

INTELI  SOLUTIONS

Expertos en Tecnología de desinfección UVC



Representamos, instalamos y mantenemos **soluciones UV-C para la desinfección contra virus, bacterias**, patógenos, mohos y otros agentes contaminantes. Los productos que representamos son reconocidos por su alta calidad en más de 50 países de todo el mundo.

Nuestras soluciones están **PROBADAS y CERTIFICADAS** por Laboratorios Independientes y Organismos de Certificación por su Eficiencia y Cumplimiento de **NORMAS INTERNACIONALES.**

COMPLIANT



ISO 9001:2015
ISO 13485: 2016
ISO 15714:2019
for Air Treatment

TESTED



99,99% Reduction
Of Virus, Bacteria, Molds and Fungi
in Air Treatment and Surfaces
99,99% Elimination
Of SARS-COV-2 virus
in Air Treatment and Surfaces

CERTIFIED



CE Mark
IEC 62471
EPA
UL 507, 1995
UL 867 (No Ozone)
FDA - Registered Company
EPA - Registered Establishment

Trademarks and Certificates issued by third parties and applicable to specific LIGHT PROGRESS products

CERTIFICACIONES RECONOCIDAS A NIVEL MUNDIAL



الهيئة العامة للغذاء والدواء
Saudi Food & Drug Authority



Trademarks and Certificates issued by third parties and applicable to specific LIGHTPROGRESS products

PRODUCTOS DISTRIBUIDOS DESDE ITALIA, ALEMANIA Y USA

LIGHT PROGRESS Srl



La empresa principal en Italia lidera la I+D, la administración, la fabricación y las ventas / posventa, comunicándose con socios industriales y distribuidores a nivel mundial.

LIGHT PROGRESS GmbH

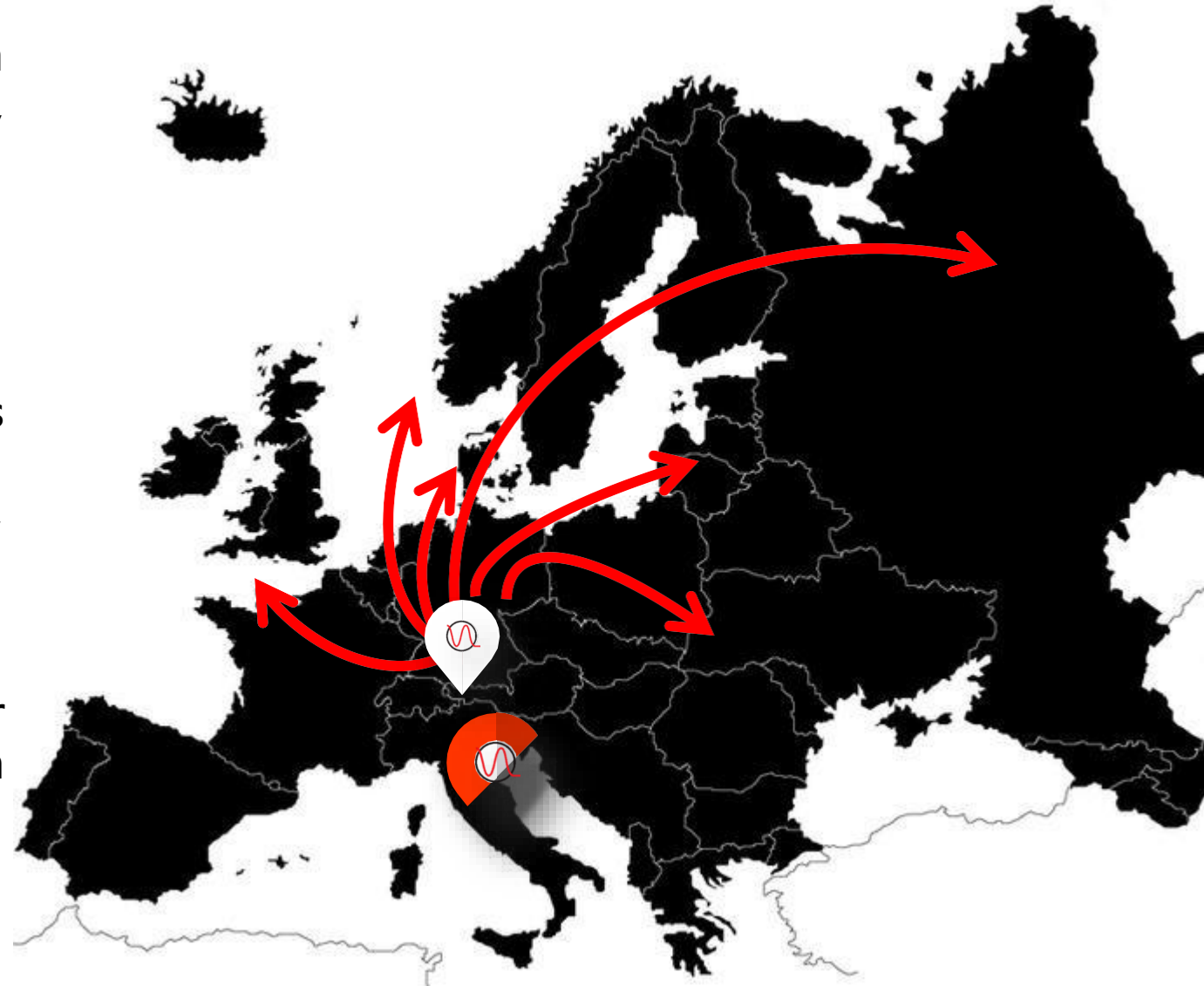


Se ha fundado una sucursal en Alemania para dar seguimiento a las ventas y el desarrollo de negocios para el Reino Unido, Francia, los países nórdicos, los países de Europa del Este y, más recientemente, también el mercado ruso.

LIGHT PROGRESS LLC



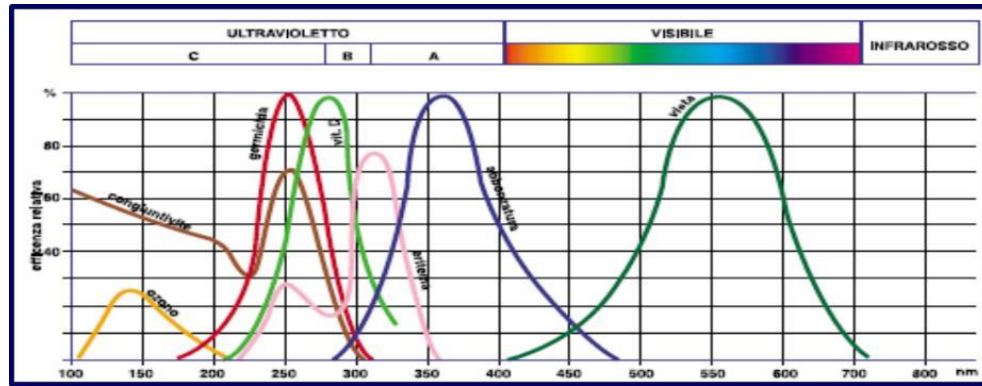
Se ha fundado una sucursal en EE.UU. para atender a Norteamérica y Canadá con oficina y almacén en Austin - TX.



