

SPECTRUM UVC



- Clear water easily.
- High quality UV lamp and quartz sleeve maintains high output of 254nm.
- Long service life requires little maintenance.
- No flow friction.
- Quick and simple installation.
- Polished stainless steel reactor chamber, high UV reflection.
- No chemicals added, environment friendly. The chamber is with high UV reflection.



NOTICE
Before using Spectrum UVC, please make sure that the quartz sleeve is not broken and all connectors / fittings are tightened. Once leaking is found, please stop using it in case of any accident. Disconnect the power supply before any installation or maintenance, and do not pull the UV lamp up with the power cable. When using the Spectrum UVC, always connect the power supply with ground fault circuit interrupter (GFCI).

Matala Spectrum UVC

Instruction Manual

Thank you for purchasing Matala Spectrum UVC.

This instruction manual explains the product operations and gives important precautions regarding its safe use. In order to achieve maximum benefit of using Spectrum UVC, be sure to read the instructions thoroughly and follow it carefully.

To avoid any accident, do not use the Spectrum UVC in any way other than as described in this instruction manual especially when you see   . After reading this instruction manual, keep it nearby as a reference in case questions arise during use.

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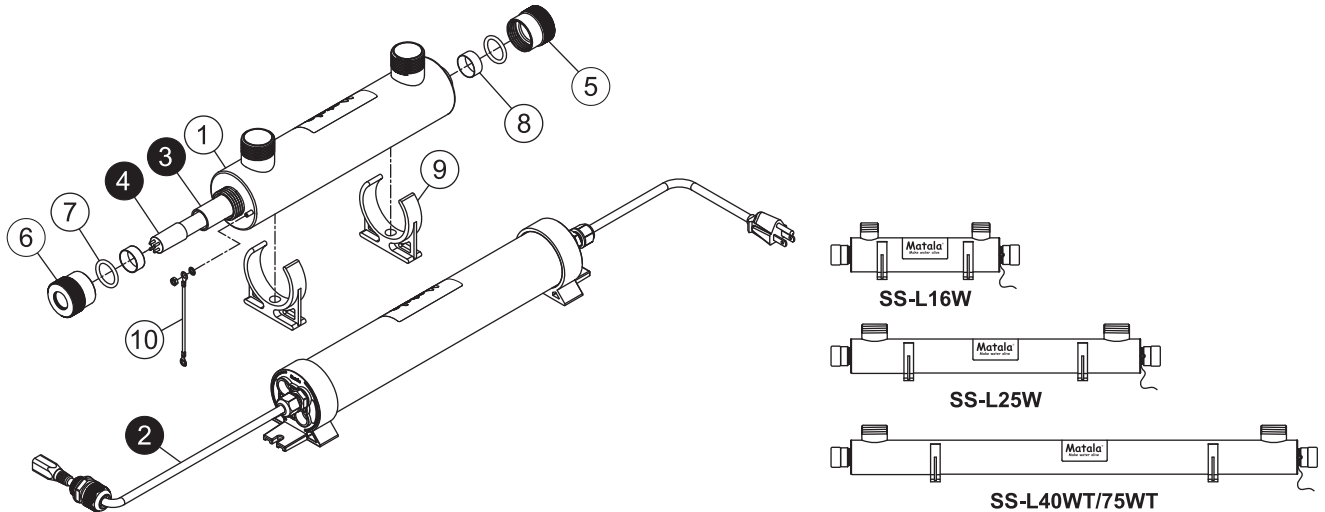
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**NOTICE**

