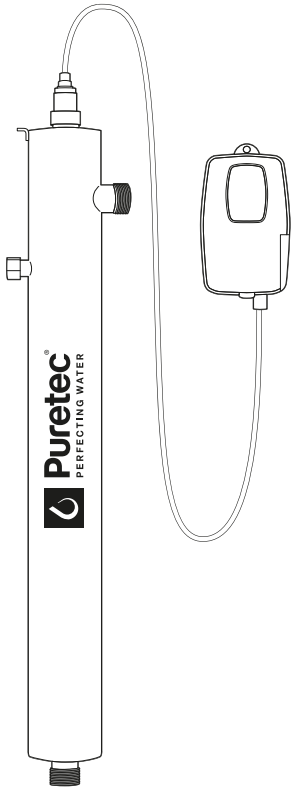
Puretec®
PERFECTING WATER



User Guide

RI Series

Puretec Radfire Commercial UV Water Sanitiser

FEB2021

For correct operation & installation it is essential to observe these instructions.

What's Inside

Puretec Customer Service

Thank you for purchasing a Radfire UV (ultraviolet) Water Steriliser. Your UV Water Steriliser is a proven performer, manufactured from highest quality materials and will give years of trouble free service if maintained properly.

Protecting your water supply with a UV system gives you reassurance that your family will have access to safe drinking water throughout your entire home with no chance of microbiological contamination. This is chemical free process which is simple in its concept and effective in its abilities to inactivate microorganisms present in the water supply. Simple maintenance, continuous disinfection and ultimately safe water. Puretec makes it that easy.

Customer Service Helpline **1300 140 140** (Australia) **0800 130 140** (New Zealand).

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Safety Considerations

Although your UV system has been manufactured to the highest safety standards, care must be followed when operating and/or maintaining your system.

1. Before servicing this equipment, disconnect the power cord from the electrical outlet.
2. Energy given off by the UV lamp is harmful to your eyes and skin. NEVER look directly at an illuminated UV lamp without adequate eye protection and always protect your skin from direct exposure to the UV light.
3. For complete disinfection, use ONLY genuine Puretec replacement parts.
4. Do not operate the unit if it has any damaged or missing components.
5. To avoid possible electrical shock, use only with a properly grounded electrical outlet.
6. Never perform any maintenance to the system unless you are comfortable in doing so. Contact Puretec for service instructions if required.
7. Do not use this system for any purpose other than what it was intended for. Misuse of this system could potentially cause harm to the user or others.
8. Your system is intended to be installed indoors and away from leaking plumbing. DO NOT plug the unit in if the system or any of the components are wet.
9. The disinfection system should be directly installed into a ground fault circuit interrupter (GFCI). If the use of an extension cord is required, the cord must be manufactured with a minimum of 16 gauge wire and care should be taken to avoid potential tripping hazards.
10. A licensed plumber or certified technician must install the system.

Before Installation

Installation Note: A water filter system/tap, like any product, has a limited lifespan and if not replaced, will eventually fail. Failure can happen early due to unforeseen circumstances. To avoid possible property damage, this product should be regularly examined for leakage and/or deterioration and replaced when necessary. We strongly recommend that a drain pan, plumbed to an appropriate drain or outfitted with a leak detector, be used in those applications where any leakage could cause property damage. We also strongly recommend that the water supply be turned off, upstream to the water filter system/tap, if no one is home for an extended period of time.

INSTALLATION SHOULD BE COMPLETED BY QUALIFIED TRADESPEOPLE. FAULTY OPERATION DUE TO UNQUALIFIED PERSONS WILL RESULT IN VOIDED WARRANTY COVERAGE.

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The following will be needed for installing the UV system:

Tools

- Pipe cutter, hacksaw or other specialized tools required to cut into your existing plumbing (e.g. if you have PEX piping)
- Soldering tools (torch, flux, emery cloth and solder)
- Wrench (for tightening fittings)

Other Materials

- Inlet/outlet connections
- Thread seal tape

Water Quality Parameters

UV disinfection is extremely effective against microorganisms but only if the UV light can pass through the water it needs to treat. This means that the quality of your water is very important in order to ensure complete disinfection.

Treated water should be tested for at the least the parameters listed below. If the water exceeds the listed parameters Puretec strongly recommends that appropriate pretreatment equipment be installed (equipment required will depend on parameters being treated):

Where the water being treated contains unusually high levels of dissolved solids particularly hard water, iron, manganese or biological organisms, a deposit build up on the quartz sleeve may occur over time. Maximum recommended parameters are as follows:

Hardness:	less than 7 gpg (120 mg/L) – if hardness level is 7 gpg or slightly below, the quartz sleeve must be cleaned periodically in order to ensure efficient UV penetration; if above the water must be softened.
Iron (Fe):	less than 0.3 ppm (0.3 mg/L)
Manganese (Mn):	less than 0.05 ppm (0.05 mg/L)
Turbidity:	less than 1 NTU
Tannins (organics):	less than 0.1 ppm (0.1 mg/L)
UVT (transmittance):	more than 85% (Please contact Puretec if water has a UVT that is less than 80% for pre-treatment recommendations).

