

Marsh Ultra Polylok UV Ultra Violet Sewage Treatment

99% Bacteria Free



The Marsh Ultra Polylok UV (ultraviolet disinfection unit) was specifically designed for disinfecting the effluent from residential and commercial aerobic sewage treatment plants. It is able to reduce by over 99% fecal coliform bacteria levels. The unit is designed with no moving parts, has no chemical dosing and will destroy viruses, parasites and pathogenic bacteria, treating the final discharge that will then meet the most stringent UK treatment standards. The unit has an integral 200mm fitted sample chamber.

The Ultra Polylok UV can be either part of a Marsh Ultra Polylok sewage treatment plant 55-275PE or a separate standalone plant to further improve the effluent from existing commercial and residential sewage plants regardless of who was the original manufacturer. The inlet and outlet pipes are 160mm. The unique Ultra Polylok UV plant incorporates Ultra Violet treatment with further BOD and TSS filtration through the Marsh Polylok 525 Filter. The power is 230v with consumption of a single UV tube being 45 watts.

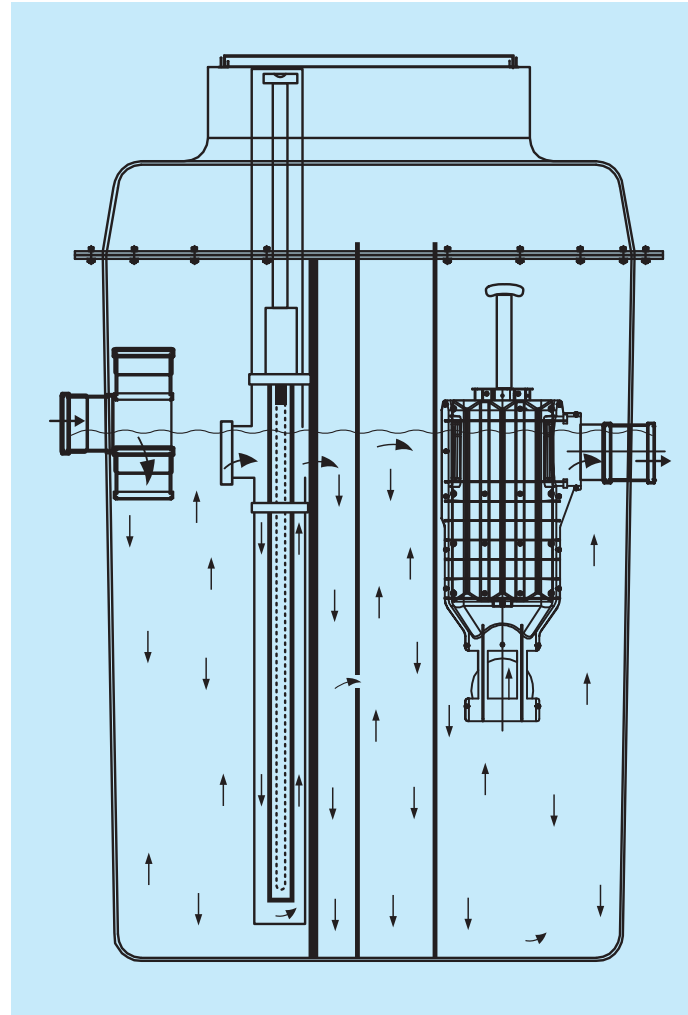
The many unique features of the Marsh Ultra Polylok UV plant include, the ease of maintenance, short UV contact time, IP65 rated control box and perhaps most importantly the UV tube is housed in a "self cleaning" clear Teflon coated tube which whilst protecting the tube also prevents the surface of the tube from adverse coating .

An integral alarm gives advance warning of either the need for cleaning or the need of future changing of the UV tube, The Polylok 525 filter is cleaned and returned to its housing within seconds. Marsh supply an integral high level alarm as part of the unit. The Ultra Polylok UV plant can have either single or multiple UV tubes fitted depending on either the size of the plant or the higher level of bacterial treatment required

UV Treatment Performance:

For a Single UV tube the maximum flow through the unit is rated at 16m³ litres per day or a peak flow rate .056 litres per second under the following conditions: But we have built in a further 90% safe guard as standard.

