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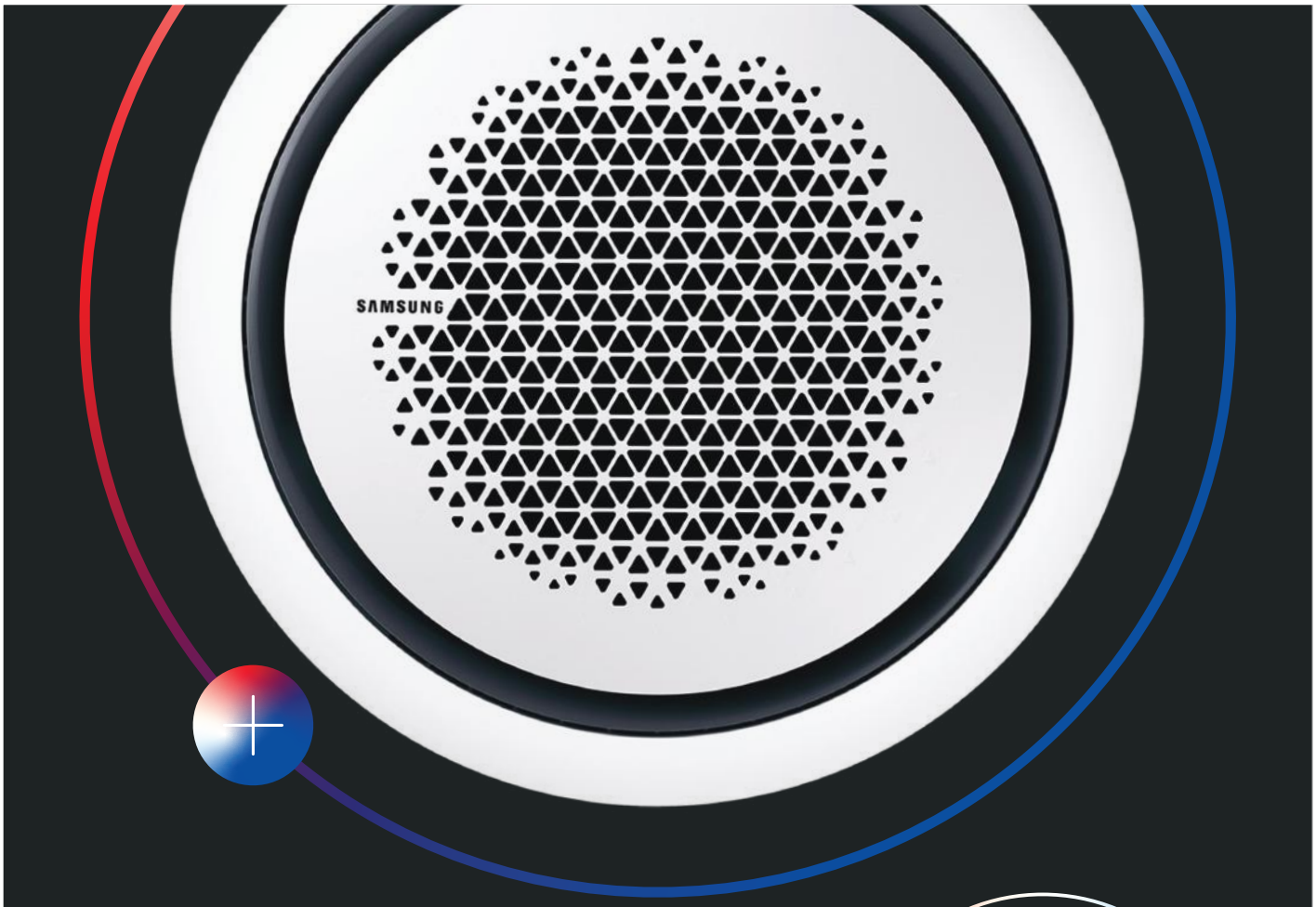
Essential Information for the Air Conditioning and Refrigeration Industry



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Welcome to the December / January edition of The ACR Journal.

With the events season in full flow, I look forward to participating in the Trainee of the Year awards in Leeds on 5 December. It's a pleasure to view the entries as one of the judging team. The capabilities of trainees within our industry never fail to surprise me, but it was one Sunday morning, while I was scrolling through LinkedIn, that I saw a comment from an employer saying that having one of his apprentices nominated for an award was the 'best achievement' in his working life. It was a nice reminder of the reach of these awards and that they hold a special place with everyone involved. They are worthwhile in every sense, so we should keep supporting as much as we can.

