

## UV Disinfection Product Data Sheet

### Product Description

The Stormsaver UV disinfection unit is used to minimise the growth of organisms within the rainwater supply.

UV light is very versatile and can be used for disinfecting and destroying harmful microorganisms. With UV technology it is possible to destroy more than 99.99% of all pathogens within seconds without using chemicals, and is therefore an efficient, economic and particularly environmentally friendly process. Using a special quartz glass material, UV lamps are able to generate the exact wavelengths of UV light required for disinfection. Specially designed power supplies and electronic controls operate and monitor these lamps for optimum performance.

The unit should be installed directly before the application i.e. after the header tank, pressure vessel or combi unit, and is designed to help prevent potential illness caused by water born organisms.

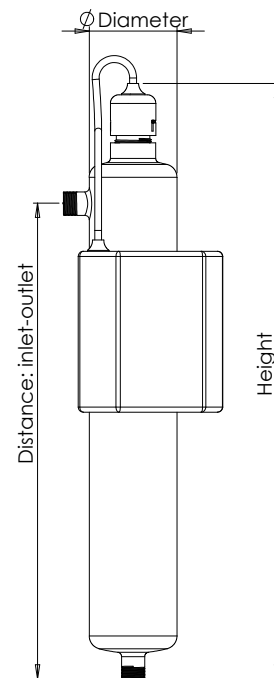
The unit is available in two different ranges - Altima and Proxima which come in a variety of different flow rates. Both can be mounted in pipework horizontally or vertically, as long as sufficient space is allowed for the removal of the bulb at the lamp cable end.

### Range Features

| Features:  | Range |   |
|--|-------|---|
|  | A     | P |
| Tested and proven disinfection capacity                                | •     | • |
| Electro-polished stainless steel disinfection chamber                  | •     | • |
| High output low pressure UV lamp                                       | •     | • |
| Highly efficient electronic ballast power supply                       | •     | • |
| Glow-cap lamp operation indicator                                      | •     | • |
| Safety lamp connector  | •     | • |
| Micro-computer control   |       | • |
| Audible alarm plus visual alarm display                                |       | • |
| Lamp change reminder with 365 days counter                             |       | • |
| Alarm and computer reset button  |       | • |
| Digital display /lamp life readout                                     |       | • |
| Volt Free BMS Contact (optional extra) *                               |       | • |
| Power connection for optional automatic solenoid safety shut-off valve |       | • |

\* BMS contact is not available on A range.

### Technical Drawing



Please refer to table for dimensions

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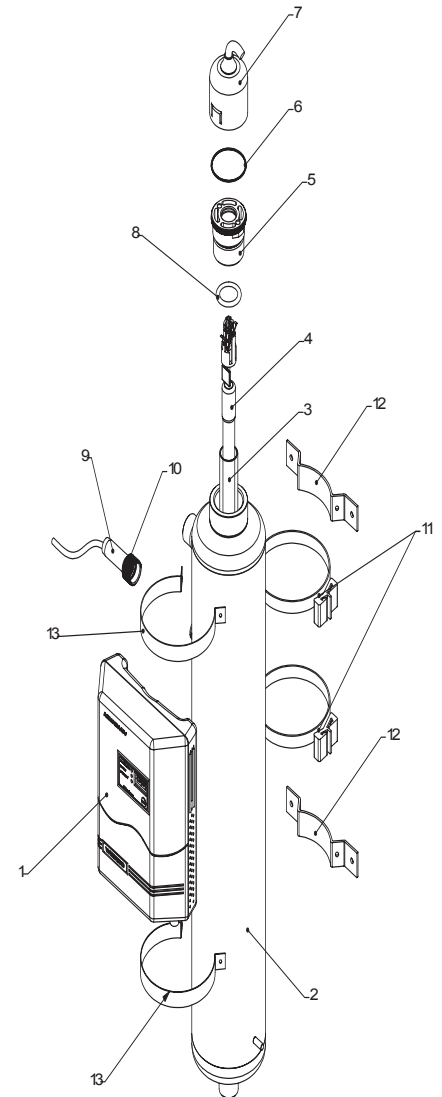
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## Technical Details

| Code   | 25/UV1   | 25/UV2 | 25/UV4 | 25/UV7 | 25/UV10 |      |
|--|--|--------|--------|--------|---------|------|
| Height (mm)  | 465  | 672    | 674    | 1023   | 1039    |      |
| Diameter (mm)  | 63   | 68     | 84     | 87     | 108.2   |      |
| Inlet to outlet (mm)   | 344.5  | 546.5  | 543    | 892    | 888     |      |
| Control Box Dimensions (mm)  | 168(w) x 200(h) x 66(d)  |        |        |        |         |      |
| Weight (kg) approx.<br>(+2.5kg for control box)                      | 1.7  | 2.4    | 3.2    | 5.0    | 9.0     |      |
| Connection (")   | ½"BSP  | ¾"BSP  | ¾"BSP  | 1"BSP  | 1½"BSP  |      |
| Min. free space required for bulb removal at lamp connector end (mm) | 370  | 570    | 570    | 920    | 920     |      |
| UV-C Output 254nm (W)  | 6.5  | 6.5    | 6.5    | 33     | 33      |      |
| Power Consumption (W)  | 35   | 55     | 55     | 85     | 85      |      |
| Voltage / Hz   | 230 Volt / 50 - 60Hz   |        |        |        |         |      |
| Max flow rate ensuring efficient disinfection for RW                 | (l/s)  | 0.25   | 0.63   | 1.03   | 2.13    | 2.9  |
|  | m³/h   | 0.9    | 2.27   | 3.71   | 7.7     | 10.4 |
| UV Dose  | (300 J/m²) max. up to 10.5m³   |        |        |        |         |      |
| Water UV Transmittance   | (@254nm, 1cm) min.80%  |        |        |        |         |      |
| Operating Pressure   | max. 10bar   |        |        |        |         |      |
| Water Temperature  | - recommended range 5 - 25°C<br>- possible range 0 - 35°C  |        |        |        |         |      |
| Material   | Reactor: Stainless steel 316L, electro polished.<br>Control Box: ABS   |        |        |        |         |      |
| Location   | The installation site of the unit must be frost protected and dry. Unit can be installed either horizontally or vertically; sufficient room must be made available to remove the bulb. |        |        |        |         |      |

