Airedale by MODINE

IT Cooling | In Row



InRak™ (300mm)

8 – 36kW

HIGH PERFORMANCE IN-ROW COOLER:

+ **EER up to 73.6***
+ **Up to a 54% increase in EER for its capacity compared to its nearest competitor****

* 35˚C/24% air on condition, 10/15˚C water temperatures

** Efficiencies taken from marketed data of various competitors vs. calibrated test data

CW CHILLED WATER | DC DC FAN

www.airedale.com

BRITISH MANUFACTURER | ENERGY EFFICIENCY | CONTROLS | SERVICE | TRAINING

Targeting IT cooling

Via the shortest, direct route

The InRak™ (300mm) is a precise and high performance in-row cooling solution which offers industry leading cooling efficiency for its capacity.

Designed to sit between the server racks in a hot aisle containment configuration, the InRak™ (300mm) takes advantage of its position close to the server heat source and the higher return air temperatures that are associated with it, for the most efficient cooling of critical IT equipment.

Row based placement of the InRak™ (300mm) provides intelligent precision cooling at the heat source, ensuring cold air reaches the servers quickly. The airflow takes the shortest, most direct route to reduce energy consumption and optimise performance.

Scalable

- Allows for incremental increases in cooling requirements as your data centre evolves
- Compact, modular design makes it easy for multiple units of different size and capacity to be added as load increases or to eliminate hot spots

EER up to 73.6*

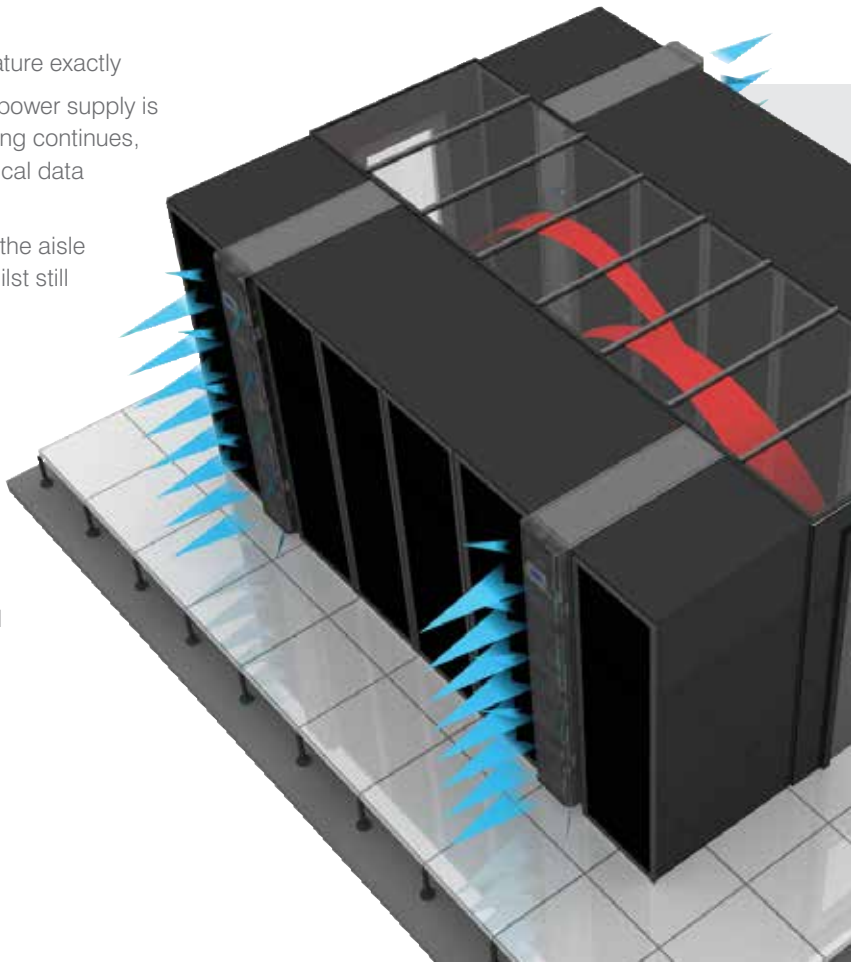
* 35˚C/24% air on condition, 10/15˚C water temperatures

