

# OWNER'S MANUAL & WARRANTY



Q U A N T U M

# HEAT PUMP



# OWNER'S MANUAL

## CONTENTS

### Section 1: INTRODUCTION

- 1a: One of the World's Most Energy Efficient Methods of Water Heating
- 1b: Time Delay on Start
- 1c: Features of your Quantum Water Heater

### Section 2: SAFETY INFORMATION

- 2a: Safety Devices
- 2b: Important Note Regarding PTR Valve

### Section 3: MAINTENANCE & SERVICE INFORMATION

- 3a: The Water Tank
- 3b: Air Evaporator Coils
- 3c: Sacrificial Anode
- 3d: Service Caution-Before Any Work is carried Out
- 3e: Routine Service
  - 3e.1: Six Month Service (By Owner)
  - 3e.2: Five Year Service (By Authorized Personnel Only)

### Section 4: RECOGNITION OF ABNORMAL OPERATION

- 4a: Pressure & Temperature Relief Valve Running
  - 4a.1: Continuous Trickle
  - 4a.2: Steady Flow
- 4b: No Hot Water

## Section 1: INTRODUCTION

### 1a: One of the World's Most Energy Efficient Methods of Water Heating

On behalf of Quantum Energy Technologies, we thank you for your decision to purchase a Quantum Heat Pump Water, which will reward you with low energy hot water production for many years to come.

As the name suggests, a Heat Pump is a system that pumps heat from a low temperature source to a high temperature reservoir. It has a cold side to absorb heat at low temperatures and a hot side to deliver heat at high temperatures. A Quantum Heat Pump uses an air conditioning coil as the cold side of the system, where by this coil absorbs the heat from the air force by the fan.

Quantum Energy designs and manufactures energy efficient Heat Pump water heaters. Put simply, this heater is far more advanced than our competitors as it is able to produce hot water cost effectively during any weather, even at  $-10^{\circ}\text{C}$ . Furthermore, unlike other Heat Pump systems, Quantum's patented design allows water to be heated up to  $60^{\circ}\text{C}$  without the use of an electric or gas booster. This result in a highly reliable supply of hot water with a much lower energy consumption, reducing your expenses as well as greenhouse gas emissions.

The Compact models use 1KW of electrical energy. However, they are able to produce up to 4.5KW of heat energy into the water at an ambient temperature of  $20^{\circ}\text{C}$ . Overall, the system can save energy usage by up to 78% compared to conventional hot water system, and updated models use pure natural gas as refrigerant, all these helping you greatly in reducing energy consumption and greenhouse gas emissions.

Quantum heaters are used by households, and companies to save energy all around the world. They are used in all weather conditions for applications and are regarded as one of the most energy efficient and practical water heaters available. This is your assurance that you have purchased one of the highest quality water heaters on the market, one that will provide continuous hot water safely and economically for many years to come.

### 1b: Time Delay on Start

The system has a 10-minute time delay on start or restart. When power is first connected or after a disconnection then re-connection, the time delay on start will commence. The compressor and fan will not operate until the completion of this delay period.

### 1c: Features of your Quantum Water Heater

1. Fully welded steel tank with class X vitreous enamel lining for superior corrosion resistance and longer life.
2. Indirect heat transfer reducing hot spots on the tank.
3. Designed to heat water to  $60^{\circ}\text{C}$ , meeting international health and hygiene requirements.
4. No boosters required in heating water at low ambient temperatures.
5. One of the World's Most Energy Efficient Methods of Water Heating.



## Section 2: SAFETY INFORMATION

### DO NOT TURN ON POWER UNLESS THE TANK IS FULL OF WATER

#### 2a: Safety Devices

**WARNING:** For safe performance this water heater is fitted with:



- 1.A Digital Controller.
- 2.A thermostat (connected to the digital controller) to manage water temperature.
- 3.A thermostat (connected to the digital controller) to manage compressor temperature.
- 4.A non self-setting thermal cut out (incorporated into the digital controller).
- 5.Combination Pressure & Temperature Relief (PTR) valve-supplied with the tank.

These devices must not be tampered with or removed.

The water heater must not be operated unless each of these devices is fitted and in working order.