RED DE DISTRIBUCIÓN



ACERCA DE LA TECNOLOGÍA UV-C 1/4



CLASIFICACIÓN DE TIPOS DE UV

La luz, en sentido amplio, puede dividirse en rayos visibles, infrarrojos y ultravioleta.

Los rayos ultravioleta (invisibles) se pueden clasificar en:

UV - A (con propiedades de bronceado),

UV - B (con propiedades terapéuticas)

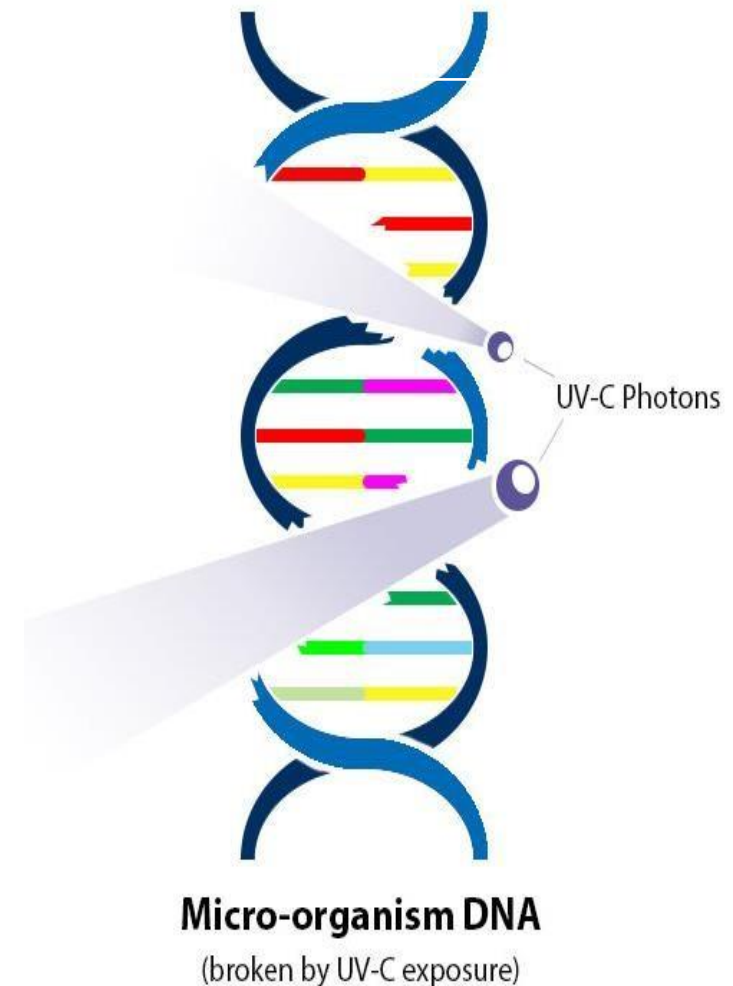
UV - C (con propiedades germicidas).

ACERCA DE LA TECNOLOGÍA UV-C 2/4

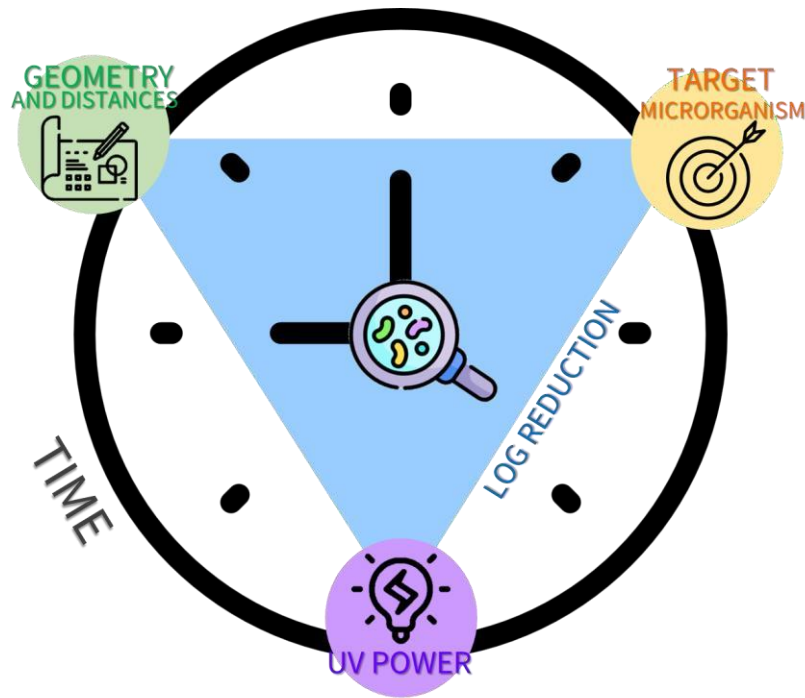
POR QUÉ LA TECNOLOGÍA UV-C ES ADECUADA PARA LA DESINFECCIÓN

Los efectos germicidas de la radiación UV-C destruyen el ADN de bacterias, virus, esporas, hongos, mohos y ácaros evitando su crecimiento y proliferación.

La tecnología UVGI es un método de desinfección física con una gran relación coste/beneficio, es ecológica y, a diferencia de los productos químicos, funciona contra todos los microorganismos sin crear ninguna resistencia.



ACERCA DE LA TECNOLOGÍA UV-C 3/4



FACTORES CLAVE PARA ENTENDER LA TECNOLOGÍA DE DESINFECCIÓN UV

- Nivel de desinfección que debe alcanzarse;
- Patógeno diana (y su dosis);
- Potencia UV en juego;
- Tiempo / geometría de exposición y equilibrio de distancia;

Cada microorganismo tiene un umbral específico de resistencia a los rayos UV, llamado DOSIS. Para inactivar un virus específico, bacterias, mohos y levaduras, es necesario aplicar una dosis específica de rayos UV.

ACERCA DE LA TECNOLOGÍA UV-C 4/4

Las gráficas oficiales publicadas por grupos de investigación científica reconocidos internacionalmente y asociaciones como la IUVA (Asociación Internacional de Tecnología Ultravioleta), resumen la dosis de UV necesaria para inactivar un microorganismo específico.

