# *Owner's Guide and Installation Instructions*

## *Rheem Guardian UV Disinfection*

*Install a Rheem*

*This UV system must be installed and serviced by a qualified person.*
*Please leave this guide with a responsible officer.*

# CONTENTS

# APPLICATIONS

This UV system is designed for the purpose of disinfecting potable water. Its use in an application other than this may shorten its life or reduce its effectiveness.

Disinfection by means of ultraviolet light (UV) is an effective and natural process of inactivating harmful pathogens in water and air. UV light destroys pathogenic micro-organisms optimally by emitting UV-C radiation at a wavelength of 254 nanometres (nm). The UV-C radiation inactivates micro-organisms within a few seconds of exposure by disabling the DNA (deoxyribonucleic acid), resulting in their inability to reproduce and subsequently causing cell death. UV light disinfection achieves this naturally without leaving residual by-products or affecting the smell and taste of the water, therefore reducing operator's exposure to harsh chemicals or the need for extra processing to eliminate chemical odour, taste or by-products.

The disinfection efficiency of a UV system is determined by; 1) the flow rate of water entering the UV reactor chamber; 2) the UV Transmission (UV-T) which is the amount of light which penetrates the water (determined by water quality) and; 3) the UV dose required to reduce water contaminants.

The sizing of a UV system should be based on these three parameters. Rheem UV disinfection system is sized to match the maximum nominated flow rate of the relevant Guardian Warm Water based on a 25mJ/$m^2$ UV dose in good quality clear water found in most metropolitan water supplies. A free water test can be conducted if in doubt as to the UV transmission. Please contact Rheem for further assistance.

Rheem UV lamps are low pressure, high efficiency lamps contained within a protective quartz thimble which sit inside a high grade electro-polished reactor chamber allowing maximum water exposure to UV light within the chamber for optimal pathogen destruction.

# GENERAL SAFETY INSTRUCTIONS

| Symbol | Meaning | Symbol | Meaning |
|---|---|---|---|
|  | WARNING: ELECTRIC VOLTAGE! |  | ENSURE EYE PROTECTION IS WORN |
|  | ENSURE SAFETY GLOVES ARE WORN |  | CAUTION UV-C RADIATION IS HARMFUL TO THE EYES AND SKIN |

**THE NON-OBSERVANCE OF THESE INSTRUCTIONS CAN CAUSE SERIOUS INJURY AND DANGER TO LIFE AND LIMB**

**WARNING**:

UV lamps should be used only in the reactor chamber when sealing nut(s) have been fitted. Personnel should never be directly exposed to UV-C light radiation.

- Ensure this UV disinfection unit is only used for the intended purpose as described in the operating instructions. The use of additional apparatus, which have not been recommended by and are not sold by Rheem, may create an unsafe situation.
- Do not use a unit with a damaged electrical lead or plug, or a unit with faulty functions or a unit which has been dropped or damaged in any way.
- Make sure that the unit is unplugged when it is not being used prior to fitting, or if removing any parts. Do not remove the plug from the socket by pulling the electrical lead; instead take the plug directly out of the socket.
- Ensure that the unit is depressurised prior to maintenance work being carried out.
- Do not use, connect or switch on the UV lamp outside the UV disinfection reactor chamber.
- Ensure the UV disinfection unit is electrically isolated before:
    1. Carrying out repairs. Rheem recommends that the maintenance be carried out only by qualified personnel.
    2. Cleaning and maintenance.
    3. Replacement of the UV lamp.
- The UV lamps have been designed for permanent operation to reach their highest disinfection capacity. Frequent switching on and off reduces the life of the lamp.
- This UV system should NOT be used without flowing water for long periods of time (max. 24 hours) or with hot water above 60$^{o}$C. In case of either of these conditions the system is to be put out of operation.

The Rheem warranty may not cover faults if safety devices are tampered with or if the installation is not in accordance with these instructions.

## PRECAUTIONS

Where damage to property can occur in the event of the water heater leaking, the UV disinfection system must be installed over safe tray. Construction, installation and draining of a safe tray must comply with AS/NZS 3500.4 and all local codes and regulatory authority requirements.

The UV system must be maintained in accordance with the owner's guide and installation instructions. Refer to Maintenance on page 18.

If this UV system is to be used where an uninterrupted warm water supply is necessary for your application or business you should ensure that you have back up redundancy within the warm water system design. This should ensure the continuity of the warm water system in the event that this UV system were to become inoperable for any reason. We recommend you seek advice from your plumber or specifier about your needs and building back up redundancy into your warm water system.

## HOW DO I KNOW IF THE UV SYSTEM IS INSTALLED CORRECTLY?

Installation requirements are shown on pages 10 to 16. The UV system must be installed:

- by a qualified person, and
- in accordance with the installation instructions, and
- in compliance with Standards AS/NZS 3500.4, AS/NZS 3000 and all local codes and regulatory authority requirements.

In New Zealand the installation must also conform with the New Zealand Building Code.

## VICTORIAN CUSTOMERS

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.

## DOES WATER CHEMISTRY AFFECT THE UV DISINFECTION SYSTEM?

The UV system is suitable for most public water supplies, however some chemistries may have detrimental effects on the UV system, its components and fittings.

If you are in a known harsh water area or you are not sure, have your water quality checked against the conditions described on page 29.