Dependable – 24/7 total confidence

- Maintains availability at row level
- Deploys in any environment without modification
- Keeps hot air in the hot aisle, controlling rack inlet temperature exactly
- Dual power supply (option) - in the event of power failure, power supply is switched instantly to an alternative power supply and cooling continues, supporting redundancy power supply specifications in critical data centre builds
- Pressure differential management – maintains pressure in the aisle containment system within the server design envelope, whilst still ensuring temperature is controlled

Flexible

- Requires no floor or ceiling void and has a small footprint
- Easy to deploy and maintain. Compact design minimises floor space requirements
- Includes easy and simple connection points that allow for fast installation from either above or below (to be specified upon order)
- Compatible with racks from any manufacturer



High quality components for exceptional performance

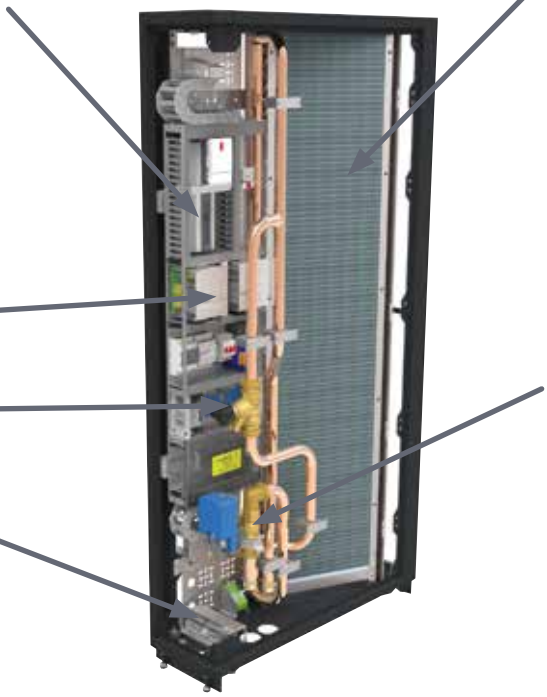
Retractable control panel
(control panel mounted on runners and internal wiring guide inserted via energy chain)

Allows for easier access and improved serviceability of the unit

48VDC Fan Power Supplies

By-Pass Balancing Valve

Bottom Entry Controls



Compact heat exchanger
3/8" plain tube cooling coil with hydrophilic fins)

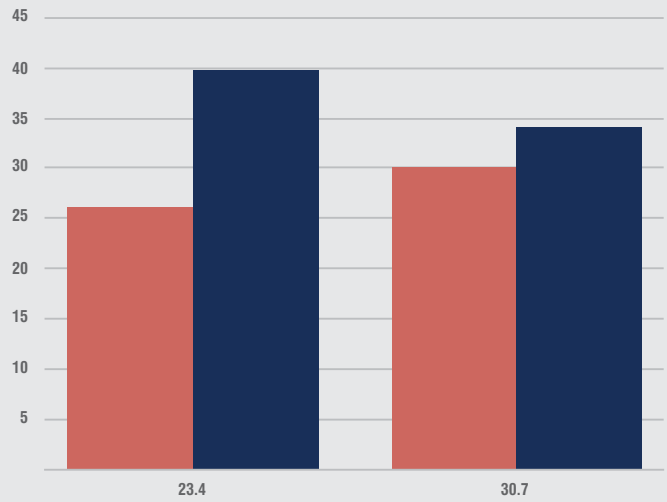
Design allows for; lower water pressure, aids any potential condensate management and gives greater heat transfer from a smaller coil face area

2-way (optional 3-way (as shown)) 0-10V DC chilled water valves

Controls the coil pressure drop ensuring the water flow rate remains constant

More energy efficient cooling for its capacity

Offering market leading energy efficiency, The InRak™ (300mm) provides up to 54% more energy efficient cooling for its capacity than its nearest competitor.



