

**THERMANN™**

# OWNER'S GUIDE

Thermann Split Heat Pump

**Operating Instructions  
Warranty**

## **Models**

Tank Unit: TH160GLG, TH250GLG,  
TH315GLG, TH400GLG

Heat Pump Unit: THP45

System Model: THP45x160,  
THP45x250, THP45x315,  
THP45x400



# **Thermann Owner's Manual**

Thermann Split Heat Pump

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# IMPORTANT SAFETY INSTRUCTIONS

**Note: The information contained in this owner's manual must be read carefully and understood before proceeding to operate the water heater.**

 <b>Warning</b>	Symbol indicates potentially hazardous condition which, if not avoided, may result in <b>serious injury or death</b> .
 <b>Caution</b>	Symbol indicates potentially hazardous condition which, if not avoided, may result in <b>injury or damage to property</b> .

## **Warning**

-  Do not open the heat pump unit cover.
-  Do not insert anything into the air inlet or outlet of the heat pump unit
-  Do not touch the tap while hot water is being supplied.
-  Check the water temperature before supplying any hot water or taking a shower.
-  Do not disassemble, repair or alter the product in any way.
-  Do not use any damaged, altered, or bundled power cord.
-  Do not touch the PTR valve, drainage pipe, drain outlet or drain elbow when inspecting the PTR valve or while draining hot water.
-  Ensure the product is removed from any gas containers, source of fire and flammable substances.
-  For continued safety of this appliance it must be installed, operated and maintained in accordance with the manufacturer's instructions.
-  System contains refrigerant under very high pressure. The system must be serviced by qualified persons only.
-  This appliance may deliver water at high temperature. Refer to the Plumbing Code of Australia(PCA), local requirements and installation instructions to determine if additional delivery temperature control is required.
-  If the hot water system is not used for two weeks or more a quantity of highly flammable hydrogen gas may accumulate in the water heater. To dissipate this gas safely, it is recommended that a hot tap be turned on for several minutes or until discharge of gas ceases. Use a sink, basin, or bath outlet, but not a dishwasher, clothes washer, or other appliance.  
During this procedure, there must be no smoking, open flame, or any electrical appliance operating nearby. If hydrogen is discharged through the tap, it will probably make an unusual sound as with air escaping.

## **Caution**

-  Do not block the air inlet and outlet.
-  Do not climb or put anything on top of the heat pump unit.
-  Do not put anything susceptible to humidity under the heat pump unit.
-  Do not use the heat pump unit if the installation blocks have been damaged.
-  Ensure no animal or plant is placed directly in front of where air is blown from the heat pump unit.
-  In the case of any abnormality turn off the appliance at the electrical isolation switch located nearby the appliance.
-  This heat pump unit should be installed in a location away from bedrooms and living rooms, as well as neighbour's bedrooms and living rooms to minimise the effect of operational noise.
-  Remove any snow from the heat pump units after snowfalls.
-  Do not run the hot water directly into sink outlets.
-  Do not use the shower or any hot water for at least one minute after recovery from a power outage.
-  Do not install the unit in areas exposed to seawater.

# IMPORTANT SAFETY INSTRUCTIONS (CONT.)

	Indicates content requiring “attention”.
	Indicates content that is prohibited.
	Indicates content with “instructions” that need to be fully followed.

## WARNING

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

## Notice to Victorian Consumers

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

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

## WARRANTY

Thermann Split Heat Pump hot water units are covered by Reece for any cost of labour and parts in the event of a component failure due to any defects that may arise either from workmanship and/or faulty material. **Product must be installed by a licensed person.**

The warranty commences on the date of installation :

### RESIDENTIAL USE:

HEAT PUMP UNIT

TANK

PARTS & LABOUR



### COMMERCIAL USE:

HEAT PUMP UNIT

TANK

PARTS & LABOUR



# INTRODUCTION

The Thermann Split Heat Pump is designed to efficiently and effectively heat potable water in a domestic dwelling. The split heat pump is supplied as a kit, consisting of a heat pump unit that uses CO<sub>2</sub> as the refrigerant and a storage tank that stores heated water. The heat pump unit is designed for outdoor installation only in a well ventilated space.