It has been a busy time since the last edition of the ACR Journal. I went to Chillventa and then back to university for the Calorics 2024 conference at University of Cambridge. The ACR and Heat Pumps Today exhibition in Leeds was a huge success, and the entire ACR Journal team attended the annual IOR Scotland dinner in Glasgow, which was a great evening yet again.

Remember to submit your award entries for the National Air Conditioning, Refrigeration, and Heat Pumps Awards in Manchester on 6 March 2025. The deadline for submissions is 6 December. You could have the best product or project in the world, but remember to ensure your entry reflects this and provides something for the judges to work with.

I hope you enjoy this edition.

Andy

We are very enthusiastic about our Samsung partnership,"commented Nigel Palmer of PACAIR. "It's not just about the products but the service and support that matter to us." "Welcoming PACAIR as a partner is a critical part of our exciting growth plans in the UK." commented Martin Crawford of Samsung

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How digitalisation and AI will shape sector's future


Lisa-Jayne Cook

New Institute of Refrigeration President Lisa-Jayne Cook looked at how digitalisation and AI is likely to affect the cooling and heating sector in her presidential address earlier this month.

She said that integration of the technologies marks a "pivotal shift towards a more sustainable, energy-efficient future" and explored why they offer "unprecedented opportunities to optimise energy use, reduce greenhouse gas emissions and decentralise energy systems".

In conclusion, Cook added: "In the next decade, the role of heating and cooling engineers is likely to evolve dramatically, driven by advances in AI, automation, IoT, and sustainable technologies. As industries shift toward greener practices and integrate smart systems, the responsibilities of engineers will become more diverse, technologically advanced, and sustainability focused.

"The future I envision is one where AI empowers us all to tackle climate challenges collectively. AI-driven systems can significantly reduce energy waste, while smart grids have the potential to revolutionise how energy is produced, stored, and consumed. This revolution is not just about enhancing efficiency - it is about creating resilient systems that can withstand environmental pressures, benefit all communities, and ensure a healthier planet for future generations.

"By embracing digitalisation and AI, we stand on the brink of a new era—one where technology serves not only to mitigate climate change but also to foster greater equity and inclusion. Together, we can shape a world that is not only energy-efficient but also more just, equitable, and resilient for generations to come."

Cook has worked in the sector for more than 24 years and is currently Service Sales Manager at GEA Heating and Refrigeration Technologies. She has been an IOR Trustee for four years and has been actively involved with ACRIB, INWIC (the International Women in Cooling Network) and the IOR's Women in RACHP network.

Chairing the IOR's AGM, Mike Creamer welcomed Craig Girdlestone and Christopher Griffiths as new Trustees and thanked outgoing board members Catarina Marques and Ian Fisher for their contributions.

Production begins at new Airedale by Modine factory

Critical cooling specialist Airedale by Modine has begun operations at its new 14.6-acre factory in Bradford, with the first computer room air handlers produced two months ahead of schedule.

Airedale by Modine secured the site in May this year and has since reconfigured the space for the manufacturing and testing of computer room air handlers and fan wall units. The company's existing facility in Leeds will focus on chiller production. Between the two sites, overall UK data centre production capacity is expecting to increase by 150%.

In addition to increased capacity, plans for the site include the construction of an advanced fan wall test centre. Once complete, the new R&D facility will expand Airedale by Modine's overall world-class testing capabilities and will see them welcome customers from across the globe for factory acceptance tests.

Further job creation to support longer term growth at the Bradford plant was forecasted by the company back in May, with a projection of over 200 highly skilled production and support roles being created over the next 3 to 5 years; approximately 10% of which are likely to be apprenticeship roles.

Adrian Trevelyan, Managing Director at Airedale by Modine, said: "The opening of the new manufacturing facility in Bradford marks an important milestone for our organisation. With significantly increased capacity, we can offer extensive support to the development strategies of data centre operators, whose growth reflects the unfaltering demand for digital applications in society."

www.airedale.com


The team at the new Airedale by Modine plant in Bradford alongside some of the first units manufactured on site

Graeme Fox made honorary member of AREA

Former president Graeme Fox has been made an honorary member of AREA, the European association of refrigeration, air conditioning and heat pump contractors.

Fox, who is now Director of the F-Gas Register scheme for certification company Quidos after leaving his role as Director of Technical at BESA in August, spent 20 years as an AREA member, including four years as president.

