

# **Commercial Ultraviolet Water Steriliser**

## **INSTRUCTIONS FOR INSTALLATION AND USE**

All TMC Commercial Ultraviolet Water Sterilisers are supplied with solvent weld unions to allow easy connection to any existing pipework. We recommend that a by-pass system is plumbed in with the installation of the UV unit to simplify any maintenance. All units are supplied with 55 watt lamps except in the USA where 30 watt lamps are supplied as standard.

For all countries using imperial specification plumbing the units are supplied with 2" solvent weld sockets. All units from Model P4 upwards are supplied with 2" solvent weld unions.

For countries using metric specification plumbing the units are supplied with 2" x 63mm solvent weld sockets to convert from imperial to metric. For the USA using 30 watt lamps all units up to P6 are supplied with 1.5" solvent weld unions. All units larger than P6 are supplied with 2" solvent weld unions.

## **IMPORTANT SAFETY INFORMATION PLEASE READ CAREFULLY**

- All units must be mounted with the lamps in a horizontal position. Under no circumstances must any unit be mounted with the lamps in a vertical position. If mounted with lamps in a vertical position there is a real risk of air being trapped allowing the unit to overheat, resulting in damage to the white plastic body.
- Never look directly at an illuminated UV lamp.
- Do not run the unit dry.
- Always isolate the unit from mains electricity and turn off the water supply before carrying out any maintenance.
- Always disconnect from mains supply before putting your hands into the water.
- We strongly recommend the use of an Earth Leakage Circuit Breaker (ELCB).
- This unit must be earthed. Never use a fuse larger than 3 amps.
- Rating 220 – 240v 50Hz. Class 1. IP64.
- This unit must not be submerged in water.
- This unit must be either fully frost protected or taken inside during the winter months.
- To prevent this unit falling into water do not install it above or immediately alongside the system.

## **CONNECTION TO ELECTRICAL SUPPLY**

If in doubt consult a qualified electrician.

**Caution:** Use in the area of your system only if the installation complies with the relevant wiring regulations. Please consult a qualified electrician.

**Caution:** Always disconnect the UV unit from the mains electricity supply before putting your hands into the water.

**Caution:** We strongly recommend the use of an Earth Leakage Circuit Breaker (ELCB).

All electrical installations and wiring must be adequately protected to prevent any damage. This unit is fitted with 5 metres of cable. For safety, this unit must be connected to permanent wiring. To prevent the unit inadvertently falling into the system we strongly recommend that it be securely positioned at least 2 metres from the edge of the body of water. Any flexible cabling used between the unit and the permanent wiring should also be kept to a minimum length. We recommend a maximum length of 1.5 metres.

A switch with 3mm contact separation must be provided in the fixed wiring to provide disconnection from the electricity supply.

### **INTERNAL FUSE REPLACEMENT**

Always isolate from mains supply before undertaking any maintenance. Use only a 3 amp fuse.

### **ROUTINE MAINTENANCE PROCEDURE**

#### **IMPORTANT SAFETY INFORMATION - PLEASE READ CAREFULLY**

- Never look directly at an illuminated UV lamp.
- Always isolate from mains electrical supply and isolate the water supply prior to carrying out any maintenance.
- If the quartz sleeve is accidentally cracked it must be replaced before reconnecting either the electrical supply or the water supply. If you do not have a replacement quartz sleeve then use the two blue blanking plugs supplied with the unit to close off the ends of that particular tube. Only do this once the broken quartz sleeve has been removed.

### **HALF YEARLY MAINTENANCE**

All maintenance must only be undertaken by trained and competent staff.

The UV lamps should be changed at six monthly (approximately 4000 hours) intervals if a higher UV efficiency is required. Should the lamps only be changed at annual intervals (approximately 8000 hours) there will be a depreciation of 15% UV efficiency over a one year period.

## **PROCEDURE:**

Isolate the ultraviolet steriliser from the electrical supply at the control panel.

Isolate the ultraviolet steriliser from the water supply by closing any utility valves fitted.

Drain the water from the unit by opening the drainage tap (orange bib tap) located on the bottom support bar of the unit. Wall mounted units are not fitted with a drainage tap.

Carefully remove the numbered black lamp end cap from the lamp. Repeat this procedure at the opposite end of the same lamp assembly.

Carefully slide out the used UV lamp ensuring that no pressure is applied to the quartz sleeve.

Unscrew the compression fitting at either end of the lamp assembly.

Remove the 'O' ring at either end of the quartz sleeve assembly.

**NOTE:** If water pours out of the unit at this stage then the unit has either not been isolated from the system or not drained prior to commencing the maintenance procedure.

Remove the 'O' rings and discard them. New 'O' rings should be used at each service interval.

After removing the 'O' ring carefully slide out the quartz sleeve. Clean the quartz sleeve by washing in warm soapy water. Rinse it thoroughly in fresh water and then dry and polish it using a paper towel.

**NOTE:** If the quartz sleeve has calcified with limescale deposits from the water it should be cleaned with a proprietary plastic kettle descaling solution, following the manufacturer's recommendations. Plastic gloves and eye protection should be worn for this process. The quartz sleeve should be rinsed in fresh water, dried and polished with a paper towel.

To reassemble the unit reverse the above procedure by carefully sliding the quartz sleeve back into the plastic housing and locating it correctly. Slide the new 'O' rings over either end of the quartz sleeve and locate them into the 'O' ring recess on the main casing.

Ensure that the female threads on the compression fitting and the male threads on the main plastic body are clean. Wipe a little silicon grease or Vaseline (NOT silicon sealant) onto these threads. As these threads are only serviced twice a year this lubrication will help prevent them binding. Then replace and firmly hand tighten the compression fittings.

**NOTE:** The compression fitting must be adequately tightened onto the 'O' ring and quartz sleeve or the unit will leak water when reconnected to the main system.

Once all the quartz sleeves, 'O' rings and compression fittings have been reassembled the drainage tap at the base of the unit must be closed and any utility valves must be opened. At this point check each assembly and ensure there are no water leaks. If water is leaking from any of the assemblies then the unit must be drained down again following the procedure above. At the points where water is leaking the quartz sleeve must be checked to ensure it has not been damaged and the 'O' ring must be checked to ensure it is positioned correctly. Also ensure that the compression fitting has been tightened correctly.

Assuming there are no water leaks, slide the new UV lamp into the quartz sleeve and replace the correct lamp end cap onto each lamp. Each end cap has a unique number that refers to each lamp. It is critical that the correct lamp end cap is fitted to the appropriate lamp.

Once all the lamps have been connected the UV steriliser unit should be turned back on at the control panel. Each lamp should be checked to ensure that it is working. Only view the lamp through the plastic locknut compression fitting - NEVER look directly at an exposed UV lamp.

Always ensure that water is circulating through the UV steriliser before the lamps are turned back on.

## **IMPORTANT**

The plastic body of this unit has been manufactured from polymers that have been specifically stabilised to protect them from the effects of germicidal UVC emitted from the UV lamp. Despite this UV protection the unit will be eroded by a combination of the UVC and water flow. As a matter of course it should be inspected whenever a lamp change is carried out, to ensure that it is not showing excessive wear and tear. Replacement parts are available from our Chorleywood factory.