



Please read through the entire instruction manual fully before commencing installation.

IMPORTANT NOTE TO THE PLUMBER BEFORE COMMENCING INSTALLATION OF THIS SYSTEM

CAUTION: DO NOT USE WITH WATER THAT IS UNSAFE OR WITH WATER OF UNKNOWN QUALITY WITHOUT ADEQUATE TREATMENT BEFORE OR AFTER THE SYSTEM.

Danger: Dangerous electrical voltage is present inside the power supply box & chamber. These instructions must be followed closely to prevent serious personal injury. Ensure eye protection is worn when servicing and installing this unit to protect from harmful UV-C Radiation. This radiation can be harmful to eyes and skin, UV lamps should only be used when properly installed in the irradiation chamber. The UV lamp must not be operated outside the chamber.

- This unit must be used only for its intended purpose as described by the manufacturer.
- This unit must be installed in accordance with this manual.
- The unit must be unplugged when; The unit is not in use, before fitting or removing any parts.
 - the unit must be electrically isolated before Maintenance, Cleaning or Lamp Replacement.
- The System will need to be de-pressurised before maintenance.
- The UV lamp is designed for continuous usage to reach full disinfection capacity. Frequently turning the system on/off will cause the lamp to reduce in effectiveness and may cause the lamp to fail.

Overheating: Excessive build-up of temperature in the chamber may cause the O-ring to deform and fail, causing leakage which can come into contact with the lamp/power supply causing damage or personal injury. It is recommended to power down the UV system if there will be no water flowing for periods of time exceeding 5 days. For systems that exceed 48W power, they should be powered down if there will be no flow for 48 hours. A Thermal Relief Valve (TRV) is required on systems exceeding 48W Lamp Power unless installed in a commercial application where the water flow is consistent or frequent as to prevent overheating. Installing a UV system > 48W without a TRV may void warranty – check the Warranty details for further clarification.

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Technical Overview

I. Important Notes

For correct operation of this appliance, it is essential to observe the manufacturer's instructions.

Installation must be carried out by a qualified plumber or authorised technician to comply with Australian Plumbing Codes. This filter system is certified to WaterMark Standards AS 3497 Under the Certificate number 23247. WaterMark certification is the level of certification required by law for a licensed plumber in Australia to install a water filter system.

This system contains electrical components and plumbing components. Use caution and if leaking occurs, turn the power off immediately before conducting maintenance or repair to the system. The power supply should always be plugged directly into a surge protector. Standard power supplies are NOT waterproof and must be installed out of the elements to avoid water damage.

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.

If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent.

II. Specifications

Part Number	GT7-2K	GT7-4K	GT7-8K	GT7-9K	GT7-16K
Flow Rate @ 30mJ/cm²	3.8L/Min	30L/Min	50L/Min	50L/Min	105L/Min
Voltage	230V – 240V				
Chamber	304SS	316SS			
Max Pressure	700 kPa				
Working Pressure	500 kPa				
Lamp Power	14W	20W	40W	40W	87W

III. Surge Protection

This appliance must be connected directly to a surge protector before being connected to a 240v 10A GPO. Circuit Breakers or Residual Current Devices (RCD's) fitted to the switchboard is not sufficient to protect this appliance from power surges. Failure to install a suitable surge protector may void warranty.

IV. Before Purchase or Opening

The system requires specific working conditions to be met before installation, some general guidelines* are listed below. If these conditions are not met, the system may not be suitable for the application and may not function as specified. These systems are designed for sanitising water supplies including mains water, tank water and in some cases bore water and other water supplies. UV dosage ratings are based on UVT 94% and pre-filtered to 5uM. For applications on any water supply other than rainwater tanks and mains water, please contact the manufacturer to determine the correct system.

Feed Water Conditions	Min	Max
Guideline Only		
Inlet Pressure	100 kPa	500 kPa
TDS	0 mg/L	2,000 mg/L
Iron	0 mg/L	0.02 mg/L
Manganese	0 mg/L	0.01 mg/L
Hardness	0 mg/L	150 mg/L

V. Space Requirements

The Ultraviolet System and Power Supply are not rated for outdoor installation without adequate weatherproofing or cover from the elements, including but not limited to; Rain, Moisture, High Humidity, Frost & Condensation. If the unit is being installed in an external location, an IP65 or higher enclosure is required for the power supply and the end of the UV chamber that houses the electrical connections.

The system is supplied with aluminium mounting clamps designed for installation on the wall (screws not supplied). It is ideal for the system to be mounted horizontally however, if necessary, vertical installation (open end to the top) is acceptable, the outlet should also be at the top.

