

## UV-FLOW ... C-NX

*UV-C Device with Controlled vertical/horizontal Flow  
for Barriers against Germs*

**MODELS:**

UV-FLOW-E40H-C-NX

UV-FLOW-E75H-C-NX



## 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-FLOW .... C-NX is a controlled unidirectional flow device, with a powerful UV lamp inside and a narrow emission peak at wavelength of 235.7 nm. (nanometers), which has a strong germicidal effect against all micro-organisms (molds, bacteria and viruses).

There is also a parabolic, mirror bright aluminum surface, which generates UV rays parallel beams by reflection. These beams pass through a black honeycomb laminated grid that directs UV rays to form a unidirectional flow ("blade UV"). When installed according to the instructions, this device can be used in the presence of people for intensive and continuous air disinfection.

## OPERATION

The **UV-FLOW .... C-NX** must be anchored at wall and can be oriented so to generate a horizontal flow or a vertical downward flow

### HORIZONTAL FLOW:

This arrangement will create a "zone of intense radiation" below the ceiling, which destroys all airborne microorganisms, due to natural convection of air (see pic. 1)

The air, rich in microbes, is continuously treated and disinfected by the ultraviolet rays; a progressive decontamination of bacteria, viruses and molds is made, decreasing the possibility of bacterial, viral transmissions and contaminations in general.

Continuous operation ensures a permanent progressive healthy environment, especially in hospitals, schools, restaurants, indoor workplaces as offices, laboratories, etc..An extremely important disinfection activity can be done in hospitals intensive cares units, to prevent the spread of diseases such as TB and other transmissible pathologies through air

### VERTICAL FLOW:

This arrangement is positioned above the doors of controlled contamination rooms (clean rooms), with air flow directed downwards. This arrangement generates a vertical air flow which produces a barrier against germs (pic. 2).

For proper use you should create a decontamination area between two adjoining rooms, to be kept under microbiological and hygienic control. This zone can be made simply by a double opening, door and avant-door, just over the front door wide and about 1.5 to 2 meters deep.

The use of the UV-C-FLOW .... NX allows intense disinfection of that contaminated air entering microbiologically controlled rooms when doors are opened. So it is necessary in healthcare where transmission of bacteria, viruses, and airborne spores is highly probable.

The application is also needed for food production areas, where it is necessary to work in very good microbiological conditions.

## BENEFITS AND ADVANTAGES

### a) BLOCK OF GERMS

Blocking the spread of germs from one place to another (in case of using VERTICAL flow). Then you can keep at consistently low levels the entry of germs into "controlled contamination" rooms.

### b) PHYSICAL ACTION AND ENVIRONMENTAL PROTECTION.

Treatment by UV-C rays is purely physical, and achieves always the same effect; also, there are no problems of overdose and rooms are safe and practicable (when devices are off). Rather, many methods of chemical treatment involve the use of dangerous products for the environment, and difficult to biodegrade, as well as the risk of contamination of foodstuffs. Also, by the use of chemicals it is likely to develop resistant microbial forms with consequent danger to human health.

