

THE ACR JOURNAL

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Essential Information for the Air Conditioning and Refrigeration Industry

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ACR & HEAT PUMP
AWARDS
2024**

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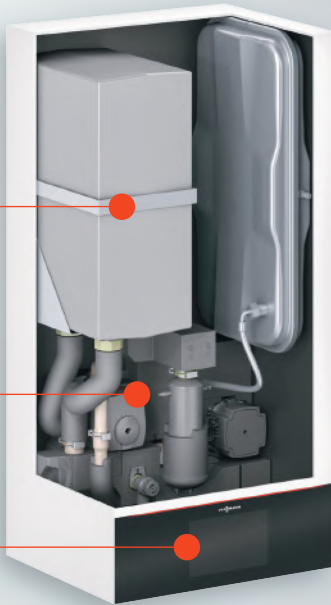
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Future generations hold the key to the success of any industry and, with a lack of skills identified as a threat across the HVAC sectors, it's a pleasure to include the winner of this year's RACHPSkills competition, Adam Donges, in this edition. It's a remarkable achievement and we send many congratulations from all at ACR Journal.



Also featuring is Oliver Collins from Mitsubishi Electric on how specification requirements are becoming greener; Organic Heat Exchangers on how cold thermal energy storage can hold the answer to an all-round cooling solution; and Airedale on how improved technology can reduce operating costs in data centres.

I hope you enjoy this edition.

Andy

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Heat recovery refrigeration powers new ice centre



Four Gorac refrigeration packs, based on BITZER screw compressors, maintain perfect ice conditions at the new ice centre

The refrigeration system at the heart of the new Lee Valley Ice Centre in north east London uses high efficiency Gorac cooling packs based on BITZER screw compressors.

Installed by G&O Refrigeration Ltd working with Ice Tech UK, the cooling plant uses an advanced heat recovery system to harness waste heat that would otherwise be lost to atmosphere to provide supplementary heating for the building, and as the energy source for the snow melt pit and permafrost protection loop beneath the ice pads.

Heat recovered from the refrigeration system is also used to produce domestic hot water for the centre's visitor facilities and on-site cafe.

The centre has two Olympic-sized rinks, replacing a single smaller rink in the previous facility on the site. The new ice centre has capacity for 800 spectators, and includes a café, gym, exercise studios and community spaces.

The rinks are cooled by four Gorac chillers based on high efficiency inverter-driven BITZER CSVH screw compressors, with a combined cooling capacity of 800kW. The chillers deliver cooling to the twin ice pads via a secondary glycol circuit, and are future-proofed with built-in retrofitability to R1234yf, including plant room ventilation and integrated leak detection systems.

James Ogden, who heads G&O Refrigeration, said: "Refrigeration plant is the single biggest consumer of electrical power for ice rinks and it's vital to ensure it is as efficient as possible. We use BITZER screw compressors because of their excellent efficiency, reliability, compact dimensions and engineering quality. The technical support we receive from the UK team is also second-to-none."

The system uses a two-stage heat recovery process to increase water temperatures from 45°C leaving the first stage, to 85°C after the second stage. "The heat recovery system makes a big difference to overall efficiency, capturing between 200-500kWh of energy and saving an estimated £150,000 a year in energy costs," added Ogden. "This is a huge contribution to reducing running costs and also significantly cuts the centre's carbon footprint and environmental impact."

SBS opens second Scottish branch

Smith Brothers has expanded its Scottish operation with the opening of a new branch in Dundee.

The move follows the opening of SBS

Glasgow in 2021, and regional manager Iain Mills said: "Having two branches in Scotland that are strategically and geographically located will allow us to offer next-day delivery to most parts of Scotland."

The 35,000 sq ft unit is on the Claverhouse Industrial Park and is adjacent to the A90, which links Dundee to Aberdeen.

Branch manager Grant Purdom added: "We aim to provide the north of Scotland with the high level of service it deserves.

We are a team of dedicated professionals who want our customers to enjoy every interaction with the branch."

- SBS has been awarded ISO 9001:2015 certification in quality management systems. Led by Quality Manager Dale Vincent, SBS says it was delighted to pass the stage 1 & 2 audits with flying colours, officially gaining the accreditation less than a year on from when it began the process.



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IOR seeks Lifetime Achievement nominations

Nominations remain open for the Institute of Refrigeration (IOR) RACHP EngTech Lifetime Achievement Award.

This accolade, which is sponsored by ACR Journal, is designed to recognise the contribution made by those who have spent a career as a service, installation or maintenance engineers working on any kind of air conditioning, refrigeration, or heat pump equipment.

These dedicated professionals not only keep systems running efficiently but many give back to the industry by sharing their knowledge and encouraging the next generation of engineers.

Employers, clients, and colleagues are all invited to submit nominations for worthy candidates who must possess at least 15 years of experience in a technician-level capacity and still be actively engaged in the industry. Shortlisted contenders will be invited to take part in a phone interview to discuss their professional journey and expertise.

The winner will be announced at the IOR Annual Dinner on 22 February in London, and will receive a £400 prize, an engraved trophy, and an official certificate

The deadline for nominations is 1 November and the nomination form can be downloaded at <https://bit.ly/3RkAN0Z>



Last year's recipient Andrew Christie with IOR President Graeme Fox

BESA launches IAQ awareness training

The Building Engineering Services Association (BESA) has launched a “basic awareness” training course for indoor air quality (IAQ).

It was developed by the association’s online training academy and is based on a series of guides produced by BESA’s Indoor Air Quality group promoting the concept of buildings as ‘safe havens’ from polluted outside air.

The training provides an introduction for anyone interested in the subject including those with some working

knowledge of building services but who need to have a deeper understanding of IAQ. It is also suitable for people from a non-technical background keen to expand their knowledge so they can make better informed decisions about their indoor environments.

The short online course explains the importance of IAQ, the main airborne contaminants that affect buildings, their sources, and the impact on the indoor environment caused by outdoor pollution.

It is not designed to lead to a technical qualification but will help anyone who needs to put together an IAQ strategy for their building and be more aware of the threats to health, well-being and productivity posed by poor air quality.

The launch of the course follows the most recent national Clean Air Day (CAD) which highlighted the growing threat to health and well-being posed by polluted indoor air, and the publication of the first British Standard for health & well-being in buildings.

BS40102 (part one) gives recommendations for measuring, monitoring, and reporting indoor environmental quality (IEQ) in all types of non-domestic buildings. It includes an evaluation and rating system for air quality, lighting, thermal comfort, and acoustics.

The evaluation will give building managers a benchmark score to help them identify areas of below par performance so they can plan improvements and include IEQ measures in any retrofit and renovation work to improve the health and well-being of occupants.

It takes around 45 minutes to complete the BESA course online and it can be undertaken in a series of manageable ‘bite sized’ chunks at the user’s convenience from home or work. It costs £15 plus VAT for BESA members and £25 plus VAT for non-members.

To register visit the BESA Academy website: <https://www.thebesa.com/academy/course-details/indoor-air-quality-awareness-course>



Müller trials zero-emission HGV refrigeration

Dairy company Müller Milk & Ingredients is testing whether solar panels and kinetic energy can power its refrigerated HGV trailers, as an alternative to refrigeration powered by diesel engines.

Müller, in partnership with Sunswap, trialed the delivery of fresh milk using refrigerated trailers that are battery and solar-powered. 100% of the energy required came from free clean energy collected by the solar panels.

In collaboration with Carrier Transicold, the business is also testing a refrigerated trailer system powered by kinetic energy. The Carrier Transicold Vector eCool converts energy generated by the trailer axle and brakes into electricity, which is then stored in a battery pack to power the refrigeration unit.

As Müller continues to prioritise supply chain resilience and lowering carbon, the trials aim to establish whether renewable energy solutions with a lower carbon footprint allow the business to maintain its quality and service levels, which sit above 99% in 2023.

Per trailer, the solar and battery-powered Sunswap system would eliminate all diesel, saving 3,700 litres and 9 tonnes of carbon every year. Carrier’s Vector eCool system would eliminate all carbon emissions associated

with traditional refrigeration units operating with an auxiliary engine.

Following completion of the trials, the business will consider further testing or a wider rollout throughout its network.

The Vector eCool from Carrier Transicold



30 Williams staff clock up over 1,000 years of service

This year's long service celebrations at Williams Refrigeration recognised staff members with a combined 350 years at the King's Lynn-based business. Williams now has 30 employees who have passed the 30-year milestone, adding up to 1066 years in total.

This year's achievements were marked with a special lunch for all employees and the presentation of gift awards for the long-standing employees.

Lee Parkin, Manufacturing Team Leader, has been at the company for 30 years and can still remember his first day. "I started off helping to build evaporators, and someone swapped my can of drink with some of the water we used to test coils in," he says. "It was pretty funny, and I've not looked back! I've learned a lot of skills and made a lot of friends along the way."

Mark Rippon, ICT Manager, is one of the employees who has reached 40 years and agrees that it is the people who work there and the variety of the work that make it so special. "I'm extremely grateful for the opportunities I've had over the years, which have enabled me to travel and experience almost every part of this business," he says. "Williams has grown into a global brand over the past 40 years through innovative technology and design, and it's the people who work here that have made it what it is. I'm proud to be part of the team!"



Williams Managing Director Tim Smith with some of the employees who received awards this year

"It's always a great pleasure to celebrate the long service commitment of our colleagues," said Tim Smith, Managing Director of Williams Refrigeration. "Our colleagues are our most valuable asset. I feel very privileged that so many colleagues choose to make lasting careers with Williams. Their collective knowledge, skills and experience is second to none in our industry and is the essence of Williams quality and performance."

"It is also a truly remarkable year, as we mark another milestone with 30 employees who have each completed over 30 years of service with us. Their combined loyal

service actually works out at a total of 1066 years, a highly appropriate number as Williams continues to conquer the market, delivering new and innovative solutions for the refrigeration needs of a wide variety of industries!"

Staff recognised for their service included:

40 years: Mark Rippon, Keith Panks and Domonic Mace

30 years: Lee Parkin, Carl Muffett, Angela Mowles and Gerald Armsby

20 years: Neville Gathercole, Philip Bide, Laura Fox, Yvonne Gathercole, Lance Hewitt and Christopher Munnely.

Conex Bänninger supports Energy Training Academy

A training academy in Edinburgh is helping to produce the apprentices of tomorrow by putting youngsters on a pathway to employment, as well as upskilling experienced energy engineers.



Academy Technical Director Ian Edgeworth and office manager Carolynn Edgeworth

When it opened its doors in February, The Energy Training Academy was Scotland's latest LCL Awards-approved training centre. It was also the first in the country to operate as a social enterprise, meaning any profits will be re-invested back into the community.

The 12,000 sq ft facility, which could see up to 100 new engineers attain the necessary qualifications each year, includes three industry leading lecture rooms that can each accommodate up to 15 students. There are also interactive areas to help trainees learn more about the benefits of renewable technologies, including heat pumps and solar energy.

Conex Bänninger is one of a number of manufacturers that have donated products from its range of fittings and valves to ensure the training centre

is fully equipped with state-of-the-art equipment and technology.

Ged Grimes, Business Unit Director for Conex Bänninger in the UK & Ireland, said: "One of the biggest challenges facing the HVAC industry is a skills shortage. The opening of the first social enterprise Energy Training Academy in Scotland is another vital step forward in helping our sector tackle this."

