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Installation guide  
Billi KwikWash I Series



# Pre-installation.

## —Installation Checklist

Please read through this section before commencing installation, to ensure you are familiar with the component parts and the fitting procedure.

If you are installing the unit with a sensor tap, please refer to the sensor tap install guide.

## —This unit must be installed by:

**A Licensed Electrician**, ensuring installation conforms to all current electrical wiring standards.

**A Licensed Plumber**, ensuring installation conforms to all current plumbing standards.

**The Kwikwash I Series must be installed in a vertical position on an internal wall, or in an internal cupboard or space.**

If the safety rules or the instructions outlined in this manual are not followed correctly, the unit may not operate properly and could cause damage to property, serious bodily injury and/or death.

Billi nor it's service agents will be liable for any damages due to failure to comply with the installation and operating instructions outlined in this manual or through improper use.

Improper use includes the use of this appliance to heat any liquid other than potable water within the conductivity range specified in this manual.

## —IP Rating

The unit is rated as IP44. The appliance must be installed inside a dwelling or construction and should not be exposed to splashing water, rain or any circumstance that will allow water to enter the outside cover.

## —Ambient Temperature

The unit is intended for internal installation and should not be installed in an environment where there is a possibility of the ambient temperature dropping below 5°C.

**IMPORTANT:** Failure to comply with the installation and operating instructions or improper use voids the warranty.

Never remove the unit cover unless the electricity is turned off at the isolation switch or switchboard.

To reduce the risk of electric shock or injury to persons or property, please follow the installation instructions carefully.

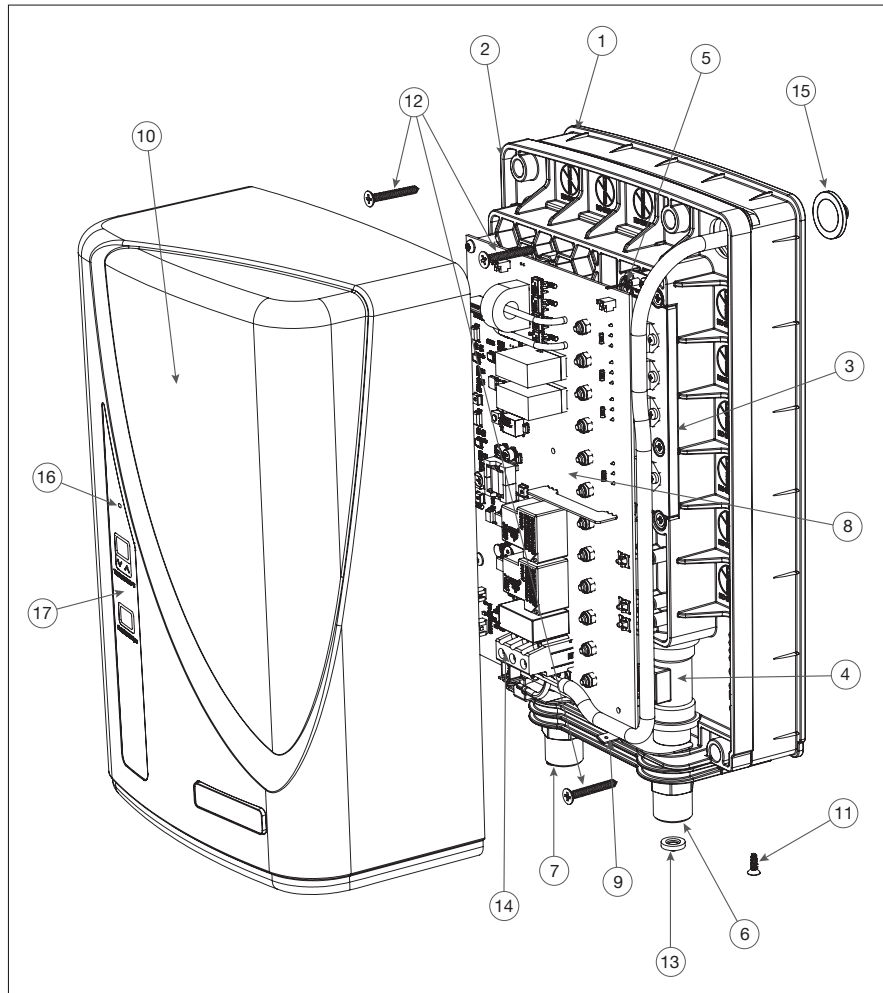
**IMPORTANT:** Where the ambient temperatures are likely to approach freezing – ie: less than 5°C – the unit must be drained of water to prevent frozen water damage occurring.

