

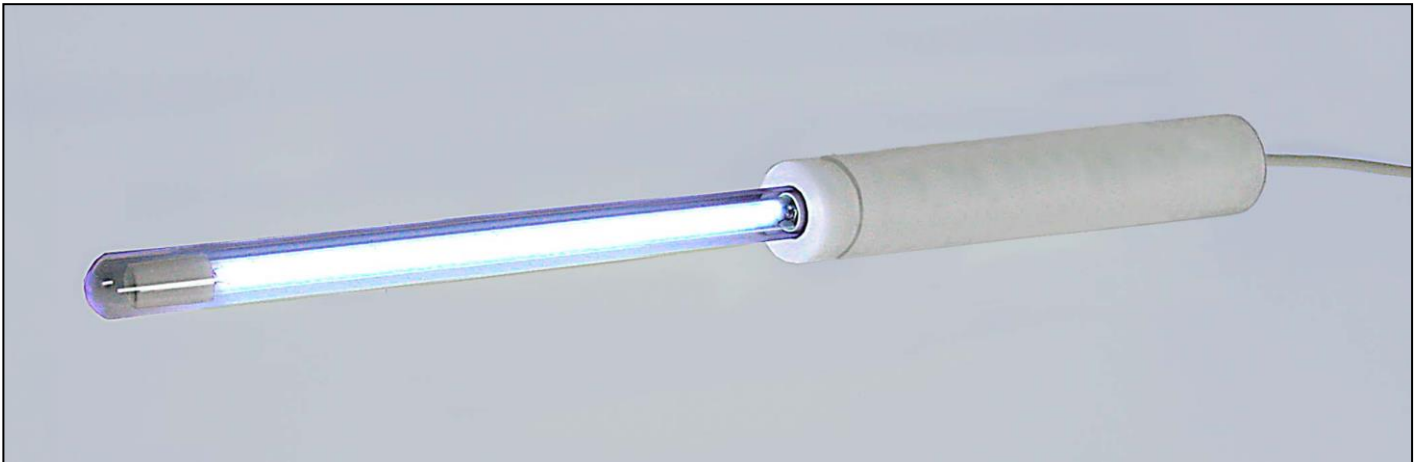
INSTRUCTIONS

# UV-PIPE-BV

*UV-C device with ultra - compact dimensions  
special for refrigeration sales counter*

MODEL:

UV-PIPE-BV-11  
UV-PIPE-BV-16  
UV-PIPE-BV-25



## SECURITY WARNING

◆ The Company has ensured that every care is taken in the design and production of its machinery. In order to guarantee, as far as possible, that it is safe when used correctly. However, the laws on accident prevention require all users of the machinery to ensure that whoever is responsible for installation, maintenance, use and sale of these products is shown the instruction provided by our company and is made aware of the precautions to be taken.

According to the circumstances, the appropriate recommendations made in these instructions must be made available, together with any other relative information, to any company or person involved in the installation of LIGHT PROGRESS products.

◆ Only use this appliance for its intended purpose as described in this booklet.

◆ If the appliance is wrongly operated for a purpose other than that for which it is intended, no liability can be accepted for any possible damage. The manufacturer cannot be responsible for any damage to people, animals and objects caused by use or operation of the appliance contrary to these instructions.

◆ As with all electrical appliances the safety information and precautions contained in this booklet must be carefully observed, including following:

◆ Before maintenance or cleaning ensure that the appliance is switched off and unplugged from the mains supply.

◆ Should the appliance become faulty please contact our authorized Service Centre direct and in case of repairs ask for genuine parts.

Improper repairs may damage the appliance and place the user at serious risk.