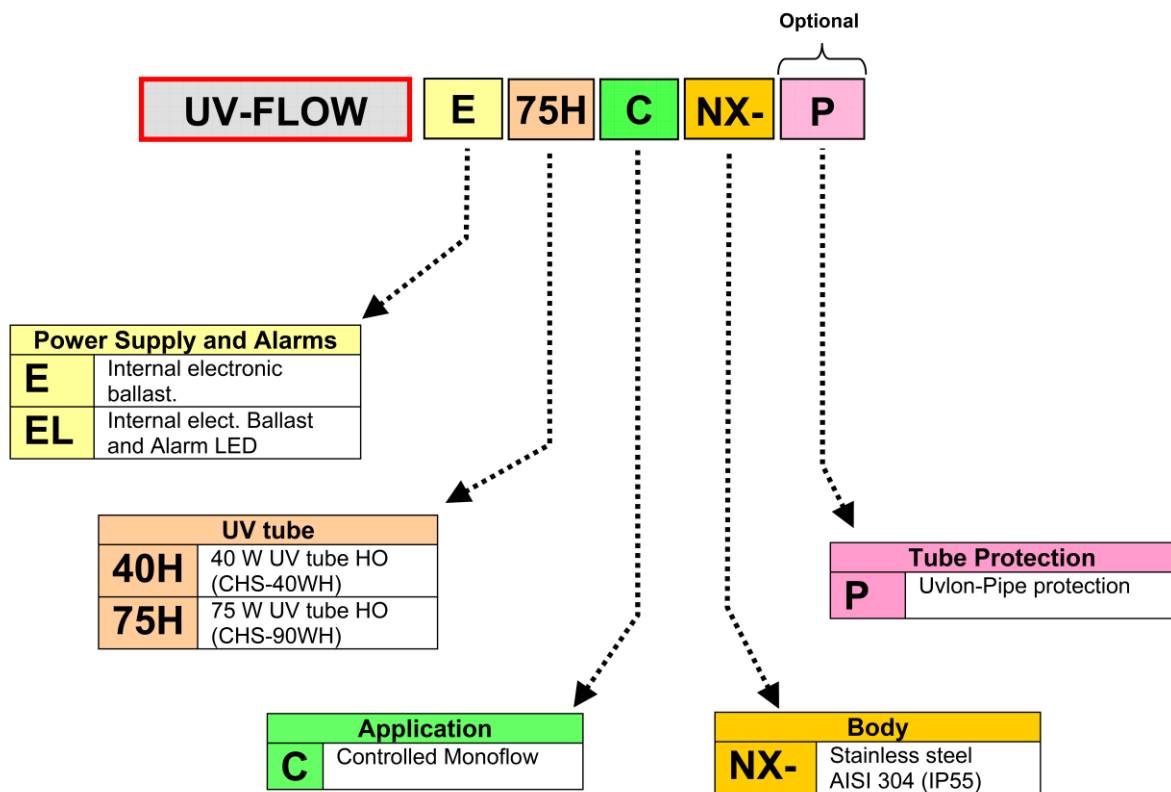
### c) DEEP AND ONGOING DISINFECTION

UV-FLOW can work 24 hours over 24 in the presence of people, thus allowing to maintain a consistently low level of microbial environment.

### d) PRACTICABILITY AND SAVINGS.

The treatment is immediate and ready for use. The maintenance is minimal with low costs of both energy consumption and repairs.