Thermann Split Heat Pump units are factory set to deliver hot water at 65°C temperature. If the water heater is connected to fixtures used primarily for the purposes of personal hygiene, such as in a bathroom and en-suite, a suitable temperature control device must be fitted in accordance with the Plumbing Code of Australia (PCA).

## **IMPORTANT NOTE: MUST NOT BE USED FOR POOL OR SPA HEATING**

### **GENERAL**

The Thermann Split Heat Pump must be installed in accordance with the following:

- (1) Plumbing Code of Australia (PCA);
- (2) AS/NZS 3500 National plumbing and drainage
- (3) AS/NZS 3000. Electrical installations (known as the Australian/ New Zealand wiring rules).
- (4) Local authority regulatory requirements.
- (5) Installation instructions provided with the heat pump unit.

This water heater has been specifically designed for domestic hot water heating and is not suitable for any other purpose.

**If used in a commercial application, then warranties will be reduced to 1 year for both Tank, Heat pump unit and parts and labour.**

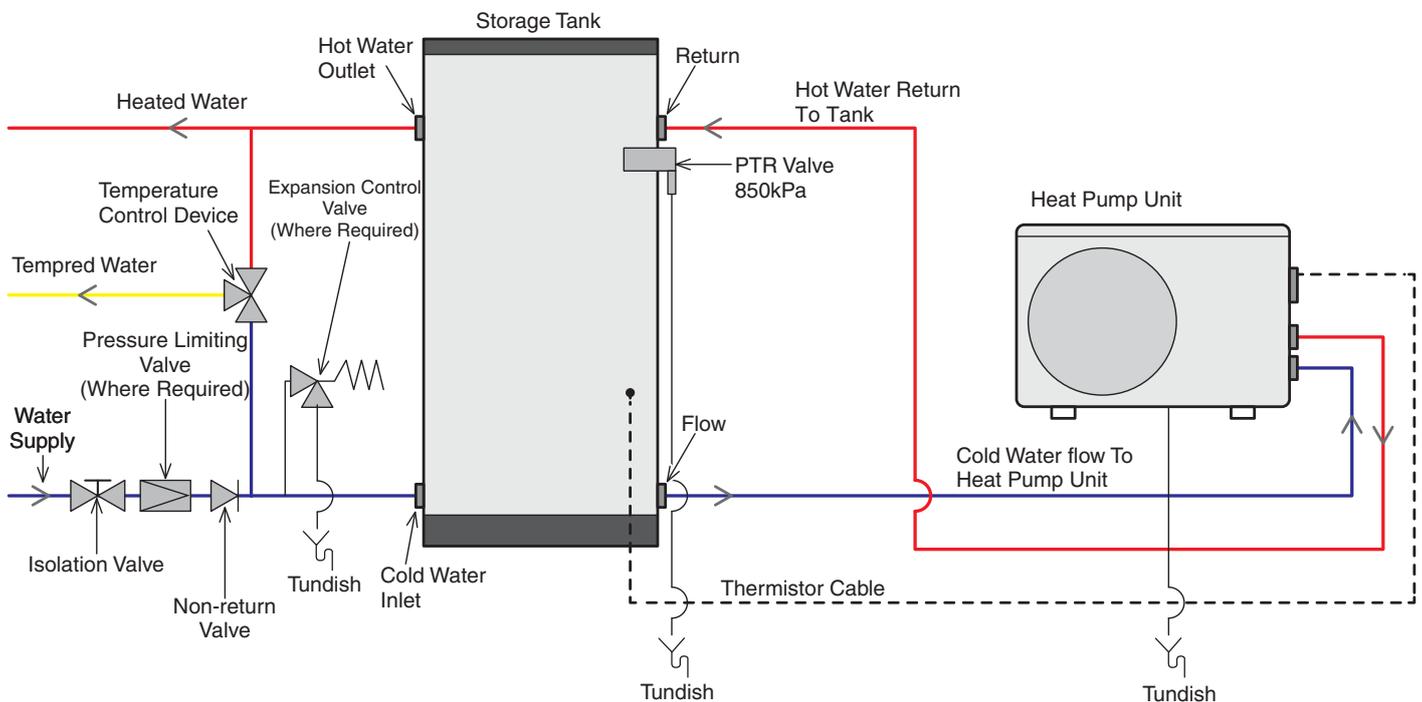
This water heater is designed to operate with most public reticulate water supplies with a maximum water supply pressure of **500kPa**. A suitable pressure limiting valve must be fitted if the water supply pressure exceed this limit.

