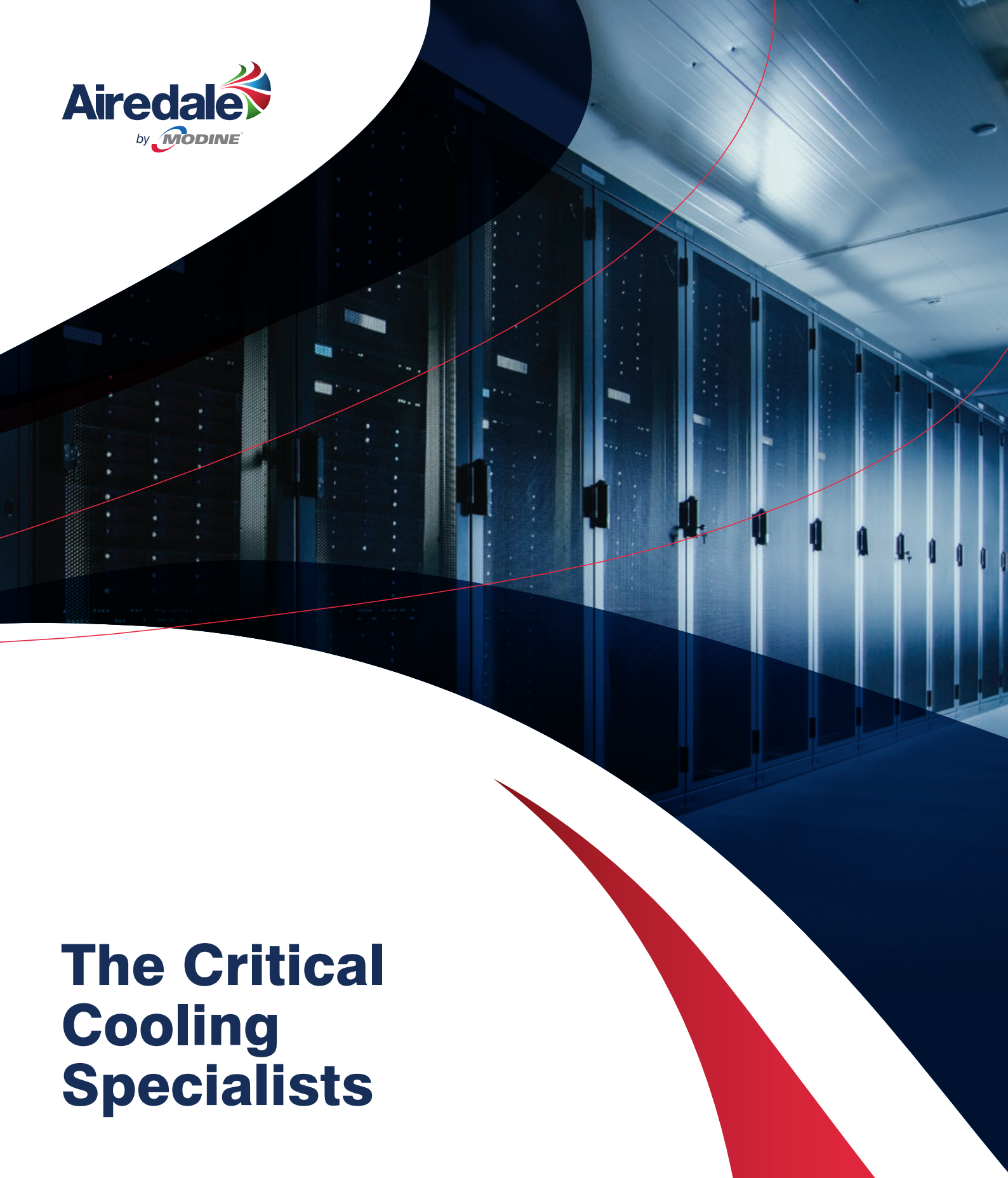
Airedale by MODINE



The Critical Cooling Specialists

airedale.com

In industries where cooling is critical, you need a critical cooling specialist. Airedale is a world leader in the delivery of innovative thermal management solutions in mission critical environments like data centers, healthcare and telecoms. As part of the US-based Modine group, our global organisation is Engineering a Cleaner, Healthier World™.

At Airedale, we believe that air conditioning has a critical role to play in an ever-changing world. We also passionately believe that air conditioning manufacturers must play a responsible role in an era where sustainability is key to the preservation of our planet.

Airedale's core focus is the data center market, where uptime and energy efficiency are absolutely critical to success. Marginal gains in this arena can make all the difference and Airedale seeks to push the envelope each time we embark on a new project.

Airedale's success is built on our unrivalled pedigree in providing flexible, high-efficiency cooling solutions. Our systems approach and ability to combine hardware and software ensure that cooling systems work smarter, not harder, to deliver more cooling for less power and ensure a stable environment and availability 24/7.

Airedale's product pedigree is backed up with significant software capabilities, providing complete visibility, harmony and autonomy of our installations.

Our design and integration of building management systems and cooling system controls, paired with a keen eye on operational energy efficiencies at product level, delivers some of the most sustainable and reliable precision cooling solutions to the most demanding applications on the planet.

All Airedale solutions are backed by a full suite of support services, including commissioning, maintenance, refurbishment, spares and training, delivered by experts with many years' industry experience.

With headquarters at our state-of-the-art 23,000m^2, research, development, manufacturing, training and office facility in Leeds, UK, Airedale also has additional production sites in Consett (UK), Guadalajara (Spain), Rockbridge (US) and Grenada (US). Airedale employs approximately 1,000 people.