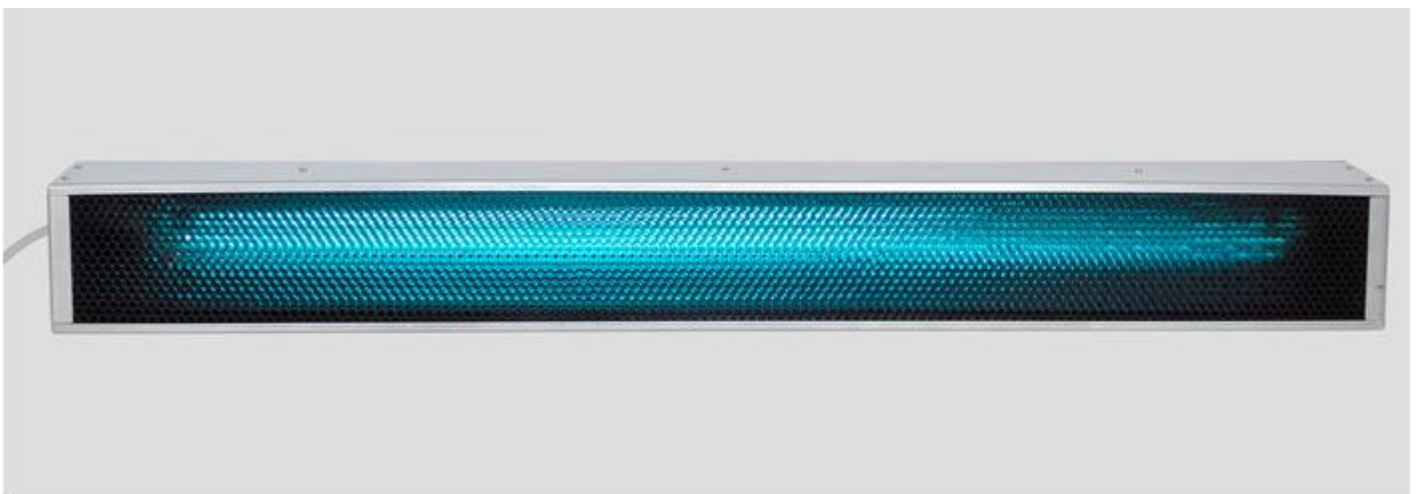
**DEVICE CODES**



**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**

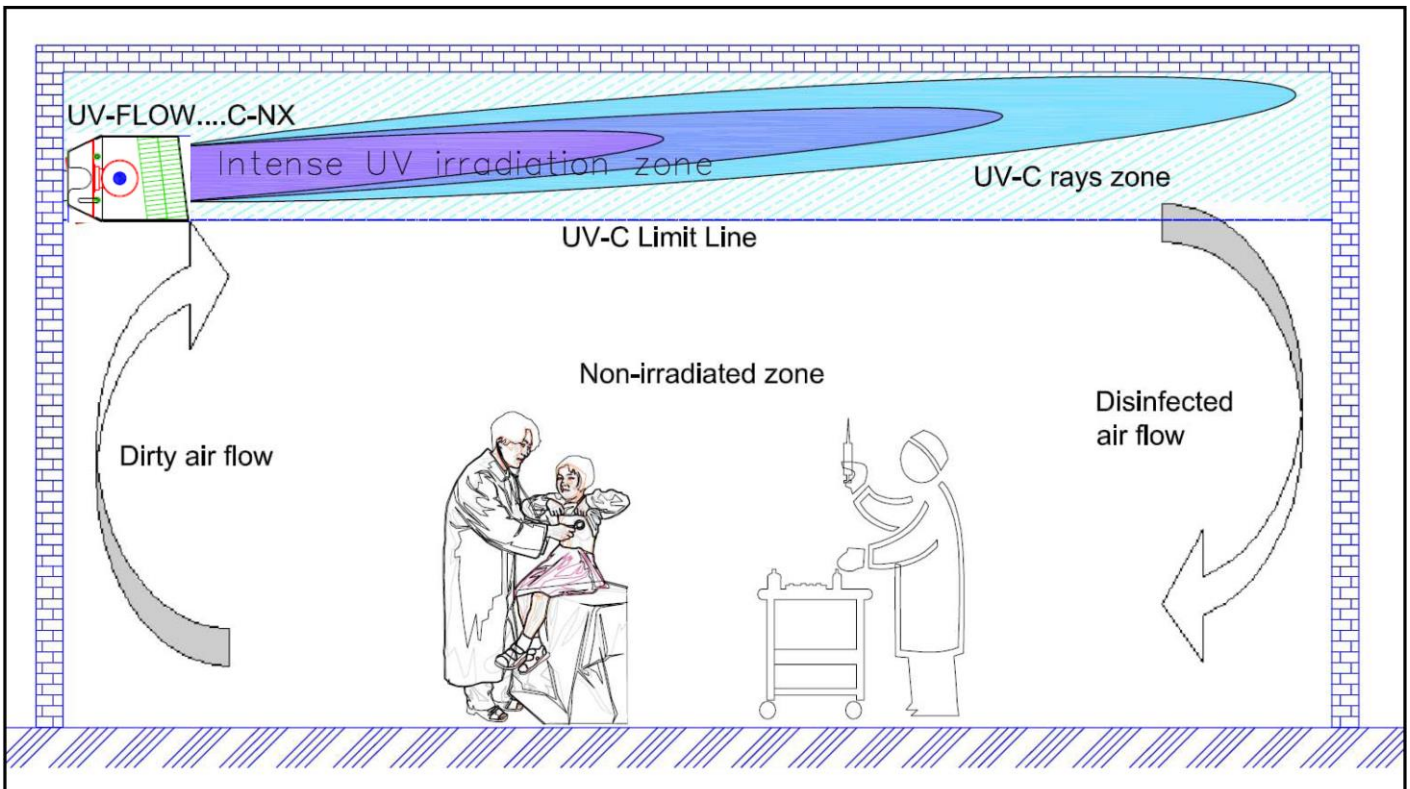
Decide the type of orientation to be given to the air flow: horizontal flow or vertical downward flow

**HORIZONTAL FLOW:**

The installation should be done by positioning the appropriate brackets 2.20 meters above the floor and at a distance of the least 40cm from the ceiling.