The chamber must be mounted so that the chamber always remains full of water. The ports should be facing up for a horizontal installation so that the air can escape from the chamber. You must allow enough space to perform maintenance on the system. Allow 2x the length of the chamber at the open end to allow the UV Lamp & Thimble to be installed/removed. When mounting the chamber, consideration must be made for the weight of the system being full of water due to the stresses associated with the plumbing fixings. The stainless-steel chamber and surrounding plumbing must be earthed to prevent electrolysis (which will cause corrosion).

VI. What is Ultraviolet Sanitation

Ultraviolet sanitation works by breaking down the cell wall of a micro-organism allowing oxidation to occur which in turn prevents the bacteria from multiplying until it is finally eradicated. Ultraviolet filtration is a chemical free solution to water sanitation creating no by products in the water.

Ultraviolet systems are rated based on a dosage level of radiation into the water (mJ/cm^2) with 30mJ being the standard level of disinfection and up to 40mJ for Australian Drinking Water Guidelines.

For drinking water and domestic water use, a UV system should always be installed as the last point of contact. For example, on a whole house filtration system, the filters should be installed before the UV system. This effectively eliminates (or significantly reduces) the chances of re-contamination after the UV unit.

VII. Example Applications

UV systems are utilised in many ways. The main applications are **Household Water Filtration**, **Commercial Water Treatment & Bacterial Pre-Treatment**.

Household Water Filtration generally comes in 2 forms: Undersink Point of Use filtration or Whole House Point of Entry filtration. Both applications are set up the same, with a pre filter followed by the UV system as a final point of contact.

Commercial Water Treatment is common due to council regulations governing the supply of water or food to the public. The law requires a form of sanitation in the filtration process, and this is usually done in the form of UV, RO or UF filtration.

Bacterial Pre-Treatment is sometimes required as a pre-treatment stage for ultra-fine (UF) or Reverse Osmosis (RO) systems to prevent possible biofouling. UV can treat higher levels of bacteria to reduce the chance of this occurring.

VIII. Operation

Ultraviolet Disinfection Water Systems are designed for continuous operation. Frequently cycling on/off will result in a reduced lifespan for the UV lamp and may damage some sensitive components. It is recommended not to exceed 3 on/off cycles in a 24hr period.

If the water is not going to be used for over 48 hours, the UV system should be turned off to prevent overheating. For periods exceeding 5 days, the above applies, however we also recommend de-pressurising and isolating the UV system (and other filtration systems) to not expose them to prolonged static pressure and possible thermal expansion. When resuming operation, the UV should be turned on and allowed to get to operating conditions for 15 minutes. You should flush the system briefly by discarding the water to drain, especially if the water is used for drinking to ensure there was no contamination while the UV was de-commissioned.

Installation

I. Site Preparation

When a suitable installation location is identified, you will need to determine if the system will be mounted horizontally as recommended, or vertically if necessary. If mounting vertically, the outlet should be at the top port. In a vertical position, the temperature at the top of the chamber will be higher which may result in the o-ring seal becoming more susceptible to leaking if overheating occurs; consider installing a TRV or ensure the system is powered down when not in use for longer than 48 hours.

Allow adequate space for the ongoing maintenance and pre-plan the plumbing so that the ports will be facing up.

II. Mounting the Chamber

When mounting the system on a wall, mark out the approx. location of each wall bracket. Fix a bracket to the wall and using a level and ruler, mark out the appropriate location for the second bracket. Brackets should ideally have the pivot/hinge at the bottom and screw to close the bracket at the top. Hold the Chamber in firmly to the brackets and they do up one of the clamps to secure the system. A second set of hands can assist to make this easier.

III. Thermal Relief Valve

A Thermal Relief Valve is a valve with a built in sensor that will open and drain water once the temperature in the chamber reaches 56°C. A Thermal Relief Valve is recommended on installations where there can be prolonged periods of time without water flow. Generally lower wattage systems (less than 48W) do not reach extreme temperatures under normal conditions; however, it is best to install a TRV to limit the temperature.

When installing a TRV, note the below requirements:

- The TRV must be installed on the Outlet of the UV System (which should be the open end).
- The TRV tube must be allowed to drain freely without head pressure (don't run the tubing vertically).
- The TRV operates from temperature so always have the ports facing up (heat rises).
- When vertical system installation is required, make sure the valve itself is also facing up.

The valve will open at 56°C and Close at ~ 54 – 55°C, if you have a pump without a bladder and a very sensitive high/low pressure switch, you may notice the pump cycling as the valve activates/deactivates during prolonged periods without flow.

Due to the nature of the valves open/close range, it is not recommended to rely on this device if there will be no water flow exceeding 48 hours. Excessive water usage may occur as the TRV maintains the temperature, so it is recommended to still power down the UV for extended periods without flow.

