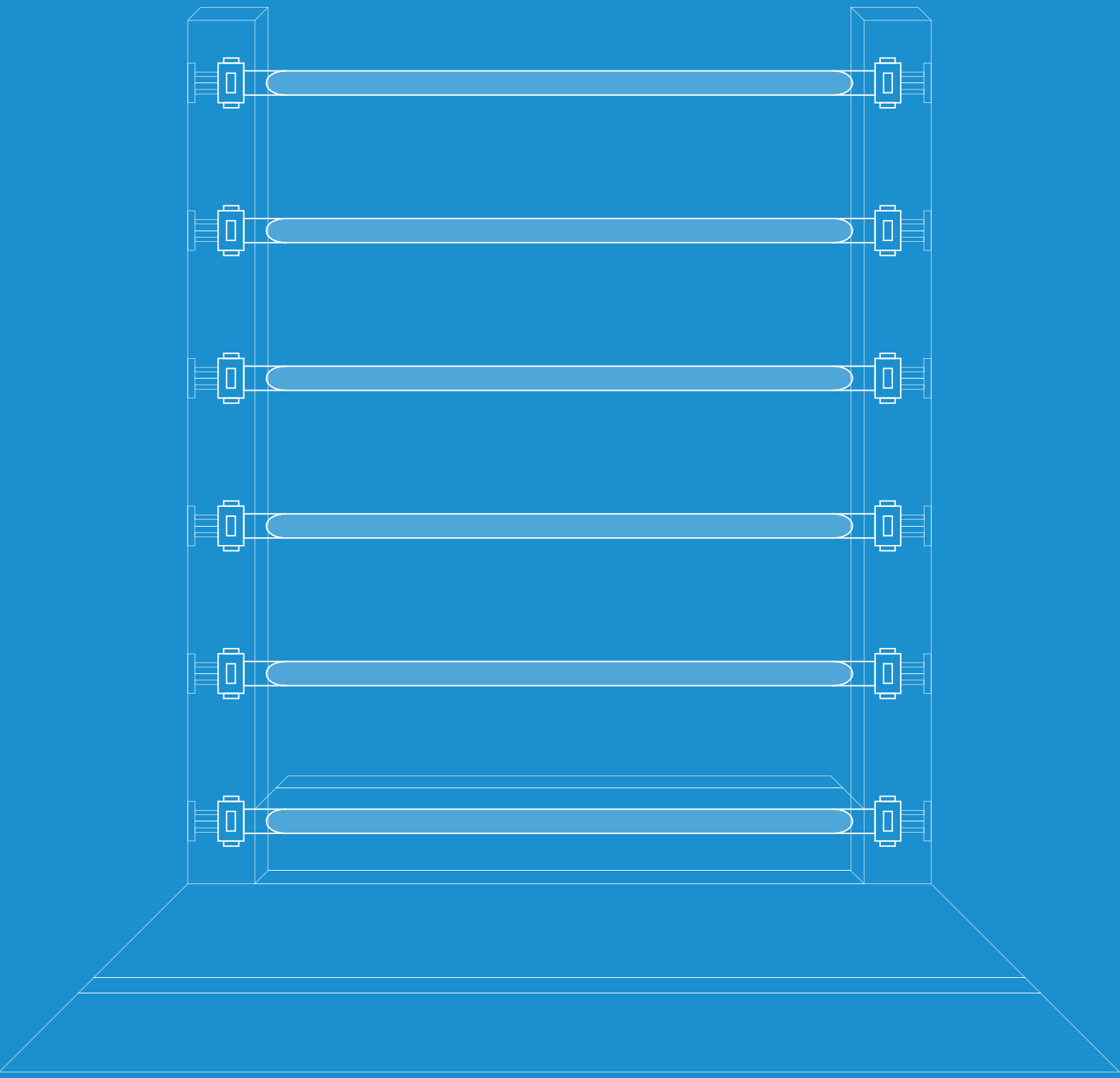
SAIVER



Air Handling Units with UVGI technology

AIR HANDLING UNITS WITH UVGI TECHNOLOGY

SAIVER's mission

SAIVER is a company with over 60 years of experience in air treatment. Its goal is to improve air quality while simultaneously reducing the environmental impact of the purification process. The company has always been characterized by its focus on innovation and new technologies.