Podemos ayudarle con la solución UV-C adecuada contra los microorganismos no deseados o perjudiciales

Gráfica 1. Resumen de los datos publicados sobre los datos de fluencia-respuesta de los rayos ultravioleta (UV) para varios microorganismos encontrados en la aplicación, prueba de rendimiento y validación de las tecnologías de desinfección UV.

Gráfica 1

Table 1. Fluences for multiple log reductions for various spores

Spore	Lamp Type	Fluence (UV dose) for a given log reduction without photoreactivation		
		1	2	3
<i>Aspergillus brasiliensis</i> (previously known as <i>Aspergillus niger</i>) ATCC 16404 (dark culture)	LP	122	228	293
	Excimer 222 nm	90	220	32
<i>Aspergillus niger</i> ATCC 32625	LP	116	245	371
	Excimer 222 nm	90	220	32
<i>Bacillus anthracis</i>	LP	28	37	5
	LP	23	30	5
Ames	LP	25	~40	>

Table Notes

1. Spiked into wastewater.
2. These data are medians derived from a Bayesian analysis of many studies.
3. DNA weighted fluence.
4. Action spectrum weighted fluence.
5. The water depth was only 2 mm, so the water factor would have been very close to 1.0. Thus although the Protocol corrections were not made, the corrections would have been small.

References

Abshire, R.L.; and Dunton, H. 1981. Resistance of selected strains of *Pseudomonas aeruginosa* to low-intensity

Spore	Lamp Type	Fluence (UV dose) for a given log reduction without photoreactivation					Protocol?	Notes	Reference
		1	2	3	4	5			
<i>Bacillus subtilis</i> (cont.)									
ATCC 6633	LP	31	47	64	80		yes	Action spectrum	Cabaj et al. 2002
ATCC 6633	LP	25	39	50	60		yes		Nicholson & Galeano 2003
ATCC 6633	LP	24	38	47	79		yes		Mamane-Gravelz & Linden 2004
ATCC 6633 (surface cultured)	LP	11	18	24	31		yes	Action spectrum	Mamane-Gravelz et al. 2005
ATCC 6633 (liquid cultured)	LP	13	23	33			yes		Bohrerova et al. 2006
ATCC 6633 (surface cultured)	LP	9	15				yes		Bohrerova et al. 2006
ATCC 6633 (surface cultured)	Excimer 222 nm	7	12	18	23		yes		Pennell et al. 2008
ATCC 6633 (surface cultured)	LP	19	24	30	35		yes		Pennell et al. 2008
ATCC 6633 (surface cultured)	282 nm	19	29	39	49		yes		Pennell et al. 2008
ATCC 6633	LP	9	17	26	34		yes		Bichae et al. 2009
ATCC 6633	LP	21	32	43	55		yes	Action spectrum	Chen et al. 2009
ATCC 6633 (surface cultured)	LP	18	39	61	82		yes		Sun & Liu 2009
ATCC 6633	LP	24	37	51	80 + tailing		yes		Mamane et al. 2009
ATCC 6633	LP	26	40	55	69		yes		Wang et al. 2010
ATCC 6633	Excimer 222 nm	13	21	30	38		yes		Wang et al. 2010
ATCC 6633	Excimer 172 nm	435	869				yes		Wang et al. 2010
ATCC 6633	UV-LED 289 nm	2	10	17	25		yes		Wurtele et al. 2010
ATCC 6633	UV-LED 282 nm	3	11	18	26		yes		Wurtele et al. 2010
ATCC 6051	LP	8	13	17	20 + tailing		yes		Jin et al. 2006
TKJ 6312	LP	0.7	1.5	2.3	3.7		yes		Sommer et al. 1999
WN624	LP	25	36	49	60		yes		Nicholson & Galeano 2003
<i>Cylindrospermum</i> spores	LP	14	26	43			no		Singh 1975
<i>Clostridium pasteurianum</i>									
ATCC 6013	LP	3.4	5.3	6.7	8.4		yes		Clauß 2006
ATCC 6013	Excimer 222 nm	4.3	6.1	7.9	9.6		yes		Clauß 2006
<i>Encephalitozoon intestinalis</i>									
(microsporidia)	LP	2.8	5.6	8.4			yes		John et al. 2003
	MP	<3	3	<6			yes		Huffman et al. 2002

of *Cryptosporidium* oocysts and matter, J. Water Supply-Res. *ophila* to ultraviolet radiation, N.; Araki, T.; and Nanishi, Y. semiconductor light-emitting novirus type 2 with UV-chlorine-radiation, Int. J. Rad. effects on UV disinfection of hepatitis A virus and other model, 2007. Inactivation of and monochloramine, J. Wright, H.B. 2014. as measured by cell culture 591-598. 5. Action spectra for systems, Water Res., 70: 27- d Linden, K.G. 2016. across the germicidal

CÁLCULO INFORMÁTICO DE LA DOSIS UV-C

Con el fin de garantizar la mayor eficacia posible de nuestra aplicación UV-C, apoyamos a nuestros distribuidores y socios con una **SOLUCIÓN COMPLETA QUE INCLUYE EL CÁLCULO POR SOFTWARE DE LA DOSIS DE UV** necesaria para satisfacer cada solicitud específica del cliente.

El software nos permite calcular los modelos adecuados y el número de lámparas necesarias para eliminar virus, bacterias y mohos específicos en la aplicación del cliente.



PRINCIPALES BENEFICIOS DE LA TECNOLOGÍA UV-C



Elimina los microorganismos nocivos en el aire, sistemas de aire acondicionado, agua, superficies y más



Se puede integrar fácilmente en una amplia gama de aplicaciones, también en combinación con otros medios de desinfección (por ejemplo, filtros)



Es una tecnología segura, probada por laboratorios independientes y pruebas internas



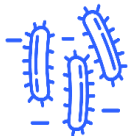
Reduce el consumo de energía en aplicaciones industriales manteniendo limpias las piezas y componentes mecánicos



Eficacia de hasta el 99,999% ya que es una tecnología de base científica



Es ecológica y sostenible en comparación con otras soluciones de saneamiento no sustentables



Es un sistema FÍSICO y no crea resistencia en los microorganismos

**DESINFECCIÓN DE FORMA INTELIGENTE:
UNA TECNOLOGÍA "SILENCIOSA" CON RESULTADOS EFICACES**

DESINFECCIÓN UV-C vs ESTERILIZACIÓN

SANITIZAR

SANITIZAR significa llevar la carga microbiana a unos niveles de higiene aceptables y óptimos que dependen del uso previsto de los entornos en cuestión. Sanitizar a menudo se usa como sinónimo de "limpio" y, sin embargo, debe estar precedido por la limpieza.

DESINFECTAR

DESINFECTAR significa reducir la carga microbiana en profundidad, es decir, eliminar al menos 1 log (90%) de las bacterias presentes. La reducción de la carga microbiana es un valor básico en la desinfección y se expresa en reducción logarítmica.

