



## Centurion Smart Wall mounted 3 Stage UV System

Model Number: MCS and KMCS

### Applications

Filtration and disinfection of:

- Rainwater
- Bore or surface water – subject to water quality

Suits small to medium homes potable water supply

### Industry leading warranty:

- 10 years on stainless UV chamber
- 3 years on electronic controller
- 14 months on lamps, sensors and sleeves
- 12 months on filter housings

## Microlene's Centurion Smart 3 Stage UV System

Microlene's proven three-stage filtration and ultraviolet disinfection systems can provide continuous clean and safe water from your rainwater tanks. Note: Microlene disinfection systems cannot remove dissolved metals, chemicals or toxins from the water. Additional treatment is required for these contaminants.

In conjunction with pre-filtration, UV is the best practical option for treating drinking water and is widely used in disinfecting the drinking supplies of not just individual homes, but entire towns.

Simplistic in operation, these systems feature a tricolour LED that indicates system status and a 4-digit display to indicate lamp life remaining. Pressing the button will change the display to indicate total running time. When the UV lamp is on and within its operating age, the LED will be green. When the UV lamp is not on or the lamp life has expired, the LED will be illuminated red and an audible buzzer will be sounding. To remedy this condition, the UV lamp must be replaced with a new genuine Microlene UV lamp.

Centurion MCS features:

- Special filter design with O-ring groove for fail-safe installation
- High maximum operating pressure 827kPa (120 psi), and single manifold heads (no potential leaks between heads)
- Tri Colour LED display that indicates system status and a 4-digit display to indicate lamp life remaining

- 316L stainless steel, axial flow chambers allow for optimum efficiency plus lamp and sleeve service without the need to drain the water
- Coated UV lamps for consistent UV output throughout life
- 10,000 hour LP lamps – longest residential lamp life on the market
- Ready for quick installation and use
- 10 year limited warranty on UV chambers
- Splash-proof controller with constant current electronic ballast designed to IP54 ingress protection rating

Note: Cannot treat water contaminated by metals, chemicals or algal toxins.

### Models

MCS: Includes MCS 3 Stage UV System only (no cartridges) only available in NZ

KMCS: includes MCS plus 20 micron poly pleated cartridge and 1 micron polyspun cartridge

KMCS-TK: Part number for picking kit

AU includes KMCS Carton x1 (with Cartridges) and MCS-C Carton x1

NZ each item in its own packaging MCS x1, 20PP20J x1, 1PS20J x1 & MSC-C x1

### Controller Information and Diagnostics - Sample Screens



Screen after new lamp inserted successfully showing 420 days lamp life



Screen showing 30 days lamp life remaining and amber LED - time to prepare for lamp replacement



Screen showing lamp life expired one day ago and red LED illuminated. A continuous alarm sound will accompany the red LED.



## Operating Limits

|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flow Rates (subject to dosage, UVT and demand %UVT) | <p>Recommended 56.8 l/min @ 30mJ</p> <p>As a general guide, most households do not exceed 50 lpm demand at the same time.</p> <p>For example, 3 outlets turned on at the same time at an average flow rate of 9.3 lpm creates a demand of 27.9 lpm (this flow rate through the chamber will in fact increase the mJ UV dosage rate being applied to and treating the water) at this flow rate the water will in fact be treated at 61mJ @ 95% UVT which is over double the industry recommended 30mJ rating.</p> |
| Maximum system pressure                             | 827kPa (120 PSI)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Water temperature range                             | 0 – 40°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Maximum ambient temperature                         | 50°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Lamp life                                           | 10,000 hrs (14 months)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## Service Intervals

|                  |                    |
|------------------|--------------------|
| UV lamp          | Replace 14 months  |
| UV quartz sleeve | Clean 2 – 6 months |

## Materials of Construction

| Part                       | Material                                                                                            |
|----------------------------|-----------------------------------------------------------------------------------------------------|
| Chamber                    | Polished 316L Stainless Steel<br>A249 pressure rated tubing                                         |
| Wall mounting bracket      | Powder coated steel                                                                                 |
| Chamber connections        | 1" Male NPT<br>(AU supplied KMCS has BSP adaptor included)                                          |
| Filter Housing connections | 1" Female NPT<br>(AU supplied KMCS has 1" NPT to 1" BSP male nipple included for incoming pipework. |

