

EVO1140220181MAN

UK/EU English

Affix serial number here

EVOLUTION
AQUA

INNOVATION IN WATER

evouV

COMMERCIAL UV STERILISER

INSTALLATION AND OPERATING MANUAL

WARNING:

- Ensure that the unit is **switched off** at the mains before you attempt to conduct any type of maintenance on the evouV.
- Ensure that the end cap is tight before running the unit.
- After replacing bulbs or before tightening the end cap, make sure that the O-Rings are in the correct position, and the bulb sockets are dry.
- If the electrical connections get wet, dry thoroughly before switching power on.
- **Access to the electrical connections is to be carried out only by a qualified electrician.**

WARNING: PLEASE READ THE FOLLOWING SAFETY INFORMATION FIRST.

IMPORTANT SAFETY INFORMATION

- Never look directly at an illuminated UV bulb.
- Do not run this unit dry.
- Do not cover this unit.
- Please ensure that the unit is full of water before switching it on.
- Always isolate the unit from mains electricity and turn off any water supply before carrying out any maintenance.
- Always disconnect all pond appliances from the mains supply before putting your hands into the water.
- Use in the area of the garden pond only if the installation complies with the relevant wiring regulations.
- Power must be supplied through a Residual Current Device (RCD) with a residual operating current not exceeding 30mA.
- This unit must be earthed when earth wire is fitted.
- Never use a fuse larger than 5 amps on the power lead.
- The unit must not be submerged in water.
- The unit should be mounted in the recommended position for damp / wet environments.
- If the quartz sleeve is cracked, replace it immediately.
- The unit must be either fully frost protected or taken inside during Winter months.
- Young children should always be supervised near water.



PRODUCT INFORMATION

- Rating UK and EU:

evo55W, evo110W, evo220W, evo330W, evo440W, evo550W, evo660W
220-240V, 50/60Hz.

- Class 1, IP64.
- All components are CE compliant.
- Operating pressure: Max 2.5 Bar

Disposal Of Your Old Product

Your product is designed and manufactured with high quality material and components, which can be recycled and reused. When this crossed-out wheeled bin symbol is attached to a product, it means the product is covered by the European Directive 2002/96/EC. Please contact your local authority about correct disposal for electrical and electronic equipment. Our WEE Registration Number is WEE/FE1471RR.

Please act according to your local rules and do not dispose of your old products with your normal household waste. The correct disposal of your old product will help prevent potential negative consequences for the environment and human health.



EVOLUTION AQUA'S evoUV COMMERCIAL UV STERILISER

Congratulations on purchasing an evoUV Commercial UV Steriliser by Evolution Aqua. This range of commercial UV sterilisers have been manufactured using the latest technology and design techniques.

Please read this instruction manual carefully from start to finish before attempting to install your evoUV.

UNPACKING THE evoUV

On unpacking, you will see that the UV bulb and quartz sleeve are packed separately for safe transit. Please refer to pages 11 and 12 of this manual for instructions on how to install the bulb and quartz sleeve. Quartz Sleeve O-Rings and End Cap Sealing Rings are packed in a small bag inside the box.

On the evo55W the stainless steel mounting brackets are pre-fitted. The evo110W mounting brackets can be found in the cardboard end fitments, please remove these and fit to the evo110.

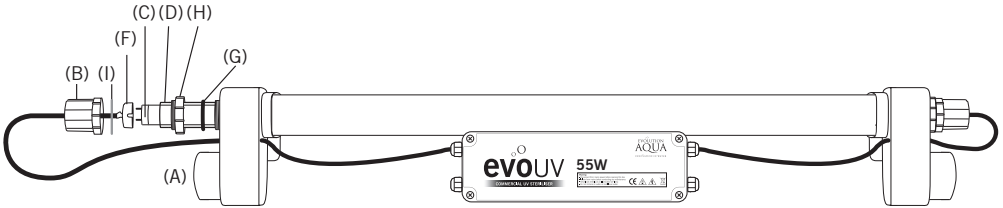
Please take time to familiarise yourself with your evoUV and its components.