"We are delighted that we've been able to support such an important initiative, both by providing products that can be used for practical installation purposes, but also working in partnership with the academy where our expert technical team have the opportunity from time to time to share their expertise and best practice with students."

ISO hat-trick for Campbell West



Directors Daniel West (far left) and Steven Campbell (far right) with members of the growing team

Bracknell-based HVAC specialist Campbell West has secured a triple seal of approval as it strives to enhance quality, environmental and health and safety performance.

The company has earned ISO (International Standards Organisation) 9001, 14001 and 45001 certification which demonstrate overall commitment to continuous improvement.

Director Steven Campbell said: “We are all very proud to have secured an ISO accreditation hat-trick which underlines our commitment to outstanding professionalism in everything we do.”

Fellow director Daniel West added: “The company has experienced steady growth over the last six years due to the team’s all-round commitment to delivering top-quality services and we have worked hard to build up a strong reputation.”

Campbell West works with clients in both commercial and residential sectors, with customers including NHS Trusts, local government and education settings.

Recent projects include mechanical services for three new operating theatres at Ashford Hospital, installation of ‘pop-up’ water services for a new outdoor public space and street food area which form part of the Bishops Square development next to London’s Spitalfields Market, and elsewhere in the capital city designing and installing mechanical building services at a high-end residential project in Chelsea.

A new electrical arm of the business was launched recently in response to client demand for an integrated approach to building services work.

Panasonic extends warehouse network



Panasonic Heating & Cooling Solutions has expanded its stock storage and handling capabilities with the addition of a new 80,000 sq ft warehouse in Burton-on-Trent.

The company says the new location in Staffordshire not only diversifies the supply chain but also gives strategic access to the midlands and the north. In addition to reduced lead times and a more resilient supply chain, Panasonic says reduced distance between the product and its destination will cut the carbon emissions from delivery journeys, making steps towards Panasonic’s key sustainability goals.

Jose Alves, Panasonic’s Regional Director for UK, Ireland and Netherlands, said: “We are excited to have this new warehouse and the increased capacity of stock holding it brings. We understand how key it is to our customers and distributors that stock is readily available to meet the deadlines of heating and cooling projects and installations. Ultimately, we are minimising any risk of disruption to our customers vital operations, ensuring timely and reliable delivery of products,”

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Carrier backing for sustainable racing

Carrier is supporting racing team Laser Tools Racing with MB Motorsport for the second half of the 2023 British Touring Car Championship.

Carrier's logo will be on the two front corners of the team's hybrid electric BMW 330e M Sport, with the championship the first major touring car series in the world to integrate hybrid power into every car.

"We are really excited to announce this relationship with Laser Tools Racing with MB Motorsport for the remainder of the Kwik Fit British Touring Car Championship," said Bertrand Rotagnon, Northern Europe Sales Director, Commercial HVAC, Carrier. "This is a great opportunity for Carrier to increase its reach to a global audience and raise awareness about its innovative and sustainable HVAC solutions with other partners."

"It is fantastic news to welcome Carrier into our family of partners for the second half of the season," said Mark Blundell, former international motorsport driver and sporting director of Laser Tools



The Carrier logo on the Laser Tools Racing with MB Motorsport hybrid electric car

Racing with MB Motorsport. "It's clear that we are aligned how we can maximise this collaboration. We look forward to hosting their customers trackside across the remainder of the season and exploring new opportunities amongst our network."

Solar PV underlines CDL's green ambitions



Solar PV panels on the rooftop at CDL's Gateshead headquarters

Air conditioning distributor Cool Designs Ltd (CDL) has installed an array of 132 solar PV panels on the rooftop of its UK headquarters in Gateshead.

The installation has the capacity to produce around 39,148kWh of renewable, carbon-free electricity a year, saving an estimated 9,126kg of CO2 emissions.

The PV system will power on-site electric vehicle chargers and support heating and cooling for the building via heat pumps, further enhancing the carbon reduction by harnessing the renewable energy benefits of the high efficiency HVAC system.

CDL says it was the first UK air conditioning distributor to be certified carbon neutral in 2011 and the first to put measures in place to prevent sales of air conditioning equipment to companies not qualified to handle refrigerants.

Darrel Birkett, CDL's founder and managing director, said: "The PV installation in Gateshead is the latest step in an ongoing programme of environmental initiatives that began two decades ago.

"Throughout our development, a guiding light has been to grow responsibly. We have expanded significantly over the years, but it was never 'growth at all costs'. At each step we have taken time to consider how our actions impacted the local area and wider environment, and the opportunities and costs for everyone involved."

Fujitsu split systems in studio spotlight

Fujitsu General Air Conditioning UK has supplied climate control equipment to keep the workforce comfortable during construction of the £700million Sunset Waltham Cross Studios in Hertfordshire.

The development is intended to attract globally recognised film, TV and media brands to the area, along with an ambition to create 4,800 new jobs. The complex is due for completion in 2026 and will feature 21 sound stages with ancillary workshops, offices and amenities.

The project represents Blackstone and Hudson Pacific's first venture outside of the US for its jointly-owned Sunset Studios. Located on a 91-acre site close to junction 25 of the M25, it is aiming for LEED Gold certification and a BREEAM Excellent rating.

To date, 82 split air conditioning systems have been sized by distributor Cool Designs Ltd (CDL) and installed by London-based Citipost Power in site offices for the contracts teams. The wall-mounted units, with capacities ranging from 2.5-7.1kW, operate on low GWP R32 refrigerant and offer indoor noise levels as low as 22 dB(A).

A further 20 split systems will be required for additional site offices as the project grows.

Stephen Hodges, Director at Citipost Power, said: "It's great to be involved with such a prestigious project and we are looking forward to seeing its completion. Sometimes taking care of the workforce on site is overlooked but this project means that the environment in the cabins will be comfortable all year round."



To date, 82 systems have been installed with 20 more to follow

Technical guide to embodied carbon



The British Controls Industry Association (BCIA) Technical Working Group has added a new guide to its downloadable online portfolio.

The new technical guide, Building Energy Management System (BEMS) Design and Embodied Carbon, highlights how embodied carbon can be reduced in BEMS systems. Embodied carbon is the equivalent carbon dioxide (CO₂) emissions associated with materials and construction processes throughout the whole lifecycle of a building. With all new contracts, consideration for embodied Carbon reduction must be included in the BEMS design.

BCIA President Graeme Rees said: "Our technical guides are a vital tool designed to help members and anyone working in the building controls and BEMS industry work more effectively. This latest guide details the importance placed on the reduction of carbon emissions by governments around the world and the steps consultants and specifiers can take to reduce Embodied Carbon, including early engagement with clients and ensuring the most up to date BEMS controls are installed."

All technical guides can be downloaded from the BCIA website: <https://bcia.co.uk/resources/>



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HRS hits the pin at 36th annual golf tournament

The 36th Hampshire Refrigeration Society annual golf tournament took place at the prestigious Old Thorns course in Liphook, Hampshire, with 104 players competing across 26 teams for the coveted team and individual prizes.

The event was an outstanding success, with the golfing ability ranging from spectacular to questionable, on a day when the weather surprised everyone and remained agreeable after heavy rains. In the morning, a 'friendly' 9-hole Texas scramble team event saw two competitions on the front and back nine to accommodate so many teams, with Cool Designs 1 and J&E Hall victorious.

The afternoon 18-hole competition saw players up their game after a hearty brunch taking on some breathtaking holes on a course that was playing well, all things considered. The overall winners emerged as Icool Refrigeration 1 for the best 18-hole Stableford team and Paul Icough of Icool Refrigeration completing a brace to take the individual mantle.

A fantastic 3-course meal began a presentation evening hosted by the amazing Jayne and John Emm, which saw Steve Taliadoros of Lu-ve selected for the HRS Achievement Award and 28 competition prizes collected, which the event's sponsors generously donated.



It is a pleasure for ACR Journal to be a media partner of such a long-standing industry event, and congratulations to all the winners and runners-up.

Texas Scramble nearest the pins: Paul Airey, Ian Atkins, Andy Stanford, Bruce Oliphant.

Texas Scramble longest drives: Kyle Bray, Andrew Robinson

Texas Scramble Winners: Cool Designs 1, J&E Hall.

Texas Scramble runners-up: A-Gas. Beijer Ref 3.

18 Hole nearest the pins: Alistair Martin, Pete Gauntlett, Terry Beckett.

18 Hole longest drives: Liam Donovan, Steve Alden, Malcolm Osbourne.

18 Hole Stableford individual winners: Simon Garrett (20-28 handicap), Paul Icough (12-19 handicap), Steve Taylor (1-11 handicap).

18 Hole Stableford individual runners-up: Nick Wilks. (20-28 handicap), Tim Porter (12-19 handicap), Alistair Martin (1-11 handicap).

18 Hole Stableford team: 1st place: Icool Refrigeration 1; 2nd place: **We Maintain Group**; 3rd Place: The Fore Divots; 4th place: Cool Designs 1

Best Nett Score 18 holes: Winner: Paul Icough; Runner up: David Smith.

Best Gross Score 18 hole Stableford: Winner: Paul Icough
Need to play more golf: Brock Beer



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Meet RACHPskills 2023 champion Adam Donges

Adam Donges of Cosham Refrigeration was crowned RACHPskills champion following the 2023 UK final staged at InstallerSHOW in Birmingham. We caught up with him to learn more about his industry journey to date.



Role and Company

I currently work as an apprentice refrigeration and air conditioning engineer at Cosham Refrigeration Ltd. We are quite a small company with only four employees, however we cover a wide range of industries with a large client base including catering, wholesale and manufacture, restaurants and hospitality, industrial process cooling, the fishing industry and air conditioning for both commercial and domestic applications.

Tell us about yourself, your first job and how you came to work in the refrigeration sector.

I'm not what you'd call a typical apprentice, in that being 37 years old I have gained lots of life experience in several industries. I started working when I was 15 in a restaurant helping out in the kitchen, which led to many years of

training and working as a chef in various establishments. I later moved on into quality and food safety management for a food manufacturer, where I furthered my learning and obtained several other qualifications through work. However, after 13 years I felt like I needed a new challenge; a fresh start so to speak. I was approached by Cosham Refrigeration with an opportunity to work for them, as they saw potential in me and felt I would become a valuable asset to their team. I started working for the company in July 2022 and having now finished my first of three years at City of Portsmouth College, I am just starting my second year.

What does your current role involve?

It largely involves service work, attending breakdowns, carrying out planned preventative maintenance and the

installation of replacement components into existing systems. I work on small catering chillers, freezers, water chillers and ice machines, but also large scale industrial cooling and blast-freezing. I am regularly involved in small and large scale new installations which overall provides me with a very broad spectrum of work, meaning every day is different. I am the face of the company when I visit customers on my own, so being professional, organised and thorough in my work is key. I am in full control of the stock I carry on a daily basis, and am also involved in site surveys, commissioning of systems and handovers to the end consumer.

Congratulations on winning RACHP Skills 2023! How did you become involved in the competition and what did you take away from the experience?

As part of our learning at City of Portsmouth College, myself and the other apprentices across all three years took part in a pipework fabrication exercise in early 2023, which was marked highly and allowed me to progress to the regional RACHPskills qualifier round with three other apprentices from our college in April 2023.