This appliance is not intended for use by young children or the infirm without supervision – young children should be supervised to ensure that they do not play with the appliance.

#### 2b: Important Note Regarding PTR Valve

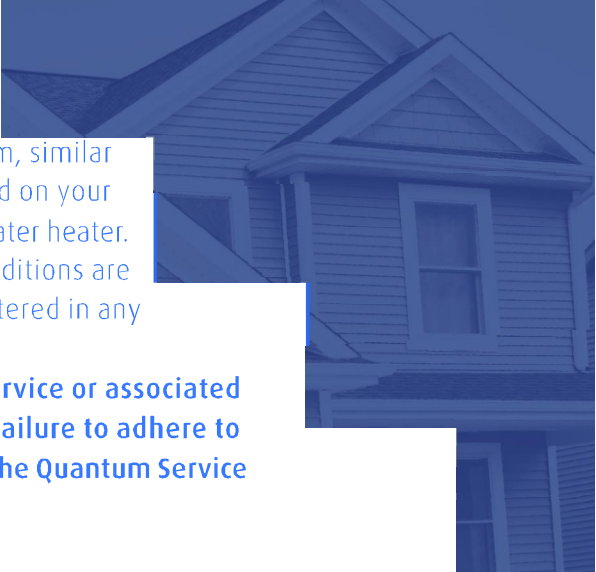
The Pressure & Temperature relief valve should be checked for adequate performance. They should be replaced at intervals not exceeding five ( 5 ) years or less in areas where there is a high incidence of Total Dissolved Solids [TDS].

Providing there is some discharge from the relief valve during each heating cycle, there is no requirement to manually activate the relief mechanism on the relief valve, outside the 6 month owner's check.

There is a possibility that manually opening the relief valve may allow contamination / grit etc to settle in the valve seat causing continuous leakage. Therefore, if the relief valve is operated manually, it should be done with care.

The Pressure & Temperature Relief valve and the drain pipe must not be sealed or blocked. It is normal for small amounts of water to leak from the valve during each heating cycle.

## Section 3: MAINTENANCE & SERVICE INFORMATION



Your Quantum water heater is a completely sealed refrigeration system, similar to a household refrigerator. The maintenance program to be employed on your Quantum is similar to that required for the maintenance of an electric water heater. However, Quantum Warranty will be voided if any of the following conditions are not met, or if the refrigeration lines or components are damaged or altered in any unauthorized way.

**Quantum Energy Technologies will not pay for any unauthorised service or associated works carried out on our heat pumps without prior authorization. Failure to adhere to this will void your warranty. For any further questions please phone the Quantum Service Call Centre on 1800 644 705.**

### 3a: The Water Tank

The Water Tank must not be drilled or punctured, as this may damage the refrigeration pipes located on the skin of the water tank. The Quantum tank is a patented design and in fact forms the condenser of the unit.

<b>DO NOT DRILL ANY HOLES IN OUTER METAL CASING</b>
<b>DRILLING OF ANY HOLES WILL VOID WARRANTY</b>

### 3b: Air Evaporator Coils

Quantum water heaters use evaporator coils to extract heat from the air. The coil is extremely efficient in warm humid weather. However, as temperatures fall to 10°C or less, the coil will begin to collect ice. The coil has been designed with “De - Ice Function” to defrost the coil under such conditions. The heat injection cycle is automatic and is managed by the digital controller. **It is important that the air inlets are kept clean. Restriction of air inlets or outlets will void warranty if the system has been damaged due to insufficient airflow.**

