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INSTALLATION AND MAINTENANCE MANUAL FOR

ADVANCE UV SYSTEMS PTY LTD

ADVANCE C4500™ and ADVANCE C5500™

GENERAL SAFETY INSTRUCTIONS

- Use the UV system only for the intended purpose as described in this manual.
- Correctly install your ADVANCE C series UV disinfection system as per instructions in this manual.
- Do not use an ADVANCE UV disinfection system with damaged electrical cable/plug/switch.
- Make sure that the ADVANCE UV system is unplugged when it is not being used, before installation, or removing any parts, and before servicing the unit.
- Depressurize and drain the ADVANCE UV system before maintenance.
- Do not operate the UV lamp outside of the UV disinfection reactor as UV radiation can cause serious damage to eyes and skin.
- Only Advance UV Systems Pty Ltd spare parts should be used to ensure proper operation and performance.

INSTALLATION AND PLANNING

Please check the following conditions will be met before installation.

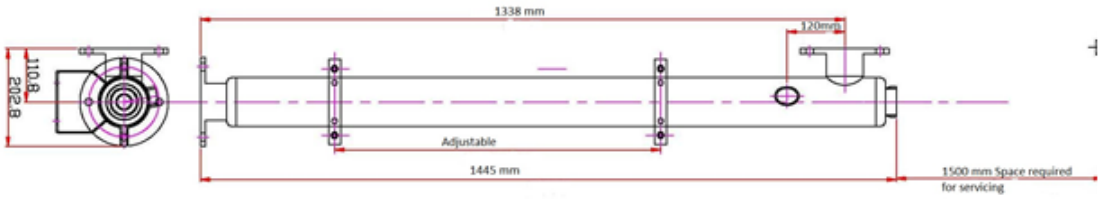
- Maximum operating pressure must not exceed 10 bar (1000 kPa).
- Maximum ambient temperature should not exceed 40°C.
- Maximum water temperature should not exceed 65°C (seek advice from your supplier).
- The UV reactor should be installed so that is remains full of water at all times while the UV lamp is operating.
- If there are going to be extended periods with no flow then, there should be over-temperature mitigation installed to prevent overheating (seek advice from your supplier).
- Ensure there is sufficient space available to remove the UV lamp and quartz thimble during servicing.
- If there is a risk of water hammer then precautions need to be taken to prevent water hammer from damaging the quartz thimble, such as installing a water hammer arrestor.

Installing the Stainless Steel Reactor:

- The reactor vessel or chamber, comes with brackets for mounting the unit on a wall or frame.
- The reactor must be installed horizontally with the outlet pointing up. This orientation will ensure there will be no entrapped air in the chamber while there is flow.
- If there is a risk of water hammer then precautions need to be taken to prevent water hammer from damaging the quartz thimble.
- The weight of the chamber when filled with water must be taken into consideration when mounting the unit.
- The stainless steel chamber and any metal pipe-work must be properly earthed to ensure safe operation and eliminate the risk of electrolysis and corrosion.

Installing the Power Supply Box:

- The power supply box should be mounted above the reactor where it is protected from the weather and direct sunlight. Some of the power boxes are not suitable for outside installation.
- The standard lamp lead length is 2m. Please contact your supplier if you need longer lamp lead.
- The stainless steel chamber and any metal pipe-work must be properly earthed to ensure safe operation and eliminate the risk of electrolysis and corrosion.

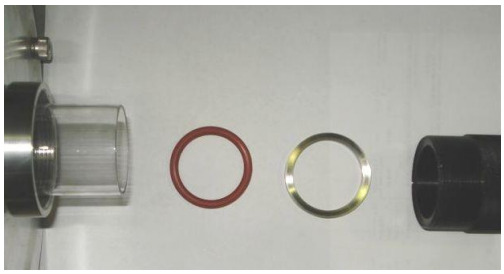
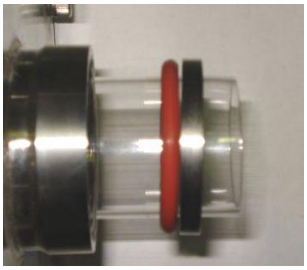
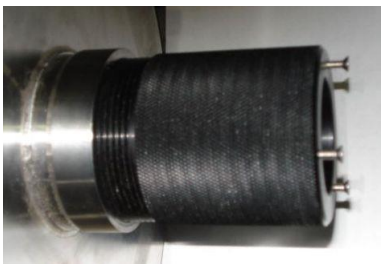


REACTOR ASSEMBLY

Quartz Thimble Installation:

Care should be taken when handling the quartz thimble. It breaks in the same way glass does and will have dangerous sharp edges if broken. It must be cleaned with methylated spirits to remove any finger marks or grease before installation.

- Unscrew the sealing nut from the end of the chamber and remove the O ring as well.
- Remove Quartz thimble from its protective wrapping & wipe down with soft tissue/cloth soaked in methylated spirits or alcohol solution to remove any deposits on the quartz.
- Take a new O ring place it around the open end of quartz thimble, 15 mm from top..
- Slide the quartz thimble (closed end first) slowly through the opening of the UV disinfection chamber, ensuring that no marks are left on the quartz as it is inserted. For the ADVANCE C4500 the quartz will locate itself in the support at the far end of the chamber. For the ADVANCE C5500 you will need to carefully locate the quartz in the support cup at the far end of the chamber. You will need to insert some pvc pipe inside the quartz thimble to help you locate the quartz in its support cup.

