E-CLEAR TECHNOLOGIES ON OXYGEN

Healthy Water. Healthy Earth. Healthy You.

PROUDLY SOUTH AFRICAN

MADE IN SOUTH AFRICA

E-CLEAR TECHNOLOGIES ON OXYGEN

Cleaning & Maintenance Procedures

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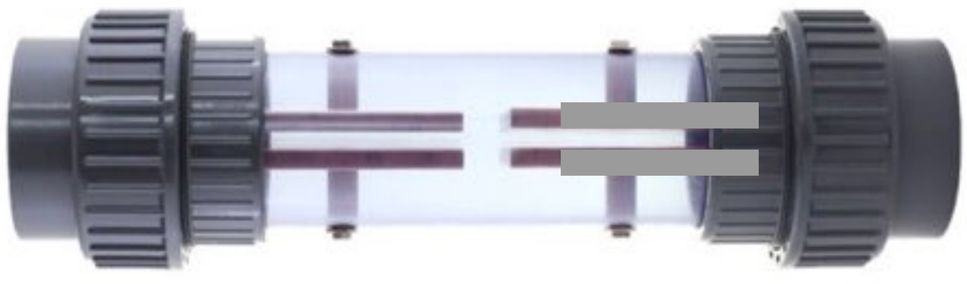
How to clean the OXYGEN, COPPER and SILVER Electrodes



When to Clean:

If the black Oxygen, or Copper or Silver electrodes are coated with a white or blue calcium and copper buildup then the electrodes need to be CAREFULLY cleaned. When they are coated in a buildup they ARE NOT functioning at all.
Your pool water WILL go green

Method:

1. Unscrew the unions at the ends of the electrode chamber.

2. Remove the whole clear part of the chamber holding the electrodes. Taking care to locate the orings inside the unions.

3. In a 10 liter bucket, add 1 liter of hydrochloric pool acid and 5 liters of fresh water.

4. Immerse the entire clear chamber with the electrodes into the acid solution.

5. You will see the white bluish buildup begin to fizz and dissolve.

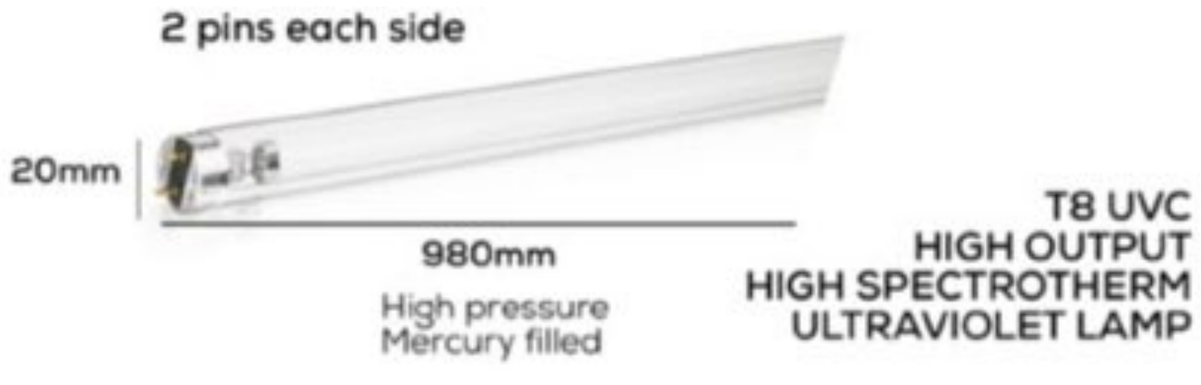
6. Leave the electrodes immersed until the buildup dissolves completely. You may need to shake the chamber but never brush or stick a sharp object in between the Oxygen electrodes. The Oxygen electrodes coating can get damaged.