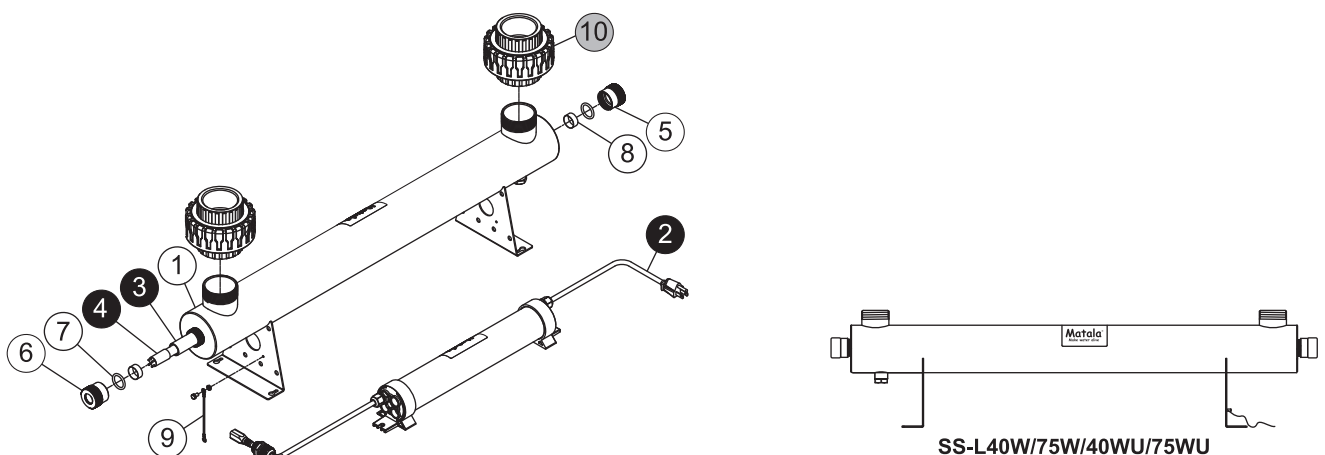
When receiving the Spectrum UVC, please inspect the Spectrum UVC from any damage. Identify all components.

- Shipping damage should be reported within 24 hours to your dealer.
- Check the UV lamp.
- Check both ends of the Spectrum UVC compression fitting for damage to the quartz sleeve.
- Inspect ballast and UV lamp connector for damage.

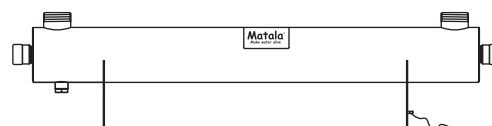
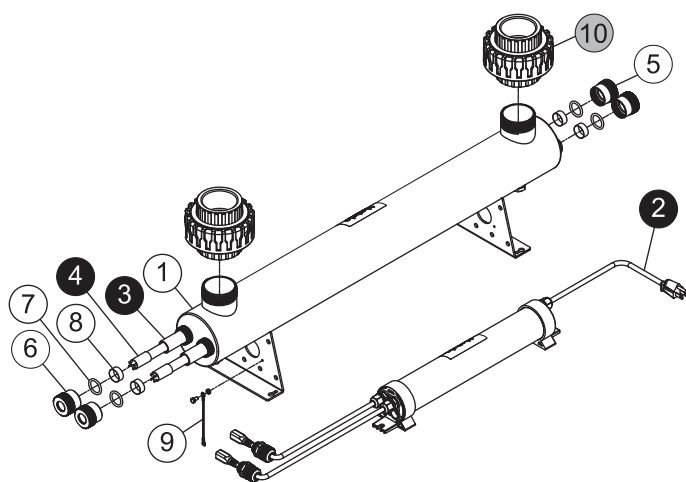
Please check the box of Spectrum UVC version contains the components listed here:



SS-L16W/25W/40WT/75WT									
NO	Parts No.	Parts / Spec.		Q'TY	NO	Parts No.	Parts / Spec.		Q'TY
1	SS100004	Stainless Steel Chamber	16W	1	4	TUV 16W 4P SE	Philips UV Lamp	16W	1
	SS100005		25W			TUV 25W 4P SE		25W	
	SS100006		40WT/75WT			TUV 36T5 HE 4P SE		40WT	
2	BL-L16W	Ballast Unit	16W	1		TUV 36T5 HO 4P SE		75WT	
	BL-L25W		25W		5	SS-NT5	Compression Fitting	w/ a hole	1
	BL-L40W		40WT		6			w/o a hole	1
	BL-L75W		75WT		7	OR-L40/300W	O-Ring		2
3	QS-L16W	Quartz Sleeve	16W	1	8	PK-L40/300W	Gasket		2
	QS-L25W		25W		9	SS100052	Clamp		2
	QS-L40/300W		40WT/75WT		10	SSPL100009	Ground Cable		1



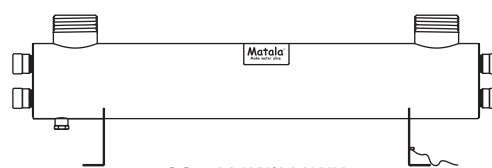
SS-L40W/75W/40WU/75WU								
NO	Parts No.	Parts / Spec.		Q'TY	NO	Parts No.	Parts / Spec.	
1	SS100007	Stainless Steel Chamber	40W/75W	1	5	SS-NT5	Compression Fitting	w/ a hole
2	BL-L40W		40W	1	6			w/o a hole
	BL-L75W	Ballast Unit	75W		7	OR-L40/300W	O-Ring	
3	QS-L40/300W		40W/75W	1	8	PK-L40/300W	Gasket	
4	TUV 36T5 HE 4P SE	Philips UV Lamp	40W	1	9	SSPL100009	Ground Cable	
	TUV 36T5 HO 4P SE		75W		10	SSUVC-2U	2" Union (only for 40WU/75WU/150WU)	