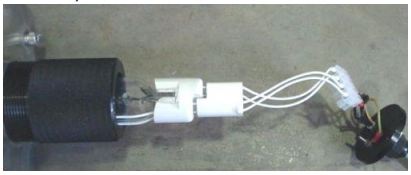




- Then place the SS compression ring against the O ring ensuring the chamfered side of the SS compression ring is against the O ring
- With the quartz thimble located in its support at the far end of the chamber and the O ring and compression ring in place, take the sealing nut at screw it carefully into place in its socket on the end of the disinfection chamber and begin to tighten down on the SS compression ring and O ring seal (clockwise direction). Once you feel some resistance as the O ring meets its seat, you should only be able to give a maximum of 1 turn, any greater pressure could result in damage to the quartz thimble. Very firm hand tightness should be sufficient
- The UV lamp can now be installed in the reactor.

UV Lamp Installation:

Care should be taken when handling the UV lamp. It breaks in the same way glass does and will have dangerous sharp edges if broken. The UV lamp also contains mercury which will need to be collected and disposed of in accordance with regulatory requirements.

- Taking great care, remove the UV lamp from its protective wrapping and wipe down with soft tissue / cloth soaked in methylated spirits or similar and dry with a clean cloth. Do not leave any finger marks on the lamp..
- Only handle the clean lamp with clean cloth gloves or tissues to prevent any markings on the lamp.
- Insert the UV lamp into the quartz thimble through the power head assembly and push the UV lamp up into the chamber. IMPORTANT: if the chamber is vertical then the UV lamp must be held securely at all times until the lamp is in place and there needs to be a lamp support spring inside the quartz sleeve to minimize the risk of the UV lamp damaging the quartz thimble. If the UV lamp is dropped into the quartz thimble, then both the thimble and the UV lamp may break.


- Keeping a firm hold of the lamp, push the connector onto the lamp so there is no gap between the connector and the lamp.

- Push the lamp all the way into the chamber as far as it will go, and then secure the end cap in place with the three screws provided.

The UV unit is now ready for operation. Slowly open the inlet valve to the UV unit, to allow water into the chamber. Be careful to open the valve slowly to prevent any hammering due to air in the line. You may then plug the unit into a power point and switch it on and allow the UV lamp to warm up for 3 minutes. Then carefully and slowly open the outlet valve to allow flow through the UV unit. The valves need to be opened slowly to prevent hammering due to any entrapped air.

SERVICING

Servicing should be carried out by a qualified and competent service technician.
The UV unit must be switched off electrically isolated as well as being hydraulically isolated and depressurized before servicing.

Servicing the UV Lamp:

- Ensure the unit has been switched off and isolated.
- The UV lamp may be very hot so allow 10 minutes for the lamp to cool down.
- Remove the three screws holding the end cap in place.
- Carefully remove the end cap by pulling on the lamp lead. The lamp will be attached to the lamp lead. Pull it out until the lamp end piece and the lamp connector are exposed.
- Disconnect the connector from the lamp. You may need a small screw driver to help lever them apart
- Completely remove the UV lamp from the reactor.
- Install new UV lamp as described in the 'REACTOR ASSEMBLY' section.

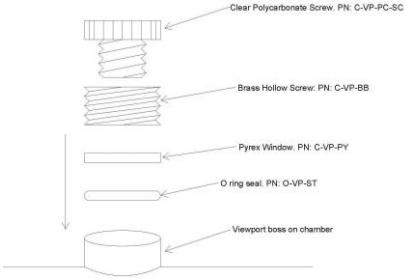
Servicing the Quartz Thimble:

- Remove the UV lamp as described in the section above- 'Servicing the UV Lamp'.
- Ensure the reactor is hydraulically isolated and depressurized. (Use the view port if necessary to depressurize the chamber)
- Unscrew the sealing nut from the chamber, taking care when reaching the end of the thread as the quartz will spring out when the threads become disengaged.
- Once the sealing nut is free from the chamber remove the quartz completely from the chamber. Take care when removing the quartz thimble as it will drop from the support at the far end of the chamber if it is not supported with some pvc pipe as you remove the quartz thimble.
- Wipe down the quartz thimble to remove any deposits. You may use detergents and scouring pad if necessary.
- Reinstall the quartz thimble, with a new O ring, as described in the 'REACTOR ASSEMBLY' section.

Servicing the View Port:

From time to time the O ring seal for the view port may need to be changed.

- Ensure the UV unit is switched off and electrically isolated as well as being hydraulically isolated and depressurized.
- Unscrew the clear polycarbonate screw from the hollow brass bush.
- Unscrew the hollow brass bush from the chamber.
- Carefully remove the Pyrex window.
- Remove and replace the O ring seal.
- Reassemble view port.



SPARE PARTS

Model	UV lamp	Quartz Thimble	O ring
ADV C4500	LL450-ST4	QD140043	O43-ST

GUARANTEE

Reactor

The stainless steel reactor is guaranteed for two years for faults with material and workmanship, provided it is installed and maintained in accordance with these instructions. This warranty does not cover installations where salt water passes through the reactor.

Power Supply Box

The power supply box is guaranteed for one year for faults with material and workmanship, provided it is installed and maintained in accordance with these instructions.

UV Lamp

The UV lamp is guaranteed for one year, pro-rata, for faults with material and workmanship, provided it is installed and maintained in accordance with these instructions. Lamp warranty will be void if the unit is switched on and off more than four times in a 24 hour period.