Owners Guide
and
Installation Instructions

Solar Loline
Gas Boosted Water Heater

Install a Rheem

WARNING: Plumber – Be Aware

Use copper pipe <u>ONLY</u>. Plastic pipe <u>MUST NOT</u> be used.
It is a requirement of a solar water heater installation that all pipe work be in copper and not plastic, due to the effects of high water temperatures and pressures.

This water heater must be installed and serviced by an authorised person.
Please leave this guide with the householder.

Notice to Victorian Customers from the Victorian Plumbing Industry Commission.

This water heater must be installed by a licensed person as required by the Victorian Building Act 1993.

Only a licensed person will give you a Compliance Certificate, showing that the work complies with all the relevant standards. Only a licensed person will have insurance protecting their workmanship for 6 years. Make sure you use a licensed person to install this water heater and ask for your Compliance Certificate.

WARNING: Plumber – Be Aware

- The solar hot and solar cold pipes between the solar storage tank and the solar collectors **MUST BE** of copper and fully insulated with closed cell polymer insulation or similar (minimum thickness 13 mm). Thicker insulation may be required to comply with the requirements of AS/NZS 3500.4. The insulation must be weatherproof and UV resistant if exposed. All compression fittings must use brass or copper olives.

  Note: Failure to observe this requirement may void the warranty for freeze damage.

- Plastic pipe **MUST NOT** be used, as it will not withstand the temperature and pressure of the water generated by the solar collectors under stagnation conditions. The solar collectors can generate extremely high water temperatures up to 150°C and high water pressure of 1000 kPa. Plastic pipe cannot withstand these temperatures and pressures and **MUST NOT** be used. Failure of plastic pipe can lead to the release of high temperature water and cause severe water damage and flooding. Refer to Warning on page 38.

- A non return valve **MUST BE** installed on the cold water line to the solar storage tank **AFTER** the cold water branch to a temperature limiting device. Due to the higher water temperatures generated under certain conditions in the solar collectors of this solar water heater, an additional effective back-flow prevention device also should be used as an extra safeguard. Valve manufacturer RMC recommends Dual Check Valve model N7150, as being suitable for this application.

PATENTS

This water heater may be protected by one or more patents or registered designs.

CONTENTS

HOUSEHOLDER – We recommend you read pages 4 to 25.

The other pages are intended for the installer but may be of interest.

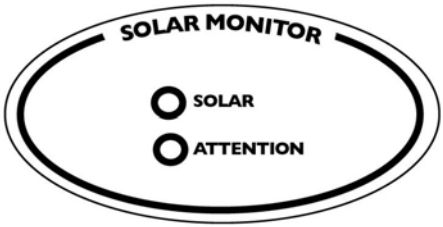
⚠ **Warning:** Upon completion of the installation and commissioning of the water heater, leave this guide with the householder or a responsible officer. **DO NOT** leave this guide inside of the cover of the water heater, as it may interfere with the safe operation of the water heater or ignite when the water heater is turned on.

SOLAR CONTROLLER AND SOLAR MONITOR

This Addendum is for use with installation instructions
126547A, 126548A, 126550B, 126551B, 126552B, 126553B, 126554B, 126555B.

SOLAR MONITOR

The solar control unit on an electric boosted system may incorporate a solar monitor. The solar monitor is located on the side of the solar control unit and houses both a green and a red LED. A gas boosted model may have a solar monitor located on the left hand side of the air duct.



The green LED, marked “Solar”, indicates the current operational mode of the solar water heater and the red LED, marked “Attention”, indicates a fault mode.

The green LED will emit either a constant glow or a series of flashes, with a 2 second interval between each series.

The red LED will emit a series of flashes, with a 2 second interval between each series, only if there is a particular fault condition with the system.

COMMISSIONING

When the electrical supply is switched on to the solar control unit at start up:

- If there is no solar gain, the circulator will not activate and the green LED will emit a slow pulse.

  The slow pulse indicates the circulator is not activated and the power to the solar control unit has been on for less than 48 hours.

- If there is solar gain, the circulator activates and the green LED will emit a series of three (3) flashes.

  The three (3) flashes indicate the circulator is operating and power to the solar control unit has been on for less than 48 hours.

- The circulator will operate at full speed for approximately fifteen (15) seconds. If the red LED is emitting a rapid pulse, the circulator may operate at full speed for up to ten (10) minutes.

  After fifteen (15) seconds or after the red LED has extinguished, the solar controller will commence to pulse the circulator to control the flow rate through the collector circuit and achieve a constant temperature rise across the collector(s). It is normal operation for the circulator to experience a pulsing effect.

- The red LED may emit a rapid pulse for a short period.

  This indicates a temperature difference between the hot sensor and cold sensor of greater than 40°C and does not represent a fault code. This is the result of a build-up of heat and increase in water temperature in the collector prior to the switching on of the electrical supply to the solar control unit.

  The rapid pulsing of the red LED will cease as the water circulates and the heat is dissipated. This should be within four (4) to five (5) minutes of start up, but may take up to ten (10) minutes.

  If the red LED does continue to emit a rapid pulse for longer than ten (10) minutes, this may indicate water is not circulating through the collectors and solar circuit:

  - switch off the electrical supply at the power outlet to the solar control unit
  - repeat the procedure to bleed the solar collectors
  - switch on the electrical supply at the power outlet to the solar control unit

DIAGNOSTIC FEATURES OF THE SOLAR CONTROLLER

The operational modes are:

Flashes	Operational Modes
solid green (remains on)	Standby mode
green slow pulse	Standby mode (power on for less than 48 hours)
green rapid pulse	Circulating water through collectors
3 x green	Circulating water through collectors (power on for less than 48 hours)
no green (remains off)	Power outage or call for service

Flashes	Fault Modes
red rapid pulse	Temperature rise across collector greater than 40°C (circulator at full speed)
3 x red	Hot sensor in collector – short circuit
4 x red	Hot sensor in collector – open circuit
5 x red	Cold sensor –short circuit
6 x red	Cold sensor – open circuit

If the power supply to the solar control unit is on and the green LED is off or the red LED is flashing, this indicates there may be a fault with the water heater. The red LED may emit up to six flashes in each series of flashes.

Note: During periods of high solar radiation and if the circulator activates after having been off, such as during start up, it is possible the red LED may emit a rapid pulse for a period of up to ten (10) minutes. This does not indicate a fault. Refer to "Commissioning" on page 2.

If the red LED continues to emit a rapid pulse for longer than ten (10) minutes, or emits a series of flashes, then count the number of flashes and phone your nearest Service Department or Accredited Service Agent to arrange for an inspection.

ABOUT YOUR WATER HEATER

MODEL TYPE

Congratulations for choosing a Rheem® water heater. Your Rheem solar Loline™ water heater is designed for the solar collectors to be roof mounted and the solar storage tank to be installed at ground level. The solar storage tank is suitable for outdoor installation only and can be installed with Rheem NPT 200 solar collectors. The system is not suitable for installation above 400 metres altitude.

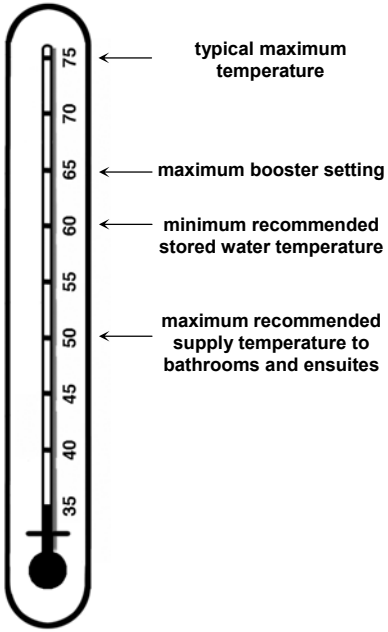
The system when installed in areas subject to freeze conditions must be installed with the solar hot and solar cold pipes fully insulated with closed cell polymer insulation (minimum thickness 13 mm) to offer protection against freeze damage. Freeze conditions occur below 6°C. The system has NO WARRANTY for freeze damage when installed above 400 metres altitude or if the solar hot and solar cold pipes are uninsulated (refer to "Warranty Exclusions" on page 59 and to "Pipe Work and Insulation" on page 8).

HOW HOT SHOULD THE WATER BE?

The solar control unit will circulate water through the solar collectors until a temperature of approximately 75°C is reached. During periods of low solar energy gain, the water temperature can be boosted by the thermostatically controlled gas burner. The boosting is controlled by both the timer unit and the gas control thermostat.

The water heater features a user adjustable thermostat, which allows you to personally choose the most suitable boosting temperature for your hot water needs. Refer to "Temperature Adjustment" on page 5.

To meet the requirements of the National Plumbing Standard the temperature of the stored water must not be below 60°C. Rheem recommends the thermostat is set at 60°C to maximise solar contribution.



ABOUT YOUR WATER HEATER

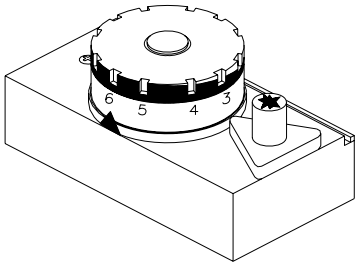
HOTTER WATER INCREASES THE RISK OF SCALD INJURY

This water heater can deliver water at temperatures which can cause scalding. Check the water temperature before use, such as when entering a shower or filling a bath or basin, to ensure it is suitable for the application and will not cause scald injury.

We recommend and it may also be required by regulations that an approved temperature limiting device be fitted into the hot water pipe work to the bathroom and ensuite when this water heater is installed. This will keep the water temperature below 50°C at the bathroom and ensuite. The risk of scald injury will be reduced and still allow hotter water to the kitchen and laundry.

TEMPERATURE ADJUSTMENT

The temperature adjusting dial is on the gas valve, behind the access cover on the lower front of the water heater. A setting of '6' will normally provide a boosted water temperature of about 60°C. Each number represents a temperature difference of approximately 6°C.



To increase the boosted water temperature to 65°C, turn the gas control knob counter-clockwise to a setting of '7'. Refer to "Hotter Water Increases the Risk of Scald Injury" on page 5.

⚠ WARNING

This water heater is only intended to be operated by persons who have the experience or the 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 i.e. the infirm, or by children. Children should be supervised to ensure they do not interfere with the water heater.

This water heater uses 240 V AC electrical power for operation of the control systems and the electrically operated components. The removal of the side access panel will expose 240 V wiring. It must only be removed by an authorised or qualified person.

Care should be taken not to touch the pipe work connecting the solar storage tank and the solar collectors. Very high temperature hot water can be generated by the solar collectors under certain conditions and flow through the pipe work from the solar collectors to the solar storage tank.

ABOUT YOUR WATER HEATER

SAFETY

This water heater is supplied with a thermostat, an over-temperature cut-out, and a combination temperature pressure relief valve. These devices must not be tampered with or removed. The water heater must not be operated unless each of these devices is fitted and is in working order.

If the electrical conduit to the water heater is damaged, it must be replaced by an authorised person in order to avoid a hazard. Phone your nearest Rheem Service Department or Accredited Service Agent to arrange for an inspection.

The warranty can become void if relief valves or other safety devices are tampered with or if the installation is not in accordance with these instructions.

- Do not store **flammable or combustible materials** near the water heater. Flammable liquids (such as petrol), newspapers and similar articles must be kept well away from the water heater and the flue terminal.
- Do not use **aerosols, stain removers and household chemicals** near the water heater whilst it is working. Gases from some aerosol sprays, stain removers and household chemicals become corrosive when drawn into a flame.

- Do not store **swimming pool chemicals, household cleaners, etc.,** near the water heater.
- Do not place anything on top of the water heater or in contact with the flue terminal. Ensure the flue terminal is not obstructed in any way at any time.
- Do not use Propane / Butane gas mixtures in a Propane model. A Propane model is designed to operate on Propane only. The use of Propane / Butane mixture, such as automotive LPG fuel, in a Propane model is unsafe and can cause damage to the water heater.

ABOUT YOUR WATER HEATER

TO TURN OFF THE WATER HEATER
If it is necessary to turn off the water heater:

- Shut down the gas control (refer to "Close Down Procedure" on page 51).
- Close the gas isolation valve at the inlet to the gas control.
- Switch off the electrical supply at the isolating switch to the water heater (refer to note below).
- Close the cold water isolation valve at the inlet to the water heater.

Note: If there is a risk of freezing conditions, the electrical supply to the solar control unit should not be switched off unless the solar collectors are drained, otherwise damage could result (refer to "Freeze Protection" on page 10).

