Date of Revision:
14/04/2021

RAPID SERIES 28L, 45L and 50L Electric Water Heaters

Owner's Manual and Installation Guide

Models R50 36, R50 24P, R50 18P
R45 36, R45 24P, R45 18P
R28 36, R28 24P, R28 18P

THIS WATER HEATER MUST BE INSTALLED AND SERVICED BY AN AUTHORISED PERSON.

On completion of installation please give these Instructions to the householder.

current AS/NZS 3000, AS/NZS 3500 local regulations and municipal building codes by persons authorised by local regulations to do so.

4. All Alliance water heaters must be operated and maintained in accordance with manufacturer's operating instructions.

5. 1.The warranty applies only to the components supplied by Alliance Appliances. It does not apply to components supplied by others, such as pressure limiting valves, isolating valves, non-return valves, electrical switches, pipework, electrical cables and fuses, but not limited to these.

6. Any inspection, service, repair or replacement activities associated with warranty on Alliance products must be authorised by Alliance Appliances before commencement.

7. Where the appliance has not been sited in accordance with the installation instructions or installed such that normal service access is difficult, a service charge will apply. If at the discretion of the attending service person, access is deemed dangerous, service will be refused. Any work required to gain reasonable access to the appliance will be chargeable by the attending service person (for example, removal of cupboards, doors, walls, or the use of special equipment to move components to floor level, but not limited to these).

8. Where a failed component is replaced under warranty, the balance of the original appliance warranty will remain effective. The replacement part or appliance does not carry a new warranty.

9. Alliance Appliances reserve the right to have the installed product returned to the factory for inspection.

10. 1.This warranty applies to water heaters connected to a water supply where the water chemistry and impurity levels do not exceed the limits specified in this manual's section headed **WATER SUPPLY QUALITY AND WARRANTY**. The water supply from water utilities is deemed to comply with these requirements.

Disclaimer

The contents of this manual are provided by Alliance Appliances for general informational purposes only and do not substitute for professional advice. While we make every effort to ensure that the information contained in this resource is up-to-date and correct at the time of publishing please note that:

1. Designs, features and specifications constantly change and the information in this manual may from time to time be out of date, inaccurate or incomplete
2. There is no substitute for the expertise of a qualified plumber or relevant tradesperson and we recommend that you seek professional advice before making your product choice and installing.

To the maximum extent permitted by law, Alliance excludes all liability for loss or damage of any kind relating to the information in this manual.

INSTALLATION - REGULATORY REQUIREMENTS

This water heater must be installed by a licensed tradesperson in accordance with:

- AS/NZS 3500.4 and
- AS/NZS 3000 and
- Alliance Appliances Installation Instructions and
- All local authority regulations and
- Any other relevant Statutory Regulations.

Notice to Victorian Consumers

This water heater must be installed by a person licensed by the Victorian Building Authority.

Only a licensed person will have insurance protecting their workmanship and be able to provide a Compliance Certificate.

Make sure that the person installing this heater is licensed and provides you with a Compliance Certificate.

For further information contact the Victorian Building Authority.

Installing Plumber:

Upon completion of the installation and commissioning of the water heater ensure that the householder receives this Manual.

Note: Alliance Appliances Australia Pty. Ltd. has taken great care to ensure accuracy in preparation of this publication. No liability can be accepted for any consequences, which may arise as a result of its application.

Contents

Alliance appliances warranty period.

Alliance Appliances Electric Water heaters	R50L		R45L		R28L	
	Cylinder	Components	Cylinder	Components	Cylinder	Components
Domestic Use	7 years parts	1 year parts	7 years parts	1 year parts	7 years parts	1 year parts
	3 years labour	1 year labour	3 years labour	1 year labour	3 years labour	1 year labour
Commercial Use	1 year parts	1 year parts	1 year parts	1 year parts	1 year parts	1 year parts
	1 years labour	1 year labour	1 years labour	1 year labour	1 years labour	1 year labour
Components include thermostats, elements, valves, sensors and anodes.						