Un buen nivel de desinfección es de alrededor de 2Logs (99%), una muy buena desinfección es de 3Logs (99,9%), y 4Logs (99,99%) se considera un estándar bastante alto.



ESTERILIZAR

La ESTERILIDAD es el nivel más cercano que se puede conseguir para lograr la reducción completa de la carga microbiana, podemos hablar de esterilización sólo si se demuestra que la reducción no es inferior a 6Logs, lo que significa el 99,9999%.

Para declarar la esterilidad, la prueba debe ser realizada y certificada por ley, por terceras partes.

FORTALEZAS DE LA TECNOLOGIA LIGHT PROGRESS

- Ofrecemos la **más amplia gama de productos de dispositivos UVGI** en el mercado, proporcionando diferentes soluciones, **de gran calidad, 100% de industria italiana.**
- Nuestro equipo mide y proyecta cada aplicación diseñando una solución personalizada para cada caso específico, **invertimos en I + D y trabajamos junto con universidades y empresas líderes** en su campo.
- Nuestros productos se adaptan a **diferentes campos de aplicación**, como la calidad del aire en interiores, la sanidad, la industria alimentaria y farmacéutica, el tratamiento del agua, la reducción de los olores, el transporte público, etc.

Protección especial del tubo: UVLON® Pipe

Protección especial de tubo UVLON en la lámpara para obtener **grado de protección IP44**.

UVLON® es una funda especial de FEP (etileno-propileno fluorado) exclusiva de Light Progress.

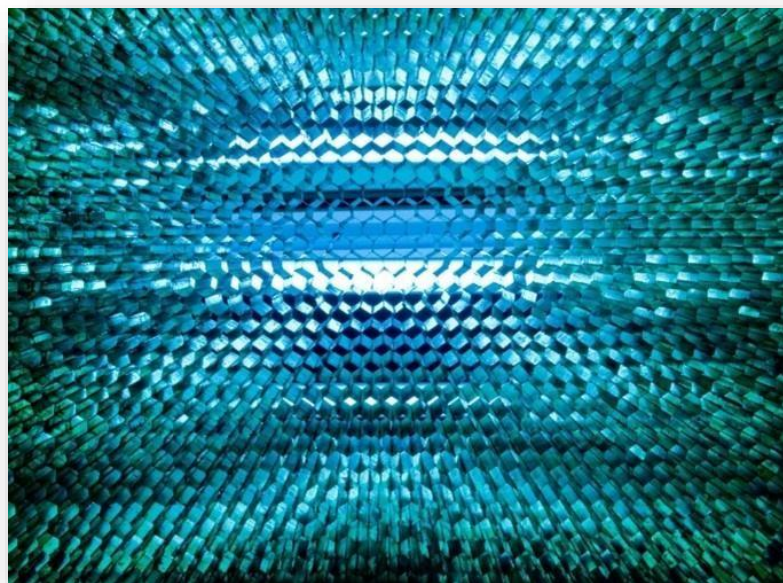
Transparente a los rayos UV, **en caso de roturas, evita las caídas de vidrio**.

UVLON PIPE =
Montaje en la lámpara o
en el manguito de cuarzo



UVLON FRAME =
Montado en un bastidor
(en los modelos disponibles)

Fotocatálisis: combinación con el filtro TIOX®



Los filtros **TIOX**, un original filtro Light Progress recubierto de **dióxido de titanio (TiO₂) nanoestructurado y sales de plata** que, en combinación con la elevadísima potencia UV-C emitida por las lámparas, es un **excelente fotocatalizador que degrada los contaminantes y compuestos orgánicos e inorgánicos** (SOV, NO_x y VOC compuestos orgánicos volátiles, óxidos de nitrógeno).

En consecuencia, el filtro TIOX® realiza una oxidación adicional de las partículas contaminantes y **contribuye significativamente a la acción desodorizante de los UV-C.**

La instalación es muy fácil y segura, la única precaución en el es montarlo aguas abajo de los filtros mecánicos que micronizan las moléculas grasas como los filtros de malla común o de laberinto.

SOLUCIONES PERSONALIZADAS



CONVERTIMOS LOS RETOS EN SOLUCIONES

Una característica de la tecnología UV es que casi no hay límites para su aplicación.

Todos los productos de LP son diseñados, desarrollados y probados en sus instalaciones : **treinta años de experiencia en producción** nos permiten suministrar productos adaptables a altos estándares de calidad, ofreciendo una excelente relación calidad-precio.

Por lo tanto, estamos disponibles para escuchar sus solicitudes y analizar la viabilidad técnica de la solución más adecuada para la situación específica.



INTELI-SOLUTIONS

Expertos en Tecnología de desinfección UVC

Principales pruebas de laboratorio e informes de pruebas

Evaluación de la actividad virucida contra el **SARS-COV-2** de los productos Light Progress
UNIVERSITY OF SIENA, Department of Molecular and Developmental Medicine


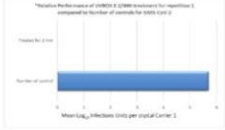
Test 1: Evaluation of Virucide activity against Sars-Cov-2 of Light Progress products
 University of Siena, Department of Molecular and Developmental Medicine

TESTS PARAMETERS:

Name of product tested: UV BOX E 2/40H
 UV Power = 40 W High Output lamp
 Period of analysis: 10/06/20 – 13/06/20
 Temperature of incubation: 37°C
 Identification of Viral strain: SARS-Cov-2 (Lot: VMR –SARSCP2 VERO E6_28042020)
 Incubation period: 3 days
 Irradiation time: 2 minutes
 Repetition of tests: 3 times
 Experiment method:
 Crystals (UV-C permeable) were positioned in the center on the grid, then inoculated with 100 µl of viral suspension. The suspension virus used was 107.2 TCID50%/mL (7.2 expressed by Log10).

TESTS RESULTS:

After irradiation, Sars-Cov-2 was inactivated with a Log Reduction of 5.7 LOG₁₀ (>99.9999%) which means total virucidal inactivation.

