ERIES®

www.eries.com

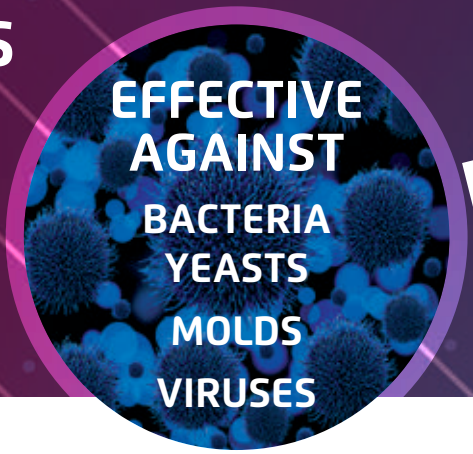
UVC GERMICIDAL TREATMENT

EL TECH Equipements

ERIES®

ERIES, DESIGNS AND MANUFACTURES
GERMICIDAL TREATMENT EQUIPMENT
USING UVC RADIATION

PERMANENT DESTRUCTION OF MICRO-ORGANISMS IN A FEW SECONDS



WITHOUT CHEMICAL PRODUCT
WITHOUT HEAT
WITHOUT CONTACT

Infrared
Invisible light

Visible light

Ultra violet
Invisible light

ERIES®
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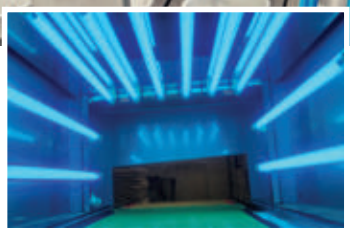
THE UVC DISINFECTION EXPERT

Over 30 years of experience in manufacturing UVC systems for the industry

Since 1989, ERIES© has been the trusted manufacturer of UVC systems for professionals.

We specialize in **equipping production lines with advanced UVC lamps** to effectively eliminate germs, whether they are viruses, bacteria, or fungi. Our extensive experience and in-house software allow us to accurately dose the required UVC radiation, taking your production constraints into account.



Various industries

- ✓ FOOD
- ✓ COSMETIC
- ✓ PHARMACEUTICAL
- ✓ COSMETIC LABORATORIES
- ✓ RESEARCH INSTITUTES
- ✓ MACHINE BUILDERS
- ✓ ENERGY, TRANSPORT, FINANCE

Various applications

SURFACE TREATMENT

Surfaces disinfection is the specificity of ERIES®

- Decontamination of packaging (jars / sachets / caps / films / seals).
- Filling equipment, belts, conveyors, transport containers
- Clean rooms and/or controlled environments.
- Research laboratories, biotechnology, bioengineering, genetics.
- Laboratory instruments and tools.

AMBIENT TREATMENT

- Aseptic industrial production rooms.
- Laminar flow or controlled atmosphere.
- Fume hoods and laboratory rooms.
- Clean rooms.
- Any HVAC system (commercial, industrial, medical, and residential).

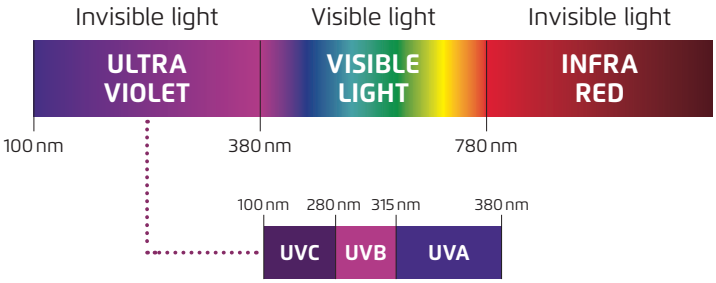
LIQUID TREATMENT

- Plant extracts.
- Essential oils.
- Fruit juices.
- Purified water loop.

TYPE C ULTRAVIOLET RAYS

- ✓ UVC rays are found between 100 and 280 nm.
- ✓ The germicidal effectiveness of UVC radiation falls within the range of 180 to 320 nm, with an optimum at 265 nm.
- ✓ We use low-pressure mercury lamps specially designed to produce the highest amounts of UVC radiation at 253.7 nm.