IV. Installing Plumbing Connections

The UV systems are manufactured with male BSP threads either in 1" (GT7-8K/9K/16K) or ½" (GT7-4K). Use appropriate plumbing fittings to install onto the chamber for adapting to your plumbing.

V. Filter Protection

As per Australian Plumbing Codes, a pressure limiting valve should be installed to limit the pressure to 500 kPa when the feed pressure exceeds 500 kPa. If Water Hammer is present, install a suitable Water Hammer Arresting device.

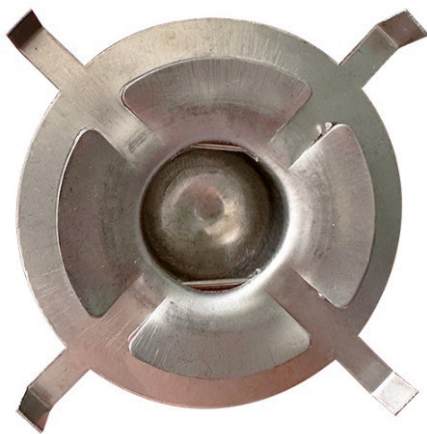
Commissioning & Start-up

I. Quartz Thimble Installation

Due to the fragile nature of the glassware, care must be taken when handling and installing the thimble and lamp.

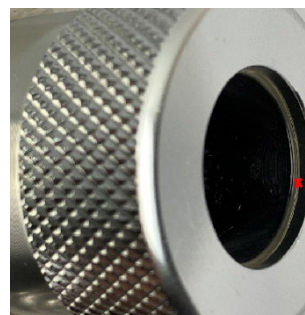
1. Remove the knurled nut from the end of the chamber.
(See Right - 2 different types used on these units)
2. Wearing gloves, or handling with a clean cloth, remove the glass thimble from the packaging and check for any significant defects, cracks or blemishes. Carefully insert the thimble dome end first into the chamber. **Do not drop the thimble in as this may shatter the glass.** Inside the UV chamber at the bottom of the rounded end, there is a receiver port where the dome end of the quartz thimble will seat into position (See Below). When the quartz thimble is lined up correctly with this, a gentle push should seat it into the receiver port. When inserted completely, there should be approx. 15 – 19mm of exposed glass from the steel thread of the chamber. Place the O-ring over the end of the quarts and flush up against the thread as shown below.

Receiver Port



Example Photo Only - Models May Vary

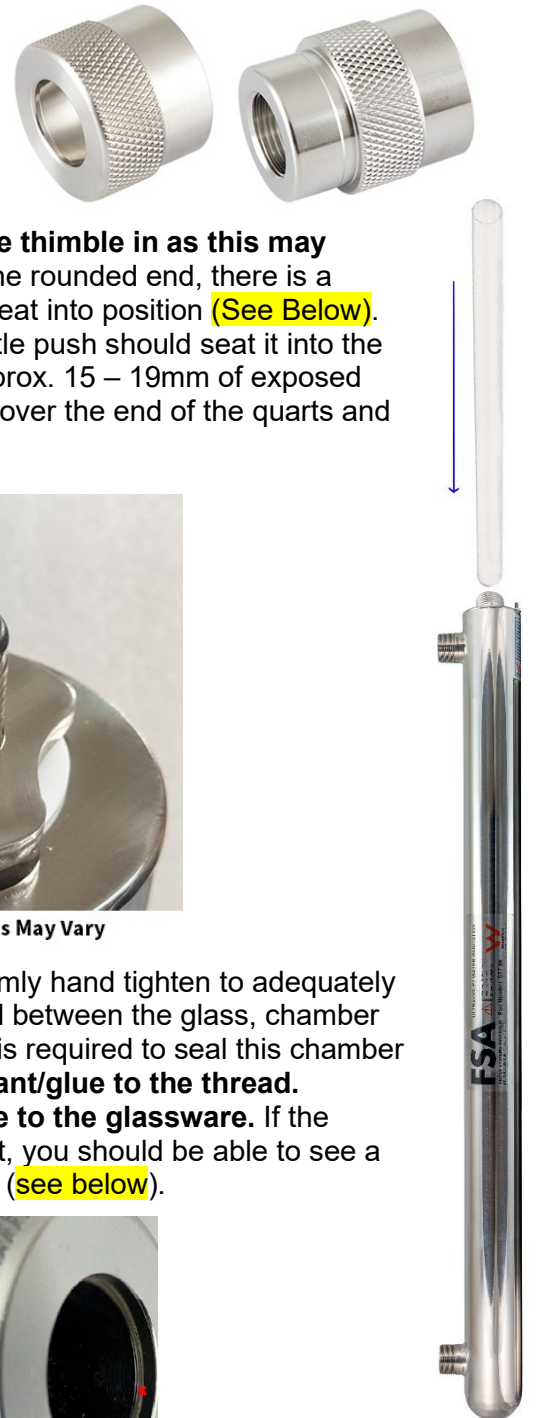
3. Screw the knurled nut onto the thread of the chamber and firmly hand tighten to adequately compress the o-ring. This is what will create a watertight seal between the glass, chamber and the sealing nut. NOTE: Firmly hand tightening is all that is required to seal this chamber without the use of tools. **Do NOT apply thread tape or sealant/glue to the thread.** **Overtightening with a gripping tool may result in damage to the glassware.** If the thimble was correctly seated all the way into the receiver port, you should be able to see a small gap between the glass and stop-end of the knurled nut (see below).