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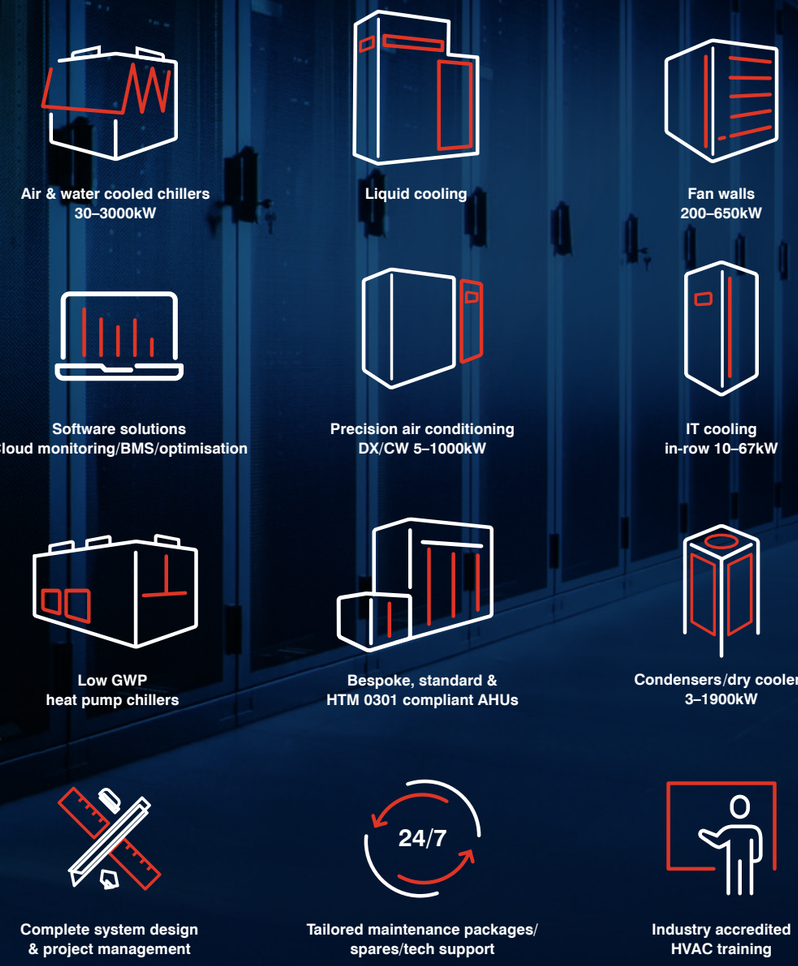


We are trusted

CyrusOne

eDF

vodafone

VIRTUS

Coca-Cola

IBM

John Lewis

yondr

ENGIE

BAE SYSTEMS

hp

GLOBAL SWITCH

NHS

CORSCALE DATA CENTERS

BBC

We are global

Airedale is a global superpower in mission critical cooling, manufacturing out of Leeds (UK), Consett (UK), Guadalajara (Spain), Grenada (US) and Rockbridge (US).

We offer on-site and remote witness tests to provide our customers with complete peace of mind, prior to installation.

–20°C +50°C

Testing capabilities from –20°C up to +50°C

2MW

Air cooled water chillers up to 2MW

Test Labs & Capabilities

Rockbridge, VA

Chiller climatic testing

Air-cooled chillers up to 2.1MW

Process water flow up to 1,900 GPM

Test up to 125°F

Ambient temperature can be reduced to prove chiller economizer performance

Leeds, UK

Capable of testing a complete range of HVAC equipment with cooling and heating capacities from 2kW to 500kW (50 or 60Hz).

Air and water-cooled chillers up to 2MW

Capable of testing from −20°C to +50°C

Capability to test product with glycol

Guadalajara, Spain

Capable of testing CRAC/CRAHs up to 120kW

Capable of testing from 7°C to 50°C

Hemi-anechoic and reverberant chambers for acoustic testing

Racine, WI

Thermal Performance Test Lab: single and two-phase heat transfer

Structural Durability Test Lab: vibration, shock, pressure, thermal cycle, hydrostatic burst testing

Vehicle Test Lab

HVAC&R Systems Test: −40°F to 140°F

Wind Tunnel: −20°F to 131°F

Grenada, MS

CRAH/fan wall testing up to 500kW, with possible scalability to 1MW

2 test chambers utilizing electric heat to accurately represent data center loads

Accurate airflow measurement and air-on temperature control

Capability to test product with glycol

We are solutions specialists

Airedale delivers a tailored solution that incorporates world class products, industry-leading engineering support, intelligent software and unrivalled end-to-end on-site care.

Our approach

Our long history of supplying cooling systems to industries where temperature controlled environments are critical to business operations has given us deep sector experience. We are not just air and liquid cooling experts, we are experts in industries where climate control is key, including data centers, telecoms, pharmaceuticals, healthcare, defence and nuclear.

We understand your business and the metrics that drive you. We work best by getting involved in projects at the very start, consulting on designs and working with clients right the way through a project life cycle.

1. Scope & Design

We work with you to understand your project objectives and can propose a complete system design using our specialist project engineers and energy performance software.

2. Project Management

We work with you from start to finish, with office and site teams working alongside you to get the job done on time and in full.

3. Manufacturing

Our state-of-the-art facilities, supported by our global HQ in Leeds UK, are where your solution comes to life, tested and validated by our highly skilled production teams.

4. Witness Testing

Our test labs in UK and US offer full witness testing, either in-person or remote, with capabilities up to 2MW and +50°C.

5. Install & Commissioning

Our experienced commissioning teams will get your full cooling system up and running prior to handover, including support on IST.

6. Optimisation

Our software solutions ensure that even once the job is delivered, Airedale is working in the background to keep everything online and as efficient as possible.

7. Service, Maintenance & Spares

Our strength is our people. Our flexible maintenance contracts mean we are always available with round-the-clock service agreements and fast-track spare part deliveries.