Application warning: minimum water characteristics must be met before installation of Radfire™ to ensure proper operation and continuous protection.

You can have your water tested at a private analytical laboratory or by your local dealer. It is always recommended to install pre-filtration of at least 5 microns prior to a Puretec UV disinfection system. Not designed for brackish or sea water.

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Assembly

Unpack the system and ensure all the components are included with the system. Your system is shipped with the following components:

Fig. 1 - Puretec RI-6K

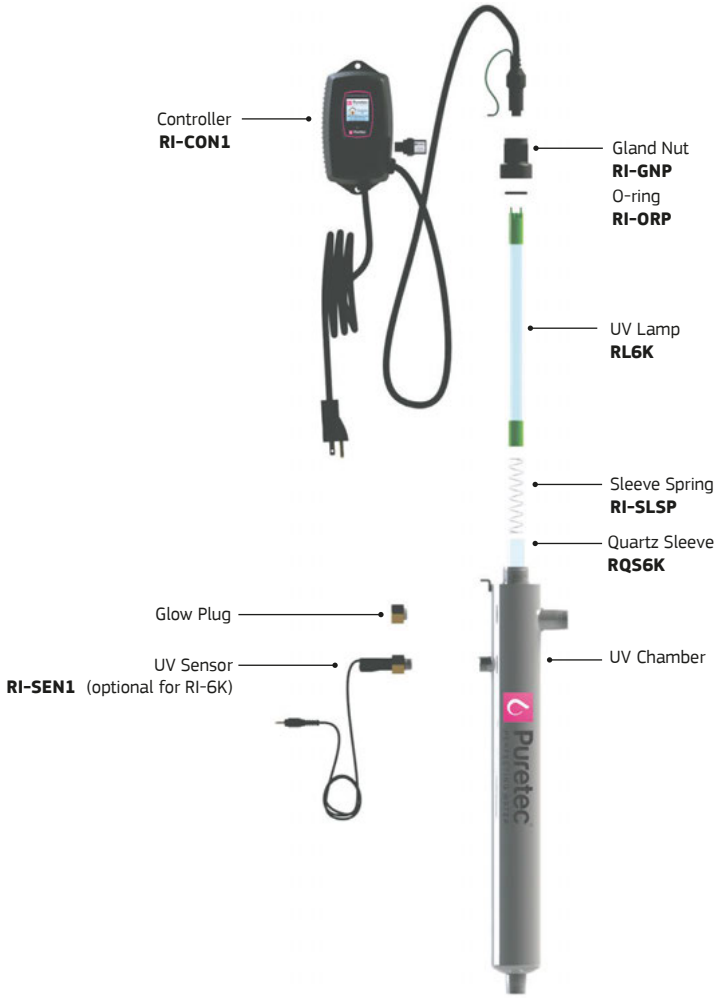

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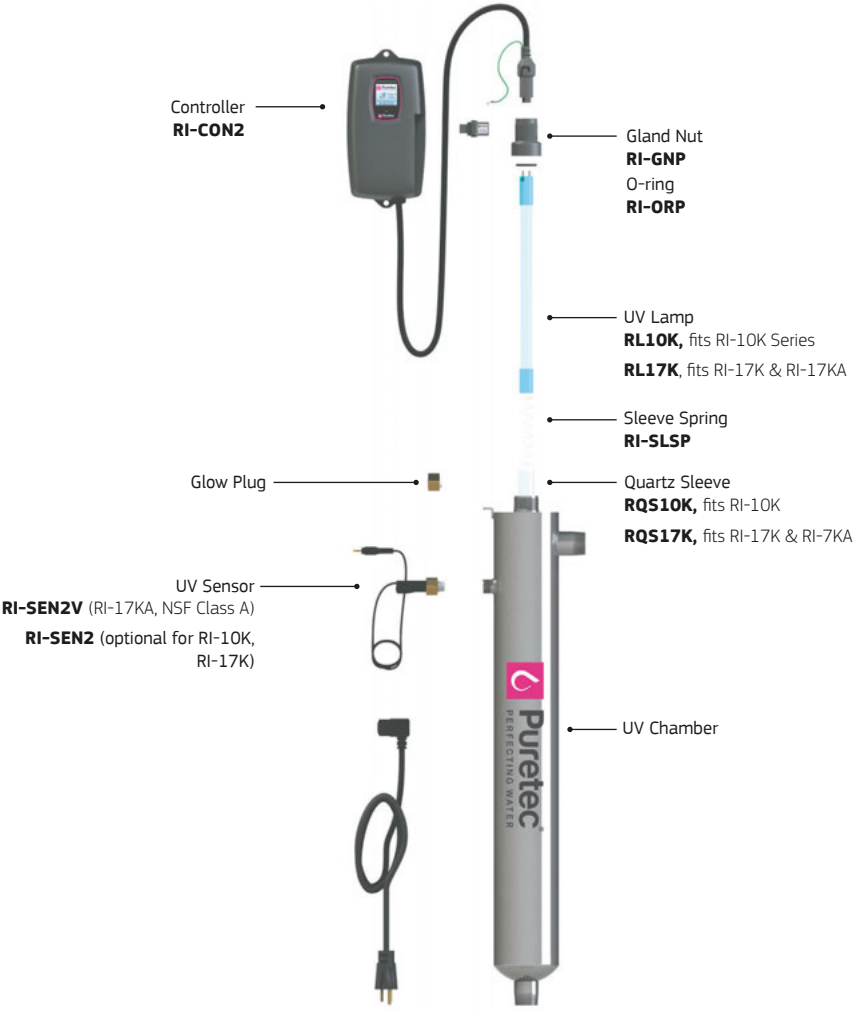
Fig. 2 - Puretec RI-10K, RI-17K & RI-17KA



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System Sizing

All Puretec UV systems are rated for a specific flow rate in water that meets the quality parameters on page 5.