The qualifier round consisted of another pipework fabrication exercise, as well as a fault finding task which involved refrigerant recovery, pressure testing and system commissioning. I won the regional round which allowed me to progress to the national final, which was held at the InstallerShow at the NEC in Birmingham at the end of June. Along with the three other finalists from Glasgow and Bath, we competed across three days at the live exhibition with thousands of visitors watching us work.

We were given three tasks to complete; the installation and commissioning of a

refrigeration cold room, the repair and commissioning of a heat pump, and the fabricating of a heat exchanger using flame brazing.

The other competitors were fantastic, all really down-to-earth guys who had their own niche skills, and watching them work alongside me made me feel proud of what we had all achieved just to be there in the final.

Winning the competition and being named as the UK national champion for 2023 was a massive shock to me, but also a huge relief as my work supervisor Steve Burge had previously competed and won himself, so the pressure was definitely on me to do well! The whole process was very rewarding and the main thing I took away from it is that all of my hard work was worthwhile.

What’s next in terms of the competition?

Winners of the competition usually have the opportunity to progress into the Worldskills competition cycle to represent their country on a global scale, but unfortunately I am not age-eligible for this. I will however gladly and proudly offer my services to judge in upcoming competitions, just as last year’s winner Luke Haile did this year.

How would you like to see your career developing?

I use the phrase "every day is a school day" quite often, and that’s how I see my career developing; continuing to learn and develop my skills to enable me to be the best engineer I can be, and proudly be part of an

ever-increasing demand for skilled workers within our industry. I would also love to one day have my own apprentice so I can pass on the skills and knowledge I have learned from my employers and college lecturers.

What do you see as the main challenges facing the industry?

Everyone working in the industry needs to do their part in regards to working safely and to legislation. We have all seen in recent weeks the sudden and drastic changes in weather from very humid rainy days to extremely hot and uncomfortable days, and seeing across the world the terrifying news of wildfires and flash floods. These are all a direct result of global warming which simply cannot be disputed, and this industry has played a big part in contributing to this serious issue in the past. But laws are changing, new refrigerants are constantly being developed with lower GWPs, and the development of new technology and cleaner ways to cool our homes and workplaces needs to continue. Our main challenge as an industry is to ensure we are building the foundations for a better future, not relying on old-fashioned polluting technology because it’s easy and cheap to produce. My employer Mike Burge once said to me "if we don't evolve, we end up like dinosaurs", which is something I'll never forget.

Who have been the most influential people in your career to date?

Without a doubt, I wouldn't be writing this today if it weren't for my employers,

Mike and Steve Burge. They have supported me fully over the last 14 months and pushed me harder than any other employer has before. They saw potential in me that I didn't always know I had, and for that I thank them greatly. In addition, the lecturers at City of Portsmouth College have all been massively influential and provided me with the training, advice and support whenever needed. Being involved in RACHPSkillsUK has also introduced me to so many talented and influential professionals within the industry. And they are all down to earth, normal people like me so I feel very much at home in the industry.

What advice would you give to someone who is starting out in the RACHP industry?

Firstly, whatever you think, you can do it. You might not think you can, but with the right mindset and dedication, you can achieve so much. Secondly, don't be afraid to make mistakes. If someone ever tells you they don't make mistakes at work then they are wrong. It's how we learn, it's how we develop ourselves and it's how we continually improve so the next generation don't make the same mistakes we did. And lastly, don't overthink it. Quite often, the solution to a problem is very simple. Be methodical, take your time and never be afraid to ask for help. It's not a weakness, it's a way of showing that you want to learn something that you don't currently know, which is how everyone succeeds. 📖



Zeno Air Source Heat Pump

As the world increasingly shifts towards renewable energy solutions, Warmflow has emerged as a trailblazer in the realm of sustainable heating systems. With a steadfast commitment to innovation and environmental responsibility, Warmflow's Zeno Air Source Heat Pumps are paving the way for a greener and more efficient future in home heating.

Air Source Heat Pumps (ASHPs) represent a revolutionary technology that capitalizes on the inexhaustible heat energy present in the air and Warmflow's Zeno ASHPs are engineered to provide exceptional performance and efficiency. With advanced compressor technology and intelligent controls, they achieve impressive Coefficient

of Performance (COP) ratings, translating to greater energy savings and lower operating costs.

One of the standout features of Warmflow's Zeno ASHPs is their ability to operate efficiently even in colder climates, meaning that they can work efficiently all year round and are designed for hassle-free installation and seamless integration into existing heating systems. This makes them a viable option for both new build projects and retrofitting older buildings.

Recognizing the importance of indoor comfort, Warmflow's Zeno ASHPs are engineered for quiet operation and are Quietmark approved ensuring that occupants can enjoy a warm environment without any disruptive noise.

Warmlink

The main benefit of the Warmflow Zeno air source heat pump is Warmlink, Warmflow's unique built-in remote control technology which enables engineers to remotely access, monitor and change the settings from anywhere in the world via their phone or smart device. This is especially helpful as heating engineers are able to remotely commission units without being on site. The Warmlink app is available for download from app stores.



 **WARMFLOW**



WarmLink
Remote control &
diagnostic capability

Nero Cylinders & Buffers

Warmflow Zeno Air Source Heat Pumps are perfectly matched with Warmflow Nero Heat Pump Cylinders and Buffer Tanks. The Warmflow Nero Cylinders & Buffer Tanks are supplied with the highest quality components from recognised, market-leading suppliers. Coming in matching colour to the Zeno Heat Pumps, helps create a an overall aesthetically pleasing appearance and install.

Underfloor

Now available from Warmflow to complete your Warmflow Zeno Air Source Heat Pump package, is high quality underfloor solutions. Warmflow can now supply your latest project with an all inclusive package which is designed by our in house team. Heating engineers can get in contact, send your plans and Warmflow will provide a detailed quote to best suit your needs. Warmflow also offer top-class support for installation, commissioning and aftercare as well as completing all paperwork for the relevant certifications.

Contact:

T: +44 (0) 1952 607 750
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Accreditation offers Net Zero opportunity for installers

Oliver Collins, Channel Marketing Manager for Contractors at Mitsubishi Electric, on why the company has launched a new Committed Carbon Reduction Partner (CCRP) accreditation to support its customers in reducing their own carbon emissions and secure new business by differentiating themselves from competitors.



Oliver Collins

The UK has signed up to legally binding targets to reach Net Zero carbon emissions by 2050 and many companies across the world are making plans to decarbonise their businesses long before then. They are therefore looking for suppliers that can help them on that journey and that's where HVAC engineers can play a major role.

Net Zero has been called a destination without a road map and everyone is starting from a different position, so we want to help our Partners on their own journey. We're confident that being able to demonstrate their own commitment to Net Zero, will help our Partners secure more business and safeguard their future.

Building services such as heating, cooling and hot water are key considerations in reducing any businesses carbon footprint as they are significant energy users in buildings of all types.

Skills and knowledge

HVAC engineers are in an ideal position to help advise their clients on the best way



to improve performance to reduce carbon. They already have the skills and knowledge to help customers understand the areas where performance can be improved through better maintenance regimes, or when a system needs a complete upgrade.

Modern air conditioning, for example, can help reduce emissions with heat recovery systems transferring otherwise wasted heat from one part of a building such as a kitchen or IT Server room, to areas that need heating, such as offices, lecture theatres or hotel rooms.

Energy efficient ventilation can also reduce energy consumption with Mechanical Ventilation with Heat Recovery (MVHR) capturing up to 90% of the heat energy from outgoing air to reduce the amount of energy needed to heat up the incoming air.

We have now also entered the age of the heat pump with systems that can deliver temperatures of up to 90°C. Knowing this, many businesses are now actively planning to remove gas from their sites completely.

However, more and more clients are also asking for details of a contractor's own Net Zero plans.

Demonstrating commitment

All types of businesses are trying to plan for Net Zero and the stages needed to get there, whether they have declared a target date of 2030, 2040, 2050 or anywhere in between. As a business, customers need to plan for the year ahead (budget planning); plan for the next 5 years (forecasting); and plan for their future (legacy planning).

This has created increasing demand for more sustainable suppliers across the industry, and if contractors take action to make their own operations more sustainable, they will be well-positioned to win new business today and into the future.

Ask yourself if you know your existing carbon footprint and whether you have all the documentation to prove you comply with all necessary business requirements should a customer ask for it? One way you can begin this journey is by starting to review things and this is why we as a business are now offering our customers the opportunity to become an accredited Committed Carbon Reduction Partner.

Mitsubishi Electric has extended the invite to all Partners throughout the HVAC industry to help them embark on their own journey towards net zero.

The new CCRP accreditation will help installer Partners prepare for net zero by formally recognising their efforts to reduce carbon emissions across their business. This will allow Partners to differentiate themselves from their competitors by demonstrating their commitment to environmental leadership and responsibility.

Becoming a CCRP will demonstrate installers dedication to environmental responsibility and leadership within our industry.

Mitsubishi Electric has set the criteria and will support Partners on their journey to CCRP accreditation. The company is also developing an online asset library to enable Partners to meet the required standards.

We are proud to have launched this accreditation programme which will equip Partners with the credentials needed to win business in an increasingly environmentally conscious world, We also firmly believe that by working together, we can also make a lasting and positive impact on the wider construction industry.”

Support along the way

Accredited Partners will receive a marketing toolkit to help promote this new status including a certificate, CCRP logo and listing as an accredited Partner on Mitsubishi Electric's website.

This will allow Partners to showcase their environmental credentials and meet growing demand from suppliers during tender and specification processes.

Successful applicants will also develop the skills, knowledge and experience needed to devise effective carbon reduction strategies, enabling them to stand out within an increasingly sustainability-conscious marketplace.

The accreditation is open to applications from all existing members of Mitsubishi Electric's Partner Programme. In order to become a Committed Carbon Reduction Partner, Partners will need to fulfil a range of criteria including having a carbon reduction plan in place, an established pledge for achieving net zero and a specific training standard.

It enables installers to showcase their commitment and gain trust with customers. It can also help unlock contracts from the growing number of public and private organisations that are prioritising sustainability.

With exclusive marketing support from Mitsubishi Electric and ongoing learning from the Supply Chain Sustainability School, Partners can increase the knowledge and understanding they can offer their customers.

The starting point is measuring your own carbon footprint and Mitsubishi Electric has partnered with Climate Partner to offer corporate carbon footprint calculations to Partners.

This is an essential first step in understanding the source of your CO₂ emissions across your business, identifying opportunities for reductions, and giving you the opportunity to offset the carbon you have produced.

- Mitsubishi Electric invites all partners to embark on this journey towards net zero. To get involved, partners can get in touch with their Account Manager or the Partner Programme Team - Partner@meuk.mee.com.



INDUSTRY REACTION

Adam Morse, Managing Director at Sustain Homes: “From the vehicles we drive through to how we tender for business, the road to Net Zero is already having an impact on every area of our business. A big part of this challenge is navigating the white noise around sustainability, and focusing on what we can, and need to deliver now to prepare for the future. I'm confident that the Committed Carbon Reduction Partner Accreditation will support us in decarbonising our organisation and promote our efforts, as we work towards reaching this goal.”

