Bytemark Hosting
Case study

Meeting growth demands

Bytemark Hosting provides a comprehensive managed hosting service to a portfolio of prestigious clients including the Cabinet Office, Carling.com and Médecins sans Frontières.

Supplementing its existing network spread over Manchester and London, Bytemark built a new 250 square metre £650,000 data centre facility within the warehouse space of its new property in York.

Airedale solution

- 2 x 90kW Airedale SmartCool™ DX precision air conditioning (PAC) units (data centre) provide fresh air free cooling for up to 90% of the year and excellent part-load performance from staged cooling

- 2 x 11kW Airedale EasiCool™ PAC units (UPS room) provide stable support where load conditions are typically fluctuating

- ACIS™ Building Management System (BMS) provides remote monitoring of cooling and other building services from an easy-to-use graphical environment

- Airedale commissioning and on-going preventative maintenance, spares & service

:BYTEMARK HOSTING

DatacenterDynamics AWARDS
EMEA 2013 FINALIST

ACIS   PRECISION AIR CONDITIONING

www.airedale.com

BRITISH MANUFACTURER | ENERGY EFFICIENCY | CONTROLS | SERVICE | TRAINING
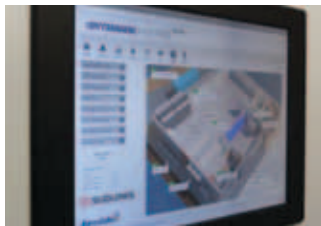
In more detail

Precise cooling capability

Working in conjunction with Sudlows, Airedale's SmartCool™ DX PAC units were specially adapted to provide direct fresh air free cooling for up to 90% of the year and deliver N+1 redundancy. A fresh air mixing box was also specially designed for the project.

Two Airedale EasiCool™ PAC units in the UPS room provide N+1 run standby.

The high efficiency PAC units were chosen for their ability to deliver extremely precise control of temperature and air quality, and to provide a resilient but scalable solution.
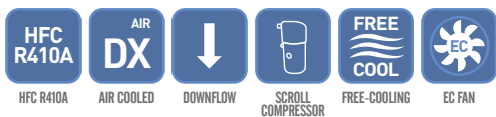
Seamless control of building services

From a touchscreen graphical application, Airedale ACIS™ software monitors the cooling plant, manages air pressure within the data centre, triggers alarms and, in the event of fire, will automatically shut down the fresh air supply.

The ACIS™ system controls the following:

- Airedale data centre PAC units and fresh air supply units
- UPS room cooling
- Fire suppression and VESDA system alarms
- Energy monitoring of LV system and power meters
- Air extractor system
- External generator
- Office air conditioning controls

The results

The Airedale solution provides an energy efficient data centre that maximises free cooling opportunities, achieving PUE levels of 1.1 to 1.2. Initial cooling capacity equates to 90kW with N+1 redundancy, expandable to 450kW N+1 to allow for growth of the data centre.

HFC R410A	AIR DX AIR COOLED	DOWNFLOW	SCROLL COMPRESSOR	FREE COOL FREE-COOLING	EC EC FAN

Benefits

- **SmartCool™ and EasiCool™ units reduce operating costs by switching to the best operating mode, irrespective of whether the data centre is underpopulated or density and heat loads are increasing**

- **Annualised PUE of 1.1 to 1.2 (load dependent)**

- **Resilient solutions providing N+1 redundancy**

- **Seamless solution from Airedale's multidisciplinary team encompassing design, integration and ongoing management**

"

"Airedale's innovative and integrated solution means we can make the most of the fresh air cooling opportunities in our York location. This means we can achieve a much more efficient data centre and reduce our costs, as well as the impact on the environment"

Peter Taphouse, Operations Director and Co-Founder of Bytemark Hosting

---

Airedale
APPLIED THERMAL INNOVATION

A MODINE Company