Failure to comply with the installation and operating instructions or improper use voids the warranty.

## —Component Guide

This is an at-a-view guide to the KwikWash I Series .

This diagram will allow you to become familiar with the component parts of the unit and will assist you during the installation process.



# Installation.

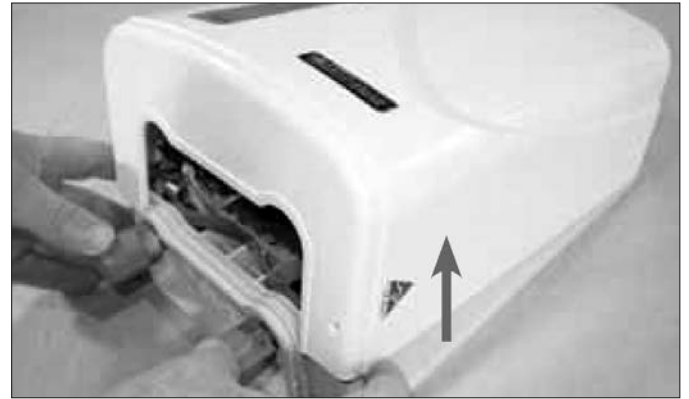
## —Step 1

### Exterior Cover Removal

Find a clean flat surface and place the unit on its back.

Using both your thumbs and forefingers, grip the Exterior Cover (10) firmly along the bottom of the unit, and push the cover slowly up to separate it from the Body of the unit.

**IMPORTANT:** Do not pull cover away completely just yet.



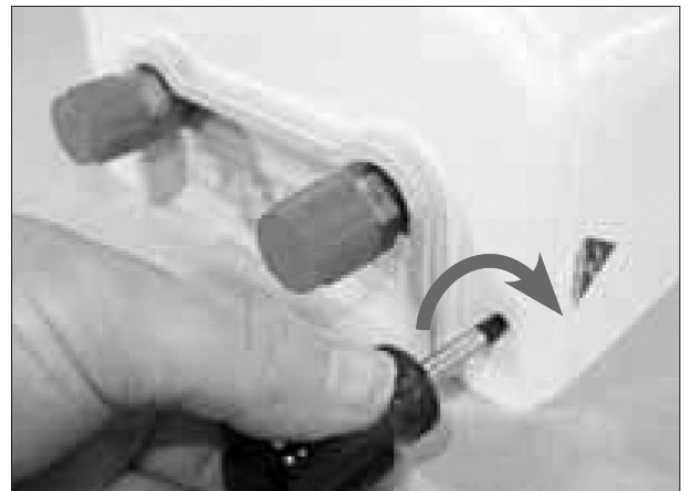
## —Step 2

### Remove the Display PCB

When the Exterior Cover is about 45° from the Body, reach into the unit and disconnect the LED Indicator/Display PCB Plug and Cable (19) from the socket on the PCBA.

You can now lift off and separate the Exterior Cover completely from the Body.

To replace the Exterior Cover, do the same steps in reverse and then using a Phillips head screwdriver, affix the Pan Phillips Head Self Tapping Screws x 2 (11) (provided separately in the small satchel) to secure the exterior cover to the chassis. It is a safety requirement to ensure the unit cannot be easily opened.