David Frise, CEO, BESA: "Improving collaboration across supply chains will be essential to the delivery of carbon reduction goals. This scheme is, therefore, a welcome way for professionals with a shared vision to work together, including many specialist contractors. Improving professional standards and broadening our skills base will also be crucial to reducing the carbon impact of the built environment.”

Economy doesn't mean ineffectual!



TOOLS TALK

ROBINAIR (a BOSCH company) boasts a solid and professional range of vacuum pumps – at an affordable price.

HIGH RATINGS

The ROBINAIR 15301A-E, 15501A-E, 15801A-E and 15501A-E-A2L VACUMASTER pumps are equipped with a 2-stage rotary vane compressor that provides powerful, quiet and high-vacuum capabilities ensuring efficient moisture removal – with a reduction in evacuation time.

IMPRESSIVE FEATURES

Gas ballast – allows a precise amount of atmospheric air to be introduced into the pumps, preventing any condensation of moisture vapour. This helps to maintain the purity of the pump oil.

An ergonomic sure-grip handle –

Mounted as a one-piece, moulded handle which allows for “ease of carry” by engineers on site. The handle also remains cool to the touch during operation.

Compact and lightweight design –

he die-cast aluminium housing and rotary vanes help keeps the pump weight to a minimum - which makes it perfect for on-site portability.

AND THAT'S NOT ALL

The VACUMASTER range of pumps has a choice of 3, 5 and 8CFM sizes, in addition to an A2L model. ROBINAIR has an industry-proven track record as they have been making HVAC service tools since 1956 – and they are now endorsed by the BOSCH name too.



Part code	RA-15301A-E	RA-15501A-E	RA-15801A-E	RA-15501A-E-A2L
Capacity	3 CFM 84 l/min	5 CFM 128 l/min	8 CFM 226 l/min	5 CFM 128 l/min
Ultimate vacuum level	15 Micron (2 Pa)	15 Micron (2 Pa)	15 Micron (2 Pa)	15 Micron (2 Pa)
Motor	450 Watt	500 Watt	650 Watt	500 Watt
Voltage	110V / 240V (50-60Hz)	110V / 240V (50-60Hz)	110V / 240V (50-60Hz)	240V / 50Hz only
Gas ballast	Yes	Yes	Yes	Yes
Oil capacity	450ml	500ml	700ml	500ml
Dimensions (HxWxD)	335x140x255mm	335x140x255mm	376x157x270mm	340x150x270mm
Inlet connection	1/4"/3/8" SAE MFL	1/4"/3/8" SAE MFL	1/4"/3/8" SAE MFL	Nickel Plated Steel 1/4"/3/8" SAE MFL
Weight	9.5kg	10.2kg	13.9kg	10.2kg
Number of stages	2	2	2	2



These pumps feature a 1-year warranty, are sold by leading wholesalers, and are backed by a UK-based service centre.

See more...

<https://diversitech.global/product/ra-15301a-e-ra-15501a-e-ra-15801a-e>
or
<https://diversitech.global/product/robinair-vacumaster>
or contact our sales team on sales@diversitech.com



IMPORTANT!

System evacuation can be corrosive and damaging. Any debris entering the compressor can interfere with the vanes and compromise the desired vacuum. Most manufacturers recommend an oil change after every use (or 10 hours if you are on a big job).

We recommend ROBINAIR Premium vacuum pump oil!



Don't let your pump get like this



RA-13119 (.475L)
RA-13203 (.95L)
RA-13204 (3.8L)

Why EnergiVault is the great cooling all-rounder



Geoff Barker, Executive Director of Organic Heat Exchangers (O-Hx), says cold thermal energy storage systems can score highly for both flexibility and sustainability.

Ongoing efforts to decarbonise the cooling industry mean equipment manufacturers continue to seek ways to improve the efficiency of existing systems and develop new technologies. Any advances, however, are affected by the sustainability of the energy that powers them.

Most modern cooling uses electricity in some form and energy providers are working towards providing a more sustainable supply. But renewable levels are not yet sufficient to meet demand and this presents a considerable challenge.

Carbon intensity is a key indicator of how clean our electricity is, measuring how many grams of carbon dioxide (CO₂) are released to produce a kilowatt hour (kWh) of electricity. Electricity generated using fossil fuels is carbon intensive because the process by which it is produced creates CO₂ emissions. Renewable energy sources have a much smaller carbon intensity value (often zero) because they produce very few emissions.

This means that using electricity with a low carbon intensity value will reduce carbon emissions overall – particularly if used during periods when most clean electricity is being generated. The ability to take advantage of such periods of low carbon intensity on the grid results in reduced impact on the environment, as well as potential for lower costs.

The patented EnergiVault from Organic Heat Exchangers (O-Hx) is a cold thermal energy storage (CTES) solution which utilises artificial-led intelligence to access the electricity supply at low tariffs and at periods of low carbon intensity.

How it works

The system consists of a charger and thermal store, or battery, which is an



The patented EnergiVault cold thermal energy storage operating at Quotient Sciences, Alnwick

insulated container, available in 1MWh capacity modular units. The system can be used alongside an existing chilled water system, on its own, or in place of an additional chiller. As with a chiller added to meet increased peak cooling loads, it can reduce the risk of production or building shutdowns, while additional features such as time of use (ToU) shifting, chiller optimisation, heat recovery and energy monitoring can be applied across a site's entire cooling plant.

The system's ice crystalliser charges the battery by converting the heat transfer fluid (HTF), typically a water/glycol mix, into spherical ice crystals a fraction of a millimetre in diameter, each surrounded by a film of organic material. This ice slurry acts as the phase change material (PCM), delivering a huge increase in the surface area over which the thermal transfer takes place.

The energy exchange rate of a single block of ice would be lower than found

with multiple crystals of ice, or an ice slurry when stored inside the thermal vault the ice slurry takes the shape of a perfectly spherical crystal to avoid the clumping typically found in dendritic shards and increases surface area to volume ratio further. The spheres are surrounded by a parent fluid specially formulated with a freezing point below the ice sphere it supports, inhibiting fusion while in storage.

Most phase change batteries have the limitation of a low discharge rate because of the surface area to volume ratio, and cannot always meet a required load. By maintaining an ice slurry as its thermal store, EnergiVault significantly increases the range of energy transfer at any given time.

As an alternative to storing energy in electrochemical batteries, such as the lithium-ion examples in everyday use, thermal energy batteries do not reduce in capacity over time and therefore avoid the resulting loss in energy capacity experienced by lithium-ion storage.

System integration

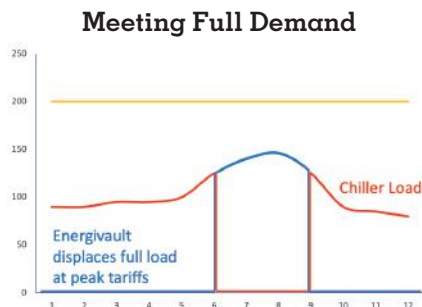
Using the example of an ongoing test site at drug development and manufacturing accelerator Quotient Sciences in Alnwick, the installed 00kWh system is connected to the customer’s chilled water circuit, delivering cooling using two chillers. The system is interfaced with EnergiVault via a heat exchanger, which decouples the working fluid of the EnergiVault from the working fluid of the customer system, allowing EnergiVault to customise its storage temperature for optimum performance.

A blending valve allows integration into any existing chilled water system, providing flexibility on rate of discharge from the battery. The valve either supports the current chiller operation by adding a controllable amount of additional cooling or is positioned to provide 100% cooling capabilities.

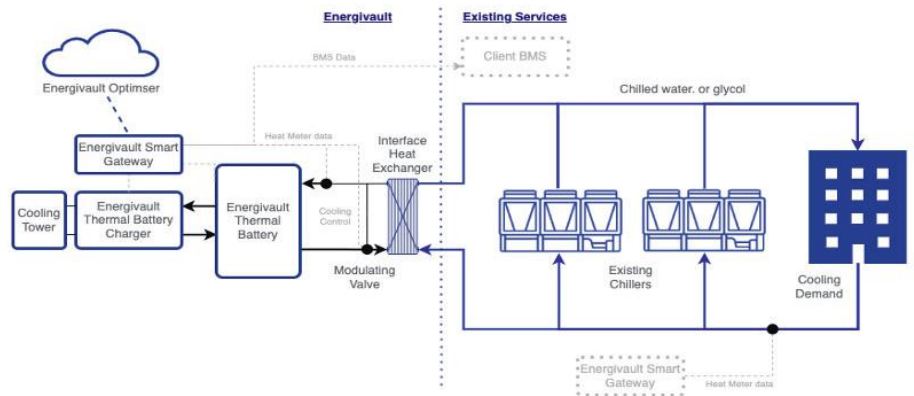
As well as providing crucial system back-up for breakdowns or planned maintenance work, EnergiVault has also demonstrated its value in a number of varied operational situations.

Meeting Full Demand

Where a chilled water system is designed for maximum efficiency at full load, existing equipment may operate inefficiently in part-load conditions. EnergiVault is able to displace this inefficient operation by serving the building load with efficiently stored thermal energy, due to its discharge flexibility. In the second variant, EnergiVault delivers the full load for a defined period, usually triggered by high electricity tariff or high distribution charge periods. In this instance, the existing chiller switches off and is replaced entirely by EnergiVault.



Full load displacement by EnergiVault to negate peak tariff energy cost or electricity supply either high carbon intensive generation



A schematic of EnergiVault illustrating its components, AI optimisation and integration with an existing buildings chiller system

Supplementing Sustained Peak Demand

A building’s cooling demand can often increase over time as a business develops and grows, leaving the existing system unable to meet peak load, usually resulting in building or manufacturing shutdown. In this scenario, EnergiVault would deliver all the peak demand above chiller capacity. Similarly, it can manage the stresses on cooling systems caused by unprecedented summer temperatures.

Meeting Intermittent Peak Demand

Where the excess cooling demand has fluctuating peaks throughout the day, a traditional solution would be to introduce a second chiller, cycling and on part-load, which again can impact operating efficiency. EnergiVault is able to meet the fluctuating demand points through its efficient thermal storage and variable discharge rates.

An additional example of how the system can be used is for back-up energy storage, where a proportion of EnergiVault’s

capacity is always held back in case of chiller related or other supply problems.

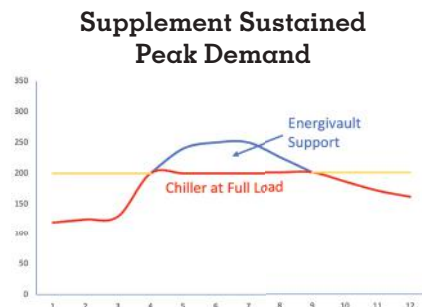
Heat Recovery

Further efficiencies can be achieved by the recovery of waste heat to generate hot water, space heating and other process heat requirements. Both high (100°C) and low (40°C) grade heat generation is possible with multiple storage options.

