

## In Duct Irradiation : UV-DUCT-FL-NX

### UV-DUCT-FL-NX

UV-DUCT by Light Progress is an Indoor Air Quality disinfection system for HVAC installations and plant, that adapts to small duct spaces. Suitable for retrofit applications the UV DUCT can be installed into just about any ventilation duct for both residential and/or commercial grade applications.

The UV-DUCT works by treating the air in the duct as it passes through with a constant high dosage of UVC light of 253.7 nanometres wavelength. This process creates a UV-C barrier that inhibits the proliferation of viruses, bacteria, moulds and spores, which commonly nest and re-circulate within Air Conditioning systems and are very harmful to our health.

#### Validation

Germicidal Ultraviolet irradiation has a proven, strong germicidal effect against micro-organisms (moulds, bacteria and viruses).

In controlled testing environments, UVC usage has shown reductions of over 99.9% on live bacteria strains such as Bacillus, Coli, Clostridium, Legionella, Vibrio, Salmonella, Pseudomonas, Staphylococcus etc.

The concept and the effectiveness of it has been well documented by ASHRAE and others.

#### Traditional filtration methods

Traditional facility air filtration alone is often not sufficient to ensure high levels of hygiene. In HVAC systems the growth of an unpleasant biofilm usually covers inner surfaces of ducting. This is a result of favourable conditions for their proliferation, such as temperature changes, high humidity, moisture, and deep darkness. The UV-DUCT inhibits the creation of this biofilm increasing overall efficiency, Indoor Air Quality and comfort. The best part is there are no chemicals involved, providing a healthier environment for all.

#### Operation of UV-DUCT-FL-NX

The UV-DUCT-FL series includes a series of flange modules from which two "U" lamps of different lengths (from 20 to 50 cm) and power emittance from (70W to a class leading 190W) emerge, protected by a stainless-steel grid. UV-DUCT-FL are compact in size and include onboard controls, which allow for simple and effective installation, even in existing air conditioning systems (retrofit). It is simple to install using the practical template and instructions provided. Specific ballasts are inserted directly inside the case to power the UV-C Light Progress lamps, optimizing their performance and durability.

As the UV-DUCT is mounted inside the ducting and no occupants is exposed to the UV light, it can operate 24/7 if necessary, to provide a higher level of disinfection.

#### No Ozone

The use of UVC light in the 253.7 nanometres wavelength means there is no ozone produced. This is particularly important as ozone is hazardous to humans.

#### Applications

UV-DUCT is a versatile in direct irradiation device that is cost effective, simple to install and operate within just about any indoor environment. It can be used in the commercial, industrial or healthcare sectors. Applications include:

- Aged Care Facilities,
- Hospitals, ICUs, Maternity wards, Surgical units
- Medical & Dental clinics, Pharmacies
- Offices, Shopping centres
- Restaurants and Hospitality venues
- Educational facilities, Laboratories
- Abattoirs, food processing centres
- Gyms, hairdressing salons, lunchrooms, corridors

### WHAT ARE UV-C RAYS?

Light in a broad sense can be divided. Visible infra-red and ultraviolet rays.

Ultra-violet rays (invisible) can be classified in:

- UV A (with tanning properties)
- UV B (with therapeutic properties)
- UV C (with germicidal properties)

UV-C technology is a physic disinfection method with an optimal cost/benefit ratio, it's ecological and unlike chemicals it works against every micro organism without creating any resistance. No nasty chemicals.



## Key Benefits of UV-DUCT-FL-NX

### PHYSICAL ACTION AND ENVIRONMENTAL PROTECTION.

- Treatment by UV-C rays is purely physical without the use of any chemicals.
- Results are consistent as microorganisms do not develop resistant to UV light.
- No residual effects, therefore, no long-term contamination.

### TOTAL SAFETY

- Ultraviolet rays are confined to the HVAC ducting and plant when installed in the correct manner. Airflow within the ductwork can be treated even when operators are present.
- External LED Alarm to indicate operational status, option to link to BMS.