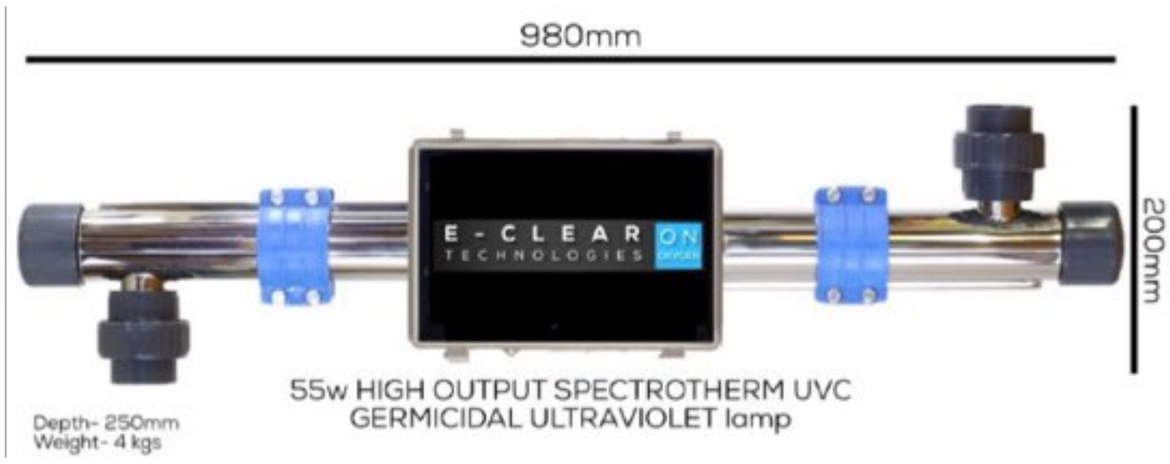
7. Wash off the acid coated chamber in the pool.

8. Silicone or grease the orings and place them in the grooves of the unions.

9. Slide the chamber back in between the unions and tighten the unions.

How to clean the UV Lamps





When to clean:

If calcium hardness is high in the water and pH is low, a calcium film can form on the Uv lamps, thus reducing their effectivity greatly. They should be checked every 6 months and cleaned if necessary.

Method:

1. Remove both grey endcaps (63mm for single Uv, 110mm for double Uv and 160mm for 4 lamp Uv) at each end of the stainless steel UV chamber, by pulling and wiggling slightly. Do not try to unscrew them , they just push on.

2. Take care not to remove the endcaps completely as the are electrical cables that run through them to the Uv lamp 2 pin connectors.

3. Once the grey endcap is removed just enough to see the white or black electrical connectors on the ends of the lamps, either, pull off the white connector, or use a flat screwdriver to undo the wires from the strip connector.

4. Once the wires are disconnected from both sides of the lamp. Use a plumbers wrench to unscrew the grey round nipple through which the lamp passes. This nipple tightens an oring between the chamber wall and the lamp, producing a watertight seal.

5. Once both grey nipples are completely removed, make sure to find the oring still on the lamp and remove it. Grease or silicone the orings.

6. You can now carefully slide the lamp out of the stainless steal Uv chamber.

7. If the lamp has a white or milky appearance then it needs to be cleaned.

8. You can use pure white vinegar and a cloth to clean off the residue or you can use diluted pool acid (1 hydrochloric acid to 5 parts water)

9. Once the lamp glass is completely clear, return the lamp through the stainless steal chamber, slide a greased oring on each side of the lamp. Slide the grey round nipples over each end of the lamp and screw them into the steel chamber until hand tightened.

10. Push the lamp from each side until equal parts are sticking out each nipple on either side of the chamber.

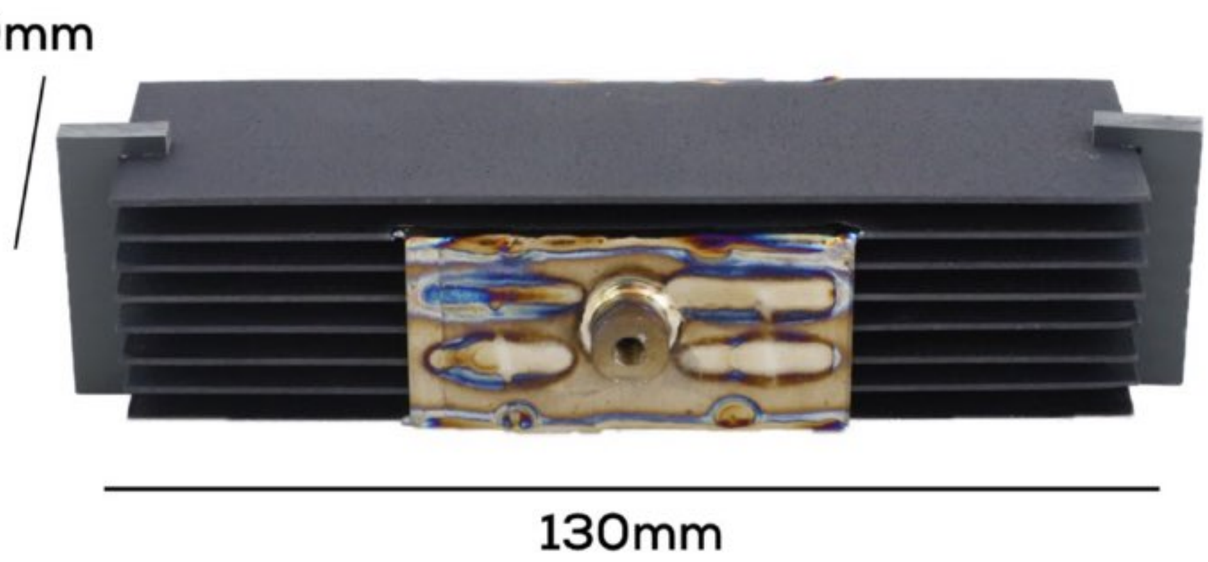
11. Push on white electrical connectors on each 2 pin side of the lamp or attach the strip connector by tightening the two screws.