# Installation.

## —Step 3

### Mounting to the Wall

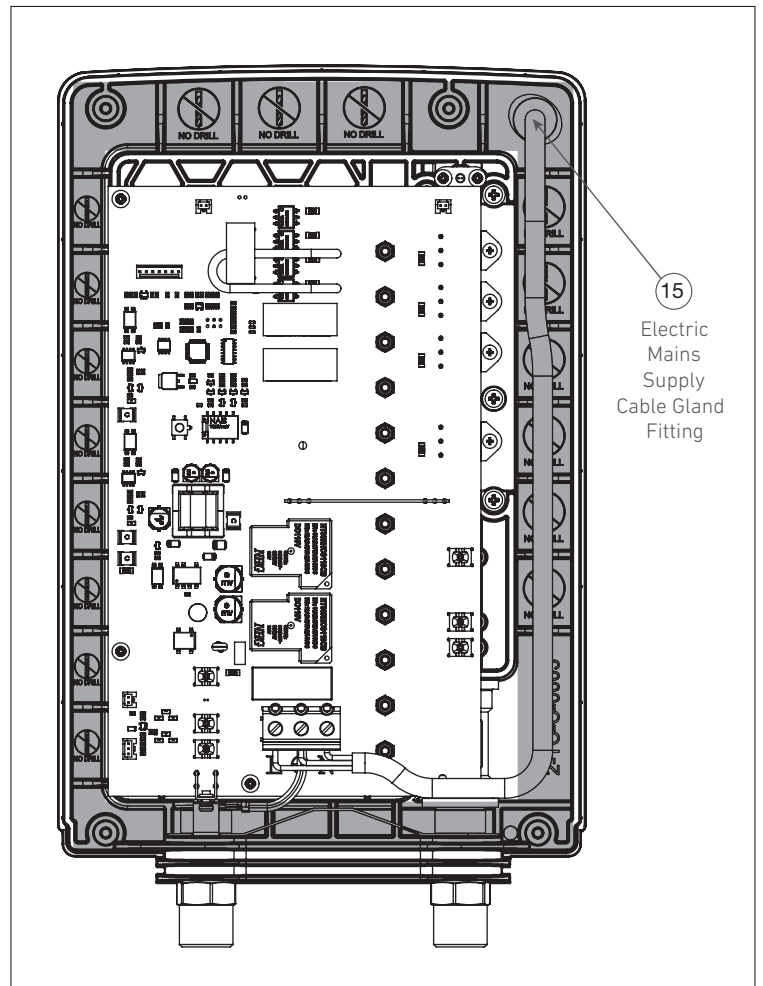
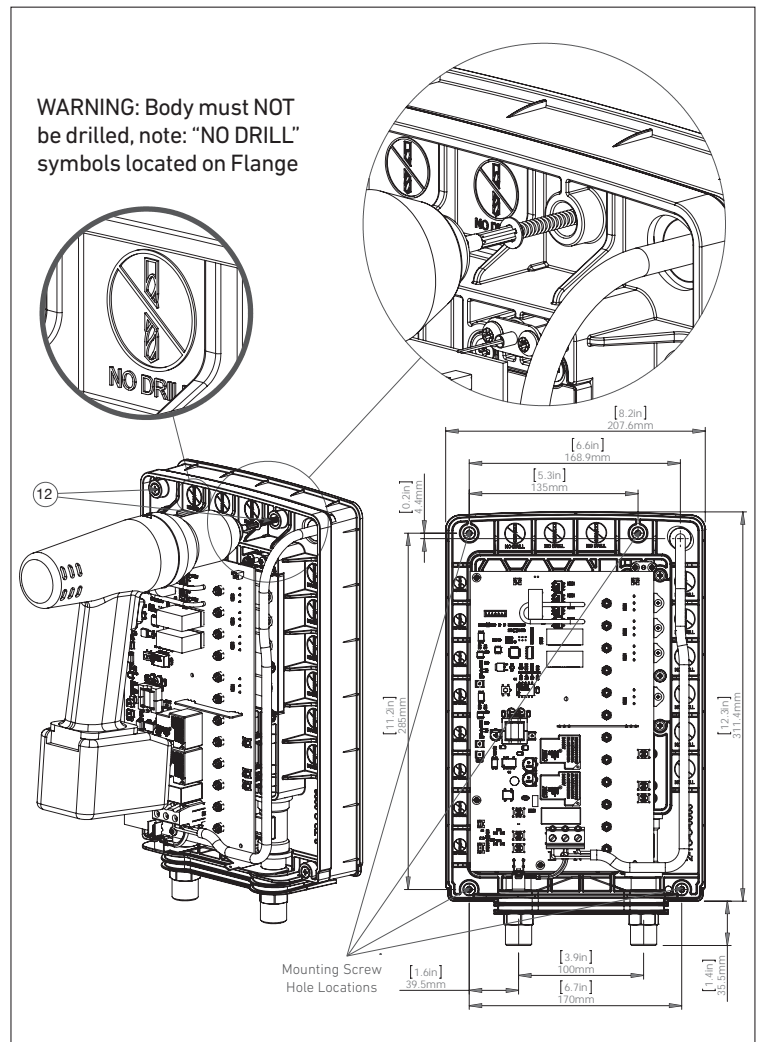
The unit must be mounted onto a solid internal wall, or in an internal cupboard or space, in the vertical position using the 4 x Mounting Screws (12) placed within the Mounting Screw Hole Locations as shown. The maximum screw head diameter is 8mm. A screw head larger than 8mm will damage the mounting boss and crack the body. **THIS WILL VOID THE WARRANTY.**