We cool the internet

Cooling IT has been Airedale's core focus since 1974. As the digital world has grown, so too has Airedale's ability to provide cooling solutions that keep critical data safe.

We are now a global brand, with an unrivalled pedigree in providing flexible, high-efficiency cooling solutions. Our systems approach and ability to combine hardware and software ensures that your data center works smarter, not harder, to give you more cooling for less power and ensure a stable environment and availability 24/7.

Raise your Data Center's IQ™

IQity™ is Airedale's IoT-enabled technology framework, revolutionising how cooling is connected, controlled and automated at critical facilities.

It delivers unparalleled uptime and efficiency benefits by connecting smart building software and remarkable hardware in an entirely unique way.

IQity works at a product, system, and site level to make sense of your critical systems and step in when you need a hand.

It is the only framework that manages normal building cooling 24/7, an emergency in real-time, and gives the breadth of data necessary to prevent threats and protect your bottom line.

The IQity Framework

Intelligent products flex with their environment, optimise their own operation and let you know if they need repairs.

Intelligent systems work as a team, taking into account multiple variables to operate in the most efficient and effective manner.

Intelligent sites work in harmony with their operators to manage multiple systems and products, delivering holistic improvement and accurate reporting data.

54MW Data Center

CyrusOne challenged their partners to design a cooling system that would deliver exceptional energy and water efficiency, to compliment 100% renewable green energy usage and bespoke landscaping, which included a biodiversity and pollinator plan.

The Client

Since 2001, and with years of continued success, CyrusOne competes at the forefront of the data center industry as a respected leader and innovator. CyrusOne's portfolio now includes more than 40 enterprise-class facilities across three continents and more than four million square feet of total net rentable square footage (NRSF).

Sustainability initiatives at data center giant CyrusOne are a core tenant of everything they provide and do. They embrace an eco-centric mindset and their responsibility is guided by a qualitative, quantitative and meaningful sustainability plan that includes a pledge to become carbon neutral.

As a founding member of the Climate Neutral Data Centre Pact (CNDCP), and with senior representation on the Board in the form of EVP Managing Director, Matt Pullen, CyrusOne is committed to achieve carbon neutrality by delivering to agreed criteria set out by the self-regulatory framework for energy and water efficiencies (PUE and WUEs), clean energy, the circular economy and waste management. Over and above targets set out in the Pact, CyrusOne's plan includes commitment to sustainable construction and habitat.

Recently, CyrusOne reported it had successfully adhered to terms of the CNDCP, and was the first to inform the board that all its fully operational data centers in Europe have been independently audited to comply with the Pact's terms.

The Project

- **54MW DC Campus**
- **33,500 sqm technical space across three buildings**

One site, a 54MW data center campus offering 33,500 sqm technical space across three buildings, exemplifies where they have successfully implemented changes to improve sustainability during design, construction and operation.

With such focus on sustainability as well as performance, CyrusOne were keen to appoint a cooling solutions provider that could advise them on design as well deliver the solution; Airedale was the obvious appointment.

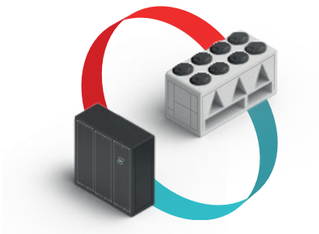
Base line model PUE	**1.38**
Delivered PUE	**1.2**
Energy reduction vs. base line	**34%**

At commissioning, a further analysis was carried out and the dPUE was reduced to 1.18.

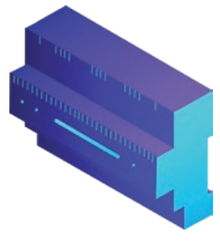
Airedale solution

64 × **SmartCool** ONE™ chilled water CRAHs

12 × **OptiChill Free Cool™** air-cooled chillers with Enhanced Free Cooling™



"Water Side Optimisation" system design



Cooling System Optimiser™ controls platform

Engineered in Britain, applied worldwide

With British engineering as the hallmark of our solutions, Airedale products can be produced across several continents to be applied by our clients worldwide.

Promising the same impeccable quality from our facilities in Europe and the US as you would expect from the UK, when you buy Airedale, you can be reassured of quality, reliability and efficiency.

Museum of the Future, Dubai

The Museum of the Future will create a platform to demonstrate and test the latest inventions and prototypes from both innovative start-ups and the world's greatest technology giants.

Airedale has once again been recognised for quality engineering, and has been selected to supply the cooling systems for this incredible project. We supplied a total of 5 SmartCool dual fluid systems, customising our units with special outdoor fans to meet extremely high ESP requirements due to the unusual installation.

We care for the future

“We passionately believe that air conditioning manufacturers and equipment must play a responsible role in an era where sustainability is key to the preservation of our planet.”

As the global deployment of air conditioning increases, the industry must do a lot more to ensure the products and solutions we supply are as energy efficient as possible in order to play our part in combatting climate change. As a leading manufacturer of air conditioning equipment, air handling units and chillers, with over 50 years’ experience, Airedale is one of the companies spearheading the drive towards greater energy efficiency in HVAC products and systems.

Airedale invests significantly in research and development. Energy efficiency is one of three core pillars that make up our R&D ethos, along with the environment and the deployment of leading edge technology.

We encourage component manufacturers to come to us with ideas that can make a difference to the energy efficiency and environmental impact of our products, and seek to leverage and evolve existing technologies to deliver meaningful energy performance improvements. We continually expand our range to include more sustainable solutions, including high efficiency compressors, low GWP refrigerant solutions, the ‘Cooling System Optimiser’ and our ‘Enhanced Free Cooling’ range to name a few. We also offer heat pump chillers and embodied carbon calculations, using the CIBSE TM65 method, on all of our air handling units.

