

CLEAR  
WIN

*Non-Powered*

Escalator Handrail Sterilizer



**IDEACITY COMPANY**

[www.ideacity.co.kr](http://www.ideacity.co.kr)



This product aims to contribute to improve hygienic environment by sterilizing bacteria and virus just by simply installing it to an escalator or moving walks handrail.

## Characteristics



### Continuous sterilization

Strong and continuous sterilization along with escalator drive



### Easy installation

Maintain existing facilities as they are



### Compact and safe design

No interruption to the passenger



### UV sterilization

98% UV sterilization - most suitable method for handrails



### Self generation

Safe self generation method without the danger of electrical hazards



### Promotional printing available

Company logo printing is available on the front cover

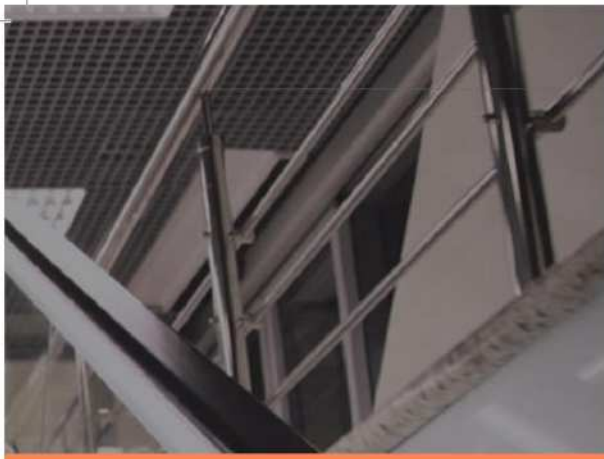


### Safety

Multiple safety devices to prevent hand stuck

CLEAR  
WIN





## Escalators and Moving walks *installation facility*



## PRODUCTS



Stainless steel type  
( Metro, subway )



Tempered glass type  
( Airport, Hotel, Shopping mall, Hospital... )