TO TURN ON THE WATER HEATER

- Open the cold water isolation valve fully at the inlet to the water heater.
- If the solar collectors and solar hot and solar cold pipes have been drained, it will be necessary to bleed the collector circuit (refer to "Bleeding the Solar Collectors" on page 9).
- If the electrical supply to the water heater has been switched off, switch on the electrical supply at the isolating switch. The isolating switch must be switched on for the solar control unit to operate and solar gain to be achieved.
- Open the gas isolation valve fully at the inlet to the gas control.
- Light the water heater (refer to "Lighting the Water Heater" on page 48).
- Ensure the timer is programmed (refer to "Timer Operation" on page 16).

HOW DO I KNOW IF THE WATER HEATER IS INSTALLED CORRECTLY?
Installation requirements are shown on page 34. The water heater must be installed by an authorised person and the installation must comply with National Standards AS/NZS 3500.4, AS/NZS 3000, AS 5601 and all local codes and regulatory authority requirements. In New Zealand, the installation must conform with the Code of Practice for installation of Gas Appliances NZS 5261 and the New Zealand Building Code. The timer is not weatherproof and must be installed indoors.

ABOUT YOUR WATER HEATER

PIPE WORK AND INSULATION

The solar hot and solar cold pipe work between the solar storage tank and the solar collectors **MUST BE** of copper and fully insulated with closed cell polymer insulation or similar (minimum thickness 13 mm). The insulation must be weatherproof and UV resistant if exposed. The insulation is essential to assist in providing freeze protection, will offer corrosion protection to a metal roof against water runoff over the copper pipe, assist in avoiding accidental contact with the solar pipe work and also reduce pipe heat losses.

The insulation must be fitted up to the connections on both the solar collectors and the solar storage tank, as very high temperature water can flow from the solar collectors to the solar storage tank under certain conditions.

Plastic pipe **MUST NOT** be used, as it will not withstand the temperature and pressure of the water generated by the solar collectors under certain conditions (refer to Warning on page 38).

DOES THE WATER QUALITY AFFECT THE WATER HEATER?

The water heater is suitable for most public water supplies, however some water qualities may have detrimental effects on the cylinder, solar collectors and fittings. **If you are in a known harsh water area you must read page 56.** If you are not sure, have your water quality checked against the conditions described on page 56.

HOW LONG WILL THE WATER HEATER LAST?

There are a number of factors that will affect the length of service the water heater will provide. These include the water quality, the water pressure, temperature (inlet and outlet) and the water usage pattern. However, your water heater is supported by a comprehensive warranty (refer to page 60).

ANODE PROTECTION

The anode(s) installed in your water heater will slowly dissipate whilst protecting the cylinder. The life of the water heater cylinder may be extended by arranging for an authorised person to inspect the anode(s) and replacing it if required.

The suggested time after installation when the anode(s) should be inspected is 8 years.

For softened water supplies or in areas of poor water quality, it is recommended the anode be inspected 3 years earlier than shown (refer to “Water Supplies” on page 56).

ABOUT YOUR WATER HEATER

BLEEDING THE SOLAR COLLECTORS

It is necessary to purge air from the collector circuit:

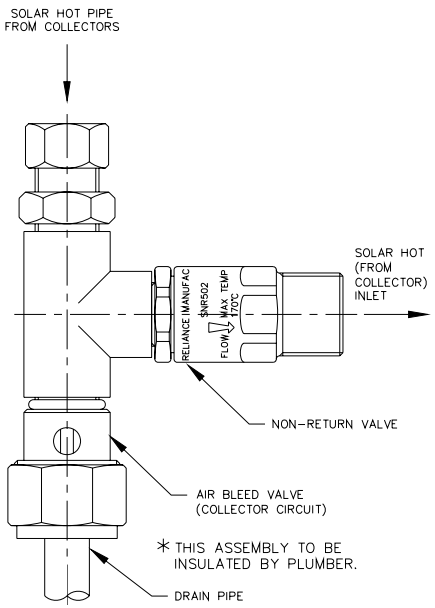
- When the water heater is to be turned on and the solar collectors and solar hot and solar cold pipe work have been drained.
- After maintenance has been conducted on the pipe work and air has entered the system.
- If the circulator appears not to be circulating water around the system.

⚠ **Warning:** Bleeding the solar collectors should be conducted in the morning, within three hours of sunrise, when the water temperature inside the solar collectors is lower.

To purge air from the collector circuit:

- Ensure the water heater is full of water and all of the hot taps are turned off.
- Using a flat blade screwdriver, open the bleed valve (if it is not already open) fitted adjacent to the solar hot water (from collector) inlet of the solar storage tank (see diagram).
- The mains pressure will force water to flow from the tank and through the pipe work, expelling air from the collector circuit through the bleed valve. This is evidenced by spurting of water from the drain line connected to the bleed valve.

  ⚠ **Warning:** Exercise care to avoid any splashing of water, as water discharged from the solar collectors may be of a very high temperature.



- Close the bleed valve when water runs freely from the drain line.

ABOUT YOUR WATER HEATER

FREEZE PROTECTION

The system when installed in areas subject to freeze conditions must be installed with the solar hot and solar cold pipes fully insulated with closed cell polymer insulation (minimum thickness 13 mm) to offer protection against freeze damage. Freeze conditions occur below 6°C. The system has NO WARRANTY for freeze damage when installed above 400 metres altitude or if the solar hot and solar cold pipes are uninsulated (refer to "Warranty Exclusions" on page 59 and to "Pipe Work and Insulation" on page 8).

The anti freeze control is designed to recirculate a small amount of water from the solar storage tank through the solar pipe work during periods of low temperatures. This is to prevent the water inside the pipe work from freezing. It is essential that the electrical circuit to the solar control unit is continually turned on if there is a risk of freezing. The solar warranty does not cover damage caused by freeze conditions when the electrical circuit to the solar control unit is turned off or interrupted.

Notes:

- If it is necessary to switch the power off to the solar control unit and there is a risk of freezing, then it is necessary to have your plumber drain the solar collectors and solar flow and return pipe work.
- The freeze protection system will be rendered inoperable if electrical power is not available at the water heater. Damage caused by freezing due to no power at the water heater, is not covered by warranty.
- Pipe work between the solar collectors and solar storage tank must be insulated.
- The system is not covered for freeze damage above 400 metres altitude.
- Refer to "Warranty Exclusions" on page 59.

HOW YOUR WATER HEATER WORKS

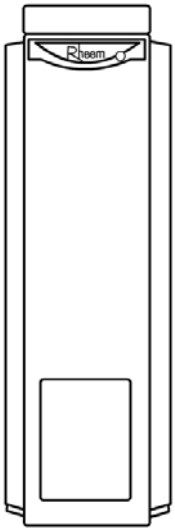
The Rheem solar Loline system has its vitreous enamel lined solar storage tank installed at ground level, remotely from the solar collectors. As the sun heats the water in the solar collectors the increase in temperature activates the circulator. The circulator then moves the water from the solar collectors through an insulated copper pipe to the solar storage tank. The circulator switches on whenever the water leaving the solar collectors is hotter than the water in the tank. Cooler water from the solar storage tank is circulated to the solar collectors to be heated by the sun's energy. This process continues while solar energy is available and until the water in the solar storage tank reaches a temperature of approximately 75°C. Automatic safety controls are fitted to the water heater to provide safe and efficient operation.

MAINS PRESSURE

The water heater is designed to operate at mains pressure by connecting directly to the mains water supply. If the mains supply pressure in your area exceeds that shown on page 28, a pressure limiting valve must be fitted. The supply pressure should be greater than 350 kPa for true mains pressure operation to be achieved. A minimum water supply pressure of 200 kPa is required to enable the solar circulator and solar circuit system to operate effectively.

GAS BOOSTING

Water stored in the solar storage tank can be heated by a gas burner located under the cylinder. The gas burner is for heating the water at times of low solar energy gain, such as during very cloudy or rainy weather, or during the winter months. The boost water temperature is determined by the gas control thermostat setting.



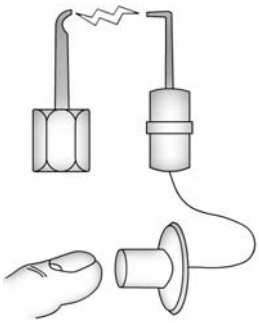
The gas burner is also controlled via a timer unit installed inside the house. It is recommended the timer be set to enable boosting between 4:00 PM and 6:30 PM. This will allow boosting of the water temperature before the main evening hot water usage period, but after the main solar heating period of the day. The timer unit has a manual "OVERRIDE" to allow boosting outside of the set hours (refer to "Timer Operation" on page 16).

Note: The gas burner will only light if the temperature of the water in the solar storage tank is below the gas control thermostat setting.

HOW YOUR WATER HEATER WORKS

PIEZO IGNITION

The “Piezo” push button igniter makes lighting the pilot flame of your water heater very easy. Simply follow the instructions on the label attached to the back of the access door. There is no need for matches to light the water heater.



PILOT IGNITER

A permanent pilot flame burns to ignite the main burner automatically for boosting. Heat from the pilot is absorbed by the water.

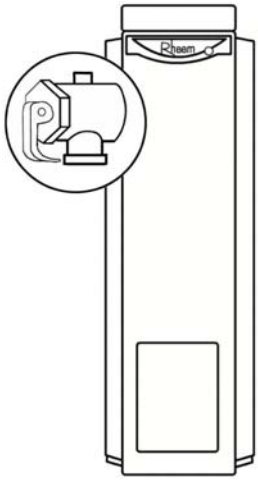
GOING ON HOLIDAYS

If you are going on holiday for more than a few days the thermostat can be set to its lowest setting (‘1’) to conserve energy. Alternatively, the timer can be set so the burner will not activate during the period you are away (refer to “Timer Operation” on page 16). If it is necessary to turn off the water heater, refer to “To Turn Off The Water Heater” on page 7. Also if the system is not used for a period in excess of two (2) weeks it is recommended the solar collectors be covered.

REGULAR CARE

TEMPERATURE PRESSURE RELIEF VALVE

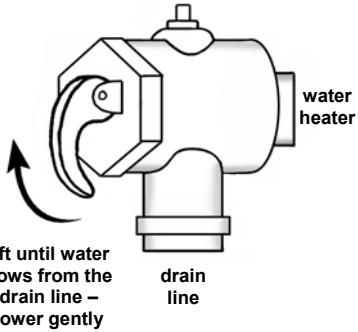
This valve is near the top of the water heater and is essential for its safe operation. It is possible for the valve to release a little water through the drain line during each heating period. This occurs as the water is heated and expands by approximately 1/50 of its volume.



Continuous leakage of water from the valve and its drain line may indicate a problem with the water heater (refer to "Temperature Pressure Relief Valve Running" on page 23).

⚠ **Warning:** Never block the outlet of this valve or its drain line for any reason.

Operate the easing lever on the temperature pressure relief valve once every six months. **It is very important you raise and lower the lever gently.**



⚠ **Warning:** Failure to do this may result in the water heater cylinder failing.

If water does not flow freely from the drain line when the lever is lifted, then the water heater should be checked by the Rheem Service Department of their Accredited Service Agent.

The temperature pressure relief valve should be checked for performance or replaced at intervals not exceeding 5 years, or more frequently in areas where there is a high incidence of water deposits (refer to "Water Supplies" on page 56).

REGULAR CARE

EXPANSION CONTROL VALVE

In many areas, including South Australia, Western Australia and scaling water areas, an expansion control valve is fitted to the cold water line to the water heater. The expansion control valve may discharge a small quantity of water from its drain line during the heating period instead of the temperature pressure relief valve on the water heater.

Operate the easing lever on the expansion control valve once every six months. **It is very important you raise and lower the lever gently.** The expansion control valve should be checked for performance or replaced at intervals not exceeding 5 years, or more frequently in areas where there is a high incidence of water deposits.

SERVICING

For safe and efficient operation the water heater should be serviced annually by your nearest Rheem Service Department or their Accredited Service Agent. Only genuine replacement parts should be used on this water heater.

⚠ **Warning**: Servicing of a gas water heater should only be carried out by authorised personnel.

COLLECTOR GLASS

Ensure the glass on your solar collectors is free of dust, salt spray or any other matter, which may reduce the effectiveness of the solar collectors. If the collector glass becomes dirty, hose down or if the solar collectors are accessible, wash the collector glass with water and a soft brush when the solar collectors are cool. Have any trees trimmed which may shade the solar collectors.