SS-L150W/150WU

SS-L150W/150WU

NO	Parts No.	Parts / Spec.	Q'TY
1	SS100008	Stainless Steel Chamber	150W 1
2	BL-L150W	Ballast Unit	150W 1
3	QS-L40/300W	Quartz Sleeve	75W 2
4	TUV 36T5 HO 4P SE	Philips UV Lamp	75W 2
5	SS-NT5	Compression Fitting	w/ a hole 2
6			w/o a hole 2
7	OR-L40/300W	O-Ring	4
8	PK-L40/300W	Gasket	4
9	SSPL100009	Ground Cable	1
10	SSUVC-2U	2" Union (only for 40WU/75WU/150WU)	2



SS-L300W/300WU

SS-L300W/300WU

NO	Parts No.	Parts / Spec.	Q'TY
1	SS100009-3	Stainless Steel Chamber	300W 1
2	BL-L150W	Ballast Unit	150W 2
3	QS-L40/300W	Quartz Sleeve	75W 4
4	TUV 36T5 HO 4P SE	Philips UV Lamp	75W 4
5	SS-NT5	Compression Fitting	w/ a hole 4
6			w/o a hole 4
7	OR-L40/300W	O-Ring	8
8	PK-L40/300W	Gasket	8
9	SSPL100009	Ground Cable	1
10	SSUVC-3U	3" Union (only for 300WU)	2



Replacement Parts

Quartz sleeve.... ③ / UV lamp..... ④ / Ballast..... ②

* Following instruction given in section **REPLACEMENT AND MAINTENANCE** (p.6-7).

ATTENTION READ THIS MANUAL CAREFULLY BEFORE INSTALL AND KEEP IT FOR LATER REFERENCE.



Caution-Void warranty!!!

• Spectrum UVC is not submersible, protect the unit and ballast from exposure to sun / heavy rain / snow.

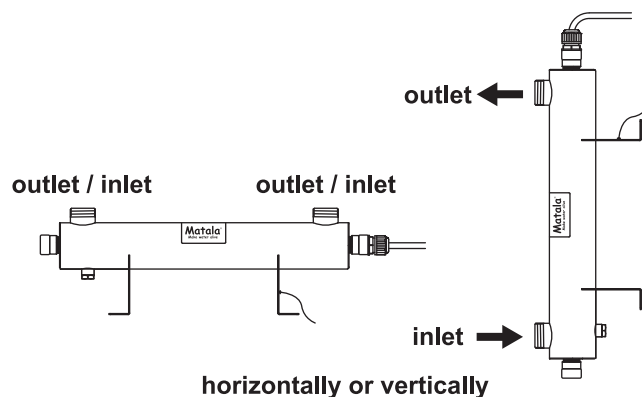
CAUTION • Do not cut / manipulate / alter power cable or plug and use extension cable.

• It is suggested to install the Spectrum UVC at the end of the filter. Install the unit in a dry location in order to protect all components.

• It can be installed horizontally or vertically. For horizontal installation, it can be mounted flat on a level surface or mounted sideways in a horizontal position to a wall.

For vertical installation, please use the lower inlet as water in and upper outlet as water out, in order to purge the unit of air bubbles and increase the efficiency. The UV lamp power connection should be located upper side.

• If it is mounted to a wall, the unit must be securely fastened with bolts or other means to ensure the weight of the unit is fully supported.



• Do not support the unit with PVC pipe. The Spectrum UVC is heavy and PVC pipe is not strong enough to support it.

INSTALLATION

1. Mount UV unit to the position you need.

Tips: For SS-L16W / 25W / 40WT / 75WT, please attach the holders to the chamber. For SS-L40W / 40WU / 75W / 75WU / 150W / 150WU / 300W / 300WU, the holders are weld on the chamber.

2. Connect your plumbing to the male threads of the inlet / outlet pipes for flow in and flow out. Either direction is acceptable. Optional unions may also be connected to each inlet / outlet pipe will make future maintenance easier. Matala Unions are sold separately.

3. Use 5 to 7 wraps of Teflon tape around the male threads of inlet / outlet pipes. Teflon paste is also acceptable, but all male threads and female threads need to be fully coated.