In this way the flow will be slightly upwards, which makes possible the continuous disinfection of the air circulating within the room, because of the natural convective motions.

To cover your device, please refer to Table nr.1. During the installation phase, avoid to direct the air flow towards objects hanging from the ceiling or object applied to the ceiling, such as, air conditioners, filters, etc., especially if with high reflective surfaces, which would prevent its proper operation and could cause unwanted downward reflections.



**PIC.1**



VERTICAL FLOW:

The device must be placed above the doors of the controlled contamination room (clean room), with air flow directed downwards. Use the two supplied stainless steel brackets, anchoring them to the wall with expansion bolts ( $\varnothing 8 \div \varnothing 10$  mm.) or with self-tapping screws.

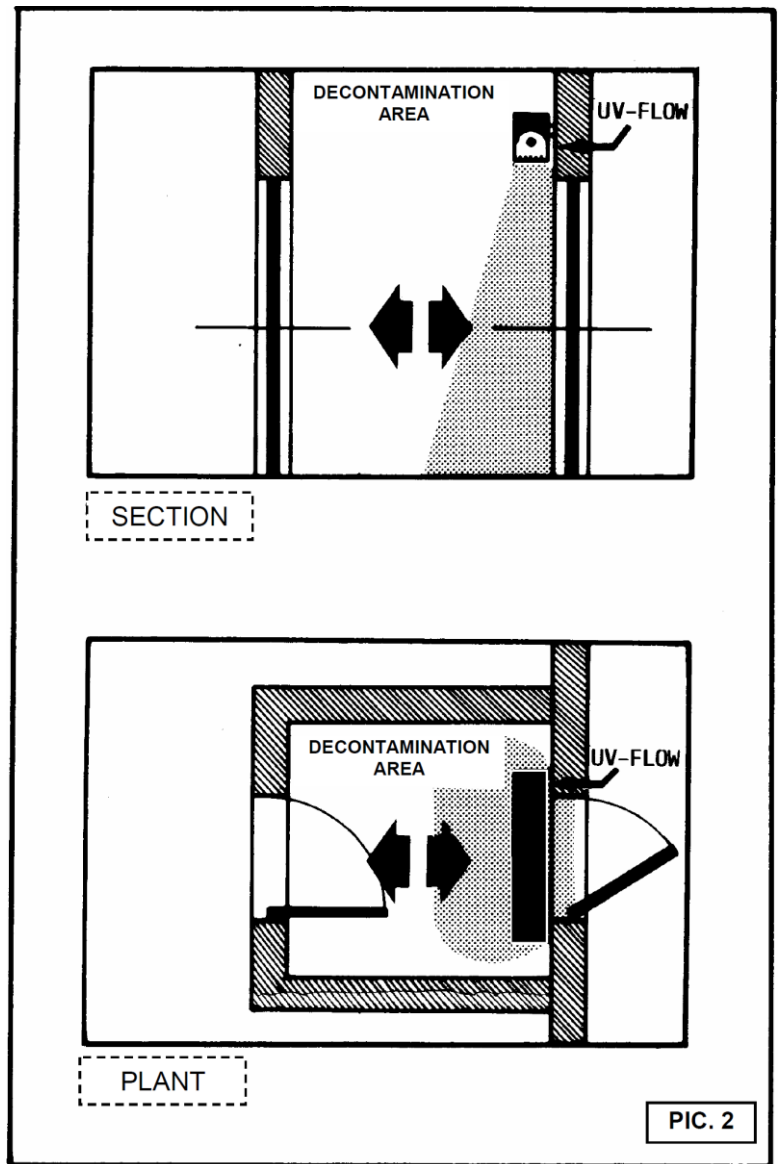
This arrangement generates a vertical air flow which produces barrier against germs (pic. 2).

For proper use you should create a decontamination area between two adjoining rooms, to be kept under microbiological and hygienic control. This zone can be made simply by a double opening, door and avant-door, just over the front door wide and about 1.5 to 2 meters deep.