### BEST QUALITY AIR

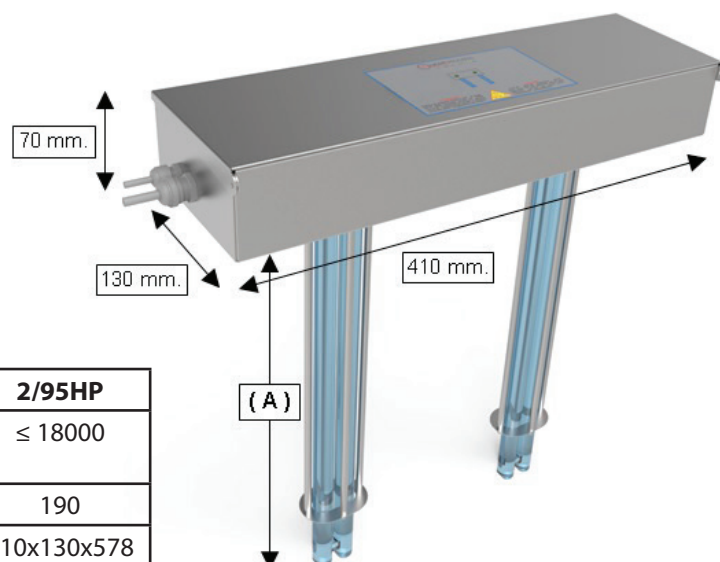
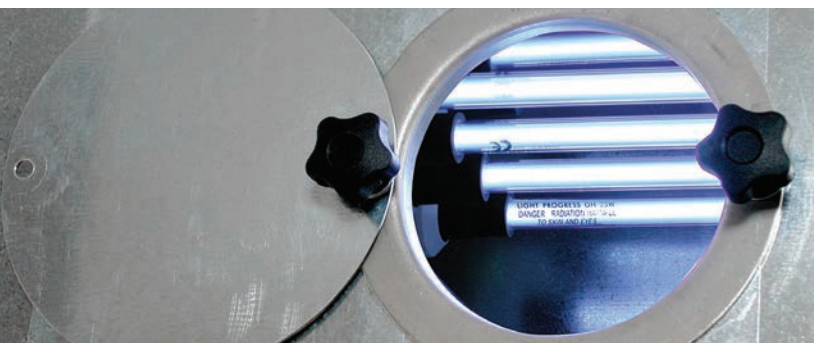
- This system can operate 24/7 together with the air conditioning or ventilation system, without any contraindications for people. The level of environmental microbial load is thus maintained constantly low and the "indoor air" quality (IAQ) is improved, as prescribed, and recommended by the W.H.O. (World Health Organization).

### PRACTICABILITY AND SAVINGS.

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

### STOP CROSS CONTAMINATION

- The contamination in one area may spread to another through air conditioning systems. UV-C devices can assist to prevent the spread of Airborne infection throughout facilities.



UV-DUCT-FL-NX	2/35HP	2/60HP	2/95HP
Average lamp lifetime (hours) <sup>°</sup>	≤ 18000	≤ 18000	≤ 18000
Consumption (w)	70	120	190
Dimensions LxSxH	410x130x253	410x130x452	410x130x578
Length a (mm.)	183	382	508
Weight (kg.)	2.4	2.6	2.7
Air flow (m <sup>3</sup> /h) **	800 to 2,000	1,300 to 3,400	2,200 to 5,600

<sup>°</sup>continuous operation

\*\* = 99% E.Coli reduction, square section duct (min. cm.30 – max. cm.100), temp. 20°C, RH 60%

- Selective UV-C lamp (at 253.7 nm.) with high efficiency lighting.
- Body in Stainless Steel AISI 304.
- All the used materials are tested for resistance to intense UV-C rays.
- Powered with electronic ballasts specific for UV-C rays lamps.
- LED Alarm indicator as standard.
- 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.
- 12 months warranty backed up our NATA accredited service department.
- Strictly adhere to Light Progress specific product manual for safety and installation.



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