Leak Test: Before inserting the UV lamp into the quartz sleeve, turn on your water pump and allow water to run through the UV for 15-20 minutes ensure there are no leaks at the both ends of compression fitting and quartz sleeve. Use a paper towel around the perimeter of the quartz sleeve to detect even slight leakage. Do not insert the UV lamps until you are 100% positive there are no leaks at the quartz sleeve seal.

Failure to follow these instructions may incur water damage to the UV lamps and ballast and will void the warranty.

► Ballast and UV lamp installation

Tips: DO NOT touch the UV lamp with bare hands. Use a clean soft cloth or gloves to handle the UV lamp and quartz sleeve. If you touch the UV lamp surface as spots or fingerprints, it may impair the UV transmission. If contact does occur, clean the UV lamp surface with alcohol.

Tips: DO NOT twist the white plastic part too hard when installation.

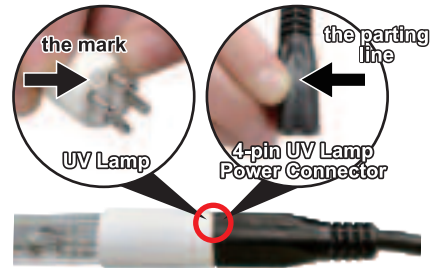
Tips: All units should have enough clearance space for installation and maintenance.

4. Carefully slide the UV lamp into the quartz sleeve / chamber through the compression fitting firstly.



5. Align the UV lamp's 4-pins properly with the 4-pin UV lamp power connector.

Notice: The mark on the UV lamp plug must be in the same direction as the parting line on the 4-pin UV lamp power connector. The 4 pins of the UV lamp must align exactly with the rectangular shape of the UV lamp connector.



6. Plug the 4-pin UV lamp power connector to the UV lamp pins first. Use gentle pressure.

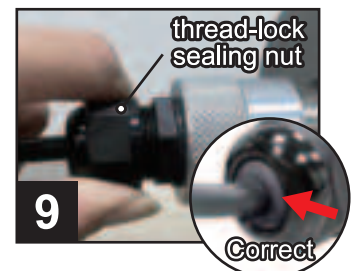
Tips: Avoid any angles when plugging the UV lamp, because it may damage the UV lamp.

Notice: For the SS-L150W / 150WU / 300W / 300WU UV unit. One ballast is connected to two UV lamps, both UV lamps must be plugged in to 4-pin UV lamp power connectors before lighting.

7. Push together until almost no gap exists.

8. Screw the cable gland to the chamber. Fasten the body part by hand-tighten. Push the power cable to make sure the UV lamp is in the middle of quartz sleeve.

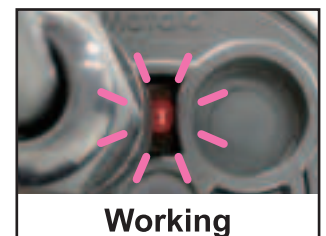
9. Fasten the thread-lock sealing nut by hand-tighten. Confirm the nut is tightened.



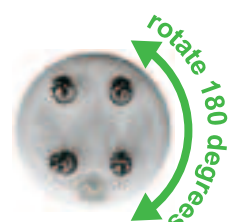
Tips: You may use a hand wrench to carefully tighten the cable gland to further prevent moisture from entering the UV lamp and quartz sleeve chamber.

10. Make sure the ground cable on the chamber has been connected properly to a ground rod.

11. Plug the ballast into the wall outlet with GFCI. On one end of the ballast is with a red LED light. When this light is ON, it indicates that the UV lamp and ballast are both working. If the red LED is OFF, it indicates that either the UV lamp is dead or the ballast is not working. Then, please check if the UV lamp and ballast are still working well.



Tips: If UV lamp does not light, please rotate the UV lamp's 4 pins 180 degrees and start from step 5 to install the UV lamp again. If UV lamp still does not light, please contact your dealer.



12. Reverse this order when disconnecting.

Tips: Unplug the ballast from wall outlet first; then unplug the UV lamp from the 4-pin UV lamp power connector.



