



Energy efficient air conditioning technology delivers optimal learning environments in Seville School Antonio Gala.

Supplier: Australair
Ecoclimatización

Design Engineer: Clisost

Antonio Gala School hosts 700 children in the morning and 280 for the afternoon shift. The management was looking at ways of improving comfort of students and personnel. Their choice of installing indirect evaporative cooling made them a pioneering example for Energy Efficient buildings in Educational sector.

Project requirements

Antonio Gala School is an educational centre situated in Seville, generated in 1983 by CEPA (Association of Teachers for Education in Andalusia). The centre hosts quite a big number of children, from primary to secondary school.

The educational centre consists of 3 buildings of 1000 m² each, hosting classrooms, gyms & extracurricular activities.

When Spring approaches, temperatures can become challenging in Southern Spain. Moreover, research confirms that when the concentration of carbon dioxide rises, students tend to get lower test results, showing a direct correlation between air quality and a students ability to concentrate.

For this reason, CEPA management needed a solution to lower temperatures, improve students concentration & employees working conditions.

Solution

CEPA has always paid a particular attention to energy efficient solutions and technologies. For this reason, they cooperated with Clisost (official approved contractor for Seeley International products) & Arsinger (Consulting Engineers company) in order to find a cooling solutions that could have met fresh air requirements and sustainability.

The solution suggested was Evaporative cooling: Breezair Direct Evaporative cooler & Climate Wizard, Indirect Evaporative cooler, manufactured and designed by Seeley International & distributed in Spain by Australair Ecoclimatización.

The Management considered other forms of cooling, including Split or centralised system: in fact, some classrooms already had Split air conditioning. However the choice fell on Evaporative Cooling because of Energy Efficiency & wise use of water and electricity.

Installation

- Building A: 4 x Breezair TBS 580
- Building B: 4 x Breezair TBS 580
- Building C: 2 x Breezair TBS 580 + 1 x Climate Wizard H15

Each Breezair unit cools up to 3 classrooms of approximately 60 m² each, for a maximum total of 200 m² for each unit.

One Climate Wizard H15 has been installed in stand-alone cooling application in the roof of the building hosting Kindergarten & Primary School (Building C). The unit cools down four classrooms of the Primary School hosting 25 children each.








Results

Temperature control and improved IAQ (indoor air quality) are the two factors that play a key role when it comes to creating an optimal and healthy learning and working environment. The installation has provided a dramatic improved environment for both teachers and students. Particularly, Climate Wizard maintains optimal temperature of 24°C to 27°C in the classrooms, compared to the previous 37°C when no A/C unit was installed.

Meeting fresh air requirements in an enclosed space also has a positive impact on dealing with factors associated with sick building syndrome.

The choice to adopt evaporative cooling contributed to reduce the school's carbon footprint, supporting public infrastructure green building requirements. Antonio Gala Educational Centre has become a pioneer in the region in energy efficiency buildings for educational purposes. Indeed, many public institutions have visited the school to learn more about the technology, pushing to have more educational centers to adopt it.



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|  | Generate 100% fresh, cool, outside air. |  | Flexible design and engineering configurations |
|  | Temperatures that rival refrigerated systems |  | Features an water management system to minimise water consumption |
|  | Up to 80% lower energy costs | | |