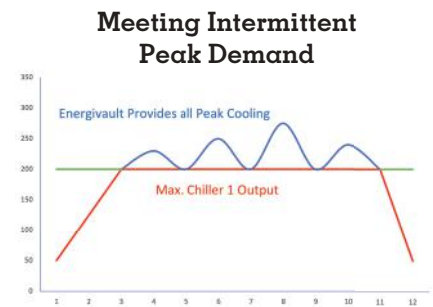
Summary

EnergiVault is not the only CTES solution available but the innovative use of ice slurry as the phase change material means it stands alone in terms of energy discharge flexibility and load matching capability. Used in place of an additional chiller, it can provide extra cooling capacity and highly efficient support in part-load conditions. Factor in the benefits of artificial-led intelligence to reduce carbon intensity and increase operational efficiency, and the proposition becomes stronger still.

For more information visit <https://www.o-hx.com/>



EnergiVault supplementing a sustained load in excess of the existing chiller capabilities



EnergiVault bridging peak loads when it would be inefficient to operate a second chiller at low loads to meet demand

Celebrating 30 Years of HVAC Expertise



SK Sales unveils a bright future with Airvance Group, a leading European ventilation and air conditioning specialist.

With an unwavering commitment to excellence, SK Sales has built an impeccable reputation over the past 30 years as a renowned and trusted distributor of HVAC products and services, dedicated to professional installers across the UK.

Through the expertise available from their talented and experienced branch teams, the company has consistently exceeded customer expectations, solidifying its position as a leading player in the industry.

Its continued success and investment in a new central distribution facility in Manchester, following its merger with the family owned Airvance Group in 2019, has enabled SK Sales to enhance its position in the UK's ventilation and air conditioning markets whilst preparing to introduce an even broader range of cutting-edge solutions to HVAC installers nationwide.

Since joining forces with the Airvance Group, SK Sales has experienced a period of growth and innovation, as well as developing strategic partnerships with some of the most recognised HVAC brands.

In 2021 SK Sales proudly announced its strategic partnership with Daikin, one of the world leading manufacturers of HVAC systems. Speaking about the progress of the partnership, Katy Eccleston, Mass Distribution Channel Manager at Daikin, said:

"The partnership between Daikin and SK Sales has been highly beneficial for both parties. The collaboration has offered Daikin an expanded market presence and access to new customer segments, strengthening our brand and boosting our market share. For their part. SK Sales



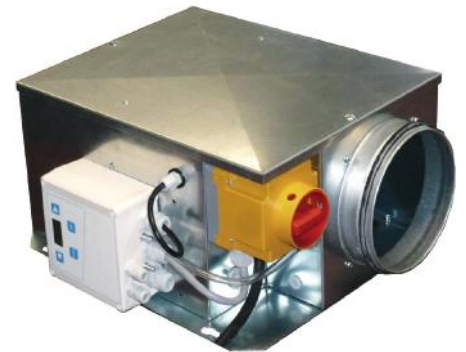
has access to our award-winning range of heating, cooling, and air purification products. Together, we have created a sustainable and mutually rewarding alliance for years to come."

As one of the largest HVAC distributors in the UK, SK Sales is also thrilled to be expanding the Group's own trusted CAIROX® product range, which includes a selection of fans, diffusers, and flexible duct. Expansion of the range is testament to the Group's commitment to offering a wide portfolio of attractively priced high quality products, engineered to deliver exceptional performance, reliability, and quiet operation. The extensive CAIROX® fan range sets a new benchmark in air circulation technology.

The CAIROX® brand brings together all SK Sales' solutions for ventilation and air quality for the commercial, residential, and light industrial sectors. The name CAIROX® represents the combination of Care, AIR and Oxygen and describes a mission that is close to the Airvance Group's heart, to make a healthy and accessible indoor climate for all.

The latest CAIROX® product to be launched is their BFS-A-EC slimline acoustic centrifugal fan with EC motor. SK Sales will continue to expand its range of energy efficient products over the coming year.

The current range of CAIROX® diffusers is supported by C-Diffusion, a selection software tool for grilles and diffusers, which is available to download from their



website, where their own interactive Duct Calculator is also available.

SK Sales continually seeks to exceed customer expectations and understands the importance of making life as easy as possible for its HVAC installers and launched its 24/7 E-Shop in early 2022. This simplified procurement process, using the intuitive online platform, allows customers to conveniently browse, compare, and order from over 12 000 products with ease, ensuring a seamless purchasing experience with the added benefit of an extra 2% discount.

In response to the growing demand for their own brand CAIROX® products, SK Sales has invested in a new central distribution warehouse in Manchester, fully stocked with fast moving lines, serving the Company's 9 branches across the UK.

SK Sales is proud of the knowledge and experience offered by its branch teams, which offer technical assistance and a personalised service, fostering stronger relationships with HVAC installers nationwide.

SK Sales Ltd continues to shape the future of the ventilation and air conditioning industry, combining three decades of expertise with the support and resources of the Airvance Group. Together, they are poised to drive innovation, enhance service offerings, and empower HVAC installers across the UK.

For further information, please visit SK Sales' website at www.sk-sales.co.uk and CAIROX® at <https://cairox.com/en>



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Top tips on cylinder handling

A-Gas Fulfilment Manager Sam Driver with advice on the safe handling of refrigerants, using the correct cylinders and completing the paperwork.

The safe handling of refrigerants should always be a priority for engineers. The importance of ensuring that refrigerants are recovered, collected, transported and processed safely should never be underestimated. All of us in the industry have a duty to protect our customers, colleagues and the environment. The safe handling of refrigerants plays a key role in this.

An essential part of refrigerant handling is to be suitably F-Gas trained and to have a competent understanding of what you are doing. Engineers have a moral and legal duty to abide by the law and if refrigerant is knowingly leaked into the atmosphere it can lead to a large fine.

Awareness of hazards

When working onsite keep cylinders away from direct heat sources and sunlight to prevent a release of gas or worst case scenarios, fire or explosion. Avoid impact to any cylinders to prevent permanent structural damage. To prevent an unnecessary release of gas when the cylinder is not in use, always ensure the cylinder valves are completely closed.

Cap nuts

These can be a handy preventative tool to help reduce leaks. All refrigerant cylinders supplied by A-Gas will have some form of threaded cap nut applied. If the cylinder



Sam Driver

valve is leaking, the cap nut can be the last line of defence. It can also help A-Gas handle any potential leaks effectively when the cylinders arrive back at our premises. So I would encourage you to use them as often as practicably possible and keep them tight.

Transporting cylinders

For most engineers the van is just about their most important tool on the job. It may seem an obvious point to make but always fasten cylinders securely when transporting them. You don't want cylinders banging about in the rear of the vehicle when on the road. This could damage the cylinders, the vehicle, lead to leakages and potentially cause harm to bystanders.

Cylinders containing oxygen or flammable refrigerants must be transported with a minimum of one metre of space between them. This will mitigate against any potential risk of fire. Always remember to follow best practice and keep different gases segregated.

When transporting refrigerants there should be good ventilation in the rear of the vehicle. You should also carry a fire extinguisher in the vehicle and have the appropriate vehicle marking and documentation. If unsure seek expert advice from a Dangerous Goods Safety Advisor.

Cylinder choice

The importance of using the correct cylinder for the job cannot be underestimated. Receiver and recovery cylinders are not the same and have different purposes. Receiver cylinders are internally clean. This means they are the



Strict internal policies and procedures ensure that all cylinders contained within the A-Gas fleet meet approved specifications and safety standards

perfect option for temporary storage of refrigerant, while routine maintenance or system repairs are taking place.

Recovery cylinders should be used when returning unwanted recovered refrigerant back to A-Gas for processing. We do not recommend recharging a system using refrigerant stored in a recovery cylinder as there is a risk that the purity could be affected.

Cylinder storage

Cylinders should be stored on pallets in the same orientation as they are received.

High pressure cylinders should also be stored in cages as this reduces risk in the event of an emergency during transportation.

Onsite, it is recommended to store flammable gas cylinders at least three metres away from anything combustible, any ignition sources or any infrastructure. Flammable refrigerants should not be stored on pallets – as they can be combustible – but in securely-fastened metal cages. If left unattended, it is also best practise to store flammable cylinders outside of a building overnight to provide sufficient ventilation.

Overfilling cylinders

If an engineer is in a hurry, overfilling cylinders can be an easy mistake to make. I would urge any handler of refrigerant to avoid this as it can lead to an excess of manual handling, cylinder damage and potentially leakages via the relief valve. If this were to happen during transportation, it could also lead to a risk of oxygen depletion and asphyxiation for any nearby occupants. A small A-Gas recovery cylinder has a maximum fill weight of 10kg and a large recovery cylinder has a maximum fill weight of 45kg.

PPE

Personal protective equipment is essential. When working with refrigerants you must make sure you are wearing industry standard PPE. This will include appropriate eyewear (safety glasses), gloves and anti-static clothing as an extra precaution when required.

If a toxic refrigerant gas like ammonia is being handled, for example, other precautions should also be considered such as breathing apparatus or monitoring devices. These can measure oxygen depletion in the atmosphere, especially if



A-Gas continues to invest in its cylinder fleet to ensure that all types of refrigerant are available to the customer

you are working with larger quantities of refrigerant, in poorly ventilated spaces or lone working. So understanding the control measures before attempting to handle refrigerant is critical to ensure you are fully protected and don't come to any harm.

Hazardous waste

Recovered refrigerants are playing an increasingly important role in the industry as our reliance on virgin high GWP (Global Warming Potential) gases diminishes. You must complete a hazardous waste note if you are returning recovered refrigerant to A-Gas. Remember, it is industry best practice not to mix products in cylinders. Use the right cylinder for the job to ensure that the highest levels of safety are achieved.

Paperwork

It may seem like there is a lot of paperwork for engineers to get their head around but under law contractors have a duty to act as the initial record keeper when refrigerant is used or recovered. There must be a detailed audit trail from the end user through to the end reclamation processor like A-Gas,

including any third party wholesalers and couriers. Each party in this process has a requirement to store records of waste refrigerant for a minimum of three years.

Keep up to date

The industry is facing considerable change in the coming years as the F-Gas Regulation continues the shift away from higher GWP gases and towards lower GWP alternatives. So it's never been more important to keep up with what's happening through the media – online and in print. Trade associations, manufacturers, wholesalers and suppliers all have a role to play here. So keep your eyes and ears open – or you may miss something which could have a major impact on what you do on a daily basis.

Most engineers in the UK have a really good grasp of what's expected of them when it comes to handling refrigerants but help is always available at A-Gas if you need it. For further information on the safe handling of refrigerants or cylinders contact the A-Gas team in Bristol on 01275 376600 or visit the British Compressed Gas Association website www.bcga.co.uk.

Heat pump myths and why they are so damaging

Ben Bartle-Ross says it is important to push back on misinformation.



Ben Bartle-Ross is a Technical Trainer at Mitsubishi Electric



I read a piece recently titled *22 heat pump myths debunked* which surprised me, because I thought more people knew about heat pumps and I couldn't believe that some of these incorrect myths still existed.

And that got me thinking about how information is covered in the news?

I also heard Radio 4's PM programme recently where Labour peer Lord Willie Haughey made several claims about heat pumps that are simply not true.

He claimed to have sold thousands of heat pumps but only for the right application, which he saw as air conditioning for heating in the winter and cooling in the summer. He said that it was wrong to call heat pumps an alternative heat source, that they are designed for air conditioning, and that it was disingenuous to say otherwise.

He felt that there was no way that we should move from gas to heat pumps, although he accepted that we do need to stop using gas and proposed direct electric heating instead.

