

YourDC – DC1 Edinburgh Parks

+ Integrated mechanical services
and BMS installation

As South Australia's only data centre to be built to ANSI/TIA-942 Rated-3 (formerly Tier-3) specifications, YourDC's flagship site at Edinburgh Parks is relied upon by business and Government agencies to accommodate and operate mission critical services and infrastructure.

+ Business Needs

When building its Edinburgh Parks data centre in 2016, Adelaide-based YourDC set out to create South Australia's most secure and reliable facility.

As the company's flagship site, the Edinburgh Parks facility has a capacity of 800 racks, and features a unique 20 rack room design that allows clients to procure their data centre needs on a per rack and/or per room basis.

The facility's integrated mechanical services and BMS (building management system) were delivered by Airmaster.

"YourDC chose to partner with Airmaster to design a bespoke solution that could be installed and operated in modular stages in line with the data centre building and expansion plans," says Andrew Cook, Chief Operating Officer.

The environment management solution installed met the highest standards of reliability, stability and efficiency required for YourDC to maintain its internationally recognised TIA-942 Rated-3 data centre certification.

Stage 1 at the facility consists of several modules, each featuring two joined data halls with computer room air conditioning (CRAC) units designed with N+1 redundancy.

When operating in Normal Mode, the two CRAC units serving each hall operate simultaneously via an underfloor pressure management system. Should one of these units fail or fall offline, the other unit serving that module provides sufficient redundancy by increasing airflow and cooling capacity to ensure cooling to the entire module is maintained.



+ Solution Overview

The mechanical services system serving the Edinburgh Parks facility consists of direct expansion (DX), chilled water fan coil (FCUs) and air cooled units (ACUs) that serve corridor and module outdoor air requirements. These also provide temperature and humidity control to the spaces.

The AHUs are served chilled water from multiple air-cooled chillers fitted with adiabatic pre-cooling pads – proven to be highly effective in dry climates like that experienced in Adelaide.

A rainwater collection system supplies water for use in make-up, humidification and the chiller pre-cooling pads with a secondary tank supplying mains water. A dedicated conditioned water skid, controlled by its own PLC and connected to the BMS, softens this water for use.

The 5% glycol chilled water system serves the CRAC units within each data centre module. Each unit operates under its own controls, energising cooling and humidity stages as necessary to maintain set point temperature and humidity within the space.

All data hall CRAC units feature unlimited power supply (UPS) backup.

A sophisticated building management system (BMS) provides increased control and visibility of the HVAC plant and CRAC units whilst employing energy saving strategies. The BMS monitors various systems including electrical power meters, automatic transfer switching and water plant skid. Remote access is provided via a secure fibre optic network connection.

+ PlantPRO deployed

Airmaster also deployed PlantPRO across the site.

Designed to run the mechanical services plant at its optimum efficiency, PlantPRO drives real and measurable energy saving strategies by integrating advanced algorithms in the control of all main HVAC component plants.

+ Year-round support

As the State's most accredited and highest rated data centre, YourDC's Edinburgh Parks facility delivers unparalleled redundancy, premium performance and supply chain peace-of-mind.

To attract and service its growing customer base, YourDC relies heavily on upholding a reputation for delivering steadfast security, performance and service standards for organisations of all sizes and from all industries including government, defence and manufacturing.

+ Customer Benefits

- + Adelaide's only ANSI/TIA-942 Rated-3 (formally Tier-3) data centre
- + N+1 Redundancy on all systems



The Airmaster South Australian team has remained responsible for all works and mechanical services maintenance since the facility was completed in 2016.

"We rely on Airmaster to provide 24/7 support, 365 days of the year," says Mr Cook.

"The quality service provided by the Airmaster team in Adelaide gives us the confidence and reassurance we need to maintain a facility built for 100% uptime."

- + Full plant control and automation
- + PlantPRO optimisation

About Airmaster

Airmaster is an award-winning building services company, providing HVAC&R management, smart building solutions and fire services across Australia, New Zealand and South-East Asia. Founded in Melbourne in 1988 and with 15 branches across Australia and New Zealand, Airmaster's holistic approach to building management makes for a comprehensive range of service offerings.