NOTE: that increasing the flow above this rating or disinfecting water that does not meet the quality parameters will decrease the dose and therefore compromise the microorganism inactivation.

If you need to determine your maximum flow rate, you can fill a 1 gallon bucket with water and time how long it takes to fill up. It is always better to oversize your system then to undersize. For example, if your pump delivers 8 gpm it is recommended to install any of the Puretec 10 gpm systems.

Location

For Point of Entry (POE) systems, choose a location where the main cold water line is accessible.

The system must be installed after other water treatment equipment (softener or filters), but before any branches (See Figure 3). For Point of Use (POU) systems, install the unit just befor the faucet. Puretec recommends that a 5 micron filter be installed before the UV system for a final polishing step before the water is disinfected.

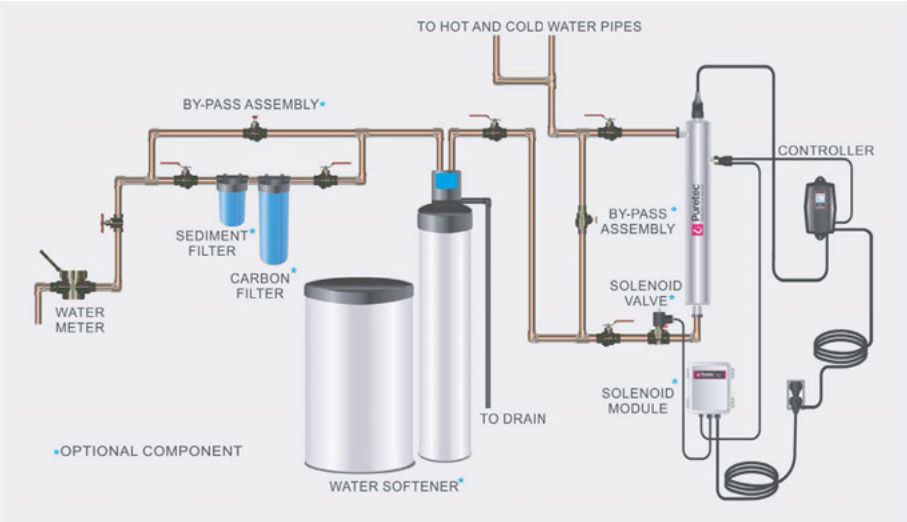

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Fig. 3 - Recommended POE Installation Location

To facilitate lamp removal, ensure there is enough space at the lamp connector end to safely remove the UV lamp and/or quartz sleeve (See Figure 2).

The controller will require a ground fault circuit interrupter (GFCI or GFI) outlet and should be mounted beside or above the chamber.

NOTE: All Puretec UV disinfection systems are intended for indoor use only as they should not be exposed to the elements.

Installation

INSTALLATION SHOULD BE COMPLETED BY QUALIFIED TRADESPEOPLE. FAULTY OPERATION DUE TO UNQUALIFIED PERSONS WILL RESULT IN VOIDED WARRANTY COVERAGE.

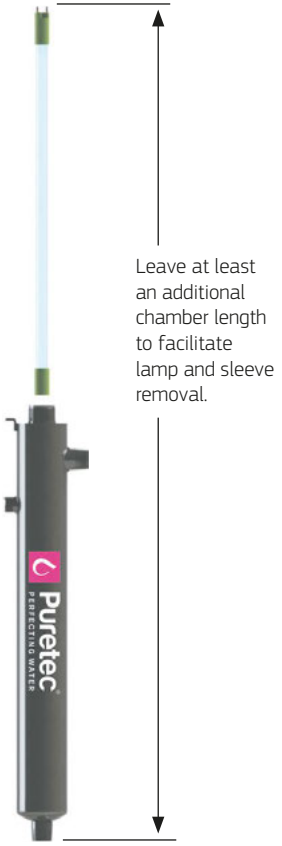
1. The UV chamber can be installed either horizontally or vertically using the clamps provided. Vertical installation is the preferred method with the inlet at the bottom (lamp connection at the top) as it allows any air that may be in the lines to be easily purged from the system.

2. The use of a by-pass assembly is recommended as it will allow you to isolate the UV chamber. This will allow for easier access in case maintenance is required (See Figure 5).

3. Use the supplied fasteners to mount the UV chamber to wood or drywall. If mounting to an alternate material you will need to purchase the proper corresponding fasteners.

4. For water supplies where the maximum flow rate is unknown, a flow restrictor is recommended so that the rated flow of your particular Puretec system is not exceeded. The flow restrictor should be installed on the inlet port of the UV chamber.