In his acceptance speech, Fox said: "I am hugely grateful to my AREA friends for this honour. When I was first asked by BESA to represent them at AREA 20 years ago I said I would give it a go for a year and see what happens!

"I didn't expect to still be here after so long and after making such good friends across Europe and beyond. I certainly didn't think I would have the honour of being your President for four of those years.

"Fifteen years ago this association was in a bit of a crisis situation and it turned out to be a crossroads which we thankfully chose the right path at, and we created what we have today - an association which is rightfully seen globally as the definitive voice of the contractors in our sector for the whole of Europe. It has been an incredible journey that I am proud to have been a small part of."

A former contractor himself, Fox resigned as President of the Institute of Refrigeration in September, citing significant differences with the organisation.

Aquasnap beats the squeeze for chiller upgrade

Carrier Commercial HVAC recently completed a chiller replacement project at one of London's most extraordinary venues, the ArcelorMittal Orbit in Queen Elizabeth Olympic Park, Stratford.

Designed by sculptor Sir Anish Kapoor and engineer Cecil Balmond, the ArcelorMittal Orbit is one of the most striking and enduring visual legacies of the London 2012 Olympic and Paralympic Games. It is the UK's tallest sculpture and offers a 360-degree view of London.

The project involved replacing an inefficient chiller that had come to the end of its life with a Carrier AquaSnap 30RB 160R air-cooled liquid chiller, with scroll compressor, plus an added De-Superheater heat recovery option. The 30RB chiller also has refrigerant leak detector, compressor soft starter, super enviro-shield anti-corrosion protection, and water exchanger frost protection.

The ArcelorMittal Orbit in Stratford

Carrier was commissioned by ParkServe, on behalf of London Legacy Development Corporation (LLDC), to undertake the project, and enlisted the support of local contractor L&B Technical Services Ltd to complete the challenging installation. Given the height and location of the ArcelorMittal Orbit's roof plant area, at the top of the 114-metre-tall structure, securing a crane permit was costly and complicated. However, the only access to the roof plant room was through a 1m x 1m hatch.

Lifting parts into place through the hatch

To overcome this challenge, Carrier's service technicians recommended and performed a strip down and rebuild of the 30RB unit. The chiller was dismantled off-site, packed into a 'kit-of-parts', and then transported to the roof plant area through the narrow access hatch. The unit was then meticulously reassembled on-site, eliminating the need for a crane and significantly reducing the overall cost. This method was not only cost-effective but also ensured that the chiller was installed without compromising the warranty, maintaining Carrier's high standards of service.

"This was a great project to work on. Squeezing a chiller through a 1m x 1m hatch isn't something we do all that often," said Rob Moffat Contracts Manager, L&B Technical Services Ltd. "The crane option was quoted for but the cost for a Carrier strip and rebuild service was a fraction of the price. We are proud of our partnership with Carrier and this project exemplifies our abilities to deliver complex and innovative HVAC solutions even under challenging circumstances."

Long-term hires deliver double dose of hospital cooling

ICS Cool Energy has delivered a comfort and process temperature control solution for a major hospital in Birmingham.

The hospital required an additional 80kW of capacity for comfort cooling in one of its patient wards, as well as a contingency cooling system for its data centre. Both systems were provided as long-term hires using ICS Cool Energy's i-Chillers.

Previously, the hospital relied on external providers. No on-site contingency system meant that in the event of a failure, they had to call in to deliver and install backup equipment. This reactive approach posed a significant risk, as every minute is critical when it comes to data centre cooling. Any delay in restoring cooling could lead to irreversible data loss.

Following a site assessment and analysis of the hospital's requirements, ICS Cool Energy proposed a solution to meet both needs:

A process-grade 80kW i-Chiller to provide comfort cooling for the patient ward. This system was delivered under a rolling 12-month hire agreement, offering the hospital long-term flexibility without capital expenditure. The chiller ensures stable and reliable temperature control, creating a comfortable environment for both patients and staff.

To safeguard the hospital's data centre, a 160 kW i-Chiller was installed alongside multiple internal air handling units. This backup system is always on standby and ready to take over should the primary cooling system fail.

Lordan signs partnership agreement with Spanish coil company Sereva

Lordan has bought 19.9% of Spanish coil company Sereva in a strategic move designed to significantly expand the group's presence in Europe and give access to the retail and hospitality through Lordan's existing global sales network.

Sereva's coils are supplied to OEMs specialising in cooling food. They are specialists in the design and manufacture of custom evaporator coils, providing a personalised service to manufacturers and installers of refrigeration and freezer systems.