## HOW LONG WILL THE UV DISINFECTION SYSTEM LAST?

The UV system is supported by a manufacturer's warranty (refer to page 21).There are a number of factors that will affect the length of service the UV system will provide. These include but are not limited to the water chemistry, the water quality, the water pressure, the water temperature (inlet and outlet), the water usage pattern and the quality of maintenance. Refer to "Precautions" on page 5.

Note: Critical components within the system require periodic replacement.

## WATER SUPPLIES

This UV system must be installed in accordance with this advice to be covered by the Rheem warranty.

This UV system is manufactured to suit the water conditions of most public reticulated water supplies. However, there are some known water chemistries which can have detrimental effects on the UV system and its operation and / or life expectancy. If you are unsure of your water chemistry, you may be able to obtain information from your local water supply authority. This UV system should only be connected to a water supply which complies with these guidelines for the Rheem warranty to apply.

Note: Some water analysis reports may state the conductivity of the water rather than the level of total dissolved solids. Conductivity, measured in microsiemens per centimetre (µS / cm), is directly proportional to the TDS content of the water. TDS, in mg / L, is approximately 70% of the conductivity in µS / cm.

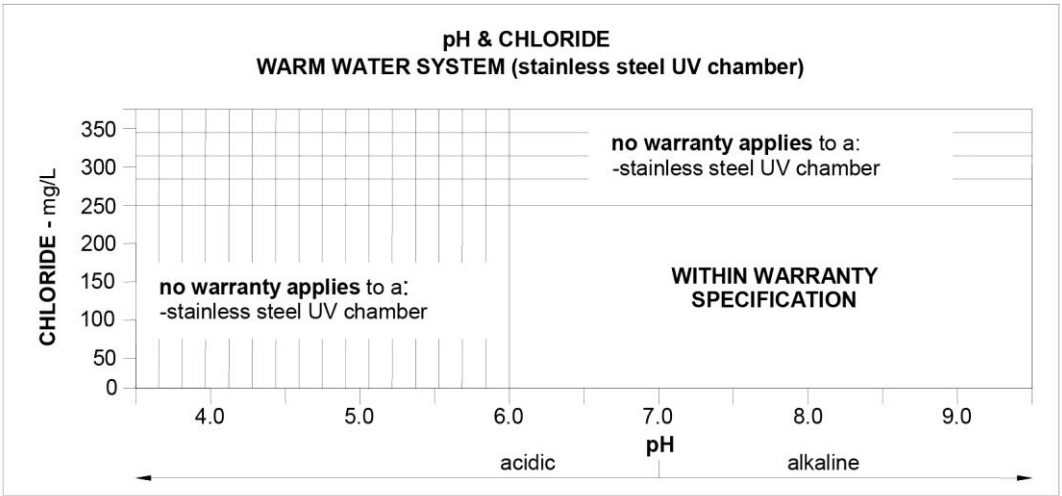
## CHLORIDE AND PH

In a high chloride water supply, the water can corrode stainless steel parts and cause them to fail. Where the chloride level exceeds 250 mg/L the Rheem warranty does not apply to the stainless steel UV chamber in the UV disinfection system.

pH is a measure of whether the water is alkaline or acid. In an acidic water supply, the water can attack stainless steel parts and cause them to fail.

Where the pH is less than 6.0 the Rheem warranty does not apply to the stainless steel UV chamber in the ultra violet disinfection system.

Water with a pH less than 6.0 may be treated to raise the pH. The water supply from a rainwater tank in a metropolitan area is likely to be corrosive due to the dissolution of atmospheric contaminants. This may result in pH of less than 6.0. It is recommended an analysis on the water from a rainwater tank be conducted prior to connecting this type of water supply to a system employing a stainless steel ultra violet disinfection system.




## CHANGE OF WATER SUPPLY

The changing or alternating from one water supply to another can have a detrimental effect on the operation and / or life expectation of the UV system.

Where there is a changeover from one water supply to another, e.g. a rainwater tank supply, bore water 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 it should be tested to ensure the water supply meets the requirements given in these guidelines for warranty to apply.

## SUMMARY OF WATER CHEMISTRY ADVICE AFFECTING WARRANTY

| Water Chemistry | Component |
|---|---|
| Chloride > 250 mg/L | Stainless steel UV chamber |
| pH < 6.0 | Stainless steel UV chamber |

# REACTORS

This manual refers to the following UV disinfections systems.

**Table 1a**

| Model No | Series | Length | No. Reactors in unit | Diameter mm |
|---|---|---|---|---|
| 940001 | 4000-D-28 (LCE 4) | 895mm | 2 | 62 |
| 940002 | 15000-S-170 (LCS 17) | 1210mm | 1 | 76 |

**Table 1b**

| Model No | Series | Inlet/outlet Ø | Min. space to service reactor (mm) | Max. flow rate L/min |
|---|---|---|---|---|
| 940001 | LCE 4 - 4000-D-28 | 2” BSP Nipples | 1000 | 83* |
| 940002 | LCS 17 - 15000-S-170 | 2” BSP Nipples | 1300 | 250* |

*Maximum flow rate is at UV dose 25mJ/cm$^2$. If in doubt a water sample must be taken and tested. Refer to Applications on page 3.

## INSTALLATION STANDARDS

The UV system must be installed:

- by a qualified person, and
- in accordance the installation instructions, and
- in compliance with Standards AS/NZS 3500.4, AS/NZS 3000 and all local codes and regulatory authority requirements.