II. Pressure Testing – Leak Check

From this point in the installation, the chamber should be pressure tested to check for leaks. It is recommended to open a downstream tap to allow air to escape and then slowly open the main water line at a reduced flow and pressure to slowly wet down the system and remove air. Once the air is purged, **slowly** close off the downstream tap so that the pressure gently rises to static pressure.

When the static pressure increases, the quartz thimble will likely shift slightly in the chamber towards the stop-end of the nut, closing the gap that was previously there (see above - Right). If you close the tap quickly, the pressure will increase quickly and with more force which may cause the glass to crack.



If the o-ring is not creating an adequate seal, there may be a very slow beading leak. It is important to sit the chamber under static pressure for long enough to confirm that there are no slow leaks. If there is a slow leak, the knurled nut may require slightly more tightening. To do this, de-pressurise the system and then tighten the nut. If required, you may need to use a gripping tool to slightly nip up the connection however if you do this, be careful not to overtighten.

The thimble should be bone dry before the UV lamp is installed. If any water is present in or around the thimble or chamber from the installation process, it will need to be thoroughly dried, and the leak fixed before continuing with the installation.

III. Vertical Installations

The above steps are relevant also for vertical installations. Due to gravity, if a leak occurs from the o-ring, it can be much harder to see as the drip will usually leak into the thimble. This will result in the chamber filling with thimble filling with water which will short out the lamp.

IV. Lamp Installation

After the UV Chamber is deemed to be water-tight and free from leaks, the lamp can be installed. Handle the lamp by the plastic ends and avoid touching the glass directly.

1. **Before the lamp is installed, the chamber, thimble and surrounding plumbing should be dry and free from leaks.**

2. Plug the Power Supply (Ballast) into a surge protector, then into a 10A GPO. Keep the GPO turned OFF at this step of the installation.

For the GT7-16K System ONLY – Connect the earth wire to the screw located on the bottom of the power supply (**Shown to Right**)



3. Remove the lamp from its protective wrapping and inspect for damages.

- a. **For Horizontal Installation:**

Insert the UV lamp into the quartz thimble through the open end of the chamber (**See Below**). Leave the end of the lamp exposed to allow connection to the power supply.



- b. **For Vertical Installation:**

The lamp needs to be connected to the power supply first, before the lamp is installed into the tube – Move forward to step 4 for details on connecting the power supply to the lamp.

4. Firmly hold the end of the lamp by the white cap and the power supply lamp connection end, then push the power supply connection onto the 4 pins of the lamp. NOTE: the pins have a long and a short side so the connection only fits one-way. The connection should be firm and inserted all the way in.



GT7-16K



GT7-4K/9K

5. Next, Connect the Earth Wire to the lug on the UV chamber, located just below the knurled nut. NOTE: **For Vertical Installation** lower the lamp into the chamber by the power lead, then connect the earth wire.

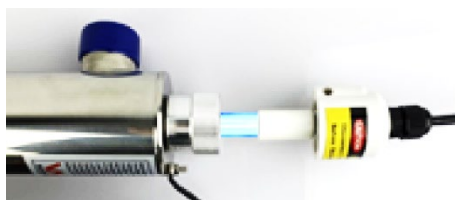


GT7-16K



GT7-4K/9K

6. At this stage, the lamp can be tested briefly to ensure that it is working, along with the power supply.
 - a. With your hands clear from the system, turn on the power for 5 seconds to allow the lamp to illuminate and the power supply to boot. **Do not look directly at the lamp without suitable eye protection.**