Energy Efficiency

Legislation like the European Ecodesign Directive rightly encourages manufacturers and end users to consider the environmental impact of a system over the lifetime of the product. We recognise that providing our customers with energy efficient solutions is a critical sustainable development opportunity for us all.

We are driven by quality and efficiency at every stage of our research, development and manufacturing process and are committed to our environmental responsibility and limiting the environmental impact of our units. We welcome and relish legislation that supports a more sustainable planet.

Refrigerants

As with Ecodesign, Airedale take both the F-Gas legislation and our commitment to the environment seriously. Much of our R&D resource is focused on ensuring our solutions are compatible with lower GWP (Global Warming Potential) refrigerants such as R32. We have precedent in this area too. We led the market years ago with the change from R22 to R407C refrigerant in 1994 on the ACC range of chillers and we were the first to market with a range of chillers utilising R1234ze in 2013.

Newer refrigerants in many cases are classified as mildly flammable, so care has to be taken when designing, testing, installing and servicing air conditioning systems that use them. Airedale is already investing heavily in our ability to design and manufacture such systems and are always on hand to offer advice to clients who are also on this journey.

Embodied Carbon

Working within the methodology provided by the Chartered Institute of Building Services Engineers (CIBSE), we are able to deliver a TM65 embodied carbon calculation for all of our air handling units, which are designed and manufactured on site at our facility in Consett, UK.

Recognising the growing need for environmental data by end users and the industry as a whole, our data assists both our clients and industry bodies. Organisations such as CIBSE can use our data, alongside data taken from other manufacturers, to better evaluate embodied carbon emissions in the built environment. It assists them in developing an embodied carbon product database and in further developing the CIBSE embodied carbon methodology.

We are the Cutting Edge

Our cooling philosophy is built upon free cooling systems, with indoor and outdoor equipment matched and system parameters optimised to deliver uptime and redundancy at the lowest possible energy outlay.

In a world driven by IoT, AI, machine learning, and 5G, data processing at the edge is no longer a luxury but a necessity. By strategically placing smaller data centers closer to where data is produced or consumed, we empower businesses to operate with unparalleled efficiency and responsiveness.

Our extensive product portfolio includes data center chillers, CRAHs/CRACs, fan walls, in-row coolers, and is complemented by our data center software framework, IQity™, ensuring uptime and sustainability at a product, system, and site level.

Expertise

In today's digitally reliant world, small data centers are vital for meeting the demands of high connectivity, low latencies, and efficient data processing near the end-user. We recognise the critical role of cooling in the edge market, aligning our business to serve key sectors effectively.

With over 50 years of experience in providing intelligent cooling solutions worldwide, from single computer rooms to hyperscale facilities, our Edge Business Unit offers a comprehensive product line-up, intelligent controls, and deep application expertise.

Our expertise extends to supplying systems based on multiple smaller chilled water loops, where a single chiller pairs with 1–3 CRAC/CRAH units. As data centers scale, we seamlessly adapt to larger designs, resembling colocation data centers, using a single large chilled-water loop. Our vast experience enables us to provide tailored products and control systems for optimal performance.

Approach

Our innovative approach ensures uptime and redundancy while minimising energy consumption, making us the go-to choice for cutting-edge businesses worldwide.

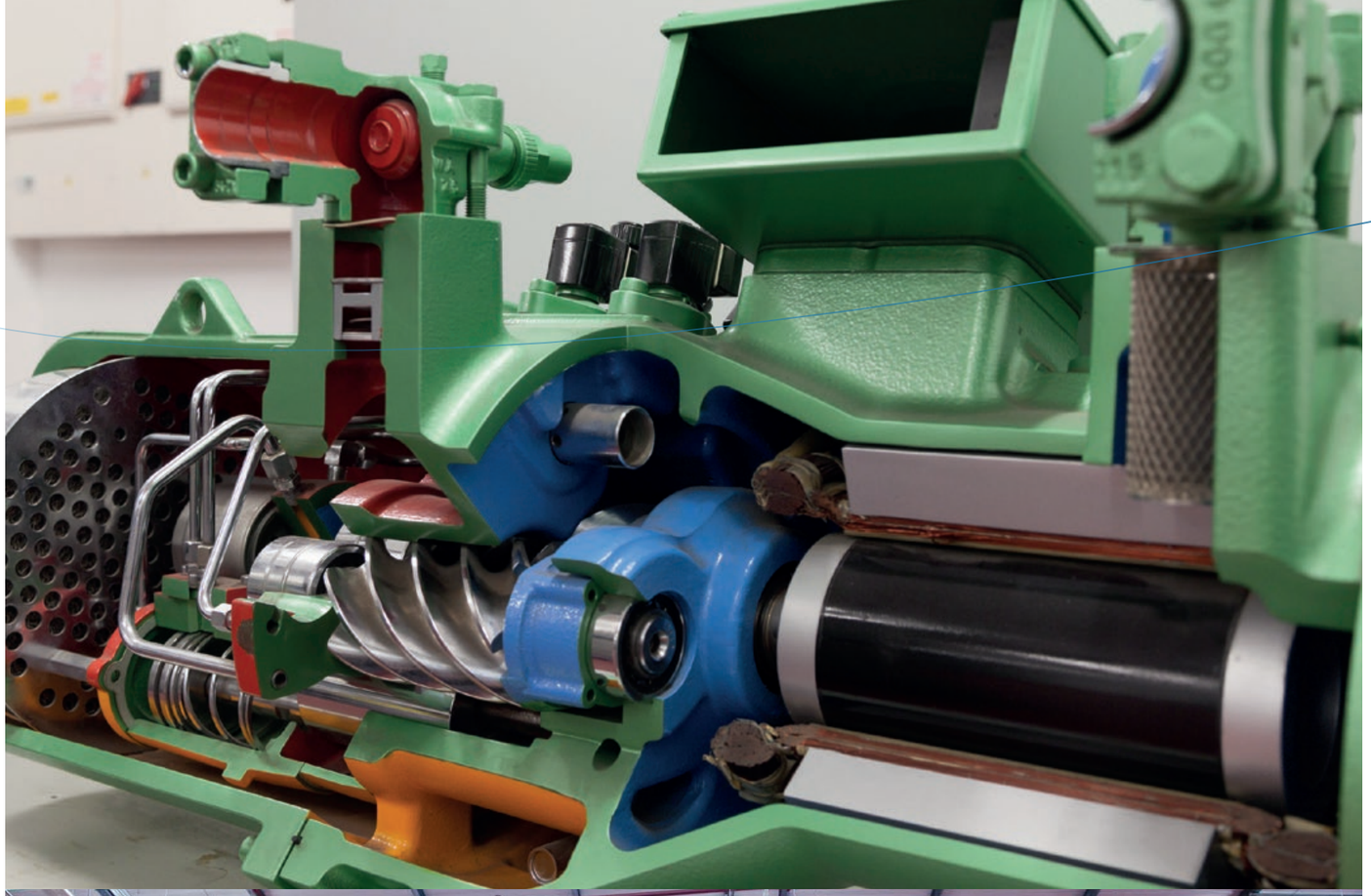
- We intelligently reschedule chilled water setpoints to enhance overall system efficiency, optimising cooling resource allocation based on dynamic data center demands.
- Our variable flow management maximises free cooling opportunities when ambient conditions permit. This reduces energy consumption and minimises pump power requirements, enhancing energy efficiency.
- Using sophisticated chiller staging techniques, we ensure chillers operate at their peak efficiency, resulting in significant energy savings without compromising cooling performance.