This system delivers hot water exceeding 50oC. Reference should be made to the PCA, AS/NZS 3500.4 and local regulations relating to the need for controlling water temperature at outlet fixtures.

The water heater must be stored and transported in an upright position. Failures to do so may render the unit faulty and may not be covered under warranty.

**INSTALLATION MUST BE CARRIED OUT ONLY BY AN AUTHORISED AND APPROPRIATELY LICENSED PERSON.**

# TYPICAL INSTALLATION LAYOUT



## WATER HEATER OPERATIONS OVERVIEW

Thermann split heat pump water heater harnesses the power of refrigeration cycle to heat water. By consuming electricity, the heat pump unit transfers thermal energy that is available from the outdoor air to the water being heated up. The heated water is stored in the storage tank and drawn off as hot water fixtures connected to the heater are opened.

A circulator pump is fitted inside the heat pump unit which circulates the water between the heat pump unit and the storage tank. The heat pump unit detects the temperature of the water stored in the storage tank via a thermistor sensor that is affixed inside a sensor well on the storage tank. A small quantity of water may be discharged through the PTR valve fitted to the storage tank throughout a heating cycle.

During the colder months, a build up of frost may be observed on the evaporator fins while the heat pump unit is operating. This is normal and the heat pump unit may automatically initiate a defrost cycle to remove frost from the fins. Collected water may be discharged from the condensate drain located on the bottom of the heat pump unit during this time.

A segmented display is visible from the side of the heat pump unit through the view window fitted on the piping cover. The display shows the status of the heat pump unit, including any error codes which may have been triggered due to heater fault.

# TIME AND BLOCK OUT SETTING

## **WARNING**

The piping cover must only be removed by a qualified person. The clock and block-out timer functionalities must only be set by a qualified person.

## **CURRENT TIME SETTING**

This product contains a built-in clock as part of the water heating cycle logic and refers to the current time. It is necessary to set the clock before starting to use the product.

## **BLOCK OUT TIME SETTING**

This mode is used to set the block out time that blocks the heat pump unit operation within the setting time. Block out times are used when the customer has an off-peak tariff for example.

The procedures to set clock and block-out timer functionalities are described in the installation instructions and must only be carried out by a qualified person.

# SYSTEM MAINTENANCE

Regular servicing will help to extend the life of the water heater, and keep it operating safely and efficiently. Your water heater warranty is not conditional on completing the regular servicing recommended in this manual.

## Six Month Service:

This service may be carried out by the owner.

1. Stand clear of the Pressure & Temperature Relief (PTR) Valve drain pipe outlet.
2. Open the PTR Valve for approximately 10 seconds by lifting the easing lever on the valve. Confirm water discharges to waste through the drain pipe.
3. Lower the easing lever gently and check it closes correctly.

Other than this, personally inspecting or servicing any part of your water heater is not recommended

## Five Year Service (All Water Heaters):

This service should only be carried out by a licensed person. In locations where the water has Total Dissolved Solids (TDS) exceeding 600 mg/L, this service is recommended every 3 years.

The service should include the following:

- Replace the PTR Valve.
- Replace the anode
- Drain and flush the water heater

## CONSIDERING A SERVICE CALL?

It is recommended that the following points be reviewed before making a service call:

### No Hot Water:

- If you have a heat pump water heater, ensure that the power supply circuit breaker has not "tripped". If your water heater is on a timed tariff such as off-peak, ensure this is operating correctly.

### High Electricity Bills or Insufficient Hot Water:

- Often the hot water usage of showers, washing machines and dishwashers can be under estimated. Review these appliances to determine if your daily usage is greater than the capability of your water heater.
- If necessary check the shower flow rates with a bucket, measuring the amount of water used over that period of time. If it is not possible to adjust water usage patterns, an inexpensive flow control valve can easily be fitted to the shower outlet.
- Do you have the correct size water heater for your requirements? Sizing details are available from your local Reece branch.

- Is there a leaking hot water pipe or dripping hot water tap? A small leak can waste a large quantity of hot water. Replace faulty tap washers and have your plumber rectify any leaking pipe work.
- Is the Pressure & Temperature Relief Valve discharging too much water? See below.