The mounting method used to fix the unit to a vertical wall must be capable of continuously supporting a minimum weight of 10kg.

When mounting the unit onto a rough surface (ie: a brick wall or similar), a backing board should be mounted to the wall first. The unit can then be mounted onto the backing board. This will allow the Exterior Cover (10) to be properly fitted to the unit.

**IMPORTANT:** When mounting the unit to a wall, it is very important that no holes are drilled within the shaded area shown to the right. The Cable Gland Fitting hole (15) must not be opened out.

Holes drilled within this area, or opening out the Cable Gland Fitting hole, will make the unit inoperable and irreparable. It will also void the warranty.



# Installation.

## —Step 4

### Connection to Plumbing

The installation must comply with the relevant Australian Standards and Industry Codes: Plumbing and drainage – Heated water services AS/NZS 3500.4

The Inlet (6) and Outlet (7) water connections are both ½" BSP SERIES GB.

Mount the appliance in a vertical position on an internal wall, or in an internal cupboard or space first – then connect the hot and cold water to the appropriate connections:

### Inlet (6) Cold Water – BLUE

The cold water supply pipe must be flushed before connecting the cold water supply to the inlet (6). Ensure the Inlet Filter (13) is installed as shown.

### Outlet (7) Hot Water – RED

Effective operation of the unit requires the hot water outlet to be connected to the hot water faucet/valve.

### Water Inlet Pressure Limiting Valve and Shutoff Valve Connection

The unit is a closed outlet water heater and is intended to operate at the pressure of the water mains, where the flow of water is controlled by one or more faucets/valves in the outlet line.

The unit can be installed into any type of commercial or residential construction as per the current Plumbing Standards.

