

OOH Robot – KV99ISR

Our Intelligent Sterilisation Robot (ISR) works autonomously - even able to climb stairs - and maintains a high level of disinfection efficacy at all times. It uses an ultrasonic disinfectant atomizer on surface and airborne pathogens, producing extremely dense electrostatic 3µm size fog droplets.

Tested at HK Airport and already used in conjunction with OOHShield Sanitiser to stop the spread of Covid-19 in Wuhan hospitals.

OOH Robot is the future frontline worker for comprehensive and safe sanitisation in large buildings or spaces; hospitals, airports, train or bus stations, offices, factories and stadia.



Disinfectant comparison table - The OOHShield™ Advantage

Properties	OOHShield™	Quaternary Ammonium Compounds (Quats)	Alcohol	Hydrogen Peroxide	Sodium Hypochlorite
Active Ingredient	Path-Away® 100% Plant based botanical	Chemical	Ethyl or Isopropyl alcohol	Chemical	Chemical
Efficacy and Applications	Proven 99.99% effective against the feline coronavirus ¹ ; killed within 1 min exposure to OOHShield ²	Widely used as disinfectant, surfactant, and in household cleaning products	The FDA recommends that hand sanitizers should contain 60%-75% alcohol	Used in both liquid and gas form for preservative, disinfection and sterilization applications	Usually used as a bleaching agent which contains 5% sodium hypochlorite
Stability and Usage	Very stable, non-flammable, heat and light stable	Very stable	Highly flammable, not heat stable	May cause ignitions and explosions	Unstable and corrosive
	Safe as aerosol spray around humans, 24 hour protection on surfaces	Can be used as aerosol but not human safe	Instant effect, not lasting	Instant effect, not lasting, has a bleaching effect	Bleaching effect
Safety Effects	Safe for humans of all ages and conditions as well as pets	May cause skin problems, eye irritant	May cause Itching, flaking, scaling, peeling, cracks, redness	May irritate the eyes, skin and mucous membranes	Causes redness and pain on skin or eyes when in contact
	Non-toxic if ingested	May cause respiratory problems in the long term		May cause lung irritation	Inhaling causes a burning sensation, coughing, sore throat and vomiting

¹A surrogate of Covid-19 novel coronavirus
²Refer to Path-Away Lab test results

OOH Robot Operational Efficiency

Optimal capabilities	
Area coverage per hour	5,000 sqft
Area coverage per 24 hours	80,000 sqft
ISR run time per 24 hours* (Including charge time)	16 hrs
Disinfectant used per hour	0.8 litres
Total disinfectant used per day	12 litres

*All performance claims are based on theoretical performances. Actual figure may vary in real-world situations.

Current Applications in Healthcare



Currently deployed COVID-19 applications

First line of defense, before sending in vulnerable cleaning workers.



- Hospitals/ Medical clinics
- Airports/ Border control
- Correctional service facilities
- Public spaces/Offices

Multi-mode Flexibility

**Working Scenario 1:
Open spaces with crowds**



Spray mode only

Navigates and sprays non-toxic human safe disinfectants

**Working Scenario 2:
Enclosed environment - short disinfection time (>95% efficacy)**



UVC mode only

Closed indoor environment – high frequency with limited short disinfection time (e.g. toilets)

**Working Scenario 3:
Enclosed environment – deep disinfection (>99%)**



Both spray and UVC mode

Closed indoor environment requiring a higher disinfection efficiency up to 99% or above and allows longer disinfection time (e.g. hospitals, medical clinics and toilets at quarantine facilities).

**Working Scenario 4:
Manual disinfection in ad-hoc location**



Both spray mode and/or UVC mode

New ad-hoc or unmapped location. Manual control using iPad or joystick.





Successful installation cases - Hong Kong International Airport



Hong Kong International Airport 香港國際機場
3月19日 17:45 · 讚

機場最近找來一位新成員協助抵抗疫情。這款Intelligent Sterilisation Robot (ISR) 智能消毒機械人可全自動移動，並以紫外線消毒、360度消毒噴頭及0.3um空氣過濾器，削減在空氣中及物件表面上近99.99%的細菌及病毒，旅程最快只需10分鐘。

此項技術由本地研研公司研發，以往多用於醫院，而香港國際機場是全球首個機場應用此智能消毒機械人。

Recently joining the airport team to combat the coronavirus is the Intelligent Sterilisation Robot (ISR). The robot can move autonomously and sterilise up to 99.99% of bacteria and virus in the air and on object surfaces using UV light, 360-degree disinfection spray-heads and 0.3um air filter..... 查看更多

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<https://edition.cnn.com/travel/article/hong-kong-airport-cleaning-robots-wellness-scn/index.html>

Successful installation cases - Hospitals

Deployed in over 300 hospitals in China alone, especially in Wuhan which is the epicenter of COVID-19 outbreak.





Disinfection Results

Test conducted at Hong Kong International Airport on 02 March 2020

Objective: To evaluate the bacterial killing performance by comparing the bacterial counts between groups before and after disinfection by the OOH Robot.

Requested disinfection efficacy: 90% or above

	Female Toilet			Male Toilet		
	1 - Sink	2 - Toilet paper holders	3 - Shelf behind toilet	1 - Sink	2 - Shelf above urinal	3 - Shelf behind toilet
Before disinfection						
After disinfection						

Conclusion:
Bacteria killing efficacy: >93%

This test was conducted by Hong Kong Baptist University. For full test reports, please refer to Appendix A.

Certifications



Please refer to Appendix A - Certifications for full details