### Continuous Trickle of Water from Pressure & Temperature Relief (PTR) Valve:

This is most likely due to a build up of foreign matter. In this case, try gently raising the easing lever on the PTR Valve for a few seconds, then release gently. This may dislodge a small particle of foreign matter and rectify the fault.



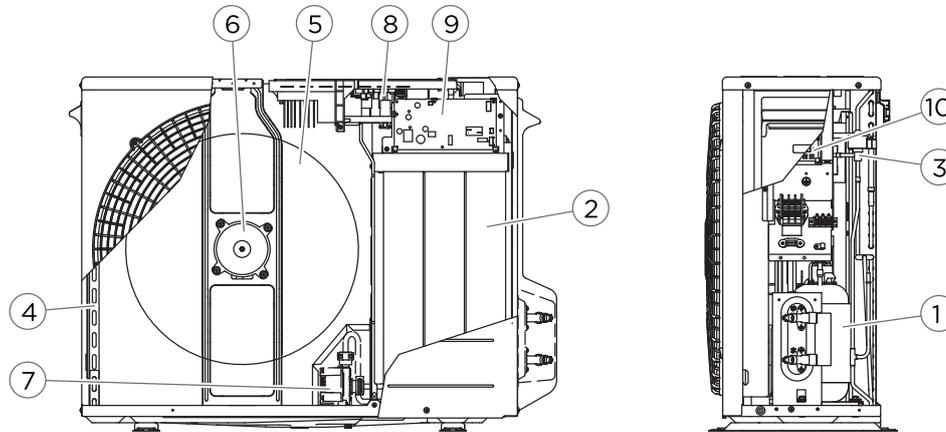
**Water discharged from the PTR valve may be extremely hot. Stand clear of the point of discharge and ensure the lever is operated gently to reduce splashing of the discharged water.**

### Water Discharge from PTR Valve:

It is not unusual for a small quantity of water to discharge during the heating of water in your storage tank. The amount of discharge will depend on hot water usage and size of the storage tank. As a guide, it will discharge about 2% of the volume of the water heated. Continuous leakage of water from the PTR Valve may indicate a problem with the water heater. Turn off or shut down the water heater and contact Customer Service.