Capacity vs EER Competitor Comparison

Competitor Airedale

y axis: EER x axis: Capacity kW

With a free-cooling chiller

Free-cooling for up to 95% p.a.

Integration with a free-cooling chiller

Chilled water models of the InRak™ deliver even greater efficiency when integrated with one or more Airedale free-cooling chillers. Free-cooling saves vast amounts of energy, particularly when room temperatures are high. For free-cooling to operate, the temperature difference between the ambient air and return water can be as little as 1°C.

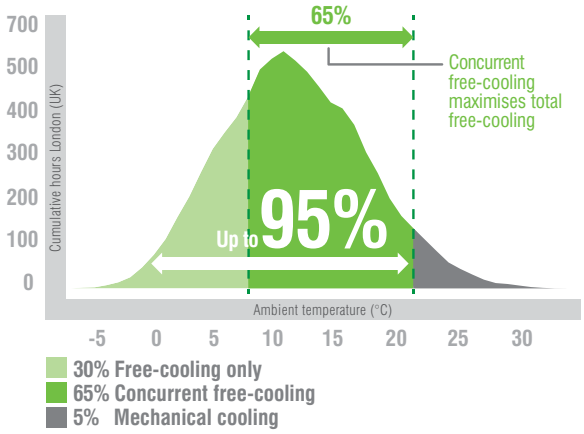
Concurrent free-cooling

Airedale chillers offer concurrent free-cooling which enables free-cooling to be captured whenever the ambient is below the return water temperature. The system controls constantly monitor the temperature differences and will only switch on the mechanically-driven compressor when extra cooling is needed, introducing concurrent free-cooling - a mixture of free-cooling and mechanical cooling.

Using heat to increase free-cooling

A higher water supply temperature of up to 17°C raises the free-cooling threshold of all Airedale free-cooling chillers including the more compact variants. When an Airedale free-cooling chiller is linked with the InRak™ in a 24/7 data centre with a typical room temperature of 24°C, free-cooling will be active for more than 95% of the year (London, UK).