The choice of UVGI

SAIVER has therefore decided to introduce Ultraviolet Germicidal Irradiation (UVGI) technology into its air handling units. The use of this system allows for cleaner air than using filters alone and results in increased overall machine efficiency, reducing consumption and emissions.

THE OPERATION OF UVGI TECHNOLOGY

Ensuring air quality

The quality of air in environments such as offices, airports, hospitals, and schools is important for the physical and mental health of people, especially considering that 90% of our time is spent indoors. In these types of environments, pathogens such as viruses, bacteria, and molds can proliferate and circulate, spreading diseases.

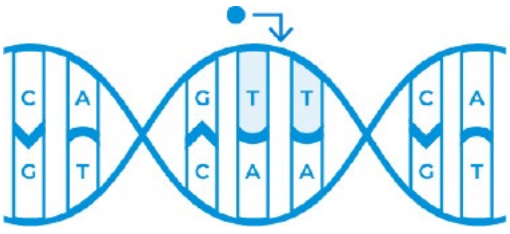
Germicidal action of UV-C rays

UVGI technology represents the most advanced solution to this type of problem, harnessing the germicidal action of ultraviolet rays. UV rays make up a part of the electromagnetic spectrum and are divided into three types based on wavelength.

The specific property of UV-C rays is utilized for the disinfection of microorganisms with excellent results. This type of radiation deeply alters the DNA of microorganisms, preventing them from reproducing and eliminating their pathogenic potential that causes diseases.

UV-A rays:	The most common ones, causing wrinkles and skin darkening.
UV-B rays:	responsible for skin redness and, in some cases, skin cancer.
UV-C rays:	Blocked by the Earth's ozone layer, they are waves that have a germicidal effect.

