UV DISINFECTION UNIT MODEL 3G
INSTALLATION INSTRUCTIONS

Open and carefully unpack the shipping carton. Check for any damage that may have occurred during shipping. If there are any problems, contact your supplier immediately.

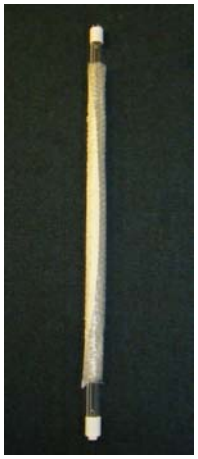
Inside the shipping carton you will find:

Riser Pipe

Disinfection Chamber

Quartz Sleeve Sub-assembly

White PVC Handle



UV Lamp

Control Box

Top Handle Threaded Adaptor

Control Box Cable Gland

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Contents List - Detailed

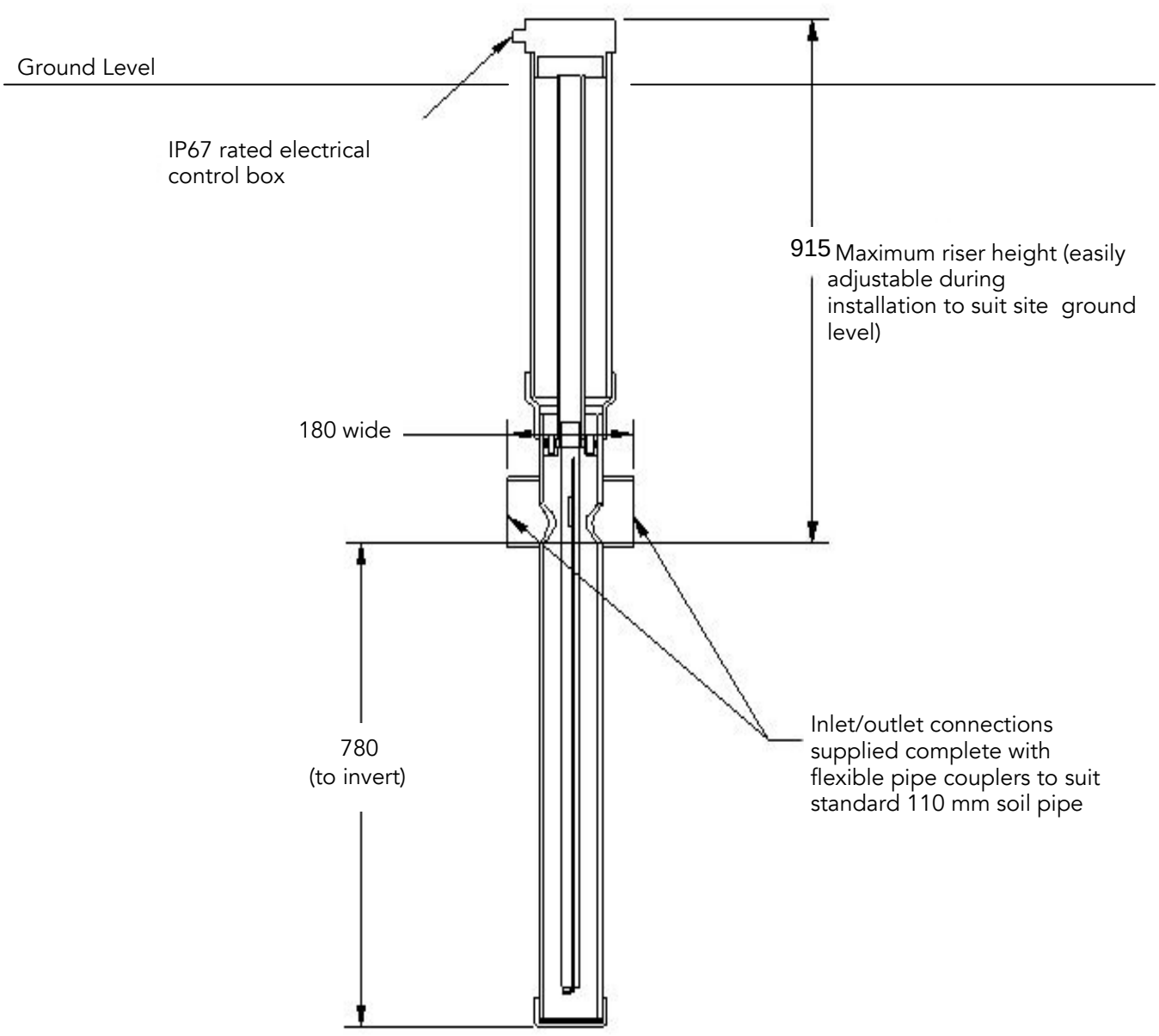
1. Riser pipe: 100 mm (4") diameter schedule 40 PVC pipe.
2. Disinfection chamber: 75 mm (3") diameter PVC pipe with 100 mm (4") inlet and outlet hubs.
3. Disinfection subassembly consisting of an anodised aluminium frame supporting a Teflon® sleeve containing a pure fused quartz tube. This complete item is packed inside the 75 mm disinfection chamber.
4. 25 mm (1") White PVC handle. This is used for inserting and removing the disinfection subassembly.
5. The UV lamp is packed inside the PVC handle. **REMOVE PROTECTIVE BUBBLE WRAP BEFORE USE.**
6. Electrical control box (IP67 rated) with pre-wired alarm board, electronic ballast, UV lamp connection cable & connections for incoming 230 V power.
7. Top handle PVC threaded adaptor (white) – packed in control box for shipping.
8. Water proof cable gland – packed in control box for shipping.
9. Two pipe couplings (photo not shown above).
10. Small pot of glycerine (not shown above) for lubricating the rubber seals on the anodised aluminium frame.

