ENHANCING EDUCATION ENVIRONMENTS WITH CLIMATE CONTROL

PROJECT : Frankston High School
LOCATION : Frankston, Melbourne, VIC
COMPLETION DATE : November 2023
CONTRACTOR : Mechflow Air-Conditioning

Located in Melbourne South, Frankston High School underwent a transformative journey with the refurbishment and expansion of the campus. Mitsubishi Heavy Industries Australia with trusted contractors Mechflow Air-Conditioning, collaborated to provide energy-effieicent ceiling cassette and wall-mounted system to service the developments multiple areas.

Frankston High School, a renowned public school in Melbourne's South, is marking a significant milestone in 2024 as it turns 100 years old.

To meet the needs of its nearly 2,000 current student enrolments and provide top-notch facilities, the school embarked on a large-scale, multi-million dollar redevelopment project.

The redevelopment included the construction of new buildings, in addition to extensions to existing structures, to support the ongoing needs of the student population and staff. Facilities included the upgrade or addition of 34 rooms, ranging from purpose-built classrooms, learning spaces, common rooms, amenities, server rooms and office space.

Research has indicated a direct correlation between student comfort and their learning abilities. To ensure the student's environment was optimised for learning, the climate control system was required to be reliable, energy-efficient, and applied to all spaces of the new builds, and the retrofit applications.

Furthermore, it was necessary for the system to run quietly to reduce disturbances and save energy. Centralised control and monitoring were also crucial for facility managers to effectively oversee the school's climate control systems.

After careful consideration and discussions with trusted contractors Mechflow Air-Conditioning, a selection of ceiling cassette systems and wall-mounted systems from Mitsubishi Heavy Industries Air-Conditioning Australia were chosen for the project.

The FDT ceiling cassette systems were selected for classrooms and common areas, offering high airflow yet quiet operation. Due to the small amount of space in between levels, this proposed a design challenge for indoor unit selection.

Indoor Units Installed
24 X FDT**KX Ceiling Cassette Systems
41 x FDK**KXZ Wall Mounted Split Systems

Outdoor Units Installed
7 X FDC***KXZE2 VRF Systems
1 X FDC**KXZEN1-W VRF Systems

With two plant rooms, one located in the basement and one on the roof – both being quite small in size, it was important that all condensing units were compact and allowed for flexibility to ensure installation, commission and ongoing maintenance would be as easy as possible.

The FDT series features a draught prevention panel which utilises four specially designed louvres to direct airflow horizontally along the ceiling, eliminating uncomfortable draughts for students and staff. These systems also incorporate a built-in drain pump which discharges up to 850mm, allowing for easy installation and flexibility regarding pipe design.

For spaces with limited ceiling space, the FDK series of wall-mounted systems were chosen. These systems offer a flexible solution and are connected to a mix of KXZRE2 VRF systems and KX Micro VRF systems. The KXZRE2 series of outdoor units provide high energy efficiencies, while the KX Micro systems offer easy installation due to their compact size.

All systems were installed with wall-mounted RC-EXZ3A's wired controllers for ease of use for occupants. These controllers also allow the systems to be connected to central controllers, providing staff with day-to-day control and facility management with advanced control and monitoring capabilities.

The completion of this project ensures that Frankston High School can continue to offer a comfortable and conducive learning environment for its students, setting them up for success for the next 100 years and beyond.

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