In the majority of cases, a reduction in the population of microorganisms by 99.9% is achieved within a few seconds.



EFFICIENCY 99.9%

- WITHOUT CHEMICAL ADDITIVES
- WITHOUT HEATING
- WITHOUT CONTACT

TYPES OF LAMPS

The lamps we use in our equipment are of the "low-pressure mercury" type

- ✓ **Standard**
  PH series – 16 mm diameter tube
- ✓ **High Output** (High Power)
  HO series – 16 mm diameter tube
- ✓ **Amalgam**
  PHH series – 19 mm diameter tube

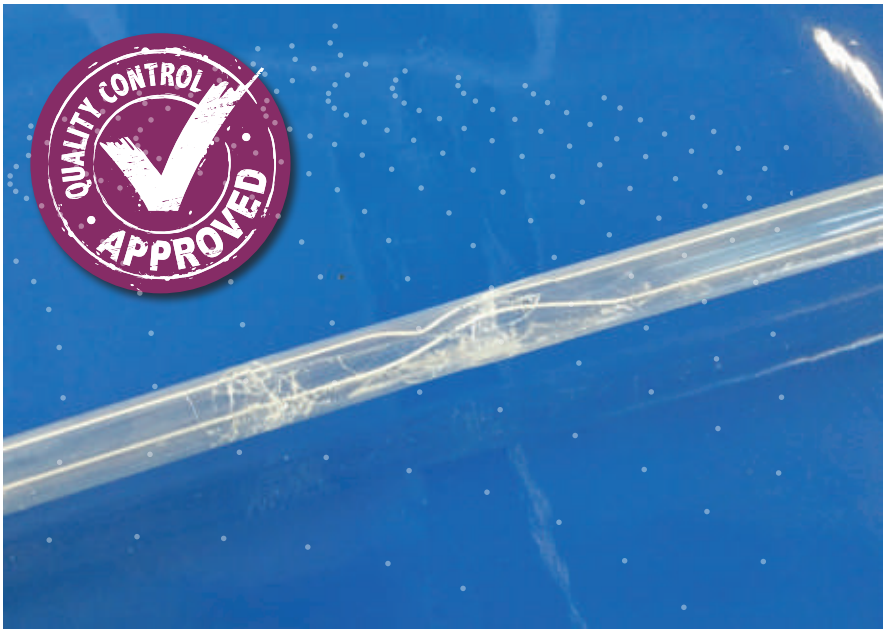
COMPARISON OF UVC LAMP POWER	LAMP LENGTHS RANGE FROM 200 MM TO 1500 MM		
	Diameter in mm	UV Power (W-uv)	Comparison of UVC Power
LTG842			
Standard 842 mm	16	16	Standard
LTGHO842			
High Output lamp 842 mm	16	27	69 % more energy
LT6GPHVA843			
Amalgam lamp	19	54	100 % more energy

TEAR-RESISTANT SLEEVE

A sleeve made of material transparent to UVC **prevents any dispersion of lamp debris in case of an incident.**

In the event of accidental lamp breakage, the sleeve provides physical protection against any quartz dispersion. The sheath is tear-resistant and can withstand non-sharp impact without deterioration – even if the lamp's quartz is broken, it cannot, in any way to cause damage to the sheath or compromise its integrity.

- MATERIAL TRANSPARENT TO UVC
- PATENTED PROCESS
- PREVENTS THE DISPERSION OF LAMP DEBRIS

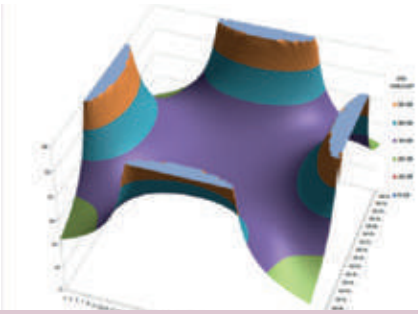


CALCULATION SOFTWARE

THE INTELLIGENT DOSE

We use software developed by ERIES® to calculate the optimal UVC radiation dose.

