

## Coronavirus (CoV) and Xenon Pulsed UV

### Novel Coronavirus (SARS-CoV-2)

The present strain of Coronavirus (CoV) has been named SARS-CoV-2 and is an enveloped human respiratory viral pathogen. It is closely related to past strains of CoV such as SARS-CoV (Severe Acute Respiratory Syndrome) and MERS-CoV (Middle East Respiratory Syndrome). It is also closely related in size, shape and structure to the common influenza A virus.

### Solaris Pulsed UV and Effect on the Virus

There is a great deal of research to support the effectiveness of pulsed xenon UV light on enveloped viruses like the novel Coronavirus (SARS-CoV-2), SARS, MERS and Influenza A. In peer reviewed testing Lin et. al. 2017<sup>(1)</sup> evaluated Solaris Pulsed UV light against virus surrogate to study the effect of pulsed xenon UV on communicable enveloped human respiratory pathogens. Pulsed UV exposure of 10 to 30 seconds resulted in a 2.0 log reduction in viable recovered virus. It was found that as little as 10 seconds of pulsed UV exposure resulted in significant reduction of virus viability.

### Recommendation for SARS-CoV-2 Surface reduction

Solaris Lytbot cycles of 3-5 minutes produce pulsed xenon UV light at levels that will significantly reduce enveloped human respiratory viral pathogens similar to SARS-CoV-2, adding a reliable line of defense against unknown or undiagnosed cases of COVID-19 infection without adjustment to protocols. During an outbreak or suspected viral outbreak Solaris should be used in as many spaces as possible to ensure reduction of microbiological surface contamination.

Normal Solaris room treatment protocols and cycles of 3-5 minutes are designed to destroy all classes of microorganism from spores to viruses. In the hierarchy of resistance of microorganisms to disinfectants and sterilants enveloped viruses are most susceptible followed by vegetative bacteria, with spores like *C.difficile* being the most resistant.<sup>(2)</sup>



SOLARIS™  
WAGING WAR ON SUPERBUGS

Solaris Disinfection Inc.  
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(1) Lin., WE. Et. al. Pulsed ultraviolet light decontamination of virus-laden airstreams. Aerosol Science and Technology, Volume 51, 2017 – Issue 5. pg 554-563  
(2) Presentation: What's New: Strategies in Healthcare Environmental Infection Prevention, 2017. William A. Rutala, Ph.D., M.P.H

## An Innovative and Effective Tool for Infection Prevention



**3 or 5 minute Cycles**  
Simple cycles are 15-40% faster than competitors



**Rapid Room Treatment**

Ex. Single patient room – 3 cycles = 13 min. run time  
One x 3 min restroom cycle, two x 5 min main room

**Maxpulse Technology**  
High pulsed UV flash rate = increased disinfection efficacy against pathogens



**Simplified Settings**

Rapid flashrate means reliable, high efficacy disinfection without any changes to settings

**Targeted Disinfection**  
Engineered reflector amplifies energy to high touch surfaces where 80-90% of pathogen load hiding



**No Wasted Light**

Parabolic reflector focuses more disinfectant light on high-touch surfaces where more light needed. We are still hitting the floor and ceiling, but focus extra attention where it is needed most

**Wireless Sensors**  
Wireless motion sensor and remote start stands



**Ease of Operations**

With no wires to worry about stands are quickly deployed. Remote start stand ensures operator can trigger unit when room secure and ready for treatment

**Robust Design**  
Designed and built with reality of hospital operations in mind



**Tough, Rotamold Body**

Head and bulb are completely contained during storage and transport. Unit is built to last in the tough conditions posed by high-pace EVS operations.

### Validated and Reliable Efficacy

Thorough third-party testing confirms Solaris Lytbot efficacy validation among best on the market.

System	Pathogen	Distance	Cycle Time	Percent Reduction
Solaris Lytbot	MRSA	6 ft	3 min	100.00%
Solaris Lytbot	C.diff	5 ft	5 min	99.90%

### People, Process, Technology

There is no silver-bullet when it comes to infection prevention, but a comprehensive program which combines manual cleaning and disinfecting with a validated UV disinfection system has consistently been shown to reduce infection rates

Solaris presents a cost effective, best-in-class pulsed UV solution for use in automated disinfection protocols