In New Zealand the installation must also conform with the New Zealand Building Code.

All packaging materials must be removed from the warm water and UV unit prior to their installation.

## WARM WATER UNIT APPLICATION

This UV system is designed for the purpose of disinfecting potable water. Its use in an application other than this may shorten its life or reduce its effectiveness.

If this UV system is to be used where an uninterrupted warm water supply is necessary for your application or business you should ensure that you have back up redundancy within the warm water system design. This should ensure the continuity of the warm water system in the event that this UV system were to become inoperable for any reason. We recommend you seek advice from your plumber or specifier about your needs and building back up redundancy into your warm water system.

# INSTALLATION CHECKLIST

The following items must be checked prior to installation

- A maximum operating pressure of 1000kPa (10bar) must not be exceeded.
- A maximum ambient temperature of 45°C. (To be installed under a shelter)
- The maximum water temperature should not exceed 55°C (De-energise UV system during any heat disinfection process where the temperature exceeds 55°C).

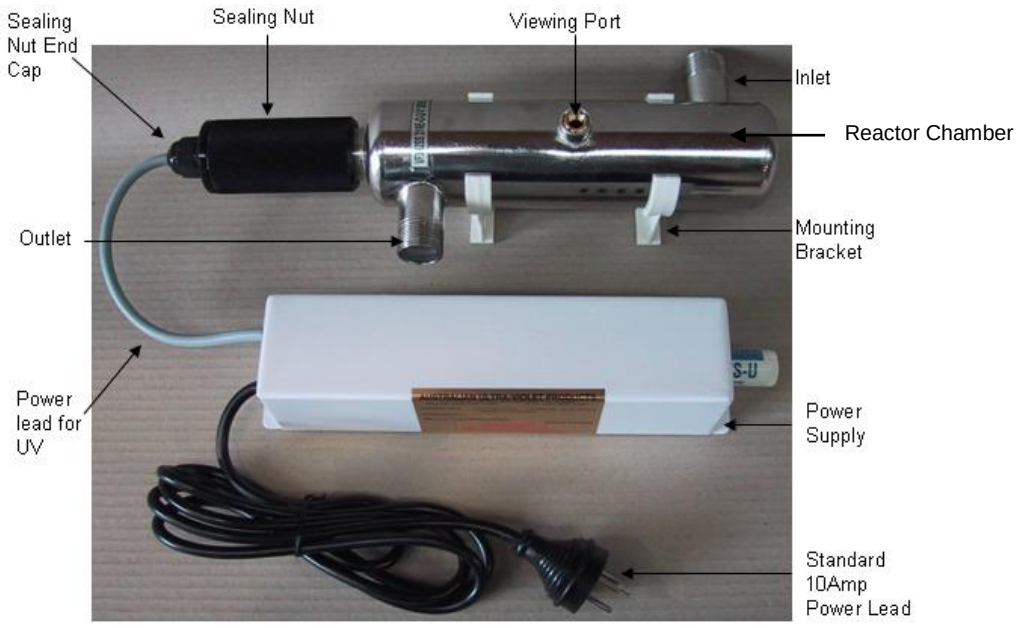
# ASSEMBLY

The following is a basic guideline for assembly of these units.

### ASSEMBLY OF THE REACTOR CHAMBER

Prior to installation ensure the following:

- The correct reactor chamber and coinciding power supply is being used.
- There is enough working area around the reactor to service the glassware, (for dimensions see **table 1b**),on page 8 otherwise maintenance of the unit will not be possible.




**Picture 1** - Example of Standard UV reactor and power supply, size and shape may vary.

## INSTALLING THE REACTOR

- The reactor chamber (**Picture 1**) is to be fixed by means of the mounting brackets, either on the wall or on a mounting frame.
- Both disinfection chamber types can be mounted vertically or horizontally; the water should flow in from the bottom and out through the top to prevent airlocks.
- Refer to **table 1b** on page 8 for the distance required from the sealing nut, in order to enable servicing of the unit.
- When mounting the chamber, consideration must be made for the weight of the system due to the stresses associated with pipework.

## PLUMBING

- Connect supply from the Guardian Warm Water outlet to UV chamber inlet using a disconnection union and isolation valve
- Connect outlet of UV chamber to warm water flow line using disconnection union and isolation valve.

## WARM WATER BY-PASS

- To facilitate continuing warm water supply whilst servicing the UV unit, a warm water by-pass should be installed prior to the isolating valve at the inlet and after the isolating valve at the outlet of the UV unit. It is recommended to remove the handle from the by-pass isolating valve and place it in the warm water cabinet during normal operation.