This software allows us to accurately determine the number of lamps required and their positioning within the system to effectively expose the surface to be disinfected based on operational conditions. In each study-case, we calculate the ideal dose for optimal disinfection. Our expertise in this field is continuously strengthened through our test bench.



- ACCURATE CALCULATION OF THE OPTIMAL UVC DOSE
- STRATEGIC POSITIONING OF LAMPS
- MAXIMIZED DISINFECTION EFFECTIVENESS AND COST OPTIMIZATION

TEST BENCH

Our test bench enables us to have complete control over our disinfection equipment and explore new technological advancements.

We can continually innovate in our technology, through our qualified metrological methods.

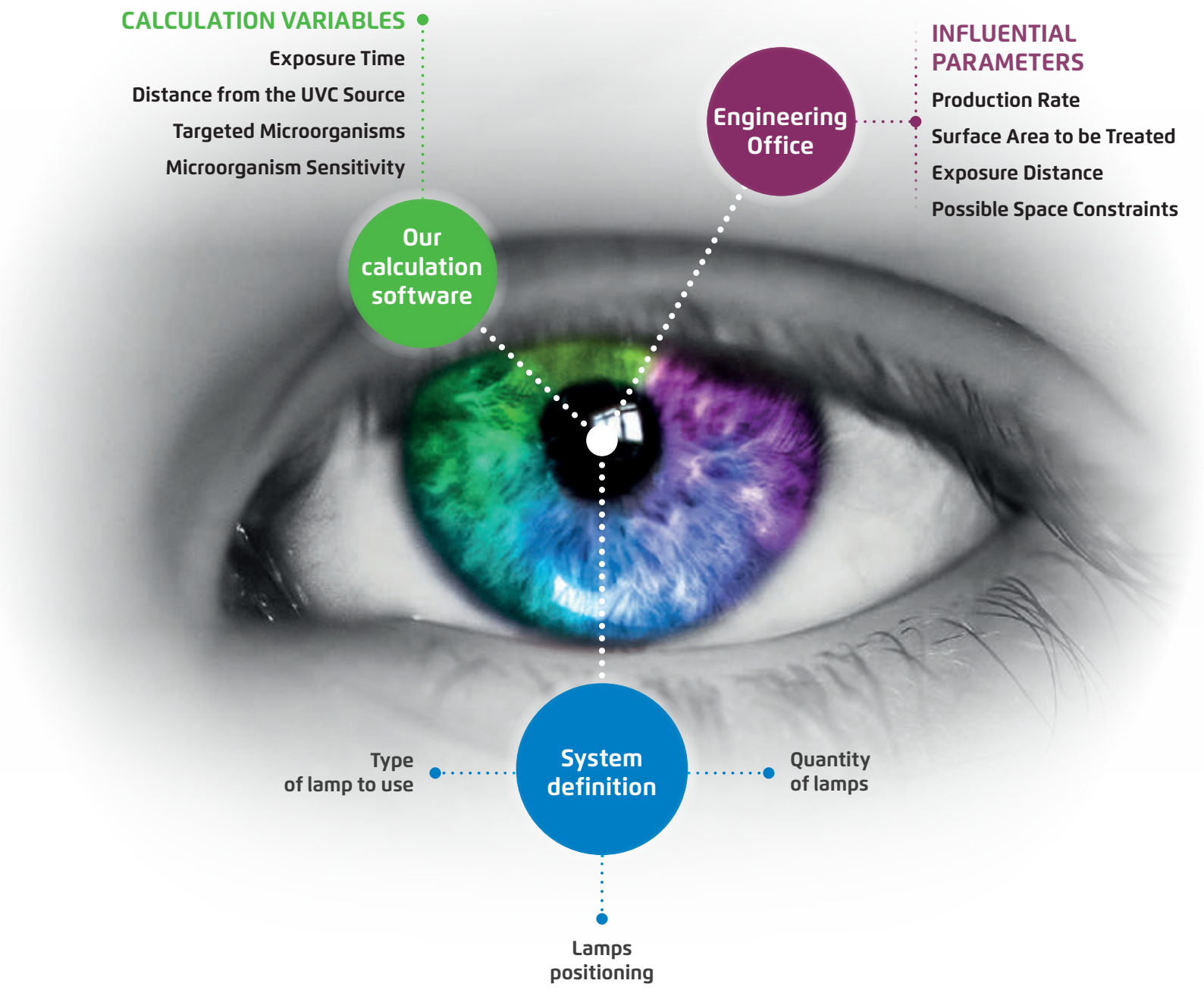
We assess the performance of UVC lamps by comparing them to the theoretical dose calculated by our software, simulating real exposure conditions.