12. Give each round grey nipple a quarter turn with a plumbers wrench to compress the oring inside snuggly.

13. Reattach each grey endcap, making sure the cables are not bent or kinked.

14. Switch on system and check for leaks and check that the Uv rundown timer is on.

How to replace the OXYGEN ELECTRODES



When they need to be replaced:
If the blue power reading on E-Clear control box cannot get to 80% at least, even after cleaning and adding calcium chloride up to 300ppm, that means the coating on the Oxygen electrodes is damaged and they need to be replaced

Method:

1. Switch E-Clear poweroff, remove the white electrode cable from the oxygen electrodes by unscrewing the top nut on the electrode locating bolt.

2. Unscrew both grey unions at each end of the electrodes chamber and slide out the whole clear chamber containing the electrodes.

3. Then use a spanner to undo both nuts, one on each electrode. The electrodes will now be loose in the chamber.

4. Simply slide them out. If they can't fit through the end of the chamber then use a pliers to pull off the grey shims holding the electrodes together. They will come apart and can slide out one at a time.

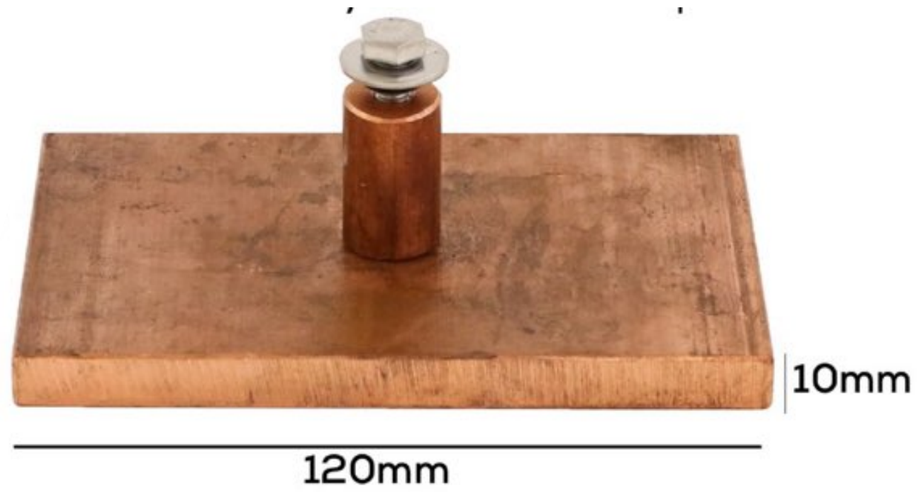
5. Slide in the new oxygen electrodes, taking care to use gloves so as not to get fatty deposits on the coating.. if they don't fit while shimmed together then remove shims carefully, slide them in one by one and reattach shims inside the chamber.

6. Slide the electrodes so that they line up with the holes in the clear PVC and screw in the bolts on each side. Do not over tighten or the clear pvc will crack. You can silicone or grease the new orings before tightening them. Slide clear chamber back in between grey unions, making sure to locate union orings properly. Tighten unions.

7. Reattach white cable eyelets to top of bolts and tighten with second nut. .

8. Switch on pool pump and check for leaks from the bolts. Switch on -over and check that blue oxygen power display reaches 100%.

How to replace the COPPER ELECTRODES



When to replace them:
The Copper electrodes start out at 10mm thick. When they get down to about 1mm thick they need to be replaced. Or if they have sacrificed so much that the thread wears away and the electrode comes off the bolt and washes away. Or the red power display on the E-Clear faceplate does not get up to at least 80% even after you added calcium chloride to raise the water's conductivity

Method:

1. Switch E-Clear power off, remove the black electrode cable from the copper electrodes by unscrewing the top nut on the electrode locating bolt.