Both companies established a new company, Lordan Iberian Coils (LIC), with Lordan holding the majority stake. LIC will focus on Lordan's existing main markets of public transportation, server farms and other 7mm coil markets.

Stuart Lancaster, Managing Director of Lordan (UK), said: "The Lordan Group is already a leading manufacturer of high quality custom-made fin and tube heat exchangers for the HVACR markets, supplying commercial, industrial, telecommunications, medical and transportation sectors, and is proud to add this new dimension.

"This is an exciting time for Lordan as we embark on a new expansion phase. This acquisition will benefit our existing customers in mainland Europe, and especially Spain, and also expand our presence in new markets. It will bring our existing products to new customers and new products to existing territories.

"This is a big year for Lordan UK. In addition to this strategic move, we are adding an extension to our UK factory, increasing it by a third, and it's also our 20-year anniversary."

Ernest West & Beynon appointed BITZER Marine Service Partner

Compressor manufacturer BITZER has appointed Ernest West & Beynon Ltd as an authorised Marine Service Partner, with a particular focus on the specialist cooling requirements of the marine and offshore industries.

The agreement includes access to BITZER compressors, components and refrigeration oils, plus Green Point services, including remanufactured compressors and site support.

Kevin Glass, Managing Director of BITZER UK, said: "With more than a century of experience in the marine and offshore industry, Ernest West & Beynon Ltd has unrivalled expertise and reach in this sector. We are delighted to have formalised our long-standing collaboration and look forward to working more closely in the coming months and years on its outstanding refrigeration solutions for clients across the UK and the world."

With headquarters in Paddock Wood, Kent, supported by engineering expertise across the south-west, Ernest West & Beynon Ltd maintains a strong presence at key ports in Portsmouth, Devonport and the Clyde, carrying out full life-cycle support for onboard marine refrigeration systems. Core technologies include chilled water plants, cold and cool storage rooms, galley equipment, and air conditioning.

It also provides cooling for specialist scientific and medical applications, funeral parlours and mortuaries, and food cold stores, with a particular focus on bespoke solutions to meet specific end-user requirements.

Although based in the UK, the company's activities span the globe, with active projects in Germany, Spain, New York, Gibraltar, Cape Town, Singapore, the Middle East, and Australia.

Andrei Stefancu of Ernest West & Beynon, and Kevin Glass of BITZER

Andrei Stefancu, Technical Director of Ernest West & Beynon Ltd, said: "Our appointment as an authorised BITZER Marine Service Partner ensures our customers have full access to BITZER's range of proven compressors, spare parts and components specially designed and optimised for use in a marine environment. A key requirement for components in marine systems is approval by a classification body, and BITZER equipment is fully listed and approved for use in this challenging environment.

"We have been using BITZER products for over 30 years. Its proven engineering, coupled with the excellent technical support provided by BITZER UK and head office in Germany, makes the company one of our most valued partners."

Ernest West & Beynon Ltd is currently working on projects involving upgrading refrigeration plant with new BITZER compressors and condensers, and in the advanced stages of tendering for contracts worth over £2m that include BITZER equipment.

Beijer Ref salutes long-serving team members

Wholesale group Beijer Ref UK & Ireland recognised the long service of just under 100 team members at a celebration dinner in York.

The attendees were all members of the Beijer Ref 15+ Club, established in honour of employees who have been with the business for 15 years or more.

There was a special mention for four people who have each clocked up more than 40 years: DW Business Director Cliff Sealy, DW Regional Branch Support Manager Ray Jones, Beijer Ref UK&I Warranty Coordinator Liz O'Brien, and Pamela Knott, Senior Sales Controller, HRP Fareham.

The 'King of Ibrox Park', Derek Parlane, kept the guests entertained with stories from his glittering career in football.

