



INSTALLATION INSTRUCTIONS & OWNERS GUIDE

RHEEM LOW PRESSURE ELECTRIC HOT WATER HEATERS

Congratulations for choosing a Rheem Water Heater

It is important that you take a few minutes
to read this booklet as it may save you
time and trouble later.

If you require any further information or your
water heater needs to be serviced, please contact the
Rheem Service Department on 0800 657 335,
or the nearest service centre
(look in the Yellow Pages under Plumbers)

Important to the Installer

Do not leave this booklet inside the element cover
after installation

Please leave the booklet with the water heater's owner

IMPORTANT INFORMATION

GENERAL

- The information contained in this manual, and all other information or advice given at any time by Rheem New Zealand Limited in connection with the purchase, installation or use of a Rheem water heater, is given in good faith. Subject to any rights the owner may have under the "Consumer Guarantees Act 1993", Rheem New Zealand Limited will not be liable to any person for any inaccuracy or omission in the information or advice arising through the fault or negligence of Rheem New Zealand Limited or any other person or through any other cause whatsoever.
- This water heater is not intended to be operated, adjusted or tampered with by young children or infirm persons. Young children should be supervised to ensure they do not play with the water heater.

ABOUT YOUR WATER HEATER

Q. DOES THE WATER QUALITY AFFECT THE WATER HEATER?

- A. Your water heater is suitable for most public water supplies however some water qualities may have a detrimental affect on it. **If you are in a known harsh water area please read page 7.**

Q. HOW HOT SHOULD THE WATER BE?

- A. For reasons of safety and economy, we advise the thermostat is adjusted to the lowest temperature setting that meets your needs. Adjustments should only be made by an authorised service person. The New Zealand Building Code requires a temperature setting of not less than 60°C.

Q. HOW DO I KNOW IF THE WATER HEATER IS INSTALLED CORRECTLY?

- A. Refer to the installation requirements on page 4.

Q. HOW LONG WILL THE WATER HEATER LAST?

- A. There are a number of factors that affect the life of the water heater. These include; the water quality, water pressure, water temperature and the usage pattern, however, your Rheem water heater is supported by a comprehensive warranty (refer to page 8).

HOW THE WATER HEATER WORKS

SINGLE ELEMENT MODELS

Water stored within the water heater is heated by the electric heating element. The thermostat controls the electricity supply to the heating element so that a constant water temperature is maintained. As the cold water is heated it expands approximately 1/50 of its volume and, as a result, a small amount of water is discharged from the cold water expansion valve or through the vent pipe onto the roof for open vented installations.

TWIN ELEMENT SIMULTANEOUS MODELS

The two heating elements are wired for simultaneous operation to reduce the re-heating time. Each element should be supplied with wiring suitable for its power rating.

SAFETY

Fitted to the water heater is a thermostat, which incorporates an over-temperature thermal cut-out device. Closed (valve vented) installations must also be fitted with a pressure relief valve.

WARNING: The operation of the thermal cut-out indicates a possible dangerous situation. Do not reset the thermal cut-out until the water heater has been serviced by an authorised service person.

These safety devices must not be tampered with, or removed, and under no circumstances operate the water heater unless these devices are fitted.

REGULAR CARE

VALVE CARE:

Some relief valves may require an easing lever or twist cap to be gently operated periodically to ensure they are free of build-up and working properly. In this case see valve supplier's recommendations.

GOING ON HOLIDAYS:

If you plan to be away from home for one or two nights, we suggest that you leave the water heater switched on. However, if you plan to stay away more than a few nights, conserve energy by switching the water heater off at the isolating switch, or at the main switchboard. In locations where freezing could occur, you should leave the water heater turned on.

SAVE A SERVICE CALL

CHECK THE ITEMS BELOW BEFORE MAKING A SERVICE CALL. YOU MAY BE CHARGED FOR SERVICE IF THE FAULT IS NOT RELATED TO THE WATER HEATER MANUFACTURE OR PARTS SUPPLIED WITH THE WATER HEATER BY RHEEM.

WATER DISCHARGING FROM VALVE DRAINS

It is normal for the cold water expansion valve and the relief valve to discharge a small quantity of water during the heating cycle. However If either of these valves discharges more than a bucket full of water in 24 hours it may indicate that a valve needs service or replacement. Contact a Rheem Service Centre.