2. Unscrew both grey unions at each end of the electrodes chamber and slide out the whole clear chamber containing the electrodes.

3. Then use a spanner to undo both nuts, one on each electrode. The electrodes will now be loose in the chamber.

4. Simply slide them out.

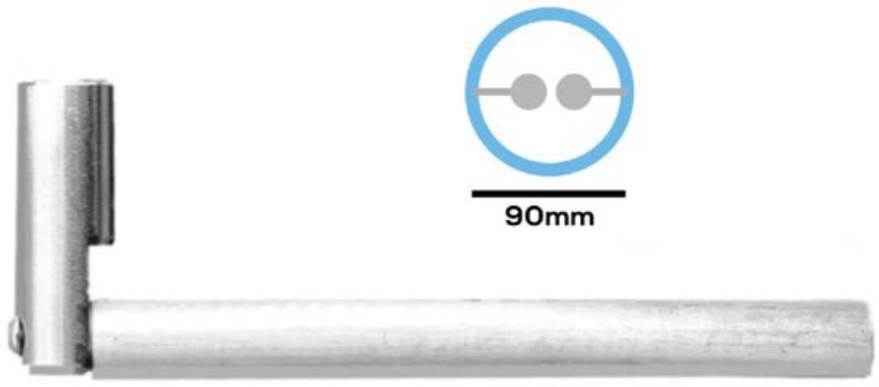
5. Slide in the new copper electrodes.

6. Slide the electrodes so that they line up with the holes in the clear PVC and screw in the bolts on each side. Do not over tighten or the clear pvc will crack. You can silicone or grease the new orings before tightening them. Slide the clear chamber back in between grey unions, making sure to locate the union orings properly. Tighten unions.

7. Reattach black cable eyelets to top of bolts and tighten with second nut. .

8. Switch on pool pump and check for leaks from the bolts. Switch on E-Clear and check that red copper power display reaches 100%.

How to replace the SILVER ELECTRODES



Silver Electrode

To fit all E-Clear MKX models.

- M6 Threaded lug
- 99.99% Pure Silver
- 316 Stainless Steel Lug
- Weight 80g
- 43mm x 110mm x 10mm

When to replace them:
The Silver electrodes start out at 10mm thick. When they get down to about 1mm thick they need to be replaced. Or if they have sacrificed so much that the thread wears away and the electrode comes off the bolt and washes away. Or the silverbpower display on the E-Clear faceplate does not get up to at least 80% even after you added calcium chloride to raise the water's conductivity

Method:

1. Switch E-Clear power off, remove the electrode cable from the silver electrodes by unscrewing the top nut on the electrode locating bolt.

2. Unscrew both grey unions at each end of the electrodes chamber and slide out the whole clear chamber containing the electrodes.

3. Then use a spanner to undo both nuts, one on each electrode. The electrodes will now be loose in the chamber.

4. Simply slide them out.

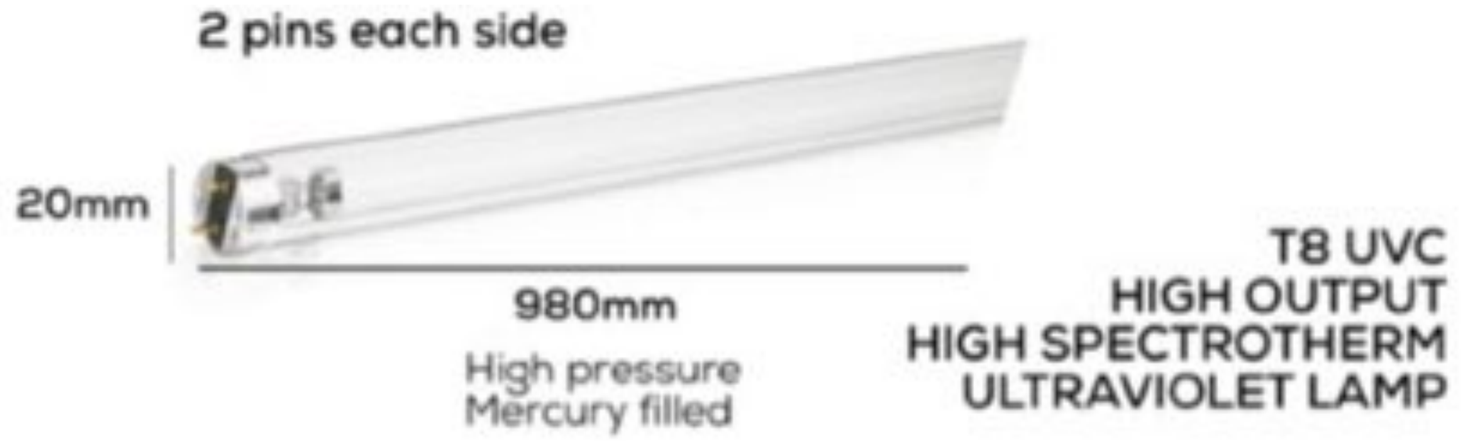
5. Slide in the new silver electrodes.