## Spare Parts & Options

| Part code  | Description                                                                                     |
|------------|-------------------------------------------------------------------------------------------------|
| MCS-C      | Cover                                                                                           |
| KMCS       | Complete unit with filter cartridges                                                            |
| 20PP20J    | Poly pleated 20 micron rated cartridge (housing 1)                                              |
| 1PS20J     | Poly spun 1 micron rated cartridge (housing 2)                                                  |
| MC-HOLP    | High output UV lamp (O-ring included)                                                           |
| MC-HOSL    | Quartz sleeve (O-ring included)                                                                 |
| MCS-CONT   | MCS controller                                                                                  |
| MC-CONT-PC | Controller power cord<br>- IEC x AUS/NZ 3 Pin male                                              |
| DM130033   | Temperature Relief Valve - Thermal bleed valve activates when water temperature exceeds 32-35°C |
| DM160018   | Replacement Dual Cap and twin housing assembly                                                  |
| DM310177   | Filter housing replacement O-Ring                                                               |
| WFH45      | Replacement filter housing spanner                                                              |
| DM310039   | Replacement sleeve spring                                                                       |

Note: Keyed technology (lamp key) is not used on the MCS/KMCS Keys found with new lamps can be discarded. Keys are only used with the MCXS/KMCS Xtra Smart Controller.

## Electrical Data

|                    |           |
|--------------------|-----------|
| Supply Voltage     | 90-265V ~ |
| Supply frequency   | 50-60Hz   |
| Power (Total)      | 57W       |
| Phase              | 1         |
| Lamp               | 45W       |
| Max input current  | 0.24A     |
| Max output current | 800mA     |

## Water Quality

Water quality is extremely important for optimum UV performance. Maximum recommended parameters are as follows:

|                            |                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Hardness</b>            | 120 mg/L – if hardness level is 120 mg/l or slightly below the quartz sleeve must be cleaned periodically in order to ensure efficient UV penetration; if above the water must be softened. |
| <b>Iron (Fe)</b>           | <0.3 ppm (0.3mg/l)                                                                                                                                                                          |
| <b>Manganese (Mn)</b>      | <0.5 ppm (0.5mg/l)                                                                                                                                                                          |
| <b>Turbidity</b>           | <1 NTU                                                                                                                                                                                      |
| <b>Tannins (organics)</b>  | <0.1 ppm (0.1mg/l)                                                                                                                                                                          |
| <b>UVT (transmittance)</b> | >85% (Please contact Davey if water has a UVT that is less than 80% for pre-treatment recommendations)                                                                                      |

## UV Disinfection Systems

| Model                                     | MCS/MCXS   |
|-------------------------------------------|------------|
| <b>Flow Rate (@ 16 mJ/cm² @ 95% UVT)</b>  | 114 L/min  |
| <b>Flow Rate (@24.2 mJ/cm² @ 95% UVT)</b> | 70 l/min   |
| <b>Flow Rate (@ 30 mJ/cm² @ 95% UVT)</b>  | 56.8 L/min |
| <b>Flow Rate (@ 40 mJ/cm² @ 95% UVT)</b>  | 45.4 L/min |

NOTE: Flow rates are based on flow velocity of 8.2 ft/sec (2.5 m/sec), flow rate limited to 84 L/min for 1" port before significant pressure drop is realised.