Fig. 4 - Lamp Removal Spacing



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5. It is recommended to have a licensed plumber connect the UV chamber to the water supply and may be a requirement depending on where you are located.

6. Once the system has been plumbed in, gently remove the quartz sleeve from its packaging being careful not to touch the length with your hands. The use of cotton gloves is recommended for this procedure as oils from the hands can leave residue on the sleeve and lamp which can ultimately block the UV light from getting to the water.

   Carefully slide the sleeve into the UV chamber until you can feel it hit the opposite end of the UV chamber. Align the sleeve so it centered along the length of the UV chamber, then gently push it in to lock it into the internal centering springs in the far side of the UV chamber.

   CAUTION: Pushing too hard when the sleeve is not aligned can damage the centering springs. Slide the o-ring onto the sleeve until it is butted up against the UV chamber.

7. Hand tighten the provided gland nut over the quartz sleeve onto the threaded end of the UV chamber. It has a positive stop to prevent over-tightening. A firm force may be required to fully tighten the gland nut, but DO NOT USE TOOLS for this step. Insert the provided stainless steel compression spring into the quartz sleeve. The spring works with the lamp and lamp connector to create the proper lamp alignment.

   NOTE: DO NOT install a UV lamp inside the quartz sleeve without the sleeve spring in place.

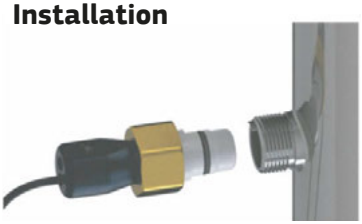
8. Install the UV sensor (RI-17KA only). Align the flat portion so it faces the gland nut end and matches up with the half metal lip on the sensor port (see Figure 7).

   Insert the sensor so it is fully seated and hand tighten the sensor nut.

Fig. 5 - Bypass Assembly

Fig. 6 - Quartz Sleeve Installation

Fig. 7 - UV Sensor Installation



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9. The UV chamber is now ready for water flow. When all plumbing connections have been completed, slowly turn on the water supply and check for leaks. Make sure the by-pass valves are functioning properly and that the water is flowing through the UV chamber The most common leak is from the o-ring not making a proper seal on the UV chamber. For new installations, review steps 6 and 7. For older systems drain the UV chamber, remove the o-ring, dry it and reapply silicon grease. Reinstall the o-ring ensuring that it is properly sealed against the UV chamber and check again for leaks.

10. Mount the controller to the wall so it is above or beside the UV chamber to ensure that no moisture can deposit on any of the connections (see Figure 3). Always mount the controller vertically. For monitored systems, insert the sensor connector into the IEP port located on the right side of the controller (Figure 8). For the sensor to be recognised by the controller, the controller power must be plugged in last. Do not plug the controller power cord in before the last step.

Fig. 8 - IEP Connection

11 Always hold UV lamps by their ceramic ends, not by the lamp quartz. Remove the lamp from its packaging. Again, the use of cotton gloves is recommended.

Remove the lamp key from the lamp's connector and set it aside for the next step.

Be careful to not touch the key's exposed contacts. Insert the UV lamp into the UV chamber, being careful not to drop it.

Fig. 9 - Lamp Key Installation

12. Install the lamp key into the controller. The key always comes packaged with the lamp and sits on the connector.

With the key removed from the lamp, orient it so the label is upright and facing you.

The key will plug into the lamp key port on the right side of the controller (Figure 9).

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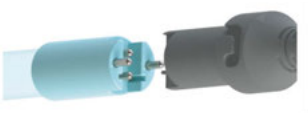
Fig. 10a - Standard Output UV Lamp Connection

Fig. 10b - High Output UV Lamp Connection



13. Plug the lamp connector into the lamp. Note the keying for proper alignment (see Figure 10a, 10b).

    Insert the lamp connector into the gland nut and turn the connector approximately ¼ turn to lock the connector to the gland nut as in Figure 11.

Fig. 11 - Lamp Connector

14. Tighten the captive ground screw to the ground lug on the UV chamber to ensure proper grounding.

Fig. 12 - Ground Screw Connection

15. Your system is now ready to be plugged into the appropriate GFCI protected outlet. Refer to the following section before any water is allowed to flow through the system.

System Disinfection

With a new installation, or any time the UV system is shut down for service, without power, or is in-operative for any other reason, the lines in the home or facility could be contaminated. Use the following steps to fully disinfect the lines throughout the entire home or facility.

1. Check for and remove any “dead ends” in the lines throughout the home as these can harbor bacteria. Plug in the UV system and wait until it is ready for operation.

2. Remove the filter cartridge from the last sump and fill it with 1-2 cups of Puretec TankSafe™. Replace the sump and slowly turn on the water supply.
3. At a water outlet, run the water. Repeat this for all faucets, toilets, shower heads,

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refrigerators outdoor taps, the washing machine, dishwasher, etc. at the home or facility. This solution should be left in the pipe work for at least an hour and preferably overnight.

4. Reinstall the filter cartridge into the sump and flush the TankSafe™ by opening all faucets for at least 10 minutes. Your home has now been completely disinfected with your Puretec UV system ready to inactivate any microorganisms that enter the home.

