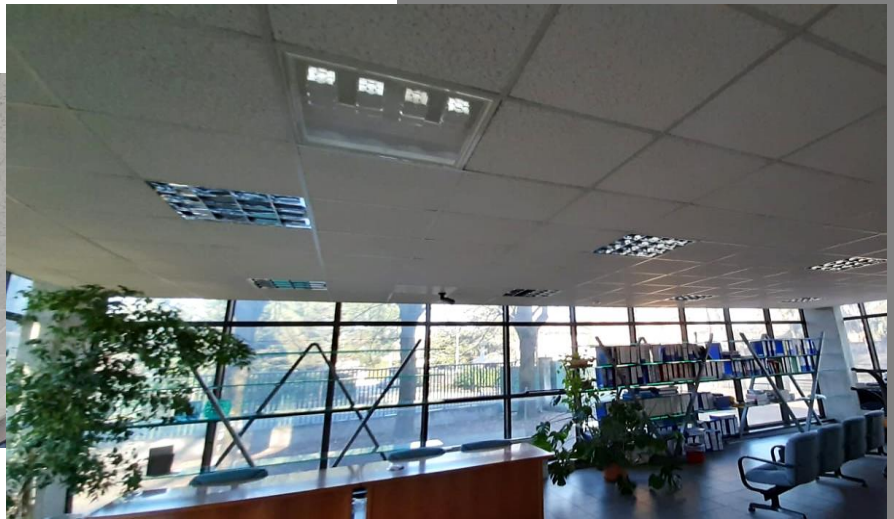


# SANIXBOX

Sanitize your environments continuously



SANIXBOX INSERTED  
IN THE FALSE CEILING (60x60cm)



The Sanix Box **continuous cycle sanitation system** proposed by Tonalì E.A. finds its place in closed environments of any type: offices, doctors' offices, hospitals, schools, spas, shops, banks (ATM areas), meeting rooms,... Based on an innovative technology, it uses an innovative method for sanitizing the air with particular attention to the safety of people, avoiding the use of violet and UV wavelengths, which are harmful to health.

This technology has obtained **CERTIFICATIONS** issued by the most important Italian and European laboratories for the killing of:

- **VIRUS**: family of Coronaviruses which include viruses such as SARS-CoV and SARS-CoV-2 (COVID-19)
- **BACTERIA**
- **NOx** (nitrogen oxides)
- **VOC** (Volatile Organic Compounds) such as formaldehyde



**TONALI E.A.**  
Energia & Ambiente

# Break down viruses, bacteria, pollution in a safe way

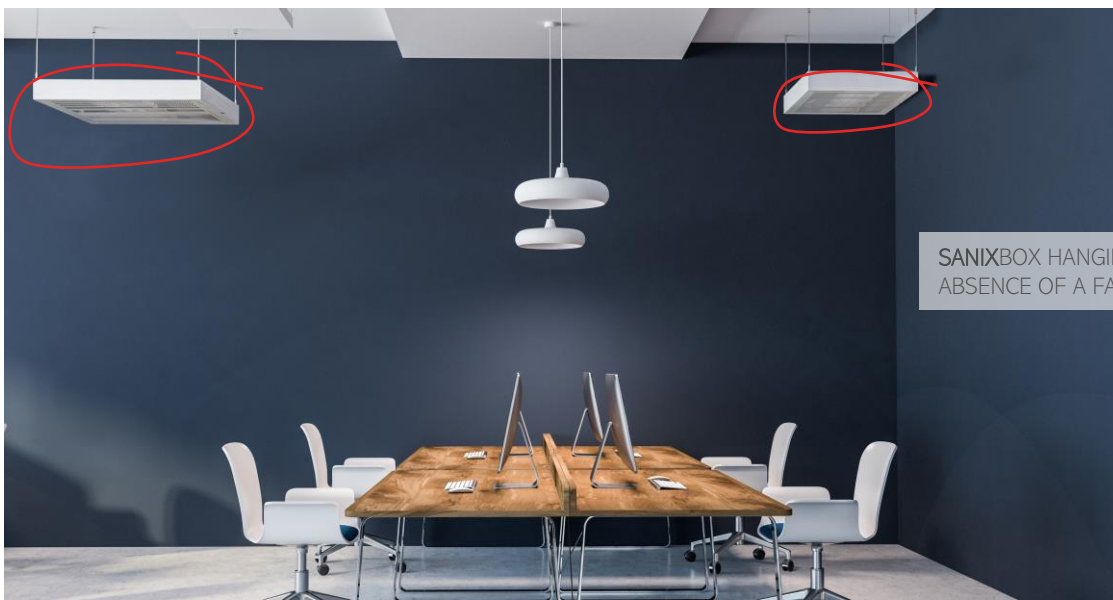
Air pollution is the main environmental risk factor for the health of the world population and the air we breathe indoors is often even worse than that outside. The most well-known air pollution factors result mainly from the transport sector, the industrial sector, the activity of power plants and incinerators, domestic heating, the use of pesticides in the agricultural sector and dust deriving from the mining sector. Less known is indoor pollution, where external agents are combined with invisible pollution from products that we all have at home or in the office: glues, air conditioning systems, paints, detergents, solvents, sprays, cosmetics, etc. Added to this are viruses and bacteria we carry unconsciously.



