



**Igea**



Igea is a patent-pending solution designed to sanitize indoor air and improve quality of life. This solution is applicable to LU-VE commercial dual discharge air coolers used in supermarkets, cold rooms, working areas, cooled sales areas, hospitals, canteens, food production areas.

Igea kit includes:

- Hygienic filter with frame and LED light (both for left and right coil)
- Electric transformer + cable and fittings

The filter does not use chemical substances, does not produce ozone or any other poisonous gas.

Adoption of LED lights ensures low power consumption and long lifetime.

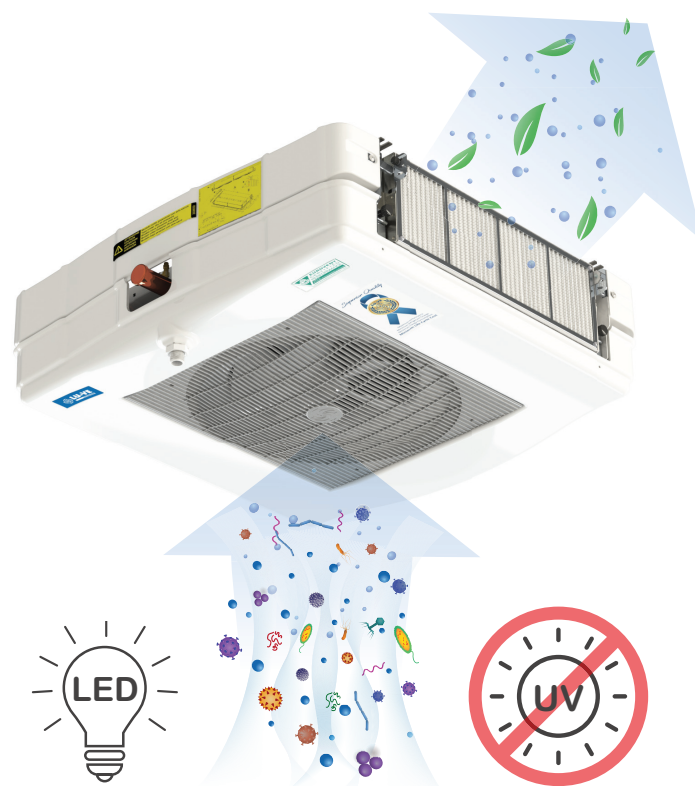
**HEALTH - PRODUCT QUALITY - EASINESS**

## Benefits

- Low environmental impact
- Negligible power consumption
- Safe for humans and animals
- No UV rays produced from the device
- Long lifecycle: 5x compared to UV lamp systems
- No use of chemical products
- No decomposition waste, only an infinitesimal emission of carbon dioxide and water vapor
- Improved preservation of fruit and vegetables
- Laboratory tested effectiveness
- Minimal maintenance
- Suitable for retrofit

## Retrofit

- We have designed the hygienic filter kit for quick and easy retrofit installation on our FHD and Optigo FMD





# HEALTHY AIR

## Covid-19 completely inactivated

The tests have been carried out together with San Raffaele Hospital - Viral Pathogenesis and Biosecurity Unit (Milan, Italy).

The results demonstrated the effectiveness of Igea against SARS-CoV-2 infectious viral load:

- inactivated by over 98.2 % within 10 minutes
- inactivated by over 99.8 % within 20 minutes
- inactivated by 100 % within 30 minutes

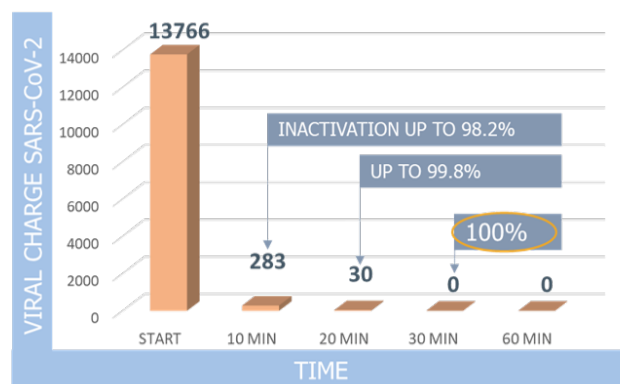
The effectiveness of this solution becomes even more crucial in a period of health emergency such as the SARS-CoV-2 pandemic. Igea filter allows the containment the transmission of the virus.

## Operating principle

Photocatalysis is a natural phenomenon in which a substance, known as photocatalyst, modifies the speed of a chemical reaction through the action of light. When exposed to visible light, the WO<sub>3</sub> absorbs and converts the light energy into electrons and electron-holes. WO<sub>3</sub> reacts with water (air humidity) to produce hydroxyl radicals and with oxygen to produce superoxide anions.

Billions of these high oxidant species are created in billionths of a second and work to decompose matter at molecular level. The result is an effective decomposition of the polluting organic and inorganic substances (comparable to all fine particles PM<sub>2.5</sub>-PM<sub>10</sub>), of microbes, viruses, nitrogen oxides, aromatic polycondensates, sulphur dioxide, carbon monoxide, formaldehyde, methanol, ethanol, benzene, ethylbenzene, nitrogen monoxide and dioxide, etc. Photocatalysts do not lose their properties over time as they only act as process activators, do not bind to pollutants and remain available for new photocatalysis cycles.