NOT ENOUGH HOT WATER (or no hot water)

- **Is the electricity turned on?**
Check the switch marked 'water heater' at the switchboard and the water heater isolating switch.
Check the fuse marked 'water heater'.

WHERE THE WATER HEATER IS CONNECTED TO AN OFF PEAK (NIGHT RATE) ELECTRICAL TARIFF, THE SUPPLY MAY NOT BE AVAILABLE AT CERTAIN TIMES OF THE DAY.

- **Do you have the correct size heater for your requirements?**
Refer to the sizing guide in the Rheem sales literature or the Rheem website.
- **Is one outlet (especially the shower) using more hot water than you think?**
Carefully review the family's hot water usage and if necessary, check the shower flow rate. For maximum efficiency we recommend the flow rate through the shower is between 8 to 10 litres per minute. This can be achieved by installing a flow control valve if provision is not made to fit a flow restrictor in the shower rose.
- **Ensure the thermostat setting is appropriate.**

HIGH ELECTRICITY BILLS

- **Is one outlet (especially the shower) using more hot water than you think?**
- **Is there a leaking hot water pipe, dripping hot water tap, etc?**
Even a small leak will waste a surprisingly large quantity of hot water and energy. Replace faulty tap washers, and have your plumber rectify any leaking pipe-work.
- **Is either of the expansion valves discharging too much water?**
- **Consider recent changes to your hot water usage pattern and check if there has been an increase in tariffs since your previous account.**

INSTALLATION

- Please take careful notice of the advice given as Rheem New Zealand Limited will not be liable for any loss or damage suffered as a result of the incorrect installation of the water heater, or any failure to check the capability of the electrical supply, wiring to the water heater. The water heater must be installed by an authorised service person or registered plumber and the installation must comply with the New Zealand Building Code (G12), Rheem Installation Instructions, AS/NZS 3000 electrical installations, NZS 4607 for valve vented installations or NZS 4603 for open vented installations, and all local codes and regulatory authority requirements.
- **WATER HEATER LOCATION**

Water heaters with a galvanised outer casing are only suitable for indoor installations, whereas water heaters with a painted casing are suitable for both indoor and outdoor installations. Clearance must be allowed for servicing and removal of the water heater and it must be accessible without the use of a ladder or scaffold. (Typical clearances are: Relief valve removal 135 mm, Element Cover and Element Removal 400 mm). It must also be possible to read the information on the main/rating Label.
- **CONNECTION SIZES**
 - Hot water connection: RP ¾/20.
 - Cold water connection: RP ¾/20.
- **INLET/OUTLET CONNECTIONS**

A union must always be provided at the cold water inlet and hot water outlet for disconnection reasons.
- **NON RETURN VALVE**

A non return valve must be installed on the cold water line to the water heater.
- **PIPE SIZES**

The cold water line to the water heater should be the same size or bigger than the hot water line from the water heater. For best results, choose the most suitable pipe size for each individual application.
- **COLD WATER EXPANSION VALVE**

A cold water expansion valve must be fitted to the cold water line to the water heater.
- **RELIEF VALVE**

For closed (valve vented) installations a pressure relief valve must be fitted. The valve drain pipe must be the same size or larger than the valve outlet. The drain must run downwards to a visible point outside the house, preferably over a gully trap. In locations where the pipe exceeds 3 metres unbroken length or freezing could occur, an air break must be provided within 300 mm of the relief valve.
- **SPACE REQUIREMENTS**

See product labelling for specific dimensions of space for installation.
- **PRESSURE REDUCING VALVE**

If the water supply pressure exceeds the rated pressure, a pressure reducing valve is to be fitted in the installation.
- **PUMPS**

Where water is supplied by a water pump the installation should be open vented to reduce pressure fluctuations being transferred to the water heater.
- **SAFE TRAY AND SIESMIC RESTRAINT**

The water heater must be installed with a properly drained safe tray where there is the possibility of water damage to furniture, carpets or building. All water heaters must be restrained to protect against seismic forces. (Refer to the New Zealand building code for acceptable solutions.)