## Exploded Drawing



- 1 - Control box
- 2 - Reactor
- 3 - Quartz sleeve
- 4 - UV lamp
- 5 - Head piece
- 6 - O - ring (head piece)
- 7 - Lamp connection
- 8 - O - ring (quartz sleeve)
- 9 - UV sensor
- 10 - Sensor connection
- 11 - Control fastening band
- 12 - Reactor fastening band
- 13 - Reactor fastening band

## Other Information

Installation must comply with the Water Supply (Water Fittings) Regulations 1999. All pipework must be clearly colour coded and marked in accordance with the WRAS : IGN No 9-02-04 & IGN No 9-02-05. See separate Stormsaver data sheet.

The Stormsaver system complies with BS8515:2009.

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## UV Lamp Details

| Code                     | 25/UV1           | 25/UV2    | 25/UV4    | 25/UV7    | 25/UV10   |
|--------------------------|------------------|-----------|-----------|-----------|-----------|
| Type                     | NLR1825WS        | NLR1845WS | NLR1845WS | NLR1880WS | NLR1880WS |
| Lamp Power (Watt)        | 20               | 20        | 20        | 80        | 80        |
| UV-C output 254nm (Watt) | 6.5              | 6.5       | 6.5       | 33        | 33        |
| Lamp Life (Hours)        | 12 months (8760) |           |           |           |           |

## Filtration

Ultra Violet light is an energy rich light that has a wavelength of 200-400 nanometres (nm). To enable the UV disinfection to work effectively it is important that the rainwater is filtered to a suitable level prior to passing through the UV unit.

UV filtration works by changing the DNA of microorganisms, and interrupting the cell division. This means the cell can no longer reproduce and therefore loses its pathogenic effect. The reason for needing a filtration level of 50 microns or less is to avoid shadowing. This is where bacteria can not hide behind large particles, and therefore not be affected by the UV light.

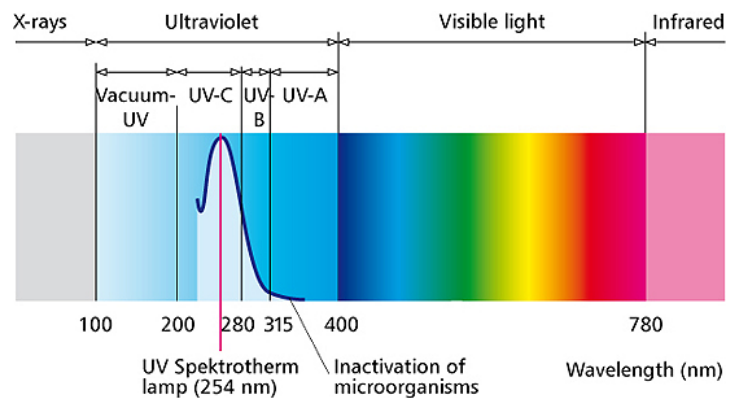
It is recommend that a filter with a rating of 50 microns or less is used. It is however important that other filtration is carried out prior to the 50 micron filter to ensure that the filter does not get blocked regularly.

## Replacement Bulbs

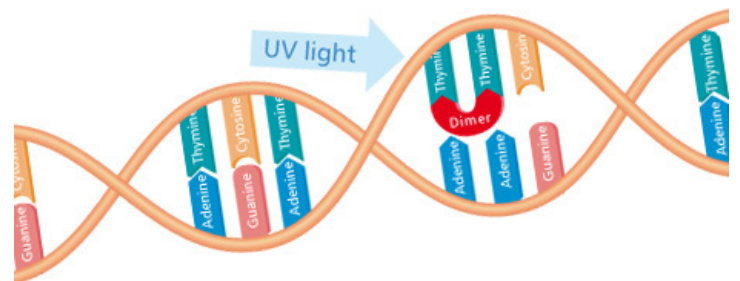
In order to maintain the effectiveness of the UV unit the bulb will need replacing. The bulb is designed to run constantly and has an effective life of approximately 12 months.

Replacement bulbs are available from Stormsaver and can be purchased as an individual item, or we can supply and change these as part of a maintenance package. For more details on taking out a maintenance contract please contact [ask@rainmaintain.com](mailto:ask@rainmaintain.com) or order online at [www.rainwaterdrainage.com](http://www.rainwaterdrainage.com)

## UV Light Spectrum



## DNA Strand



**DNA strand showing how UV light changes the make up of the cell**

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