Service Contact **0432 359 454**
0438 397 143

Warranty Conditions

1. This warranty applies to products which are manufactured on or after the date of publication of this warranty and before the next date of publication of this warranty.
2. All terms of this warranty are effective from date of completion of installation of the appliance(s) and the attending service person reserves the right to verify this date by requesting proof of purchase or a copy of the certificate of compliance prior to the commencement of any warranty work. Where the date of completion of installation is not known, then this warranty will commence 2 months after the date of manufacture. The date of manufacture is stated on the data plate of the appliance.
   Note: Certificates of compliance must be issued by the installer by law in all States and Territories of Australia.
3. All Alliance water heating components must be installed, commissioned, serviced, repaired and removed in accordance with the manufacturer's installation instructions,

Draining the Water Heater

WARNING: The water draining from the heater may be very hot.

Draining Procedure

- Turn off the electrical supply to the heater.
- Close the cold water supply isolation valve at the heater
- Close all hot water taps supplied by the heater.
- Slowly operate the pressure and temperature relief valve (PTRV) easing lever until water flows from the drain pipe. This will reduce the pressure in the heater. Slowly close the easing lever. Do not let hot water from the drain pipe outlet come in contact with anyone as it may be hot.
- Disconnect the cold water supply union at the heater.
- Attach a hose to the union on the heater and run the other end of the hose to a suitable drainage point.
- Slowly operate the PTRV easing lever again. This will allow air into the heater and start the heater draining through the hose.
- Slowly close PTRV easing lever when water flow stops.

Note. As the cold water inlet union is not at the very bottom of the heater's cylinder a few litres of water will remain in the bottom of the heater

Warranty

Australian Consumer Law

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

The Alliance warranty (set out below) is in addition to any rights and remedies that you may have under the Australian Consumer Law.

IMPORTANT INFORMATION FOR SAFE OPERATION

Heater Users

This water heater is intended only to be operated by persons who have the experience, knowledge and the capabilities to do so. This water heater is not intended to be operated by persons with reduced physical, sensory or mental capabilities e.g. the infirm or children. Children and animals should be supervised to ensure they do not interfere with the water heater.

Warning: For the continued safety of this appliance, it must be installed, operated and maintained in accordance with the manufacturer's instructions.

Water Connection

This water heater must be permanently connected to the water supply. It must not be connected by a hose-set.

If the water supply pressure exceeds, **or is likely to exceed,** the heater's Rated Pressure, a pressure reducing valve (PLV) is to be fitted in the installation. This heater's Rated Pressure can be found on the heater's rating label.

Details of the connected water supply pressure limit, the appropriate PLV and its set values are in this manual in the section headed **Water Supply Pressure - Pressure Limiting Valve (PLV) Page10.**

Water heaters with a plug and flexible supply cord

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or a similarly qualified person in order to avoid a hazard. Alliance replacement parts should be used.

WARNING – THIS APPLIANCE MAY DELIVER WATER AT A HIGH TEMPERATURE. REFER TO THE PLUMBING CODE OF AUSTRALIA (PCA), LOCAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS TO DETERMINE IF ADDITIONAL DELIVERY TEMPERATURE CONTROL IS REQUIRED

Water Temperature - Scalding Hazard – Temperature Limiting Device

All users of the heater need to be aware that the discharged water can be hot enough to cause scalding burns with children and the elderly being at most risk.

When your heater is installed to service a bathroom or ensuite, Alliance advises, and it may also be required by the plumbing regulations, that an approved Temperature Limiting Device (TLD) be fitted into the hot water pipe work serving the bathroom and ensuite.

The TLD will keep the bathroom and ensuite water temperature around 50°C and reduce the risk of someone being scalded whilst bathing.

The water to the kitchen and laundry can also be supplied at 50°C through the TLD or kept hotter by bypassing the TLD.

The thermostat in the heater has been factory set to 65°C as this stored water temperature will satisfy most users' need.

Where required the thermostat can be adjusted slightly i.e. between 60 and 70°C
Any temperature adjustment of the stored water temperature must be carried out by an electrician or other suitably qualified trades person.

Note. As required by National Plumbing Standard the minimum temperature at which the heater may store water is 60°C.

It is recommended that the stored water temperature be the lowest temperature suitable for your needs. This will reduce the risk of scalding for any young and elderly users. A lower set temperature will also assist in extending the service life of your heater.

Operation of the Heater

Once the heater has been commissioned and turned on, its operation is automatic. When water is drawn from a hot water tap, cold water from the mains supply flows into the heater and replaces the discharged hot water. The heater senses the incoming cold water and begins heating it to the set temperature. The time to heat the cold water will vary depending on such things as the amount of incoming cold water, its temperature and the heater's wattage rating.