Up to 95% of the year spent in free-cooling

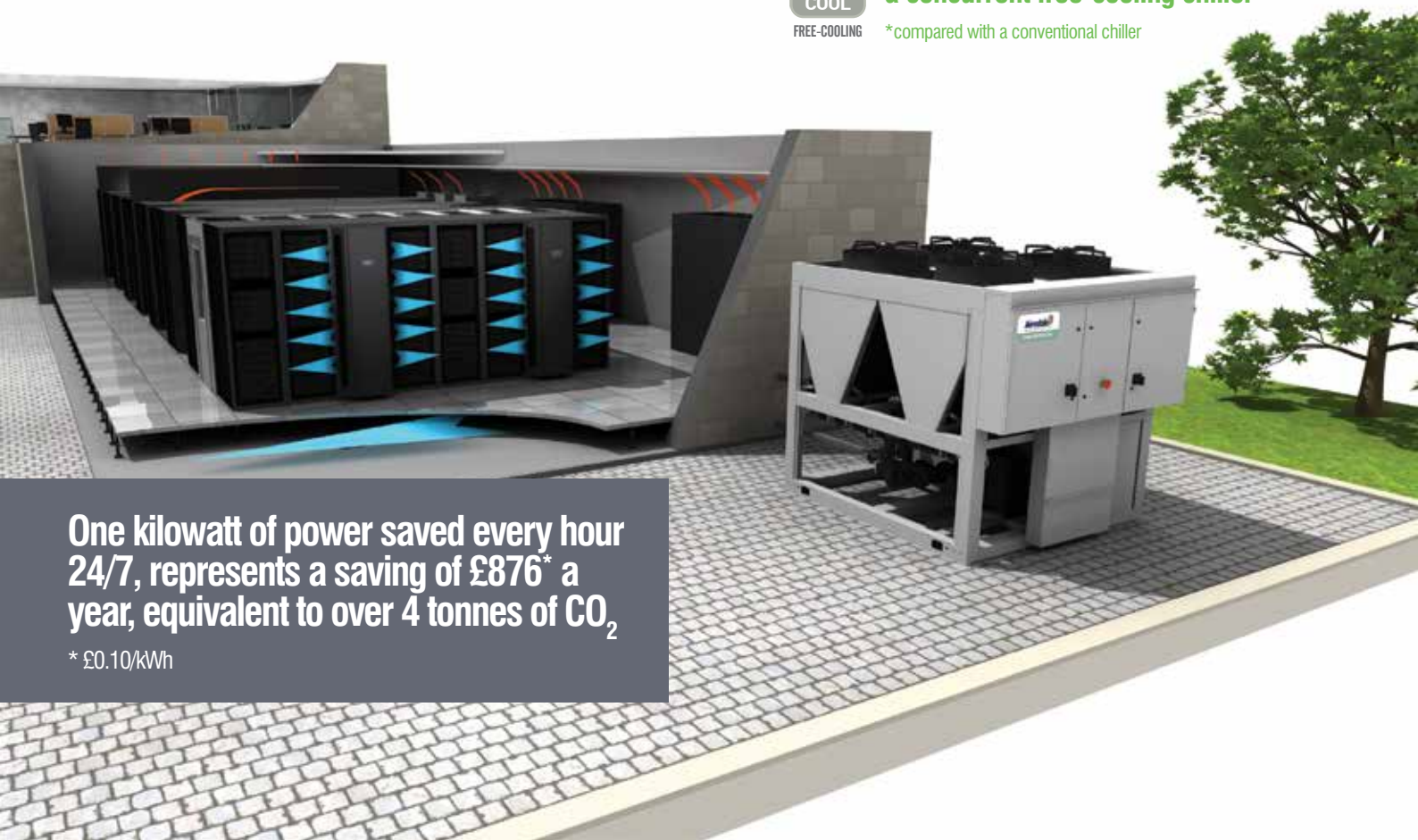


50% energy savings

when the InRak™ is integrated with a concurrent free-cooling chiller*

*compared with a conventional chiller

FREE COOL
FREE-COOLING



One kilowatt of power saved every hour 24/7, represents a saving of £876* a year, equivalent to over 4 tonnes of CO_2

* £0.10/kWh

ACIS™ BMS

One source, complete visibility

ACIS™ BMS, Airedale's exclusive Building Management System is an innovative, scalable and future-proof solution which has been specifically designed to enhance system performance, drive down operational costs and aid decision making for a wide range of building services.

Offering a more pre-emptive BMS solution, ACIS™ is able to make decisions, delivering a higher level of building intelligence. With its simplistic and intuitive interface, ACIS™ BMS allows you to gain access anytime, anywhere to your building's systems, enabling you to manage building services from any manufacturer across multiple sites through a single integrated system.

A wide range of features enable total system efficiency to be evaluated, puts the user in full control, provides complete visibility of all building services and offers total facility integration.

- Complete Visibility of Building Infrastructure
- Secure Remote 24/7 Access
- Extensive Analysis, Monitoring and Diagnostic Tools
- Fully Compatible
- Immediate Notifications
- Live Capture and Historical Energy Usage
- Visualisation and Graphical Representation
- Optional 24/7 Support

Specifications at a glance

Nomenclature explained LIR 30 42U - C0 40 - 7

LIR	LogiCool InRak
30	Case width in centimetres
42U	Unit height in U
C0	Chilled water cooling, single circuit
25 40	Nominal cooling capacity in kW
7 8	230V/1PH +N/50Hz 230V/1PH +N/60Hz

Unit (-)	Nominal cooling [1,2] (kW)	Nominal power input [2] (kW)	EER (-)	Part load EER [3] (-)	Dimensions (H x W x D mm)	Mass (kg)
Single Circuit Chilled Water						
230V/1PH +N/50Hz						
LIR3042U-C025-7	22.1	0.3	73.67	94.81	1995 x 300 x 1120	236
LIR3042U-C040-7	36.4	1.55	23.48	85.38	1995 x 300 x 1120	236