He claimed that heat pumps don't work in most homes and stated that there are all sorts of problems with heat pumps in UK homes. He said that they don't save you electricity, don't cost less to run and will not save money.

There's a lot to unpick there but let me deal with the air conditioning point first.

It's true that elements of modern air conditioning have been used to improve heat pumps over the past 15 years, but the first recognisable heat pump was built in 1856-57 by Peter von Rittinger, which is almost half a century before Willis Carrier designed the first air conditioning system in 1902.

The birth of the current heat pump market happened when the best, inverter-driven elements of air conditioning were moved over to heat pumps, but it is disingenuous to say that a heat pump is simply a reconfigured air conditioning unit.

These are different machines designed and engineered for very different purposes.

They don't save electricity

The next myth that I would challenge is the idea that it's far better to use direct electric heating.

However, he is right to say heat pumps will not 'save' electricity as they need to consume it to run.

But they will work far more efficiently than direct electric heating (or gas) because for every one kilowatt of electricity consumed, you get 3, 4, 5 or more units of heat out of the other end.

As an industry, manufacturers are estimated to have sold 300,000+ heat pumps in the UK over the past decade. The overwhelming majority are working very well and, where there are any issues, it is invariably down to the design, installation

and implementation – all things that can be fixed – rather than the 'box' itself.

I am appalled that opinions rather than facts are still given public airtime but it also serves as a timely reminder that we shouldn't assume that everyone knows the benefits or understands the urgent need to move to heat pumps.

As an industry, we still have a lot to do to convince a sceptical public of the need to switch from gas during a cost-of-living crisis.

And this is not helped by factually incorrect reports from people such as Lord Haughey, although even the BBC reporter was pushing back at some of his claims.

Thankfully, the engineers I see coming through our training courses every week understand the importance of helping the public understand the need to transition to heat pumps and, slowly, little by little, we can work together to counter misinformation and correct the heat pump myths.

* <https://www.newstatesman.com/spotlight/sustainability/energy/2023/08/22-heat-pump-myths-explained>



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The power of Enhanced Free Cooling

Airedale recently released a white paper claiming that up to 44% energy savings can be achieved by applying advanced technology to “traditional” air-based cooling systems in modern data centre designs. We had the opportunity to chat with Patrick Cotton, Product Manager for chillers at Airedale and author of the white paper, to explore the topic further.



Patrick, data centres are nothing new but the sustainability talk around them is definitely ramping up. What’s your take on why that is?

It comes down to scale. In 2023 there are approximately 5.19 billion people online. These people are all sending and receiving data from over 15 billion devices worldwide that are connected to the internet. All this is creating avalanches of data that needs to be stored. On top of this, we all know that AI is just around the corner. In order to automate our world and for machines to start thinking for us, data is going to have to be created, communicated and analysed in quantities that are mind-blowing. It will dwarf what has gone before it.

The data centre industry is already in the middle of a big growth cycle. We’re trying to do things bigger and faster. But we also know that all this power comes with great responsibility. As we take a larger share of Earth’s natural resources, like electricity and water, this growth HAS to be sustainable. We can’t just use even more electricity to

power AI. We need to figure out how we serve the planet without harming it.

This is why hyperscalers, colocation providers and key supply chain players like Airedale are working together with a laser focus on energy efficiency. These industries need our help to engineer the cooling solutions that will help them run net zero data centres. That has to be the ultimate goal, to not take more than we put in. It’s a massive challenge and it will be solved by engineering innovations.

There is a lot of talk in the data centre industry about liquid cooling but this white paper focuses on more traditional, mature technology like chillers. How has Airedale pushed the technology forward to offer something different?

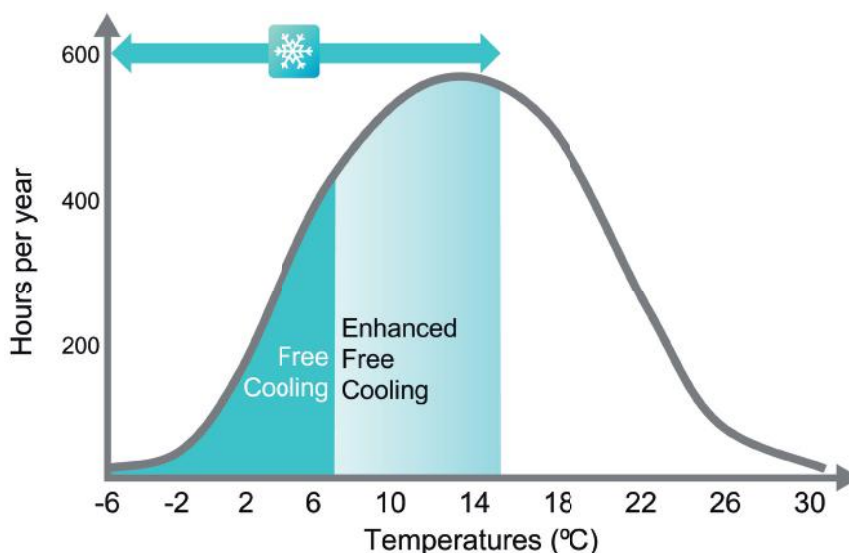
It’s true...chillers have been around since the 1920s and we’re still using them today to cool data centres. And the core technology; compression and evaporation of refrigerant, heat exchange between refrigerant, water and air, hasn’t changed.

But look at the internal combustion engine. If you put a Ford Model T next to a Toyota Prius today you’d think they were completely different things. The internal combustion engine principles remain the same but the technology has improved to move the motor vehicle far beyond the original concept. The same has happened with chillers and the other cooling technology we use to keep data centres cool.

We have used a blend of mechanical upgrades, software enhancements and optimising the cooling system as a whole to really stand at the front of the field when it comes to data centre energy and water efficiency. We have been making chillers since 1984 and every year our R&D teams go into the labs and challenge each other to push the envelope that little bit further. How can we make this more efficient? How can we make it more resilient? How can we make it more intelligent? How do we make it work with new refrigerants that are better for the environment?

The white paper talks a lot about free cooling. Why is this so important?

One of the things Airedale does, we would argue better than anyone else, is free cooling. Free cooling is pretty self-explanatory as a concept... it is about using the outside, or ambient, temperature, to keep the data centre cool. Cooling for free. Or cooling that uses vastly less energy than standard mechanical cooling at least. The technology needed to do this, and do it well, is complex. You can’t just dump the outside air inside the data centre. The computer room air handlers inside the data centre, the chillers, the software that manages it all, have to be fine-tuned and set up to deliver the maximum amount of free cooling possible. We have pioneered

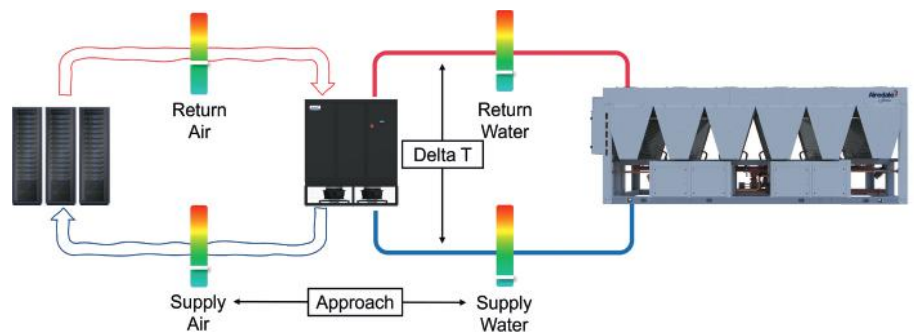


free cooling technologies and techniques that allow operators to operate in free cooling mode for up to 98% of the year, depending on climate.

Driving free cooling performance improvements relies heavily on heat exchange performance. You can tweak parameters like depth of condenser coil, coil fin pitch and the pressure drop on air and water side. The key is finding the perfect balance between heat exchange, pressure drop and material costs. The white paper talks about a technique we have developed called Enhanced Free Cooling™. We feel we have found that perfect balance by adding additional rows in free cooling coil, accommodated by adjusting the pitch of the coil within v-block condenser. Increasing the diameter of the EC fans then delivers more air across the heat exchangers and pushes free cooling capabilities higher. However, the fan power input must be balanced to ensure an energy performance benefit is realised.

Design ambient is another key factor influencing fan power, so in DX mode our patented, optimised head pressure control feature manages fan speed to ensure fan and compressor power are balanced.

On top of increasing the number of hours per year the chiller spends in free cooling mode, Enhanced Free Cooling delivers secondary benefits such as lower pump speeds and pipework savings as a result of lower flow rates.

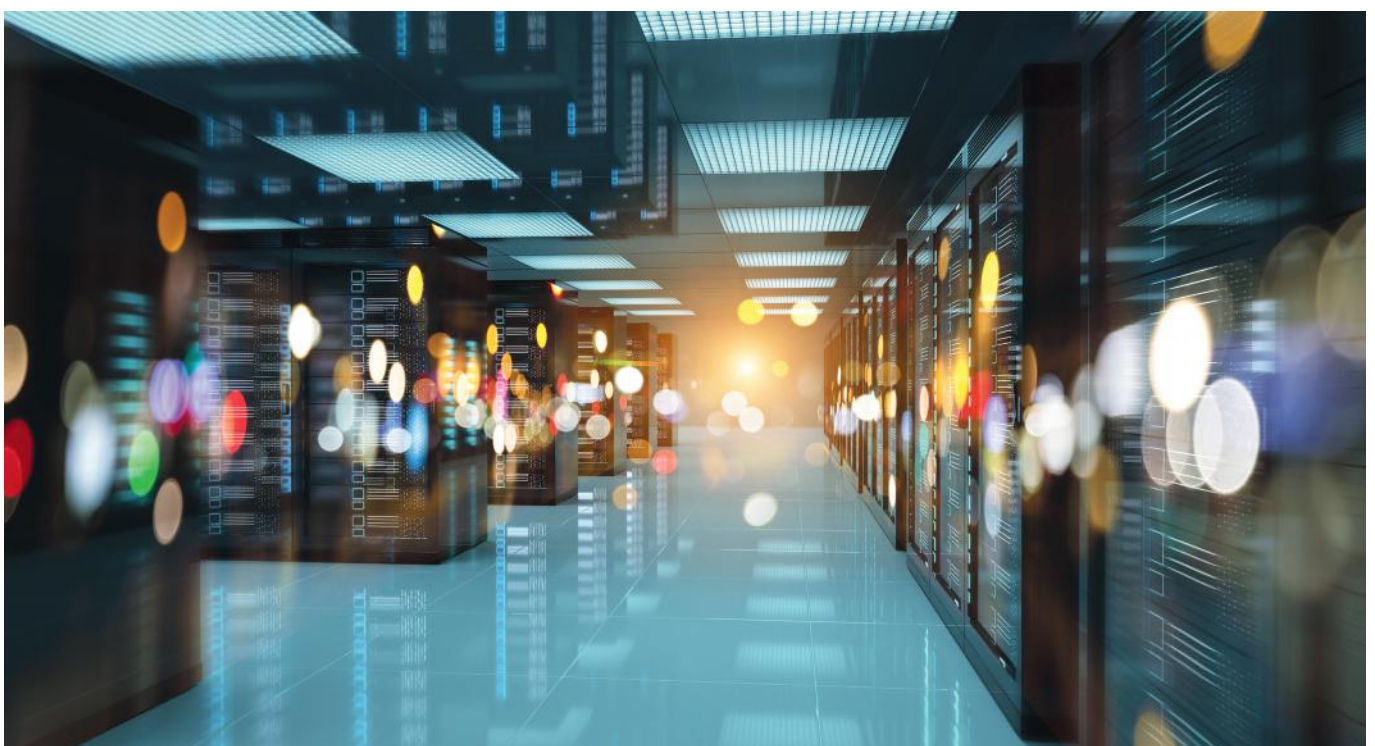


Where does air-based cooling go from here? Will it eventually be replaced?