We build people as well as products

Airedale offers a range of training courses, ensuring engineers and specifiers are perfectly placed to design, install, commission and maintain modern HVAC systems. Our state-of-the-art training facility opened in April 2016, providing delegates with the perfect environment to learn, develop and grow their air conditioning and refrigeration skills. We also offer Continuous Professional Development (CPD) presentations, which can be delivered online or at client sites.

The training centre features:

- The training classroom, featuring the latest conferencing technology.
- Various air conditioning and refrigeration training rigs, demonstrating different refrigerants and the latest in measurement and testing technology – including air ducting, measurement and chilled water systems.
- The brazing area, equipped to provide new and experienced learners with the necessary skills required to correctly install refrigerant pipework.
- The electrical area, designed to give a practical understanding of safe working when designing, wiring and testing electrical assemblies as well as the correct fault finding techniques.



We are there when you need us

Life cycle support for critical cooling

We offer a 24/7 emergency helpline and call out service, available 365 days of the year to UK and US clients, ensuring that we are always on hand to provide expert advice and immediate help, day or night. Guaranteed emergency response times mean that a qualified Airedale engineer will be with you in an agreed timeframe, therefore maximising your system's uptime.

For non-UK clients, we offer a service partner network across Europe and the Middle East.

Choose the right service and maintenance contract for you

Our air conditioning service plans offer a preventative air conditioning maintenance service solution to improve system resilience and increase the longevity of your cooling system.

Planned maintenance not only assists in preventing unit breakdowns in business-critical environments, but also helps to improve energy efficiency and enhance system optimisation for improved performance. Over the life cycle of the product this can lead to reduced running costs, improved carbon footprint and quicker returns on investment.

With over £2 million worth of stock on site at its Leeds headquarters, Airedale is the UK's largest stockist for air conditioning parts and specialist HVAC spares and can deliver worldwide.

Vodafone data center update

"Reliability and the level of service that Airedale offers are key issues for a business critical location such as this. The project ran very smoothly."

We are powered by technology

ACIS™

More than just a BMS

ACIS™ provides a scalable, future proof building management system that operates and optimises a wide range of building services across multiple platforms and protocols. ACIS provides a simple and intuitive interface that facilitates a wide range of monitoring, reporting and diagnostic tools, putting the customer in complete control.

Airedale's 50 years' experience in air conditioning allows ACIS to go far beyond other BMS solutions in selecting optimised operating conditions for HVAC systems. ACIS can also manage a facility's power infrastructure and provide insights into usage and faults.

helix

Integrated, Intelligent Controls

Helix™ is a controls platform developed in-house by a team of dedicated controls engineers. Helix represents the bonding of hardware, software and innovation provided as standard within every Airedale product, combining the most appropriate hardware and software to provide efficient and effective control.

These software features deliver optimised efficiency, self-diagnostics of faults and compliance with standards and directives; including Ecodesign. Accurate, efficient and safe, Helix is tested and qualified in Airedale's state-of-the-art research and development laboratory.

Airedale DX
CLOUD DIAGNOSTICS

Remote Monitoring & Diagnostics

Airedale Cloud Diagnostics™ is a highly secure cloud-based monitoring and diagnostics platform developed for owners of mission critical HVAC plants.

Easy to install, with intelligent algorithms and continuous improvements to data models, Airedale Cloud Diagnostics puts the power and the data in your hands via live dashboards with visual analysis.

Ground-breaking early detection of refrigerant leaks and anomalous behaviour is instantly reported; minimising downtime, increasing efficiency and reducing maintenance costs.

Cooling System Optimiser

Complete Chilled Water System Controls

Large variable flow cooling rings are becoming more prevalent in large data centre facilities. The complex nature of these systems puts strain on standard BMS solutions, that weren't designed to manage complex cooling systems.

The Cooling System Optimiser™ was developed to meet this challenge. It uses additional controllers in the chillers and data halls, creating an additional controls layer that allows for networked redundant intelligence.