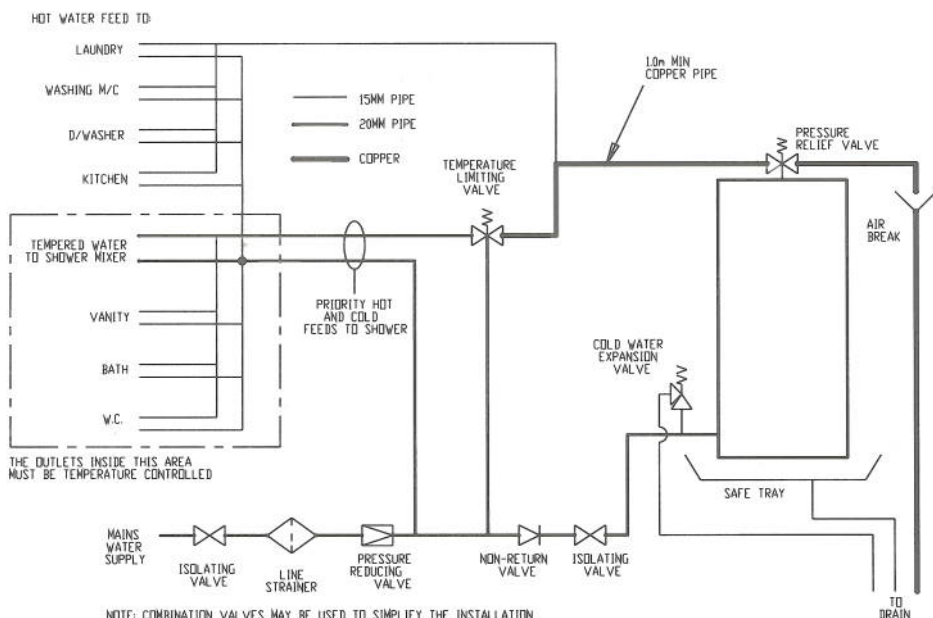


Diagram 1 – Typical Valve Vent Installation

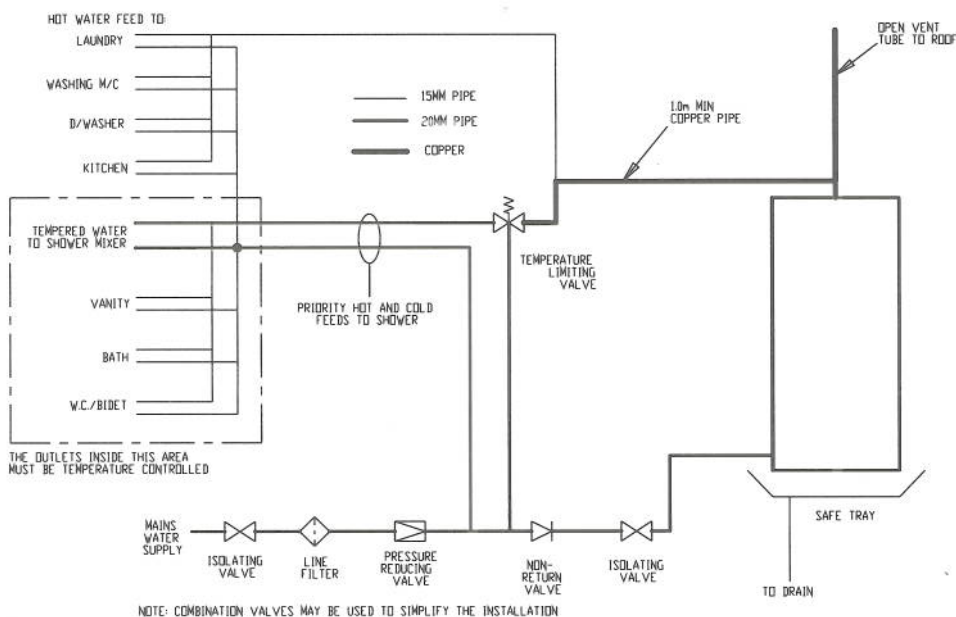


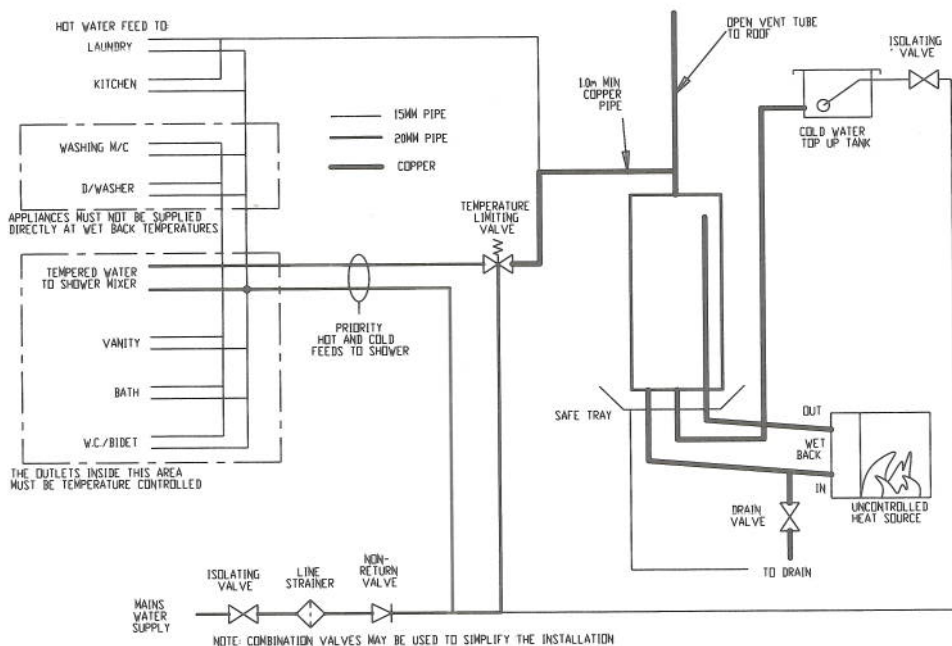
Diagram 2 – Typical Open Vent Installation

WARNINGS:

For closed (valve vented) installations a pressure relief valve must be fitted in the installation. Relief valve rating 7kW min. Refer main label for pressure rating. The valve or drain valve outlet pipe must not be sealed or blocked. The first metre of drain line from the relief valve must be in copper.

For open vented installations the vent pipe must not be sealed or blocked.

For Push Through (Open Outlet) installations the outlet acts as a vent and must only be connected to a fitting recommended by the manufacturer. It must not be connected to a tap.



CONNECTIONS - ELECTRICAL

The electrical installation must be completed in accordance with AS/NZS 3000. All water heaters are designed for 230 VAC, 50 Hz mains operation and a means of disconnection from the power supply must be incorporated in the fixed wiring during installation. A flexible 20 mm conduit is required for the electrical cable to the water heater. The conduit is to be connected to the unit with a 20 mm plain to screw adaptor. Connect the power supply wires directly to the terminal block and earth tab connection, ensuring there are no excess wire loops inside the front cover. For details, refer to the wiring diagram on the inside of the element cover. **A separate heating element earth wire is not required because the element earths by the thread of the element boss or flange being in contact with the element socket.**

COMMISSIONING

TO FILL AND TURN ON THE WATER HEATER

