while we indicate an average response time, this should not be taken as a guarantee.

The guarantee applies to a repair or replacement (at our discretion) of the product subject to the conditions above, and DOES NOT cover compensation for the loss of the product or consequential loss of any kind.

This guarantee does not apply to the repair or replacement of pressure relief devices, shower handsets, hoses, accessories, isolating switches, electrical cable, fuses and/or circuit breakers.

This guarantee does not affect your statutory rights.

\*Calls to this number cost 7p per minute plus your telephone company's network access charge

## ANNEX I

### Water heaters in accordance with EU regulation 812/2013

Trade mark	Redring	Redring
Model	TS10 (47789501)	TS15 (47789601)
The declared load profile	XXS	XXS
Water heating efficiency class	C	C
Water heating energy efficiency %	29	28
The annual electricity consumption AEC kWh/annum	623	655
Thermostat temperature setting (°C)	70	70

### Water heaters in accordance with EU regulation 814/2013

Model	TS10 (47789501)	TS15 (47789601)
Daily electricity consumption Qelec (kWh)	3.102	3.249
Declared load profile	XXS	XXS
Mixed water at 40°C V40 (L)	13	25
Maximum temperature of the thermostat Tmax (°C)	70	70
Water heating energy efficiency nwh %	29	28

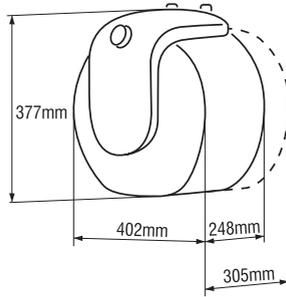


#### DESCRIPTION TO ANNEX I

(1) supplier's name or trade mark (2) supplier's model identifier (3) the declared load profile, expressed by the appropriate letter and typical usage in accordance with Table 3 of Annex VII (4) the water heating energy efficiency class of the model, determined in accordance with point 1 of Annex II (5) the water heating energy efficiency in %, rounded to the nearest integer (6) the annual electricity consumption in kWh in terms of final energy and/or the annual fuel consumption in GJ in terms of GCV, rounded to the nearest integer and calculated in accordance with point 4 of Annex VIII (7) the thermostat temperature settings of the water heater, as placed on the market (8) the daily electricity consumption Q elec in kWh, rounded to three decimal places (9) the declared load profile, expressed by the appropriate letter in accordance with Table 1 of this Annex (10) the mixed water at 40 °C V40 in litres, rounded to the nearest integer; (11) maximum temperature of the thermostat (12) 'out of the box-mode' is the standard operating condition, setting or mode set by the manufacturer at factory level, to be active immediately after the appliance installation, suitable for normal use by the end-user according to the water tapping pattern for which the product has been designed and placed on the market (13) the water heating energy efficiency in %, rounded to one decimal place (14) All specific precautions for assembly, installation and maintenance are described in the operating and installation instructions. Read and follow the operating and installation instructions. (15) All of the data that is included in the product information was determined by applying the specifications of the relevant European directives. Differences to product information listed elsewhere may result in different test conditions. Only the data that is contained in this product information is applicable and valid.

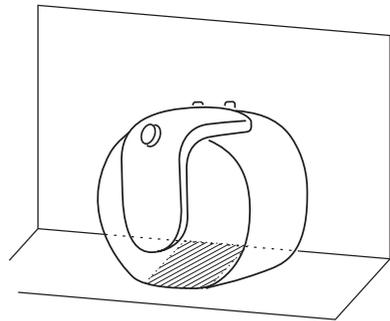
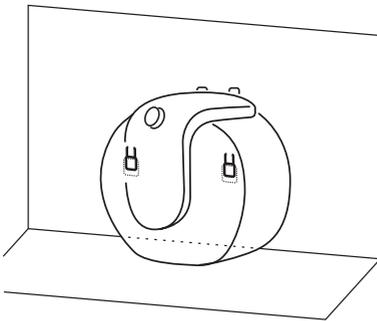
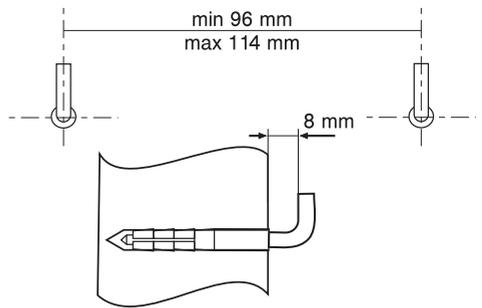
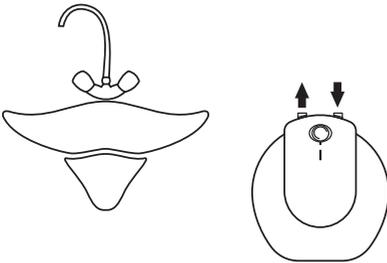


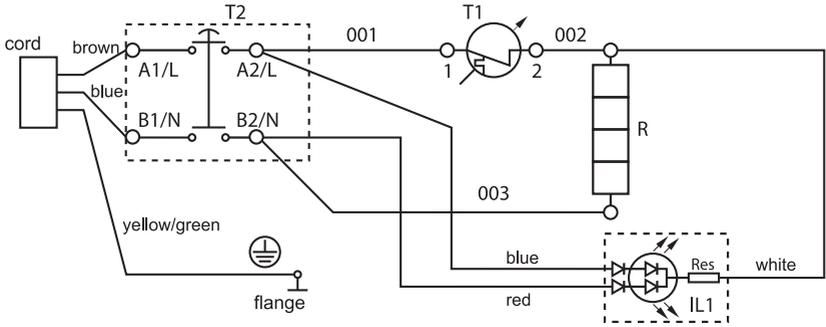
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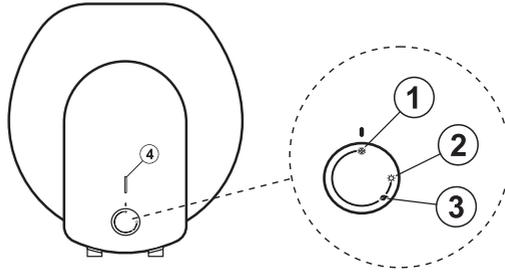


# 2

Under sink







**CONTACT US**

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Website: **[www.redring.co.uk](http://www.redring.co.uk)**

We offer a technical advisory service on the telephone: RING **0844 372 7766\*** (UK ONLY)

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