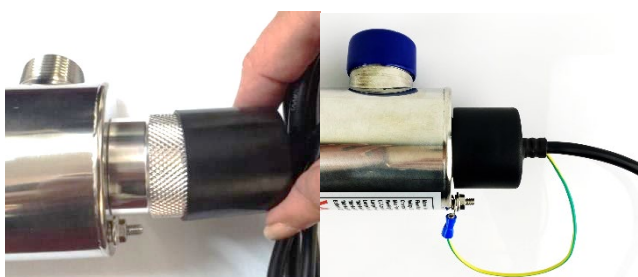


- b. Confirm that the lamp illuminates correctly, and the ballast is showing a green light without the red failure light. For the GT7-16K System, the countdown timer should read 365.
 - c. Once confirmed that the system is in working order, turn the power off to complete the lamp installation steps.
7. Slide the lamp the remaining way into the chamber; **For the GT7-16K** – Until the white cap sits into position on the knurled nut. **For the GT7-4K/9K** – Slide the black rubber boot over the knurled nut, be careful not to twist it as this can loosen the knurled nut and cause a leak.

NOTE: The rubber boot / white cap on these UV systems is not a waterproof seal. They are not designed to seal the water in or keep water out of the chamber. They only hold the lamp securely in place and house the wire connections. They may also resist some water or debris, but this does not make them waterproof.

GT7-16K

GT7-4K/9K



8. When you are ready to start the UV system, turn the power on
 - a. If there is a green light, everything is running correctly.
 - b. If there is a red flashing light with an alarm sounding, the power supply is indicating that there is a problem with the lamp.
 - c. If you notice a leak at any time, turn off the power immediately and rectify the leak. Thoroughly dry all components before resuming.

Power Supply (Ballast) Operation

I. GT7-9K-PS 10-55W Ballast

The 10W – 55W ballast features straightforward operation. It includes a lamp status & Failure indicator light, along with an audible alarm for the fault.

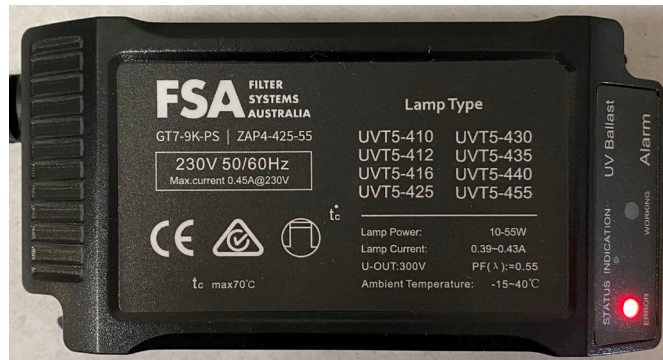
Working Conditions

- ✓ The Lamp and Ballast are working correctly when the Green LED Indicator Light shows:



Error/Fault Conditions

- × The Lamp and/or Ballast have failed when the Red LED Indicator Light shows and/or the system is alarming. Whilst it is usually the lamp that requires replacement, please refer to the Troubleshooting section of this guide to diagnose which element requires replacement.



II. GT7-16K-PS 33W – 120W Ballast

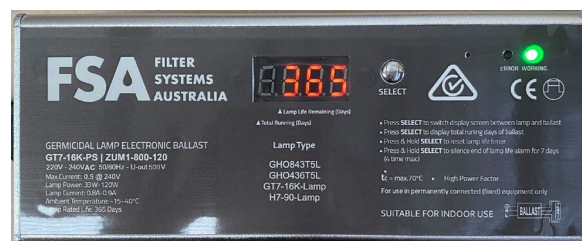
To increase safety, the ballast features complete control protection functions which are caused by:

- UV Lamp exceeding rated life cycle (365 days)
- UV Lamp Failure
- Exceeding rated voltage & load

To ensure smooth operation, ensure the voltage is within the specification of the ballast. The UV germicidal lamp output power (W) should match the range of the ballast. The connections should also be fitted correctly, and the earth wire secured.

Working Conditions

- ✓ The Lamp and Ballast are working correctly when the Green LED Indicator Light shows:



- ✓ **Display Screen** - Press the “SELECT” button (for 2 seconds) to toggle between the Lamp Life Remaining (Days) Default Display Screen and the Total Running (Days) Ballast Operation Time:
 - ✓ **Lamp Life Remaining (Days) Default Display Screen** - By default, the display screen will show the lamp life, which counts down from 0365 to 0 days. Once the lamp life timer reaches 0, the ballast will alarm to remind you to change the lamp.
 - ✓ **Total Running (Days) Ballast Operation Time** - Press the switch button (for up to 2 seconds) to display the ballast operation time, which counts from 0 to 9999 days. After 10 seconds the screen will return to the default display.

Lamp Replacement Due (A3 Error Code)

- ✓ **End of Lamp Life/UV Lamp Replacement Alarm:** Once the Lamp Life Remaining timer reaches day 0, the digital display will show “A3”, the Red LED Error light will flash, and an audible alarm will sound (beeping). This indicates that it is time to replace your UV lamp.