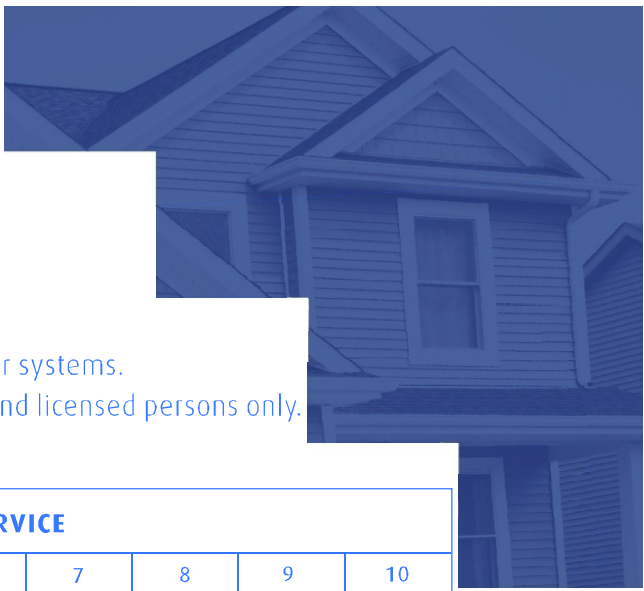
### 3c: Sacrificial Anode

A Sacrificial anode is fitted inside the vitreous enamel lined cylinder. Its purpose is to help protect the cylinder from the corrosive effects of water. Normally, the sacrificial anode should be inspected every fifth years and replaced if necessary. In areas where “hard water” or poor quality water conditions exist, the sacrificial anode must be inspected every second year. Replacement anodes must meet Quantum quality specifications and must be appropriate for local water conditions. The anode socket in the top of the tank is an RP ¾”/20mm thread, an 11/16” socket wrench is required to unscrew it.

### 3d: Service Caution-Before Any Work is carried Out

Under no circumstances should you (the owner) attempt to carry out any service work on this system. All service is required to be performed by appropriately qualified and licensed persons.

**WARNING :** IF THE HOT WATER 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.



### 3e: Routine Service

Serving requirements and timing for Quantum heat pump hot water systems.  
 5 yearly maintenance to be performed by appropriately qualified and licensed persons only.

MAINTENANCE REQUIRED	YEAR AND MONTH FOR SERVICE																			
	1		2		3		4		5		6		7		8		9		10	
	6	12	6	12	6	12	6	12	6	12	6	12	6	12	6	12	6	12	6	12
Check PTR Valve	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Replace PTR Valve									X											
Replace Anode									X											
Flush Water Tank									X											
Check Of Electrical									X											
Check Of Refrigeration									X											
Check Of Thermostats									X											
Check For Any Corrosion									X											
Check of Plumbing									X											

#### 3e.1: Six Month Service (By Owner)

To be carried out every six months. Operate the Pressure & Temperature Relief valve for approximately 10 seconds by activating the release mechanism on the valve to ensure water is released to waste through the relief drainpipe. It is very important that the mechanism is operated gently. Check to ensure the valve is closed correctly.

**Note:** providing some hot water discharge has been observed from the relief valve during normal heating cycles, manually activating the valve is not necessary and could cause contamination / grit to lodge in the relief valve seat causing constant leakage. An inspection for any obvious signs of corrosion of the outer case or air intake grills should also be conducted.

#### 3e.2: Five Year Service (By Authorized Personnel Only)

The five-year service should be carried out by a licensed trades person every five years. It is recommended that your local Quantum distributor or service agent carry out this service. The service should include the following:

- 
1. Replacing the Pressure & Temperature Relief valve.
  2. Replacing the anode.
  3. Flushing the water heater.
  4. Checking of the refrigeration system.
  5. Checking of the thermostats, digital controller and electrical components. If in doubt, contact Quantum Energy Technologies for your nearest distributor or service agent. Our website [www.quantumenergy.com .au](http://www.quantumenergy.com.au) and [www.quantumenergy.com .nz](http://www.quantumenergy.com.nz) also provide.

## Section4: RECOGNITION OF ABNORMAL OPERATION

### 4a: Pressure & Temperature Relief Valve Running

It is not unusual for the pressure & Temperature Relief valve (PTR valve) to allow a small quantity of water to escape during the heating cycle. The amount of discharge will depend on hot water usage. As a guide, if it discharges more than 20 liters of water in 24 hours then there may be a problem.

#### 4a.1: Continuous Trickle

It is likely a build up of foreign matter. Try gently operating the release mechanism on the pressure & Temperature Relief valve for a few seconds. This may dislodge any small particles of foreign matter and rectify the fault. If the trickle continues turn off the electrical supply and contact the Quantum Service Department or your local Quantum Authorized Service Agent.