There will be some additional items needed for installation, which are:

1. PVC/ABS cement (glue)
2. PTFE (Plumbers) tape
3. Isopropyl alcohol or similar de-greasant
4. Power and Alarm Wires

A schematic drawing of the 3G unit is shown in figure 1 below.

Figure 1


Ground Level
IP67 rated electrical control box
915
Maximum riser height (easily adjustable during installation to suit site ground level)
180 wide
780
(to invert)
Inlet/outlet connections supplied complete with flexible pipe couplers to suit standard 110 mm soil pipe

INSTALLATION OPTIONS

1. Buried in the ground: using the supplied flexible couplers, couple the UV unit into the effluent carrying pipework and backfill.
2. In a Pump Tank: couple the UV unit inlet pipe to the pre-treatment unit exit pipe at the entrance of the pump tank.

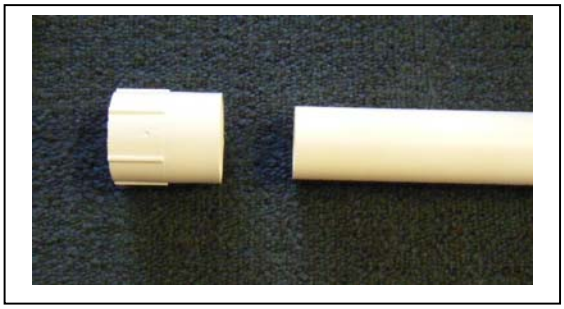
Note: The electrical control box should be located above ground level. If this poses a problem with lawn mowers, etc., then the box can be placed below ground level in a suitable chamber or access box.

The control box is IP67 rated i.e. is suitable for immersion underwater to a depth of upto 1 m. To be safe, however, the junction box should be protected from flooding.

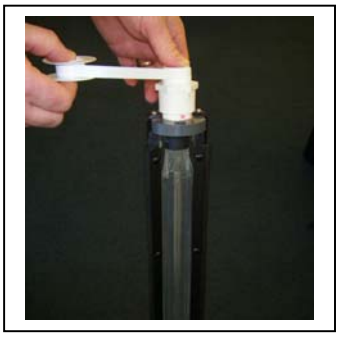
For in-pump tank installations, care should be taken to prevent flooding of the control box.

DETAILED INSTALLATION STEPS

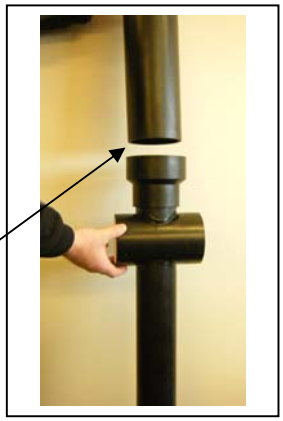
1. To ensure the correct height of the control box, dry assemble the unit (i.e. without glue) and fit to the site pipework. Cut down the riser pipe if necessary to suit the required final position of the control box. The white lamp handle should now be cut down to be 100 – 150 mm below the top of the riser pipe and the top handle PVC threaded adaptor should be glued onto the cut end of the handle and allowed to dry.



2. Attach one of the threaded ends of the white PVC lamp handle to the threaded nipple on the upper end of the disinfection subassembly (which is packed inside the disinfection chamber). PTFE tape should be used to seal the threads. Then remove the disinfection subassembly by gently pulling the handle away from the UV disinfection chamber.