## INSTALLING THE POWER SUPPLY

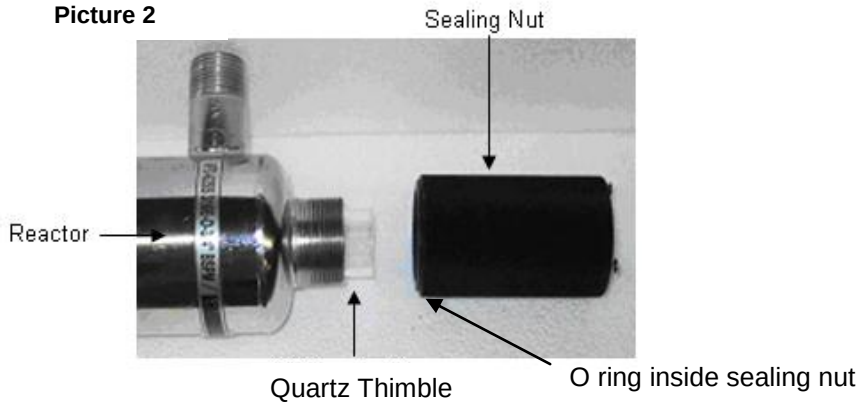
- Power supply to the UV equipment shall be in accordance with AS3000 (230 Volt +10% - 6)
- .The UV system is suitable for both indoor and outdoor installation under a shelter.
- The power supply box must be mounted clear of the floor as a precaution against the ingress of water.
- It is good practice to not mount the power supply unit directly under the UV reactor or water flow pipework to avoid leakage of water onto the power supply.
- The cable provided with the power supply is 1.5meters which is the maximum recommended distance the reactor chamber should be mounted from the power supply.
- Fit to wall using holes provided.

## INSTALLING THE QUARTZ THIMBLE AND UV LAMP

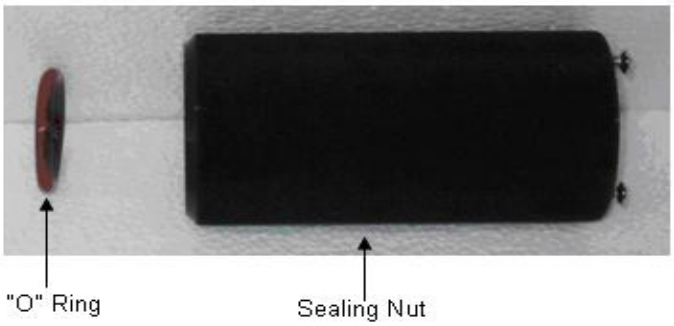
| | |
|---|---|
|  | **Quartz thimble and UV Lamp are Fragile - Care must be taken when handling and installing quartz thimble and UV lamp. When disassembling, hold both sealing nut and quartz thimble to avoid the quartz thimble slipping out of the head piece!**<br>**Breakage due to mishandling is <u>not</u> covered by the Rheem warranty.** |

1. Unscrew the sealing nut from the top of the reactor; ensure that the “O” ring is also removed.

**Picture 2**

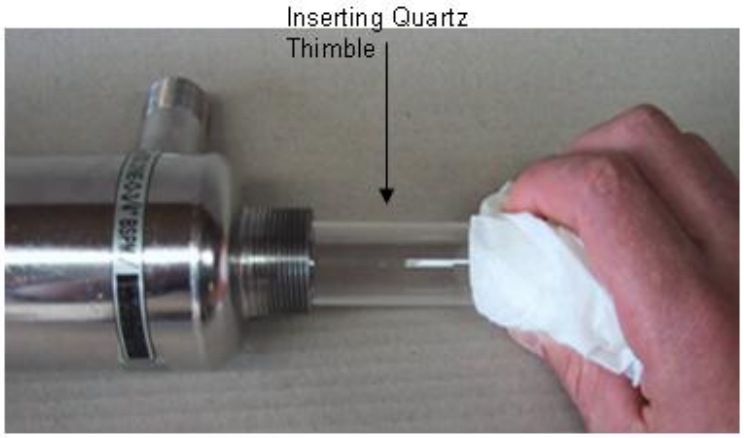



2. Lubricate the “O” Ring with silicon grease or petroleum jelly and place it inside the sealing nut so that it is seated in its groove on the threaded side of the nut (Picture 3).




**Picture 3**

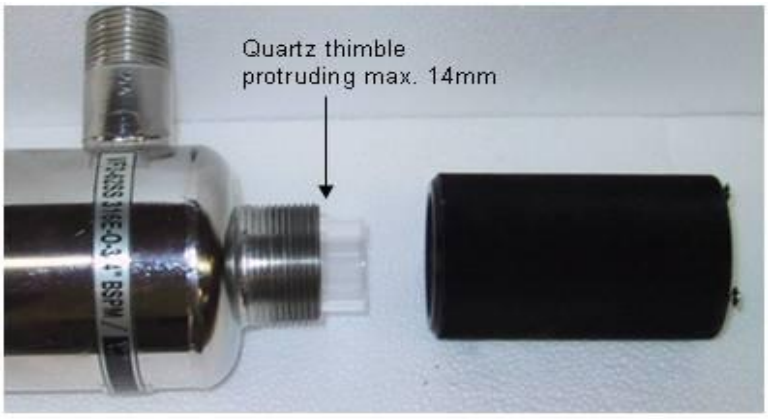
3. Wipe the quartz thimble down with a clean soft cloth soaked in methylated spirits, then dry it.
4. Keep a firm hold of the quartz thimble until it is located in its support.
5. Insert the quartz thimble, closed end first, into the reactor chamber until it is centred in its support at the far end of the chamber.
6. Ensure the quartz thimble is centred correctly with no more that 14mm of quartz exposed above the thread of the chamber (Picture 5). It is important the quartz thimble is correctly located in its support; otherwise the quartz will be damaged when the sealing nut is tightened.




**Picture 4**

7. During this next step the “O” ring should slip over the open end of the quartz thimble. Check this by looking through the sealing nut to ensure the “O” ring does not become pinched, as this will damage the quartz.