## WARNING



◆ **Avoid *exposition* to UV-C rays emitted by germicidal lamps, even for few seconds, it may cause severe conjunctivitis and erythema**

◆ **Plastic or painted surfaces exposed to direct UV-C rays may progressively yellow, as after a long exposure to sunlight.**

◆ **The intended use is as a germicidal lamp for sterilization, any other use is improper and dangerous**

◆ **The lamp, as supplied, cannot be modified or designed for use with accessories or tools**

◆ **We disclaim all responsibilities and void the warranty in case of tampering or lack of maintenance**

- Read carefully the following instruction before use
- In case of opening of the UV section, switch off the UV-C devices in order to avoid exposures to UV-C light. They may cause severe conjunctivitis and erythema.
- Remove the protection film from the device before switching on the UV-C lamps.
- This device can be used by children with no less than 8 years and by persons with reduced physical, sensory or mental capacities or with no experience or knowledge, as long as under supervision or often they have received the related instructions about the safe use of the device and the related risks. Kids do not have to play with this device

## CONVENTIONAL SYMBOLS NOTICED ON DEVICES



SUBSTITUTED ITEMS MUST BE PERFORMED RESPECTING THE LOCAL LAWS.



RECYCLE THE STUFFS THAT COMPOSES THIS PRODUCT.



OBLIGATION TO CONSULT THESE INSTRUCTIONS BEFORE USE THIS PRODUCT



DANGER OF ELECTRICAL SHOCK; REMOVE TENSION TO THE SYSTEM BEFORE PERFORMING ANY OPERATION.



GENERIC DANGER.



DANGER OF EXPOSITION TO ULTRAVIOLET UV-C RAYS.



THIS DEVICE RESPECTS THE ROHS NORMS.



USE PROTECTIVE GLOVES



WEAR PROTECTIVE GLASSES

### STORAGE OF THIS MANUAL



**ATTENTION !**

This instruction manual must be preserved and be ever at disposal to consultation; it must follow the device in case of passage of property, and accompany the device until its demolition. It's possible to contact Light Progress' technical office to ask for updated instruction manuals and information.

### DEMOLITION AND DISPOSAL



Do not dispose of these products as unsorted municipal waste, but collect them separately as a special waste and entrust them to specialized waste disposal companies. Disposal should be in accordance with Legislative Decree No. 151/2005 (WEEE - Italy), or the law of the country where disposal will occur (WEEE - EC). In case of failure to comply with laws or illegal disposal, heavy penalties are provided. The apparatus consists of plastic parts, electronic components, metal, UV lamps containing mercury (substances dangerous for the environment and human health). The dealer is available to the withdrawal of the apparatus used.

## DEVICE DESCRIPTION

The **UV-PIPE-BV** devices decontaminate air of recirculation inside sales counters refrigeration, thus deleting also food cross-contamination, that is the contamination going from one food to another. The treatment is continuous and without contraindications; the destruction of germs is safe and guaranteed, because at every passage of air the **UV-PIPE-BV** makes a microbial reduction up to 99%.

The device is formed by a UV-C emitting lamp, protected by a genuine quartz bulb, transparent to 253.7nm wavelength radiation, and by a cylinder in insulating material which performs the function of power supply. The unit reaches the protection class IP65 - 10m. The quartz performs the important function of protecting the UV lamp-C by low and high temperatures, creating a cushion of air between the lamp and the outside environment, so increasing the lamp yield.

The cylindrical handle (Ø50mm) is made of insulating material (PVC FOOD), and contains, in its interior, an electronic miniaturized card that allows to power the device directly from the network line by means of an electric cable.

The light bulb can be protected by a UVLON-PIPE® sheath to avoid the projection of glass fragments towards food when the quartz eventually breaks down. UVLON-PIPE® is a special plastic sheath transparent to UV-C, tear-resistant, wear-resistant, resistant to aggressive chemicals; it has a FDA certification for use with food

## APPLICATIONS AND RESULTS

Protection from germs contamination of exposed food, in shop counters, is one of the main problems for food commerce. A large percentage of food is withdrawn from exhibition stands to early loss of freshness, or deterioration.