Housing

Strong L-shape structure  
Stainless steel



UV-C LED

Strong Ultra violet C-wavelength  
Dual UV-C LED lamp



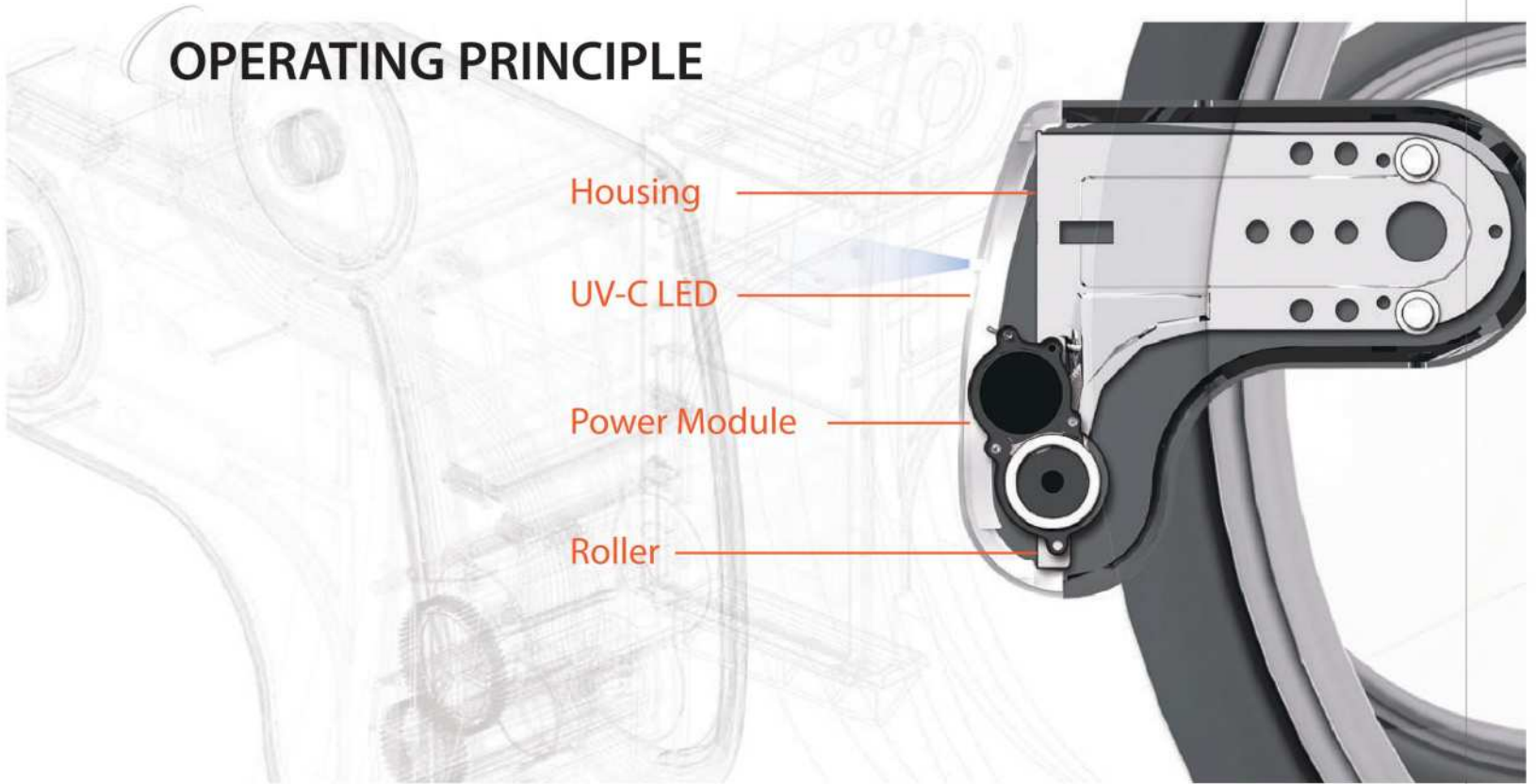
Power module

Convert rotary motion of  
handrail into electric power

## SPECIFICATION

Product name	CLEARWIN	Generator output	24V, 40~50W
LED UV lamp	0.5~6.5W Wavelength:275nm	Cover	PC ABS Black and white
Product size	130x220x260mm	Origin	Made in Korea
Product weight	GLASS:2.8kg / SUS:1.8kg	Patent No.	10-16665676

## OPERATING PRINCIPLE



Housing

UV-C LED

Power Module

Roller



**A** The main body is fixed to the balustrade of the moving walks



**B** The torsion spring makes roller contact at a constant pressure on the handrail.



**C** The rear roller and the handrail's rotational force, generates power.



**D** The generated power activates the UV Germicidal lamp and operation indicator.





## Comparison between UV sterilization and other sterilization methods

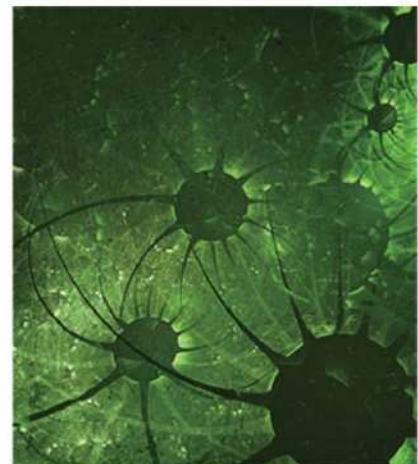
	UV sterilization	Heat sterilization	Ozone sterilization	Chemical sterilization	Radio-sterilization
Sterilization of mycetoma	Effective against all	Effective against all	Effective against all mycetomas	Effective against specific	Effective against all
Physical property change (Handrail)	Little change	Occasional	Occasional	Occasional	Little change
Permeability	No permeability (except air and water)	Effective even inside the object	Effective on the object surface	Effective even inside the object	Effective even inside the object
Sterilization time	Short	Considerably	Long	Considerably	Short
Usage	Easy	Occasionally	Difficult	Easy	Difficult



UV-C disinfection method doesn't deform other than chemicals or heating system



This CLEARWIN device can be easily installed even when the escalator is in motion.



Sterilization effectiveness to all bacteria

# Certified for sterilizing the Staphylococcus Aureus and E. Coli

by using the sterilizing power of a dual lamp.

## TEST REPORT

**시험 성적서**

Client Name: CLEARN KOREA CO., LTD  
 Address: 404, Heonil Tower, 200, Mollong-ro 2-gil, Yongsu-gu, Seoul 16, Republic of Korea  
 Date of Receipt: Jan. 15, 2020  
 Certificate No.: K-19096  
 Page(s) / Total page(s): 1 / 1  
 Date of Enforcement: Jan. 20, 2020

1. Use of Report: Quality management  
 2. Test Items: Escalator Handrail UV Sterilizer Device  
 3. Date of Test: Jan. 15, 2020 - Jan. 20, 2020  
 4. Test Method Used: Plate Count Method  
 5. Testing Environment: Temperature: (25 ± 0.5) °C, Relative Humidity: (40 ± 5) %RH

Item	Unit	Result					Remark
		The significant number	1 time	10 times	20 times	30 times	
Staphylococcus aureus	CFU/m <sup>2</sup>	1.00	110	260	98	110	-

Notice: 1. The results shown in this test report refer only to the offered sample by client.  
 2. The test result cannot be used for the purpose of litigation or advertising, and shouldn't be established without document approval.