8. Screw the sealing nut with the “O” ring in place in a clockwise direction on to the reactor chamber over the top of the open end of the quartz thimble that is protruding from the chamber.




**Picture 5**

**IMPORTANT NOTE:**

Care should be taken during the next step due to the fragile nature of the quartz thimble. Also note that the sealing nut should only be tightened manually, any greater pressure could have a detrimental effect on the quartz (do not tighten with multi grips).

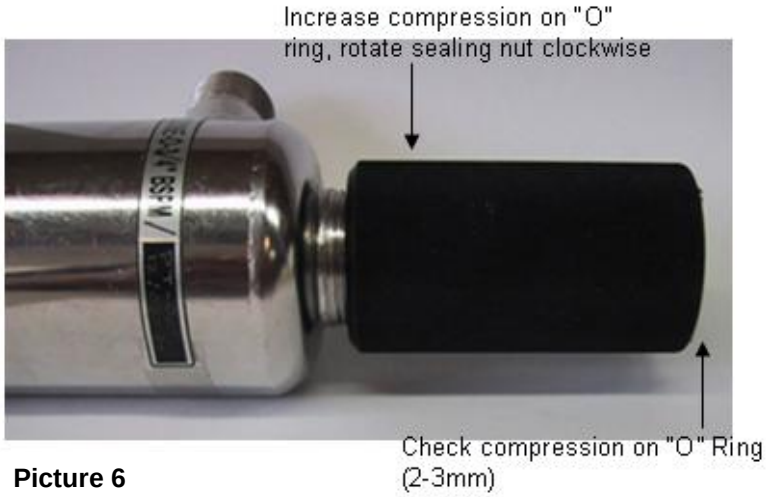
9. Insert your finger through the top of the sealing nut and ensure the quartz thimble is sitting in the groove of the nut.

10. Carefully tighten the sealing nut in a clock-wise direction until the “O” ring is just starting to be compressed.

**Note:**

**When you reach this stage, the nut only needs to be turned ½ to ¾ of a turn to compress the "O" ring sufficiently and form a seal. You may check the "O" ring has been compressed well onto the quartz thimble by looking down through the sealing nut. Ideally a good compression will see 2-3mm of "O" ring flattened around the quartz thimble.**

At this stage it would be advisable to check the "O" ring seal against maximum water pressure before installing the UV lamp.

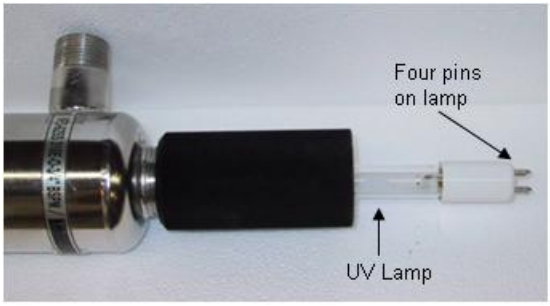



**Picture 6**

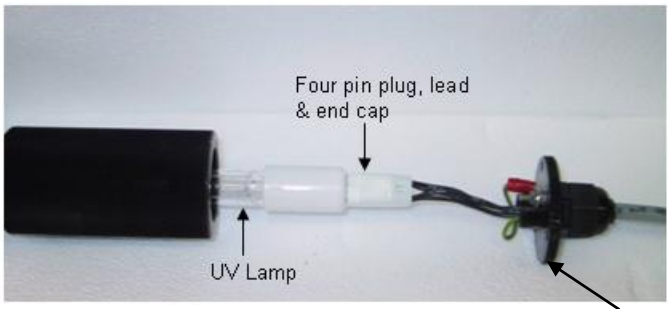
During this next step care should be taken to not leave any markings on the UV lamp. Do not touch the lamp without protective gloves.

If the chamber is installed vertically, NEVER drop the lamp into the quartz thimble, as this may crack or break the thimble.

11. Remove the UV lamp from its protective wrapping and wipe down with a soft cloth soaked in methylated spirits. Push the female 4 pin connector firmly onto the lamp pins. (picture 7 & 8).
12. Using a soft cloth to hold the UV lamp, insert into the quartz thimble through the hole in the centre of the sealing nut.
13. Always keep a firm hold of the UV lamp until it is secured into its four pin connector. Push the female 4 pin connector firmly onto the lamp pins. (picture 7 & 8).



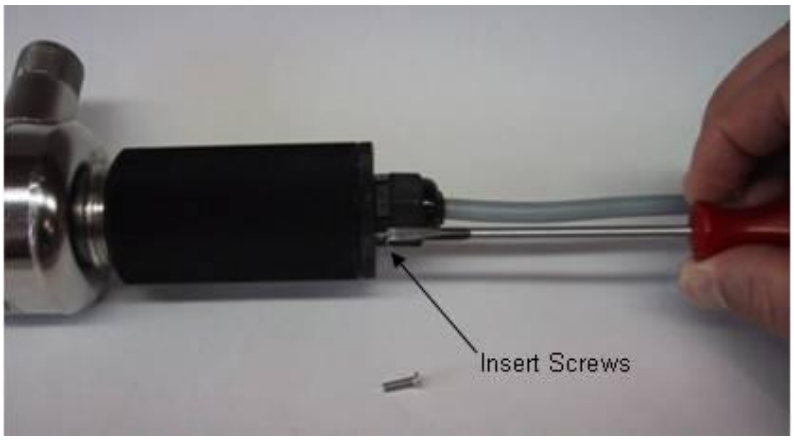

**Picture 7**




**Picture 8**

**end plate**

14. Locate the three holes in the lamp connector end plate with the three holes on the end of the sealing nut; screw all three 3mm screws through the holes in the end cap, into the sealing nut (Picture 9).