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evoUV 55 WATT DIAGRAMS AND COMPONENTS LIST

Please familiarise yourself with the components shown in the diagram below:



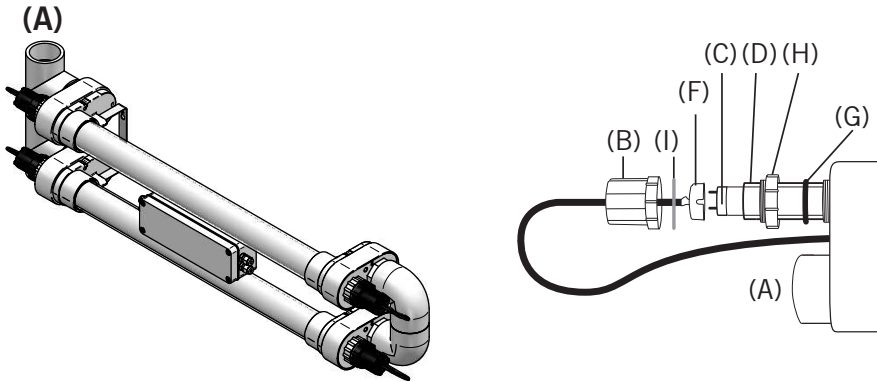
Description	Diagram Code	EA Order Code
2" Glued Outlet	A	N/A
End Cap	B	EVOCONNUT
UV Bulb	C	Available from your EA Dealer*
Quartz Sleeve	D	Available from your EA Dealer*
Hosetail O-Ring	E	EVOUVORINGHOSET
Bulb Socket	F	LAMPHOLDER-T8
Quartz Sleeve O-Ring	G	EVOUVORINGZ
Locking Nut	H	EVO-M/F
End Cap Sealing Ring	I	EVOUVOFLATWASHER

**For optimum performance, the electronic ballast has been configured for UV bulbs supplied by Evolution Aqua. When sourcing replacement UV Bulbs or quartz sleeves always buy components supplied by Evolution Aqua from your nearest Evolution Aqua stockist.*

IDENTIFYING THE O-RingS		
These O-Rings are packed in a small bag inside the box.		
QTY X 2: Quartz Sleeve O-Rings (G)	Round O-Ring	Flat Washer
QTY x 2: End Cap Sealing Rings (I)	Quartz Sleeve O-Ring (G)	End Cap Sealing Ring (I)



evoUV 110 WATT DIAGRAMS AND COMPONENTS LIST

Please familiarise yourself with the components shown in the diagram below:



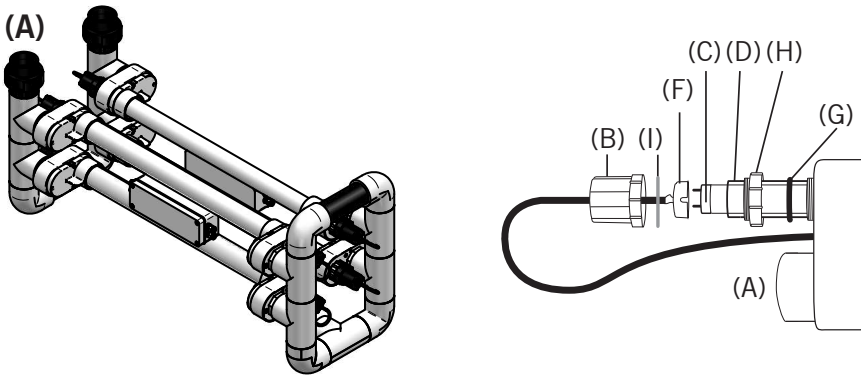
Description	Diagram Code	EA Order Code
2" Glued Outlet	A	N/A
End Cap	B	EVOCONNUT
UV Bulb	C	Available from your EA Dealer*
Quartz Sleeve	D	Available from your EA Dealer*
Hosetail O-Ring	E	EVOUVORINGHOSET
Bulb Socket	F	LAMPHOLDER-T8
Quartz Sleeve O-Ring	G	EVOUVORINGZ
Locking Nut	H	EVO-M/F
End Cap Sealing Ring	I	EVOUVOFLATWASHER

**For optimum performance, the electronic ballast has been configured for UV bulbs supplied by Evolution Aqua. When sourcing replacement UV Bulbs or quartz sleeves always buy components supplied by Evolution Aqua from your nearest Evolution Aqua stockist.*