The cause of this is due to microorganisms such as bacteria, fungi, molds and their spores, that spread through the air circulating inside the counters and bring to cross-contamination among foods. For example, Mucor molds blacken products such as meat and sausages; Aspergillus and Saccharomyces fungi harm bakery manufacturings (white mold, green mold, black mold); Penicillium fungus forms green / black molds; Pseudomonas bacteria are very resistant to cold .

Germs come mainly from the environment and the food themselves. The proximity of different products together in the same counter (ex.: meats, cold cuts, salads, cheeses, deli products, fish, desserts, etc..) generates cross-contamination.

## OPERATION

**UV-PIPE-BV** works by direct irradiation. When it is on, a strong reduction of microbes is obtained on the irradiated surfaces. In 2 ÷ 3 seconds of exposure, a 99% reduction of bacteria (Bacillus, Coli, Clostridium, Legionella, Vibrio, Salmonella, Pseudomonas, Staphylococcus, Streptococcus, etc.) is obtained at a distance of 5 cm from the source.

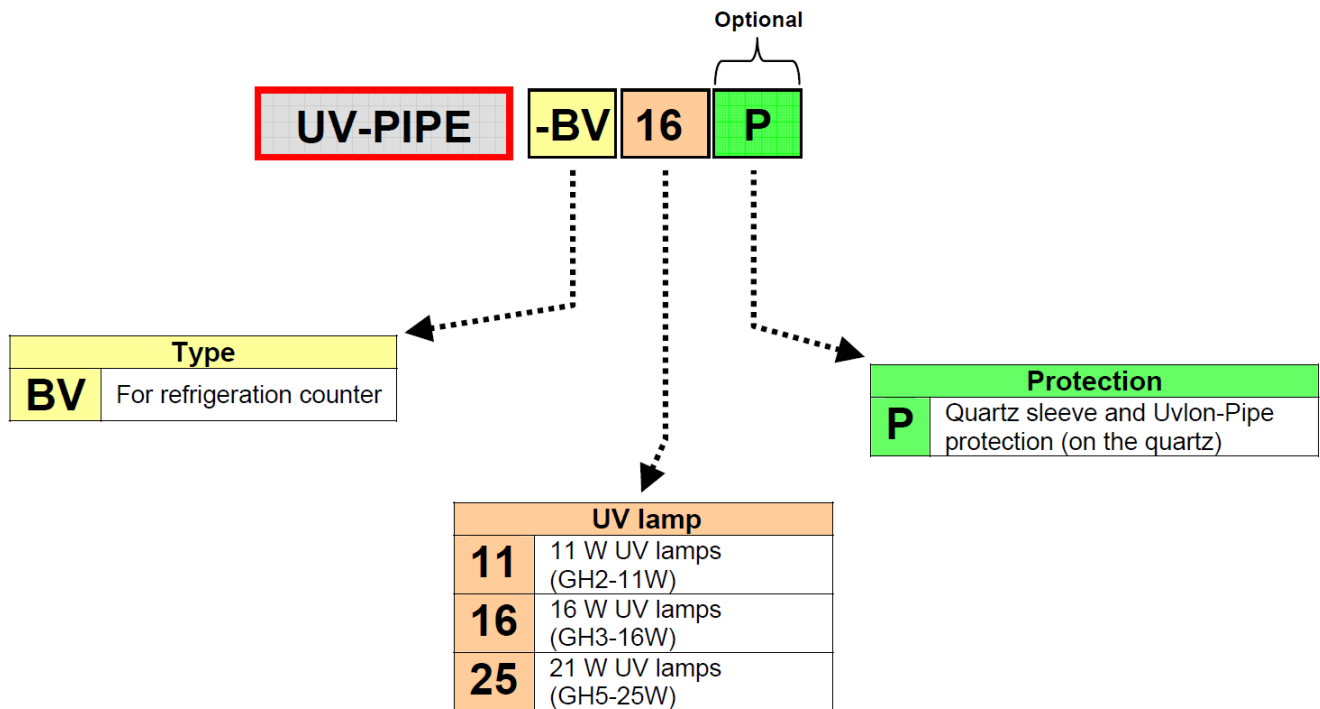
**UV-PIPE-BV** must be inserted inside the counter, in the **conduct of cold air circulation which will then be fed into the exhibition stand**. In any case, the leakage of UV-C rays, even by indirect radiation, must be prevented. For safety purpose, a position switch can be installed on the air conduct inspection door, to turn off the UV lamp when people open the door.