Turning On the Water Heater

- Open the water valve in the cold supply to the heater.
- Check that the heater is full of water by turning on a hot water tap supplied by the heater until water flows freely from the tap.
- Switch on the electricity supply. For a wired in unit the isolation switch is usually in the home's electricity meter box.

The unit will commence heating the water but it will take some time before useful hot water is available.

WARNING. **If the hot water system has not been used for two weeks or more a quantity of Hydrogen gas, which is flammable, may accumulate in the water heater. To dissipate this gas safely, it is recommended that a manual (i.e. non-electrically operated) hot tap be fully opened for 2 minutes. During these 2 minutes, smoking, open flames or operating electrical appliances should be avoided. Note. Clothes Washing Machines and Dishwashers are appliances which contain electrically operated taps.**

Turning Off the Water Heater

If the water heater will not be used for only a few days it is suggested that you leave the heater turned on.

If you decide to turn off a wired in heater (i.e. not plugged in) you will usually find a switch marked as “Hot Water” or “HW” inside your home's electricity meter box.

Thermostat Setting

The thermostat is adjustable between 60°C and 70°C. It is factory set at 65°C as this meets the needs of most users.

Any adjustment of the thermostat must be carried out only by an electrician or other suitably qualified trades person.

Alliance recommend that the setting is not increased above 65°C as higher temperatures increase risk of scalding where a temperature limiting valve is not fitted.

Turning the adjustment dial shaft anticlockwise decreases the set temperature.

Note. As required by National Plumbing Standard the minimum temperature at which the heater may store water is 60°C.

It is recommended that the stored water temperature be the lowest temperature suitable for the user's needs. This will reduce the risk of scalding for any young and elderly users. A lower set temperature will also assist in extending the service life of the heater.

Note. Before replacing the Electric's Access Cover press the Reset Button (red) on the thermostat to ensure that the over-temperature cut out is set i.e. not tripped.

Commissioning

Do not turn on the electrical power to the heater until the units has been filled with water and an acceptable megger reading obtained.

- Open all hot water taps and showers connected to the heater.
- Open the heater's cold water isolating valve in the supply line. The first water coming from the taps may be in spurts because of the air mixed in with the water.
- Allow water to flow and flush the system until the water is completely clear.
- Check and clear any strainers in the system including those in the TLD, if fitted.
- Allow water to flow again then close all outlet taps leaving the cold isolating valve open.
- Check all pipework and connections for water leaks. Rectify if required.
- For a hardwired heater turn on the electrical isolating switch in the switchboard
- For heater with a power cord. Plug in cord and turn on GPO switch.
- Once heater has reached its maximum operating temperature again check the system for leaks.
- Check that all drain pipes from the PTRV and ECV (if fitted) function correctly.
- If a TLD is fitted it must have its outlet hot water temperature checked and adjusted, if necessary, as described in the TLD's installation instructions.

ELECTRICAL CONNECTIONS

All electrical connections and permanent wiring must be installed, maintained and removed by qualified trades in accordance with AS/NZS 3000 and all other local authority requirements.

The electrical supply to the heater must not be turned on until the unit is full of water and a satisfactory megger reading has been measured.

A water heater without a power cord and plug must be connected to an independent fused 240V AC circuit with an isolating switch installed in the switch board.

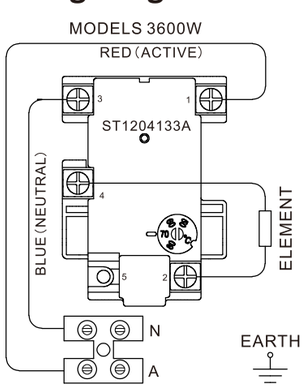
Ensure that the building's electrical wiring and supply can cope with the extra load of the water heater. The heater's Rated Power input will be found on the rating label.

The electrical cables to the unit must be sheathed in a flexible 20mm conduit and enter the heater case below the electrical access cover. A weatherproof 20mm conduit gland is to be used to secure the conduit to the heater's case.

A wiring diagram for the heater is located inside the electrical access cover which can be removed by taking out two securing screws and sliding it downwards.
Active, neutral and earth wires must be connected as shown.