REGULAR CARE

FLUSHING THE SOLAR COLLECTORS

It may be necessary to flush the solar collectors if there is sediment in the water supply. This should be conducted in the morning, within three hours of sunrise, when the water temperature inside the solar collector(s) is lower.

- Open a hot water tap and allow the water to run for five (5) minutes prior to flushing the solar collector(s).
- Close the hot tap.
- Wait a further five (5) minutes before attempting to flush the solar collectors.

  This will assist in the transfer of any high temperature water in the solar collector(s) to the solar storage tank.

  ⚠ **Warning:** Exercise care, as water discharged from the solar collectors may be of a very high temperature.
- To flush the solar collectors, follow the procedure "Bleeding the Solar Collectors" on page 9, allowing the water to flow from the bleed valve drain line for five (5) minutes before closing the bleed valve.

It is recommended to flush the solar collectors every five (5) years. This will assist in keeping the solar collectors, solar cold pipe and solar hot pipe clear of sediment.

TIMER OPERATION

FUNCTIONS OF THE TIMER

The timer is an accurate, electronic device which allows up to six (6) ON-OFF periods to be set per day. It is recommended only one (1) period per day be programmed into the timer. This will be sufficient for most installations. The timer is not weatherproof and must be installed indoors. It is recommended the timer be located in the kitchen or laundry or other location easily seen by the householder.

DAY Press this button to select the actual day switching operations. Switching programme options and their order of appearance on the screen are:

Select seven days a week: 'MO TU WE TH FR SA SU' will be displayed.

Select one day only: The selected day only will be displayed, i.e., 'MO' (Monday), 'TU' (Tuesday), 'WE' (Wednesday), 'TH' (Thursday), 'FR' (Friday), 'SA' (Saturday), 'SU' (Sunday).

Select Monday to Friday only: 'MO TU WE TH FR' will be displayed.

Select Saturday and Sunday only: 'SA SU' will be displayed.

Select Monday to Saturday only: 'MO TU WE TH FR SA' will be displayed.

Note: The DAY button will only operate in conjunction with the time and program buttons.

PROG Press this button once to activate the program function. It allows the "ON" and "OFF" times to be set and the "DAY" selection to be made.

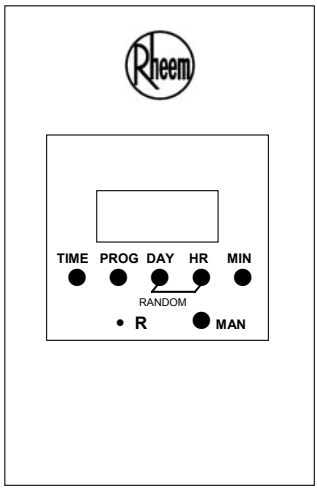
TIME Press this button to set the current day and time and to complete the programming operation.

HR Press this button to set the hours.

MIN Press this button to set the minutes.

MAN Press this button to turn the "OVERRIDE" function on or off.

R Press this button to delete all programmed information from the memory.



Note: Each press of a button will advance the setting by one increment. Pressing a button continuously will scroll through the settings.

TIMER OPERATION

The function of the timer is to enable the gas burner to automatically boost the stored water temperature, if required, due to low solar energy gain during the day. This will ensure the solar storage tank is full of hot water for the evening hot water requirements.

⚠ **Warning:** The timer is not waterproof. Do not splash the timer with water.

BATTERY BACKUP

The timer has an inbuilt rechargeable battery. If a power failure occurs, the rechargeable battery will maintain the memory of the timer, avoiding the loss of any set programs.

Note: The rechargeable battery may be run down at the time of installation. Connecting to mains power will recharge the battery.

RECOMMENDED TIMER ON/OFF SETTING

It is recommended the timer be set to enable boosting between 4:00 PM (16:00 Hours) and 6:30 PM (18:30 Hours). **Note:** The timer uses a 24 hour clock. This two and a half hour boosting period is sufficient to allow the gas burner to heat up the entire contents of the solar storage tank through a 45°C temperature rise. This may be necessary during periods of very low solar energy gain through the solar collectors, such as during constant rain or extremely cloudy weather.

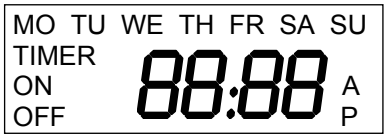
It may be necessary and is recommended to reset the timer during daylight saving time (in the states where applicable), to enable boosting between 5:00 PM (17:00 Hours) and 7:30 PM (19:30 Hours), to maximise the solar energy gain during this period.

RESET THE TIMER

It is recommended the timer be reset before commencing the initial programming. This will delete any set programs.

- Press the “R” button gently to reset the timer. Use a non-metallic object like a wooden or plastic toothpick.

  ⚠ **Warning:** Do not use a sharp metal object as this may pierce the protective membrane and an electric shock may result.

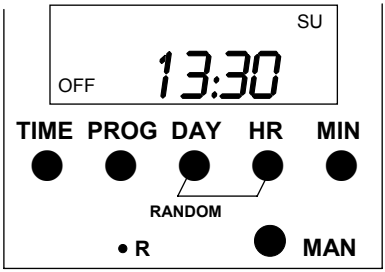


Note: When the “R” (reset) button is pressed, the entire screen is illuminated and all programs, including the current time, are deleted from the timer’s memory.

TIMER OPERATION

TO SET THE TIME

- Press and hold the “TIME” button.
- Press the “DAY” button to select the current day.
- Press the “HR” button to select the current hour (**Note:** 24 hour clock).
- Press the “MIN” button to select the current minute.
- Release the 'TIME' button.
- The current time is now set.



Example: Setting the current time as Sunday at half past one in the afternoon i.e. 1:30 PM.

TO SET ON/OFF TIMES

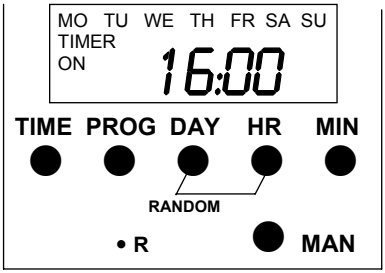
To set “ON” time

- Press and release the “PROG” button.

  If the timer has been reset, then “TIMER – ON”, “– – : – –” and “MO TU WE TH FR SA SU” will be displayed on the screen.

  If the timer has not been reset, then the current “ON” time program will be displayed on the screen.

- Press the “DAY” button to select the day(s) of operation. Refer to “Functions of the Timer” on page 16.



Example: Setting the “ON” time as 4:00 PM (16:00 hours) for seven day a week boosting.

The selected day(s) will be displayed on the screen.

Note: There is no need to make an adjustment to the “DAY” display if “MO TU WE TH FR SA SU” is displayed on the screen and it is desired to set the timer function for seven day operation.

- Press the “HR” button to select the “hour on” time (**Note:** 24 hour clock).
- Press the “MIN” button to select the “minute on” time.

TIMER OPERATION

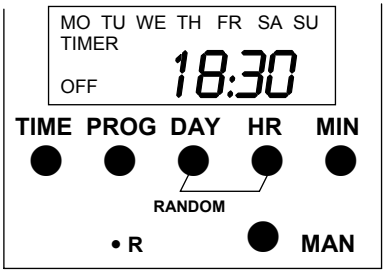
To set "OFF" time

- Press and release the "PROG" button.

  If the timer has been reset, then "TIMER – OFF", "– – : – –" and "MO TU WE TH FR SA SU" will be displayed on the screen.

  If the timer has not been reset, then the current "OFF" time program will be displayed on the screen.

- Press the "DAY" button to select the days of operation. Refer to "Functions of the Timer" on page 16.



Example: Setting the "OFF" time as 6:30 PM (18:30 hours) for seven day a week boosting.

  The selected days will be displayed on the screen.

  Note: There is no need to make an adjustment to the "DAY" display if "MO TU WE TH FR SA SU" is displayed on the screen and it is desired to set the timer function for seven day operation.

- Press the "HR" button to select the "hour off" time (**Note:** 24 hour clock).
- Press the "MIN" button to select the "minute off" time.

  Note: Six (6) "ON" and "OFF" times are available and each can be set by following the above procedure. It is recommended only one "ON" and "OFF" time is set.

- Press and release the "TIME" button to exit the program mode. The current time is displayed. The timer is now programmed to operate.

  Note: The program automatically sets after approximately two minutes if the "TIME" button is not pressed.

Note: If the timer is not set with an ON-OFF period, the solar water heater will not boost automatically. If the "MAN" button is pressed to activate the manual boosting "OVERRIDE" function and an ON-OFF period has not been set, the solar water heater will remain in boosting mode until the "MAN" button is pressed again to deactivate the manual boosting "OVERRIDE" function (refer to "Manual Boosting – "OVERRIDE" Function" on page 20). During this time, only minimal solar gain may be achieved.

TIMER OPERATION

MANUAL BOOSTING – "OVERRIDE" FUNCTION

The timer also has an "OVERRIDE" function to allow for boosting the temperature of the water in the solar storage tank, outside of the set hours.

- To activate manual boosting, press the "MAN" button once.

  The word "ON" appears in the display.

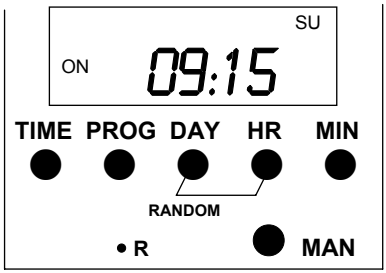
- When the water has been heated to the temperature setting of the gas control, the gas burner will automatically extinguish.

- To deactivate the manual boosting, press the "MAN" button once.

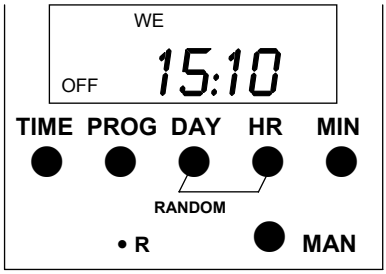
  The word "OFF" appears in the display.

  Note: This is necessary to prevent further boosting of the water temperature, whenever hot water is used. This could potentially reduce the solar gain for one day.

- If the "OVERRIDE" function is not manually deactivated, it will automatically be deactivated at the end of the next timer set boost period.



Example: The Manual Boosting "Override" function "ON" at quarter past nine on Sunday morning.



Example: The Manual Boosting "Override" function "OFF" at ten past three on a Wednesday afternoon.

CAUTION – "RANDOM" FUNCTION

The timer features a "RANDOM" function setting, indicated by the word "TIMER" flashing in the display. The "RANDOM" function will cause the timer to switch ON and OFF completely at random, regardless of any set programmes. If the "RANDOM" function is inadvertently set, press the "DAY" and "HR" buttons simultaneously to deactivate (the word "TIMER" disappears from the display).

Note: It is recommended the "RANDOM" function **never be used**.

SAVE A SERVICE CALL

Check the items below before making a service call. You will be charged for attending to any condition or fault that is not related to manufacture or failure of a part.

NOT ENOUGH HOT WATER (OR NO HOT WATER)
This can occur with new installations and is normally related to some misunderstandings as to the use of the timer and gas booster.

- **Insufficient sunlight**
  Insufficient sunlight due to cloudy weather during summer months or low solar energy contribution in winter months may mean you will need to activate the gas boosting more often (refer to "Manual Boosting – Override Function" on page 20).

- **Pilot flame alight?**
  Check the pilot flame is burning by removing the access cover. Relight the pilot flame according to the lighting instructions (refer to "Lighting the Water Heater" on page 48).

- **Gas burner not operating**
  Inspect the isolating switch (adjacent to the water heater or at the switch board marked "HOT WATER" or "WATER HEATER") and ensure it is turned "ON".

  Note: Check the settings on the TIMER are sufficient to allow a full boosting cycle (2½ hours, from 4:00 PM to 6:30 PM, is recommended).

- **Collectors shaded**
  If trees or other objects shade the solar collectors or if the glass is dirty, the effectiveness of the solar collectors will be greatly reduced. Have the trees trimmed or the solar collectors relocated if the obstruction is permanent or clean the collector glass (refer to "Collector Glass" on page 14).

- **Collector area is too small**
  For most installations, the number of solar collectors recommended in Rheem literature has been proven to provide the required solar energy to meet the average family needs. However, in some circumstances, it may be necessary to install an additional solar collector.

SAVE A SERVICE CALL

- **Air in collectors (No solar gain)**
  It is possible under certain conditions, such as when the pipe work has been opened, that air may become trapped in the solar collectors. This will prevent the circulator from moving water around the collector circuit. The air will need to be purged from the solar collectors (refer to "Bleeding The Solar Collectors" on page 9).