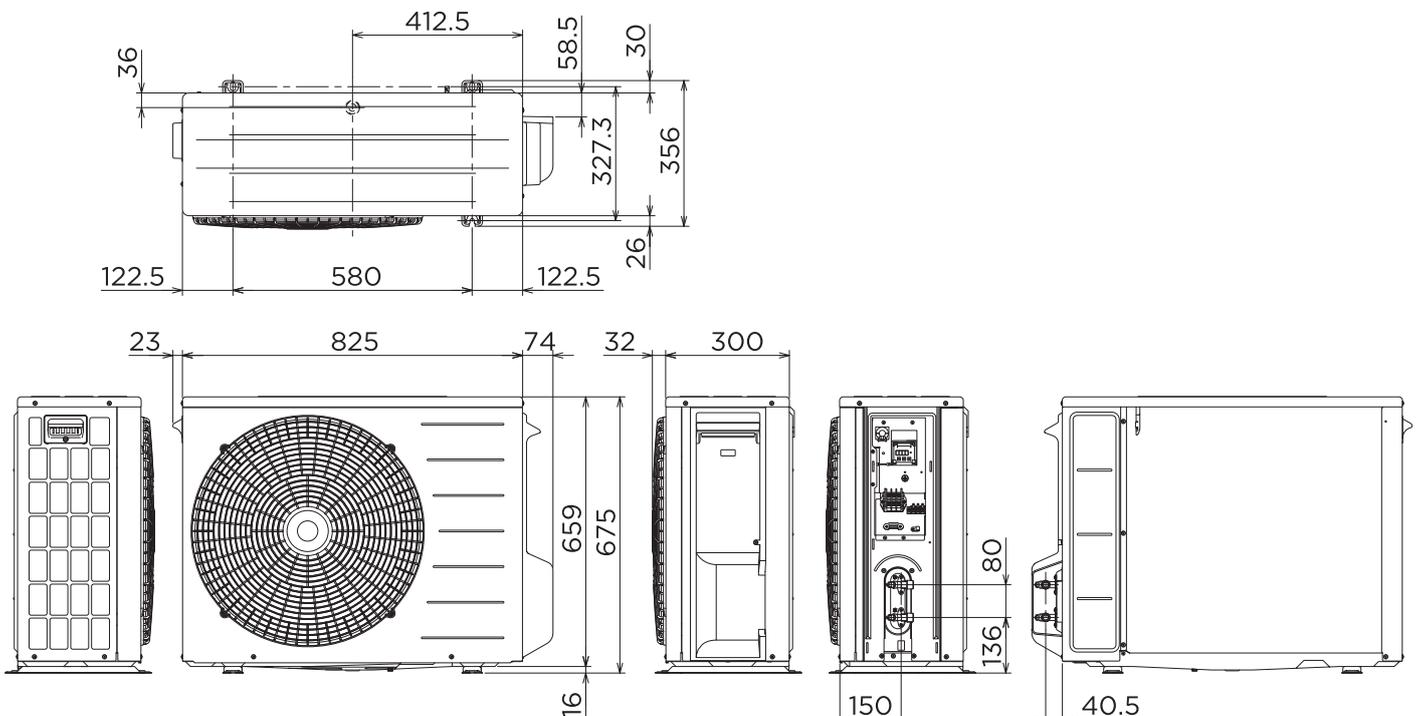
# TECHNICAL DATA - HEAT PUMP UNIT

## Exploded Diagram of Heat Pump Unit



1	COMPRESSOR	6	FAN MOTOR
2	WATER HEAT EXCHANGER	7	CIRCULATION PUMP
3	EXPANSION VALVE	8	MAIN PCB
4	EVAPORATOR	9	CONTROL PCB
5	FAN	10	OPERATION PCB

## Heat Pump Dimensions



(With the piping cover removed)