This allows us to understand the lamps' impact on products and materials, paving the way for new disinfection solutions.

- CONTINUOUS TECHNOLOGICAL INNOVATION
- RIGOROUS PERFORMANCE EVALUATION
- SIMULATION OF REAL CONDITIONS

CUSTOMIZED DESIGN

We design the best system for your needs



INDUSTRIAL SOLUTIONS

CONCEPTION

Adaptation of Aseptic Machines

We work in collaboration with the engineering departments of manufacturers of **aseptic machines designed for packaging various products.**

System Characteristics Definition

Based on production rates and mechanical configurations of the machine, we **customize the equipment to provide the optimal treatment.**

Development of New Products

Innovation drives us. Our test bench and engineering department are continually working towards advancing technology and designing new products for any application.

SPECIAL EQUIPMENT FABRICATION

ERIES® Supports Industrial Clients

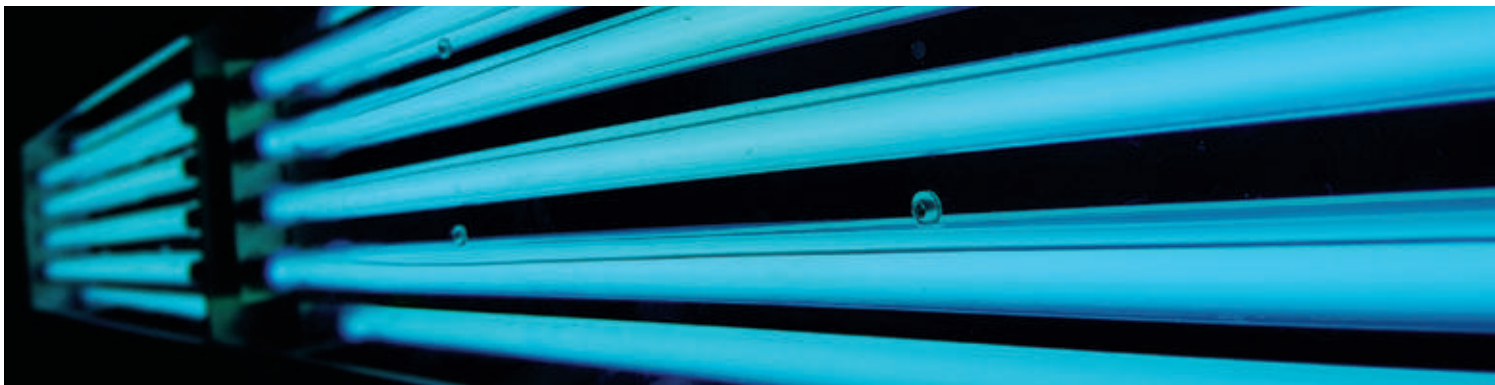
In their process improvement projects, studies and implements equipment integrations for treatment. We benefit from experience, expertise, and product quality.

Packaging Machines

We collaborate with the client's Quality and Engineering departments to **provide the most suitable solution for the application**. Often, the machines are already in operation, and we implement a test protocol to fine-tune the solution to meet the project's needs.

Construction of Treatment Systems

We design and build packaging treatment equipment before packaging. The technology of the lamps used allows the implementation of equipment that is easy to maintain and tailored to the machine.

