Airedale
APPLIED THERMAL INNOVATION

EMIS data centre
Case study

The challenge

Egton Medical Information Systems Ltd (EMIS), based in Leeds, is estimated to hold the data for around 39 million patient records. It is the UK's leading supplier of healthcare software and related services to GP practices. EMIS required a new 24/7 data centre as expansion to the existing facility in order to increase its secure and resilient capacity as it extends its range of services to GPs. The data centre incorporates a highly efficient, reliable cooling and monitoring solution designed by Airedale.

Airedale solution

- 4 x InRak™ chilled water 33kW in-row coolers with an EER of 18.47 (EC fan, N + 1)

- 2 x DeltaChill™ FreeCool 180kW ExtraQuiet compact chillers with N + 1 resilience

- ACIS™ building energy management system

- 24/7 service support

In more detail ▶

" *We are aiming for a Gold CEEDA* when the data centre is fully populated. Airedale cooling solution should guarantee an annualised PUE of 1.3 for the room.* "
Mike Marchant, Data Centre Manager, EMIS

* CEEDA: Certified Energy Efficiency Data Centre Award

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BRITISH MANUFACTURER   COOLING SOLUTIONS   CONTROLS   SERVICE

In more detail

Integrated cooling solution

The InRak™ units sit within a medium density cold aisle containment. Each InRak™ cools three racks at an average 7kW critical load per rack, with the ability to scale up to 20kW per rack. Chilled water is provided to the InRak™ units via a pipe distribution system by two DeltaChill™ FreeCool 180kW ExtraQuiet compact chillers offering N + 1 redundancy.

The data centre was designed and built by Sudlows. Says Gary Frith, Sudlows Mechanical Director: *"Airedale's chilled water packaged solution is perfect for this application and the project-specific building energy management system designed and installed by Airedale is a winner with our customer."*

Free-cooling for up to 92% p.a.

With the data centre operating 24/7 and the temperature in the cold aisle containment typically at 23.5°C, up to 92% of the year can be spent with free-cooling active. (London, UK)

ACIS™ data centre monitoring

The ACIS™ building energy management system monitors power to all the data centre areas and calculates live PUE. Via a touch screen interface, the operator can monitor room temperature and pressure; the fresh air unit and the UPS battery life, run time and load. ACIS™ also provides chiller sequencing; alarm management and fire and water detection.

24/7 support

Airedale provides a full managed service including an emergency helpline, professional support and call-out service, with guaranteed response times by qualified engineers.

> ❝ **The InRak™ makes the aisle containment far more efficient**

The InRak™ is perfectly designed, directing air sideways across the racks like a curtain, providing even cooling top and bottom. The units are very clever; they communicate with each other to maintain pressure and temperature consistent with the room.

The InRak™'s EC fans are great – they are all linked to the ACIS™ and ramp up and down according to demand. ACIS™ gives us 24/7 control of the operation and peace of mind. ❞

Mike Marchant
Data Centre Manager, EMIS

INRAK™

CW CHILLED WATER	**EC** EC FAN

DELTACHILL™ FREECOOL

HFC R410A HFC R410A	**DX** AIR COOLED	SCROLL COMPRESSOR	**MICRO** MICROCHANNEL COIL	**FREE COOL** FREE-COOLING	**EC** EC FAN

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