- ✓ **Temporary (7 Day) Alarm Pause/Cancellation:** If the UV lamp cannot be immediately replaced, you can temporarily pause the alarm by pressing the “SELECT” button for 5 seconds until the buzzer sound stops. This will reset the Lamp Life Remaining display to 7 days, however, the display will continue to show “A3” and the Red Error LED Light will still show. Once those 7 days are up (i.e. lamp life reaches 0), the alarm will re-start. The ballast will provide 4x 7-Day alarm cancellations (for a total of 28 days), after which point the alarm will alarm will not stop until the lamp is replaced.



✓ **Lamp Change/Ballast Reset:**

- ✓ Disconnect the power supply (See **IV. Lamp Installation** for detailed instructions on changing the Lamp).
- ✓ Remove the expired/failed lamp and install the new lamp.
- ✓ Press and hold the “SELECT” button on the ballast for at least 15 seconds. During this time, the ballast will show “rSet”. You must keep holding for a further few seconds until the display returns to “365” to successfully reset the ballast after lamp change. If you accidentally release the button too soon, try again.



When the ballast has been successfully reset, there will be an audible beep from the ballast and the green working light will resume.

Error & Fault Conditions

Whilst it is usually the lamp that requires replacement, please refer to the below guidance along with the Troubleshooting section of this guide to diagnose which element requires replacement.

- × **LAMP FAILURE:** The Lamp has failed when the Red LED Indicator Light shows and/or the system is alarming. Note: The Lamp Life will display “0”, but the Total Running (Days) count will continue.



BALLAST FAILURE: The display will be totally blank if the ballast has failed and will need to be replaced.

Maintenance

I. Replacement Parts

Ultraviolet systems are rated based on a dosage level of UV-C radiation into the water (mJ/cm^2), with $30\text{mJ}/\text{cm}^2$ being the standard level of disinfection and a minimum dose of $40\text{mJ}/\text{cm}^2$ required to comply with Australian Drinking Water Guidelines. Ultraviolet Lamps are rated with a 9000-hour (1 year) lifespan, after which point the lamp will naturally degrade and the level of radiation produced by the lamp cannot be guaranteed. They are designed for continuous run, not for intermittent operation.

The UV lamp sits inside a quartz thimble, which protects the electrical components of the lamp from contacting the water. We specifically use quartz (fused silica) for this application because it is strong, exhibits thermal resistance, and has excellent UV transmission properties. However, over time, metal ions fused within the silica structure of the quartz thimble interfere with the UV-C radiation produced by the lamp, which reduces the UV transparency of the glass and causes it to become fragile. This process is called solarization.

Tannin, biofilm, algae, and scale can also build up on the outside of the glass thimble, further preventing ultraviolet light produced by the lamp from penetrating through the thimble and impairing the system's ability to sanitise the water passing through.

Thus, we recommend replacing the lamp every 12 months, and the thimble every 1-2 years.

Replacement Lamps (12 Months)

GT7-4K-Lamp	20W Replacement UV Lamp Suit GT7-4K
GT7-9K-Lamp	40W Replacement UV Lamp Suit GT7-9K
GT7-16K-Lamp	87W HO Replacement UV Lamp Suit GT7-16K

Replacement Quartz Thimble (1 – 2 Years)

GT7-4K-Thimble	490mm x 23mm OD Single Open-End Thimble Suit GT7-4K
GT7-9K-Thimble	895mm x 23mm OD Single Open-End Thimble Suit GT7-9K
GT7-16K-Thimble	895mm x 23mm OD Single Open-End Thimble Suit GT7-16K

Replacement O-Ring (Change with Thimble)

GT7-2NSF-OR	O-Ring Suit 23mm Thimble (GT7-2K, GT7-4K, GT7-9K & GT7-16K)
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Replacement Ballast (Suggested 5 Yearly)

GT7-9K-PS	10W – 55W AU Certified (RCM) Ballast to Suit 4 Pin Lamps
GT7-16K-PS	33W – 120W AU Certified (RCM) Ballast to Suit 4 Pin Lamps

Mounting Clamps

GT7-8-BRK	1 Pair Aluminium Mounting Brackets Suit GT7-4K GT7-8K GT7-9K GT7-16K
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Thermal Relief Valves (TRV)

GT7-53	$\frac{3}{4}$ " F-F BSP Thermal Relief Valve – 316SS + 2m Drain Tubing
GT7-51	1" F-F BSP Thermal Relief Valve – 316SS + 2m Drain Tubing