Of course, the doors should be normally closed (preferably equipped with electrical or mechanical locking, spring-return type).

Normally, only one port at a time must be opened and when one door is opened, to let a person enter the decontamination area, the second door must stay closed; after the entrance, the person will close the first door and, in succession, will open the closed door. When a person is within the decontamination area an infrared rays presence detector will switch off the UV-FLOW, to protect from UV irradiation; the sensor will switch on the UV-FLOW again when the person will be gone away.

However, it is not required the switching off of the UV-FLOW if personnel will wear UV-C rays protections, such as hats with visors, and will stay within the decontamination area only the necessary time for the passage.



PIC. 2





## WARNING!!!

Follow carefully the instructions for both the HORIZONTAL and VERTICAL position because, although it is a device for controlled radiation, it must be turned on by preventing reflected radiation to affect people. For example, reflections on ceiling or walls surfaces may cause eye irritation and skin erythema.

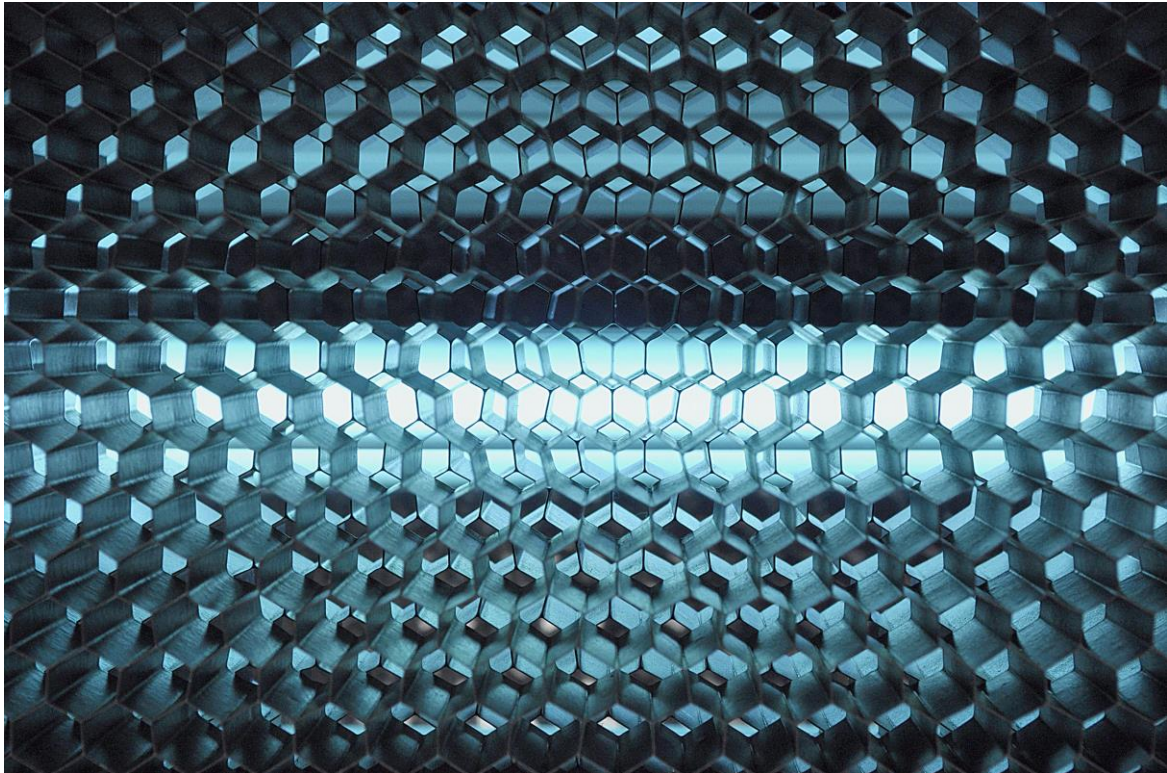
In order to avoid accidental exposure to UV radiation, provide an accurate control of the context in which the device is applied. Provide warning lights and / or pictograms to indicate the presence of such devices.

## SCHEDULING

UV-FLOW can work 24h/24 with no pause.