It works to deliver only the cooling required according to the heat load/site SLA and promotes free cooling while maintaining redundancy and resilience.

Precision cooling

EasiCool™ *evo²*

EasiCool evo² is a compact and flexible precision cooling system unit that has been designed to build on the global success of the EasiCool product family.

6–98kW

Chilled Water, DX (Scroll compressors, R410A), Dual Cool

Upflow/downflow

EC fans

Return air temperatures ranging from 18°C to 40°C

Ambient temperatures of –20°C to +52°C

Variable heating options

Flexible air discharge/return options

Revamped Helix controls.

SmartCool™ *i-drive*

SmartCool just got smarter. This inverter-driven iteration of the versatile SmartCool range offers exact control and superior efficiency.

5–83kW

Inverter DX (Scroll compressors, R410A, R32)

Downflow

Optimised for hot and cold aisle containment

Inverter compressors for exact control and efficiency

Supply temperatures up to 26°C

A wide ambient envelope of –20°C to 50°C

Up to 21% more cooling kW/m² than similar leading competitor units.

SmartCool[DX]

Airedale's flagship range of precision air conditioners. Developed for applications where precise temperature and humidity control are key to operations.

51–140kW

DX (Scroll compressors, R410A), Dual Cool

Downflow

EC fans

Dual cool option with glycol free cooling

Flexible range offers 100 models across 8 case sizes

Maximised coil surface areas reduce fan power and improve air flow

Fixed speed tandem compressors offer four stages of cooling.

SmartCool[CW]

SmartCool Chilled Water meets the increasing demand for ultra-efficient, large capacity precision cooling that delivers quiet and accurate climate control in data centers.

11–233kW

Chilled Water

Downflow

EC fans

Up to 95% free cooling with an Airedale chiller

Maximised coil surface areas reduce fan power and improve air flow

Optional PICV delivers precise flow control

Flexible range offers 42 models across 11 case sizes.

SmartCool™ ONE

A large capacity Computer Room Air Handler (CRAH) designed to meet the needs of colocation and hyperscale data centers.

35–1000kW

Chilled Water

Downflow

Large surface area slab coils reduce pressure drop and maximise heat transfer

High capacity backward curved EC fans under floor to enhance airflow delivery and efficiency

Various control valve options LH/RH fluid connections

Designed for close approach and wide waterside TDs

Helix intelligent unit controls.

AireWall ONE™

AireWall ONE is our revolutionary parametric data center fan wall range, designed in collaboration with data centre consultants, end users and contractors.

200–650kW

Parametric design

Optimised coil and bespoke footprint

2–12 fan models

Solid floor applications

Designed for close approach and elevated water/air temperatures

Blowthrough configuration

PIC valves as standard

Optional energy valve available

Forklift grooves as standard

Hinged fans for ease of maintenance.

Chiller ranges

TurboChill™ with Enhanced Free Cooling™

Air-cooled, high efficiency, high-capacity chiller with Turbocor® oil-free centrifugal compressors.

200–1830kW

Turbocor® oil-free centrifugal compressors

EER up to 4.35

R1234ze

Free cooling available, including Enhanced Free Cooling™ on DCS models

Three BREEAM points

Near silent, oil-free compressor operation

Exact match for load requirements

Spray evaporator option with reduced refrigerant charge

Helix intelligent controls

DCS version available, specifically engineered for data centers.

DeltaChill™ with Enhanced Free Cooling™

Air-cooled, high efficiency scroll chiller offering free cool and wide range of cooling capacities.

110–1600kW

Optimised for use with R32

Dual Circuit

Scroll compressors

EER up to 3.6

Free cooling available, including Enhanced Free Cooling™ on DCS models

Three BREEAM points

Exceptional flexibility

Helix intelligent controls

DCS version available, specifically engineered for data centers.

OptiChill™ with Enhanced Free Cooling™

Airedale's original data center chiller platform is based on a screw compressor and has been optimised with a V-block evaporator condenser for high capacity cooling.

1300–1800kW

Screw compressor

EER up to 3.86

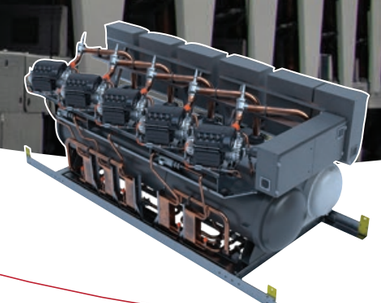
R134a

High free-cooling capability due to high airflow EC fans and high efficiency heat exchangers

Twin screw compressors increase reliability, efficiency and improve overall chiller performance

Optional inverter-controlled pump, combined with flow monitoring, provides effective water management

Helix intelligent controls.



TurboChill™ Hydro

High capacity, water-cooled, Turbocor® chiller with flexible arrangements and great energy efficiencies.

200–3000kW

Turbocor® oil-free centrifugal compressors

EER > 5.79, ESEER > 8.98

R513A

Near silent, oil-free compressor operation

Vertical and horizontal arrangements for flexibility of application and ease of shipping

Electronic expansion valves – maximum efficiency through the operating envelope of the unit

Variable flow options

Helix intelligent controls.

Liquid & IT cooling

CryptoCore – US only

Single phase liquid immersion cooling mining tank. Developed to produce the best results in hash rates, energy usage, equipment longevity and renewability.

Proprietary fluid distribution design

Fits up to 28 S19 XP machines

Integrated heat exchanger

Integrated hose system

Integrated pump

28 miner handles

Adjustable tank legs (for deployment leveling)

Silent performance.

EdgeBox – US only

Two phase liquid immersion cooled HPC up to 120kW.

