CASE **STUDY**

Air Purifiers for Schools & Universities

Client:
Education Department of the Regional Government of Valencia

Location:
Valencian Community, Spain

Date:
January/February 2021

Sector:
Comfort/Schools & Universities

AIR FILTRATION DEFENSE SYSTEM AGAINST HARMFUL PARTICLES IN THE AIR TO ENSURE THE HEALTH AND WELL-BEING OF STUDENTS AND TEACHERS

THE EDUCATION DEPARTMENT OF THE REGIONAL GOVERNMENT OF VALENCIA HAS INSTALLED AIR FILTRATION SOLUTIONS IN SCHOOLS AS PART OF THEIR STRATEGY FOR PREVENTATIVE MEASURES AGAINST COVID-19

CUSTOMER PROFILE

The Education, Culture and Sports Department of the Valencian Government in Spain has the responsibility towards education, vocational training, cultural heritage development, music, linguistics management, and sports.
The Education, Culture and Sports Department is sub-divided into three local authorities with responsibility for the three different Valencian provinces: Alicante Local Authority, Castellón Local Authority, and Valencia Local Authority. Each local authority is responsible for developing its plans and programs in the educational, cultural, and sports areas and for managing their activity within its province.

GENERALITAT VALENCIANA

THE SITUATION

The Valencian Government has collaborated with experts and researchers from the Institute of Environmental Assessment and Water Research and the MESURA Association. This collaboration has led to the publication of **"The Guide to Classroom Ventilation".** This guide is based on the latest research carried out by the scientific community on the transmission of the SARS-CoV-2 virus that causes COVID-19.
It concludes that the infection risk is reduced by decreasing the emission and exposure to airborne particles, also called aerosols, which are likely to contain the virus. Exposure to airborne particles can be reduced with the use of masks, increasing social distance, and by improving ventilation or using air purification equipment with HEPA filters to eliminate or reduce the concentration of virus in the air. Given that there are **many schools and classrooms with insufficient or nonexistent ventilation, the installation of air purification systems with HEPA filters is the most practical and effective solution.**

Guide available on: https://www.csic.es/sites/default/files/guia_para_ventilacion_en_aulas_csic-mesura.pdf

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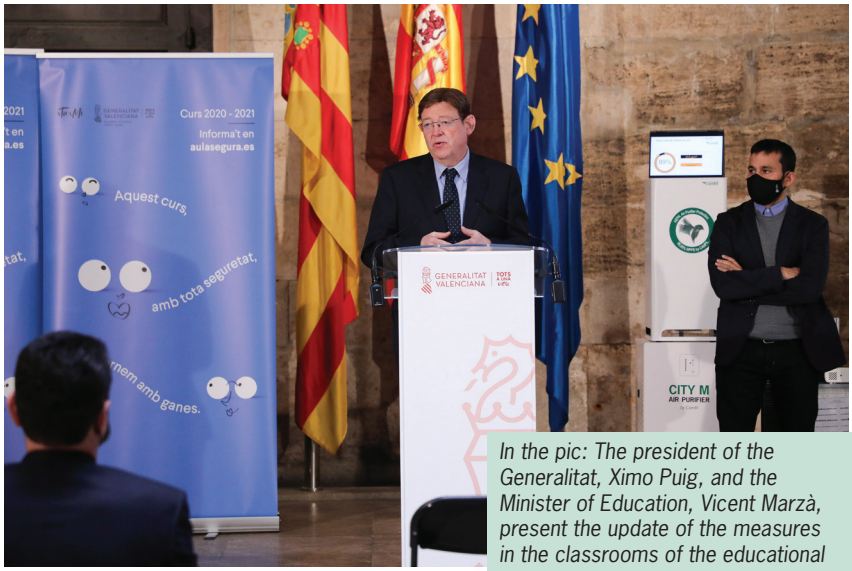
THE SOLUTION

Camfil carried out an indoor air quality study at the La Patacona Secondary School in Valencia. By using **"City M"** purifiers equipped with HEPA H14 filters, the air quality observed in a 50m2 classroom with 20 students reached ISO8 levels (according to ISO 14644) and PM2.5 concentrations lower than 3µg. The solution proposed by Camfil was to install and use the "City M" air purifier, incorporating 2 x HEPA H14 filters and Active Carbon.

These filters are widely recognized to be the **best HEPA H14 filters** on the market and with the largest filter surface area when compared to the other technologies offered in response to this tender. This tender specified certified filters with a minimum H13 efficiency (99.95%) according to the **EN1822 standard.** In their aim to comply with these requirements, many equipment manufacturers quoted their True HEPA filters as certified filters. These non-certified HEPA H13 filters were subsequently excluded from the tendering process.



In the pic: The president of the Generalitat, Ximo Puig, and the Minister of Education, Vicent Marzà, present the update of the measures in the classrooms of the educational centers in the framework of the prevention actions against COVID-19.

RESULTS

More than **100,000 Valencian students and teachers are now protected** against biological agents such as SARS-CoV-2 thanks to our "City M" air purifiers. Camfil HEPA H14 filters are certified according to EN1822 standard and are delivered with their mandatory individual scan test certificate. Their large filter surface area, the largest on the market for this type of purifier, provides a market-leading low-pressure drop.

This, together with the use of high-power, premium fans, provides the user with unrivaled benefits, such as long filter life, less waste, low maintenance cost, low noise level at maximum flow rate, and very low energy consumption. Schools must do more to protect their students and teaching staff. Children spend hundreds of hours a year in classrooms with the goal of learning and developing. Schools are spaces particularly prone to having poor Indoor Air Quality (IAQ). Renewing the air by opening classroom windows is not enough. It has been proved that the risk of infection in the classroom decreases with the installation of Air Purifiers equipped with HEPA filters.

High carbon dioxide concentrations in classrooms, which indicate poor ventilation conditions, and the increasing particle matter in urban outdoor air have, in particular, been identified as primary causes of poor indoor air quality in schools.

- Review article: Children's well-being at schools: Impact of climatic conditions and air pollution

Access the article & illustration: https://www.sciencedirect.com/science/article/pii/S0160412016301829