Cleaning the Quartz Sleeve

Depending on the water quality, the quartz sleeve may require periodic cleaning. At a minimum, the quartz sleeve should be cleaned on an annual basis. The following steps outline a basic cleaning procedure.

1. If a by-pass assembly is installed, shut the inlet valve off to prevent water flow through the system. Otherwise, turn off main water inlet valve (and/or turn off the water pump).
2. Disconnect power cord of UV system from electrical outlet.
3. Release water pressure by opening a downstream faucet and then close the outlet shut-off valve (if any). If there is no outlet shut-off valve, expect water to drain from the system as the head pressure in the system will cause the water to flow back down.
4. Remove the captive ground screw from the ground lug on the UV chamber.
5. Remove the lamp connector from the UV chamber (gland nut) by pushing the lamp connector in and turning it ¼ turn counter-clockwise. Disconnect the lamp connector from the lamp.

   CAUTION: the lamp may be hot!
6. Being careful to touch only the ceramic ends, remove the lamp out of the UV chamber.
7. Unscrew the gland nut from the UV chamber exposing the end of the quartz sleeve.
8. Remove the quartz sleeve and o-ring by gently twisting and pulling the quartz sleeve.
9. Using a soft, lint-free cloth or towel wipe the sleeve down using a commercial scale cleaner (i.e. Puretec SC1000). This removes scaling or iron deposits that may be on the outside of the quartz sleeve. Be careful not to get any moisture or liquids inside of the sleeve.
10. Dry the sleeve with a fresh cloth.
11. Replace the o-ring and slide the sleeve back into the reactor following steps 7 and 8 from the installation section of the manual.

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Cleaning the UV Sensor

Depending on the water quality, the UV sensor may require periodic cleaning. At a minimum, the UV sensor should be cleaning on an annual basis. The following steps outline a basic cleaning procedure.

1. If a bypass assembly is installed, shut the inlet valve off to prevent water flow through the system. Otherwise, turn off main water inlet valve (and/or turn off the water pump).
2. Disconnect power cord of UV system from electrical outlet.
3. Release water pressure by opening a downstream faucet and then close the outlet shut-off valve (if any). If there is no outlet shut-off valve, expect water to drain from the system as the head pressure in the system will cause the water to flow back down.
4. Place something under the reactor to catch any water that may come out of the UV chamber during the removal of the UV sensor.
5. Unscrew (counter-clockwise) sensor nut from the UV chamber and pull the sensor slowly out of the sensor port.
6. Holding the sensor in your hand wipe the flat portion (sensor face) of the sensor with isopropyl alcohol using a clean lint-free cloth.
7. Replace sensor following step 9 from the installation section of the manual.

Operation

Puretec systems come with a feature laden controller that incorporates both the lamp driver (ballast) and control features in one water-tight case. Two controllers are available for the Puretec systems (depending on your model). Models feature a power factor corrected, constant current lamp driver with a universal power input.

NOTE: While the screen is red and the buzzer is sounding the water from the system should NOT be consumed. If any water does pass through the system during this period, please follow the disinfection procedure as outlined in this manual before the water is consumed.

For Puretec standard UV systems, even though they have a visual and audible warning built into the controller, a green status screen does not necessarily indicate that the water coming from this system is in fact potable (safe to drink). These systems do not measure the level of disinfection; they simply measure the “on-off” status of the lamp. Please have your water checked for microbiological contaminants on a regular basis.

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Controllers

A full colour LCD screen provides the user with a detailed description of the system's performance in addition to providing any applicable fault messages and system diagnostics.

The Puretec RI-17KA includes a UV intensity monitor, but all controllers include an "infinite expandability port" located on the right side of the controller. Simply plug in an optional UV sensor module into the expandability port of a standard controller and the system will now monitor the UV intensity of the system!

RI-6K

RI-10K
RI-17K
RI-17KA

Power-up Sequence

On start up, the controller will run through a diagnostic start-up and the sequence will be displayed as follows on the colour LCD:

Next, the controller checks for and initializes any optional modules that may be attached to the system.

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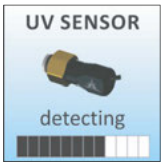
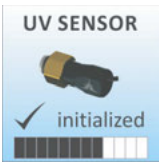
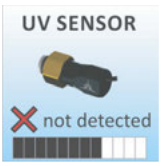
Optional Modules Check

UV Sensor
Solenoid
4-20 mA
WIFI
Remote Alarm
Flow Meter





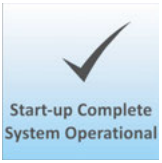


A final module screen is displayed showing which specific modules were initialised.

The controller then displays the lamp optimisation screen for 60 seconds to allow the lamp to reach its optimum output. Finally, a final “start-up complete” screen is displayed. The system will now be ready to disinfect water flow.

All Detected Models

Lamp Reaching Max Output



Successful Start-up

Operational Screens

On systems without the UV monitor, the default screen shows the Puretec Home Screen. At any point during operation the user is able to scroll through the Puretec Home Screen, Lamp life remaining, QR Code, Contact Info and Maintenance Parts screens by pressing the button located on the front of the controller.