- **Are you using more hot water than you think?**
  Is one outlet (especially the shower) using more hot water than you think? Very often it is not realised the amount of hot water used, particularly when showering. Carefully review the family's hot water usage. As you have installed an energy saving appliance, energy saving should also be practised in the home. Adjust your water usage pattern to take advantage of maximum solar gains. Have your plumber fit a flow control valve to each shower outlet to reduce water usage.

- **Temperature pressure relief valve running**
  Is the relief valve discharging too much water? (Refer to "Temperature Pressure Relief Valve Running" on page 23).

- **Thermostat setting**
  Ensure the thermostat setting is appropriate. You may choose to adjust the thermostat upwards to gain additional hot water capacity when boosting.

  ⚠ **Warning:** Hotter water increases the risk of scald injury.

- **Water heater size**
  Do you have the correct size water heater for your requirements? The sizing guide in the sales literature and on the Rheem website (www.rheem.com.au) suggests average sizes that may be needed.

WATER NOT HOT ENOUGH

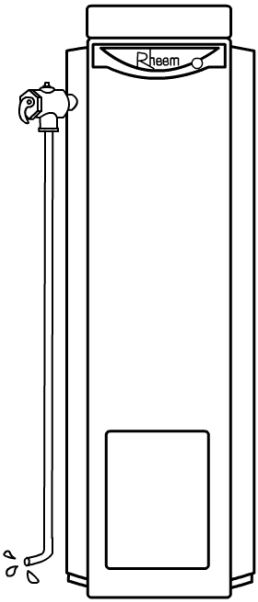
You may find that due to heavy hot water usage or low solar energy gain the water temperature may be lower than normally expected. You will need to carefully plan your use of the gas burner to boost the water temperature on such occasions.

A lower water temperature may also be noticed in the morning if the gas boosting has not been used. This in particular may be experienced during periods of low solar energy gain, or if there has been heavy hot water usage the previous night.

SAVE A SERVICE CALL

TEMPERATURE PRESSURE RELIEF VALVE RUNNING

- **Normal Operation**
  It is normal and desirable this valve allows a small quantity of water to escape during the heating cycle. However, if it discharges more than a bucket full of water in 24 hours, there may be another problem.



- **Continuous dribble**
  Try gently raising the easing lever on the relief valve for a few seconds (refer to "Temperature Pressure Relief Valve" on page 13). This may dislodge a small particle of foreign matter and clear the fault. Release the lever gently.

- **Steady flows for long period (often at night)**
  This may indicate the mains water pressure sometimes rises above the designed pressure of the water heater. Ask your installing plumber to fit a pressure limiting valve.

  ⚠ **Warning:** Never replace the relief valve with one of a higher pressure rating.

- **Heavy flows of hot water until the water heater is cold - then stops until water reheats**
  The gas control **must** be turned off using the knob on top of the gas control thermostat (refer to "Close Down Procedure" on page 51). Phone your nearest Rheem Service Department or Accredited Service Agent to arrange for inspection.

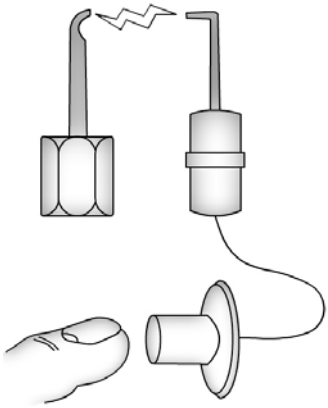
EXPANSION CONTROL VALVE RUNNING

If an expansion control valve is fitted in the cold water line to the water heater (refer to page 40) it may discharge a small quantity of water instead of the temperature pressure relief valve on the water heater. The benefit is that energy is conserved as the discharged water is cooler.

SAVE A SERVICE CALL

TIMER APPEARS TO BE FUNCTIONING INCORRECTLY
Check the following:

- Has the programming been set correctly? Check the programmed “ON” and “OFF” times (refer to “Timer Operation” on page 16).
- Has the “R” (reset) button been inadvertently pressed? Reprogram the timer.
- Has the timer been set to the “RANDOM” function? Deactivate the “RANDOM” function (refer to “Caution - Random Function” on page 20).



CAN’T LIGHT THE PILOT FLAME

- **Is there gas to the water heater?** Check the gas isolation valve on the gas supply line is open.
- **Is there a normal gas supply to the rest of the premises?** Try lighting another gas appliance to check. If there is no gas, call the gas supplier.

WATER HEATER APPEARS TO BE LEAKING
When the water heater is first lit, or after a large usage of hot water, condensation may form on the burner of the water heater. This is quite normal, especially in winter months and will dry off as the water is heated.

COLLECTOR GLASS
Warranty **DOES NOT** cover breakage of solar collector glass. Check your household insurance policy covers collector glass breakage.

⚠ **Warning:** Collector glass must not be replaced whilst the solar collector is on the roof.

The collector glass is not offered as a replacement part and no attempt should be made to remove it. Should the solar collector require replacement, contact your nearest Rheem Service Department or Accredited Service Agent.

SAVE A SERVICE CALL

HIGH GAS BILLS

With the installation of your new solar hot water system, maximum gas energy savings can be achieved with careful planning of hot water usage. Should you at any time, feel your gas account is too high, we suggest you check the following points:

- Is the relief valve running excessively? (Refer to "Temperature Pressure Relief Valve Running" on page 23).
- Is one outlet (especially the shower) using more hot water than you think? (Refer to "Not Enough Hot Water" on page 21).
- Is there a leaking hot water pipe, dripping hot water tap, etc? Even a small leak will waste a surprising quantity of hot water and gas. Replace faulty tap washers and have your plumber rectify any leaking pipe work.

- Are you using the gas boosting properly? (Refer to "Timer Operation" on page 16).
- Consider recent changes to your hot water usage pattern and check if there has been any increase in tariffs since your previous account.

IF YOU HAVE CHECKED ALL THE FOREGOING AND STILL BELIEVE YOU NEED ASSISTANCE, CALL YOUR NEAREST RHEEM SERVICE DEPARTMENT OR ACCREDITED SERVICE AGENT.

INSTALLATION – SOLAR STORAGE TANK

THIS WATER HEATER IS FOR OUTDOOR INSTALLATION ONLY.
THIS WATER HEATER IS NOT SUITABLE FOR POOL HEATING.
Check the water heater is suitable for the gas type available.
(refer to the rating label on the water heater)

The system is suitable for installation with Rheem NPT 200 solar collectors. The system is not suitable for installation above 400 metres altitude.

The system when installed in areas subject to freeze conditions must be installed with the solar hot and solar cold pipes fully insulated with closed cell polymer insulation (minimum thickness 13 mm) to offer protection against freeze damage. Freeze conditions occur below 6°C. The system has NO WARRANTY for freeze damage when installed above 400 metres altitude or if the solar hot and solar cold pipes are uninsulated (refer to "Warranty Exclusions" on page 59 and to "Warning: Plumber Be Aware" on page 38). Thicker insulation may be required to comply with the requirements of AS/NZS 3500.4.

SOLAR WATER HEATER STORAGE TANK LOCATION
The solar storage tank should be installed close to the most frequently used outlet and its position chosen with safety and service in mind. Make sure people (particularly children) will not touch the flue outlet. The flue terminal must be clear of obstructions and shrubbery.

Consideration must also be given to the position of the solar storage tank in relation to the solar collectors. There are limitations on the maximum length of the solar hot and solar cold pipes between the solar storage tank and the solar collectors. Refer to "Solar Collector Location" on page 36 and to "Pipe Lengths" on page 37.

Clearance must be allowed for servicing of the solar storage tank. The solar storage tank must be accessible without the use of a ladder or scaffold. Make sure the temperature pressure relief valve lever is accessible and the access covers and burner can be removed for service.

If possible leave headroom of one water heater length so the anode can be inspected or replaced. Remember you may have to remove the entire solar storage tank later for servicing.

INSTALLATION – SOLAR STORAGE TANK

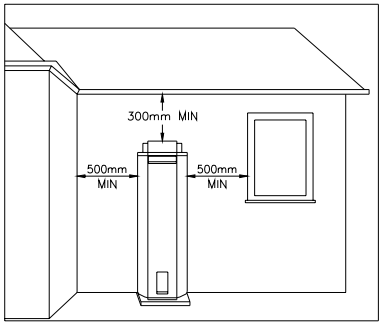
The installation must comply with the requirements of AS/NZS 3500.4, AS/NZS 3000, AS 5601 and all local codes and regulatory authority requirements. In New Zealand, the installation must conform with NZS 5261 Code of Practice for Installation of Gas Burning Appliances and the New Zealand Building Code.

The water heater must not be installed in an area with a corrosive atmosphere where chemicals are stored or where aerosol propellants are released. Remember the air may be safe to breathe, but when it goes through a flame, chemical changes take place which may attack the water heater.

The solar storage tank is to be installed at ground level on a concrete or brick plinth (fire proof base) and must stand vertically upright with the back of the solar storage tank **against an external wall** or alternatively against a fireproof screen extending at least 500 mm above, below and either side the flue terminal. Failure to observe this precaution can cause problems in high wind areas. A secondary flue is not required.

As a guide the following requirements extracted from the Australian Gas Installations Standard AS 5601, must be observed:

- At least 300 mm between the top of the solar storage tank and the eaves.
- At least 500 mm between the solar storage tank and the edge of any opening into the building, measured horizontally and vertically.
- At least 500 mm between the solar storage tank and a return wall or external corner, measured horizontally along the wall.
- At least 500 mm below any openable window.
- At least 500 mm clear of any combustibles.

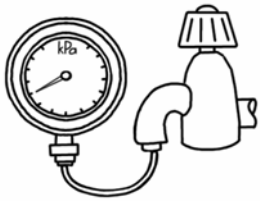


INSTALLATION – SOLAR STORAGE TANK

MAINS WATER SUPPLY

Where the mains water supply pressure exceeds that shown in the table below, an approved pressure limiting valve is required and should be fitted as shown in the installation diagram (refer to diagram on page 40).

Model	**260**
Relief valve setting	1000 kPa
Expansion control valve setting *	850 kPa
Max. mains supply pressure	
With expansion control valve	680 kPa
Without expansion control valve	800 kPa
Min. mains supply pressure	200 kPa



* Expansion control valve not supplied with the water heater.

TANK WATER SUPPLY

If the water heater is supplied with water from a tank supply and a minimum water supply pressure of 200 kPa at the water heater cannot be achieved, then a pressure pump system must be installed to allow the solar circuit system to operate. Care must be taken to avoid air locks. The cold water line from the supply tank should be adequately sized and fitted with a full flow gate valve or ball valve.

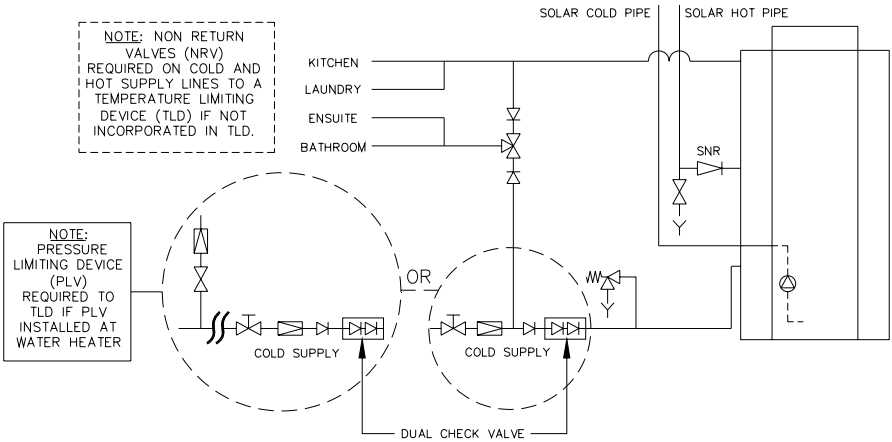
INSTALLATION – SOLAR STORAGE TANK

HOT WATER DELIVERY
This water heater can deliver water at temperatures which can cause scalding.

It is necessary and we recommend that a temperature limiting device be fitted between the water heater and the hot water outlets in any ablution area such as a bathroom or ensuite, to reduce the risk of scalding. The installing plumber may have a legal obligation to ensure the installation of this water heater meets the delivery water temperature requirements of AS/NZS 3500.4 so that scalding water temperatures are not delivered to a bathroom, ensuite or other ablution area.