A unit fitted with a power cord and plug must be plugged into a switched 240V AC 50HZ 10 amp rated GPO power outlet. If the unit is installed externally the GPO must be weatherproof.

Wiring Diagram



DANGER

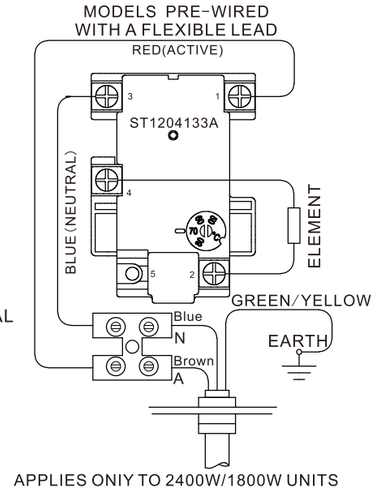
THE OPERATION OF THE THERMAL CUTOUT INDICATES A POSSIBLY DANGEROUS SITUATION. DO NOT REPLACE OR RESET THE THERMAL CUTOUT DEVICE UNTIL THE SYSTEM HAS BEEN SERVICED BY AN AUTHORISED PERSON.

WARNING

DO NOT OPERATE THE WATER HEATER WITHOUT A THERMOSTAT AND NON SELF RESETTING THERMAL CUTOUT IN CIRCUIT.

NOTE

THERMOSTAT SHOULD NOT BE SET BELOW 60°C.



SAFETY DEVICES

For safe operation this water heater is fitted with a
Thermostat and Over-Temperature Energy Cut-Out and a
Pressure &Temperature Relief Valve. (PTRV)

The water heater must not be operated unless both of these devices are fitted and in working order. These devices must not be tampered with or removed.

Over Temperature Cut-Out

The operation of the over-temperature cut-out indicates a possibly dangerous situation. If the over-temperature cut-out operates, it must not be reset until the water heater has been serviced by a qualified person. (Note. If the over-temperature cut-out operates the heater will not heat water.)

Pressure Temperature Relief Valve (PTRV) and Drain

This valve is near the top of the water heater and is essential for the heater's safe operation. The valve may release a little water through its drain pipe as the water heats. This is normal.

PTRV - the arrow shows the direction easing lever is raised.

A **continuous** dribble or flow of water from the PTRV or its drain pipe may indicate a problem with the water heater or the installation. Note. Unless an Expansion Control Valve is fitted in the cold water supply to the heater it is normal and necessary for the PTRV to discharge water whilst the heater's stored water is being heated. See information re Expansion Control Valve (ECV) on Page 7

If there is a **continuous** dribble when the heater is not heating try slowly raising the PTRV easing lever and allow a larger flow out of the drain pipe. If the continuous dribble was caused by small particles of foreign matter resting on the valve seat the flow from the valve may flush the valve seat clean and eliminate the dribble. Check if the dribble has stopped after the easing lever is slowly released and the drain pipe is allowed time to empty.

WARNING. Whilst raising the easing lever keep clear of the drain pipe outlet so that the hot water being discharged will not come into contact with you and cause scalding burns.

If raising and then lowering the easing lever does not stop a **continuous** water discharge contact Alliance Appliances and arrange service by a qualified serviceman.

NEVER BLOCK THE OUTLET OF THE PRESSURE TEMPERATURE RELIEF VALVE OR ITS DISCHARGE PIPE.

OWNER'S 6 MONTHLY SAFETY DEVICE MAINTENANCE

Pressure Temperature Relief Valve (PTRV)

Every six months the easing lever on the valve should be slowly raised so that a full water flow comes from the drain pipe for approximately 10 seconds. After the full flow has been confirmed slowly lower the easing lever. Flow from the drain pipe should stop once the drain pipe has emptied.

Note. Prior to checking the PTRV operation make sure that both the cold water and electricity supply to the heater are turned on.

Warning: Keep clear of the drain pipe outlet so that the hot water being discharged will not come into contact with you and cause scalding burns.

If there is no water discharge when the valve easing lever is raised or if the flow does not stop when the easing lever is lowered, immediately contact Alliance Appliances and arrange service by a qualified serviceman. Also switch off electricity supply to heater until it has been serviced.

DANGER Failure to operate the easing lever at least once every six months and confirm that the pressure temperature relief valve and discharge pipe are operating correctly may result in failure of the heater's cylinder or in some circumstances the heater exploding.