SANIXBOX VERTICAL SOLUTION

Considering the hours we spend at home plus in the office or school, it is estimated that 90% of our life in the city takes place indoors. This is why indoor air quality is of fundamental importance for our health.

The substances we are talking about can be divided into two macro groups. On the one hand, chemical-physical pollutants: combustion gases (such as nitrogen oxides NOx), sulfur dioxide (SO2), carbon monoxide, atmospheric particles, dust, volatile organic compounds (VOC), polycyclic aromatic hydrocarbons (PAHs) and also passive cigarette smoke. On the other hand, those of more purely biological origin: viruses, bacteria, pollen, mites, biological residues and other types of allergenic compounds. Substances which may have severe effects on the respiratory system,



SANIXBOX HANGING IN THE ABSENCE OF A FALSE CEILING

# A continuous cycle sanitizing process

The **Sanix Box continuous cycle sanitation system** proposed by Tonali E.A. is based on an innovative method for air sanitation. The technology uses doped titanium dioxide (TiO<sub>2</sub>) which is activated by white light generated by a special LED board calibrated on a specific wavelength of visible light which triggers oxidative photocatalysis.

Once the Sanix Box is positioned inside the affected area, the filter contained inside the chassis sanitizes the ambient air. The harmful organic substances that cause indoor pollution and those responsible for bad odors decompose. **Bacteria, viruses and fungi that attack surfaces are killed** thanks to the strong oxidizing power of the photocatalyst triggered by artificial visible light.

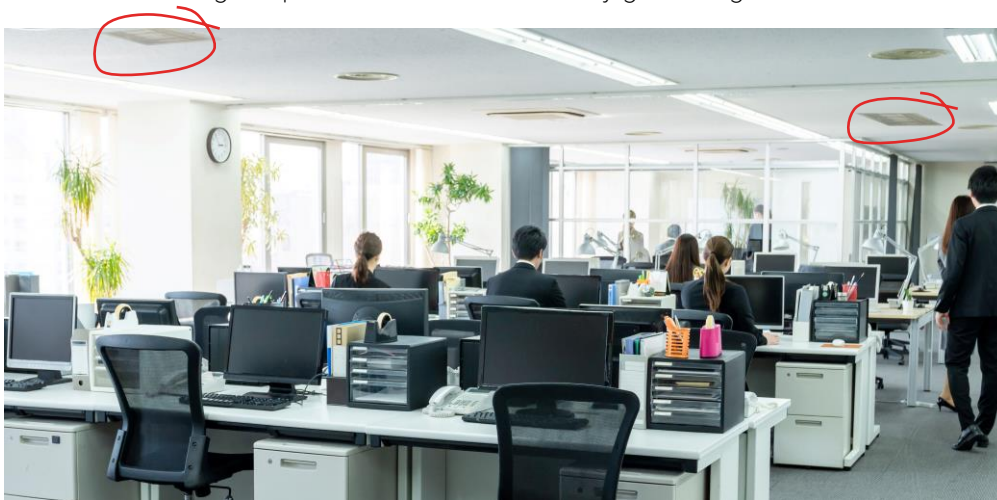
The spectrum of light used has been studied with particular attention to the safety of people, activating even without the aid of violet (400nm) and UV wavelengths, which are harmful to health.