The device is connected to the network line (220 V - 50 Hz) by the cable coming out from the handle.

**BENEFITS AND ADVANTAGES**

- a) PHYSICAL ACTION AND ENVIRONMENTAL PROTECTION  
The treatment by UV-C rays is purely physical, and it allows to always get the same effectiveness; also, there are no problems of overdose and rooms are always safe and practicable (when devices are off). Many methods of chemical treatment involve the use of dangerous products for the environment, and difficult products to biodegrade, as well as the risk of contamination of foodstuffs. Also, the use of chemicals allows the development of resistant microbial forms with consequent danger for the human health.
- b) ELIMINATION OF MICROBIAL LOAD  
The foods can be treated to significantly reduce the level of microbial load, increasing the shelf-life of the products, without any contraindication.
- c) IMMEDIATE EFFECT  
For an effective treatment (99,9% reduction of the micro-organism) it takes a very short time.
- d) NO DANGER OF DISPERSION OF GLASS  
With the UVLON® protection special coating, there is no risk of dispersion of glass fragments resulting from any breakage of UV-C lamps.
- e) PRACTICABILITY AND SAVINGS  
The treatment is immediate and ready to the use. The maintenance is minimal, with low costs both of energetic consumptions and repairs.
- f) NO CHEMICAL/PHYSICAL CHANGES  
The cold and dry treatment does not cause any organoleptic or qualitative change in the food.

**DEVICE CODES**



**RECEPTION**

Handle with care as fragile material. Verify the integrity of the packaging, and please be careful not to damage the contents when using sharp blades or cutters to open the box. Remove the unit from the box, then inspect it immediately to ensure that no damage has occurred during transport. Before installation and using the device please READ CAREFULLY THE SECURITY WARNINGS and all others instructions that follows.

## INSTALLATION

Place UV-PIPE-BV modules inside the counter refrigeration cabinet, where there is air circulation (the circulation conduct of cold air which is then fed into the exhibition stand). Do not place them close to the air passage holes to prevent UV rays escaping from the conduct and irradiation of people. For safety purpose, a position switch can be installed on the air conduct inspection door, to turn off the UV lamp when people open the door.



## WARNING!!!

To avoid accidental exposition to UV-C rays, please provide automatic turning OFF devices at the entry doors of the cold air conduct, inside the refrigeration cabinet. There must be no direct or indirect irradiation of the personnel, because this will cause eyes affections (conjunctivitis) and skin rashes (erythema).

To improve safety we suggest you to add light signs or signboards to report the potential danger.

**Remember to switch on the device ONLY IF there is a concrete shield and no accidental expositions to UV-C rays by the personnel.**

## SCHEDULING

Power on the device. The UV lamp will irradiate. Remember not to expose people to UV-C rays irradiation.

## ELECTRICAL CONNECTIONS

⇒ We suggest you to let a qualified electrician to install this device, following these instructions and the electrical scheme, and following the CEI norms.

⇒ Make sure that the device will be installed where it will fit with the existing environmental conditions. Before connecting the device to the electrical line, make sure that the labelled data on the device are the same as the ones of the electrical line; we remind you that the electrical supply power of this device is 220-240V, 50/60Hz.

⇒ Make sure that the electrical system is suitable to provide the supply current required by the device (please read the label).

⇒ The connection to the electrical line needs a multipolar switch.

⇒ The connection to the electrical line must be made by the supplied cable 2 x 1 mm<sup>2</sup>.

⇒ The use of screws, nuts, or other means, is necessary to connect the device to the electrical line.

⇒ We suggest the use of hour counters to know exactly the lifetime of UV lamps and to remember when replace them.