Repetition	Time of exposition	Log suspension virus TCID50%	Log TCID50% after treatment	Log reduction TCID50%
1	2 min	7.2	1.5*	5.7
2	2 min	7.2	1.5*	5.7
3	2 min	7.2	1.5*	5.7

*The value of Log TCID50 = 1.5 means total viral inactivation

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Inactivación de microorganismos por el aire en el conducto según la norma **ISO 15714:2019**
TECNAL Srl – Ind. laboratory

Test 3: Evaluation of Airborne Microorganisms inactivation transiting in-duct on a Light Progress UVGI air purifier according to ISO 15714:2019
 TECNAL Srl – laboratory accredited by ACCREDIA (nr 0299-L) UNI CEI EN ISO/IEC 17025:2018

TESTS PARAMETERS:

Name of product tested: UV FAN-XS
 Period of analysis: November 2020

Microorganisms Tested:

- Serratia Marcescens ATCC13880
- Bacillus Subtilis ATCC6633
- Cladosporium sphaerospermum ATCC11289

UV-C Device features:

- UV-C lamp power: 40W
- Power supply: 230 Volt -50/60Hz -40Watt
- Maximum AIR FLOW rate: 125 m³/h
- Flow Speed: 2m/Sec
- Passage Section area: 0.0166 m²

Environmental Conditions:

Temperature: 25°C±2°C
 Relative Humidity: 50% ±10%

Experiment Method and Goals:

Besides certifying an Air Purifier itself, the main goal was to assess the performance of our UVGI devices for air disinfection, which are usually mounted in AHUs or duct in heating, ventilating and air-conditioning (HVAC)

Bacterial strains were initially reconstituted in broth culture; then the microorganisms are grown on plates; until the dilution obtained is the desired CFU/ml concentration for the inoculum. The microorganisms are then inserted in the air purifier by an aerosol generator; using an Anderson impactor with the cultivation soil plates provided for the microorganism, performs preliminary flow checks of the flow generator. Connect the aerosol generator in the inlet hole and the impactor Protocol in the output hole of the device and start collecting the microorganisms following the operational protocol as per indications of point 7.3 of ISO 15714:2019 protocol. The test is performed 3 times both with the UVC light OFF and ON. The plates are finally placed to incubate for 24-48 hrs at 32°C±1°C. For Cladosporium Sphaerospermum: 72/120 hours at 25°C±1°C.

TEST RESULTS:

The percentage of inactivation of aero dispersed microorganisms foreseen ISO 15714:2019 technical standard; specifically, the following results have been obtained:
 Serratia Marcescens bacterial inactivation: 100% - calculated UVC dose: D=11.58 J/m²
 Bacillus Subtilis bacterial inactivation: 99.99% - calculated UVC dose: D=56.56 J/m²
 Cladosporium Sphaerospermum inactivation: 44.1% - calculated UVC dose: D=276.53 J/m².

Germicidal efficacy has been fully demonstrated.

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Evaluación de la eficacia desinfectante Irradiación superficial Light Progress siguiendo **los protocolos de la FDA**
UNIVERSITY OF SIENA, Department of Molecular and Developmental Medicine

Test 2: Evaluation of Disinfectant efficacy Light Progress surface irradiation product following FDA (Food and Drug Administration) protocol described in "Guidance for Industry about enforcement Policy for Sterilizers, Disinfectant Devices, Air Purifier during the Coronavirus Disease 2019 (COVID-19 Public Health Emergency)"
 University of Siena, Department of Molecular and Developmental Medicine

TESTS PARAMETERS:

Name of product tested: UV PENTALIGHT
 Microorganisms Tested:

- Pseudomonas Aeruginosa ATCC 27853
- Escherichia Coli ATCC 8739
- Staphylococcus Aureus ATCC 43300
- Salmonella Typhimurium ATCC 23853
- Klebsiella Pneumoniae ATCC BAA-1705


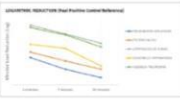
Inoculum Carriers: 20 cm² stainless Steel carriers
 Concentrations: 1.5x10⁷; 1.5x10⁸ CFU/mL
 Exposure Times: 4, 7 and 10 minutes
 Distance Surface – Source: 3,5 m
 Repetitions: tests were performed 3 times in triplicate between August and September 2020

Experiment method:

2 PCB solution to suspend inoculum colonies were spread on the stainless-steel carriers, one placed under UV irradiation and the other out of device reach. At the end of the exposure time both the samples were transferred into 90 mm Petri dishes and D/E medium added. Plates were incubated at 36°C for 48h.

TESTS RESULTS:

After irradiation, all Microorganisms tested were eliminated with value from 4 Log₁₀ (99.99%) to 7 Log₁₀ (99.999999%). The higher effect was of course achieved at 10 minutes exposures (distance was fixed at 3,5 m).

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Principales pruebas de laboratorio e informes de pruebas

Purificación del aire sobre la carga microbiana y de hongos presente en el aire

UNIVERSITY OF SIENA, Department of Molecular and Developmental Medicine

Test 4: Evaluation of the effect of Light Progress UV-C air Purification devices on the microbial and fungi load present in the air
University of Siena, Department of Molecular and Developmental Medicine

TESTS PARAMETERS:
Name of product tested: UV-FAN-95HP
Period of analysis: April 2010

Microorganisms Tested:
- Mesophyll Load
- Psicrofilla Load

Test Method:
The experimental protocol provides active sampling of 1 m³ air next to the exit slot of the air purifier with both UV lamps ON and OFF. Tests have been conducted in a University classroom where administration activity and lessons took place.
Results are expressed as Unit Forming Colonies for Air Cubic Meter (UFC/m³).

Experiment Goals:
Indoor pollution concerns confined rooms such as workplaces, schools, hospitals, transportation, etc. where we spend most of our time. International scientific community has been investigating for years how public health can be affected by poor Indoor Air Quality environments.
This study regards the purifying effect of UVGI technology provided by LIGHT PROGRESS in spaces where a normal working and social activity is held.
The goal is to prove that there is a certain benefit in using UV air purifier, especially in crowded and closed areas, due to the decreasing of Microbial and Fungi load in air.

TEST RESULTS:
LIGHT PROGRESS device succeeded in reducing almost completely the total load of both Mesophyll and Psicrofilla microorganisms showing almost no UFC/m³ of aspirated air when lamps were ON. Chart below shows results.

ESPECIE	UFC/m ³ (ambiente)	UFC/m ³ (dopo)	riduzione %
M	100	2	>98.00
UV-FAN M2/25P	100	2	>98.00
UV-FAN M2/25P	100	<1	>99.99

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Eficacia del purificador de aire "UV-FAN" contra el virus del virus SARS-COV-2

INNOVATIVE BIOANALYSIS Inc.
Independent laboratory in California – US

RESULTS:
The average reduction observed after performing three air passage tests was approximately 99.97%.

Overall, the tests have shown that the device is efficient in reducing viral concentrations in the air passing through the device and thus in constantly diluting the viral load potentially present in the air in a constant and continuous manner when kept in operation in the presence of people.

Eliminazione del virus SARS-COV-2 attivo e reutilizzato - Risultato al singolo passaggio dell'aria all'interno di UV-FAN

The study focused on the analysis and effectiveness of the treatment at the single air passage within the purifier.

An effort was made to simulate a real-life environment while taking into consideration the special precautions required when working with a biosafety level 3 pathogen. Every effort has been made to address these limitations with the design and execution of the tests.