Troubleshooting

Problem	Possible Cause(s)	Fix
Leaking Chamber	<ol style="list-style-type: none"> 1. O-Ring not Seated 2. Insufficient Tightening 3. Damaged Quartz 	<ol style="list-style-type: none"> 1. If there is any issue with the o-ring in the way they are seated this will need to be fixed. Remove the thimble and repeat steps as per I. Quartz Thimble Installation. 2. If there is a slight leak at the o-ring, this may be due to under tightening. Refer to I. Pressure Testing Leak Check. 3. There may be a slight crack in the quartz. Turn off the water supply and power and depressurise the chamber. Carefully remove and inspect the Quartz. All glass will need to be carefully removed from the chamber and any downstream plumbing before re-connection
High Water Temperature	<ol style="list-style-type: none"> 1. Low Flow Rate 2. Oversized System 	<ol style="list-style-type: none"> 1. Particularly if the system is installed on a low flow/low usage line, if there are periods of low water usage or the water is allowed to stand for long periods of time, the water may be prone to heating up and may be either lukewarm or hot. Generally, this only occurs on systems that have a short distance between the outlet and point of use. Whole house systems have a larger length of cold plumbing pipes downstream which will dissipate this heat. 2. If the system is too large for the application, it is likely that even with frequent water usage, the water does not get a chance to cool down effectively. If there are significant fluctuations in usage or flow rates, it is good practice to install a thermal relief valve (sold separately) on the outlet of the UV chamber which can bleed water from the chamber and keep temperatures below 56°C.
Hot UV Chamber	<ol style="list-style-type: none"> 1. Low Usage 	<ol style="list-style-type: none"> 1. As above, if the water is standing for a period, the chamber will begin to heat up. This is normal, however if the heating is excessive to the point where it is causing damage to the chamber or surrounding fixtures, a thermal relief valve (sold separately) should be installed on the outlet of the UV chamber, to bleed water from the chamber and keep temperatures below 56°C.
Ballast Alarming	<ol style="list-style-type: none"> 1. Lamp Failure 2. False Alarm / Interrupted Connection 	<ol style="list-style-type: none"> 1. Usually if the ballast is alarming and showing a red flashing status indicating light, the lamp has failed and will require replacement. Before replacing a lamp, it is best to check firstly for an external cause for lamp failure turn off the power then check for; Water ingress from either rain, or leaks or any signs of moisture or condensation in/around the electricals. Due to the elevated temperature of the lamp, high humidity may cause condensate to form. If there are no signs of leaking, check for signs of shorts or charring on the lamp connection with the ballast. Lastly inspect the tube to see if there are any dark patches or if the filaments are burnt out. 2. Sometimes the ballast may trigger a failure

		alarm if the connection to the lamp is interrupted or perhaps the connection is not solid enough. If the above steps reveal no faults and the lamp is still working (lighting up), turn the power off for 5 minutes, check connections and then turn it back on to see if the fault clears.
No Lights on Ballast	1. Ballast Failure 2. Faulty Ballast	1. In the event of a large surge it is possible that the ballast failed. This can also occur from shorts and water ingress. Check for signs of a short around the lamp connection end. The ballast will need to be replaced. The UV lamp may also have blown at the same time or could be the cause for the ballast failure – for safety it is best to replace both the lamp and ballast together. If it is within Warranty period, please contact the manufacturer for further instructions. 2. Check the wall socket with a different electrical appliance to check if the GPO is functioning. Also check your circuit breaker to see if any switches are off.
Lamp is working but the ballast is alarming	1. Faulty Lamp 2. Faulty Ballast	1. The lamp may be lighting up but not working at its full capacity which may be caused by it not drawing enough power from the ballast. The lamp will require replacement. Turn the system off, check connections and turn back on to see if it fixes the alarm. 2. The ballast could have a problem with the lamp failure protection and may require replacement. Turn the system off, check connections and turn back on to see if it fixes the alarm.

General Warranty

Water Filter Systems¹ (Excluding consumables) Manufactured or Assembled² by Filter Systems Australia (FSA) are covered under a 12-month Warranty Against Defects (Manufacturer's Warranty). This guarantees the water filter system to be free from defects in material and workmanship for a period of 12 months from date of sale.

If applicable, FSA may cover the return freight in the form of a re-imbusement after the system has been inspected and confirmed it is a valid warranty claim.

FSA will not cover any labour charge incurred by the consumer for the replacement or repair of a product. The warranty is strictly parts only for the parts supplied by FSA. This warranty only applies to the original consumer of the product and is non-transferable. If you have purchased the system through a re-seller, please contact them to facilitate the warranty on your behalf. All replaced or exchanged parts become the property of FSA.

FSA does not cover the workmanship of the plumber who originally installed the system. Responsibility for damage that occur during installation fall with the plumber, this includes the Quartz Thimble and Lamp also.