The substance (TiO<sub>2</sub>) applied to the 3 filters is photo-active, that is, it is "activated" by the visible light LEDs with a calibrated spectrum, generating free radicals (molecules that are charged and very reactive instead of being neutral), which attack the polluting molecules (such as viruses or bacteria) that pass through the filter by suction through a special, silent micro-fan (10dB (A)), breaking their chemical bonds and degrading them. For this reason, **pollutants do not accumulate on the ceramic filters** but are transformed into harmless substances.

The calibrated mix of visible LED light and the high reactivity of TiO<sub>2</sub> allows **SANIX family to be safe for humans, animals and the environment as they do not release any substance harmful at the end of the sanitation process.**

The silver molecules, together with titanium dioxide, react with the water molecules present in the air and release silver ions allowing the purification of the air itself by generating an antibacterial action.



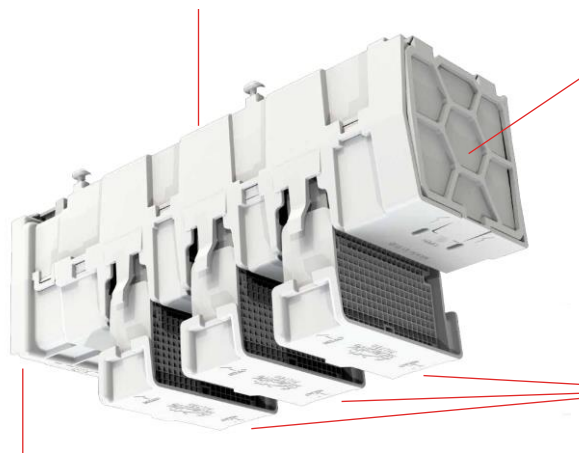
# An innovative method for air sanitization

The system consists of 4 modules capable of treating 90 cubic meters/hour of ambient air in continuous mode. Each module is equipped with a filtration apparatus consisting of 3 filters as shown in the image below. The filters with high porosity ceramic support allow maximum absorption of TiO<sub>2</sub>. Each filter is made up of 100.000mm<sup>2</sup> of coated surface.

Filtration system details:

## LED SOURCE

The LED source installed on board is calibrated in the visible light spectrum which allows the photocatalytic activation of the filter ensuring the parts have the correct illumination and energy supply



## 1st FILTERING STAGE

The first filtering surface encountered by the air conveyed inside the SANIXBOX is a very dense G4 filter. The quality of this filter allows the arrest of larger particles. It manages to break down 100% of PM10 and up to 40% of PM2.5.

## 2nd-3rd-4th FILTERING STAGES

This very important phase is ensured by the three ceramic filters coated with doped titanium dioxide activated by an exclusive optical scheme (patent). The amount of surface dedicated to the passage of air allows a massive abatement of harmful substances

## SUCTION

Forced suction ventilation through the use of a magnetic levitation fan that ensures the right air recirculation in the environment with very low noise and very long life

The decontaminating effects of the system have been certified by national and international research centers and laboratories including **EUROFINS**.

|                |                                    |                                |         |
|----------------|------------------------------------|--------------------------------|---------|
| System power   | 13W ±5%                            | Level of electrical protection | II      |
| Rated tension  | 220-240V AC ±10%                   | Total acoustic noise           | 10dB(A) |
| Rated air flow | 22 m <sup>3</sup> /h (each module) | Rated voltage                  | 12V DC  |

## MAINTENANCE

The product requires simple and periodic maintenance: cleaning of the prefilter by washing with warm water every 6 months and of the three ceramic filters by washing with hot water at 80°C every 12 months or oven at 350°C for 20 minutes.



**TONALI E.A.**

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