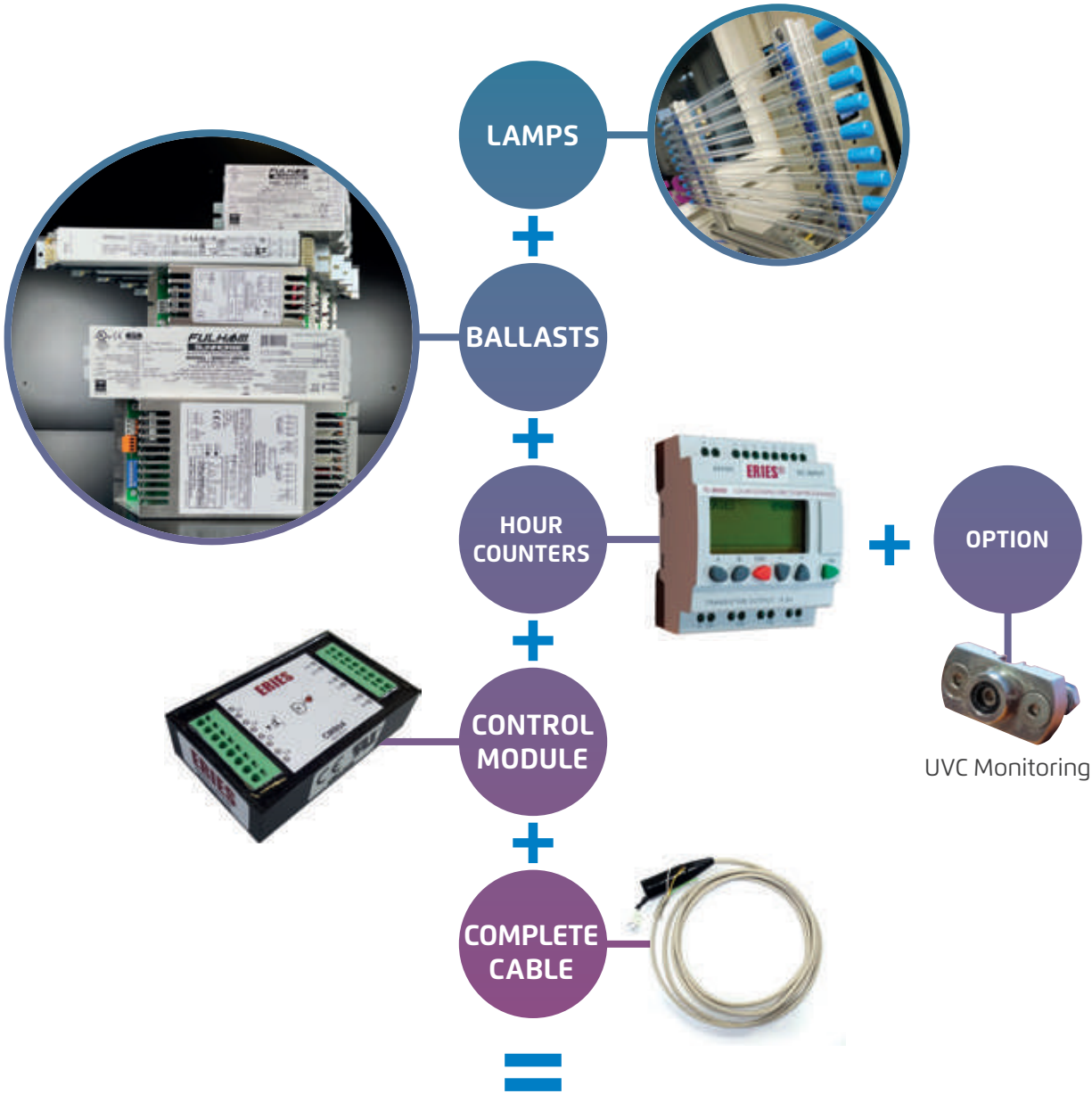


A COMPREHENSIVE SYSTEM

UVC lamps are just one part of the system, which must be complemented and optimized with ballasts chosen based on their technical characteristics. This determines the performance of the entire system.

Our electronic ballasts ensure the optimal power supply to the lamps, with preheating before ignition. They provide the necessary starting voltage, stabilize the current, improve energy efficiency, extend the lamp's lifespan, and ensure the overall system's safety.