IDENTIFYING THE O-Rings		
These O-Rings are packed in a small bag inside the box.		
QTY X 2: Quartz Sleeve O-Rings (G)	Quartz Sleeve O-Ring (G)	End Cap Sealing Ring (I)
QTY x 2: End Cap Sealing Rings (I)		

evoUV 220 WATT DIAGRAMS AND COMPONENTS LIST

Please familiarise yourself with the components shown in the diagram below:



Description	Diagram Code	EA Order Code
2" Flange Connector	A	N/A
End Cap	B	EVOCONNUT
UV Bulb	C	Available from your EA Dealer*
Quartz Sleeve	D	Available from your EA Dealer*
Hosetail O-Ring	E	EVOUVORINGHOSET
Bulb Socket	F	LAMPHOLDER-T8
Quartz Sleeve O-Ring	G	EVOUVORINGZ
Locking Nut	H	EVO-M/F
End Cap Sealing Ring	I	EVOUVOFLATWASHER

**For optimum performance, the electronic ballast has been configured for UV bulbs supplied by Evolution Aqua. When sourcing replacement UV Bulbs or quartz sleeves always buy components supplied by Evolution Aqua from your nearest Evolution Aqua stockist.*

IDENTIFYING THE O-RINGS

These O-Rings are packed in a small bag inside the box.

QTY X 2: Quartz Sleeve O-Rings **(G)**

QTY x 2: End Cap Sealing Rings **(I)**



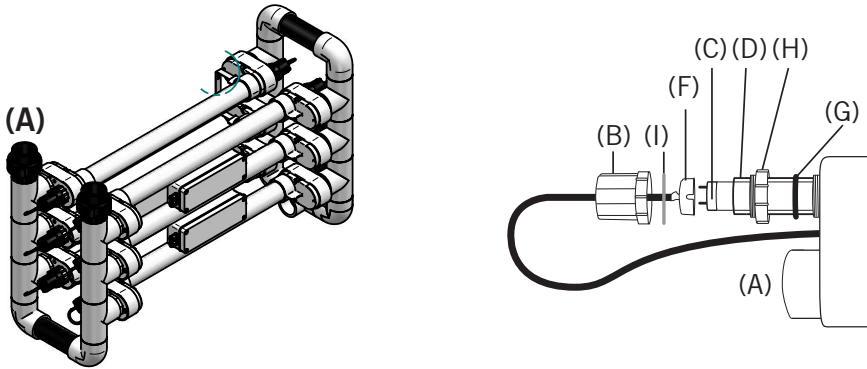
Quartz Sleeve O-Ring **(G)**



End Cap Sealing Ring **(I)**

evoUV 330 WATT DIAGRAMS AND COMPONENTS LIST

Please familiarise yourself with the components shown in the diagram below:



Description	Diagram Code	EA Order Code
2" Flange Connector	A	N/A
End Cap	B	EVOCONNUT
UV Bulb	C	Available from your EA Dealer*
Quartz Sleeve	D	Available from your EA Dealer*
Hosetail O-Ring	E	EVOUVORINGHOSET
Bulb Socket	F	LAMPHOLDER-T8
Quartz Sleeve O-Ring	G	EVOUVORINGZ
Locking Nut	H	EVO-M/F
End Cap Sealing Ring	I	EVOUVOFLATWASHER

**For optimum performance, the electronic ballast has been configured for UV bulbs supplied by Evolution Aqua. When sourcing replacement UV Bulbs or quartz sleeves always buy components supplied by Evolution Aqua from your nearest Evolution Aqua stockist.*

IDENTIFYING THE O-Rings

These O-Rings are packed in a small bag inside the box.