Highly energy efficient with partial Power Usage Effectiveness (pPUE) as low as 1.03

Small footprint

Allows the most advanced compute processors in market to be deployed at Edge

Can be deployed in fixed or mobile scenarios

Simplified and reduced maintenance intervals

30kW in 16ft²/120kW in 49.5ft²/4.5kW in 17ft²

208V power feed.

InRak™

The InRak™ is a high performance in-row cooling solution which precisely cools and conditions air in close proximity to the servers and provides industry-leading cooling for its footprint.

15–53kW nominal cooling capacities

17–100% variable capacity control

EER up to 6.25

Transmits cooled air horizontally across the front of the server racks

Can be integrated into a traditional hot or cold aisle system, but when applied with aisle containment, performance is significantly enhanced

Up to 83% more cooling/m² compared with conventional CRAC unit

Quiet, efficient scroll compressors

Efficient ‘A’ frame coil design for maximum heat exchanger area

Adaptable to your data center’s particular requirement.

Ecotel™ Free Cool

The Ecotel™ Free Cool is a self-contained, outdoor cabin cooler which has been specifically developed to cool outdoor cabins, shelters, computer rooms, re-locatable equipment buildings and telecom base stations.

36 models available

Two case sizes (H x W x D): 740mm x 560mm x 560mm and 850mm x 730mm x 730mm

Three capacities: 5kW, 10kW, 15kW

Secure, tamper-proof fixings

Removable centrifugal EC fan for efficiency and extra quiet operation

G4 filtration

Downflow installation (recommended installation)

Metal frame panel filters – prevent the risk of moisture damage

Cabin temperature control

Supply voltage options:

- 230V/1PH + N/50Hz
- 220V/1PH + N/60Hz
- 220V/2PH no neutral/60Hz

Emergency −48V DC fresh air free cooling option

Remote display

High temperature alarm

Mains isolator

Pressure relief exhaust damper

Operating temperatures −20°C to +40°C.

AHUs, condensers & dry cooling

Barkell™ Standard AHU Range

Our Barkell Standard range of AHUs is built around a series of pre-configured selections, reducing quotation and lead times for projects that can require less complexity in their solutions.

Shorter lead times

Up to 5.5m³/s

Heat exchanger efficiency up to 90%

EC Fans delivering low SFPs

Multiple configurations heating/cooling options available

Chilled water/DX models available

R32 as standard for DX models

Integrated packaged controls

Single piece construction

Basic and mid-level CIBSE TM65 calculations available

Full Airedale aftersales support

Made in Consett, UK.

Barkell™ Bespoke AHU Range

The Barkell Bespoke range represents Airedale's bespoke air handling unit solution, designed around the needs of our client.

Fully bespoke design

High efficiency

Building Regulations Part L compliant

EcoDesign directive 2009/125/EC for Energy Related Products compliant

Basic and mid-level calculations available in accordance with CIBSE TM65 Embodied Carbon in Building Services

End-user application expertise

High standard of construction

Improving indoor air quality

Full Airedale aftersales support

Made in Consett, UK.

HTM 03-01 Compliant AHU Healthcare Range

Our healthcare range of AHUs is designed and built to meet NHS guidelines.

Euroclass A fire rating

Filtration – filter class ISO 16890

EC fans as standard

Compliant with:

- Building Regulations Part L
- EcoDesign directive 2009/125/EC
- BS EN 1886 thermal transmittance and thermal bridging class T2/TB2
- BS EN 1886 casing strength class D2 (D1 available on request)
- BS EN 1886 factory air tightness class L2 (L1 available on request)
- BS EN 1886 site air tightness class L2 (L1 available on request)

Made in Consett, UK.

Air Cooled Condensers

Airedale offers a range of air-cooled condensers suitable for R410A, custom designed with a small footprint, low sound level and a slimline appearance.

12–165kW total heat rejection

Suitable for R410A

16 model sizes

Small footprint, with slimline appearance

Low sound level

Corrosion Resistant Coated Coils

Head Pressure Control

Shut off valves for easy maintenance

Horizontal or vertical air discharge orientation

Large surface area coil, positioned to optimise airflow and heat transfer.

ECO™ Dry Coolers

Engineered using the very best dry cooling technology and components, the ECO Dry Cooler family offers great efficiency and performance across a wide spectrum of capacities and applications.

Coils made from special profile aluminium fins and copper tube

Casings are:

- Designed to allow easy access to internal components
- Impact resistant
- Resistant to low temperatures
- Non-toxic

Fan motors fitted to unit with an anti-vibration system where possible

Fan guards made from fiberglass charged polyamide or painted steel

All units comply with strict safety standards.

Heat pump chillers

iChill™ R1234ze/R513a Screw Chiller & Multi-Function Heat Pump

iChill is Airedale's inverter screw compressor chiller and multifunction heat pump solution. Suitable for comfort and process applications, it is a sustainable solution, offering efficient performance with a low GWP refrigerant.

204–1423kW

Optimised for R1234ze and R513a

SEER up to 5.42 (R1234ze) and 5.39 (R513A)

Cooling-only (R1234ze/R513a) or multi-function heat pump (R513a), offering simultaneous heating and cooling operation

Partial heat recovery

Inverter screw compressors for flexibility and efficiency

Automatic compressor capacity adjustment to match heat load

Variable supply water temperature control

Variable Flow – pump speed is managed to maintain Delta T and provide energy savings

In-built sequencer, allowing for up to 6 units to be connected to the master unit

Multiple acoustic configurations

Refrigerant leak detection

Intelligent controls.

SpiraChill™ R32 Scroll Chiller & Heat Pump

SpiraChill uses the latest in scroll compressor technology, optimised for lower GWP refrigerant R32, to offer excellent efficiency and versatility across process and comfort applications.