#### 4a.2: Steady Flow

Likely causes are excessive water supply pressure a faulty PTR valve, or a faulty or non existing pressure limiting valve or a faulty Thermostat/Digital Controller (500kpa Pressure Limiting Valve should be fitted).

**Turn off the electrical supply and contact the Quantum Service Department or your local Quantum Authorised Service Agent.**

### 4b: No Hot Water

**Please Note: Care must be taken as hot water may be above 50°C.**

1. Please check the following:

That there is water coming out of the hot water tap

That there is hot water coming out of the PTR Valve

That the electricity is switched ON

The isolating switch, to which the Quantum is connected is ON


That the switch marked "Water Heater" in the switchboard is ON

That the hot water circuit breaker is ON

That the OFF PEAK meter is switching on (if on OFF PEAK)

Note if the system is connected to any form of off Peak, running out of hot water can be quite common – off peak tariffs are not recommended for Quantum heaters.



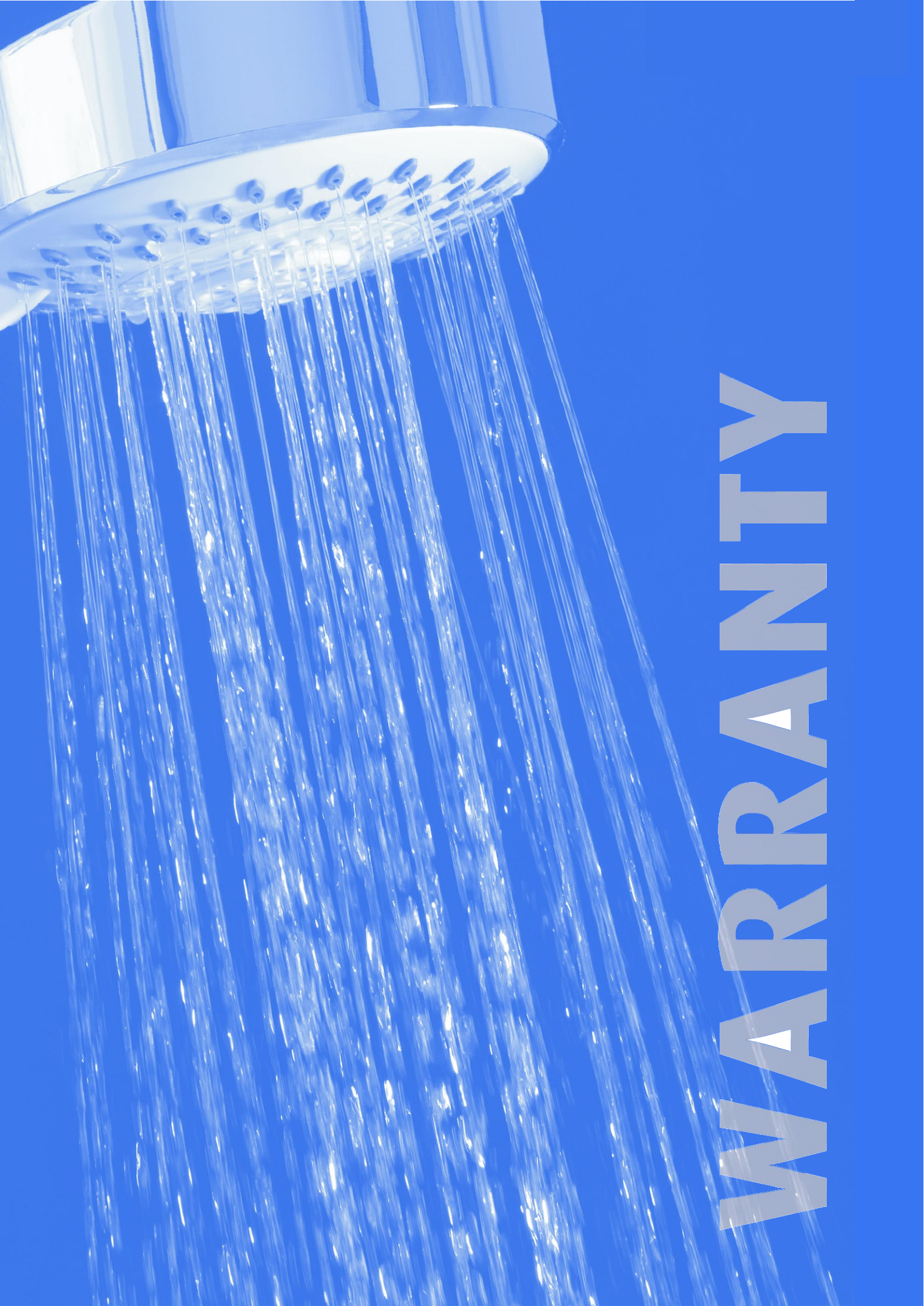
- 
2. Is the PTR valve discharge too much water? See “4a: Pressure & Temperature Relief Valve Running”
  3. Do you have the correct sized water heater for your requirements? Sizing details are available from your Quantum supplier.
  4. Is one outlet (ie the shower) using more hot water than you think? Carefully review the family's hot water usage.