QTY X 2: Quartz Sleeve O-Rings **(G)**

QTY x 2: End Cap Sealing Rings **(I)**



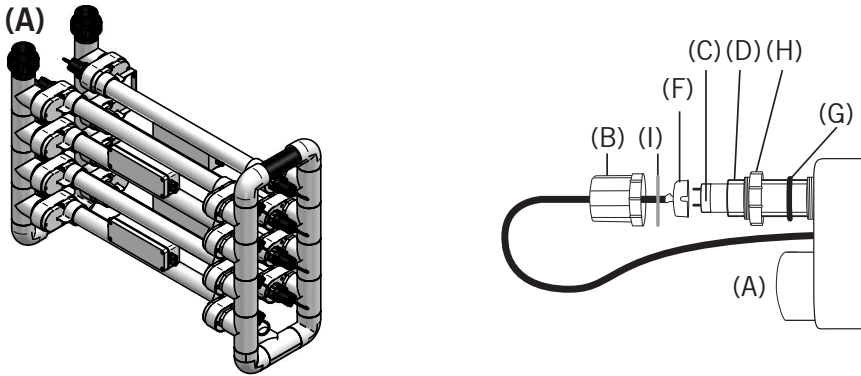
Quartz Sleeve O-Ring **(G)**



End Cap Sealing Ring **(I)**

evoUV 440 WATT DIAGRAMS AND COMPONENTS LIST

Please familiarise yourself with the components shown in the diagram below:



Description	Diagram Code	EA Order Code
2" Flange Connector	A	N/A
End Cap	B	EVOCONNUT
UV Bulb	C	Available from your EA Dealer*
Quartz Sleeve	D	Available from your EA Dealer*
Hosetail O-Ring	E	EVOUVORINGHOSET
Bulb Socket	F	LAMPHOLDER-T8
Quartz Sleeve O-Ring	G	EVOUVORINGZ
Locking Nut	H	EVO-M/F
End Cap Sealing Ring	I	EVOUVOFLATWASHER

**For optimum performance, the electronic ballast has been configured for UV bulbs supplied by Evolution Aqua. When sourcing replacement UV Bulbs or quartz sleeves always buy components supplied by Evolution Aqua from your nearest Evolution Aqua stockist.*

IDENTIFYING THE O-RINGS

These O-Rings are packed in a small bag inside the box.

QTY X 2: Quartz Sleeve O-Rings **(G)**

QTY x 2: End Cap Sealing Rings **(I)**



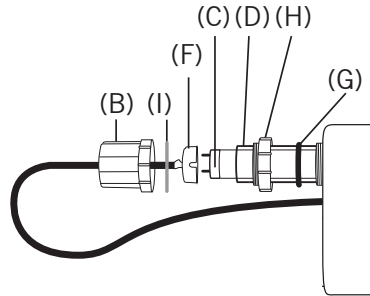
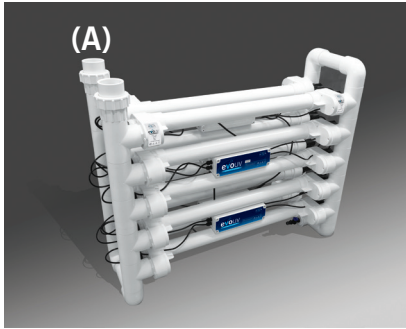
Round O-Ring
Quartz Sleeve O-Ring **(G)**



Flat Washer
End Cap Sealing Ring **(I)**



evoUV 550 WATT DIAGRAMS AND COMPONENTS LIST

Please familiarise yourself with the components shown in the diagram below:



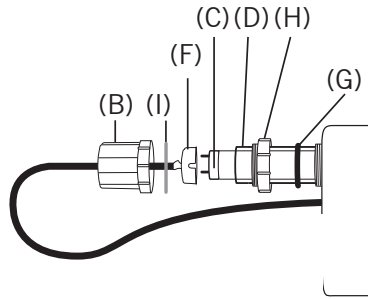
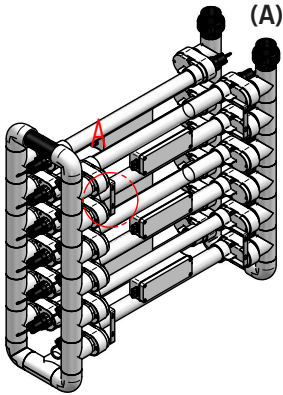
Description	Diagram Code	EA Order Code
2" Flange Connector	A	N/A
End Cap	B	EVOCONNUT
UV Bulb	C	Available from your EA Dealer*
Quartz Sleeve	D	Available from your EA Dealer*
Hosetail O-Ring	E	EVOUVORINGHOSET
Bulb Socket	F	LAMPHOLDER-T8
Quartz Sleeve O-Ring	G	EVOUVORINGZ
Locking Nut	H	EVO-M/F
End Cap Sealing Ring	I	EVOUVFLATWASHER