215–1260kW

Optimised for R32

SEER up to 4.9 (heat pump 4.89)

Available as cooling only or as a heat pump variant

Partial and full heat recovery

Scroll compressor operates in up to 12 stages, delivering excellent part load efficiencies and a highly accurate set-point control

Automatic compressor capacity adjustment to match heat load

Variable supply water temperature control

Variable Flow – pump speed is managed to maintain Delta T and provide energy savings

In-built sequencer, allowing for up to 6 units to be connected to the master unit

Multiple acoustic configurations

Refrigerant leak detection

Intelligent controls.

MultiChill™ Modular R32 Chiller with Free Cooling & Heat Pump

MultiChill is Airedale's range of smaller capacity chillers and heat pumps, designed for modular installation. MultiChill is an energy-efficient, free cooling, low GWP solution.

53–103kW

Available as cooling only or as a heat pump variant

Modular configuration, delivering up to 1360kW of installed capacity

Excellent part-load efficiency benefits

Optimised for lower GWP refrigerant R32

Free cooling operation available

SEER up to 4.89 (cooling only) and SCOP of up to 4.08 (heat pump)

Low noise operation, including "Super Silent" mode

Space saving design for reduced footprint

Smaller individual units allow for sectional installation

Intelligent controls.

AlphaChill™ R32 Chiller & Reversible Heat Pump

AlphaChill is Airedale's R32 chiller and reversible heat pump solution, with inverter scroll/rotary compressors. It is part of our more sustainable range of cooling and heating solutions, offering efficient performance with a lower GWP refrigerant.

24–233kW

Optimised for R32

Suitable for comfort and process applications

Available as a heat pump, large heat pump and cooling only unit

Low noise operation, including "Super Silent" mode

High efficiency

Scalable solution, with functionality to connect up to 16 units in a local network (8 units on the large heat pump models)

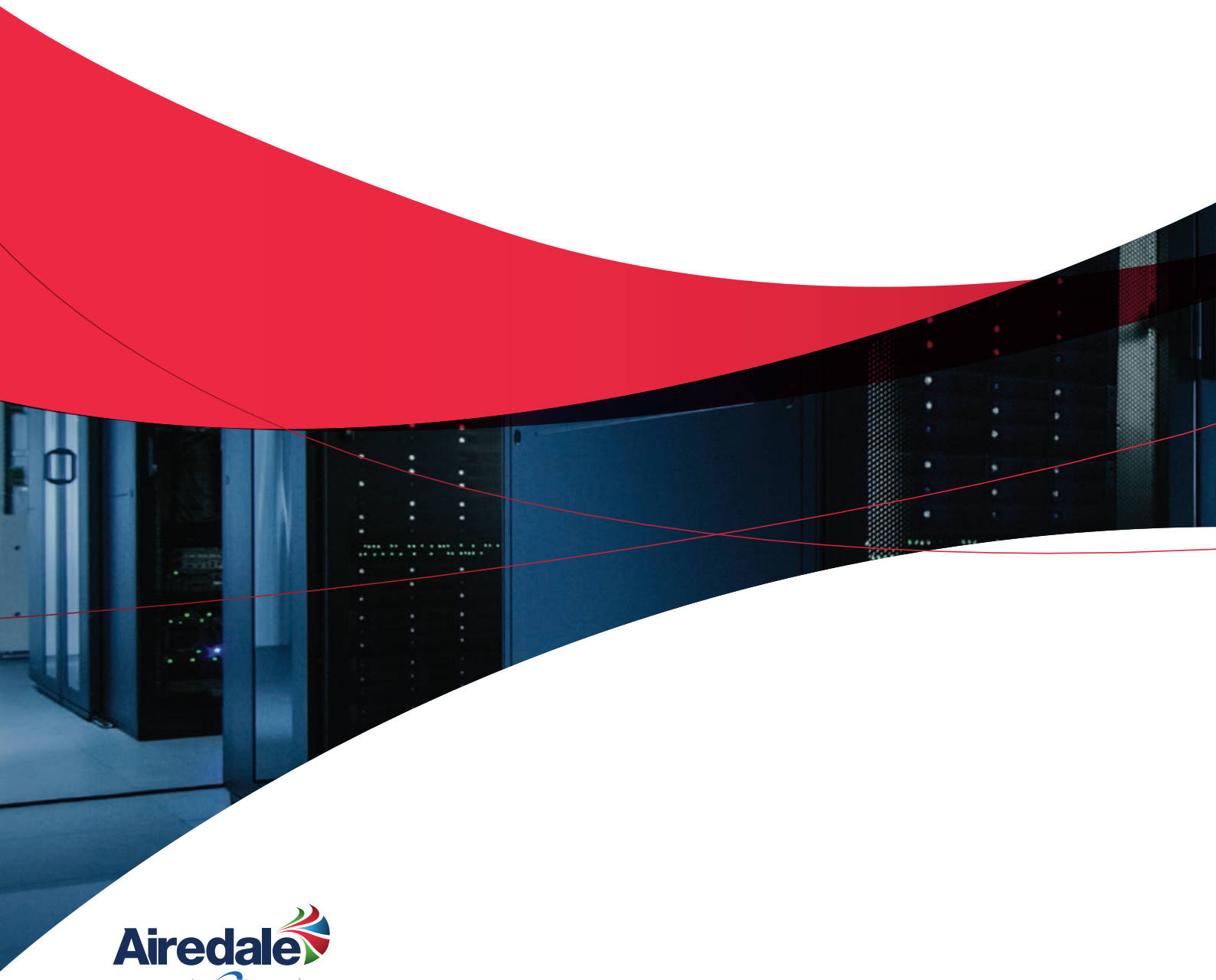
Built-in solution for hydronic pump and system

SEER up to 5.37

Space saving design for reduced footprint

Smaller individual units allow for sectional installation

Intelligent controls.



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