Where a temperature limiting device is installed adjacent to the solar water heater, the cold water line to the temperature limiting device can be branched off the cold water line either before or after the isolation valve and pressure limiting valve to the solar storage tank, but it **MUST BE** before the non return valve. If an expansion control valve is required, it must always be installed after the non return valve and be the last valve prior to the solar storage tank.

⚠ **Warning:** A non return valve **MUST BE** installed on the cold water line to the solar storage tank **AFTER** the cold water branch to a temperature limiting device. Due to the higher water temperatures generated under certain conditions in the solar collectors of this solar water heater, an additional effective back-flow prevention device also should be used as an extra safeguard. Valve manufacturer RMC recommends Dual Check Valve model N7150, as being suitable for this application.



Two Temperature Zones Using a Temperature Limiting Device

INSTALLATION – SOLAR STORAGE TANK

If a combination isolation valve and non return valve (duo or trio valve) is installed on the cold water line to the solar water heater and the cold water line to the temperature limiting device branches off after this valve, then a second non return valve must be installed between the cold water branch and the solar storage tank. Due to the higher water temperatures generated under certain conditions in the solar collectors of this solar water heater, an effective back-flow prevention device should be used as the second non return valve as an extra safeguard. Valve manufacturer RMC recommends Dual Check Valve model N7150, as being suitable for this application.

If a pressure limiting valve is installed on the cold water line to the solar water heater and the cold water line to a temperature limiting device branches off before this valve or from another cold water line in the premises, then a pressure limiting valve of an equal pressure setting may be required prior to the temperature limiting device.

CIRCULATED HOT WATER FLOW AND RETURN SYSTEM

A solar water heater should not be installed as part of a circulated hot water flow and return system in a building. The benefits of solar gain will be significantly reduced and energy gained from the sun lost through the pipe work.

If a circulated flow and return system is required, it is necessary to bypass the solar water heater and install a secondary water heater connected to the hot water flow and return line and supplied from the solar water heater. The secondary water heater must be a storage water heater able to provide a hot water outlet temperature of at least 60°C. **Note:** The thermostat must always be set to at least 60°C. Refer to the diagram on page 31.

Temperature Limiting Device

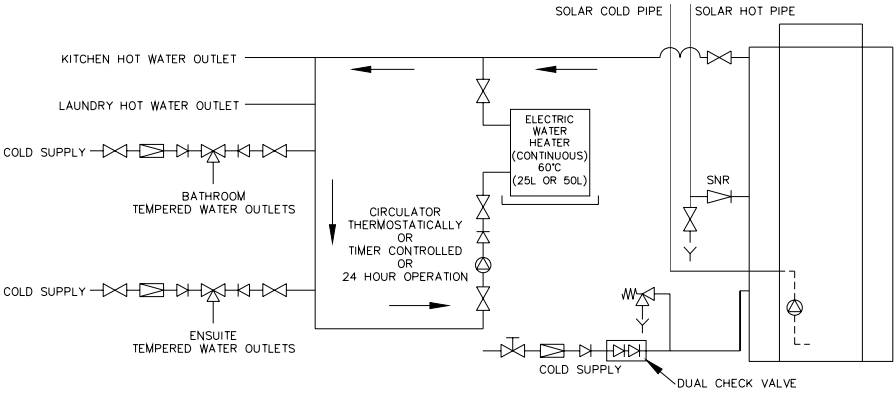
A temperature limiting device cannot be installed in circulated hot water flow and return pipe work. The tempered water from a temperature limiting device cannot be circulated. Where a circulated hot water flow and return system is required in a building, a temperature limiting device can only be installed on a dead leg, branching off the circulated hot water flow and return pipe.

If circulated tempered water were to be returned back to the water heater, depending on the location of the return line connection on the water supply line to the water heater, then either:

INSTALLATION – SOLAR STORAGE TANK

- water will be supplied to the cold water inlet of the temperature limiting device at a temperature exceeding the maximum recommended water supply temperature, or
- when the hot taps are closed no water will be supplied to the cold water inlet of the temperature limiting device whilst hot water will continue to be supplied to the hot water inlet of the temperature limiting device.

These conditions may result in either water at a temperature exceeding the requirements of AS/NZS 3500.4 being delivered to the hot water outlets in the ablution areas, or the device closing completely and not delivering water at all, or the device failing. Under either condition, the operation and performance of the device cannot be guaranteed.



Circulated Hot Water Flow and Return System – Solar Water Heater

REDUCING HEAT LOSSES

The cold water line to and the hot water line from the water heater must be insulated in accordance with the requirements of AS/NZS 3500.4. The insulation must be weatherproof and UV resistant if exposed.

The pipe work between the solar storage tank and the solar collectors must be fully insulated with closed cell polymer insulation or similar (minimum thickness 13 mm). Thicker insulation may be required to comply with the requirements of AS/NZS 3500.4. The insulation must be weatherproof and UV resistant if exposed. The insulation must be fitted up to the connections on both the solar storage tank and the solar collectors.

INSTALLATION – SOLAR STORAGE TANK

ANODE TYPES

The correct anode type for the water supply being used must be fitted in the water heater (refer to "Water Supplies" on page 56). The black anode is fitted as standard.

Total Dissolved Solids in water supply to the water heater	Anode colour code
0 – 40 mg/L	Green
40 – 600 mg/L	Black
600 – 2500 mg/L	Blue

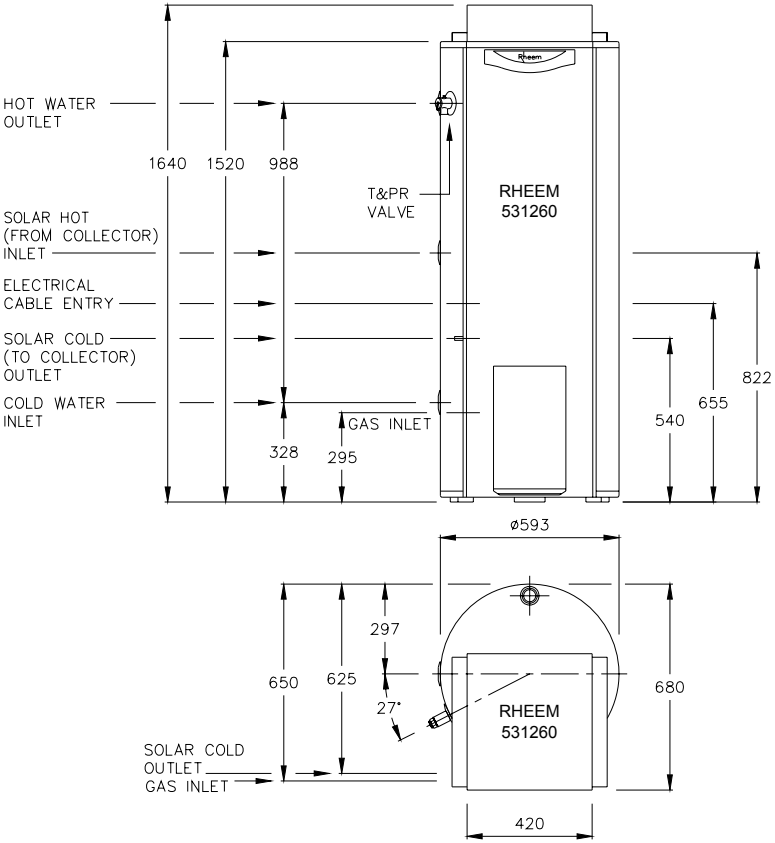
SADDLING - PIPE WORK

To prevent damage to the cylinder when attaching pipe clips or saddles to the water heater jacket, we recommend the use of self-drilling screws with a maximum length of 12 mm. Should pre drilling be required, extreme caution must be observed when penetrating the jacket of the water heater.

Note: Damage to the cylinder as a result of saddling to the jacket will void the warranty.

INSTALLATION – SOLAR STORAGE TANK

DIMENSIONS AND TECHNICAL DATA



Model 531260 **Mass (tank):** Empty 110 kg Full 370 kg

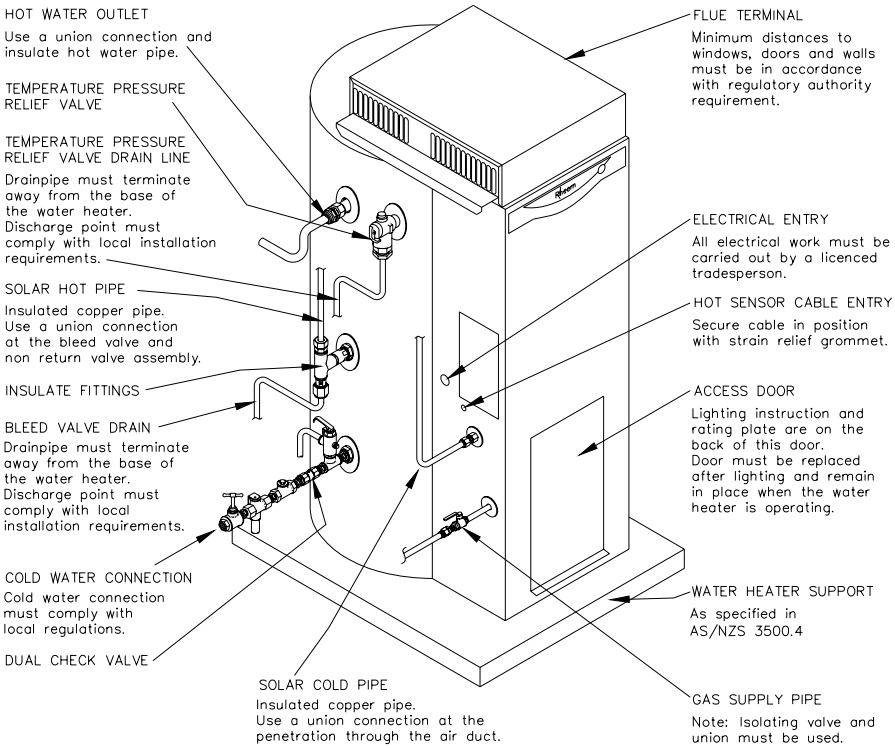
Capacity & Boost: 260 litres **Recovery (Boost)** (natural gas @ 50°C rise) 100 litres

Gas Details	Hourly Gas Consumption (MJ)	Min. Gas Pressure (kPa)	Test Point Gas Pressure (kPa)	Max. Gas Pressure (kPa)
Natural	26	1.13	1.00	3.50
Propane	25	2.75	2.70	3.50
Butane	25	2.75	2.70	3.50

Model numbers: N = Natural, P = Propane, B = Butane. Letter N, P or B is included in the model number, eg 531260N0, to denote gas type.

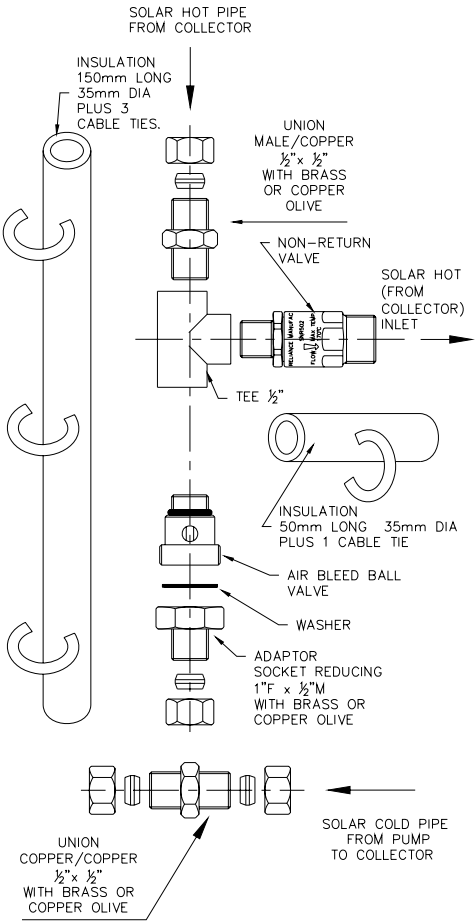
INSTALLATION – SOLAR STORAGE TANK

TYPICAL INSTALLATION – OUTDOOR LOCATION



INSTALLATION – SOLAR STORAGE TANK

ASSEMBLY OF SOLAR HOT AND SOLAR COLD PIPE CONNECTIONS



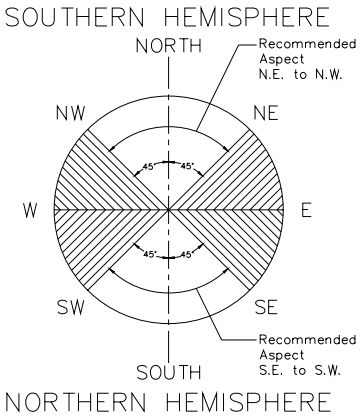
- Use thread sealing tape or approved thread sealant.
- All olive compression fittings must use brass or copper olives.
- Ensure air bleed valve is open when filling collectors.
- Insulate the air bleed valve and 3 way tee assembly connected to the solar hot pipe with the 150 mm long x 35 mm diam insulation and the solar non return valve at the solar hot (from collector) inlet of the solar storage tank with the 50 mm long x 35 mm diam insulation. Secure the insulation with the cable ties supplied.