Expansion Control Valve (ECV)

In a number of locations, including, Western Australia, South Australia and where there are “hard” water supplies prone to scaling, it is required to fit an expansion control valve to the cold water pipe to the water heater. A small quantity of water may discharge from the expansion control valve's discharge line when water is being heated instead of from the temperature pressure relief valve's discharge line. This is normal.

Every six months the easing lever on the expansion control valve should be slowly raised allowing cold water to flow from the valve's drain pipe. The flow should stop when the easing lever is fully lowered. If water does not flow freely from the ECV drain pipe contact Alliance Appliances to arrange a service call.

Safe Tray Overflow Pipe

Every six months check that the drain line from the safe tray (if one is installed) is not blocked.

Temperature Limiting Device (TLD) - If fitted

Every six months check that water coming from taps or showerheads with a temperature limiting valve in their supply line is not hot enough to cause scalding or burns. A good check is to use a thermometer to measure that the temperature of the water being discharged

Pressure and Temperature Relief Valves and Expansion Control Valve Drains

Dn15 sized copper drain lines must be fitted to the PTRV and ECV (if fitted). Disconnection unions must be used to allow for removal of these valves.

The drain lines must be run as prescribed in any Local regulatory requirements and in accordance with AS/NZS 3500.4

The drains must fall continuously and be as short as possible. Consult AS/NZS 3500.4 for details of maximum drain length and permitted number of bends. For example, drains with 3 changes of direction exceeding 45°must not exceed 9m in length before discharging.

In areas where water pipes are prone to freezing, the drain line from any valve shall be insulated and not exceed 300mm in length. It shall discharge into a tundish through an air gap of not less than 75mm and not more than 150mm measured from the outlet of the drain line to the rim of the tundish.

The drain line away from any tundish shall be not less than one size larger than that of the largest drain line discharging into the tundish.

Note. If permitted by the Local Regulatory Authority the drain lines from a single heater's ECV and PTRV may be interconnected and discharge at the same point.The discharge point of drain line must be positioned so that that the water flow from the drain can be easily seen. The discharge point must also be located so that the hot water and steam released will not cause injury to persons, damage to the building or any nuisance. The drain shall not discharge into a safe tray. The discharge point must be in accordance with AS/NZS 3500.4

Unused Plumbing Connections

2 x ¾” brass plugs are supplied for closing off unused the hot and cold connection
1 x ¾ to ½” bush and 1 x ½” plug is supplied for closing off the unused PTRV connection
1 x Allen Key is supplied for tightening the plugs.

The 3 Insulated plastic caps supplied must be fitted over the unused plugged connections to ensure heat loss via the fittings is minimised and the heater meets the heat loss requirements of AS/NZS 4692.2. **See cap for unused fittings in picture below**

Plumbing Connections

Refer to the table of heater dimensions and specifications for details of plumbing connections (Page12).

An isolation and non-return valve must be fitted in the cold supply to the heater. Disconnection unions must be fitted at both the cold inlet and hot outlet to provide for removal of the heater.
Depending on the water quality, supply pressure and the desired reticulated water temperature additional valves such as PLV, ECV and TLD may also be required. See Pages 9 & 10.

All pipework must be purged before the valves are fitted to ensure that all foreign matter and swarf is removed.

Olive compression fitting, if used, must have brass or copper olives.Use only approved thread sealing tape or sealant on all fittings.

Pressure and Temperature Relief Valve (PTRV)

A 1000kPa /10kW PTRV is supplied with the heater. This valve must be fitted before the heater is operated.

A ¾" to ½" brass reducing bush is supplied with the heater to reduce the ¾" connection marked PTRV to ½" to accept the PTRV.

Before fitting the PTRV make sure that it is undamaged e.g. the probe must not be bent.

Use Teflon tape to seal the thread ensuring that the tape does not extend over the end of the thread as this may affect the valves operation.

Slide the black foam insulating bush supplied with the heater over the PTRV's thread up to the valve's body.

Using a spanner on the spanner flats screw the PTRV into the heater until the Valve's drain outlet points vertically downward.