- Ultra Violet Dosage is greater than 5mJ/cm²
- Suspended Solids – less than 30 mg/litre
- BOD (5 days) – less than 30 mg/litre



If the effluent is cleaner than the above figures the level of treatment is even more concentrated and higher.

Under the above conditions, the fecal coliform reduction by the Marsh Ultra Polylok UV plant exceeds 99.9% or 3-logs, at the end of UV lamp life which is two years of continuous operation. Fecal coliform measurements in the aerobic treatment effluent typically range from 2000 – 80,000 per 100 ml. The Marsh Ultra Polylok UV unit is designed to disinfect the effluent from aerobic treatment units. There are no adverse effects from over exposing the effluent to germicidal ultraviolet light.

Product Code	Dia.	Height	Polylok Filter	No. of UV Filters	PE.	Watts
MUPUV1	1100mm	2200mm	525	1	50	40
MUPUV2	1100mm	2200mm	525	2	100	80
MUPUV3	1700mm	2200mm	525	3	150	120
MUPUV4	1700mm	2200mm	525	4	200	160
MUPUV5	1700mm	2200mm	525	5	250	200

Other Capacity Units Available. Based Upon less than 30mg/l and TSS 30mg/l

T: 0044 1933 654582 F: 0044 1933 654583 www.marshindustries.co.uk sales@marshindustries.co.uk



MAINTENANCE & SERVICE THE ULTRA VIOLET TREATMENT TUBES

It is recommended that the disinfection subassembly be removed and serviced every six months to insure proper effluent disinfection. Inspect the Teflon sheath for damage or biological film. If the sheath is torn or biofilm is present between the sheath and the quartz sleeve, the Teflon sheath must be replaced. Contact Marsh Polylok for replacement parts. If biofilm is present on the surface of the Teflon sheath, the sheath must be cleaned to insure proper disinfection. To clean the Teflon sheath:

- Use a soft damp cloth to carefully wipe down the sheath.
- Use isopropyl alcohol on a soft cloth to carefully remove difficult stains like fingerprints or biological film.

CLEANING THE TEFLON SHEATH

The system is designed to provide a long service life. It is recommended that the UV lamp be replaced every two years to insure proper disinfection of the treatment system effluent. The green light on the side of the equipment enclosure will no longer illuminate when the lamp needs to be replaced. To replace the lamp:

- Turn off the dedicated breaker in the main electrical panel that supplies power to the UV system. Confirm that the green indicator light on the side of the enclosure is "off".
- Carefully remove the equipment enclosure from the riser pipe without disconnecting the cable connected to the UV lamp and set it aside.
- After confirming the UV lamp is not lit, use the power cable connected to the UV lamp to carefully remove the lamp from the disinfection subassembly.
- Disconnect the UV lamp from the four pin connector inside the black sleeve on the power cable.
- Connect the new lamp to the four pin connector and carefully lower the new lamp into the UV subassembly. Make sure the lamp is fully seated in the quartz sleeve. Tuck the remaining power cable into the riser pipe.
- Place the equipment enclosure on the 4" ABS riser pipe. The fitting on the back of the enclosure should engage securely into the riser pipe.
- Turn on the dedicated circuit breaker located in the main electrical panel that supplies power to the UV system. Verify that the green lamp indicator light on the side of the equipment enclosure is illuminated.

NOTE: The UV lamp contains mercury which is harmful to the environment. Insure that old UV lamps are disposed of at a recycling centre.

ALARM CIRCUIT

The Marsh UV, disinfection system is equipped with an internal current sensing circuit that continuously monitors the performance of the UV lamp. If the UV lamp output drops below an acceptable level for proper ultraviolet disinfection, the alarm circuit will turn "off" the green lamp indicator light located on the outside of equipment enclosure. This will also activate the optional alarm outputs. When connected to a telemetry system the service provider can be immediately notified that maintenance to the UV system is required.

For more information regarding connection of the disinfection system alarm to a control centre, please refer to the installation and operation instructions for the control centre.

The Marsh Ultra Polylok Filter needs routinely cleaning, this is a simple process of removing the filter and washing any solids away and then replacing into the housing. For full details see the Marsh Ultra Polylok brochures.

Marsh Ultra Polylok Sewage Systems

Units 3-13 Little Addington Business Park,
Kettering NN14 4AS United Kingdom

T. 0044 1933 654582

e.sales@marshindustries.co.uk



BRITISH WATER