If all of the above items are in working order, please contact Quantum to arrange a service technician. Under no circumstances should you (the owner) attempt to carry out any service work on this system. All service is required to be performed by appropriately qualified and licensed persons.

Carefully review the family's hot water usage and if necessary check the shower flow rates with a bucket and a watch. If it is not possible to adjust water usage patterns, an inexpensive flow control valve can easily be fitted to the shower outlet.

---

**Internal and working parts of the water heater MUST ONLY be accessed by qualified persons!**



**WARRANTY**

# OWNER'S WARRANTY

Your new Quantum Eco Hot Water Solar Heat Pump, it is the most economical way to enjoy hot water day and night, rain or shine. This warranty manual outlines our commitment to making sure your investment stays in full working order.

Enclosed you'll find a Warranty Card. By taking a few minutes to complete and return it today, not only will you enjoy added peace of mind knowing that your details are in order, you'll also receive a 25% discount on your 3-year service. Alternatively, you can go to [www.quantumenergy.com.au](http://www.quantumenergy.com.au) and complete the form online. Please read through the individual sections of this manual to ensure you are fully aware of your rights and your responsibilities.

## HOW YOUR WARRANTY WORKS FOR YOU

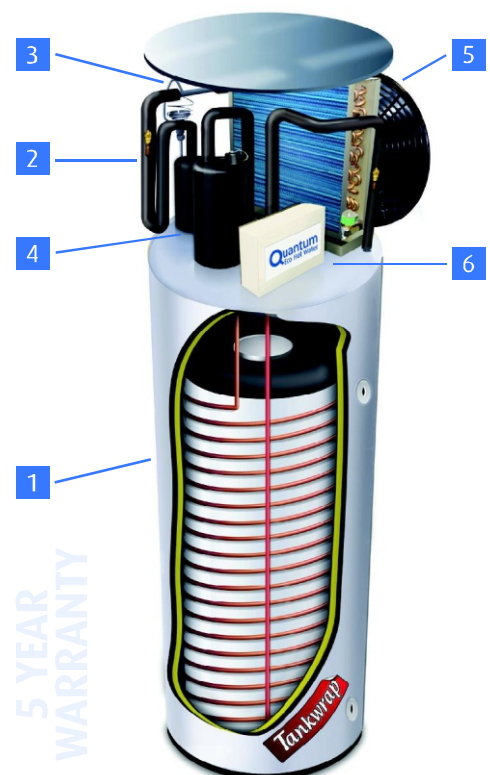
All the information attached to our warranty services and information complies with the requirements of the Australian Consumer Law.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. The rights given by Quantum's warranty are in addition to those covered under the Australian Consumer Law.

The Quantum system listed on your warranty card is warranted by Quantum Energy Technologies Pty Ltd against defects in design, materials and manufacturing for the periods listed in the below table from the date the system is purchased by the original owner.

COMPONENT	LENGTH OF PERIOD COVERED
1. Storage tank integrated with condenser coil	5 Years
2. Refrigeration pipe work 3. Refrigeration valves 4. Compressor 5. Fan coil and motor 6. Electrical Components (Including thermostats, digital controller, solenoids, wiring and controls)	2 Years
7. PTR Valve (Not shown)	1 Year

### 2 YEAR WARRANTY





System defects covered by this warranty will be repaired or replaced at the discretion of Quantum Energy Technologies Pty Ltd. The consequential labour, delivery and/or transportation services will be supplied without cost to the original owner provided the original installation location is within a fifty (50) kilometre radius from the nearest regional Quantum branch, distributor or accredited Quantum Service Agent’s office. Any additional travel costs incurred will be at the expense of the owner. Should the defect be deemed **non-warrantable** the cost of parts and labour shall be the responsibility of the owner.