The Igea filter uses photocatalysts with tungsten trioxide WO<sub>3</sub> with LED light to activate the process. It speeds up the natural process of photocatalysis by up to 20 times, eliminating viruses, bacteria and other pathogens.



**100% INACTIVATED  
AFTER 30 MINUTES OF TREATMENT**





# GOODS PRESERVATION

LU-VE commercial dual discharge air coolers are designed to deliver a perfectly balanced temperature/capacity/air flow ratio and optimal storage conditions for vegetables and fruits.

Perfect control of those parameters ensures that your products have maximum shelf life, with excellent condition, taste and quality.

## LU-VE labs

Specific tests on air quantity have demonstrated that the effect of the Igea filter on LU-VE air cooler performance is negligible:

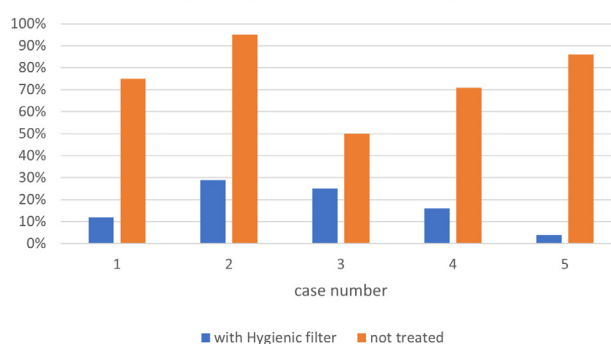
- air quantity in standard unit: 1573 m<sup>3</sup>/h
- air quantity in unit with hygienic filter: 1542 m<sup>3</sup>/h
- only 2 % reduction in air quantity.

## EXTENDED LIFETIME

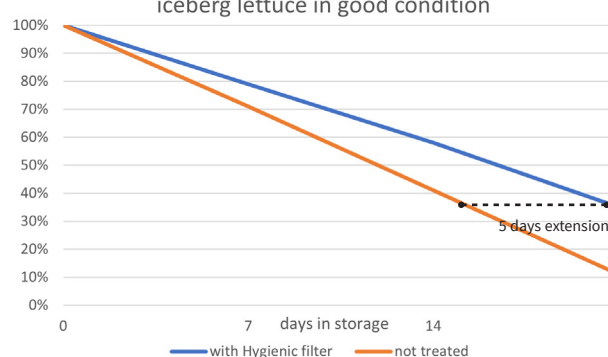
The challenge in fruit and vegetables storage is keeping those perishables fresh as longer as possible.

The tests have been carried out together with the University of Salento. The results demonstrated that the adoption of Igea filter can extend the shelf life of climateric fruits up to 10-15 days. The filter is able to control and abate ethylene, a natural plant hormone responsible for the ripening of fruit and vegetables. The adoption of filter reduces russet spotting in wrapped iceberg lettuce over a 21-day storage period.

Russet spotting in wrapped iceberg lettuce



iceberg lettuce in good condition





# RETROFIT

## Retrofit

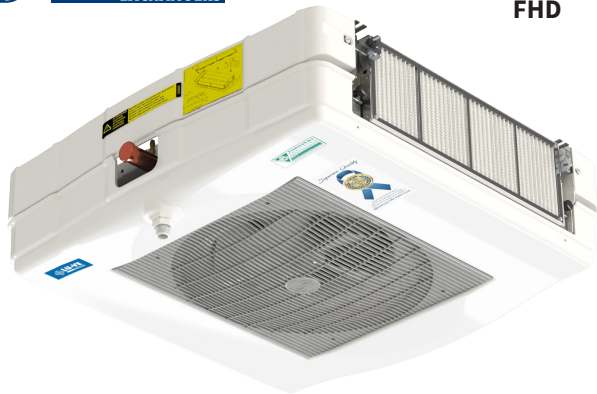
LU-VE commercial dual discharge air coolers can be fitted with Igea at any time. Our hygienic kit has been specifically designed to allow easy fitting on units already installed.

## Product selection

Selection and pricing are to be performed with LU-VE Group air heat exchanger specialist. They will guide you to select the best solution according to the specific needs.



FHD



Optigo FMD



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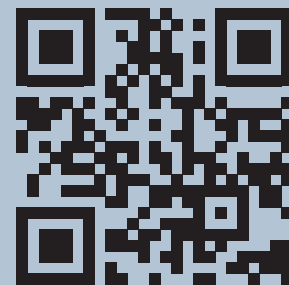
## *Igea, the goddess of Health*

*In Greek and Roman mythology, Igea (or Hygieia) was the daughter of Asclepius, the god of medicine, and Epione.*

*She was venerated as the goddess of health, cleanliness and hygiene.*

*Her name is the source for the word "hygiene".*

*We were inspired by these values to develop Igea. Our mission is to comply with the customers' needs not only in terms of technology efficiency but also in terms of health, cleanliness and hygiene.*



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