Insulate the body of the PTRV. Use the moulded skinned foam pieces provided and secure them with the cable ties provided. **See Insulated PTRV in picture below.**

from the tap nearest to the temperature limiting valve is not above 50°C. The tap may need to be run for a few minutes to allow the water to heat the pipes and reach its maximum temperature. If the temperature exceeds 50°C contact Alliance Appliances to arrange a service call.

RECOMMENDED FIVE YEARLY SERVICE.

Warning: **Servicing of a water heater must only be carried out by qualified tradesmen. Contact Alliance Appliances to arrange a service call. Alliance will charge for this service.**

- Replace the pressure, temperature relief valve
- Replace the temperature limiting device
- Where fitted check, and if necessary, replace the expansion control valve
- Check and, if required, replace the anode. Note. The maximum service life of an anode is around 8 years.
- Check heating element for excess calcium deposits and corrosion. Replace if necessary
- Visually inspect the unit for any potential problems.

AVOID A SERVICE CALL

If you are experiencing any of the problems listed below carry out the recommended checks before booking a service call. Alliance will need to charge for any service work not covered by warranty.

No Hot Water

Confirm that electricity is connected. If the heater is hardwired check that the isolating switch in the meter box marked hot water is turned on.

For a plug in unit check that power cord is plugged into a power point that is switched on and that all of the circuit switches in the meter box are in the on position.

Insufficient Hot Water

- Confirm that the Pressure Temperature Relief Valve(See Page 6) is not dribbling **continuously**. Water should not discharge from the valve once all the water in the heater has heated.See Page 6 for the procedure to eliminate continuous dribbling if it is caused by small particles such as sand in the cold water supply.
- If you think the Pressure and Temperature Relief Valve is faulty do not attempt replace it yourself as only appropriately rated valves are safe to use.
- Confirm that a hot water pipe or tap connected to the heater is not dripping.
- Confirm that you are not using excess water in your shower, washing machine or dishwasher etc.
- Shower flow can be checked with a bucket and watch. The mixed hot and cold water coming from the shower rose should not exceed 9 litres/minute.

INSTALLATION GUIDE

This water heater must be installed by a licensed tradesperson inaccordance with:

- AS/NZS 3500.4 and
- AS/NZS 3000 and
- Alliance Installation Instructions and
- All local authority regulations and
- Any other Relevant Statutory Regulations.

This product is not suitable for heating a domestic swimming pool or spa.

WATER SUPPLY QUALITYAND WARRANTY

This water heater is designed to be suitable for most reticulated public water supplies. Water from bores and wells is usually unsuitable for this heater.
As the water quality, irrespective of source, may affect the heater's Warranty it is recommended that you have the installing plumber check the water quality against the values set out below and in the warranty conditions. This will allow you to understand how the water may affect any Warranty provided.

Total Dissolved Solids - Anode

The magnesium anode fitted to this heater is suitable for water with Total Dissolved Solids (TDS) up to 600mg/litre. (Water with TDS below 600mg/litre is common.)
Where the TDS exceeds 600mg/litre but is less than 2500mg/litre an aluminium anode is required. Contact Alliance Appliances for the details.

Where the TDS exceed 2500mg/litre Alliance Appliances do not provide a Warranty for the heater's cylinder.

Scaling Water -ECV and PTRV

Some water supplies contain calcium carbonate and other compounds which deposit on hot metal parts of the heater as a scale. If scale deposits on the Pressure Temperature Relief Valve (PTRV) it may prevent it operating properly.

To prevent the PTRV being affected by scaling water, (i.e. Water with a Saturation Index exceeding +0.4) a suitable Expansion Control Valve (ECV) must be fitted in the coldwater supply line after the non-return valve. (The ECV must be the valve closest to the heater)

Failure to fit an ECV in scaling water will void the warranty for both the heater's cylinder and the PTRV.

It is mandatory that ECV's be fitted in all installations in both Western Australia and South Australia.

A copper drain pipe must be fitted to the ECV pressure relief outlet as described on Page 16 in section headed - **Pressure and Temperature Relief Valves and Expansion Control Valve Drain Lines**

An installation with a Temperature Limiting Device Fitted

This heater can deliver water at scalding temperatures. Children, the elderly and disabled are at the greatest risk of being scalded. Alliance recommends that a suitable approved temperature limiting device be installed in all pipes servicing taps and outlets used for personal hygiene.