Any **systems** replaced under warranty will be warranted in accordance with the provisions of this warranty for the remainder of the original warranty period. The replacement unit does not carry a **‘New’** Quantum warranty.

Any **parts** replaced under warranty will be warranted for the remainder of the original warranty period or 12 months from the date of completion of repairs, whichever is greater. Should the system be outside of the above outlined warranty period the part only will be covered. Labour costs shall be borne by the owner.

**No responsibility shall be accepted by Quantum or its authorised Agent/s for:**

- a) Damage to the system or property if it is found to have been continually used after a fault within the system has occurred
- b) Unavailability of parts from suppliers
- c) Delays due to unusually high demand for service
- d) Damage caused by a leaking tank

## WATER QUALITY

The system is manufactured to suit the water conditions of the majority of most public reticulated water supplies. However, water quality varies widely and poor quality water can have detrimental effects on the system and its operation. This may result in a shorter tank life expectancy. Quantum and registered local water authorities use Total Dissolved Solids (TDS) to determine water quality.

The TDS is a major factor in the life of the anode. For the purpose of this warranty, **Quantum defines poor water quality as water containing a level of Total Dissolved Solids (TDS) greater than 750mg/L.**

As such, any warranty given or implied to the tank will be voided if the correct anode procedures are NOT followed as outlined within this warranty policy. If you are unsure of your water quality, you may be able to obtain information from your local water supply authority.

## ANODE PROCEDURES

The enamel lined tank within the system is protected by a magnesium anode. The tank is covered for the full Quantum warranty period of five years when the anode is installed correctly, and changed in the period specified.

TOTAL DISSOLVED SOLIDS (TDS)	MAXIMUM TIME BETWEEN ANODE CHANGE
<750 mg/L	5 Years
750 – 2500 mg/L	2 Years
>2500 mg/L	1 Year

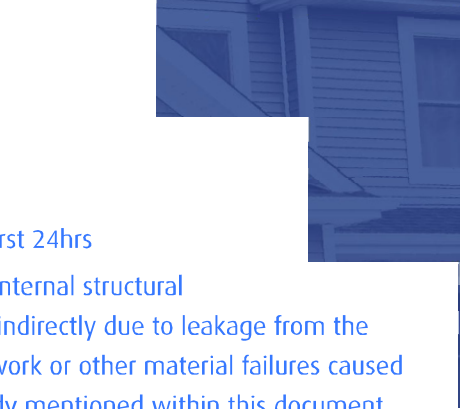
Replacement Anodes must meet Quantum Quality & Specifications.



It is a condition of the warranty that the anode is inspected 3 years from the date of purchase and replaced if required at this time. If it is not replaced at this time it must be done 5 years from the date of purchase. In **poor water quality** areas (as defined in the Water Quality Section of this policy) the anode must be checked every 12 months from date of purchase and replaced in accordance with the TDS table on the previous page. **The changing of anodes must be carried out by a Quantum Service Technician or Authorised Quantum Service Agent only. Please Note: Verification of Anode service will be recorded on the tank and Quantum's Data base for future reference. Failure to adhere to, in part or all, of the Warranty conditions set out within this document will void the Warranty Policy.**