Pictured clockwise, from top left: Liz O'Brien, Ray Jones, Pamela Knott and Cliff Sealy

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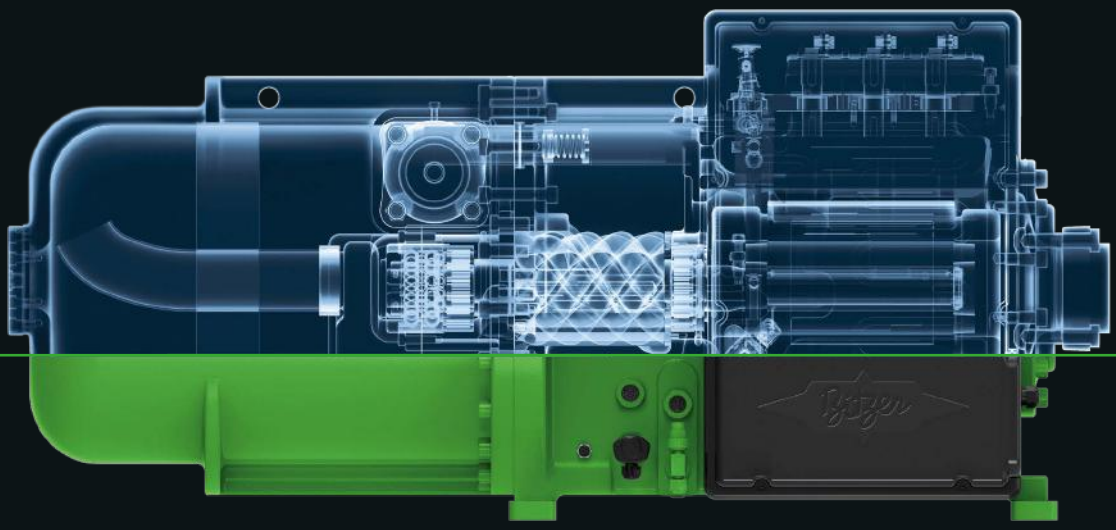

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Carver Group buys coil manufacturer SPC

HVAC solutions specialist the Carver Group has completed the acquisition of Leicester-based manufacturer S&P Coil Products (SPC).

SPC supplies heating and cooling coils, radiant heating and cooling panels, fan convectors, trench heating and cooling, air curtains, and unit heaters to the building services industry. Like other brands in the Carver Group, it sees the education sector as a core market.

"We are thrilled to welcome S&P Coil Products Limited to the Carver family," said Aidan Killeen, Chief Executive Officer. "This acquisition not only enhances our product offering but also underscores our commitment to supporting the education sector in the UK with reliable, high-quality climate solutions that foster a productive learning environment.

"As an 8th-generation family business, we take pride in our legacy of quality and commitment to providing excellent products and services to a wide range of customers in many sectors and this acquisition enables us to broaden our product portfolio in the UK market."

Established in 1776 and based in Walsall, the Carver Group now has a presence in 50 countries, with manufacturing facilities in Somerset, Warwickshire, Cambridge, Ontario and Kootstertille, the Netherlands, alongside sales offices in Germany, France, the Netherlands and Canada.

'Four Rs' in focus at BESA conference and awards

The BESA Annual Conference and Awards were held on 17 October at The Brewery, London.

The 2024 programme took into account the 'Four Rs', Roles, Responsibilities, Risks and Rewards, which cover the growing legislative pressures and associated contractual risks faced. It also highlights the growing rewards available to contractors.

The event opened with a welcome from David Frise, Chief Executive of BESA and Adrian Hurley, BESA President, together with a keynote from award-winning journalist and author, Peter Apps.

The BESA Industry Awards, held in the Porter Tun room at The Brewery, followed the conference. ACR Journal & Heat Pumps Today was a Media Partner for both events and publisher Juliet Loiselle helped judge the Contractor of the Year category, won by Geoffrey Robinson.

For a full list of all category winners, plus photographs from the event, visit: **www.thebesa.com/the-besa-awards**.

From left, Tom Marshall, Hayley Jackson and Tony Grayson of Cambridge HOK Refrigeration

Cambridge HOK marks £1m service milestone

Cambridge HOK Refrigeration says its service & maintenance division has achieved a £1million turnover within the company's first 12 months of trading.

Operating almost as an independent section within the business, the division is led by Head of Service & Maintenance Tony Grayson, who is responsible for managing ongoing contracts and a dedicated team of engineers.

He said: "This achievement is a reflection of the hard work and dedication of our team. We've built trust with our clients through consistently delivering high-quality work and it's great to see that paying off."

Cambridge HO General Manager Hayley Jackson said: "This milestone is an excellent testament to Tony's hard work over the past year. To achieve £1million turnover in service & maintenance alone in such a short period of time shows that our clients have complete faith in our engineers and the service we provide."

Established in October 2023, Cambridge HOK Refrigeration specialises in providing commercial and industrial refrigeration solutions, particularly in the food processing and agri-tech sectors. Their expertise extends to designing and installing refrigeration systems in packhouses, food manufacturing facilities and bulk storage or production areas.