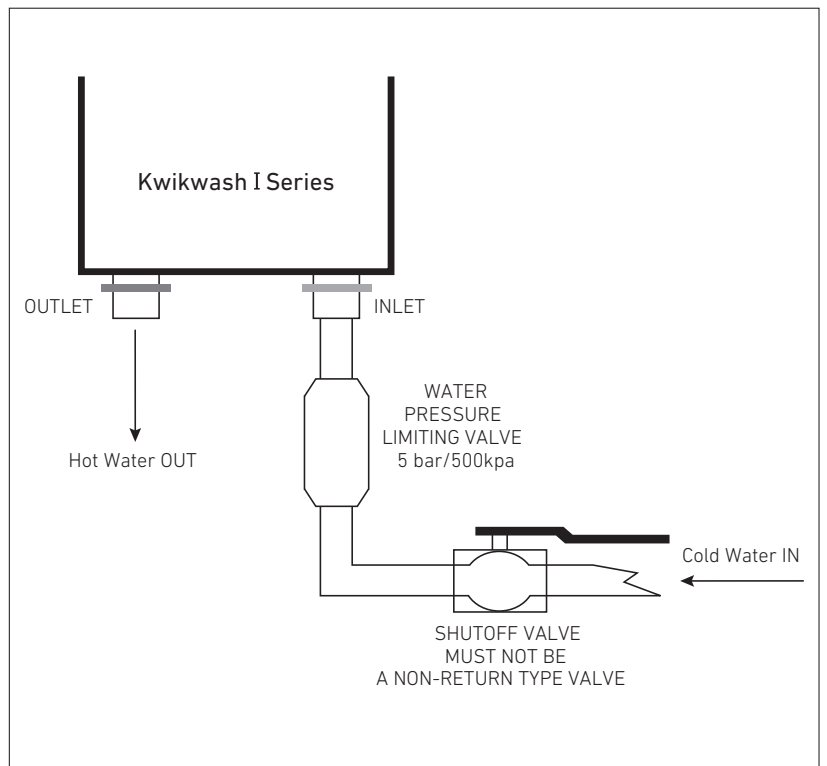
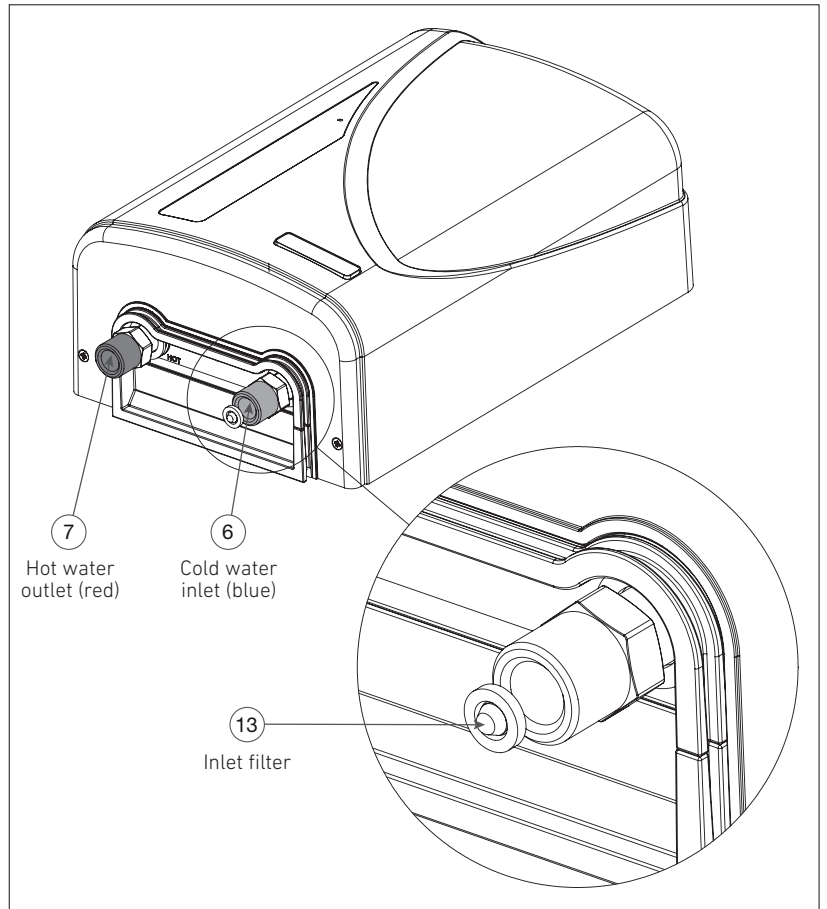
However, it is mandatory for a water pressure limiting valve and a shutoff valve to be connected in series with the unit's cold water inlet connection (6).

- The unit is designed to operate at 10 MPa/10 bar/150 PSI.
- The installation of a pressure limiting valve – a mandatory requirement – ensures that excess water pressure applied, as result of water hammer and/or other circumstances, does not stress the appliance unduly.
- The inline water pressure limiting valve must be rated at 5.0 bar/72.5 psi/500 kpa.
- The shutoff valve installed must not be a non-return type valve.

**IMPORTANT:** Billi will not be liable for any damages through failure to comply with the installation and operating instructions outlined in this manual – specifically in this instance where the specified water pressure limiting valve and shutoff valve type, as indicated, must be installed with this unit.

### —Acceptable inlet/outlet connections

The Inlet (6) and Outlet (7) water connections are both ½" BSP SERIES GB.