## ELECTRICAL CONNECTIONS

- ⇒ We suggest you to let a qualified electrician to install this device, following these instructions and electrical scheme, and following the CEI norms.
- ⇒ Be sure that the device will be installed where it will fit with the existing environmental conditions
- ⇒ Before connecting the device to the electrical line, be sure that the label data are the same as the one on the supply line; we remind you that the electrical supply of this device is 220-240V, 50/60Hz.
- ⇒ Be sure that the electrical system fits the supply required by the device (please see the label).
- ⇒ The connection required an interruption through a multipolar switch
- ⇒ The connection to the electrical line must be done by the cable 3 x 1 mm<sup>2</sup> provided
- ⇒ The use of screws, nuts or other means is necessary to joint it to the line.
- ⇒ We suggest the use of hour-counters to know exactly the life of UV lamps and to remember when replace them
- ⇒ Protect the power supply cable from high temperature, sharp corners, water, oils.





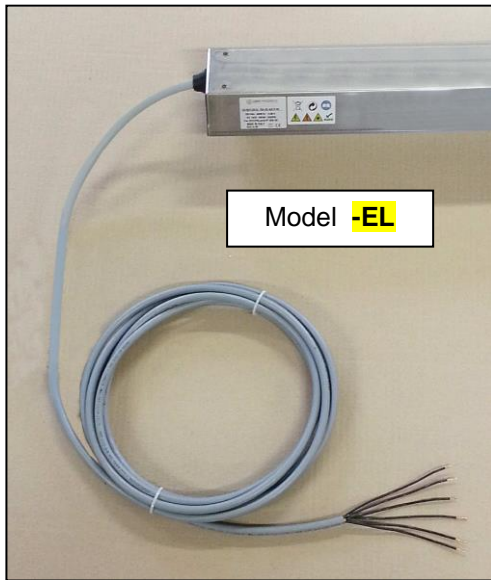
► **UV-FLOW-EL**

In model **-EL** you get the possibility to remote control the functionality of UV lamp.

Connected to the device there is a cable with 6 poles: a couple of poles carrying output signal to turn on LED indicating the UV lamp (when it's lighting); another couple of poles triggers a voltage-free contact to be activated when a lamp stops working (alarm function: open contact if at least one lamp UV is not working); in addition, there are two input wires to power the device (phase and neutral).

The faulty lamp alarm contact can be powered by max. 500mA of current and 24V of tension, and can be connected to an electronic panel as "MASTER-ST" control unit.

For this models see the numbering of the wires on the table below.



In the device <b>UV-FLOW-EL ...</b>	Multi-pole plug and socket	Wire	Meaning
<b>Black</b> wire for LED	terminal n° 1	Wire n°1	1- anode LED } for synoptic 2- cathode LED } MASTER-ST.....
<b>Red</b> wire for LED	terminal n° 2	Wire n°2	
Power line 230V-50Hz - phase	terminal n° 3	Wire n°3	3- Line 230V-50Hz (Phase)
Power line 230V-50Hz - Neutral	terminal n° 4	Wire n°4	4- Line 230V-50Hz (Neutral)
Electrical ground	terminal <b>Y/G</b>	Wire <b>Y/G</b>	<b>Y/G</b> - Ground terminal
Alarm board faulty lamp	terminal n° 5	Wire n°5	5-6- open contact = faulty lamp (free contact without tension, max 500 mA-24V)
	terminal n° 6	Wire n°6	