RI-6K, 6KA

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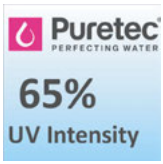
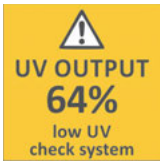
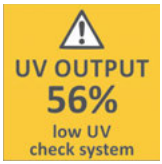
RI-10K, RI-10KA, RI-17K & RI-17KA

RI-17KA Operational Screens

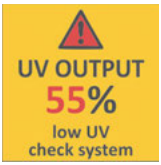
On systems with the UV monitor, the system will display the same screens as on the Puretec standard RI systems except the UV Intensity replaces the home screen. The UV Intensity screen displays the level of UV light detected by the sensor. UV intensity can be affected by poor water quality, scaling on the quartz sleeve and/or sensor, lamp failure or lamp expiring. The following screens show the UV Intensity dropping.



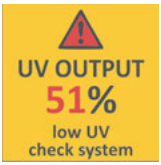




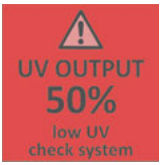
Below 56%, the numbers and warning sign turn red and an audible chirp is given by the ballast every 15 seconds. Below 51%, the screen is solid red and a constant audible alarm is given. This alternates with a screen indicating “water may be unsafe for consumption”. With the solenoid module, the controller de-activates the solenoid valve, shutting off all water flow.



Audible Chirp
Every 15 Seconds



Audible Chirp
Every 15 Seconds



Constant Audible
Alarm

Cycles With Red
Low UV Screen

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Lamp Countdown Sequence

The system counts down the number of days until a lamp change is required.

At thirty days remaining, the screen will change to a yellow caution indicator. At seven days remaining, the system will additionally repeat an audible chirp. Past the zero day threshold, the screen changes to solid red with a continuous buzzer.

The audible chirp or alarm can be deferred for seven days by holding the controller button down for a period of five seconds. The number of deferrals used will be displayed as below. Once the deferral expires, the alarm will sound once again. The deferral can be repeated up to three times.

NOTE: At any point after lamp expiration, the water may be unsafe for consumption and should not be consumed without another form of disinfection.

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System Service Suggested

Controllers will display the System Service Suggested Screen every 6 months to remind consumers to maintain both their UV and other pre-filtration. This will serve as a prompt only and will not put the system into alarm. To clear this condition simply press the button located below the screen.

Lamp Replacement

After the lamp is expired, it must be replaced with the same part number as indicated on the Maintenance Parts screen or on the label on the reactor. With the system powered down, remove and discard the lamp key from the controller. The replacement lamp is packaged with a lamp key on the connector at the end of the lamp. Remove the key from the lamp and place it in the controller. Refer to Installation for instructions on installing the new lamp.

QR Codes

Puretec uses the QR code to store a link to a specific page on our website. Camera phones equipped with the correct reader application can scan the image of the QR code and connect to a Puretec web page. Puretec's QR web page has information on how to purchase replacement components as well as a helpful video directory on system servicing (i.e. How to change a UV lamp or quartz sleeve).

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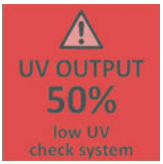
Troubleshooting

Hard Alarms: The following give a constant audible alarm. If present, the solenoid valve is closed, and the 4-20, remote alarm and WiFi modules transmit the alarm.

System Display	Problem	Resolution
	The system has detected a problem with the lamp.	Reset lamp protection circuit - unplug unit for 10 seconds. Replace the lamp with the part as indicated on the silver label on the UV chamber or on the maintenance parts screen.
	Although the lamp is powered and visibly illuminated, due to the lamp's age its UV output is no longer sufficient for proper disinfection.	Replace the lamp with the part as indicated on the silver label on the UV chamber or on the maintenance parts screen.
	Low UV intensity.	Remove and clean the quartz sleeve and sensor. Check water quality meets requirements on page 5 and add filtration as required. Replace lamp.
	Wrong lamp or sensor installed.	Replace component with proper model as indicated.
	The UV sensor is no longer communicating with the system.	Ensure all modules are connected properly to the system and to each other. Modules can be tested individually by plugging in one at a time and cycling power to the system. Replace any module that is not detected when plugged directly into the controller.
	A bad connection has been detected in the IEP port.	

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System Display	Problem	Resolution
 	Missing or incorrect lamp key.	Ensure the lamp key (packed with the lamp, on the connector) is installed. Unplug and reinstall the key. Ensure the key part number matches Lamp on Maintenance Parts screen.
   	The module indicated is no longer communicating to with the system.	Ensure all modules are connected properly to the system and to each other. Modules can be tested individually by plugging in one at a time and cycling power to the system. Replace any module that is not detected when plugged directly into the controller.
 	Refer to flow meter manual for detailed troubleshooting.	

Warning: After any hard alarm, the home or facility should be disinfected. Follow the steps under the “System Disinfection” heading.

Boil Water Advisory: If any failure occurs on a Puretec UV system, the water must not be used for human consumption until the system is returned to a safe operational mode. If the water is used for human consumption during this period, the water must be boiled (minimum 20 minutes at a full boil) prior to consumption.