INSTALLATION – SOLAR COLLECTORS

SOLAR COLLECTOR LOCATION

Consideration must be given to the position of the solar collectors in relation to the solar storage tank. There are limitations on the maximum length of the solar hot and solar cold pipes between the solar storage tank and the solar collectors. Refer to "Solar Storage Tank Location" on page 26 and to "Pipe Lengths" on page 37.

- The solar collectors must be installed in a shade free position.
- The solar collectors are to be installed facing toward the equator (i.e. north facing in the southern hemisphere and south facing in the northern hemisphere). Where this orientation is not practical, a system facing up to 45° from the equator will have its efficiency reduced by approximately 4%.
- Inclination of the solar collectors should be approximately equal to 90% of the local latitude angle. The latitudes of some Australian cities are listed on page 37. Solar collectors may be installed at the roof angle for simplicity of installation and appearance, but must never be flat. If the roof angle varies by 15° from the correct angle, efficiency will be reduced by 10%.



- For an installation on a roof with a pitch less than 10°, a Variable Pitch stand is required. Refer to your local Solar Distributor for details.
- For an installation at right angles to (across) the roof pitch, a Flat Roof stand and an Across Pitch kit are both required. Refer to your local Solar Distributor for details.
- For an installation opposite to (against) the roof pitch, a Flat Roof stand and an Against Pitch kit are both required. Refer to your local Solar Distributor for details.
- The collector kit is suitable for installations with an inclination of up to 30°. Where the solar collectors are installed at inclinations greater than 30°, a With Pitch frame is necessary. Refer to your local Solar Distributor for details.
- The roof must be suitable to take the mass of the solar collectors. Each solar collector and its fittings weighs approximately 40 kg when full of water.

INSTALLATION – SOLAR COLLECTORS

- The installation must comply with the requirements of AS/NZS 3500.4 and all local codes and regulatory authority requirements.
- Refer to the installation instructions supplied with the collector kit for details on the installation of the solar collectors.

LATITUDE OF SOME AUSTRALIAN CITIES

Adelaide	35°S	Cairns	17°S	Hobart	42°S	Port Hedland	20°S
Alice Springs	24°S	Canberra	35°S	Mildura	34°S	Rockhampton	24°S
Brisbane	27°S	Darwin	12°S	Melbourne	38°S	Sydney	34°S
Broken Hill	31°S	Geraldton	28°S	Perth	32°S	Townsville	19°S

PIPE LENGTHS

The maximum recommended combined length of the solar cold and solar hot pipes with bends is:

Maximum recommended total combined pipe length and number of 90° bends						
Pipe Size	1 or 2 Collectors		3 Collectors		4 Collectors	
	Pipe Length	90° Bends	Pipe Length	90° Bends	Pipe Length	90° Bends
DN15	40 metres	20	30 metres	20	15 metres	20
DN20	NR	NR	40 metres	20	40 metres	20

For each additional 90° bend, reduce the maximum total pipe length by 0.5 metres.
For each additional metre of pipe length, reduce the number of 90° bends by two.
Note: One 90° elbow is equal to two 90° bends.
NR – not recommended.

The solar hot and solar cold pipes between the solar storage tank and the solar collectors should be a minimum DN15.

Maximum height to collectors

The maximum height of a solar Loline installation, from the solar controller (circulator) to the top of the solar collectors, is determined by the maximum recommended total pipe length for the system and the water supply pressure.

The maximum recommended total pipe length of the solar circuit should not be exceeded and a minimum water supply pressure of 200 kPa should be available at the inlet to the system, otherwise the system performance may be reduced or the solar circuit may not be purged of air during the commissioning of the system.

INSTALLATION – SOLAR COLLECTORS

WARNING: Plumber – Be Aware

- The solar hot and solar cold pipes between the solar storage tank and the solar collectors **MUST BE** of copper and fully insulated with closed cell polymer insulation or similar (minimum thickness 13 mm). Thicker insulation may be required to comply with the requirements of AS/NZS 3500.4. The insulation must be weatherproof and UV resistant if exposed. All compression fittings must use brass or copper olives.

  Note: Failure to observe this requirement may void the warranty for freeze damage.

  The insulation is essential to assist in providing freeze protection, will offer corrosion protection to a metal roof against water runoff over the copper pipe, assist in avoiding accidental contact with the solar pipe work and also reduce pipe heat losses.

- The insulation must be **fitted up to the connections on both the solar collectors and the solar storage tank**, as very high temperature water can flow from the solar collectors to the solar storage tank under certain conditions.

- Plastic pipe **MUST NOT** be used, as it will not withstand the temperature and pressure of the water generated by the solar collectors under stagnation conditions. The solar collectors can generate extremely high water temperatures up to 150°C and high water pressure of 1000 kPa. Plastic pipe cannot withstand these temperatures and pressures and **MUST NOT** be used. Failure of plastic pipe can lead to the release of high temperature water and cause severe water damage and flooding.

- There **must be a continuous fall** in the pipe work between the solar collectors and solar storage tank. The highest point of the solar cold pipe and solar hot pipe must be where they connect to the solar collectors, to avoid the possibility of air locks occurring in the system.

CONNECTIONS – PLUMBING

CONNECTION SIZES

- Hot water connection: RP¾/20
- Cold water connection: DN20 compression fitting.
  (cold water inlet of tank: RP¾/20).
- Solar hot (from collector) connection: DN15 compression fitting.
  (solar hot water inlet of tank: RP¾/20).
- Solar cold (to collector) connection: DN15 compression fitting.
- Relief valve connection: RP½/15.
- Gas inlet: RP½/15.
- Bleed valve connection: G1.0B.

All plumbing work must be carried out by a qualified person and in accordance with the National Plumbing Standard AS/NZS 3500.4 and local authority requirements.

All gas work must be carried out by a qualified person and in accordance with the Gas Installations Standard AS 5601 and local authority requirements.

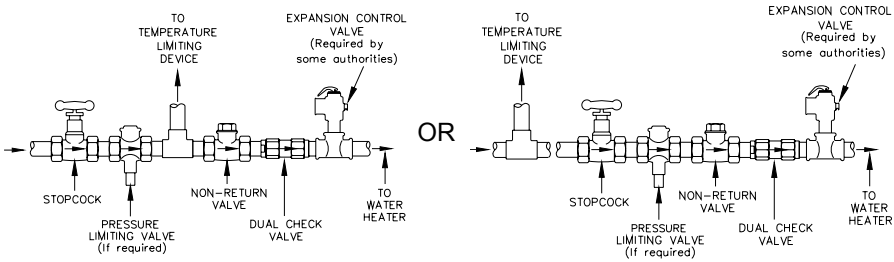
WATER INLET AND OUTLET

All pipe work must be cleared of foreign matter before connection and purged before attempting to operate the water heater. All olive compression fittings must use brass or copper olives. Use thread sealing tape or approved thread sealant on all fittings.

An isolation valve and non return valve must be used on the cold water line to the water heater. A non-return valve must be fitted on the cold water supply to this water heater in compliance with Clause 5.9.1 of AS/NZS 3500.4. Due to the higher temperatures generated by solar water heaters, an additional effective back-flow prevention device also should be fitted as an extra safeguard. Valve manufacturer RMC recommends Dual Check Valve No N7150, as being suitable for this application.

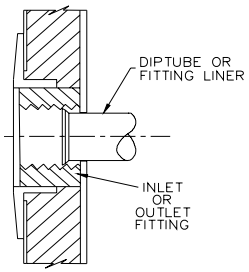
An acceptable arrangement is shown in the diagram on page 40. Refer also to "Hot Water Delivery" on page 29 and to "Mains Water Supply" on page 28. The plumbing arrangements for the solar hot and solar cold pipes are shown on page 35.

CONNECTIONS – PLUMBING



A disconnection union must always be provided at the cold water inlet, solar cold water outlet, solar hot water inlet and hot water outlet on the water heater to allow for disconnection of the water heater.

This water heater has either a plastic dip tube or fitting liner in the inlet and outlet fittings (see diagram). These must be in place for the water heater to function properly. Do not remove or damage them by using heat nearby. They will be pushed into the correct position as the fitting is screwed in.



The solar cold pipe connects to the DN15 pipe protruding from the side of the air duct on the solar storage tank. Use the compression fitting supplied. The solar hot pipe connects to the raised inlet located above the cold water inlet and below the hot water outlet (refer to “Assembly of Solar Hot and Solar Cold Pipe Connections” diagram on page 35).

PIPE SIZES

To achieve true mains pressure operation, the cold water line to the water heater should be the same size or bigger than the hot water line from the water heater.

The pipe sizing for hot water supply systems should be carried out by persons competent to do so, choosing the most suitable pipe size for each individual application. Reference to the technical specifications of the water heater and local regulatory authority requirements must be made.

CONNECTIONS – PLUMBING

RELIEF VALVE

The temperature pressure relief valve is shipped behind the front cover of the solar storage tank. This valve must be fitted before the water heater is operated. Before fitting the relief valve, make sure the probe has not been bent. Seal the thread with Teflon tape - never hemp. Make sure the tape does not hang over the end of the thread.

Screw the valve into the correct opening (refer to the installation diagram on page 34) leaving the valve outlet pointing downwards. Do not use a wrench on the valve body - use the spanner flats provided.

RELIEF VALVE DRAIN

A copper drain line must be fitted to the relief valve to carry the discharge clear of the water heater. Connect the drain line to the relief valve using a disconnection union. The pipe work from the relief valve to the drain should be as short as possible and fall all the way from the water heater with no restrictions. It should have no more than three right angle bends in it. Use DN15 pipe.

The outlet of the drain line must be in such a position that flow out of the pipe can be easily seen (refer to AS/NZS 3500.4) - but arranged so hot water discharge will not cause injury, damage or nuisance. The drain line must discharge at an outlet or air break not more than 9 metres from the relief valve.

In locations where water pipes are prone to freezing, the drain line must be insulated and not exceed 300 mm in length. In this instance, the drain line is to discharge into a tundish through an air gap of between 75 mm and 150 mm.

⚠ **Warning:** As the function of the temperature pressure relief valve on this water heater is to discharge high temperature water under certain conditions, it is strongly recommended the pipe work downstream of the relief valve be capable of carrying water exceeding 93°C. Failure to observe this precaution may result in damage to pipe work and property.

CONNECTIONS – PLUMBING

BLEED VALVE DRAIN

A copper drain line must be fitted to the bleed valve to carry the discharge clear of the water heater and solar controls. Connect the drain line to the bleed valve using a disconnection union. The pipe work from the bleed valve to the drain should be as short as possible and fall all the way from the valve with no restrictions. It should have no more than three right angle bends in it. Use DN15 pipe.

The outlet of the drain line must be in such a position that flow out of the pipe can be easily seen (refer to AS/NZS 3500.4) - but arranged so water discharge will not cause injury, damage, nuisance or splashing. The water discharged may be of a high temperature under certain conditions. The drain line must be fully insulated with closed cell polymer insulation or similar (minimum thickness 13 mm). The insulation must be weatherproof and UV resistant if exposed.

EXPANSION CONTROL VALVE

Local regulations may make it mandatory to install an expansion control valve (ECV) in the cold water line to the water heater. In other areas, an ECV is not required unless the saturation index is greater than +0.4 (refer to "Water Supplies" on page 56). However, an ECV may be needed in a corrosive water area where there are sufficient quantities of silica dissolved in the water.

The expansion control valve must always be installed after the non return valve and be the last valve installed prior to the water heater (refer to diagrams on page 40). A copper drain line must be run separately from the drain of the relief valve.

GAS INLET

The gas connection is made through the grommet in the left hand side panel to the gas control. The pipe work must be cleared of foreign matter before connection and purged before attempting to light the water heater. An isolation valve and disconnection union must be used to allow servicing and removal of the solar storage tank. Refer to the Gas Installations Standard AS 5601 for the correct pipe sizing.