Before the UV photon



After

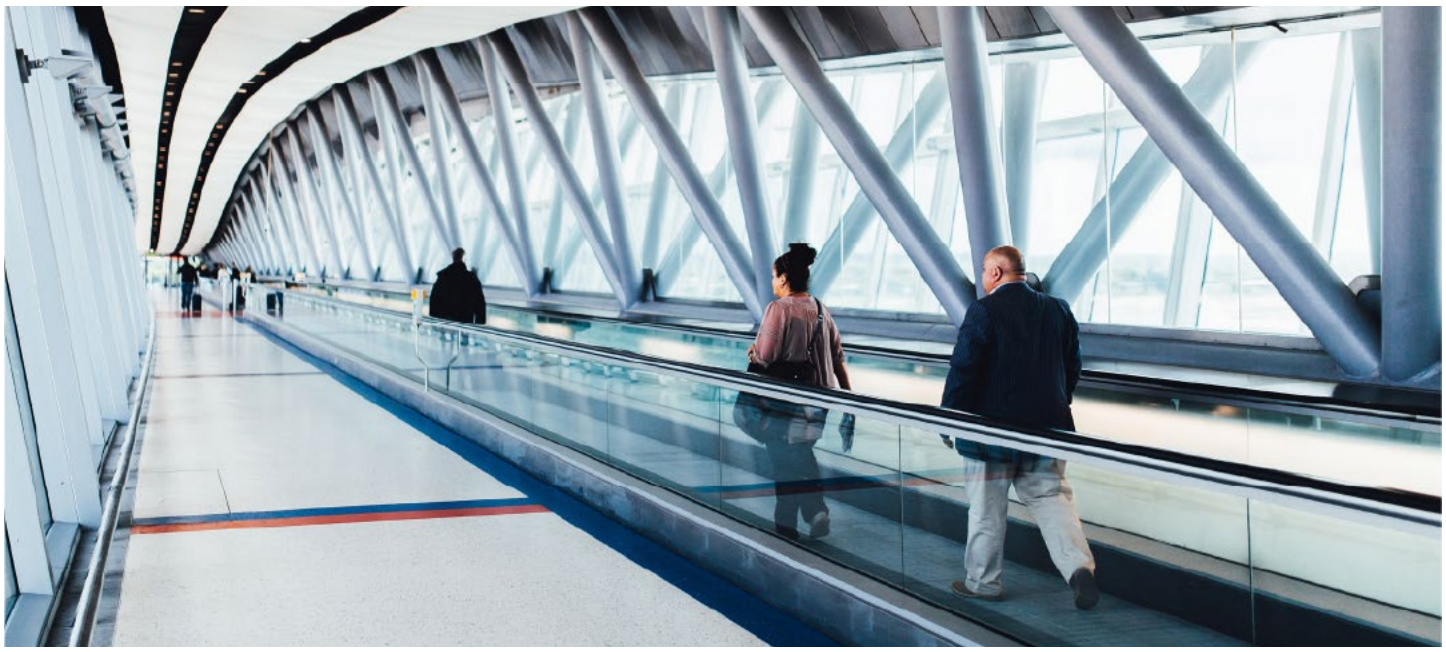
WHY UVGI IS BETTER THAN FILTERS

The limitations of filters

Filters capture particles of microorganisms but do not alter their DNA, so they can still multiply and develop inside the filters, worsening air quality and increasing the risk of diseases. In addition, filters do not capture molecules smaller than 0.3 microns.

The high level of disinfection provided by UVGI lamps fills the gaps in using filters alone, making the system suitable for high-traffic areas where the circulation of pathogens is more likely.

Due to its high disinfection potential, UVGI technology is particularly suitable for sectors such as the hospital and airport industries.



UVGI IN THE AIR HANDLING UNIT

UVGI lamps in a SAIVER air handling unit.

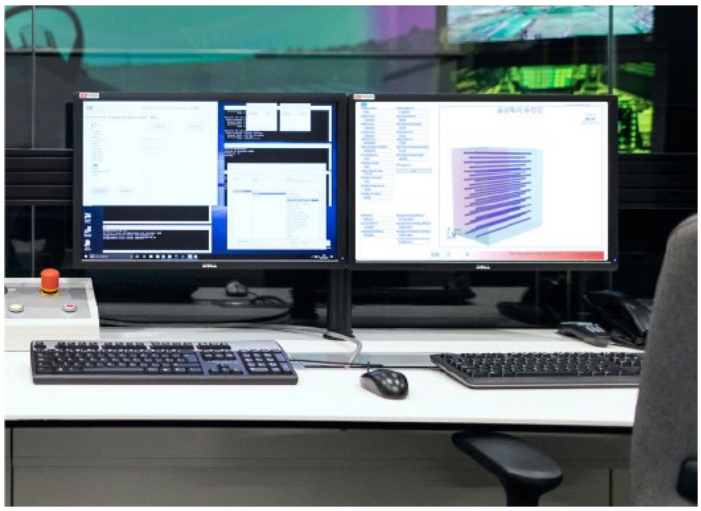
Advantages of UVGI in Air Handling Units

The implementation of this system within air handling units (AHUs) occurs through the installation of UVGI lamps in the terminal section of the central unit, near the cooling devices. The emission of UV-C radiation from the lamps keeps the environment disinfected and clean.

The resulting benefits are not only related to air purification but also to the performance of the unit itself. Ultraviolet rays eliminate microorganisms that accumulate on internal surfaces without the use of chemicals, thereby preventing the formation of a layer that reduces performance and efficiency in heat exchange. This also makes maintenance interventions less frequent, further reducing unit costs and emissions.

System control software

SAIVER uses proprietary software to properly size the UV-C system for each specific application. The software considers various parameters such as the type of microorganism, plenum size, airflow, wall reflectivity, temperature, the number and type of UV-C lamps. The software can also determine the level of microorganism deactivation.



The use of these solutions fully embodies SAIVER's mission, which combines a focus on air quality with attention to the environment and consumption through a forward-looking approach to new technologies.