The chiller is for sure a mature technology, the improvements from here are going to be an evolution rather than revolution. But in an always on industry like data centres, incremental efficiency improvements extrapolated over hours, days, weeks, years of use...can mean massive savings in carbon footprint. The white paper shows that using Airedale enhanced cooling technologies, can provide energy savings of 44% vs. standard practises. We're talking savings of 787 tons of CO2 for a 10MW site over the course of a year. Given sites are growing to over 100MW and more these days and operating for 20 years or more, you can see why we're excited about what we're able to offer our clients as they push towards more sustainable facilities.

As IT workloads evolve, the heat dissipated by servers will in some cases be too much for air-based cooling systems to manage on their own, so for sure there will be an evolution and a need for alternative cooling systems, like direct to chip and immersion. However, while exciting applications like AI and cryptocurrency will see server densities rise, the vast majority of applications will remain in the comfort zone of chilled water cooling systems with chillers and CRAHs. These systems are proven in data centres, which goes a long way. As long as we can demonstrate energy efficiencies and keep striving for those incremental gains, we are confident that this technology isn't going anywhere.

To request a copy of the white paper, please visit <https://www.airedale.com/energy-efficiency-whitepaper/>



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or email Hayley Comey on hayleyc@warnersgroup.co.uk

Glycol levels: is your chilled water system at risk this winter?

During the winter months, a chiller system's pipework is exposed to ambient temperatures low enough to freeze cooling water. If the water is inadequately protected, blockages and leaks often occur, efficiencies are drastically reduced and of course there is the risk of burst pipes, potentially causing thousands of pounds worth of damage, unplanned maintenance, and costly downtime.

Systems that have not been properly maintained are particularly at risk, as well as those that have been altered or upgraded. It can be difficult to evaluate the quality and protection qualities of the heat transfer fluid following maintenance work. Often, cooling systems are topped up with uninhibited water, resulting in a risky dilution of antifreeze and inhibitors.

Incorrect glycol concentration during the winter months can impact hugely on any cooling system, potential issues include, system failure, flood damage, voided warranties, increased energy costs and reduced output.

Types of glycol

The two major types of glycol used in chilled water and closed loop systems are Ethylene Glycol and Propylene Glycol. Ethylene glycol offers the most efficient heat transfer, is significantly less viscous than Propylene Glycol and unit cost is usually lower. The main drawback however is its toxicity to humans and animals.

Propylene glycol was developed to replace Ethylene Glycol for use in food and beverage processing systems or where there is a requirement for a non-toxic classification. Propylene Glycol has a much lower capacity for efficient heat transfer, compared with Ethylene Glycol based mixtures - It is also much more viscous at low temperatures and thus provides more of a challenge to pump.

Coolflow DTX

In 2010 Hydratech added Coolflow DTX to their range of process cooling fluids. DTX is a high-performance non-toxic heat transfer fluid that is based on Ethylene Glycol, blended with a detoxification additive. The game changing fluid combines the thermal efficiency and low viscosity associated to Ethylene Glycol, with the non-toxic rating of Propylene Glycol. The list of DTX adopters is now extensive and includes Arla Foods, Müller Dairy, Waitrose, Airbus, Siemens and BrewDog.

The cost saving benefits of dosing a new or existing (retrofit) system with Coolflow DTX are particularly favourable in the current economic climate.

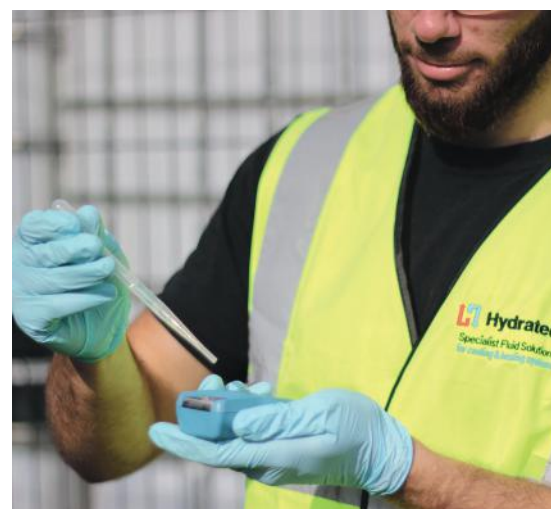
For example, given the current rates a potential saving of over 30% per installation could be made if DTX replaced Propylene Glycol in a proposed 20,000 Litre system (protected to -15°C).

How much glycol will I need for my system?

Selecting the correct type and concentration of chiller glycol is very important. Too much glycol or too high a % will cause system inefficiencies - through reduced heat transfer ability and pumping capacity. Not enough glycol or too low a % can lead to the expensive freeze-ups previously mentioned and can become susceptible to biological fouling.

External systems that are susceptible to freezing over winter months will need anti-freeze protection down to the lowest expected ambient temperature, with some margin advised for safety of +10%* (*Lowest temps ever recorded in UK -26.1°C - January 1982).

Taking an average between Ethylene & Propylene Glycol (considering their differing levels of freeze protection per percentage), an installed concentration of 40% v/v (glycol by volume in water) will give you frost protection down to -25°C.



High chiller glycol concentrations can impact system efficiency, with a trade-off existing between anti-freeze protection and year-round performance and COP. Some therefore choose to run with glycol/antifreeze over winter months, and then plain water when the risk of ambient freezing is no longer an issue.

To prevent internal corrosion, scaling and biological fouling year-round, it is recommended that the glycol is fully inhibited and monitored every 6 months. Hydratech recommend a minimum concentration for their inhibited glycols of 25% v/v - this would provide a freeze protection average of -10°C.

For expert advice on glycol concentration levels, water quality, product selection, or fluid testing - to verify condition and frost protection, email: info@hydratech.co.uk or call 01792 586800.

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LOCHINVAR LAUNCHES HIGH TEMPERATURE LOW-GWP HEAT PUMP

Low carbon heating and hot water equipment manufacturer Lochinvar has unveiled a new range of high temperature air-to-water heat pumps capable of producing hot water up to 70°C while still achieving high energy efficiencies and reduced environmental impact.

The Amicus Altus is available in three possible configurations: two-pipe heating only, two-pipe heating or cooling, and four-pipe simultaneous cooling with heating and heat recovery, making it suitable for most types of commercial project.

The high temperatures achieved makes the Amicus Altus especially useful as a direct low carbon replacement for gas boilers in buildings with high hot water demands without requiring a substantial remodelling of the heating and/or hot water systems.

This makes the new range a valuable addition for specifiers looking for solutions that support net zero carbon strategies and help to reduce energy bills without major upfront capital costs.

The new range also operates with the very low global warming potential (GWP) refrigerant R290 (propane), which is one of the most climate-friendly refrigerants on the market. It has a GWP of just three compared to the popular traditional alternative R410A which is typically used in this type of application and has a GWP of 2,088.

R290 also has an ozone depletion factor (ODP) of zero and, according to the Intergovernmental Panel on Climate Change (IPCC), its GWP over a 20-year period remains below one – making it more environmentally friendly as a refrigerant than carbon dioxide (CO₂). Another benefit is that it does not contain any poly-fluorinated chemicals (PFAS) which are now subject to stricter restrictions in the UK and Europe.

Future proof

By going with this non-HFC 'alternative' refrigerant, Lochinvar has produced a future-proof solution that is in step with the latest UK regulations which require the industry to move away from higher GWP substances.

Under the current phase down timetable, the UK is looking to eliminate fluorinated gases (f-gases) from most heat pump applications by the end of the decade. This is in line with the European F-Gas Regulation that the UK continues to mirror despite its departure from the European Union.

The Altus units are also fully cascadable with outputs from 88 to 880kW and deliver an impressive Coefficient of Performance (CoP) of up to 5.5 – seasonal COP is around 3.95. They can also operate in heating mode down to external air temperatures as low as -20°C.

With built in controls and a BMS fault and remote on/off signal that prioritises hot water production this small footprint unit is easy to install and commission – and is supported by Lochinvar's offer of free site visits for every installation.

"We are delighted to be bringing such an impressive step forward for heat pump technology to the market," said Lochinvar's product

engineer Steven Hunt. "Air-to-water heat pumps are generally highly energy efficient, but the Altus also delivers hot water temperatures comparable to those end users are used to with conventional gas boilers.

"This, allied to the low GWP and zero ODP factors, make them an attractive choice for anyone specifying a retrofit project with high performance and low environmental impact in mind."

Air-to-water heat pumps can be integrated into a variety of heating systems, which makes them a flexible option for different types of buildings and installations – and although the initial installation cost will be higher than for a gas boiler, the long-term savings are potentially far greater and the building's carbon footprint substantially reduced.

This new product follows last year's launch by Lochinvar of the UK's most powerful heat pump water heater the Amicus Aquarestore.

It has an output of 8kW and 455 litres of hot water storage capacity in a compact monobloc package combining heat pump and storage vessel. It can deliver up to 65degC hot water in both efficiency and hybrid modes and up to 490 litres in a peak hour with a 50degC temperature rise.

Popular

The Aquarestore and now the Altus are the latest additions to the extensive and popular Amicus range of air source heat pumps (ASHPs) which includes models delivering domestic hot water capacities from 7.7kW up to 210kW for a wide range of projects including large residential; medium and large commercial; and industrial applications.

"Heat pumps are playing an increasingly important role in helping the UK transition to low carbon heating and the Amicus Altus is just the latest in a line of innovations designed to make the technology available to the widest possible range of users with minimal disruption to the existing building services," said Hunt.

"As well as our on-site support and technical back-up, another benefit to our customers is that Lochinvar can provide all the components needed to provide a complete low carbon system with heat pump technology at its heart. This considerably simplifies the specification, design, and installation process," he added.

www.lochinvar.ltd.uk



CONDAIR OFFERS AHU EVAPORATIVE COOLING CPD

Condaire is offering a CIBSE-approved CPD seminar, **Using humidifiers for evaporative cooling in AHUs**. The 45-minute presentation includes training on the psychrometrics of evaporative cooling, a review of the three main AHU strategies (direct, indirect and exhaust-air indirect), analysis of three real-life case studies that employed these cooling strategies, and a comparison of the latest adiabatic humidifiers.



Dave Marshall-George, UK Sales Director, said: "A single adiabatic humidifier can provide up to 680kW of evaporative cooling to an AHU from as little as 0.3kW of consumed electrical energy. Their potential for delivering low energy cooling to an air handling unit is great and we frequently see this application being employed in modern AHU designs. This CPD is an invaluable chance for consultants and building designers to explore how humidifiers can be used in AHUs to take advantage of this low energy cooling method. The case studies detailed in the session provide a clear understanding, beyond the theory and physics, of the actual energy savings that can be enjoyed"

The presentation can be given in-house at a recipient's office, typically over a lunch period with refreshments supplied by Condaire, or online via a webinar platform.