3. Bond the riser pipe to the disinfection chamber & allow the glue to set (upto 30 minutes). Usually, after a few minutes, the glue is sufficiently dry to allow light, careful, handling.

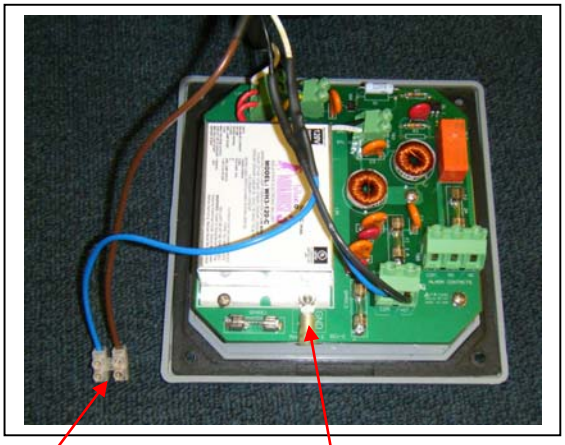


4. Connect the UV disinfection chamber inlet/outlet pipe stubs to the upstream and downstream effluent carrying pipework. Use the flexible connectors supplied with the unit (or other suitable connectors). The unit is symmetrical and either port can be used as the inlet (or outlet).

5. Inspect the disinfection subassembly. Use a soft clean cloth and isopropyl alcohol (or similar de-greasant) to gently clean the Teflon® cover and remove any fingerprints. Then lubricate the rubber side gaskets with either water, glycerine or other water based lubricant. **Note: Do not use silicone or petroleum based lubricants on the side seals.**

6. Slide the disinfection subassembly through the riser pipe into the disinfection chamber using the white PVC handle. Make sure that the subassembly is at right angles to the inlet and outlet pipes, and that the holes on the upper hub of the subassembly lock onto the two pins in the disinfection chamber. The orientation of the frame is very important for successful UV unit operation.

7. 3G units are designed to operate on 230 V AC, 50 or 60 Hz single-phase electricity. The unit consumes a maximum of 45W. A dedicated 3 - 5 amp circuit breaker on the main electrical supply should be used for service to the UV unit. We also recommend that the unit be protected by an RCD (Residual Current Device) or as applicable to your local electrical regulations.



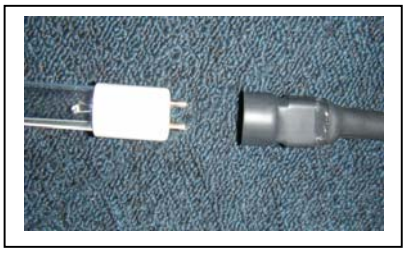
8. The electrical junction wiring is shown on page 8. Power/earth and alarm wires are fed into the junction box through the supplied watertight cable gland. Only the lamp connection wire goes through the pre-fitted cable gland in the bottom of the control box.

9. The power/earth and alarm wires can come through the wall of the control box from any side or through the bottom of the box. The installer is responsible for ensuring that the cable gland connection to the junction box is ***WATERTIGHT***.

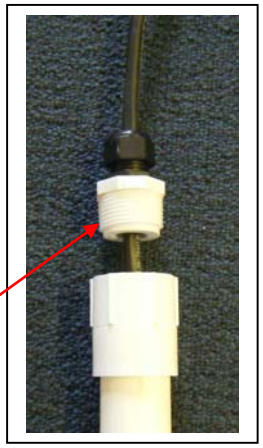
10. The incoming power connection point/terminal block is shown above.

11. The alarm contacts are compatible with both normally open (N/O) and normally closed (N/C) external alarm units (furnished by others). Note: N/O means the contacts are ***OPEN*** when there is ***NO POWER*** to the alarm board relay. The contacts are rated for upto 2 A at 240V. Select the 'common' contact terminal and then the N/C or N/O contact that complies with the receiving alarm panel circuit.

12. The lamp connection cable gland on the underside of the control box should be tightened to a suitable level to prevent water ingress. Attach the four pin connector of the lamp connection cable to the UV lamp pins. Clean the glass surface of the lamp with alcohol (or similar) to remove any finger marks or other contamination and then carefully lower the lamp through the handle and into the quartz tube. Be careful not to damage the quartz tube during the insertion of the subassembly.



13. Screw the threaded reducer (located on the lamp cable) into the top end of the handle pipe. It is important that PTFE tape is used to seal the threads to maintain water proof operation of the lamp. Make sure that the UV lamp is bottomed out in the quartz tube before tightening the cable gland nut to a suitable level to prevent water ingress.