**Picture 9**

## BUILDING MANAGEMENT SYSTEMS (BMS)

The Rheem UV disinfection power supply can output up to a 240V/2A voltage free signal to a BMS to indicate lamp run and/or fail status.

Connecting between common (C) & Normal Open (NO) indicates RUN status.

Connecting between common (C) & Normal Closed (NC) indicates FAIL status

Connect a cable to the terminals marked VFC/NO, NC,C as required. Connect the wires to the BMS system, using an appropriate cable gland, following the BMS manufacturer's recommendations.

## OPERATION

Once the UV reactor and power supply have been correctly installed and tested for leakage, operation is as follows;

1. Ensure any valve is open to allow water flow through the UV disinfection unit.
2. Insert the power lead into the mains power source and switch on the power. The UV lamp will ignite and come on, however it will take between 2 and 5 minutes for the lamp to reach full output.
3. The unit will now be operational.
4. Stop/starting the UV lamp more than 4 times per day will reduce the lamp life time and efficiency.
5. It is recommended lamps be replaced after 9000hrs of operation (approximately 1 year).

# MAINTENANCE

## IMPORTANT

**It is a requirement in NSW and may be a requirement in other states that the owner of a Warm Water system is to register the installation with the local council or regulatory authority.**

## GENERAL

The maintenance of this product must be carried out in accordance with instructions given in this Owners Guide, and must be conducted by designated, qualified and competent personnel.

A table is provided in the Guardian Warm Water Owner's guide and installation instruction in the Maintenance Log Sections on pg 24 and 25, which can be copied and used as a template for recording purposes.

**Rheem Service provides a comprehensive maintenance program structured to meet the most stringent requirements to maintain the product at peak performance and monitor for the presence of Legionella. Contact your nearest Rheem Service Department or Accredited Service Agent to arrange a Service Contract inspection**.

Storage of all UV disinfection equipment should be in a clean and dry place

## UV MAINTENANCE SCHEDULE

**Legionella Sampling** – Unless prescribed by a regulating authority sampling at the following rates is recommended:

First 3 months - 2 samples, once per month.

Month 6 – 2 samples

6 monthly there after – 2 samples

The above rates are applicable as long as legionella results are below prescribed limits

**6 Monthly Check**

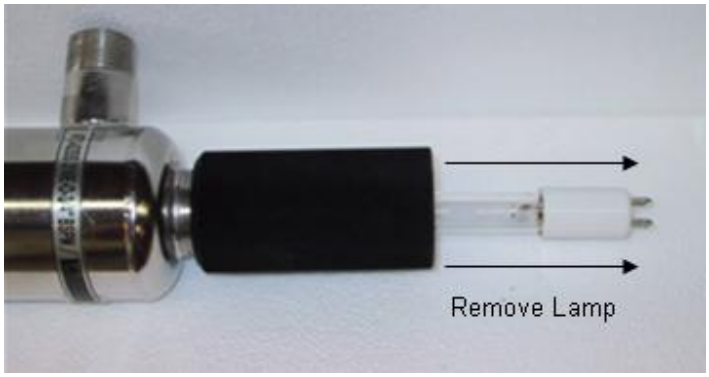
- Check operation of UV, clean quartz tube if necessary

**Annually**

- As above and replace O-rings in UV
- Replace UV lamp

## SERVICE PROCEDURES

1. Switch off main power supply to the UV disinfection reactor.
2. Isolate water supply to the UV reactor chamber. Release pressure and drain water within the UV reactor chamber.
3. Remove the three screws that mount the cap to the sealing nut (**Picture 9**) and slide the lamp out enough to be able to remove the four pin plug (**Picture 10**).
4. Disconnect the four pin plug from the end of the UV lamp.
5. Remove the UV lamp from the reactor and store in a safe place.



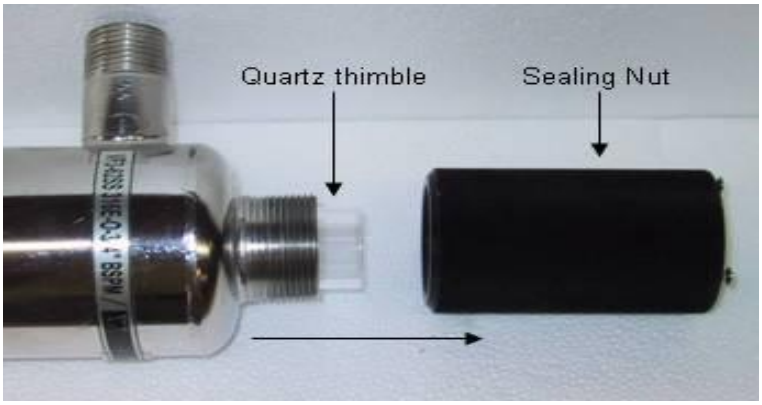

**Picture 10**

At this stage the UV lamp can be replaced and the unit reassembled as per the above procedure OR for cleaning or quartz thimble replacement continue as follows;

| | |
|---|---|
|  | **Quartz thimble and UV Lamp are Fragile - Care must be taken when handling and installing quartz thimble and UV lamp. When disassembling, hold both sealing nut and quartz thimble to avoid the quartz thimble slipping out of the head piece!**<br><br>**Breakage due to mishandling is <u>not</u> currently covered by the Rheem warranty.** |

