

# UVD Robots are BS 8628:2022\* Compliant

## Setting the Standard in Whole-Room Disinfection

\*Disinfection using ultraviolet radiation – Methods for quantitative testing of automated ultraviolet disinfection activities by direct illumination – Determination of bactericidal, mycobactericidal, sporicidal, yeasticidal, fungicidal, virucidal and phagocidal activities

### Introduction

Disinfection with ultraviolet light is a well-known supplement to manual cleaning practices, and is an effective way to reduce bioburden on surfaces in various environments. The European disinfectant standard writing body CEN has released a standard that covers the requirements and methodology for testing the germicidal efficacy of UV devices: the BS 8628:2022. The UVD Robot has been tested against this standard by the accredited laboratory Danish Technological Institute\*\*, and has achieved conformance with the standard for the human health category.

### Procedure

- Bacterial or yeast suspensions were dried on stainless-steel carriers, and positioned on petri dish lids.
- They were placed horizontally and were exposed to UV-C light by the UVD Robot in a closed room with black non-reflective walls.
- The warm-up period was three minutes before the UV-C lights reached their maximum intensity.
- The stainless-steel carriers were subsequently transferred to a recovery agent and surviving microorganisms were quantified.
- The reduction in surviving organisms, measured as Decimal Logarithm (Log), was compared to a control.

### Test Specifications

- **Robot used:**  
UVD Robot Model C with 8 UV-C lamps at wavelength 254 nm.
- **Warm-Up time for UV-C lamps:**  
3 min.
- **Distance from test organism to light source:**  
2 m (6.6 ft)
- **Distance from test organism to the floor:**  
1.02 m (3.3 ft)
- **Test surface:**  
AISI 304 Stainless steel discs, 4 cm. (1.6 in) in diameter with Grade 2 B finish on both sides.
- **Soiling conditions:**  
Clean conditions (0.3 g/L BSA)
- **Recovery agent:**  
Saline peptone solution (SPO) 0.85% saline & 0.1% peptone.
- **Incubation conditions:**  
*Bacteria:* (37 ± 1) °C for 48 hours on tryptone soya agar (TSA), reading after 24 h and 48 h.  
*Yeast:* (30 ± 1) °C for 48 hours on malt extract agar (MEA), reading after 24 h and 48 h.

### Results

Microorganism	BS 8628:2022 standard requirement	UVD Robots efficacy @ 2 meter	Meets BS 8628:2022 standard
<i>Acinetobacter baumannii</i>	Log 5 (99.999%)	Log 5.4 (99.999%)	Yes
<i>Staphylococcus aureus</i>	Log 5 (99.999%)	Log 5.9 (99.999%)	Yes
<i>Escherichia coli</i>	Log 5 (99.999%)	Log 5.7 (99.999%)	Yes
<i>Enterococcus hirae</i>	Log 5 (99.999%)	Log 5.6 (99.999%)	Yes
<i>Candida albicans (fungus)</i>	Log 4 (99.99%)	Log 5.1 (99.999%)	Yes



### Conclusion

Disinfection with the UVD Robot Model C does fulfill the requirements according to the standard BS 8628:2022.