**For optimum performance, the electronic ballast has been configured for UV bulbs supplied by Evolution Aqua. When sourcing replacement UV Bulbs or quartz sleeves always buy components supplied by Evolution Aqua from your nearest Evolution Aqua stockist.*

IDENTIFYING THE O-Rings		
These O-Rings are packed in a small bag inside the box.		
QTY X 2: Quartz Sleeve O-Rings (G)	Round O-Ring	Flat Washer
QTY x 2: End Cap Sealing Rings (I)	Quartz Sleeve O-Ring (G)	End Cap Sealing Ring (I)

evoUV 660 WATT DIAGRAMS AND COMPONENTS LIST

Please familiarise yourself with the components shown in the diagram below:



Description	Diagram Code	EA Order Code
2" Flange Connector	A	N/A
End Cap	B	EVOCONNUT
UV Bulb	C	Available from your EA Dealer*
Quartz Sleeve	D	Available from your EA Dealer*
Hosetail O-Ring	E	EVOUVORINGHOSET
Bulb Socket	F	LAMPHOLDER-T8
Quartz Sleeve O-Ring	G	EVOUVORINGZ
Locking Nut	H	EVO-M/F
End Cap Sealing Ring	I	EVOUVOFLATWASHER

**For optimum performance, the electronic ballast has been configured for UV bulbs supplied by Evolution Aqua. When sourcing replacement UV Bulbs or quartz sleeves always buy components supplied by Evolution Aqua from your nearest Evolution Aqua stockist.*

IDENTIFYING THE O-RINGS

These O-Rings are packed in a small bag inside the box.

QTY X 2: Quartz Sleeve O-Rings (**G**)

QTY x 2: End Cap Sealing Rings (**I**)



Round O-Ring
Quartz Sleeve O-Ring (**G**)



Flat Washer
End Cap Sealing Ring (**I**)

FLOW RATES

Please note: For effective eradication of disease pathogens units can also be selected based on kill rate. Please contact your Evolution Aqua representative to discuss this in more depth.

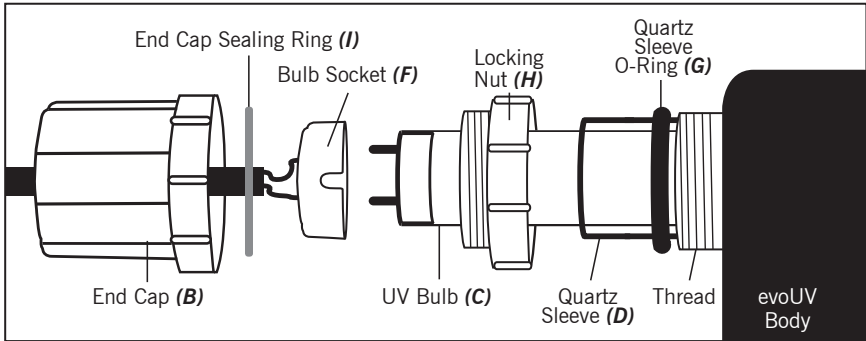
We do not recommend the use of pumps with operating pressures in excess of 2.5 bar.

Model	Total No of 55W Lamps	Total UVC Radiation Emitted @253.7nm (18W per lamp when new)(W)	Standard Flow Rate at 4 x system volume per hour (Litres per hour) *	Maximum System Volume (Litres)
evoUV Commercial 55	1	18	2,000	500
evoUV Commercial 110	2	36	4,000	1,000
evoUV Commercial 220	4	72	8,000	2,000
evoUV Commercial 330	6	108	12,000	3,000
evoUV Commercial 440	8	144	16,000	4,000
evoUV Commercial 550	10	180	20,000	5,000
evoUV Commercial 660	12	220	25,000	6,000

*4 x System volume per hour is minimum recommendation for sterilisation.