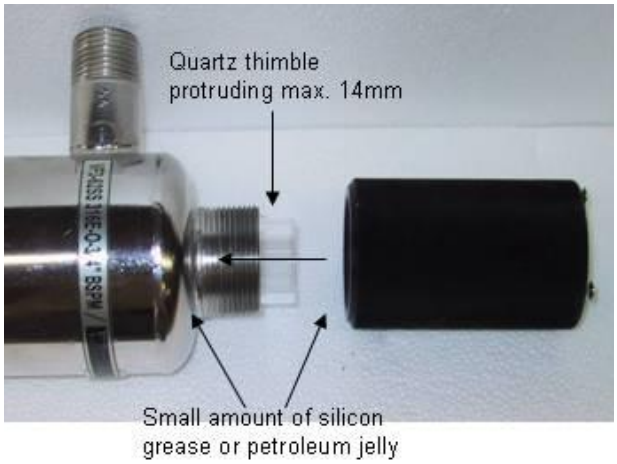
**During this step take care to hold onto the quartz thimble, as it may come out when you remove the sealing nut.**

6. Unscrew the sealing nut in an anti-clockwise direction.
7. Carefully remove the sealing nut from the quartz thimble.
8. Remove the quartz thimble from the reactor chamber.




**Picture 11**

9. If the quartz thimble is due for replacement carefully unwrap the new quartz from the packaging.
10. If the quartz is due for a clean, wipe it down with methylated spirits or washed down with water. It may be necessary to scrape off the remnants of the old “O” ring with a sharp knife. Repeat this step until the quartz is clean.
11. Ensure that you wear protective gloves and wipe down the quartz thimble with a soft cloth that has been soaked in methylated spirits, and then dry it.
12. Keep a firm hold of the thimble until it is located in its support. Ensure the thimble is centred correctly with no more that 14mm of thimble exposed above the thread of the chamber. It is important the thimble is correctly located in its support; otherwise the thimble will be damaged when the sealing nut is tightened.
13. Insert the quartz thimble closed end first into the reactor chamber until it is centred in its support at the far end of the chamber.
14. Place a small amount of silicon grease or petroleum jelly on the sealing nipple of the reactor then clean the internal thread of the sealing nut with a soft cloth. Ensure that there are no foreign particles that will interfere with the sealing of the “O” ring. During this next step the “O” ring should slip over the open end of the quartz thimble.
15. Screw the sealing nut with the “O” ring in place in a clockwise direction on to the reactor chamber over the top of the open end of the quartz thimble that is protruding from the chamber.




**Picture 12**

16. Reinstall the UV lamp (see installation section)

## POWER SUPPLY UNITS

The servicing of the power supply box should only be carried out by qualified service technicians. The power supply box has a 5amp fuse which may need replacing. If the fuse has blown then the cause must be determined before proceeding.

1. Switch **OFF** the mains power to the UV system.
2. Open the power supply box and remove the fuse holder by pulling it from the fuse terminal block.
3. Replace the fuse (11-FTB00.7) in the fuse holder.
4. Replace fuse holder in terminal box.

Power supply boxes contain a spare set of volt free contacts (vfc) for remote annunciation of lamp failure and an audible lamp fail alarm will sound in the event of a lamp failure to notify operator to replace UV lamp.

## SPARE PARTS

Below is a spare parts list with corresponding part numbers:

| Model | 940001 | 940002 |
|---|---|---|
| Item | 4000-D-28 | 15000-S-170 |
| UV Lamp (ozone free) | 11-L-GXO860L | 11-L-AVP-L-300-2 |
| Quartz Thimble | 11-QT-090028 | 11-QT-121028 |
| Ballast | 11-EL-BAL-EC36/40 | 11-EL-BAL-170-E |
| Starter | 11-EL-START-KUEFS600 | N/A |
| Power Supply | 11-U15000S76SS-PS-E170M | 11-U4000-D-28-PSM40P2AM |
| Relay | 11-EL-RELAY-TLY2-24LT | |
| O-Ring (for quartz thimble) | 11-O-UV-G28-S | |
| O-Ring (for view port) | 11-O-UV-VPS-S | |
| Quartz window for view port | 11-UVIDISC-MON-QSMALL | |
| Sealing Nut / Power Head | 11-SN-MOD-AL-28 | |
| Fuse | 11-FTB00.7 | |

# RHEEM UV DISINFECTION WARRANTY - AUSTRALIA ONLY

## UV DISINFECTION MODELS 940 001, 940 002

### 1. THE RHEEM WARRANTY – GENERAL

1.1 This warranty is given by Rheem Australia Pty Limited ABN 21 098 823 511 of 1 Alan Street, Rydalmere New South Wales.

1.2 Rheem offer a trained and qualified national service network who will repair or replace components at the address of the UV unit subject to the terms of the Rheem warranty. Rheem Service, in addition can provide preventative maintenance and advice on the operation of your UV unit. The Rheem Service contact number is available 7 days a week on 131031 with Service personnel available to take your call from 8am to 8pm daily (hours subject to change).