⇒ Protect the power supply cable from high temperature, sharp corners, water, oils.



**MAINTENANCE**

**UV LAMP**



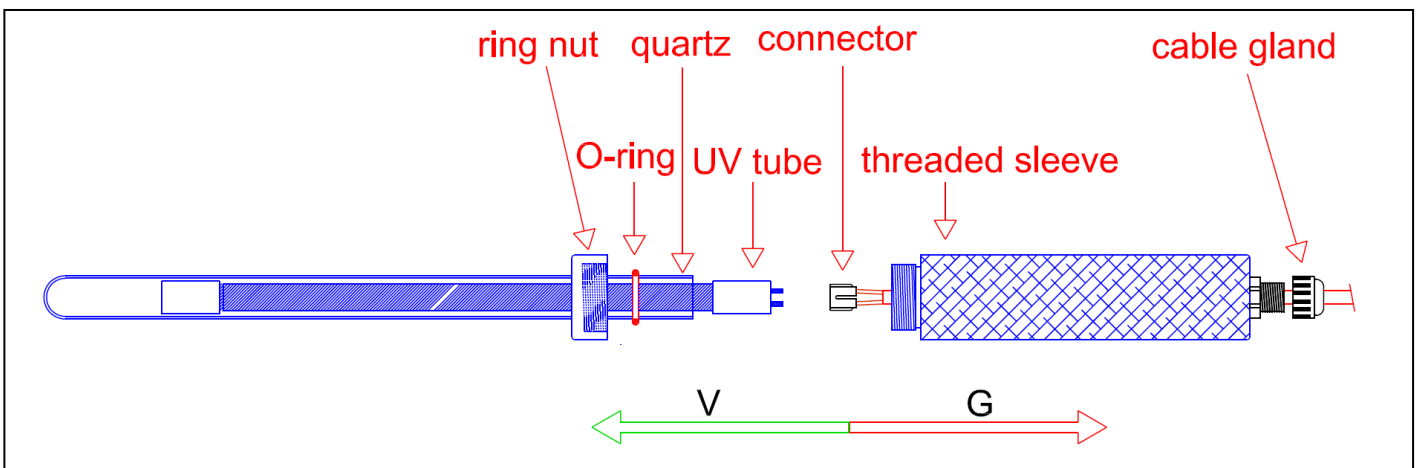
Lamp maintenance is very important because UV-C light emitted by the source is not visible to the eye, so, although you see the lamp ON, its germicidal effect may not be sufficient to perform disinfection treatment.

Before reaching the lamp, **ALWAYS** switch off power supply

If UV-C lamp gets dirty (or gets dusty) clean it with a clean cloth and alcohol, and avoid touching the glass part with hands. To check UVC lamp life number of hours, correct product code of the spare UV lamp please refer to [table 1](#).

The lamp, once reached the timing for replacement, **must be replaced**, this operation is carried out as follows:

1. Remove power to the device.
2. Unscrew the **cable gland** IP65 of the power supply cable.
3. Unscrew the **threaded sleeve** and move them along the power supply cable.
4. The last operation will make the **UV lamp** move straight forward; you will be able to join the head connector of the UV lamp.
5. Take off the 4 plugs **connector** from the UV lamp head; then take off the **UV lamp** from the device completely.
6. Take off the **quartz** sleeve completely taking care of the **O-Ring**.
7. Repeat the reverse operations to close the device again
8. Reconnect the electrical plug of the new UV-C lamp carefully because the **connector** holes create a rectangle, so please push the lamp without forcing the insert of the connector.
9. Push the lamp inside its original position pulling carefully the cable following the green arrow (V).
10. Move the **O-Ring** to the **ring nut**; screw the **threaded sleeve** to have a complete IP65 protection
11. Screw the **cable gland**, using an appropriate tool to have a complete IP65 protection
12. After have done all these operation correctly, give power to the device.