Use PTFE Tape Here

14. After tucking the extra lamp cord wire in to the top of the riser pipe, place the electrical junction box onto the riser pipe.

15. Turn on the breaker at the main electrical panel. The 'UV Lamp On' LED on the lid of the control box should now be shining, indicating that the unit is operating.

'UV Lamp On' LED

16. If you would like to prevent un-authorised entry into the UV lamp, the junction box can be secured to the riser tube using self tapping screws (or similar).

MAINTENANCE AND SERVICE

The 3G UV disinfection unit is designed to provide a long service life. It is recommended that the UV lamp be replaced every two years to insure proper disinfection.

SERVICE PARTS

Part Number	Description	Quantity Per 3G Unit
3G-LAMP	UV Lamp For 3G Module	1
3G-FRAME	Teflon coated quartz sleeve & frame sub-assembly	1

LAMP REPLACEMENT PROCEDURE

1. Turn off the dedicated breaker located in the main electrical panel that supplies power to the UV system.

2. Remove the electrical control box from the top of the riser tube and carefully set it aside.

3. Loosen the top cable gland from around the lamp connection cable and then unscrew the threaded reducer from the top of the white PVC handle. Using the lamp connection cable, gently lift the UV lamp out of the disinfection subassembly and up the riser tube.

4. Disconnect the four pin connector that attaches the lamp connection cable to the UV lamp.

5. Connect the new lamp to the four-pin connector and gently lower the new lamp into the UV subassembly, taking care not to damage the lamp or quartz sleeve. The lamp should fit right down inside the quartz sleeve, to rest at the bottom.

6. Re-fit the top reducer (use new PTFE tape on this joint if necessary) and tighten the cable gland around the lamp cable to ensure a water tight seal. Tuck the remaining lamp connection cable into the riser pipe.

7. Replace the electrical control box onto the top of the riser tube (and re-fit self tapping screws if previously fitted).

8. Turn on the dedicated breaker located in the main electrical panel that supplies power to the UV system & verify that the 'UV Lamp On' LED lights up.

It is recommended that the disinfection subassembly be removed and serviced (cleaned) a minimum of once per year to insure proper effluent disinfection.

To clean the Teflon® sheath and disinfection subassembly:

1. Use a soft sponge and detergent to clean the surfaces, especially the Teflon® sleeve.
2. Use a soft cloth with isopropyl alcohol to remove difficult stains like finger prints and other films.

ALARM CONTACTS

Connect alarm wires as needed for your specific circuit or application.

The alarm contacts are compatible with both normally open (N/O) and normally closed (N/C) external alarm units. Note: N/O means the contacts are ***OPEN*** when there is ***NO POWER*** to the alarm board relay. The contacts are rated for upto 2 A at 240V.

LIMITED WARRANTY

MODEL 3G UV DISINFECTION UNIT

This warranty is given by UVO3 Ltd. for the benefit of the first purchaser of the product to which the warranty applies; the warranty applies only to those parts which are supplied by UVO3 Ltd.

The warranty is that the parts delivered by UVO3 Ltd will be free from defects in the material or workmanship under normal use and service according to the Installation and Operating Instructions for the time specified below.

In the event of a failure of a part due to such a covered defect, UVO3 Ltd. will repair or replace, at its option, the defective part. At the option of UVO3 Ltd., repairs or replacement may be made at the site of equipment installation.

The part must be returned to UVO3 Ltd at the expense of the person claiming the benefit of the warranty unless UVO3 Ltd. elects to repair or replace the defective part at the installed site.

The warranty shall be for a period of twenty four (24) months after the date of delivery of the product, or the specified service life of the product, whichever period is the shortest. All products for which warranty claims are filed must be returned as provided above to the factory within thirty (30) days from the date of the claimed malfunction in order for this warranty to be effective. The only entity authorised to do any warranty repairs is UVO3 Ltd. (or their authorised representative).

This warranty is expressed in lieu of all other warranties, expressed or implied, including the implied warranty of fitness for a particular purpose, and of all other obligations or liabilities on the part of UVO3 Ltd., and it neither assumes nor authorises any other persons to assume for UVO3 Ltd. any other liabilities in connection with the sale of the products.

This warranty does not cover parts of products made by others, or products or any part thereof which have been repaired or altered, except by UVO3 Ltd., which shall have been subjected to misuses, negligence, or accident.

UVO3 Ltd. shall not be liable for damage or delay suffered by the purchaser regardless of whether such damages are general, special, or consequential in nature whether caused by defective material or workmanship or otherwise or whether caused by UVO3 Ltd's negligence, regardless of degree.