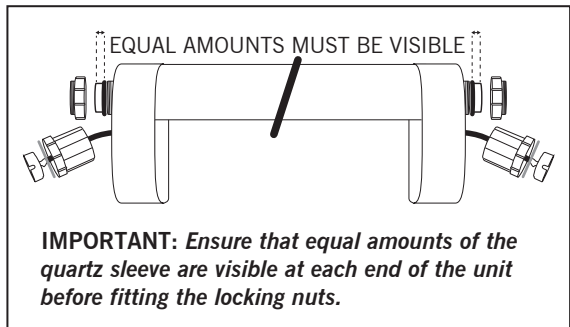
Where higher pathogen control is required, double the number of UV bulbs per volume is recommended.

INSTALLING THE QUARTZ SLEEVE



1. Starting at one end of the unit, unscrew the black end cap (B). You will notice that this black end cap houses the bulb socket (F).
2. Unscrew the white locking nut (H) from the same end.
3. Repeat steps 1 and 2 at the other end of the unit.
4. Take the quartz sleeve (D) from the packaging box and slide it through the evoUV until it finds the hole at the far end of the unit.
5. Take the quartz sleeve O-Ring (G) and fit it around one end of the quartz sleeve.
6. Slide this quartz sleeve O-Ring (G) towards the thread on the evoUV body, ensuring that equal amounts of quartz sleeve are visible at each end of the unit.

7. Fit the quartz sleeve O-Ring (G) at the other end of the quartz sleeve, again ensuring that equal amounts of quartz sleeve are visible at each end of the unit.

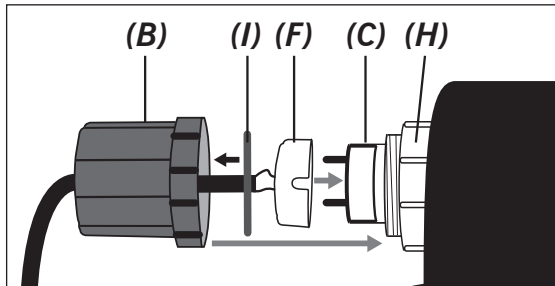


8. Now screw the white locking nut (H) back into position.
9. Ensure the locking nut is **HAND TIGHTENED** to prevent causing damage to the O-Ring. No tools are needed.
10. Repeat steps 8 and 9 at the other end of the unit.
11. The quartz sleeve is now in position ready to take the UV bulb.
12. For all models, complete steps 1 to 4, then run the unit wet, with no bulbs to ensure the quartz sleeves and O-Rings have been installed correctly and are fully water tight.

INSTALLING THE UV BULB

1. Remove all packaging from the UV bulb **(C)**.
2. Slide the UV bulb **(C)** carefully through the quartz sleeve **(D)** that you have just fitted, as per the instructions on page 6.
3. While holding one of the black end caps **(B)** gently push the cable through the end cap which will make it easier to fit the bulb socket **(F)** in step 5.
IMPORTANT: Do not pull the cable by holding just the bulb socket.
4. Fit the End Cap Sealing Ring **(I)** over the bulb socket and locate it into the end cap so it is seated on the inside lip of the end cap.
IMPORTANT: Ensure the end cap sealing ring is not twisted and it remains in this location throughout the installation.

5. In no particular order, align the UV bulb pins with the holes in the bulb socket and carefully push the bulb socket firmly onto the UV bulb pins. You may need to hold the other end of the UV bulb to help you fit the socket.



6. Ensure the UV bulb socket is firmly connected to the UV bulb.
7. Repeat steps 3 to 6 at the other end of the unit.
8. Now at one end of the unit, slide the black end cap (checking that the sealing ring is in position) over the bulb socket while carefully holding the cable to prevent the bulb connector disconnecting from the UV bulb.
9. Screw this end cap onto the thread on the white locking nut **(H)** already connected to the UV body. **HAND TIGHTEN ONLY.**
10. Repeat steps 8 and 9 at the other end of the unit.
11. Check that all of the fittings are hand tightened. No tools are needed.
12. On multiple bulb units, do not mix up the bulb connectors as this will result in the bulb not illuminating.

Please ensure that there is enough space at one end of the evoUV to enable bulb / quartz sleeve removal and maintenance.