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Temperature Management Devices

Your Puretec UV system is designed to run continuously to ensure optimal disinfection. However during periods when no water is drawn through the system, the energy from the disinfection process can cause the temperature of the water inside the chamber to rise. In extreme situations elevated water temperature or the fluctuation in temperature can lower the output of the UV lamp. In these cases, or if the elevated water temperature is a nuisance,

Puretec recommends one of the following forms of temperature management devices.

Cooling Fan

Designed for use on the Puretec HO systems, the fan runs continuously to cool the water by forced convection. The long-life fan is powered independently using a compact modular power adapter that operates from 90-265V (47-63Hz). Order **RI-FAN**.

Temperature Relief Valve (TRV)

On reaching a higher temperature, the TRV is designed to drain a small amount of water to allow fresh, cooler water to enter the system. The TRV works without power and comes complete with 10' of drain line. Order **RI-TMS1** for 1/2" ports, **RI-TMS2** for 3/4" ports, **RI-TMS4** for 1" ports and **RI-TMS5** for 1 1/2" ports.

Expansion Modules

Puretec controllers incorporate an "Infinite Expandability Port" (IEP) which allows for expansion to the UV sensor and all other modules. Each module (including the sensor) comes with both a male and female connection. Connect any device to the controller and all subsequent devices are then connected into the female end of last device added in a "daisy chain" configuration.

The following optional expansion modules are available for use on Puretec UV controllers. Contact your authorised distributor for purchasing information.

Remote Alarm Connection Module

Allows for a connection to a remote device such as a buzzer, light, alarm system, PLC, etc via a pair of contacts. In normal operation the OK and COM contacts will be connected, and in a fault condition (Low UV, Lamp fail, Power Fail), the Fault and COM contacts will be connected. Maximum Contact Rating is 30V / 1A (use 16-22 AWG). Order **RI-VFC**.

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Solenoid Connection Module

Connects a normally closed line voltage solenoid valve to the controller. Maximum contact rating is 240VAC (50-60Hz) / 30VDC / 2A. On a monitored system, the solenoid is closed when the UV level drops below 50%. Also note that in cases where emergency use of untreated water is required, the controller can be placed into a manual override mode allowing for the flow of water in an alarm condition. Order **RI-SOL**.

4-20 mA Module

Outputs a 4-20mA signal of the UV output to a remote device such as a data logger or computer. Order **RI-MOD420**.

WiFi Module

The WiFi module and accompanying IoT application allows you to connect your UV system to a smart phone, tablet, computer or other connected platform. View system status, receive SMS or email messages of alarm conditions and monitor the health of your UV from anywhere via this connected platform. Connect the device via the APP found on Google Play or the APP Store and connect your UV device to your router, then download the software for your connected device and have peace of mind that your UV system is providing safe, reliable disinfection. Order **MOD-APP**.

Ultrasonic Flow Meter Module

The ultrasonic flow meter module ensures your UV runs as efficiently and effectively as possible. By harnessing the power of ultrasonic waves, it enables your UV system to dim power in times of low to no flow, saving you money on energy, reducing water temperature, and decreasing the risk of fouling.

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Standard System Specifications

Model	RI-6K	RI-10K	RI-17K
Flow Rate 16mj/cm² @ 95% UVT:	30 gpm	47 gpm	78 gpm
	110 lpm	178 lpm	295lpm
	6.8 m³/hr	10.7 m³/hr	17.7 m³/hr
Flow Rate 30 mJ/cm² @ 95% UVT:	15 gpm	25 gpm	40 gpm
	57 lpm	95 lpm	151 lpm
	3.4 m³/hr	5.7 m³/hr	9.3 m³/hr
Flow Rate 40 mJ/cm² @ 95% UVT:	12 gpm	19 gpm	31 gpm
	45 lpm	72 lpm	120 lpm
	2.7 m³/hr	4.3 m³/hr	7.0 m³/hr
Port Size:	1" MNPT	1" MNPT	1" MNPT
Electrical:	90 - 265 V / 50 - 60Hz. 1A Max.	90 - 265 V / 50 - 60Hz. 1.5A Max.	90 - 265 V / 50 - 60Hz. 1.5A Max.
Plug Type:	Australian/New Zealand: AS/NZ 3112, 3 wire for all 230V systems		
Lamp Power (Watts):	50	67	101
Power (Watts):	62	72	108
Replacement Lamp:	RL5K	RL10K	RL17K
Replacement Sleeve:	RQS6K	RQS10K	RQS17K
Chamber Material:	304 Stainless Steel, A249 Pressure Rated Tubing	316L Stainless Steel, A249 Pressure Rated Tubing	316L Stainless Steel, A249 Pressure Rated Tubing
UV Chamber Dimensions:	64 x 1016 mm	89 x 683 mm	89 x 1034 mm
Controller Dimensions:	172 x 92 x 102 mm	217 x 108 x 102 mm	217 x 108 x 102 mm
Operating Pressure:	70 - 1030 kPa		
Operating Water Temp:	0 - 40°C (protect from freezing)		
UV Monitor:	RI-SEN1 (sold separately)	RI-SEN2 (sold separately)	RI-SEN2 (sold separately)
Solenoid Output:	Solenoid Module RI-SOL (sold separately)		
Dry Contacts:	Remote Alarm Module RI-VFC (sold separately)		
4-20mA Output:	4-20mA Module RI-MOD420 (sold separately)		
Temperature Mgmt. Valve:	RI-TMS4	RI-TMS4	RI-TMS5
Optional Cooling Fan:	-	RI-FAN (sold separately)	RI-FAN (sold separately)
Lamp Change Reminder:	YES		
Lamp Out Indicator:	YES		
Shipping Weight:	8 kg	7.3 kg	9.8 kg

