

CASE STUDY VSD CENTRIFUGAL CHILLERS | AIR HANDLING UNITS



WAGGA WAGGA HOSPITAL



CUSTOMER PROFILE
Medical services provider



BUILDING TYPE
Healthcare facility



FEATURED PRODUCT
Centrifugal Chillers,
Air Handling Units

BACKGROUND

Wagga Wagga Hospital is a new hospital facility located in southern New South Wales. Spread over 6 storeys, the 25,000m² facility was built to accommodate the region's growing need for healthcare.

Daikin worked with All Staff Air Conditioning to ensure that HVAC system and high-efficiency chillers meet the demands of what is envisioned as a highly populated facility and seamlessly blend into the building fabric.

CHALLENGES

In order to ensure that the HVAC system perform to their maximum potential, the project also required installation of variable speed pumps that drive the flow through primary and secondary water circuits. Additional requirements of the brief included careful consideration of water flow – both heating and cooling, as this is dependant on building load.

Bearing in mind the need for constant fresh air in critical areas such as the ICU, operating theatres, triage areas, and birthing rooms, air handling units (AHU) were installed. An additional challenge was posed by the tight project timeline, which required all HVAC equipment to be delivered within 18-weeks.

SOLUTION

As a response to the complex brief, Daikin and All Staff Air Conditioning worked together to develop a comprehensive solution that took into account lead times and coordination between suppliers.

Daikin supplied two 1,400 kW centrifugal chillers with Variable Speed Drive (VSD) technology, which allows the compressor to unload smoothly from maximum to minimum load for superior part-load performance in comfort cooling applications. Daikin also provided 70 Double Skin AHUs that have a double layer of polyurethane foam insulation panel to prevent heat loss and condensation from occurring.

To meet the wellness and comfort requirements of a growing number of patients, the HVAC system was carefully designed to suppress hospital-acquired infections. As such, the hospital's energy management system integrates into a digitally controlled building monitoring and control system (BMCS) to allow monitoring, targeting and load shedding capabilities.

In accordance with their reputation for consistent quality, Daikin provides post-installation support for all their products. The HVAC system at Wagga Wagga hospital is projected to deliver outstanding heating and cooling capabilities for decades.

To learn more about Daikin's commercial HVAC products and services, visit commercial.daikin.com.au