CONNECTION TO THE ELECTRICITY SUPPLY

Electrical installations must be carried out by a qualified electrician.

Do not attempt to tamper with or access the electrical control box or casing inside the evoUV, as doing so will invalidate the warranty.

The power supply must meet the specifications on the product.
The cores in the supply cable are coloured in accordance with the following code:

Brown = Live. Blue = Neutral. Earth = Green/Yellow
(WHERE FITTED).

Do not use the supply cable to lift the evoUV as this may cause damage.



WARNING - A Residual Current Device (RCD), also known as the Residual Current Circuit Breaker (RCCB), with a tripping current not exceeding 30mA must be installed in the supply circuit. A means of disconnection from the supply having a contact separation of at least 3mm in all poles must be incorporated in the wiring.



All electrical installations and wiring must be adequately protected to prevent any damage.

Enough electrical cable is supplied with the unit to connect to the mains electric. This unit must be connected to permanent wiring. A switch with 3mm contact separation must be provided in the fixed wiring to provide disconnection from the electricity supply.

CAUTION: The UV lamps in the evoUV are powered by electronic ballasts. This UV steriliser should not be installed in any electrical circuit with equipment that may produce an inductive load. This equipment may include, but is not limited to, conventional fluorescent luminaires, floodlights and water pumps. Inductive loads can generate high energy surges that will permanently damage the electronic ballast.



UV BULB REPLACEMENT

ALWAYS ISOLATE THE UNIT FROM ANY ELECTRICITY AND WATER SUPPLIES BEFORE CARRYING OUT MAINTENANCE ON THE UNIT.

TO REMOVE A UV BULB:

It is not necessary to stop the water circulating through the evoUV to change the bulb.

1. Disconnect the electricity supply.
2. Unscrew the black end cap at one end of the unit. Take care not to unscrew the white locking nut also.
3. Carefully slide the black end cap over the wire to reveal the bulb socket. Take care not to lose the end cap sealing ring.
4. Disconnect the bulb socket.
5. Repeat steps 2 to 4 at the other end of the evoUV.
6. With the end caps out of the way, carefully slide out the UV bulb.

WARNING: If the end caps / electrical connections get wet during this procedure, please ensure that they are thoroughly dried before re-connecting.

TO INSTALL A NEW UV BULB:

Follow the instructions on **page 13** to fit a new UV bulb.

IMPORTANT: After checking all the fittings are correctly tightened you can switch your unit back on.

REPLACING / CLEANING QUARTZ SLEEVE

ALWAYS ISOLATE THE UNIT FROM ANY ELECTRICITY AND WATER SUPPLIES BEFORE CARRYING OUT MAINTENANCE ON THE UNIT.

TO REMOVE A QUARTZ SLEEVE:

PLEASE NOTE: Removing the quartz sleeve will cause water to flow out of the unit.

1. Remove the UV bulb as described on page 15.
2. With the electricity supply disconnected, evoUV isolated and UV Bulb removed, unscrew the locking nut at one end of the evoUV.
3. Water should be drained via the drain tap where fitted. (220W models and above)
4. Carefully remove the quartz sleeve O-Ring and keep safe.
5. Unscrew the locking nut from the other end and remove the quartz sleeve O-Ring and keep safe.
6. Carefully remove the quartz sleeve taking care not to allow it to drop inside the UV body.
7. To drain any water that may be left in the unit, we would recommend that you unscrew the mounting bracket(s), disconnect the unit from the pipework, and tilt the unit to drain the chamber of water.
8. Clean the sleeve and polish with a soft cloth or paper towel. *If you live in a hard water area, you may get limescale on the quartz sleeve; this can be easily removed by using vinegar or a cold water descaler.*

WARNING: If the end caps / electrical connections get wet during this procedure, please ensure that they are thoroughly dried before re-connecting.

TO RE-INSTALL A QUARTZ SLEEVE:

Follow instructions on **pages 12 and 13** to re-install the quartz sleeve and UV bulb.

IMPORTANT: After checking all the fittings are correctly tightened you can switch your unit back on.