Qualification for Warranty

As per Australian Plumbing Codes, all filter systems must be installed by a qualified plumber. The consumer is responsible for keeping records and proof of installation in the form of an invoice and/or receipt.

Filter systems must be maintained as per FSA recommendations³ including the use of replacement filters, fittings and components supplied by FSA. Failure to maintain the filtration systems using FSA supplied/approved products may void warranty.

The warranty only applies if the product was used and/or installed in accordance with the user guide and/or installation instructions. This warranty is given in lieu of all other express or implied warranties, and the manufacturer shall in no circumstance be held liable for damages consequential or otherwise or delays caused or faulty manufacturing except as excluded by law.

Warranties need to be approved by FSA to ensure the product was not incorrectly used, installed, or claimed. False and incorrect claims will be pursued at FSA's discretion including chargeable inspection and transit costs incurred.

Installation of UV systems with a lamp power >48W must be fitted with a Thermal Relief Valve to prevent overheating unless the application is for constant or frequent flow. Damage/Failure on installations without a TRV that is deemed to be due to overheating will not be covered under warranty.

FSA does not take responsibility for retaining customer records, it is the consumer's responsibility to retain all invoices or proof of purchase from the original sale and ongoing maintenance records as proof of upkeep.

Warranty Exclusions

FSA General Warranty shall be void if the product sustains damage or failure resulting from any of the following:

- If your system(s) fails to be installed and maintained in accordance with the recommended servicing and as per the manufacturer's operating instructions.
- Unauthorised or abnormal use or operation
- Failure to install a TRV on installations where there is a likelihood for the water temperature to exceed 56°C due to lack of frequent water flow for systems exceeding 48W power.
- Failure to power down the UV system when there are prolonged periods of no water flow as per the manufacturer's instructions.
- Failure to install an independent surge protector device on the GPO where this device is connected.
- Exposure to unsuitable environmental conditions*.

FSA does not cover the work of the plumber who originally installed the system.

Warranty Statement

This warranty is given by Filter Systems Australia (Jacknel Pty Ltd ATF The J & N Family Trust). ABN 64 855 305 562 Located at 1/38 Jade Drive, Molendinar QLD 4214. Ph 07 5597 4585 & email info@filtersystemsaustralia.com.au

This warranty is provided in addition to other rights and remedies you have under law. Our products come with guarantees which cannot be excluded under the Consumer Guarantees Act

Extended Warranty

Filter Systems Australia Ultraviolet Systems are eligible for an extended 4-year warranty (commencing no later than 12 months from sale date), to provide a total warranty of 5 years. This extended warranty is subject to terms and conditions outlined below. This extended warranty covers the below parts of the system.

- Ultraviolet Chamber (316 Stainless Steel)

The below parts are eligible for an extended 1-year warranty (commencing no later than 12 months from sale date), to provide a total warranty of 2 years. This extended warranty is subject to terms and conditions outlined below. This extended warranty covers the below parts of the system.

- UV Ballast (Power Supply)

Extended Warranty Qualification

Extended Warranty is valid only if the following conditions are met:

- The system was installed by a licensed plumber – proof of installation required in the form of a receipt or invoice for works.
- The system was maintained in accordance with the manufacturer's recommendations in **Maintenance I. Replacement Parts**.

UV Parts must be genuine FSA products purchased through FSA or participating supplier/reseller of FSA products. Proof of purchase for replacement parts is required.

Pro-Rata & Consumable Warranty

Some components are considered consumables including the Lamp, Quartz Thimble and O-ring. General Warranty does not apply to these consumables. These products are subject to *Pro-Rata* warranty conditions. Pro-Rata warranty is determined by the period remaining of the components rates 'lifecycle' as dictated by manufacturer in the instruction manual & definitions. A discount of the remaining balance of value (based on the lifecycle) will be deducted from the price of a new replacement part.

For example, A lamp has a successful warranty claim after 6 months from date of original invoice, the discount will be 50% from the next purchase of a replacement UV lamp. Pro-Rata warranty only applies for a single use within the pro-rata period. Pro-Rata warranty only applies to components purchased newly at full list price, or as part of an applicable UV system.

Definitions

¹ Water Filter Systems are defined as systems designed for drinking water under our Water filter Systems, Reverse Osmosis Systems & Ultraviolet Sanitation Categories – Excluding Cartridges and Shower Filters.

² Other products not manufactured or assembled by FSA are covered under the applicable manufacturer's warranty.

³ FSA specifies recommended or required filter maintenance – see product information for further details. If a maintenance schedule is not specified, filter maintenance is required at least once per 12 month period.

* Unsuitable environmental conditions include but are not limited to; Excessive hot or cold, Weather extremes, Moisture/Rain/High Humidity.