The power supply to the water heater must not be switched on until the water heater is filled with water and a satisfactory Megger reading is obtained.

- Open all of the hot water taps in the house (don't forget the shower). Open the cold water isolation valve fully to the water heater to force the air out of the taps. As water flows freely from each tap, close it. Check the pipe-work for leaks.
- Switch on the electrical supply at the isolating switch to the water heater.

TO TURN OFF THE WATER HEATER

If it is necessary to turn off the water heater on completion of the installation, such as on a building site or where the premises is vacant, then;

- Switch off the electrical supply at the isolating switch to the water heater.
- Close the cold water isolation valve at the inlet to the water heater.

DRAINING THE WATER HEATER

- Switch off the electrical supply at the isolation switch to the water heater.
- Close the cold water isolation valve.
- Open all hot water taps and then for closed (valve vented) installations open the union at the top outlet to allow air into the water heater and water to flow out. Failure to allow air into the water heater may implode the tank when you attempt to drain it.
- Open the water heater drain valve or remove the drain plug.

WHAT YOU SHOULD KNOW ABOUT WATER QUALITY

Your Rheem water heater is manufactured to suit the water condition of most local authority water supplies. However, some water supplies can have a detrimental effect on the water heater and its operation and/or life expectancy. If you are unsure of your water quality, you can obtain information from your local water supply authority.