TROUBLESHOOTING

During this procedure or if you notice water leaking from around the end caps you should check the following:

1. Check the O-Ring is undamaged.
2. Check there are no cracks and breaks in the quartz sleeve.
3. Check that the locking nut is compressing the O-Ring to form a water tight seal.
4. Check that the end caps are sufficiently tight.
5. All components are clean and free from dirt and debris.

****Please note that the items list 1-5 are service items and therefore not subject to a claim under warranty. The service items listed are available from your EA stockist.***

IN BUILT PROTECTION

The evoUV range of commercial UV sterilisers have thermal overload protection which automatically shuts down and then enables a fast re-start when the problem has been cleared. This may be as a result of water in the end caps. Please see the troubleshooting section.

Thermal Overload Protection -

This will automatically switch off the unit should the temperature exceed the maximum operating temperature limits.

Automatic start up and shut down protection -

This protects the electrical components in the event of a power surge.

TROUBLE SHOOTING

If the UV bulb is not lit, then you need to investigate the power to your unit.

- Has your RCD tripped? If yes, check your wiring and reset.
- Examine the UV bulb for signs of failure, and replace if necessary.
- Is the UV bulb fitted correctly? Unscrew the end caps and ensure correct fitting as per the instructions as described in this manual.
- Are the end caps dry? If not, allow to dry thoroughly. We recommend the use of a hair-dryer for this.
- Bulbs are electrically linked in pairs. Therefore if one bulb fails, two bulbs will not illuminate. Substituting either bulb will identify which bulb has failed.
- On multiple bulb units, do not mix up the bulb connectors as this will result in the bulb not illuminating.

The unit appears to be leaking from the end fittings?

This could possibly be caused by an incorrectly fitted, damaged or overtightened O-Ring on the quartz sleeve. Please check the quartz sleeve O-Ring, reposition it or if necessary replace it with a new one.

FREQUENTLY ASKED QUESTIONS

How often should I change the UV bulb?

The evoUV bulb has an effective lifespan of 6 months. This should be changed without fail in order for the unit to remain effective and fit for purpose.

Is the evoUV suitable for salt water use?

The evoUV is manufactured from materials that will not corrode in salt water, however the stainless steel bracket will. Use alternative mounting means when using evoUV on saltwater systems.

How long can I leave the unit running?

evoUVs have been designed and manufactured to the highest standards, and can be run 24 hours a day. For external applications, if the unit is frost protected it may be left running throughout the winter. Otherwise, the unit should be removed, drained and stored safely for the winter.

Can I bury the unit underground?

No. The evoUV, although weatherproof, is not suitable for installing in any situation that may be subject to immersion in water.

Can it be used with ozone?

Yes. The evoUV is safe to use with ozone units, however, the O-Rings are not. When using ozone units please use rigid pipe.

When replacing the bulb I cannot locate it into the bulb socket at the opposite end of the evoUV?

Please follow the procedure for cleaning / replacing the quartz sleeve. This will explain the correct procedure for removing both end caps and sockets and explain the method for easy installation.

GUARANTEE

This product is guaranteed against defects in material and workmanship for 1 years from the date of purchase, under normal usage. The guarantee DOES NOT APPLY in case of improper use, negligence, lack of maintenance or accidental damage to the evoUV. If the evoUV fails due to a manufacturing fault within this period it will be either repaired or replaced free of charge. Liability is limited to replacement of the faulty product only; no other costs will be reimbursed. This guarantee is not transferable and does not affect your statutory rights. This guarantee does not confer any rights other than those expressly set out above. This guarantee does not cover the evoUV bulb or quartz sleeve.

Only a qualified electrician should access the electrical control box or casing inside the evoUV, unauthorised access will invalidate the warranty.

The manufacturer or supplier shall not be responsible, or held liable for any damages caused by defective components or materials of this product; or for loss incurred by interruption of service; or any consequential/incidental damages and expenses arising from the production, sale use or misuse of this product or any other consequential loss.

Any warranty claim must be accompanied by a valid, dated proof of purchase.

Evolution Aqua and its dealers shall not be held liable for any loss of fish, plants or any other livestock as a result of any failure or defect of this product.

The installation and use of your product outside of our recommendations as printed in this manual may also void the warranty.

EVOLUTION
AQUA

INNÖVATION IN WATER

evouV

COMMERCIAL UV STERILISER

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