# Installation.

## —Step 5

### Connection to Power

The unit must be connected to Live-Neutral/Ground (LNG) Electrical Mains Supply.

The appliance must be connected to the mains supply with fixed wiring. The appropriate mains isolation switch must be incorporated in-line with the fixed wiring electrical supply.

**IMPORTANT:** This unit is classified as a Class I Bare Element Water Heater.

The appliance must be correctly connected to the mains earth.

In order to prevent a hazardous circumstance occurring due to the inadvertent resetting of the thermal cut out, the electrical supply to this appliance must not be supplied through an external switching device, such as a timer – nor can it be connected to a circuit that is regularly switched on and off by the electricity supply utility.

In accordance with the wiring rules, AS/NZS 3000:2007 and IEC 61000-3-11, the Kwikwash I Series is intended for use in premises having a service current capacity  $\geq 100$  A per phase, supplied from a distribution network having a nominal voltage of 400/230 VAC. The Live-Neutral electrical supply connections Live, Neutral and Ground (Earth) must be **permanently connected** to the Terminal Block (14) mounted on the PCBA V6.2 as shown – noting the correct polarity Live – L and Neutral – N.

**IMPORTANT:** Live-Neutral/Ground (LNG) connection is polarity dependent.

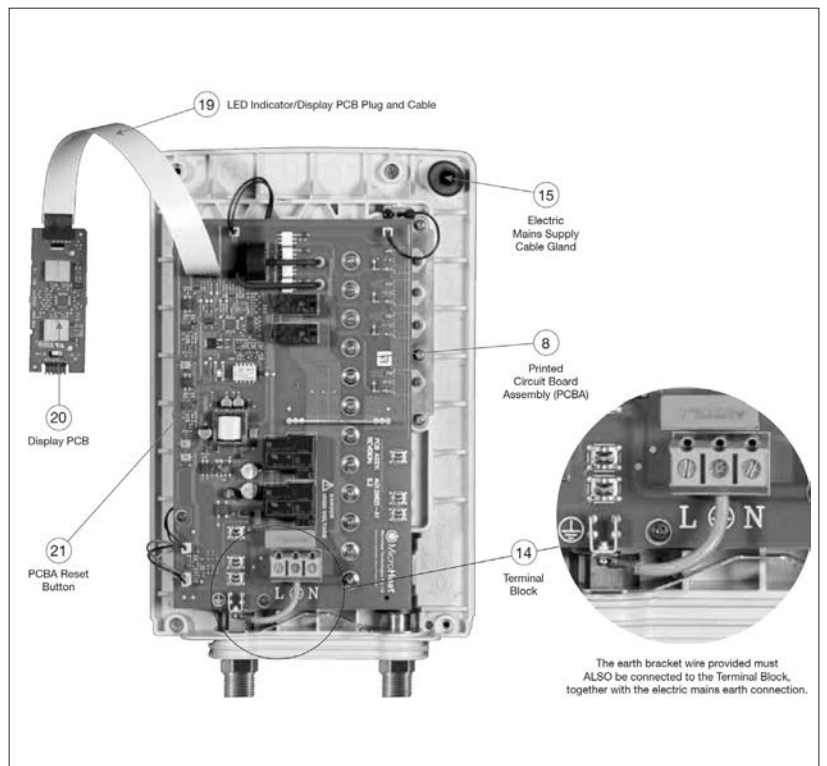
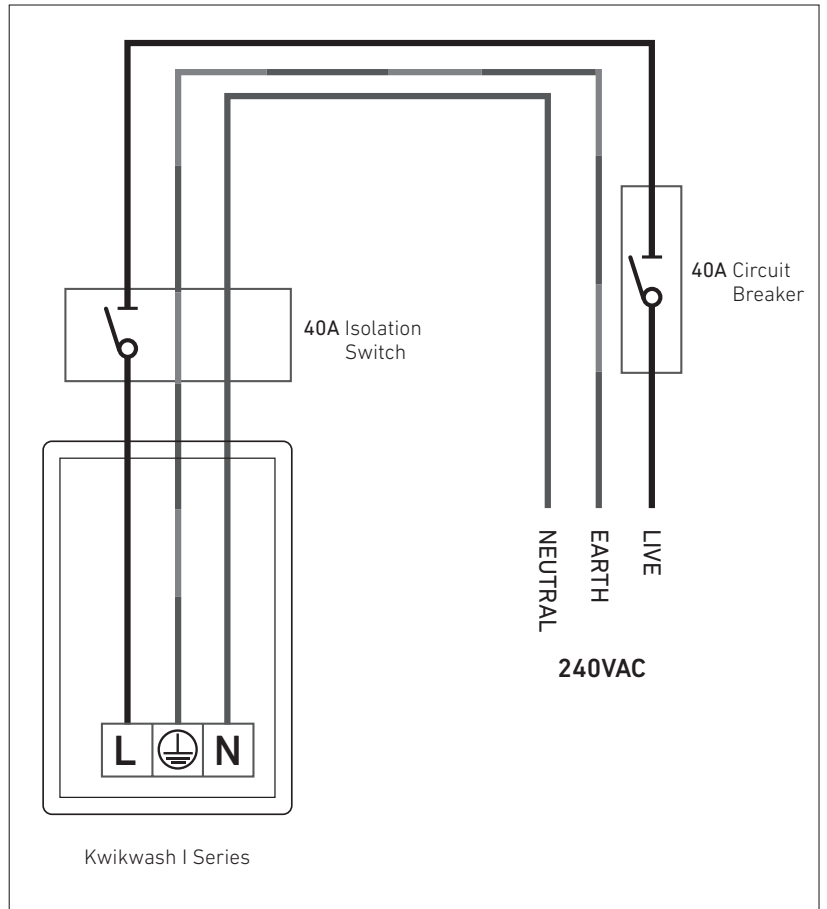
Incorrect wiring connection will cause FC – Earth Leakage Detection Error.