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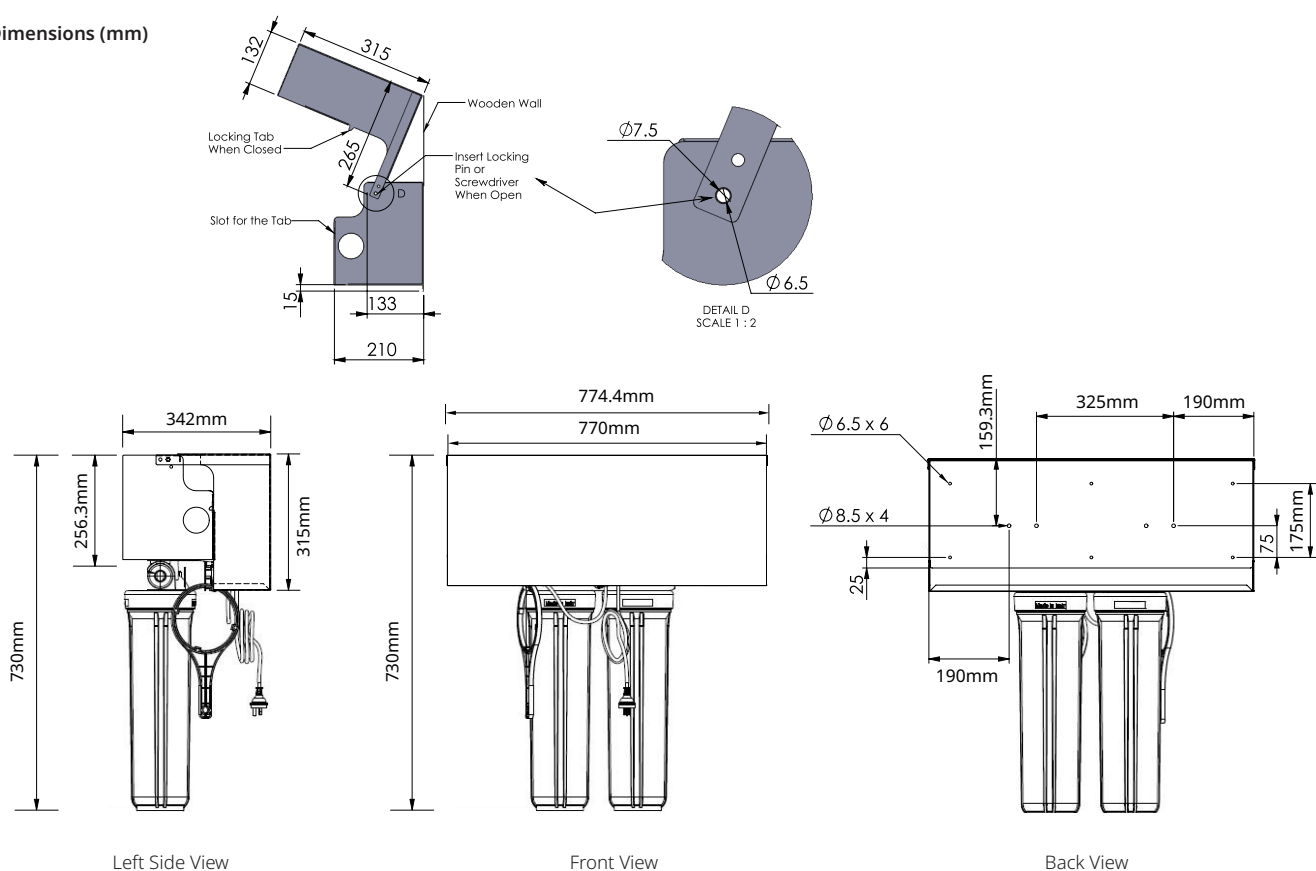




## Optional Cover for outdoor installation MSC-C

- Protects the chamber and controller from rain and direct elements for outdoor installations
- Enables the 3 Stage UV system to be set up left to right or right to left for ease of installation
- Mounting holes are aligned with the UV rack MCS and MCXS for ease of installation
- Insert locking pin or screwdriver to lock cover open during servicing
- Lamp change through side of the cover holes, no disassembling of cover required
- Made from 1.2mm zinc-titanium laminate zintek®
- Powdercoated with matt satin black finish
- Locking holes on either side 9mm x 7mm for applying a pad lock (not supplied) to prevent unauthorised access or tampering with the controller
- Elbow required during install to direct the outgoing water through the side cover holes (included for AU supplied KMCS/KMCXS units).

### Dimensions (mm)



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