## THIS WARRANTY DOES **NOT** COVER

1. Failure to start due to voltage conditions or other damage due to inadequacy or interruption of electrical service (i.e. low supply voltage)
2. Any consumable item (dirty fuses, filters etc) that is supplied with the system unless the item is shown to be defective at time of purchase
3. System issues or tank failures due to non-compliance with owner's responsibilities e.g. blocked drain or PTR valve
4. Calls made to check the operation of the unit, which is found to be working satisfactorily
5. Remounting or relocating the system due to ground subsidence, complaints of noise level or inappropriate installation location as per Quantum's Recommended Installation Guidelines
6. Equipment which has been re-installed at a location other than the original location
7. Where the system is installed in any manner which does not comply with Quantum's Recommended Installation Guidelines
8. Any fault arising where the unit has not been installed in accordance with all Federal, State and Local Government regulations
9. **The installer does not issue a Plumber's Certificate of Compliance in the state of Victoria** (State Rebate's in Victoria will not be paid unless a Certificate of Compliance number is provided)
10. The unit is installed by a non-licensed Plumber
11. Where the system is installed in a position that does not allow safe or ready access, the cost of gaining access e.g. removing cupboards, bringing system down to a safe level will be the cost of the owner
12. Attached accessories and/or use of non-genuine replacement parts other than those manufactured and/or approved by Quantum
13. Where alterations, addition or repairs to the unit are carried out by persons unauthorised by the Company
14. Modifications to system after installation due to changes in requirements
15. Where the Anode has NOT been periodically replaced in accordance with directions outlined in this warranty and/or Owner's Warranty Manual, or in the opinion of the Company, has been incorrectly replaced
16. Where the loss or damage is, in the opinion of the Company, due to the failure to install, operate and/or maintain the system with any of the directions contained in the Owner's Warranty Manual
17. Damage caused by the supply of poor quality water as per the guidelines stipulated earlier in this warranty
18. Damage or problems caused by storm, fire, flood, vandalism, misuse, negligence, Acts of God, earthquake, war, vermin, foreign matter entering the equipment (e.g. dirt and moisture) or any other outside agency
19. Damage caused by accident, misapplication, abuse or tampering in the opinion of the company
20. Damage or deterioration to the external surfaces or refrigeration coils caused by normal weathering or corrosive atmospheric conditions

- 
21. If the Quantum system has not been correctly sized for your hot water demands, the system will not be covered by the full warranty terms
  22. Water supply/quality and or connection must follow Owner's Warranty Manual and Installation Guidelines
  23. Damage caused by transport
  24. Cosmetic defects that have not been reported to Quantum within the first 24hrs
  25. Damage to all types of flooring (carpets, tile) walls, furniture, ceilings, internal structural supports and external foundations and any other loss either directly or indirectly due to leakage from the system. This also includes any leaks from fittings, metal or plastic pipework or other material failures caused by water temperature, workmanship or other types of failure not already mentioned within this document
  26. The repair of any product that is not supplied by Quantum in the initial installation e.g. tempering valves, isolation valves, pipe elbow, etc
  27. Damage to the system or rupturing of the tank if it is found to have been continually used after a fault within the system has occurred e.g. blocked PTR Valve, Broken Fan etc.

## OWNER'S RESPONSIBILITIES

The owner is responsible for the correct operation and regular maintenance of the Quantum system as listed below

- 1) Operation and maintenance of the system in accordance with the Owner's Manual and Warranty
- 2) The application of additional corrosion protection if the product is installed in a corrosive environment (e.g. industrial pollution, sea air) in accordance with the Owner's Manual and Warranty
- 3) Ensuring that the air inlet and outlet is kept clear of any obstructions
- 4) **If a service call is required and is deemed not warrantable a service charge will apply**

For repairs of the system under this warranty the following must be adhered to.

- 1) You must be the original owner or have consent from the owner to make a claim for the unit (e.g. new property owner or tenant)
- 2) You must contact Quantum without undue delay (within 24hrs where possible) after detection of the defect
- 3) You must be able to provide the full model and serial number and date of purchase of the unit/s with the defect
- 4) The unit must have its original serial numbers
- 5) **Please Note:** Unauthorised service repair costs will be the responsibility of the owner

**QUANTUM ENERGY TECHNOLOGIES PTY LTD**

**SERVICE CALL CENTRE CONTACT – PH. 1800 644 705**

**Email: [services@quantumenergy.com.au](mailto:services@quantumenergy.com.au)**

Quantum Energy Technologies Service is available from 8:30am – 5:00pm Monday – Friday EDST & EDT.  
All Warranty work shall be carried out during normal business hours (8:00am – 4:30pm) Monday to Friday EDST & EDT.



# NOTES

A series of horizontal dotted lines for writing notes, spanning the width of the page below the header.