6. Slide the electrodes so that they line up with the holes in the clear PVC and screw in the bolts on each side. Do not over tighten or the clear pvc will crack. You can silicone or grease the new orings before tightening them. Slide the clear chamber back in between grey unions, making sure to locate the union orings properly. Tighten unions.

7. Reattach cable eyelets to top of bolts and tighten with second nut. .

8. Switch on pool pump and check for leaks from the bolts. Switch on E-Clear and check that silver power display reaches 100%.

How to replace the Uv lamps



When to replace the lamps:
When the Uv lamp countdown timer has reached 000. Or when the Uv lamp countdown timer is off, it means the lamp is faulty or broken.

Method:

1. Remove both grey endcaps (63mm for single Uv, 110mm for double Uv and 160mm for 4 lamp Uv) at each end of the stainless steel UV chamber, by pulling and wiggling slightly. Do not try to unscrew them , they just push on.

2. Take care not to remove the endcaps completely as the are electrical cables that run through them to the Uv lamp 2 pin connectors.

3. Once the grey endcap is removed just enough to see the white or black electrical connectors on the ends of the lamps, either, pull off the white connector, or use a flat screwdriver to undo the wires from the strip connector.

4. Once the wires are disconnected from both sides of the lamp. Use a plumbers wrench to unscrew the grey round nipple through which the lamp passes. This nipple tightens an oring between the chamber wall and the lamp, producing a watertight seal.

5. Once both grey nipples are completely removed, make sure to find the oring still on the lamp and remove it. Grease or silicone the orings.

6. You can now carefully slide the lamp out of the stainless steal Uv.
7. Slide the new lamp through the stainless steal chamber, slide a greased oring on each side of the lamp. Slide the grey round nipples over each end of the lamp and screw them into the steel chamber until hand tightened.
8. Push the lamp from each side until equal parts are sticking out each nipple on either side of the chamber.

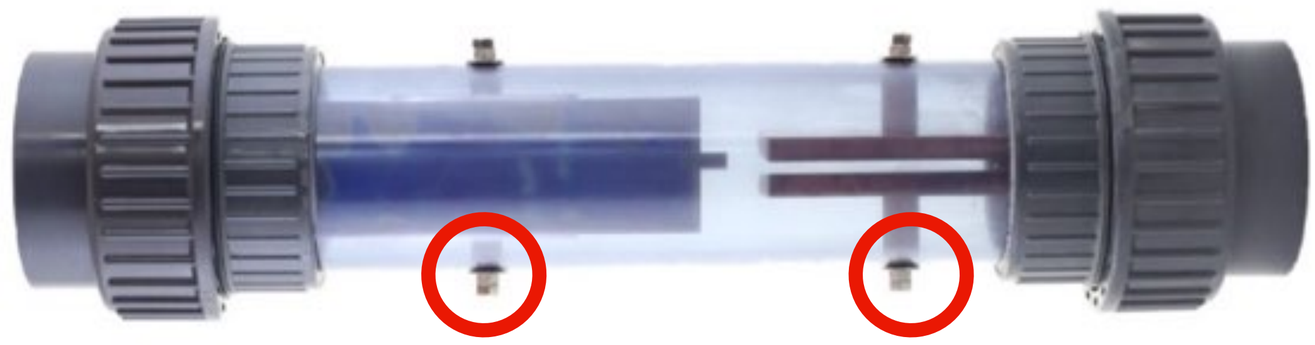
9. Push on white electrical connectors on each 2 pin side of the lamp or attach the strip connector by tightening the two screws.

10. Give each round grey nipple a quarter turn with a plumbers wrench to compress the oring inside snuggly.

11. Reattach each grey endcap, making sure the cables are not bent or kinked.

12. Switch on system and check for leaks and check that the Uv rundown timer is on and reads 100%.

How to fix a leak at the ELECTRODE BOLT



Why does it happen:
Over time the nylon oring loses elasticity and becomes flattened allowing water to slowly drip out.