Bring the Live, Neutral supply through the Electric Mains Supply Cable Gland (15) as shown.

The LIVE wire must be connected to the terminal L

The NEUTRAL wire must be connected to the terminal N

The EARTH Wire (GREEN/YELLOW) must be connected to the terminal  $\oplus$



# Installation.

# Maintenance.

## —Step 6

### Preparation for Use

*After installation, this two step procedure must be followed.*

The unit must be primed – this is required only once – nominally at installation.

(Priming is only required when the electricity supply to the unit has been turned off/removed from the unit – for example, after a power failure or an isolation switch OFF condition).

Priming is required to set the unit up environmentally to ensure that the heating ramp-up time from start during normal operation will be as short as possible, without incurring power overshoot.

Once primed, the unit will ramp-up to the optimised power required at the time without overshoot.

**NOTE:** Power overshoot typically results from the maximum power input required to get a heat exchanger up to working temperature as quickly as possible. However, as the unit does not incorporate a heat exchanger, this initial power 'kick' is not required at start up.

### Flush

- Flushing is required to clear the unit of plumbing debris that may have collected in the piping during installation. Remove the Inlet Filter (13) whilst doing this and replace after flushing.
- This is done with the electric power supply turned off.
- Flushing should be allowed to continue for 1 to 2 minutes.

### Prime

- Turn the electricity supply on – check for the LED (16) slow flashing **GREEN**. The unit is now in stand-by mode.
- Turn on the hot water faucet to a flow rate greater than 1.5ltr/min (the unit will start heating – check for LED (16) fast flashing **GREEN**), and allow the unit to run for about 3 minutes.

The unit is now primed and ready for use.

The unit is designed to provide long and reliable service. Actual life expectancy will vary with water quality and use. The unit itself does not require any regular maintenance.

The Kwikwash I Series has a projected Mean Time Between Failure (MTBF) of 925 hours/17,500 cycles.

However, to ensure consistent water flow, it is recommended to periodically remove scale and dirt that may build up in the Inlet Filter (13), the faucet or in the shower head.

**IMPORTANT: Other than the Inlet Filter (13), the unit does not contain any user-serviceable parts. In case of malfunction, a trained service agent, licensed plumber or electrician is required.**



**IMPORTANT:** If the power is cycled, the unit will need to run for around 3 minutes before it will heat.

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