⚠ **Warning:** Always isolate the water heater before pressure testing the gas supply system. Disconnect the water heater after the isolating cock to prevent the risk of serious damage to the gas control. Warranty does not cover damage of any nature resulting from failure to observe this precaution. Refer to rating label for gas types and pressures.

Caution: Care is necessary when tightening fittings into the gas valve. The gas valve casting may crack if the fittings are over tightened. Cracked valve castings are not covered under warranty. Damaged valves must be replaced.

CONNECTIONS – ELECTRICAL

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.

All electrical work and permanent wiring must be carried out by a qualified person and in accordance with the Standards Australia Wiring Rules AS/NZS 3000 and local authority requirements.

The water heater must be directly connected to a 240 V 50 Hz mains power supply. The continuous power supply to the solar control unit and the timer must be on the same circuit. A weatherproof double pole isolating switch must be installed adjacent to and accessible from the solar storage tank in accordance with AS 5601.

A flexible 20 mm conduit is required for the electrical cable to the solar storage tank. The conduit is to be connected to the unit with a 20 mm terminator. Connect the power supply wires directly to the terminal block, ensuring there are no excess wire loops inside of the cover.

The terminal block on the solar storage tank has two active connections. One active wire (marked “A”) is required for the operation of the solar control unit and one active wire (marked “TIMER A”) is required for the operation of the gas boosting system. The gas boosting system is switched by the timer.

Note:

- It is essential the active to the solar control unit is not switched by the timer.
- The timer is not weatherproof and must be installed indoors. It is recommended the timer be located in the kitchen or laundry or other location easily seen by the householder.

Connect the hot sensor lead from the solar collectors, through the hole in the side of the air duct, to the hot sensor cable connector adjacent to the terminal block. Fit the strain relief grommet over the hot sensor lead and secure at the hole in the air duct.

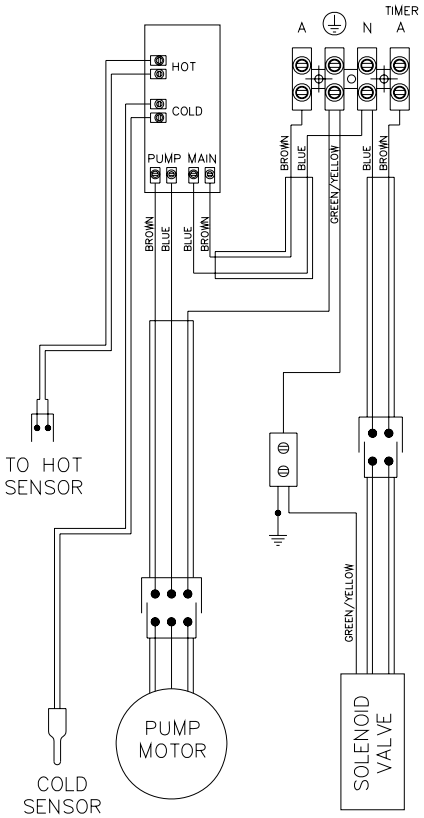
CONNECTIONS – ELECTRICAL

The power consumption of the water heater is:

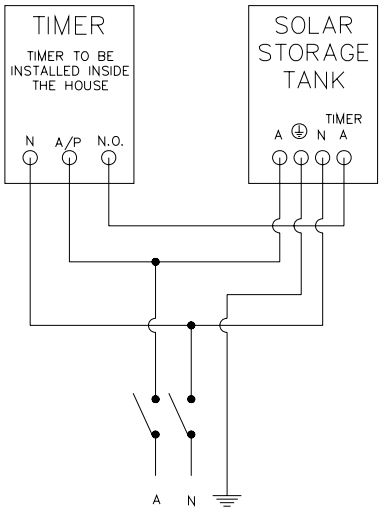
Component	Power consumption	Comments
Solar controls	14 Watts	Constant load 4 Watts differential controller 6 Watts solenoid valve 4 Watts timer
Solar circulator	36 Watts 30 Watts	Maximum load at solar heating cycle start up Average load during the solar heating cycle

The water heater will only operate on a sine wave at 50 Hz. Devices generating a square wave cannot be used to supply power to the water heater.

WIRING DIAGRAMS



A double pole isolating switch must be incorporated in the fixed wiring, according to the AS/NZS 3000, AS 5601 and local authority requirements.



COMMISSIONING

TO FILL AND TURN ON THE WATER HEATER

The power supply to the water heater must not be switched on and the gas pilot or burner must not be lit 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.

  Air will be forced out of the taps.
- Close each tap as water flows freely from it.
- Check the pipe work for leaks.
- Bleed the solar collectors (refer to "Bleeding the Solar Collectors" on page 46).
- Switch on the electrical supply at the isolating switch to the water heater.

  The isolating switch must be switched on for the solar control unit to operate and solar gain to be achieved.
- Program the timer (refer to "Timer Operation" on page 16).

  Note: It is recommended the timer be set to enable boosting between 4:00 PM and 6:30 PM.
- If necessary, press the timer "MAN" button to activate the "OVERRIDE" function of the timer.

  This will allow the gas control system to operate.
- Open the gas isolation valve fully.
- Check the gas pipe work for leaks.
- Light the water heater (refer to "Lighting the Water Heater" on page 48).
- When you are satisfied the main burner is operating correctly, press the timer "MAN" button to deactivate the timer.

  The main burner will extinguish.

⚠ **Warning:** Upon completion of the installation and commissioning of the water heater, leave this guide with the householder or a responsible officer. **DO NOT** leave this guide inside of the cover of the water heater, as it may interfere with the safe operation of the water heater or ignite when the water heater is turned on.

Explain to the householder or a responsible officer the functions and operation of the timer.

COMMISSIONING

GAS INLET PRESSURE

IMPORTANT – CHECK the gas supply pressure at the inlet to the water heater with the water heater and all other gas burning appliances in the premises operating (burners alight). The minimum gas supply pressure is:

Natural Gas	1.13 kPa	Propane	2.75 kPa	Butane	2.75 kPa

If this minimum cannot be achieved, it may indicate the meter or the gas line to the water heater is undersized. It is important to ensure that an adequate gas supply pressure is available to the water heater when other gas burning appliances, on the same gas supply, are operating.

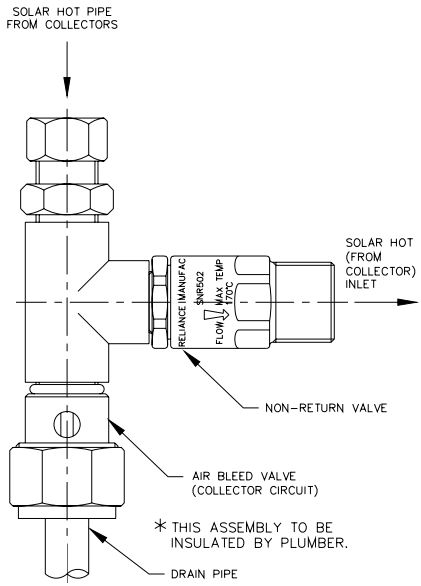
BLEEDING THE SOLAR COLLECTORS

Upon completion of the installation, it is necessary to purge the air from the collector circuit.

To purge air from the collector circuit:

- Ensure the water heater is full of water and all of the hot taps are turned off.
- Using a flat blade screwdriver, open the bleed valve fitted adjacent to the solar hot water (from collector) inlet of the solar storage tank (see diagram).
- The mains pressure will force water to flow from the tank and through the pipe work, forcing air from the collector circuit through the bleed valve. This is evidenced by spurting of water from the drain line connected to the bleed valve.

  ⚠ **Warning:** Exercise care to avoid any splashing of water, as water discharged from the solar collectors may be of a very high temperature.



- Close the bleed valve when water runs freely from the drain line.

COMMISSIONING

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:

- Shut down the gas control (refer to “Close Down Procedure” on page 51).
- Close the gas isolation valve at the inlet to the gas control.
- Switch off the electrical supply at the isolating switch to the water heater (refer to note below).
- Close the cold water isolation valve at the inlet to the water heater.

Note: The freeze protection system will be rendered inoperable if electrical power is not available. Damage caused by freezing due to the unavailability of power to the water heater is not covered by warranty (refer to “Warranty Exclusions” on page 59). If there is a risk of freezing, then it is necessary to drain the solar collectors and connecting pipe work (refer to “Draining the Solar Collectors” on page 52).

LIGHTING THE WATER HEATER

FOR YOUR SAFETY READ BEFORE LIGHTING

⚠ **Warning:** This gas water heater is designed to operate reliably and safely as long as the operating instructions are followed **exactly**. You must comply with these lighting instructions at every stage.

Make sure the water heater is filled with water and the water supply is on, otherwise serious damage to the vitreous enamel cylinder lining and plastic components may occur.

The installer must check all gas connections for leaks, gas supply pressure and test point pressure (refer rating label). Remove the access cover at the front of the water heater to access the gas thermostat.

Note: The main burner will only light when the word “ON” appears on the timer.

SAFETY INFORMATION

A. This water heater is equipped with an igniter button which lights the pilot. When lighting the pilot follow these instructions exactly.

B. **Before lighting** ensure there is no smell of gas around or in the vicinity of the water heater and the burner opening. Be sure to smell next to ground level as some gases can settle there.

C. What to do if you smell gas.

   Do not try to light the water heater.

   If the gas smell is throughout the area, turn the gas control knob clockwise to the “●” (off) position and then turn off the isolation valve on the gas line to the water heater. Leave the area and call Rheem Service or a qualified service technician.

D. Use only your hand to turn the gas control knob, never use tools. If the control knob will not turn by hand, don’t try to repair it, call a qualified service technician. Force or attempted repair may cause a fire or explosion.

E. Do not attempt to operate this water heater if it has been damaged. Call a qualified service technician.

LIGHTING THE WATER HEATER

LIGHTING INSTRUCTIONS
Using the gas control light the water heater as follows:

1. **Stop**, read the safety information on page 48.
2. Turn the gas control knob fully clockwise to the "●" (off) position.
3. Wait five (5) minutes so any build up of unburnt gas can escape. If you then smell gas, stop and follow "C" in the safety information. If you do not smell gas, proceed to step 4.
4. Turn the knob to the "⚹" (pilot) position.
5. Depress the knob fully (until star disappears below housing) and after 30 seconds, whilst keeping the knob depressed, repeatedly press the igniter button (for up to 40 seconds) until the pilot flame ignites.

   ⚠ **Warning:** Keep your face clear of the combustion chamber opening while pressing the igniter.

   Note: It is not possible to depress the knob fully if the gas control has activated its safety shut-off feature. In this case, wait 60 seconds for the gas control to reset.
6. Keep the knob depressed for 20 seconds after the pilot flame lights. The pilot can be checked by looking through the large opening below the gas control.
7. Release the knob and check the pilot is still alight.
8. If the pilot has failed to light or has not remained alight, turn the gas control knob to the "●" (off) position. Wait five (5) minutes for any unburnt gas to escape and then begin again at step 3.

   ⚠ **Warning:** Failure to wait five (5) minutes may result in a fire or explosion.
9. When the pilot flame remains alight with the gas control knob released, turn the knob counter-clockwise to the setting of "6". This will give a water temperature of about 60°C.

   Rheem recommends the thermostat is set at 60°C to maximise solar contribution.
10. Refer to "Temperature Adjustment" on page 5, if further adjustment is required.
11. Replace the access cover.

LIGHTING THE WATER HEATER

The main burner will now automatically ignite during the set timer period when heating is required and extinguish when the water has been heated to the set temperature. If the main burner does not light at the selected setting, the water may already be at the selected temperature.

Note: Never press the igniter button while the top knob is in a numbered position.

TEST THE WATER HEATER AFTER INSTALLATION

- The operation of the water heater must be thoroughly checked by the installer.
- The burner flame must light smoothly and quickly from the pilot flame, and must go out quietly and completely.
- The main burner flame must be stable, although slight lifting at the front edge of the burner is acceptable when the burner is cold.
- The main burner flame should be blue, with a clearly defined inner cone - luminous yellow or "floating" flames are not acceptable, and must be corrected by opening the air shutter (refer to “Air Shutter” on page 50).
- Check the test point pressure and compare with the rating label. The pressure regulator is not adjustable and if the test point pressure is not within 5% of the specified value, refer to Rheem or their Accredited Service Agent.
- If unable to get the water heater working properly, contact the nearest Rheem Service Department or their Accredited Service Agent.
- When satisfied everything is working properly instruct the user in the correct method of operation.