NOTICE

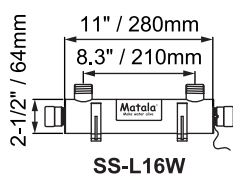
- Disconnect the power supply before any installation or maintenance, and do not pull the UV lamp up with the cable.
- Before using Spectrum UVC, please make sure the quartz sleeve is not broken and all connectors / fittings are tightened. Once leaking is found, please stop using it in case of any accident.
- When integrating the Spectrum UVC into the pond's water recirculation and filtration system big particles or dirt must be prevented from entering the unit as this will reduce the UVC efficiency. The Spectrum UVC should always be installed after the pump or a filter. This helps to clear the water of debris / impurities before it passes through the UV clarifier. It also avoids the breakage of quartz sleeve and UV lamp.
- Always connect the power supply with ground fault circuit interrupter (GFCI), when using the Spectrum UVC.
- This unit is not recommended for saltwater aquarium use, where the salinity is above 0.5%.
- The UV light will hurt the eyes and skin, please keep away from the UV lamp without any defense.

SPECIFICATIONS

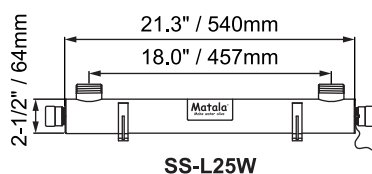
Model	SS-L16W	SS-L25W	SS-L40WT	SS-L75WT	SS-L40W SS-L40WU	SS-L75W SS-L75WU	SS-L150W SS-L150WU	SS-L300W SS-L300WU
Specification								
Peak flow rate up to (GPH) / (LPH)	1,400 / 5,300	2,000 / 7,600	3,500 / 13,300	5,000 / 18,950	4,000 / 15,200	5,700 / 21,600	6,500 / 24,650	17,000 / 64,350
**Max. suggested pond size (gal) / (L)	3,000 / 11,400	4,000 / 15,200	6,000 / 22,750	10,000 / 37,900	7,000 / 26,500	11,500 / 43,550	13,000 / 49,250	30,000 / 113,600
UV lamp (W)	16W	25W	40W	75W	40W	75W	75W x 2	75W x 4
Ballast watt (W)	16W	25W	40W	75W	40W	75W	150W	150W x 2
Chamber dimensions: Dia. x L (in) / (mm)	Ø2-1/2" x 11" Ø64 x 280	Ø2-1/2" x 21.3" Ø64 x 540	Ø2-1/2" x 33.1" Ø64 x 840		Ø3.5" x 33.1" Ø89 x 840		Ø3.9" x 33.1" Ø100 x 840	Ø5.5" x 33.1" Ø140 x 840
Inlet / Outlet ports (PT/NPT) (in)	1-1/4" Outside thread	1-1/2" Outside thread			2" Outside thread			3" Outside thread
Voltage	100-240V, 50 / 60Hz (Special electric ballast can use for full range voltage)							
Chamber material / Max. pressure (psi)	Stainless Steel / 125PSI							
UV rated lamp life (hrs.)	Up to 9000 hours							
Spare parts								
UV Lamp	TUV16W 4P SE	TUV25W 4P SE	TUV36T5 HE 4P SE	TUV36T5 HO 4P SE	TUV36T5 HE 4P SE	TUV36T5 HO 4P SE		
Quartz Sleeve	QS-L16W	QS-L25W	QS-L40/300W					
Ballast	BL-L16W	BL-L25W	BL-L40W	BL-L75W	BL-L40W	BL-L75W	BL-L150W	

• The above specifications are subject to change without prior notice.

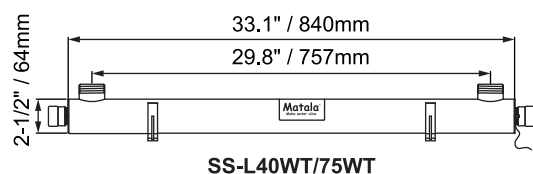
Dimensions:



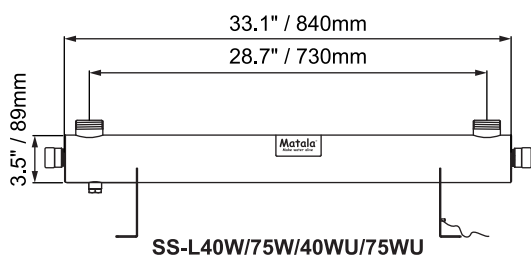
SS-L16W



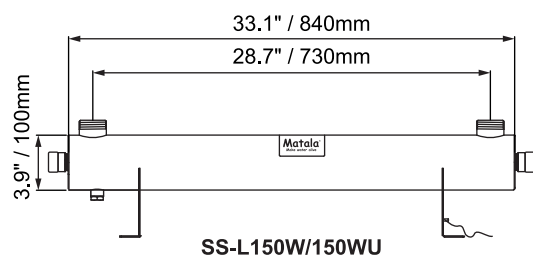
SS-L25W



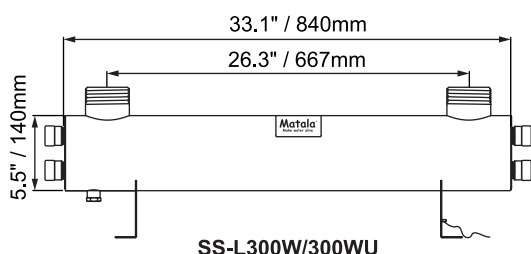
SS-L40WT/75WT



SS-L40W/75W/40WU/75WU



SS-L150W/150WU



SS-L300W/300WU

Before any maintenance:

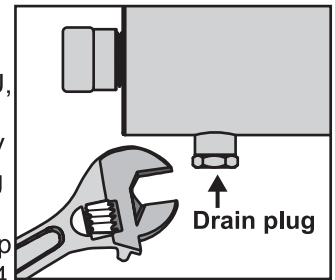
Tips: For temperate climates, servicing can be done in wintertime.

1. Disconnect the power supply and turn off the water pump to stop the influent water.

If the Spectrum UVC is installed, close all valves required to prevent draining water from the pond out of the UV during the maintenance process.

2. In order to prevent the high temperature of the UV lamp / UVC unit, the water must remain at a standstill for more than 30 minutes after disconnecting the power supply.
3. Drain out the water:
For SS-L16W / 25W / 40WT / 75WT, please drain out the water by the end of UV chamber.

For SS-L40W / 40WU / 75W / 75WU / 150W / 150WU / 300W / 300WU, please discharge the residual water (in the UV chamber) by unscrewing the small drain plug in bottom of chamber. Wrap this drain plug with 3 to 4 wraps of Teflon tape and thread back into the chamber.



4. Please prepare gloves or a clean soft cloth to handle UV lamps and quartz sleeve.

► Replacement of UV lamp:

Check the Spectrum UVC routinely to ensure the normal operation of the UV lamp.

UV lamp has a limited lifetime. Even the UV lamp is still on, it is suggested to replace UV lamp every 9000 hours or at least once per season. This guarantees that UV-C output will never fall below effective levels.

1. Loosen the cable gland by hand or an adjustable wrench, and unplug 4-pin UV lamp connector. Remove the UV lamp.
2. Slide a new UV lamp. Follow **INSTALLATION** step 5 (p.4) to install the new UV lamp.

► Replacement or cleaning of quartz sleeve:

To ensure the high efficiency with best water quality, please check quartz sleeve regularly (Every 3 months. It depends on the water source quality). To see whether there are substances gathered, it will help you to judge and know how long it should be cleaned next time.

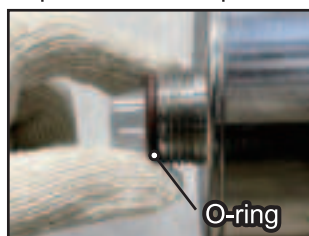
• Replacement

1. Loosen the cable gland by hand or an adjustable wrench.

Tips: Unscrew the thread-lock sealing nut first, and then unscrew the body part.



2. Unplug 4-pin UV lamp connector and remove the lamp.
3. Unscrew the compression fitting from both side of the chamber.
4. Carefully remove the O-ring from both ends of the quartz sleeve. For proper seal, we recommend to replace the O-ring once per year during cleaning or quartz sleeve replacement.



5. Slowly pull out the quartz sleeve from the chamber.

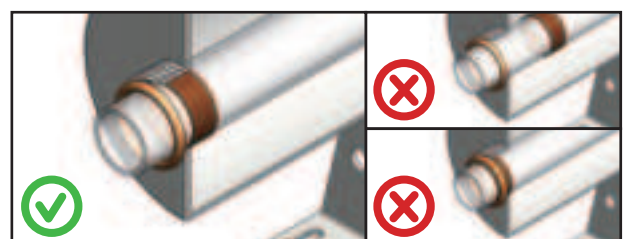
Tips: Do not let the quartz sleeve drop into the chamber. This could cause breakage.

To prevent the quartz sleeve from falling into the chamber, use your finger to gently hold one side of the quartz sleeve up, while slowly and gently pulling the quartz sleeve out of the opposite side of chamber.

6. Slowly insert a new quartz sleeve back into the chamber. Hold up the quartz sleeve with your fingers and DO NOT ALLOW THE QUARTZ SLEEVE TO DROP INTO THE CHAMBER. Carefully align the quartz sleeve with opposite end of chamber, so that the quartz sleeve extends an equal distance on both ends of the chamber. The quartz sleeve should extend approximately 1/2" on either end of the chamber.