The success of the test is represented by the fact that the control samples were particularly loaded with viruses, demonstrating the effectiveness of the UV-FAN system when operated in a closed environment, such as the one we tried to simulate in the laboratory.

INNOVATIVE BIOANALYSIS INC. 1338 Alhambra Ave Suite D - Costa Mesa, CA 92626 - USA
No document certification testing performed during July 2021 at the laboratories of the client.
No original material from which this document derives is available in English, in which it was originally written.
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Emisión sin ozono conforme a las normas EAC, UL 867

INTERTEK GROUP PLC, report number 104987646crt-005

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Total Quality Assured

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www.intertek.com

TEST REPORT FOR LIGHT PROGRESS
Report No.: 104987646CRT-005
Date: March 31, 2022

SECTION 1
SUMMARY

The representative sample(s) have been tested, investigated, and found to comply with the requirements of the following Standard(s):
Electrostatic Air Cleaners, UL 867, Section 40, Fifth Edition, August 4, 2011 revision: August 16, 2021
CSA C22.2-187-2020 14.5, Section 7, February 2015, January 2020 Revision

The equipment identified in this report has been found to meet the criteria for amittance of ozone not exceeding a concentration of 0.050 ppm. Furthermore, a second sample was not required to be tested, according to UL 867, as the first sample's maximum emissions were less than 0.030 ppm, which satisfies the exception in the Section 40.1.1.

This report completes our evaluation covered by Intertek Project Number G104987646 which has been authorized by Intertek quote number: Qu-01247116-1. If there are any questions regarding the results contained in this report, or any of the other services offered by Intertek, please do not hesitate to contact the undersigned.

OZONE EMISSIONS SUMMARY			
FAN SPEED	FILTER(S)	OS/VOLTAGE SETTING	C ₁ (low) (ppm)
On	No		0.003
Highest 8-hour time-weighted average: 0.000(ppm)			

Completed by: Alvert Shah, Project Engineer
Reviewed by: Michael Hudon, Staff Engineer

Signature: *Alvert Shah*
Date: March 28, 2022

Signature: *Michael Hudon*
Date: 3/31/2022

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Certificados principales



CE

DECLARATION OF COMPLIANCE

We, LIGHT PROGRESS S.r.l., hereby declare under our own responsibility that the following units of own production:

are in accordance with EEC directive 2014/30/EU (Electromagnetic Compatibility)
 are in accordance with EEC Machinery Directive dispositions 2006/42/EU
 are in accordance with EEC Low Voltage Directive 2014/35/EU
 are in accordance with EEC (RoHS) directive 2002/95/EU and 2011/65/EU

TECHNICAL STANDARDS APPLIED

UNI EN ISO 12100:2010 Safety of Machinery - Basic Concepts, General Principles for Design - Risk assessment and risk reduction
 UNI EN ISO 13857:2008 Safety of Machinery - Safety Distances to prevent danger zones being reached by the upper and lower limbs (2008)
 ISO 14120:2015 Safety of Machinery - Guards - General Requirements for the Design and construction of fixed and movable guards
 UNI EN ISO 13849-1:2016 Safety of Machinery - Parts of the Control System related to the Safety - Part 1: General Design Principles
 UNI EN ISO 14119:2013 Safety of Machinery - Interlocking devices associated with guards - Principles for design and selection
 CEI EN 60204-1/EC Safety of Machinery - Electrical Equipment of Machines, Part 1: General Rules (2010)
 EN 61439-1:2011 Low-voltage Switchgear and Control Gear Assemblies, Part 1: General rules

FURTHER TECHNICAL STANDARDS APPLIED:

IEC EN 60335-1 "Safety of household electrical appliances and similar"
 Electronic Ballasts for the control of the lamps in accordance with the standard EN 60528.
 Germicidal UV-C Lamps in accordance with EN 61199.
 Electrical Protective Measures in accordance with IEC 70-1, EN 60229.

Anghiani, 05 January 2017

LIGHT PROGRESS

Responsible for Standards: Dr. Aldo Sarti

LIGHT PROGRESS S.r.l. Via G. Marconi, 81 - 53031 ANGHIANI (AR) - ITALY - <http://www.lightprogress.com>

Jan-2017 Pag. 22/24

Reg. Number	6950 - A	Valid From	2019-07-28
First issue date	2007-12-21	Last change date	2019-07-28
Valid until	2022-07-29	IAF Sector	19

Quality Management System Certificate
ISO 9001:2015

We certify that the Quality Management System of the Organization:

LIGHT PROGRESS S.r.l.

Is in compliance with the standard UNI EN ISO 9001:2015 for the following products/services:

Design and production of UVC rays disinfection systems.

Chief Operating Officer
 Giampiero Belcredi

The maintaining of the certification is subject to annual surveillance and dependent on the observance of Kiwa Cermet Italia contractual requirements.
 This certificate is composed of 1 page.

CERTIFICATE

Kiwa Cermet Italia S.p.A.
 Società con socio unico,
 soggetta all'attività di
 direzione e coordinamento di
 Kiwa Italia Holding Srl
 Via Cadriano, 23
 40067 Granico dell'Emilia
 (BO)
 Tel. +39 051 4993 111
 Fax +39 051 763 382
 Email: info@kiwacermet.it
 www.kiwa.it

LIGHT PROGRESS S.r.l.
Registered Headquarters
 - Località San Lorenzo, 40 - 52031 Anghiani (AR) - Italy

Certified Sites
 - Località San Lorenzo, 40 - 52031 Anghiani (AR) - Italy

500 N° 0074

CERTIFICATE OF COMPLIANCE

Certificate Number 20130702-E362672
 Report Reference E362672-20130628
 Issue Date 2013-JULY-02

Issued to: LIGHT PROGRESS SRL
 VIA G. MARCONI 81
 52031 ANGHIANI AR ITALY

This is to certify that representative samples of ACCESSORIES, AIR-DUCT MOUNTED Duct-Mounted UV Lamp Assembly, Models UV-RACK, followed by 3I, 4I or 6I, followed by 40H, 60H or 90H.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: Bi-National Standard for Heating and Cooling Equipment, ANSI/UL 1995-2011 and CAN-CSA C22.2 No. 236-11
 Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Classification Mark for the U.S. and Canada should be considered as being covered by UL's Classification and Follow-Up Service and meeting the appropriate U.S. and Canadian requirements.

The UL Classification Mark includes: the UL in a circle symbol: with the word "CLASSIFIED" (as shown), a control number (may be alphanumeric) assigned by UL; a statement to indicate the extent of UL's evaluation of the product; and the product category name (product identity) as indicated in the appropriate UL Directory. The UL Classification Mark for Canada includes: the UL Classification Mark for Canada: with the word "CLASSIFIED" (as shown); a control number (may be alphanumeric) assigned by UL; a statement to indicate the extent of UL's evaluation of the product; and the product category name (product identity) in English, French, or English/French as indicated in the appropriate UL Directory.