1.3 For details about this warranty, you can contact us on 131031 or by email at warrantyenquiry@rheem.com.au (not for service bookings).

1.4 The terms of this warranty are set out in section 2 and apply to UV units manufactured after 1st January 2012.

1.5 If a subsequent version of this warranty is published, the terms of that warranty will apply to UV units manufactured after the date specified in the subsequent version.

### 2. TERMS OF THE RHEEM WARRANTY AND EXCLUSIONS TO IT

2.1 The decision of whether to repair or replace a faulty component is at Rheem's sole discretion.

2.2 If you require a call out and we find that the fault is not covered by the Rheem warranty, you are responsible for our standard call out charge. If you wish to have the relevant component repaired or replaced by Rheem, that service will be at your cost.

2.3 Where a failed component is replaced under this warranty, the balance of the original warranty period will remain effective. The replacement does not carry a new Rheem warranty.

2.4 Where the Rheem UV system is installed outside the boundaries of a metropolitan area as defined by Rheem or further than 25 km from either a regional Rheem branch office or an Accredited Rheem Service Agent's office, the cost of transport, insurance and travelling between the nearest branch office or Rheem Accredited Service Agent's office and the installed site shall be the owner's responsibility.

2.5 Where the Rheem UV system is installed in a position that does not allow safe or ready access, the cost of that access, including the cost of additional materials handling and/or safety equipment, shall be the owner's responsibility. In other words, the cost of dismantling or removing cupboards, doors or walls and the cost of any special equipment to bring the UV unit to floor or ground level or to a serviceable position is not covered by this warranty.

2.6 This warranty only applies to the original and genuine Rheem UV unit in its original installed location and any genuine Rheem replacement parts.

2.7 The Rheem warranty does not cover faults that are a result of:

a) Accidental damage to the UV unit or any component (for example: (i) Acts of God such as floods, storms, fires, lightning strikes and the like; and (ii) third party acts or omissions).

b) Misuse or abnormal use of the UV units.

c) Installation not in accordance with the Owner's Guide and Installation Instructions or with relevant statutory and local requirements in the State or Territory in which the UV unit is installed.

d) Connection at any time to a water supply that does not comply with the water supply guidelines as outlined in the Owner's Guide and Installation Instructions.

e) Repairs, attempts to repair or modifications to the UV unit by a person other than Rheem Service or a Rheem Accredited Service Agent.

f) Faulty plumbing or faulty power supply.

g) Failure to maintain the UV unit in accordance with the Owner's Guide and Installation Instructions.

h) Transport damage.

i) Fair wear and tear from adverse conditions (for example, corrosion).

j) Cosmetic defects.

k) For a UV lamp, more than (4) ON/OFF switches per 24 hour period, or where the time from delivery has exceeded 30 months, whether the UV lamps are installed and operating or not.(lamps have a 30 month shelf life.)

2.8 Subject to any statutory provisions to the contrary, this warranty excludes any and all claims for damage to furniture, carpet, walls, foundations or any other consequential loss either directly or indirectly due to leakage from the UV unit, 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.

2.9 If the UV unit is not sized to supply the UV demand in accordance with the guidelines in the Rheem UV unit literature, any resultant fault will not be covered by the Rheem warranty.

## UV DISINFECTION MODELS 940 001, 940 002

### 3. WHAT IS COVERED BY THE RHEEM WARRANTY FOR THE UV UNIT DETAILED IN THIS DOCUMENT

3.1 Rheem will repair or replace a faulty component of your UV system if it fails to operate in accordance with its specifications as follows:

| What components are covered | The period in which the fault must appear in order to be covered | What coverage you receive |
|---|---|---|
| All components | Year 1 | Repair and/or replacement of the faulty component, free of charge, including labour. Excludes UV lamp (see below) |
| Chamber | Years 2-5 | Replacement of chamber, free of charge, with labour costs the responsibility of the owner |
| UV lamp | First 1000 hours | New lamp including labour. |
| | Balance of Year 1 | New lamp, pro rata, with labour costs being the responsibility of the owner |

### 4. ENTITLEMENT TO MAKE A CLAIM UNDER THIS WARRANTY

4.1 To be entitled to make a claim under this warranty you need to:

a) Be the owner of the UV unit or have consent of the owner to act on their behalf.

b) Contact Rheem Service without undue delay after detection of the defect and, in any event, within the applicable warranty period.

4.2 You are **not** entitled to make a claim under this warranty if your UV unit:

a) Does not have its original serial numbers or rating labels.

b) Is not installed in Australia.

### 5. HOW TO MAKE A CLAIM UNDER THIS WARRANTY

5.1 If you wish to make a claim under this warranty, you need to:

a) Contact Rheem on 131031 and provide owner's details, address of the UV unit, a contact number and date of installation of the UV unit or if that's unavailable, the date of manufacture and serial number (from the rating label on the UV unit).

b) Rheem will arrange for the UV unit to be tested and assessed on-site.

c) If Rheem determines that you have a valid warranty claim, Rheem will repair or replace the UV unit in accordance with this warranty.

5.2 Any expenses incurred in the making of a claim under this warranty will be borne by you.

### 6. THE AUSTRALIAN CONSUMER LAW

6.1 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.

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

**RHEEM AUSTRALIA PTY LTD**, A.B.N. 21 098 823 511, www.rheem.com.au
For Service Telephone 131 031 AUSTRALIA or 0800 657 335 NEW ZEALAND