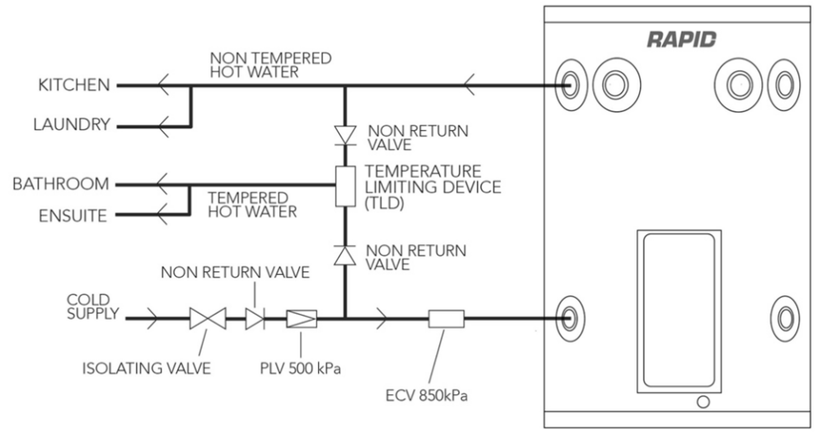
A domestic temperature limiting device (TLD) will keep the bathroom and ensuite water temperature below 50°C and reduce the risk of someone being scalded whilst bathing.

The water to the kitchen and laundry can also be supplied at 50°C through the TLD or allowed to be hotter by bypassing the TLD.

Note. AS/NZS 3500.4 requires hot water temperatures of 45°C at the outlet of sanitary fixtures used primarily for personal hygiene purposes for the aged, the sick, children or people with disabilities in healthcare and aged care buildings, early childhood centres, primary and secondary schools and nursing homes or similar facilities.

Any TLD device installed must be fitted in accordance with the Device's installation instructions.

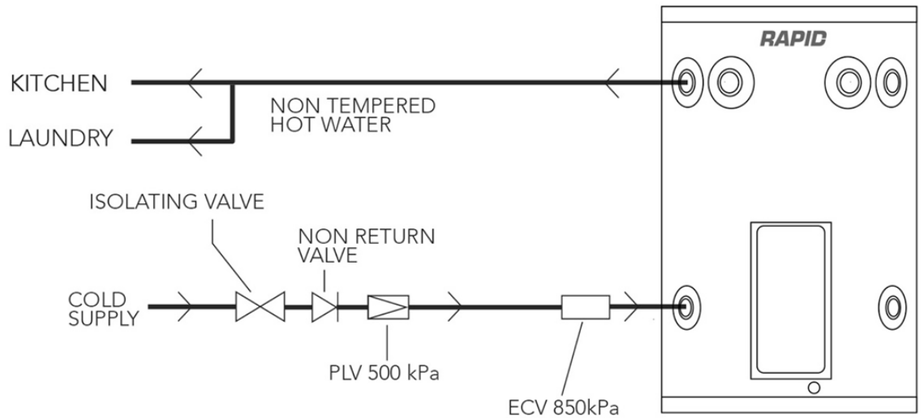
Example of a storage hot water installation incorporating a Temperature Limiting Device



Note. TLD's perform best when their hot and cold supply dynamic water pressures are equal.

- If the TLD has built in Non Return Valves external Non Return valves are not required.
- TLDs perform best when their dynamic hot and cold supply water pressures are equal. In some installations it may be necessary to fit a PLV in both the hot and cold supply to the TLD.
- An ECV and/or PLV are only required for some installations. See Pages 9 & 10 for details.

TYPICAL INSTALLATIONS



Heater without a Temperature Limiting Device fitted in the Hot Delivery Line.

NOTE. PLV and ECV are not required for all installations. See Sections on page 9 and 10 headed **Scaling Water - ECV and PTRV and Water Supply Pressure - Pressure Limiting Valve (PLV).** These sections explain when these extra valves are required and their required set values.

The ECV must be insulated with at least 9mm of closed cell foam which is suitable for external use if the heater is installed externally. The foam must not interfere with the operation of the valve.

Heating Element

If the saturation index of the water supply exceeds +0.8 contact Alliance Appliances to ensure the heater is fitted with a suitable low watt density element. **Warranty will not apply to the element unless a low watt density element has been fitted.**

Water Supply Pressure -Pressure Limiting Valve (PLV)

The Heater's Rated Working Pressure and PTRV rating is 1000kPa but in the circumstances listed below additional valves are required in the cold water supply.