Look for the UL Classification Mark on the product.

William R. Conroy, Director, North American Certification Programs
 UL LLC
 Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at www.ul.com/contact

Page 1 of 1



SOLUCIONES UV-C PARA EL TRATAMIENTO Y LA DESINFECCIÓN DEL AGUA

PROTECCIÓN Y SEGURIDAD
GARANTIZADAS

PRINCIPALES RETOS EN EL TRATAMIENTO Y LA DESINFECCIÓN DEL AGUA

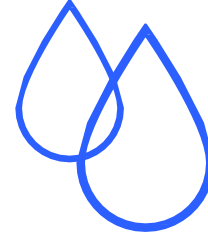


Pozo, manantial, red de distribución pública, los sistemas de rayos UVC purifican el agua sin preocupaciones y son ampliamente utilizados para aplicaciones residenciales, así como en diversos entornos profesionales e industriales, proporcionando altos niveles de calidad y agua seguridad del agua.

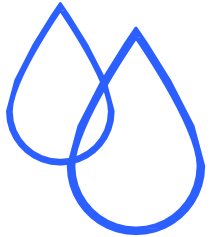
PRINCIPALES RETOS EN EL SECTOR SANITARIO



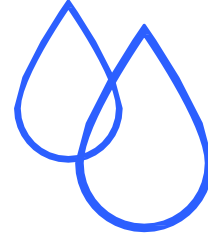
Salmonella and Pseudomonas
Often isolated in infections transmitted by water. Adaptable therefore difficult to eradicate.



Giarda and Cryptosporidium
They are parasites that live in water usually resistant to chlorine.



Escherichia Coli
a very common microorganisms mostly harmless but some forms can put Human Health in risk.



Chlorine
Chemical disinfection does not work against all my organisms and chlorine create irritating residues and smell.

PRINCIPALES RETOS EN EL TRATAMIENTO Y LA DESINFECCIÓN DEL AGUA



UV-C mantiene las características naturales y beneficiosas del agua tratada ya que no afecta a los minerales naturalmente disueltos en ella.

UV-C es compatible con todos los demás métodos de tratamiento del agua como la filtración, el ablandamiento del agua y la dicloración con carbón activado.

En algunos casos, la ley establece el uso de sistemas UV como obligatorio, especialmente cuando el agua no tiene ninguna protección antimicrobiana.

BENEFICIOS DE USAR DISPOSITIVOS LIGHT PROGRESS



SALUD

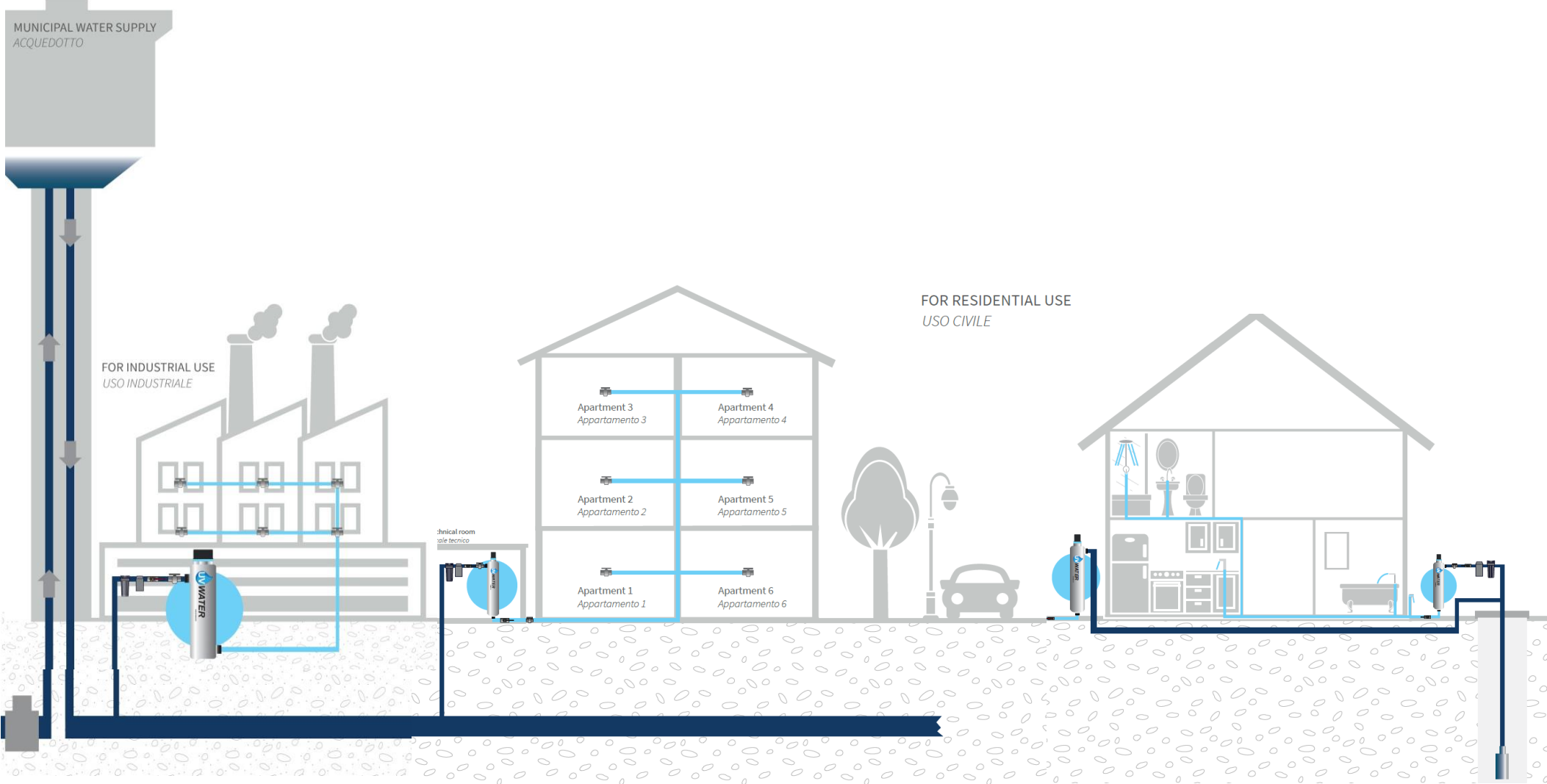


ECOLOGÍA



COSTES

TRATAMIENTO Y DESINFECCIÓN DEL AGUA: UV-WATER



TRATAMIENTO Y DESINFECCIÓN DEL AGUA: UV-WATER



- ✓ Cuerpo en ACERO INOXIDABLE AISI 304L.
- ✓ Alta eficiencia selectiva UV-C (253,7 o 253,7 nm), cuarzo puro.
- ✓ Tablero de control en ABS; vista sinóptica LED con contador de horas.
- ✓ Alarma para la sustitución de la lámpara con el botón de reinicio.
- ✓ Todos los materiales se someten a pruebas de resistencia a los rayos UV-C intensos.
- ✓ Alimentado por balastos electrónicos específicos para las lámparas de rayos UV-C de Light Progress. (220-240 V, 50-60 Hz)
- ✓ Marca CE (LVD - EMC - MD - RoHS).