1 Nominal cooling refers to the total gross cooling.
2 Nominal conditions are: 35°C/24% air on condition, 10/15°C water temperatures.
3 Part load EER's are the operating EER when the required duty is fixed at 50% of the maximum duty of the unit

Performance data calculated in accordance with BSEN 14511-2011 and Eurovent 6/6

50 Hz and 60 Hz power supplies available

Unit (-)	C0
230V/1PH +N/50Hz	•
230V/1PH +N/60Hz	•

Mechanical

- 300mm case size – high kW/m² ratio
- DC axial fan
- Compact chilled water heat exchanger
- 2-way (optional 3-way) chilled water regulating valve
- Condensate pump (option) – effective condensate cold water disposal
- Leak detection (option)
- Air filtration (option)
- Bypass regulating valve (option) – regulates flow through each cooling module
- 2-way PIC valve (option) - performs a continual balancing function to maintain system performance at varying loads
- 3 connection types available: brazed (standard), threaded (option), and flexible hose (option)

Electrical & Controls

- Supply air temperature control
- Dew point control
- Modulating fan speed on the unit ensures aisle pressure control between hot and cold aisles
- UltraCap module – compact integrated backup power system
- Compatibility with most BMS and SNMP networks
- 50Hz power supply (optional 60Hz available)
- PGD1 display
- Three temperature sensors available for external supply or return monitoring
- Dual power supply for redundancy (option)
- Coloured, audible, iconographic touch screen display (option)
- Quick connect electrical connection type (option)
- Return air temperature control (option)
- Constant air volume control (option)
- Fan capacity control – modulates air volume based on demand for unit cooling (option)
- Additional temperature sensors (maximum of 4) for supply or return monitoring (option)

Total support

Whenever you need it

At Airedale, we don't just manufacture and supply cooling and refrigeration products; we also provide a broad range of supporting services to ensure our customers receive the best possible aftersales care.

With more than 40 years' experience in business critical cooling, investing in an Airedale cooling or refrigeration solution means that you can benefit from our advice, expertise and technical support too. From design and selection, through to commissioning and beyond, we make sure your system reduces your total cost of ownership, whilst providing maximum availability and longevity.

Service plans

Maximising your system's effectiveness 24/7

An Airedale service plan provides a planned, preventative maintenance package to sustain the optimum efficiency of your system, enabling the user to see real savings in energy costs and reduced carbon emissions.

With Airedale, you can rest assured that help is never far away. Our 24/7 emergency helpline and call out service is available 365 days of the year, ensuring that we are always on hand to provide expert advice and immediate help, day or night.

A guaranteed emergency response time means that a qualified Airedale engineer will be with you in no time, therefore maximising your system's uptime. Service plans also ensure F Gas compliance and incorporate a full parts and labour warranty for the first 12 months.

For more information visit **www.airedale.com**

* For customers outside the UK, our international distributors trained by Airedale would be pleased to offer service on Airedale units

Talk directly with an experienced engineer

Find out how we design our systems to reduce your whole life costs. Our highly experienced engineers are adept at tailoring our systems to suit your requirements.

+44 (0)113 239 1000

24/7 support; maintenance and spares

Immediate help on hand to keep your critical cooling system operational. Realise the full potential of your system; improve its longevity and efficiency and be F Gas compliant. Avoid downtime with our fast, efficient spares service.

Have complete control of your site

Customers with critical sites can benefit from our remote monitoring facility. Aftersales services include chiller sequencing, network setup and integration as well as a live demonstration and training centre at our head office.

Develop your skills

Learn more about your cooling system by attending an air conditioning and refrigeration course in our purpose-built training school. Train on high-tech cooling systems and fully operational rigs in our dedicated workshops. Industry recognised courses also available. Email **training@airedale.com** for further details.

Distributed by:

Airedale International Air Conditioning Limited | Leeds Road, Rawdon, Leeds LS19 6JY, England
Tel: +44 (0) 113 239 1000 **Fax:** +44 (0) 113 250 7219 **E-Mail:** enquiries@airedale.com

www.airedale.com

A MODINE Company