Non-Scaling Water where supply pressure exceeds 800kPa and an Expansion Control Valve (ECV) is not fitted

Fit an approved 600kPa Pressure Limiting Valve (PLV) in the cold supply to the heater after the isolating and non - return valve

Scaling Water where supply pressure exceeds 680kPa and an ECV is fitted

Fit an approved 500kPa PLV in the cold supply to the heater after the isolating and non-return valve and in front of an approved ECV set at 850kPa.

Low Pressure Water Supply

If the water heater is connected to a very low pressure supply (e.g. gravity supply from a rain water tank) the bottom of the tank should be at least 1metre above the highest hot water outlet connected to the heater. All piping to and from the heater must also be sized to allow for the low water pressure.

Water Supply Cleanliness

If the water supply contains mud or other foreign particles a suitable filter or in line strainer should be fitted in the supply line to the heater.

LOCATION OF HEATER

This heater is suitable for installation either indoors or externally.

The heater should be installed as close as practicable to the most used hot water tap in the home so that hot water will arrive quickly with minimum heat loss from the piping.

Ideally the heater should be installed at ground level. It must be installed upright and vertically.

The heater must be installed on a level and stable self-draining base acceptable to local authorities.

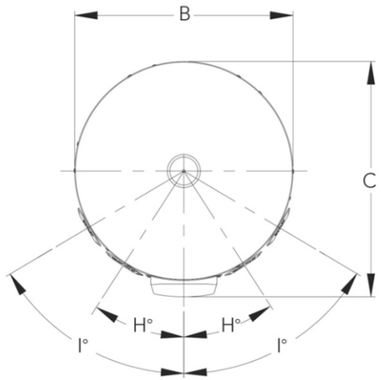
If the selected location can lead to property damage due to water leakage the heater must be installed in a safe tray. The construction, installation and draining of the safe tray must comply with the requirements of AS/NZS 3500.4 and any local regulations.

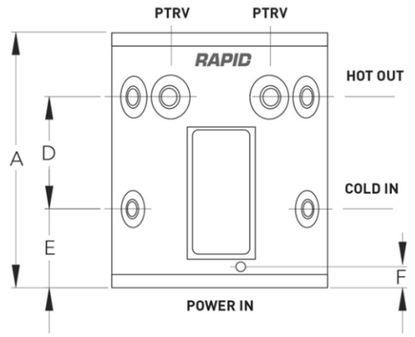
The heater must not be installed in roof spaces.

The heater location should

- not require the use of a ladder or scaffold for access.
- allow space for removal and replacement of the PTRV, electrical cover, element, valves in the cold water supply, TLD (if fitted) and the anode.
  The anode is removed from the top of the unit and requires a space above the heater equal to the height of the heater.
  Note. It is not always possible with small heaters installed in under-bench cupboards to provide for easy anode replacement.
- allow the rating and warning labels on the heater to be easily read.

HEATER DIMENSIONS AND SPECIFICATIONS





	Units	Models		
		R28-36, R28-24P, R28-18P	R45-36, R45-24P, R45-18P	R50-36, R50-24P, R50-18P
Rated Hot Water Delivery (as per AS/NZS4692.1)	Litres	25	40	50
Measured Hot Water Delivery (As per AS/NZS4692.1)	Litres	28	45	50
Storage Capacity	Litres	30	48	52
Energy Input	kW	3.6, 2.4 & 1.8 (See Model Nos. suffix of 36, 24 or 18)		
Supply Cord		Units suffixed P are fitted with a 1.8m long power cord and plug		
Rated Pressure	kPa	1000	1000	1000
PTRV Setting	kPa	1000	1000	1000
PTRV Energy Rating	kW	10	10	10
Weight Empty	kg	15	19.5	21
Unit Dimensions				
A	mm	450 max	654 max	695 max
B	mm	410	410	410
C	mm	440	440	440
D	mm	125	329	370
E	mm	160	160	160
F	mm	45	45	45
H	Degrees	33	33	33
I	Degrees	59	59	59
Plumbing Connections		Inlet and Outlet - Female Rp ¾. PTRV with supplied reducing bush - Female Rp½.		
External Rating		IPX4	IPX4	IPX4