Bookings can be requested at www.condair.co.uk/CPD.

CLIVET ADDS SPINCHILLER⁴

Italian manufacturer Clivet has introduced SPINchiller⁴, a new compact air-cooled liquid chiller for outdoor installation, with multiscroll technology and R32 refrigerant.



SPINchiller⁴ (WSAT-YSC4) is available in two energy versions: Excellence (EXC) and Premium (PRM), with a capacity range from 720 to 939kW. It offers SEER values of up to 5.28 for the EXC version and up to 5.03 for the PRM version.

Key features include...

- Low environmental impact solution with R32 refrigerant
- 8 scroll compressors on 2 refrigeration circuits
- Low noise operation - the WSAT-YSC4 series offers 3 acoustic levels
- Maximum adaptability - up to 8 regulation capacity steps and wide operating range from +50°C to -18°C of external air temperature, are able to satisfy the requirement of multiple operating conditions.
- Compact Size - the space savings are an increasingly important aspect in the design of buildings. Thanks to the new layout, the WSAT-YSC4 units are among the most compact units on the market.
- Perfect for LEED

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ARMSTRONG FLUID TECHNOLOGY LAUNCHES NEW RANGE OF PRESSURISATION UNITS

The 3760 range of pressurisation units for HVAC applications has been launched for the consultant or M & E contractor. These compact units are designed to maintain the minimum system pressure of sealed systems up to 300,000 litres with some models also offering combined vacuum degassing and automatic chemical dosing as needed. Pressurisation only models are available for both floor and wall mounting, and floor-standing dual/multi models are also included in the range



The 3760 Pro Floor Standing Pressurisation Units are digital units, designed for use on sealed systems, which offer enhanced BMS connectivity for multi-level monitoring. The unit's controller maintains accuracy at the same time as reducing downtime, as changes can be made on the live system. With built-in dry run protection, anti-seize routine, and flood protection, they notify excessive starts and limit pump run time. These units are available in three models - 2LP, 2MP, and 2HP - with top up delivery pressure ranging from 1-8 bar.

In addition, the range includes ProVDG Pressurisation Units which combine pressurisation and vacuum degassing capabilities. These units are available in three models - 2MP, 2HP, and 2UHP - with top up delivery pressure ranging from 1-8 bar.

The remaining models in the range are 3760 ProDoseVDG Pressurisation Units. These units are available in three models - 2MP, 2HP, and 2UHP - with top up delivery pressure ranging from 1-16 bar. They are easy to install with a single connection, enabling fit-and-forget convenience.

www.armstrongfluidtechnology.com

PODCAST: HOW TO SIZE AND SELECT A DEHUMIDIFIER

Condair has released a new podcast on how to size and select a commercial dehumidifier, in association with BusinessNet Explorer. In this short interview, Dave Marshall-George, Sales Director, explains the important elements any consultant or installer needs to consider when approaching a dehumidifier project.



Dave comments: "This short podcast is ideal for anyone about to set out on a dehumidifier job. Poor planning in dehumidification can not only lead to a desired humidity not being met but it can also compromise the temperature control of an area or result in excessive energy use. In this podcast, I explain how to select which type of dehumidifier to use, based on elements such as the temperature of the area in question, the level of control needed, available sources of energy and the physical characteristics of the building."

Alongside technology selection, the podcast also covers dehumidifier sizing and installation considerations. It is available all major podcast channels, including Soundcloud, Spotify and Google Podcast by searching for "Condair" and also on the Condair website at:

www.condair.co.uk/podcast

PANASONIC UNVEILS NEW ERV LINE-UP

Panasonic Heating & Cooling Solutions is launching its new advanced energy recovery ventilation (ERV) ZY Series.

The range consists of an extended 9-model line-up, including a 2000 m3/h model, all integrated with DC motors with independent control setting for air supply and exhaust.

The units possess an external static pressure (ESP) advancing up to 150 Pa with an F7 grade filter built-in as standard. In addition to this, the new ZY series has an impressive recovery power of up to 83% of heat exchange efficiency. This high recovery rate further optimises cost and can be considered a sustainable solution.

The new models feature two backdraft shutters, unique to Panasonic, which prevent air flowing in the wrong direction when the ERV is turned off.

The ERV has three connection options available: group control with a maximum of two ERV systems, direct connection to field supply switch, and ERV operation in conjunction with heating and cooling systems.

The ZY series also introduces a new remote controller. Information is clearly visible through a black light and white background whilst also containing a backbox as standard. The controller is available to be integrated with BMS through the RS485 terminal.



<https://www.aircon.panasonic.eu/>

FERNOX INTRODUCES DEDICATED FILTER FOR HEAT PUMP SYSTEMS

Leading manufacturer Fernox has extended its portfolio with the new TF1 Sigma HP Filter, which has been specifically designed to protect air and ground source heat pumps. Through exceptional design and engineering, the filter provides a high quality option and unparalleled performance to help maintain the efficiency of new or retrofit installations.

As a pioneer of filter technology, Fernox has developed the new TF1 Sigma HP Filter to offer the best possible protection. The filter's unique shape allows for the efficient capture of system debris and the settlement of particles within the main body of the filter. Manufactured from engineering-grade polymer, the TF1 Sigma HP Filter provides excellent strength and hydrolysis resistance.

Key to its market-leading performance is the utilisation of the innovative flow and filtration technology (patent pending), which allows the filter to be highly effective at capturing all types of debris, including magnetite, hematite and scale – at high flow rates (up to 80 L/M) typical of heat pump installations.

The Fernox TF1 Sigma HP Filter is supplied with 22mm or 28mm full-bore valves as standard. The design of these valves is crucial as it means that there is no restriction of flow through the filter assembly, ensuring the heat pump can maintain the required COP (Co-efficient of Performance).

Due to its double radial seal between the manifold and main filter body, the Fernox TF1 Sigma HP Filter is very flexible. Installation is quick and simple, enabling horizontal or vertical orientations or at any point around a full 360o pipework orientation.

Following the robust design of other products in the Fernox TF1 range, the TF1 Sigma HP Filter is engineered as a sealed unit without a lid for greater integrity and security, reducing any potential for leaks. Fast and simple to service, unlike lidded filters, there is no need for replacement 'O' ring seals, minimising ongoing maintenance costs.

Greg Banham, UK & Ireland Sales Director at Fernox,

said: "The TF1 Sigma HP Filter has been extensively tested, proving it has the best Kv value of any available filter on the market. A combination of features including the unique, patent-pending filtration technology and the low-pressure loss from the carefully engineered flow paths mean that COP levels and heat pump efficiency can be maintained. Furthermore, the use of high integrity and high-quality components ensures that the Fernox TF1 Sigma HP Filter provides unparalleled performance."



To find out more about the Fernox TF1 Sigma HP Filter, please visit: <https://fernox.com/product/tf1-sigma-hp-filter/>

ANDY SNELL, LAKOTA BRATT, GREEN POINT UK

Green Point UK, the compressor manufacturing and specialist services arm of BITZER UK, has expanded its team, processing facilities and warehouse capacity.

Andy Snell has been appointed Quality Controller and **Lakota Bratt** heads up Compressor Preparation and Finishing at the company's Milton Keynes headquarters.

On the production side, it has added a new dedicated compressor disassembly line to add capacity and streamline its remanufacturing operation, enabling even quicker turnaround on emergency rebuild projects. In addition, the company has extended warehousing capacity, enabling it to carry larger stocks of finished, remanufactured compressors, available for same-day delivery across the UK.

Will Pribyl, Green Point UK General Manager, said: "In response to increasing demand, the aim is to hold stocks of the most popular types and sizes of compressors, so we can despatch immediately in response to urgent orders. Increasing remanufacturing capacity also means we can respond faster to less commonly used units requiring total rebuilds."

The company recently extended its remanufacturing service to include transcritical carbon dioxide-based compressors, following investment in specialist high-pressure testing equipment.

sales@greenpointuk.co.uk



Andy Snell, Will Pribyl and Lakota Bratt

LES CORBETT, ENGINEERING MANAGER, PASTORFRIGOR GB

Essex-based commercial refrigeration company Pastorfrigor GB has appointed **Les Corbett** as Engineering Manager.



Corbett has extensive industry experience, having held a number of key roles in service, maintenance, installation, commissioning and design and development for refrigeration cabinet and plant manufacturers, both in the UK and South Africa. He has designed and project managed the building of refrigeration cabinet test facilities, designed and developed a full range of low temperature and high temperature cabinets for leading grocery supermarket chains and has experience in developing products in China specifically for the UK market.

Formerly a Director of Corsway Refrigeration Services, a role which he held since 2017, Corbett has also worked at The Alan Nuttall Partnership, Carter Retail Equipment, and SPG.

At Pastorfrigor, he will head up the technical team and be the main point of contact for all engineering related requests from customers. He will be working closely with factories to help develop great products for the UK market and provide a strong aftersales service to customers.

Simon Robinson, Managing Director of Pastorfrigor GB, said: "I've known and respected Les for many years, and I am hugely excited that he has joined the team. Les will be a fantastic addition to our business as we continue to build the brand in the UK."

www.pastorfrigorgb.com

ANDY HAWES, GENERAL MANAGER, TECHNICAL SERVICES, AERMEC UK

Andy Hawes has joined Aermec as General Manager, Technical Services, as part of the company's further expansion and vision to create a centre of excellence within the HVAC industry.

Hawes has spent over 35 years in HVAC industry. He is a Chartered Engineer, a Fellow of CIBSE and the Institute of Refrigeration, a member of ASHRAE as well as the Institute of Acoustics and holds a Post Graduate Diploma in Acoustics and Noise Control.

He said: "Aermec offers a great proposition, global scale and expertise, deep knowledge and experience across many industry and commercial sectors including mission critical applications where the company is recognised as a leading expert in data centre cooling."

It is an extremely exciting time to be taking on this role and by working closely with our customers we can develop solutions that can grow and enhance their businesses and help achieve their net zero ambitions."

Paul Lawrence, Managing Director of Aermec UK, said: "Andy is known for creating a strong transformative culture that drives innovation, but he also has a record in supporting customers by creating solutions that deliver."

www.aermec.co.uk



LIAM DEEGAN, SERVICE ENGINEER, CONDAIR

Humidity and evaporative cooling specialist Condair has appointed **Liam Deegan** as a Service Engineer. With over 10 years' experience in the HVAC industry, he will be supporting customers across the South East and Midlands.



Tony Tullett, Service Director at Condair, said:

"We are delighted to have Liam join the service team. It's great to be expanding the UK's largest network of humidifier and dehumidifier engineers even further to 19 service technicians. No matter where the job is, Condair can deliver the manufacturer's engineering expertise on-site to support our customers' humidity control requirements."

Condair offers planned maintenance agreements and reactive servicing for a range of humidifiers and dehumidifiers. The Condair Group is a global leader in humidity control and evaporative cooling, with energy efficient, hygienic and innovative technologies for commercial, industrial and heritage applications. Condair is represented in the UK by Condair Ltd, which offers system design, manufacture, supply, installation, commissioning, maintenance and spares.

www.condair.co.uk



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