**MAINTENANCE**

**UV LAMP**



USE PROTECTIVE GLOVES



WEAR PROTECTIVE GLASSES

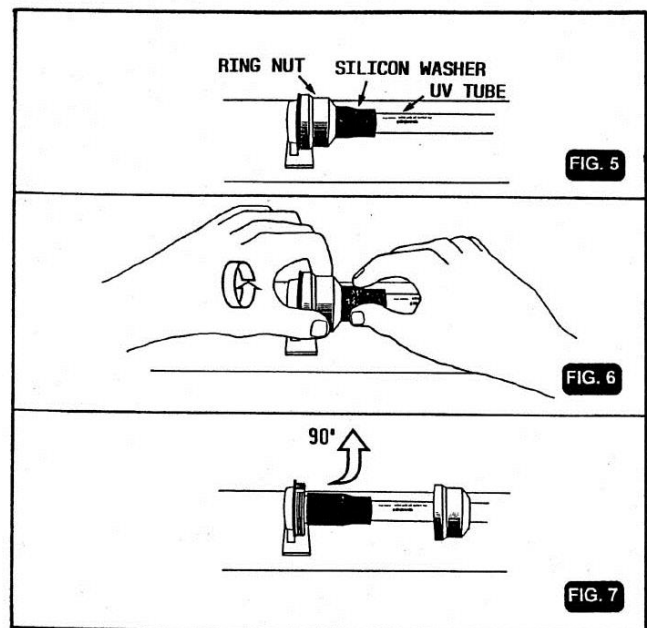
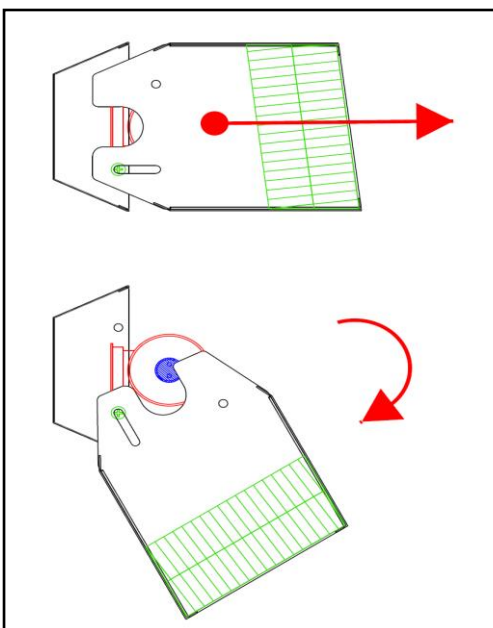
**Lamp maintenance is very important because UV-C light emitted by the source is not visible to the eye, so, although you see the lamp ON, its germicidal effect may not be sufficient to perform disinfection treatment.**

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:

- For each side of the device, unscrew one screw (or knob) which sets the screen and rotate it 90 degrees.
- Loosen the nuts of the holder and slide them along the lamp, grab the lamp from the 2 ends and pull it in a direction parallel to the unit.
- Repeat steps in reverse to reassemble the new lamp again.



**TROUBLESHOOTING**

**UV LAMPS**

See maintenance section.

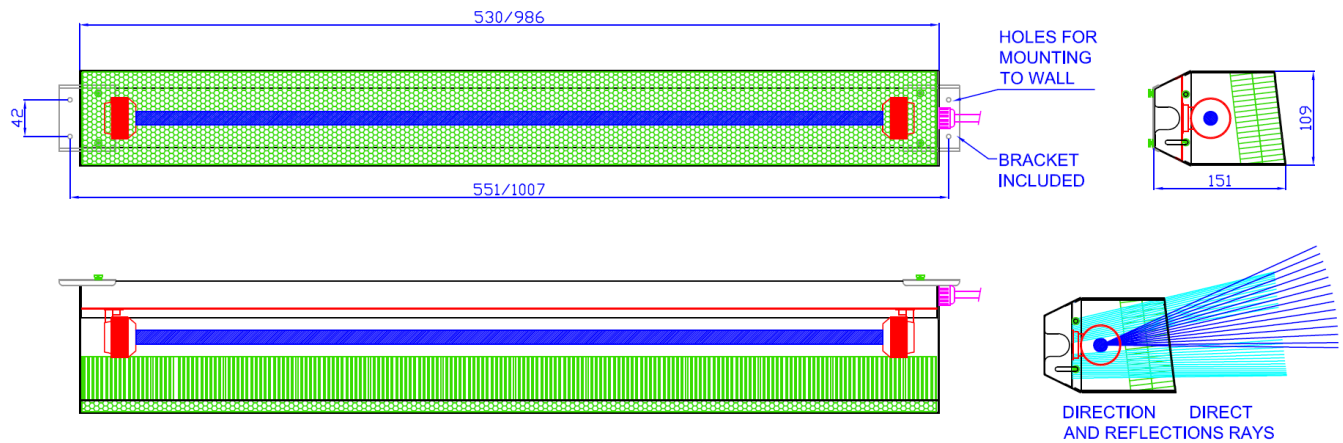
**BALLAST**

All UV 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 preserve the original characteristics of IP sealing and insulation, in order to keep intact all the characteristics necessary to ensure the long-lasting life of the product, the replacement of the electronic ballast must be carried out only by trained personnel with requirements recognized by LIGHT PROGRESS; if necessary, you should return the product to the company for repair.

