



AIR160

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AIR160 Case Study

The disinfection potential of the Air 160 air treatment system on *Staphylococcus micro organisms* in pharma industry

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1. Introduction

Note: The large global pharma company, where these tests were conducted did not allow us to use their name in this case study. Agreed was that this study could be released in neutral state, with no referral to their name.

At a global pharmaceutical company a high concentration of Staphylococcus in the clothing changing area, leading up to their clean rooms, was detected.

This micro-organism is commonly found on human skin. After a desk research study the company decided to select

ultraviolet disinfection as technology to reduce this micro-organism to an acceptable level.

A compact solution, which offered reliable disinfection was selected: **The Air 160 system.**

2. Test set up and protocol

In order to determine the disinfection ability of the Air 160, the unit was submitted to a test: In lab conditions Staphylococcus was released via a vaporizer in a closed area.

Two Air 160 units were placed next to each other:

Test 1:

- Unit A has the UV lamp switch OFF and the fan is working.
- The Air 160 unit is switched on for 15 min. and then switched off.
- 5 settling plates have been placed at various locations in the lab.

These locations will be used to collect and analyse the presence of Staphylococcus

Test 2:

- Unit B has the UV lamp switched ON and the fan is working.
- The Air 160 unit is switched on for 15 min. and then switched off.
- 5 settling plates have been placed at various locations in the lab.

These locations will be used to collect and analyse the presence of Staphylococcus

The switch on time selected was carefully calculated and in line with the process conditions (size of the room and air flow speed) the Air 160 would meet, when installed in the clothing changing room area.

3. Test results

Samples were taken and analysed

Position	Air 160 with UVC lamp off	Air 160 with UVC lamp on	Reduction (%)
	CFU	CFU	
1	74	0	100
2	41	0	100
3	114	8	93
4	8	5	37
5	76	2	97

The culture that was vaporized was $8,6 \times 10^6$ mL.

4. Conclusion:

The results showed that UV disinfection can offer a reduction on Staphylococcus of typically 95 to 99%

As a result of these tests the Pharma company decided to invest in the Air 160 equipment and purchased 10 units for this plant.

Future uptake of the Air 160 at their different sites is to be located.

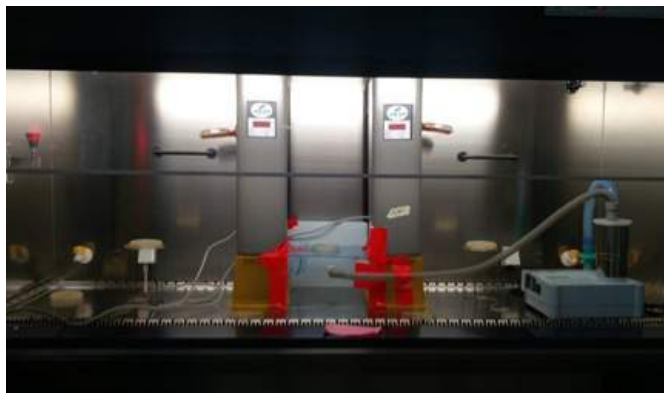


Photo 1: Test set up Air 160, vaporiser and settling plates

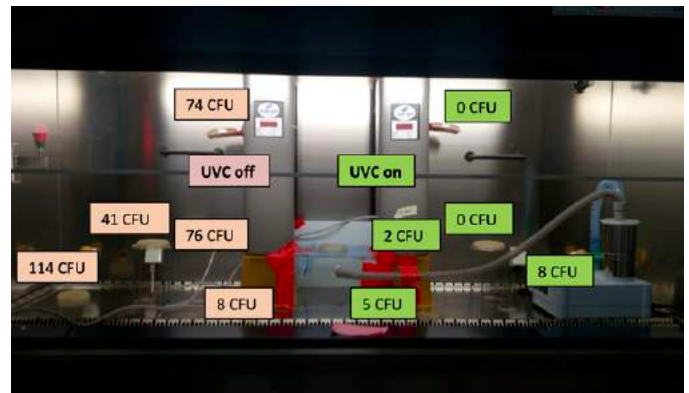


Photo 2: Results tests at various settling plates

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