Tips: If you purchase a new quartz sleeve, it is with an O-ring ⑦ and a gasket ⑧. The gasket is attached on the new quartz sleeve.

7. Dampen the O-ring with water and slide over each end of quartz sleeve. Maintain an equal extension of quartz sleeve on both ends and use your finger to seat the O-ring into the compression groove.



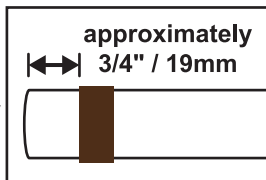
- Hand-tighten the compression fitting back over the quartz sleeve and O-ring with firm hand pressure only. Do not use a wrench on the compression fitting.

Tips: This fitting helps prevent external water or moisture from entering the UV lamp and quartz sleeve.

- Turn your water pump on. Wait for 3-5 minutes to allow the unit to prime with water and let the Spectrum UVC run for 15-20 minutes before installing the UV lamps and check for leaks at the open end of the compression fitting.

• Cleaning

- Remove the quartz sleeve by following the replacement of quartz sleeve, step 1-step 4 (p.6).
- With a damp rag, clean both ends of the chamber to remove any debris which may interfere with a proper seal with the quartz sleeve.
- Make note of a flat gasket ⑧ on both ends of the quartz sleeve. This flat gasket acts as a safety cushion between the quartz sleeve and the chamber. The outer edge of this flat gasket should be approximately 3/4" from the end of the quartz sleeve. The flat gasket should not interfere with the compression fitting of the O-Ring.
- Inspect the quartz sleeve if any cracks or chips on either end. If it is cracked or chipped, please replace the quartz sleeve.



If a leak occurs it will permanently damage the ballast and UV lamps.

- If no water leak, reinstall the UV lamps. Align the UV lamp connector to properly fit the 4-pin UV lamp. It only fits in one direction. Follow **INSTALLATION** step 5 (p.4) for further installation.

- If it is in good condition, it should be cleaned annually with 100% Muriatic Acid. This acid can be found through a swimming pool supply source. Please follow your Muriatic Acid instruction manual. Wear rubber gloves, do not get on skin, do not inhale acid fumes and protect eyes from splash. Use a rag soaked in the acid to wipe off the quartz sleeve. This will remove calcium deposits and organics both which prevent transmission of UV light. Do not contact the O-ring or flat gaskets with the acid. Rinse off the quartz sleeve with freshwater to remove acid. A clean quartz sleeve and a new UV lamp will give the best performance possible.
- After cleaning, install the original quartz sleeve and UV lamp back to the chamber. Follow the replacement of quartz sleeve, step 6-step 10 (p.6-7).

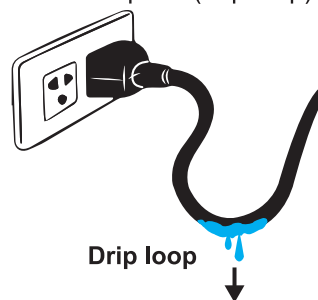
► Replacement of ballast:

- Remove the original ballast. Loosen the cable gland by hand or an adjustable wrench, and unplug 4-pin UV lamp connector.
- Take a new ballast. Install the UV lamp by following **INSTALLATION** step 5 (p.4) for further installation.

WARNINGS

- Only use the Spectrum UVC as this manual recommends.
- Frequent starts and stops may shorten the life of UV lamps.
- The UVC unit and ballasts should not be located in low spots where water will collect. Protect the unit and ballast from exposure to sun / heavy rain / snow. Locate the ballast out of the direct sun and off the ground where it may flood. It is suggested to place the ballast in an area where is protected from splashing, flooding or dripping of water.
- If by accident the Spectrum UVC falls into the water, unplug the unit from the electrical network immediately before taking it out of the water.
- The Spectrum UVC's electrical plug should be plugged with ground fault circuit interrupter (GFCI).
- Do not operate the unit with damaged plug or power cable.

- In case the Spectrum UVC and / or its ballast are installed above an electric wall outlet, care must be taken that the power cable has a hanging loop below the power connection point (drip loop).



- Never yank or pull the cable from an electrical outlet.
- Always disconnect the power cable when it is not operation.
- Verify that hands are dry, and keep the plug and electrical connections dry to reduce the risk of electrocution.

MATALA WATER TECHNOLOGY CO., LTD. warrants to the original purchaser of its Spectrum UVC under the following limited conditions.