**TROUBLESHOOTING**

**UV LAMP and QUARTZ SHEAT**

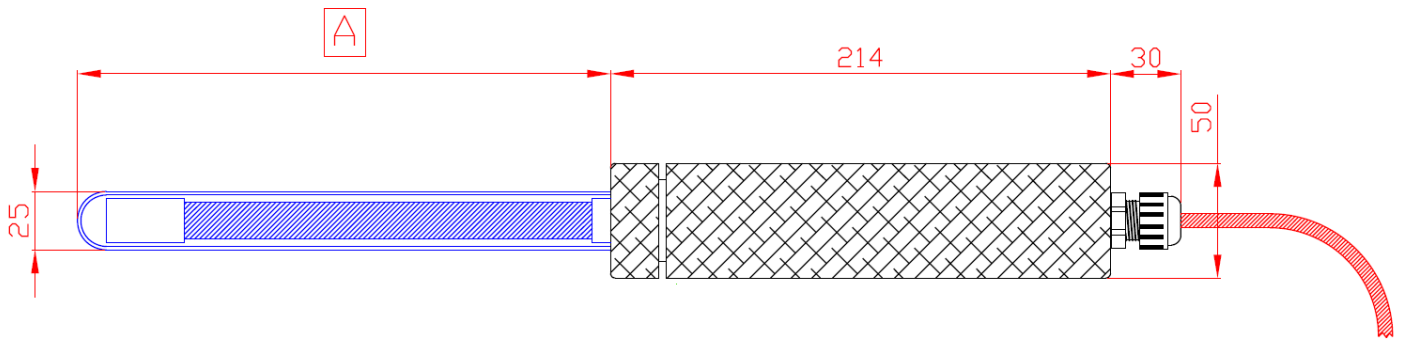
See MAINTENANCE.

**POWER SUPPLY**

All UV-PIPE models are supplied with electronic ballasts which guarantee an emission of 15% more if compared with traditional ballasts. Furthermore, lamps are not influenced by environment temperature that can go up to -20°C. Finally, the switching on is immediate, with no starter, and for this reason lamps last longer.

To replace the electronic ballast, in case of failure, **ALWAYS** remove power to the unit and follow the procedures of the UV lamp replacement. Disconnect the wires on the power supply input, pressing the blade of a small screwdriver on the slot corresponding to each input wire, to set it free. Pay attention to the succession of links because each wire will have to re-occupy the same position at the end of the job. Replace the ballast with a new one, identical to the original (see Table 1).

**TECHNICAL FEATURES**



Model	A	WATT
UV-PIPE-BV-11	228	11
UV-PIPE-BV-16	304	16
UV-PIPE-BV-25	532	21

<b>TABLE n.1</b>			
<b>UV-PIPE-BV</b>	<b>11</b>	<b>16</b>	<b>25</b>
LAMP AVERAGE LIFETIME (hours)*	≤ 18.000	≤ 18.000	≤ 18.000
TOTAL CONSUMPTION (W)	11	16	21
“A” DIMENSION (mm.)	228	304	532
WEIGHT (Kg.)	0,40	0,50	0,70
<b>SPARE PARTS</b>			
UV LAMP Code	n.1 <b>GH2-11W</b>	n.1 <b>GH3-16W</b>	n.1 <b>GH5-25W</b>
QUARTZ BULB Code	n.1 <b>Q25-258</b>	n.1 <b>Q25-334</b>	n.1 <b>Q25-562</b>
BALLAST Code	n.1 <b>EB-24</b>	n.1 <b>EB-24</b>	n.1 <b>EB-24</b>

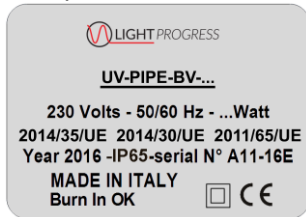
\* continuous operation

- Body in Stainless Steel AISI 304. Internal coating made of mirror polished aluminium.
- All used materials are tested for resistance to intense UV-C rays.
- Watertight and dust-tight (IP65) (Class II).
- Powered by electronic ballasts specific for UV-C rays lamps.
- Quartz to protect the UV-C lamp.
- UVLON PIPE protection sheath against projections of glass fragments (optional).
- CE mark (LVD - EMC - MD - RoHS).
- Complies with the noise standards of Directive 2006/42/EC
- Values measured according to UNI EN ISO 3746
- Non-detectable and non-transmissible vibration values
- Suitable for class 1 installations - protected areas