AIR SHUTTER

The air shutter is a hinged flap in the burner aeration tube. It may require adjustment on installation.

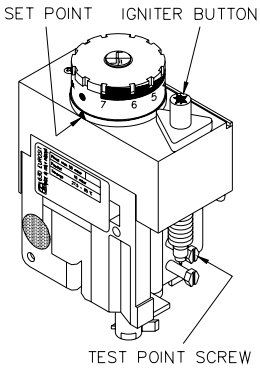
- For a Propane and Butane model, the air shutter should be fully open.
- The shutter is held in place by a screw on the side of the burner aeration tube.

Note: A Natural gas model does not have an air shutter.

LIGHTING THE WATER HEATER

CLOSE DOWN PROCEDURE

1. Turn the gas control knob to the "⚹" position (pilot). This setting will leave the pilot flame alight however the main burner will not be able to light.
2. Turn the gas control knob to the "●" (off) position. This setting shuts the gas control down completely.



DRAINING THE SOLAR COLLECTORS

To drain the solar collectors and the solar hot and solar cold pipes:

- Open a hot water tap and allow the water to run for five minutes immediately prior to draining the solar collector(s).

  This will assist in the transfer of any high temperature water in the solar collector(s) to the solar storage tank.

- Close the hot water tap.

  ⚠ **Warning:** Exercise care, as water discharged from the solar collectors may be of a very high temperature.

- Turn off the water heater (refer to "To Turn Off the Water Heater" on page 47).

- Using a flat bladed screw driver, open the bleed valve fitted adjacent to the solar hot water inlet of the water heater (refer to diagram on page 46).

- Undo the compression fitting at the side of the air duct of the solar storage tank and disconnect the solar cold pipe.

  Water will now drain from the solar collectors and the solar hot and solar cold pipes.

- When water stops flowing from the solar hot and solar cold pipes, reconnect the cold pipe to the solar storage tank and tighten the compression fitting.

- Close the bleed valve.

DRAINING THE WATER HEATER

To drain the water heater:

- Open a hot water tap and allow the water to run for five minutes immediately prior to draining the solar storage tank.

  This will assist in the transfer of any high temperature water in the solar collector(s) to the solar storage tank.

- Close the hot water tap.

  ⚠ **Warning:** Exercise care, as water discharged from the solar storage tank may be of a very high temperature.

- Turn off the water heater (refer to “To Turn Off The Water Heater” on page 47).

- Operate the relief valve release lever - do not let the lever snap back or you will damage the valve seat.

  Operating the lever will release the pressure in the water heater.

- Attach a hose to the spout of the drain cock. Let the other end of the hose go to a drain.

- Open the drain cock using the handle.

- Operate the relief valve again.

  This will let air into the water heater and allow the water to drain through the hose.

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WATER SUPPLIES

Your water heater is manufactured to suit the water conditions of most Australian metropolitan supplies. However, there are some known water supplies which can have detrimental effects 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. The water heater should only be connected to a potable water supply.

ANODE

In areas where the total dissolved solids (TDS) exceeds 600 mg/L it is possible the black anode, which is the standard anode fitted to the water heater, may be excessively active. To alleviate this, the black anode should be replaced with one colour coded blue. Where the TDS of the water is less than 40 mg/L, such as when the water has been deionised or is from an alpine supply, a high potential anode, colour coded green, should be used. The changing of anodes must be carried out by a plumber or authorised service person.

CAUTION

If your water supply has a TDS greater than 600 mg/L and the anode has not been changed to a blue one, there is the possibility hydrogen gas could accumulate in the top of the water heater during long periods of no use. In areas where this is likely to occur, the installer should instruct the householder on how to dissipate the gas safely.

If, under these conditions, the water heater has not been used for two or more weeks the following procedure should be carried out before using any electrical appliances (automatic washing machines and dishwashers) which are connected to the hot water supply.

The hydrogen, which is highly flammable, should be vented safely by opening a hot tap and allowing the water to flow. There should be no smoking or naked flame near the tap whilst it is turned on. Any hydrogen gas will be dissipated. This is indicated by an unusual spurting of the water from the tap. Once the water runs freely again, any hydrogen in the system will have been released.

WATER SUPPLIES

SATURATION INDEX

The saturation index is used as a measure of the water's corrosive or scaling properties. In a corrosive water supply, the water can attack copper parts and cause them to fail. Where the saturation index is less than –1.0, the water is corrosive and warranty does not apply to a solar collector.

In a scaling water supply calcium carbonate is deposited out of the water onto any hot metallic surface. Where the saturation index exceeds +0.40, the water is scaling and an expansion control valve* must be fitted on the cold water line after the non-return valve and the solar collectors should be covered when the water heater is not intended to be used for more than two weeks. Where the saturation index exceeds +0.80, warranty does not apply to a solar collector unless a water softening device is installed.

* Refer to the cold water connection detail on page 40.

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

Rheem reserves the right to transfer fully functional components from the defective water heater to the replacement water heater if required. The term “water heater” used in the Warranty, Warranty Conditions and Warranty Exclusions means the Rheem supplied water heater(s), solar storage tank(s), solar collector(s), kit(s) and components.

In addition to this warranty, the Trade Practices Act 1974 and similar laws in each state and territory provide the owner under certain circumstances with certain minimum statutory rights in relation to your Rheem water heater. This warranty must be read subject to that legislation and nothing in this warranty has the effect of excluding, restricting or modifying those rights.

WARRANTY CONDITIONS

1. This warranty is applicable only to water heaters manufactured from 1st September 2006.
2. The water heater must be installed in accordance with the Rheem water heater installation instructions, supplied with the water heater, and in accordance with all relevant statutory and local requirements of the State in which the water heater is installed.
3. Where a failed component or water heater is replaced under warranty, the balance of the original warranty period will remain effective. The replaced part or water heater does not carry a new warranty.
4. Where the water heater is installed outside the boundaries of a metropolitan area as defined by Rheem or further than 25 km from a regional Rheem branch office, or an Accredited Service Agent, the cost of transport, insurance and travelling costs between the nearest Rheem Accredited Service Agent’s premises and the installed site shall be the owner’s responsibility.
5. Where the water heater is installed in a position that does not allow safe, ready access, the cost of accessing the site safely, including the cost of additional materials handling and / or safety equipment, shall be the owner’s responsibility.
6. The warranty only applies to the water heater and original or genuine (company) component replacement parts and therefore does not cover any plumbing or electrical parts supplied by the installer and not an integral part of the water heater, e.g. pressure limiting valve; isolation valves; non-return valves; electrical switches; pumps or fuse.
7. The water heater must be sized to supply the hot water demand in accordance with the guidelines in the Rheem water heater literature.

RHEEM AUSTRALIA PTY LTD
A.B.N. 21 098 823 511
www.rheem.com.au

FOR SERVICE TELEPHONE
131 031 AUSTRALIA
0800 657 335 NEW ZEALAND
or refer local Yellow Pages

WARRANTY EXCLUSIONS

1. REPAIR AND REPLACEMENT WORK WILL BE CARRIED OUT AS SET OUT IN THE RHEEM WATER HEATER WARRANTY, HOWEVER THE FOLLOWING EXCLUSIONS MAY CAUSE THE WATER HEATER WARRANTY TO BECOME VOID AND MAY INCUR A SERVICE CHARGE AND / OR COST OF PARTS.

a) Accidental damage to the water heater or any component, including: Acts of God; failure due to misuse; incorrect installation; attempts to repair the water heater other than by a Rheem Accredited Service Agent or the Rheem Service Department.

b) Where it is found there is nothing wrong with the water heater; where the complaint is related to excessive discharge from the temperature and / or pressure relief valve due to high water pressure; where the complaint is related to insufficient or incorrect fall in the pipe work preventing complete drain back of the closed circuit fluid of a Premier Loline system; where there is no flow of hot water due to faulty plumbing; where water leaks are related to plumbing and not the water heater or water heater components; where there is a failure of gas, electricity or water supplies; where the supply of gas, electricity or water does not comply with relevant codes or acts.

c) Where the water heater or water heater component has failed directly or indirectly as a result of: excessive water pressure; excessive temperature and / or thermal input; blocked overflow / vent drain; corrosive atmosphere; non Rheem approved or incorrectly mixed closed circuit fluid being used; incorrect or insufficient filling of the closed circuit system with the closed circuit fluid; ice formation in the pipe work to or from the water heater.

d) Where the solar water heater or solar water heater component has failed directly or indirectly as a result of ice formation in the water ways of: a solar water heater system where the system has not been installed in accordance with the water heater installation instructions; a Hiline; a Loline with a freeze protection system where the electricity supply has been switched off or has failed; a Loline installed at an altitude more than 400 metres above sea level; a Premier Hiline or Premier Loline due to non Rheem approved or incorrectly mixed closed circuit fluid being used; a Premier Loline where there is insufficient or incorrect fall in the pipe work preventing complete drain back of the closed circuit fluid.

e) Where the electronic instantaneous gas booster water heater or electronic instantaneous gas booster water heater component has failed directly or indirectly as a result of ice formation in the water ways of a water heater: where the electricity has been switched off or has failed and the water heater has not been drained in accordance with the instructions; due to an ambient temperature below -20°C (including wind chill factor); where the water heater has not been installed in accordance with the water heater installation instructions.

f) Where the water heater is located in a position that does not comply with the Rheem water heater installation instructions or relevant statutory requirements, causing the need for major dismantling or removal of cupboards, doors or walls, or use of special equipment to bring the water heater to floor or ground level or to a serviceable position.

g) Repair and / or replacement of the water heater due to scale formation in the waterways or the effects of either corrosive water or water with a high chloride or low pH level when the water heater has been connected to a scaling or corrosive water supply or a water supply with a high chloride or low pH level as outlined in the Owner's Guide and Installation Instructions booklet.

h) Breakage of collector glass for any reason including hail damage. (We suggest that the collector glass be covered by your home insurance policy).

2. SUBJECT TO ANY STATUTORY PROVISIONS TO THE CONTRARY, THIS WARRANTY EXCLUDES ANY AND ALL CLAIMS FOR DAMAGE TO FURNITURE, CARPETS, WALLS, FOUNDATIONS OR ANY OTHER CONSEQUENTIAL LOSS EITHER DIRECTLY OR INDIRECTLY DUE TO LEAKAGE FROM THE WATER HEATER, OR DUE TO LEAKAGE FROM FITTINGS AND / OR PIPE WORK OF METAL, PLASTIC OR OTHER MATERIALS CAUSED BY WATER TEMPERATURE, WORKMANSHIP OR OTHER MODES OF FAILURE.

WARRANTY

Rheem will:

a) Repair or, if necessary replace any Rheem water heater; or
b) Replace any component (or, if necessary, arrange the installation of a new water heater),
which falls within the Warranty Periods specified below, subject to the warranty conditions and exclusions.

Installation	Model	Period	Warranty
All Components (from date of installation)			
All installations	All models	Year 1	New component, solar collector or water heater (at Rheem's sole discretion), free of charge, including labour.**
Cylinder (from date of installation)			
Water heater installed in a "single-family domestic dwelling"	Loline Premier Loline Hiline	Years 2 & 3	New water heater, free of charge, including labour.**
		Years 4 & 5	New water heater, free of charge, with installation and labour costs being the responsibility of the owner.
	Premier Hiline	Years 2 to 6	New water heater, free of charge, with installation and labour costs being the responsibility of the owner.
Water heater installed in any other than a "single-family domestic dwelling"	Loline Premier Loline Hiline Premier Hiline	Years 2 & 3	New water heater, free of charge, with installation and labour costs being the responsibility of the owner.
Heat Exchanger Electronic Instantaneous Gas Booster (from date on installation)			
Water heater installed in a "single-family domestic dwelling"	Premier Loline	Years 2 & 3	New heat exchanger, free of charge, including labour.**
		Years 4 & 5	New heat exchanger, free of charge, with installation and labour costs being the responsibility of the owner.
Solar Collector (from date of installation)			
All installations	NPT200 S200 T200	Years 2 to 5	New solar collector, free of charge, with installation and labour costs being the responsibility of the owner.

Notes:

* Rheem is the supplier of Rheem electronic instantaneous gas water heaters, manufactured by Paloma Industries, a world leader in water heater technology and manufacture.
** Refer to items 4 and 5 of warranty conditions.

Note: Every care has been taken 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.

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