Unit : mm

# TECHNICAL DATA - HEAT PUMP UNIT (CONT.)

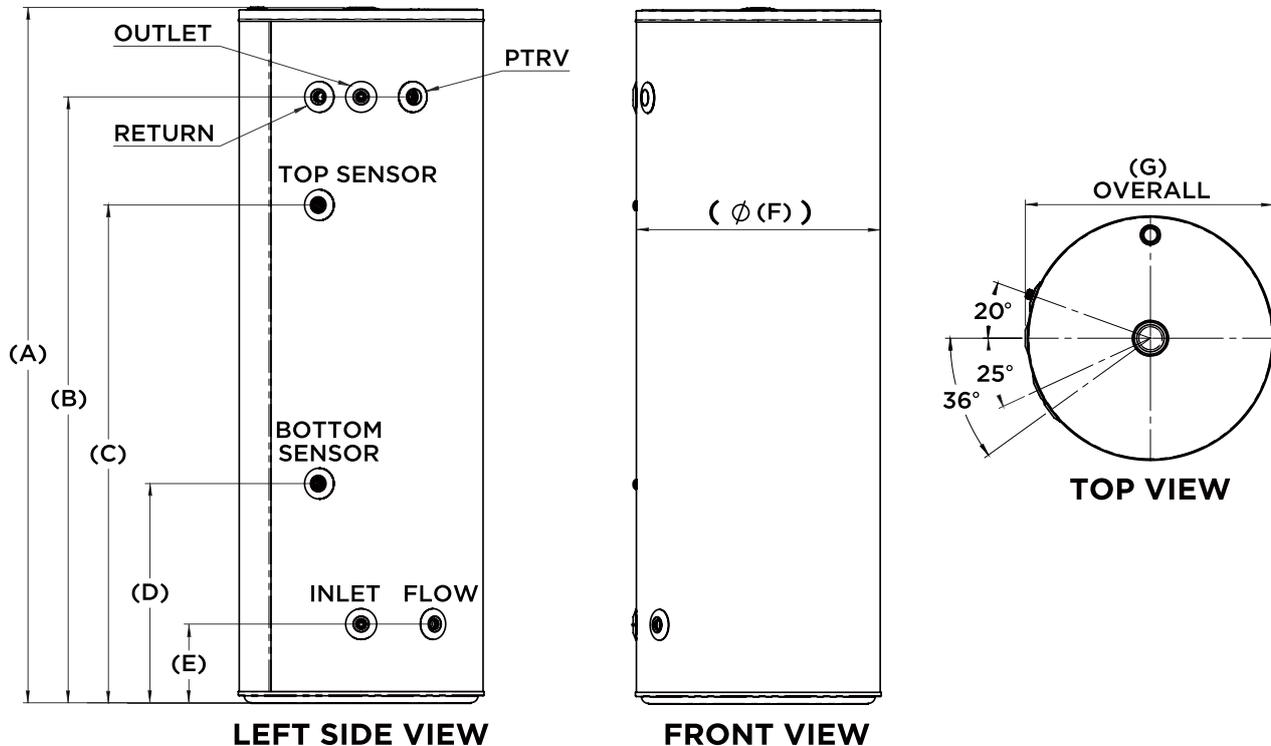
## PERFORMANCE DATA

SPECIFICATION	Unit	Data
Power-supply voltage	V	240
Power frequency	Hz	50
Installable outside air temperature	°C	-10 ~ 43
Product weight	kg	48
Refrigerant type	-	R744 (CO <sub>2</sub> )
Refrigerant weight	g	690
Design pressure (High/Low)	MPa	14/9
Rated capacity	kW	4.5
Max.capacity	kW	6.0
Max.power input	kW	2.5
Max.current	A	11
Setting outlet water	°C	65
Protection rating	-	IPX4
Max.operating water pressure	kPa	850
Noise Level ✖	dB(A)	37
Tank thermistor ON temperature	°C	37
Tank thermistor OFF temperature	°C	57
Installation height difference between the tank and HP	m	Max 5
Piping length between the tank and HP	m	Max 15
Number of bends between the tank and HP	-	Max 6
Allowable water hardness	mg/L	Max 200
Allowable water pH	-	6.5 ~ 8.0
Circuit breaker size	A	20

✖ Dry bulb 19°C, Wet bulb 15.1°C, Inlet water 15°C, Outlet water 65°C

# TECHNICAL DATA - TANK

## Tank Specifications



SPECIFICATION				
Model	160L	250L	315L	400L
Total Volume	163L	259L	323L	420L
Tank Unit Weight (Empty)	59kg	71kg	92kg	116kg
PTRV Pressure Pump	850kPa	850kPa	850kPa	850kPa
Sensor Level on Tank	68%	69%	69%	69%
Height (A)	1318mm	1444mm	1762mm	1704mm
Hot Water Outlet (B) PTR Valve (B) Heat Pump Return (B)	1099mm	1217mm	1535mm	1452mm
Top Sensor (C)	936mm	997mm	1263mm	1215mm
Bottom Sensor (D)	439mm	463mm	555mm	561mm
Heat Pump Flow & Cold Inlet (E)	190mm	201mm	201mm	226mm
Cylinder Diameter (F)	528mm	613mm	613mm	701mm
Overall Diameter (G)	540mm	623mm	624mm	712mm