Water pH

pH is used as a measure of the water's alkalinity or acidity. pH should be between 6.5 and 7.5 for the proper life of the water heater. For low pH a corrosive resistant element can improve the life of the element. For high pH Low watts density elements and a low temperature setting (60°C) should be used to reduce scale build up on the element and in the tank

SATURATION INDEX (SI)

The saturation index is based on pH and is used as a measure of the water's scaling properties. With positive SI calcium carbonate is deposited out of the water onto any hot metallic surface. Where SI is greater than +0.4 the water is very scaling. An expansion control valve must be fitted on the cold water line after the non-return valve. Low watts density elements and a low temperature setting (60°C) should be used to reduce scale build up on the element and in the tank. Where the saturation index exceeds +0.8 warranty will not apply to the copper tank or heating element. Water with an SI greater than +0.8 may be treated with a water softening device to reduce the SI of the water. For extreme water conditions a coated element may be available.

PLASTIC TANKS

Rain water held in plastic tanks should be regularly checked for pH and adjusted to between 7.0 and 7.5. pH below this can cause corrosion in the water heater.

WATER HEATERS NOT INSTALLED IN ACCORDANCE WITH THE ABOVE ADVICE WILL NOT BE COVERED BY THE RHEEM WARRANTY.

WARRANTY

In addition to your legal rights, Rheem New Zealand Limited makes the following promise to the owner. We will repair or, if necessary, replace a defective domestic water heater or part, which has failed due to faulty manufacture on the following terms and conditions:

Component	Installation	Model	Warranty Period (since installation)	Warranty
All	All Installations	All Models	First 12 Months	New component or water heater (at Rheem's sole discretion) free of charge, including labour
Inner cylinder	Water heater installed in a single-family domestic dwelling		First 5 years	New water heater free of charge, excluding labour

DURABILITY

Your Rheem water heater meets the durability requirements of New Zealand Building Code provided the water heater is:

1. Installed in accordance with the New Zealand Building Code and the Rheem Installation Instructions.
2. Maintained in accordance with these instructions.
3. Not damaged in any way.
4. Stored correctly prior to use, and
5. Your water quality remains within the requirements stated in the Installation Instructions.

WARRANTY CONDITIONS

1. The water heater must be installed and maintained in accordance with the Rheem Installation Guides supplied with the water heater, and comply fully with all the requirements of the New Zealand Building Code.
2. The warranty applies to the faulty manufacture of the water heater only and does not cover any plumbing, gas fitting or electrical parts supplied by the installer, that are not an integral part of the water heater, e.g. pipe work, valves, electrical switches, pumps and fuses.

WARRANTY INFORMATION

WARRANTY EXCLUSIONS:

The Rheem Warranty does not cover repair or replacement work to the water heater or its components caused directly or indirectly by:

1. Accidental damage
2. Acts of God
3. Failure due to misuse
4. Incorrect installation
5. Attempts to repair the water heater, other than by a Rheem Authorised Service Centre, or the Rheem Service Department
6. Excessive water pressure, negative pressure or excessive heat input
7. Non compliance with a) the Rheem Installation Instructions, b) relevant statutory regulations, c) New Zealand Building Code requirements.

This warranty does not include any additional costs, for removing a heater where dismantling or removal of other materials is required, that is, walls, doors or roofs. Rheem New Zealand Limited will not pay claims for damage to furniture, carpets, walls, foundations or any other consequential loss either directly or indirectly due to leakage or other causes from a water heater.

Repairs to the water heater due to chemical/scale formation in waterways when the heater has been connected to a harmful water supply as outlined on page 7 of the owners manual.

Service under this warranty can be provided by a **RHEEM AUTHORISED SERVICE CENTRE**.

Such services will be provided during their normal business hours.

Additional mileage and cartage charges shall be made for any water heater installed in a location exceeding 25km from the nearest Rheem Service Centre.

Note: You may have other rights in addition to this warranty under the "Consumer Guarantees Act 1993".

RHEEM SERVICE DEPARTMENT, 475 Rosebank Road Avondale, Auckland Phone: 0800 657 335, Fax: 09 829 0222

Or consult the Yellow Pages under "Plumbers" for your nearest Rheem Authorised Service Centre