**Otherwise, you can purchase the entire power supply duct for substitution (for code see Table n.1).**

**TECHNICAL FEATURES**



**TABLE n.1**

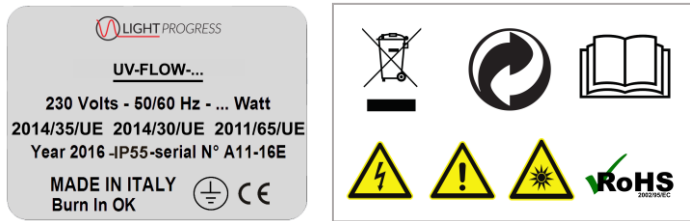
<b>UV-FLOW</b>	<b>E40H-C-NX</b>	<b>E75H-C-NX</b>
LAMP LIFETIME (h)*	≤ 18.000	≤ 18.000
POWER (W)	40	75
DIMENSIONS LxSxH (mm.)	530 x 109 x 151	986 x 109 x 151
WEIGHT (Kg.)	3	5
TREATED AIR (m <sup>3</sup> ) (horizontal flow)	da 20 a 25	da 35 a 50
TREATED SURFACE (m <sup>2</sup> ) (horizontal flow)	da 6 a 8	da 12 a 15
DOOR WIDTH (cm.) (vertical flow)	60	100
<b>SPARE PARTS</b>		
UV LAMP Code	n°1 <b>CHS-40WH</b>	n°1 <b>CHS-90WH</b>
SUPPLY CHANNEL Code (complete)	n°1 <b>CpE-40H</b>	n°1 <b>CpE-75H</b>

\* continuous operation/accensione continuativa

- Highly efficient selective UV-C lamp (at 253.7 nm.), pure quartz.
- Stainless steel AISI 304 body.
- All used materials are tested to resist to intense UV-C radiation
- Specific electronic ballast for UV-C rays lamps.
- Protected against dust and water (IP55).
- Pure bright mirror aluminum reflector.
- CE trademark (LVD 73/23 - EMC 89/336 - MD 93/42).
- 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>CE</b>
<b>MEANING</b>	Warning! Check the attached documentation	<b>GROUND TERMINAL</b> (The unit must always be connected to the ground)	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.

◆ Minimum requirements for warranty validity

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

◆ Warranty limits

Warranty excludes

- ◆ Damages caused by not following the instructions that accompany the product at purchase.
- ◆ Periodical controls, maintenance, repairs or replacements of parts due to normal wear.
- ◆ Consumable parts.
- ◆ Use of incompatible spare parts or consumables; Compatibility is assured only by use of products purchased from 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.
- ◆ Modifications or repairs made by unauthorized personnel.
- ◆

For defective materials return, you must request the return merchandise authorization (RMA) sending an email to 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 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.

**MANUFACTURER RESPONSIBILITY AND COMMITMENTS**

↪ **Light Progress** do not assume any responsibility for any damage to persons or property, due to failure to follow these instructions. We recommend you to carefully read all the given instructions.

↪ The manufacturer agrees with the buyer to provide, upon request, schemes of circuits, component parts lists, instructions for calibration of lamps and other information, which are useful 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-FLOW....C-NX 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







Loc. San Lorenzo, 40 - 52031 ANGIARI (AR) - ITALIA  
TEL. 0575 / 74.92.55 - FAX 0575 / 78.99.29

PRODUCTION:

- ANGIARI - Loc. San Lorenzo, 40
- CASTIGLION F.NO - Loc. S. Antonino, 40

**Http: [www.lightprogress.it](http://www.lightprogress.it)**

**E-mail: [info@lightprogress.it](mailto:info@lightprogress.it)**