**LABEL AND SYMBOLS**

Example:



<b>SYMBOL</b>			
<b>MEANING</b>	Warning! Check the attached documentation	<b>ISOLATING CLASS II</b> (Double isolation against shocks. No grounding)	Device with <b>CE</b> certification.

**WARRANTY**

All products made by LIGHT PROGRESS are manufactured using only materials of the higher quality and are subjected to rigorous testing and are guaranteed to be free of factory faults according to current law and regulations.

1. Minimum requirements for warranty validity

Warranty will be considered valid only in case of possession of the purchase document.

2. Warranty limits

Warranty excludes:

- Damages caused by non-submission to the accompanying instructions.
- Periodical controls, maintenance, fixing or substituting of some parts by normal wear.
- Consumables parts.
- Use of non-compatible replacements or consumables; Compatibility is assured only by use of products bought or recommend by **Light Progress**.
- Damages caused by modification of device / system without **Light Progress**' previous consent.
- Improper use of the product, falling or crashes.
- Modification or repairs performer by unauthorized personnel.

For defective materials return, you must request the return merchandise authorization (RMA) sending an email to [info@lightprogress.it](mailto:info@lightprogress.it) or calling the number +39.0575.749255.

Once you receive the module, it has to be filled up in every part and sent via email to [info@lightprogress.it](mailto:info@lightprogress.it) or via fax to +39.0575 789929 to obtain the RMA number that will authorize the shipments of the goods to Light Progress warehouse. Only authorized goods will be accepted, otherwise it will be refused and sent back to the sender on ex-works conditions. The packages must be sent on DDP (Delivery Duty Paid) with packaging suitable for transport. RMA number is valid up to 10 working days from release date.

**RESPONSIBILITY AND COMMITMENTS OF THE MANUFACTURER**

↳ Please note that we assume no liability for any damage to persons or property caused by the mishandling of these instructions. Therefore, we recommend you to read these instructions carefully.

↳ The manufacturer agrees to provide, upon request, the patterns of circuits, components parts lists, instructions for calibration and other information, that suitably qualified personnel to serve the user and to repair those parts that the manufacturer considers repairable.

↳ The company reserves the right to make changes without prior notification or public notice.



## DECLARATION OF COMPLIANCE

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

### UV-PIPE-BV series

- ⇒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) 2011/65/EU (D.Lgs 4 Marzo 2014, n.27)

### TECHNICAL STANDARDS APPLIED

<b>UNI EN ISO 12100:2010</b>	Safety of Machinery - Basic Concepts, General Principles for Design - Risk assessment and risk reduction
<b>UNI EN ISO 13857:2008</b>	Safety of Machinery - Safety Distances to prevent danger zones being reached by the upper and lower limbs (2008)
<b>ISO 14120:2015</b>	Safety of Machinery - Guards - General Requirements for the Design and construction of fixed and movable guards
<b>UNI EN ISO 13849-1:2016</b>	Safety of Machinery - Parts of the Control System related to the Safety – Part 1: General Design Principles
<b>UNI EN ISO 14119:2013</b>	Safety of Machinery - Interlocking devices associated with guards - Principles for design and selection
<b>CEI EN 60204-1/2016</b>	Safety of Machinery - Electrical Equipment of Machines. Part 1: General Rules (2010)
<b>EN 61439-1:2011</b>	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 60928.  
Germicidal UV-C Lamps in accordance with EN 61199.  
Electrical Protective Measures in accordance with IEC 70-1, EN 60229.

Anghiari, 1.21.2021



Responsible for Standards: Dr. Aldo Santi





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