# WATER SUPPLY QUALITY

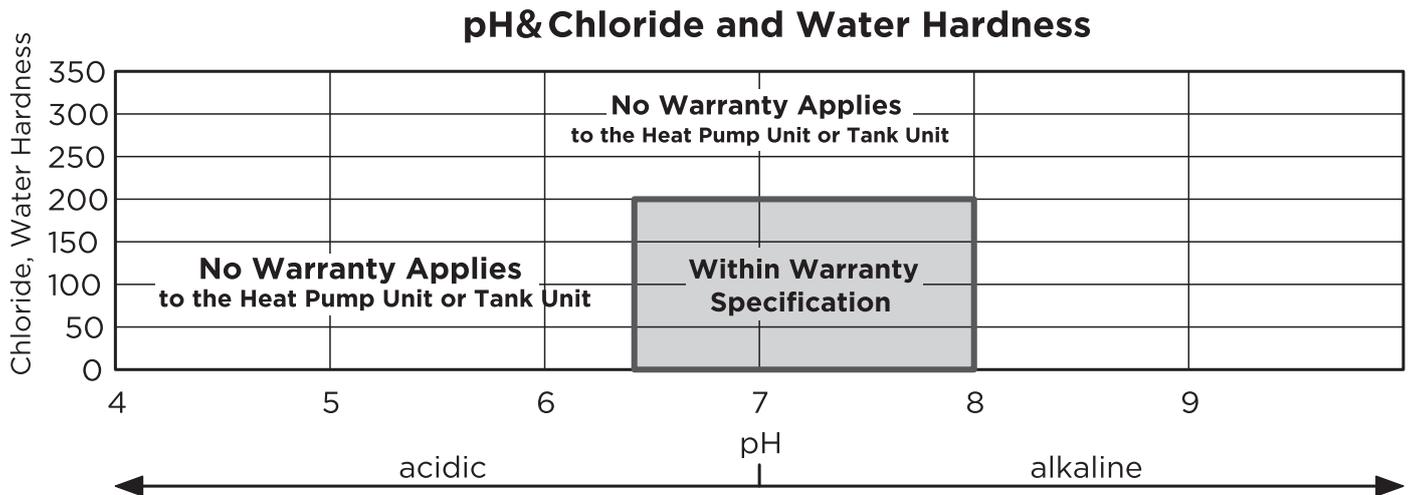
## CHLORIDE, WATER HARDNESS AND PH

In high chloride water supply areas, the water can corrode some parts and cause them to fail. Where the chloride level exceeds 200 mg/litre or Water Hardness level exceeds 200 mg/litre, **warranty does not apply** to the heat pump unit and tank unit. pH is a measure of whether the water is alkaline or acidic. In an acidic water supply, the water can corrode some parts and cause them to fail.

**No warranty applies** to the heat pump unit and tank unit where the pH is less than 6.5 or more than 8. The water supply from a rainwater tank unit in a metropolitan area is likely to be corrosive due to the dissolution of atmospheric contaminants.

Water with a pH less than 6.5 may be treated to raise the pH. It is recommended that an analysis of the water from a rainwater tank be conducted before connecting this type of water supply to the system.

**Figure: Water Hardness**



## CHANGE OF WATER SUPPLY

Changing, or alternating, from one water supply to another can have a detrimental effect on the operation and/or life expectancy of the water tank unit cylinder, PTR valve, water heating circulation and the water heat exchanger in the system. Where there is a changeover from one water supply to another, for example, a rainwater tank supply, desalinated water supply, public reticulated water supply or water brought in from another supply, then water chemistry information should be sought from the supplier or the water should be tested to ensure it meets the warranty requirements in this installation manual.

# WARRANTY POLICY

All Thermann water heaters must be installed in accordance with manufacturer's installation instructions and in accordance with local regulations, building codes and AS/NZS 3000 and AS/NZS 3500.

Where a component may have failed under warranty and is replaced, the component replaced will only be covered by the warranty for the balance of the appliance warranty period.

Water quality must be within limits specified in table below.

pH	6.5 to 8.0
Sodium	Up to 150 mg/litre or ppm
TDS (Total Dissolved Solids)	Up to 600 mg/litre or ppm
Chlorides	Up to 200 mg/litre or ppm
Iron	Up to 1 mg/litre or ppm
Magnesium	Up to 10 mg/litre or ppm
Alkalinity (as CaCO <sub>3</sub> )	Up to 200 mg/litre or ppm
Dissolved (free) CO <sub>2</sub>	Up to 25 mg/litre or ppm
Total Hardness CaCO <sub>3</sub>	Up to 200 mg/litre or ppm

## WARRANTY TERMS

Thermann Split Heat Pump hot water systems are covered by Reece for any cost of labour and parts in the event of a component failure due to any defects that may arise either from workmanship and/or faulty material.

The warranty commences on the date of installation:

### RESIDENTIAL USE

Heat Pump Unit: 6 years

Tank: 10 years

Parts & Labour: 2 years

## COMMERCIAL USE

All components: 1 year

Parts & Labour: 1 year

## ADDITIONAL INFORMATION

If your Thermann heat pump was purchased and installed from 1st July 2023 through the SOLAR Victoria - SOLAR HOMES program, your Thermann Heat Pump is warranted for five years on all components.

## REECE CUSTOMER CARE

For after sales assistance and enquiries, please call  
Ph: 1800 080 055

## **AUSTRALIAN CONSUMER LAW (ACL)**

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

## **NEED MORE INFO?**

Visit [www.thermann.com.au](http://www.thermann.com.au) to get the latest product information and explore rest of the Thermann Hot Water range.