TRATAMIENTO Y DESINFECCIÓN DEL AGUA: UV-WATER



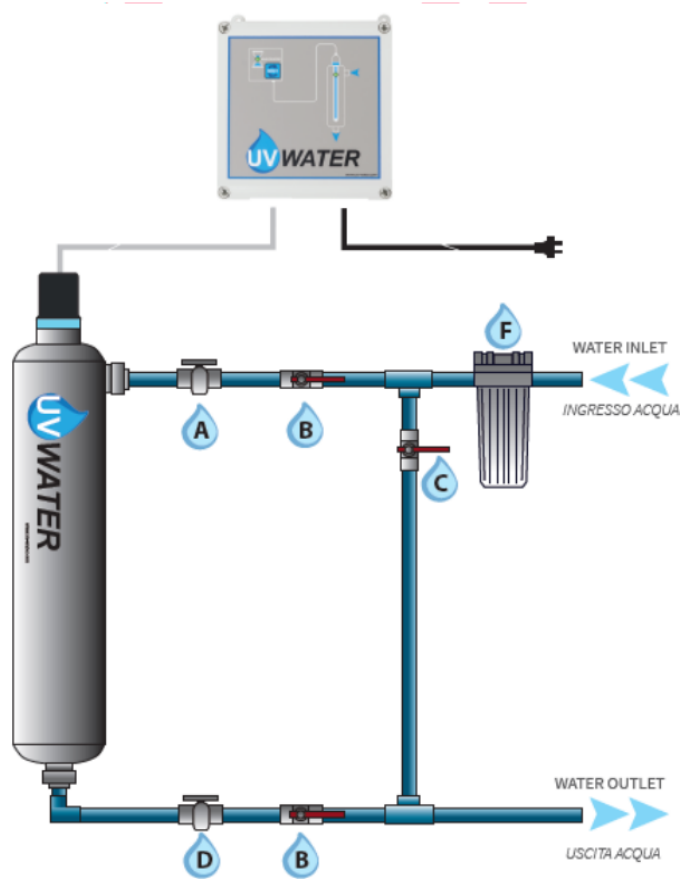
Los sistemas de la serie UV-WATER se **producen íntegramente en Italia** y se utilizan ampliamente en diversos sectores profesionales e industriales, así como en aplicaciones civiles.

La serie UV-WATER incluye **diferentes modelos** de esterilizadores, con 1, 2, 3 o 4 lámparas UV-C.

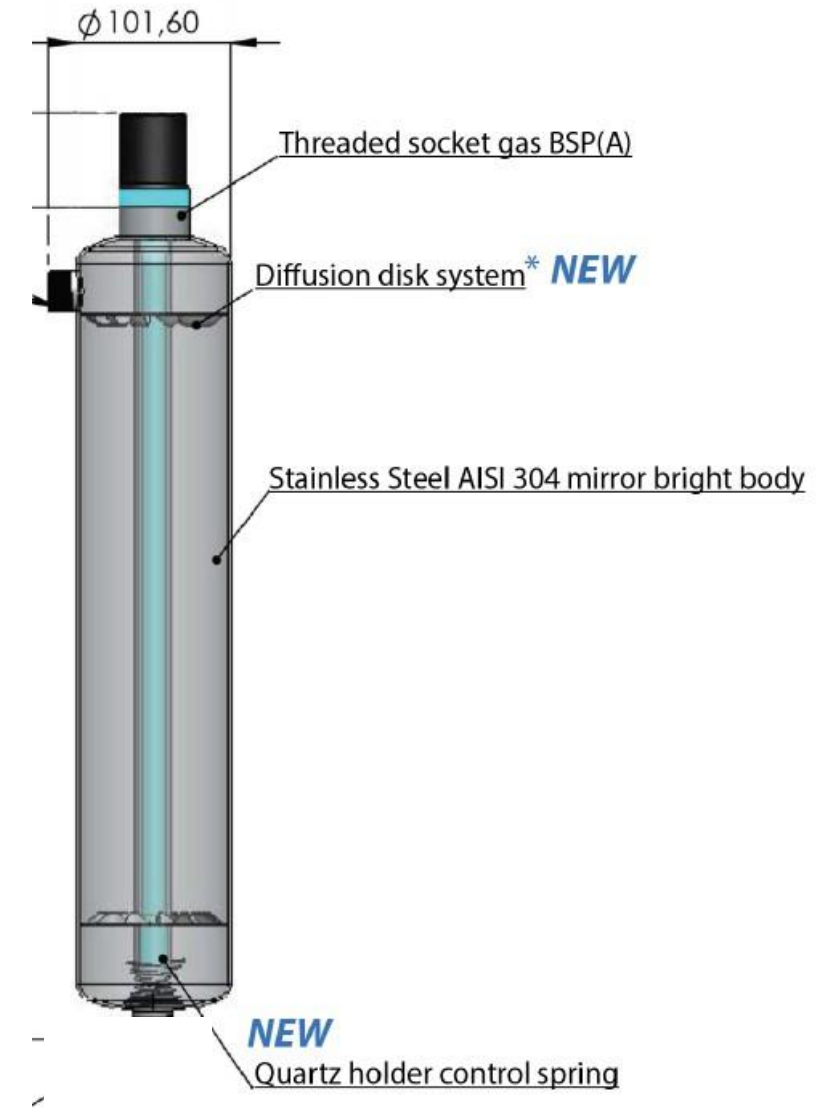
El agua pasa a través del **acero inoxidable AISI 304L** y es irradiada por la lámpara o lámparas contenidas en el interior del aparato.

Las lámparas UV-C se insertan en una **funda especial de cuarzo** que garantiza la estanqueidad al agua y aísla la lámpara de los choques térmicos.

EJEMPLOS DE INSTALACIÓN: UV-WATER



- A** ENTRY sampling valve
Valvola di campionamento ENTRATA
- B** Interception valve
Valvole di intercettazione
- C** By-pass Valve
Valvola by-pass
- D** EXIT sampling valve
Valvola di campionamento USCITA
- E** UV-C Chamber
Camera germicida
- F** Pretreatment Filter
Filtro di pretrattamento



INTELI  SOLUTIONS

Expertos en Tecnología de desinfección UVC