- Stainless steel chamber: Three years from the date of purchase.
- Ballast: One year from the date of purchase.
Contact the nearest authorized Spectrum UVC dealer for warranty service.
- The limited warranty of stainless steel chamber covers leaks due to welding malfunction or physical defect when manufactured. This warranty does not cover rust, scratches, dings, dents or other visible marks which do not affect function of the unit. It does not cover physical defects or leaks in the body, support stand or threaded connections due to improper handling, shipping or installation.
- The UV lamp and the quartz sleeve are not warranted against breakage due to being made of glass.
- Matala Spectrum UVC shall possess the sole right to determine whether to repair or replace defective unit, parts or components.
- Any cost incurred for the labor of removing the unit shall be the responsibility of the original purchaser, as will be all shipping charges to and from Matala Water Technology Co., Ltd. representatives. Damage or failure of the UVC unit covered by this warranty, which results from cause, directly or indirectly, connected with the installation, operation, environment, use or willful abuse, including, without limitation, improper packaging and damage incurred during shipping is not covered by this warranty.

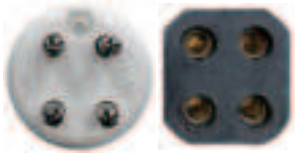
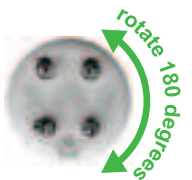
Otherwise, any implied warranties, which accompany the sale of the goods, are limited to their respective time constraints from the date of purchase. The manufacture will only be responsible for the repair or replacement of any of its products or parts thereof that are found to be defective and will not bear the cost of any incidental or consequential damages arising out of the occurrence of such a defect.

Anything not covered under warranty will go under a section called limitations:

- To defects or malfunctions resulting from failure to properly install, operate, or maintain the unit in accordance with printed instructions provided.
- Warranty does not cover malfunction from improper installation.
- Warranty is void if unit is not plugged into GFCI.
- Warranty does not apply to cosmetic appearance such as rust, scratches, dents or fading of color.
- Warranty does not include UV lamp and quartz sleeve. The parts can be obtained from an authorized dealer.
- Warranty only applies to original end user and is not transferable.
- Warranty does not cover repairs done by any agency not authorized by Matala Water Technology.
- Warranty denies liability for any other loss including but not limited to personal injury, livestock, unit, property or income.
- If the unit is used for purposes other than for what it was designed and manufactured for.
- If the unit or components have been tampered with or modified in any way by an unauthorized dealer or repair shop.
- Spectrum UVC and ballast are not submersible, and protect the unit and ballast from exposure to sun / heavy rain / snow.
- Do not cut / manipulate / alter power cable or plug and use extension cable.

SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AFTER THE TERMINATION OF THE WARRANTY PERIOD.

TROUBLESHOOTING

Problems	Remedy
No Power to Ballast	Faulty power cables, switches, or fuses.
	Ballast or breaker has tripped.
	Ballast is damaged.
Ballast or Breaker Keeps Tripping	Connection between UV lamp and 4-pin UV lamp power connector is wet.
	Short-circuit in the electrical assembly.
The UV Ballast LED has Flashing Lights or LED is OFF	Reset power to the unit.
	Check if the UV lamp is damaged.
	Replace the ballast.
UV Lamp is Not Lighting	Check if the power is getting to the unit. Check the ballast output.
	Check if the 4-pin UV lamp power connector is damaged.
	The 4-pins of the UV lamp must align exactly with the rectangular shape of the UV lamp connector. 
	Rotate the UV lamp's 4 pins 180 degrees and install the UV lamp back. 
	Look for the signs of obvious damage in the UV lamp (cracks, filament damage, bent pins).
	Check signs of water ingress. Look for damage to quartz sleeve.
UV Lamp is Glowing but Not Lighting	Improper wiring of the fixture or faulty wiring.
	Defective or miss-matched UV lamp for the ballast.
UV Lamp is Repeatedly Turning On and Off	Loose cables and other electrical issues.
	Check a backup UV lamp.
	Failed ballast starter.
Leak at Inlet or Outlet Port	Thread pipe fittings are leaking.
	Cracked chamber.
Leaks from UV Chamber Compression Fitting	Nicked, cut or improperly seated O-rings.
	Pitting in steel caps.
	Rust, cracks, and corrosion.
Insufficient Water Disinfection	Check the order of installation.
	Inadequate sediment removal.
	Check if the UV lamp is damaged.
	Scratched or cloudy quartz sleeve.
	Water flow is exceeding capacity of UV unit.



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