The performance of your system depends closely on the technical characteristics of its components. At ERIES®, we provide **hour counters** specially tailored to our lamps and ballasts, as well as a monitoring system to closely track the UV energy in the system.



A HIGH PERFORMANCE SYSTEM!

ACCESSORIES

In addition to our products, we also provide accessories that ensure the operation of germicidal treatment systems, with material selection meeting the highest safety requirements.

TC 9000 HOUR COUNTER
TC 9000 MONITOR

Designed for the use of UVC lamps. The hour counter takes into account the startup phases and signals when lamp replacement is needed.

The monitor allows the addition of a UVC probe (254nm) that measures the energy level in percentage. An indication of energy in mW/cm² is also available.

En option :

capteur niveau UVC

CONTROL MODULE

Electronic control module for using the operational information in an automated system.

CMA02/04 ➜ Opto-coupler 2/4 inputs - 2/4 outputs.

CMB04/CMB06 ➜ Opto-coupler 4/6 inputs – 1 output.

PHOTORADIOMETER

It is a portable instrument with a large LCD screen, measuring luminance, illuminance, and energetic illuminance (in UVA, UVB, and UVC spectral regions or effective energetic illuminance measurement according to the UV action curve).

UVA-UVB-UVC SENSORS

ENERGETIC ILLUMINANCE measurement sensors.

UVA: 315nm…400nm (Peak at 360nm).

UVB: 280nm…315nm (Peak at 305nm).

UVC: 220nm…280nm (Peak at 260nm).

WE CAN PERFORM UVC INSTALLATION AUDITS

- Check the UVC efficiency of your installation.
- Check for the absence of stray radiation near personnel.
- Provide a verification report.

CONNECTORS FOR 4C LAMPS

Plastic Connector

Plastic connectors are designed for T5 UV tubes, with contacts supporting up to 1A max.

The plastic material is UV-resistant.

Ceramic Connector

Ceramic connectors are designed for powering T6 UV tubes (Ø 19 mm) with a tube current greater than 1A.

CAPS - CONNECTOR PROTECTION

These caps cover the connectors of T5 UV tubes to ensure protection during machine cleaning.

CLIPS - FIXING TUBES ON EQUIPMENT

Tubes are secured with clips that allow for easy maintenance. Mounted at the end of each tube, these clips keeps the tubes in position.

COMPLETE CABLE (3m – 4m – 5m)

Other lengths available upon request.

- **AWG20 Cable + Plastic Connector + Cap.**
- **AWG18 Cable + Ceramic Connector + Cap.**
- Customized and adapted to our lamps and ballasts.
- Carefully selected and tested materials to ensure optimal operation.

STA4 CONNECTOR

4-Pin Male/Female + Shielding + Locking.

- Designed and adapted for use with lamp power cables.
- Facilitates machine maintenance.

PROTECTIVE GLASSES

Eye protection - filters for ultraviolet.

- Compliant with EN170 standard (2C – 1.2).
- UV protection.
- Lens thickness: 2.00 mm.
- Material: 100% polycarbonate.

FACE SHIELD

Face protection - UV filters.

- EN170: 2002. / EN172: 1994.
- Covers the user's face effectively.
- Spherical polycarbonate screen.
- Easy headband adjustment thanks to the rack system.
- Wide field of vision.

OUR CUSTOMERS

ASEPTIC MACHINE BUILDERS

serac | DECAM TECHNOLOGY | Synerlink | LEKKER KERKER dairy & food equipment | ZALKIN | PAKERGROUP

FOOD, PHARMACEUTICAL, AND COSMETIC INDUSTRIES

FrieslandCampina | COUPLET SUGARS Make all the difference! | ingredia DAIRY EXPERTS | BIOLOGIQUE RECHERCHE PARIS | DELPHARM | THE INNOVATION COMPANY | FRUITOFOOD

DAIRY PRODUCTS

DANONE NUTRICIA RESEARCH | GROUPE LACTALIS | blédina | Olympia | Valhorn | yoplait

RESEARCH INSTITUTES – LABORATORIES

LNE | cea jacob | INP PURPAN ECOLE D'INGÉNIEURS | nmisa National Metrology Institute of South Africa | eurofins

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