Method:

1. Undo top nut on the dripping electrode bolt, thus allowing the power cable to come off the bolt.

2. Unscrew the bolt 50% with a spanner.

3. Spray a little silicone spray onto the oring.

4. Re tighten the bolt and reattach the electrode cable and tighten the second bolt.

How to fix a leak at the Uv endcap

Why is it leaking from the Uv endcap:

Over time the oring inside the grey nipple loses elasticity and flattens and allows a little drip through.

Method:

1. Remove the grey endcap (63mm for single Uv, 110mm for double Uv and 160mm for 4 lamp Uv) at the end of the stainless steel UV chamber, by pulling and wiggling slightly. Do not try to unscrew them , they just push on.

2. Take care not to remove the endcap completely as there are electrical cables that run through them to the Uv lamp 2 pin connectors.

3. Once the grey endcap is removed just enough to see the white or black electrical connectors on the end of the lamp, either, pull off the white connector, or use a flat screwdriver to undo the wires from the strip connector.

4. Once the wires are disconnected from the lamp. Use a plumbers wrench to unscrew the grey round nipple through which the lamp passes. This nipple tightens an oring between the chamber wall and the lamp, producing a watertight seal.

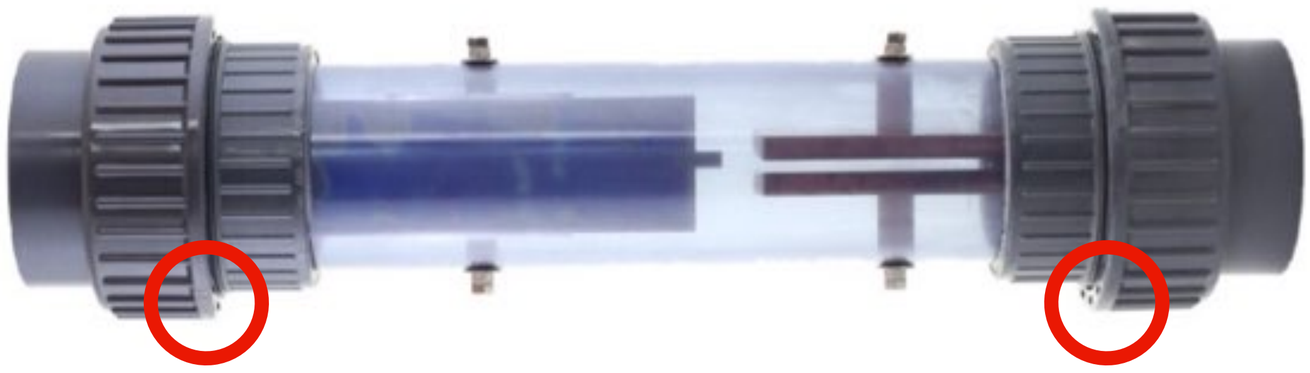
5. Once the grey nipple is completely removed, make sure to find the oring still on the lamp and remove it. Grease or silicone the orings.
6. Slide the greased oring back over the lamp and heck that there is no debris sitting on the steel seating area of the oring on the chamber. 7. Slide the grey round nipple over the end of the lamp and screw it into the steel chamber until hand tightened. Then tighten slightly with a plumbers wrench.

9. Push on white electrical connector onto 2 pin connector of the lamp or attach the strip connector by tightening the two screws.

10. Reattach the grey endcap, making sure the cables are not bent or kinked.

12. Switch on system and check for leaks and check that the Uv rundown timer is on.

How to fix a leak coming from any union



Why does it happen:
Over time the oring inside any union becomes flattened and loses its elasticity. Thus allowing a slow leak

Method:

1. Unscrew the union and remove the oring.

2. Silicone or grease the oring.

3. Check the oring seating area for debris and clean.

4. Reseat the oring.

5. Silicone spray the thread of the union. And screw together tightly.

How to change the E-Clear control box fuse

Why the fuse blows:

If the E-Clear control box is dead, check the fuse. It is there to protect the unit from electrical surges.

Method:

1. Switch off mains power to the E-Clear system.

2. Locate the black fuse holder underneath the ebox.

3. Unscrew the fuse holder and pull out the clear glass fuse.

4. If the glass is black or the fuse wire inside is broken, replace the fuse with an identical new fuse.

5. Push the new fuse into the fuse holder and screw the fuse holder back into the ebox.

6. Switch the power back on to the ebox