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RI-17KA System Specifications

Model	RI-17KA
NSF Class A Flow Rate 40mj/cm² @ 70% UVT:	18 gpm
	68.1 lpm
	4.08 m³/hr
Flow Restrictor:	Integral
Port Size:	1 ½" MNPT
Electrical:	90 - 265 V / 50 - 60Hz. 1.5A Max.
Plug Type:	Australian/New Zealand: AS/NZ 3112, 3 wire for all 230V systems
Lamp Power (Watts):	101
Power (Watts):	108
Replacement Lamp:	RL17K
Replacement Sleeve:	RQS17K
Chamber Material:	316L Stainless Steel, A249 Pressure Rated Tubing
UV Chamber Dimensions:	89 x 1034 mm
Controller Dimensions:	217 x 108 x 102 mm
Operating Pressure:	70 - 1030 kPa
Operating Water Temp:	0 - 40°C (protect from freezing)
UV Monitor:	RI-SEN2V
Solenoid Output:	Solenoid Module RI-SOL (sold separately)
Dry Contacts:	Remote Alarm Module RI-VFC (sold separately)
4-20mA Output:	4-20mA Module RI-MOD420 (sold separately)
Temperature Management Valve:	RI-TMS4 (sold separately)
Optional Cooling Fan:	RI-FAN (sold separately)
Lamp Change Reminder:	YES
Lamp Out Indicator:	YES
Shipping Weight:	9.8 kg

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Performance Data Sheet
NSF / ANSI Standard 55, Class A Systems (RI-17KA)

System Tested and Certified by
NSF International against CSA B483.1 and NSF/ANSI 55
for Disinfection Performance, Class A

Model	RI-17KA
NSF Class A Flow Rate (40mJ/cm2 @ 70% UVT)	18 gpm
	68.1 lpm
	4.08 m³/hr
Port Size:	1½" MNPT
Electrical:	90-265V/50-60Hz. 1.5A Max
Operating Pressure:	0.7-10.3 bar (10-150 psi)
Operating Water Pressure:	2-40° C (36-104° F)

Lamp Life: UV lamps are rated for 10,000 hours of continuous use (approximately 14 months of operation).

General Operation and Maintenance: UV lamps are to be replaced on an annual basis. Quartz sleeves and UV sensors are to be cleaned every 6 - 12 months and replaced every 5 years.

This Class A system conforms to NSF/ANSI 55 for the disinfection of microbiologically contaminated water that meets all other public health standards. The system is not intended to convert wastewater or raw sewage to drinking water. The system is intended to be installed on visually clear water.

NSF/ANSI 55 defines wastewater to include human and/or animal body waste, toilet paper, and any other material intended to be deposited in a receptacle designed to receive urine and/or feces (blackwaste), and other waste materials deposited in plumbing fixtures (greywaste).

If this system is used for the treatment of untreated surface waters or ground water under the direct influence of surface water, a device found to be in conformance for cyst reduction under the appropriate NSF/ANSI standard shall be installed upstream of the system.

While testing was performed under standard laboratory conditions, actual performance may vary.

The systems and installation shall comply with applicable provincial/state and local regulations.

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Warranty

Any claim under this warranty must be made within 2 years of the date of purchase of the product. This product is warranted to be free of defect of material and workmanship for 2 years from date of purchase. To make a claim under the warranty, take the product and proof of purchase to place where you purchased the product, and they will lodge a Warranty Request with Puretec. 2 year warranty is 1 year parts and labour, plus 1 year parts only. Excludes consumables.

Puretec will pay your reasonable, direct expenses of claiming under this warranty. You may submit details and proof of your expense claim to place of purchase for consideration.

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 manufacturer shall in no circumstance be held liable for damages consequential or otherwise or delays caused or faulty manufacturing except as excluded by law.

Applicable to all above, is that the warranties need to be approved by Puretec to ensure product was not incorrectly used, installed or claimed. False and incorrect claims will be pursued at Puretec's discretion, including chargeable inspection and labour costs incurred.

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Warranty/Australia

This warranty is given by Puretec Pty Ltd, ABN 44 164 806 688, 37-43 Brodie Road, Lonsdale SA 5160, telephone no. 1300 140 140 and email at sales@puretec.com.au.

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for 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.

Warranty/New Zealand

This warranty is given by Puretec Ltd, Reg. No 4464398, PO Box 875 Cambridge 3450 NZ, telephone no. 0800 130 140 and email at sales@puretec.co.nz.

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Consumer Guarantees Act. You are entitled to replacement or refund for a major failure and to compensation for 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.

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