Received by: Park Seon, Tested by: Inyo Seok, Technical Manager: Myoungjung Song  
 Korea Environment & Water Works Institute

**COVID-19 TEST REPORT**  
 Efficacy test for antiseptic device against COVID-19

JEONBUK NATIONAL UNIVERSITY  
 INDUSTRY-ACADEMIC JOINT RESEARCH

Report No.: 2010000541  
 Test period: 2020.06.01 - 2020.07.08  
 Host Representative: Jaeyoung Cho, Kwangsu Yoo  
 Company: CLEARWIN KOREA Co., Ltd  
 Address: #753, 86 Jeonpa-ro, Dongan-gu, AnYang city, Gyeonggi province, Republic of Korea

Test goal: Evaluation of the efficacy of the virus sterilization device commissioned by CLEARWIN KOREA Co., Ltd. in an in-vitro Environment.

Sample name: Escalator Handrail Sanitizer

UV reaction times	log <sub>10</sub> TCID <sub>50</sub> /ml	UV reaction times/virus removal efficiency (%)
Unreacted	7.50	-
1 time	6.50	90
10 times	3.33	>99.99
20 times	<0.5	>99.99
30 times	<0.5	>99.99

Test condition: As a result of the virus cell culture test, the dilution rate in which virus inactivation was confirmed becomes an effective concentration. In this case, the effective inactivation activity of the disclosed virus becomes the average value of the best results repeated 3 times.  
 Through this experiment, it was confirmed that the COVID-19 has been sanitized by more than 99.99% when the CLEARWIN KOREA UV-C sterilization device exposes the virus to the UV-C light for 0.7 second more than 10 times. (7 seconds in total)  
 This particular test is the first one out of three total tests. From the 3 tests, the virus removal rate after just one revolution resulted in 90%, 68%, and 78% respectively. All three tests had the same results where after 10 revolutions, it had 99.99% sanitation rate.

Attested by Notary Public  
 Head of subjective research: Kwangsu Yoo

## CERTIFICATE

**FCC**  
 DECLARATION OF CONFORMITY

Applicant Name: Clearwin Korea Inc.  
 Applicant's Address: 88 Jeonpa-ro, Dongan-gu, Anyang-si, Gyeonggi-do  
 Republic of Korea  
 Manufacturer's Name: Same as above  
 Manufacturer's Address: Same as above

Applicable Regulation: FCC 47 CFR 15

Date of Issue: Jan. 15, 2020  
 Authorized Signatory: CLEARN KOREA CO., LTD.  
 PRESIDENT / KIM JOO CHEOL

FCC

**특허증**  
 PATENT CERTIFICATE

특허번호: 제 10-565679 호  
 출원번호: 제 10-2012-0082118 호  
 공고일자: 2013년 08월 28일  
 등록일자: 2014년 12월 4일

특허명: UV-C 광선 방출을 위한 조명 장치  
 발명자: 김주철, 김기현, 김민준, 김민준, 김민준, 김민준

특허청장: 특허청장 김희정  
 발명권자: 김주철, 김기현, 김민준, 김민준, 김민준, 김민준

Patent

**EC Declaration of Conformity**  
 EMC Directive 2014/30/EU

Product Name: Clearwin  
 Model Name: CFW-8000  
 Applicant's Name: Clearwin Korea Inc.  
 Applicant's Address: 88 Jeonpa-ro, Dongan-gu, Anyang-si, Gyeonggi-do, Republic of Korea

This declaration is valid for all samples that are part of this declaration, which are manufactured according to the production design approved.

Attested by Notary Public: CLEARN KOREA CO., LTD. PRESIDENT / KIM JOO CHEOL

CE

**PCT**  
 DECLARATION OF CONFORMITY

Applicant Name: Clearwin Korea Inc.  
 Applicant's Address: 88 Jeonpa-ro, Dongan-gu, Anyang-si, Gyeonggi-do, Republic of Korea

Attested by Notary Public: CLEARN KOREA CO., LTD. PRESIDENT / KIM JOO CHEOL

PCT

**Certified by** Korean Environment & Water Works Institute / Life, Environment & Food Institute  
 FITI Testing & Research Institute / Korea Testing & Research Institute



# This is not for choice, this is essential



Church



E-mart



GBG Subway Station



Hyundai Department Store



LG Building



LOTTE Hotel



Posco Town in China



Seoul CityHall



Severance Hospital



SRT(Korea express train)



Taiwan Hospital



Taoyuan Airport Taiwan



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