Tom Marshall, Head of Technical & Projects, also praised the accomplishment, adding: "The service & maintenance division's success showcases our capability to deliver a reliable and effective after-install provision for our customers. We look forward to building on this success in the future."

Oooo, now... CO_2!

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Rechargeable Li-Ion battery as standard, that provides superior performance as well as saving on operating costs with a rubber keypad that provides positive actuation, as well as giving the user tactile feedback. AUTOMATIC and MANUAL reset modes - manual reset allows for fine tuning and precise compensation for background CO_2.

The BOSCH IR LD 1.0 is designed for ease of use with an ergonomic ambidextrous design, reinforced with a TPU over mould. It comes with a carry case, spare filters, battery charger and a 2-year warranty.

EN14624 TEST RESULTS

Static lower detection limit (g/a)[1]	4 g/a
Dynamic lower detection limit (g/a)[1]	5 g/a
Dynamic lower detection limit in a contaminated environment (g/a)[1]	10 g/a
Response time (s)[1]	<1 sec
Zeroing time (s)[2, 3]	-
Recovery time (s)[2]	35 sec

1 Grams per year
2 seconds
3 Not applicable. Subject to change

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SPECIFICATIONS	
Dimensions (L x W x H)	218 x 83 x 51 mm
Probe length	413mm
Weight	452 grams
Sensor life	Approximately 5 years (under normal usage)
Warm up time	Normally 50-60 seconds (90 seconds MAX)
Ultimate sensitivity	<2 g/yr
Power supply	Li-Ion rechargeable cell
Battery life (per charge)	8 hours
Recharge time	≤ 3 hours
Operating temperature & humidity	-20oC to 50oC – 95% RH MAX
IP rating	IP51

TOOLS+

BOSCH

Climarite makes industrial move

Climarite Refrigeration is continuing its expansion into the industrial sector with the creation of a dedicated division and leadership team.

The move has been described by the Skelmersdale-based contractor as a natural progression and inevitable expansion, as demand for its industrial engineering services has grown significantly over the past 12 months.

Climarite has previously focussed on the commercial sector and credits recent appointments and an improved team skillset for the industrial expansion. Managing Director Patrick Connolly said: "Our venture into industrial is the result of building a team of incredibly experienced and technically capable engineers, rather than a deliberate plan on my part. It is their expertise and passion that has gradually pulled us in the sector and presented the opportunity to grow in this direction – and I am only too pleased to support this next step.

"The commercial side of the business will always be at the core of what we do but by expanding our services we provide the best possible customer experience and enrichment within the company."

Climarite's current industrial client list includes manufacturing, food production, agriculture, large-scale old storage and distribution centres. As part of the expansion, the company says it is investing in a comprehensive training programme for existing team members, as well as the recruitment of additional specialist engineers. The company is also working with key partners to ensure adequate infrastructure is in place to support ambitious growth plans.

Climarite Industrial Supervisor Andy Forshaw

Julie Murray of Beijer Ref, representing MHI Direct, with Atlas Managing Director Stuart Head

Atlas supplies MHI Q-ton range in Scotland

Glasgow-based Atlas Renewable Heating Solutions has been appointed as a Value Added Reseller to supply MHI's Q-ton CO_2 commercial heat pump in Scotland.

The renewables business was formed this year as a division of the long-established Atlas Group, which also delivers refrigeration, air conditioning and ventilation services.

Q-ton is distributed in the UK by MHI Direct, a joint venture between MHI and leading wholesale group Beijer Ref.

The modular 30kW Q-ton air-to-water heat pump system from Mitsubishi Heavy Industries (MHI) operates on natural refrigerant CO_2, with a GWP of less than 1, and offers an efficient potable hot water and space heating solution for many commercial applications. It produces leaving water between 60-90°C, holds its capacity down to -7°C ambient and provides full operation as low as -25°C.

Wolseley Group acquires Logicool

Wolseley Group has acquired Derbyshire-based air conditioning, heat pump and ventilation distributor Logicool.

Simon Gray, Chief Executive Officer at Wolseley Group, said: "We are extremely proud to add Logicool to our portfolio of brands. This well-respected business will be a pivotal part of expanding our *Renewables by Wolseley* offering to become a full end-to-end supplier, helping our customers on their energy efficiency journeys."

Logicool offers customers pre-sales advice and design, and after-sales support for projects ranging from domestic to large commercial applications. It will retain its brand identity and operate as usual with colleagues and customers.

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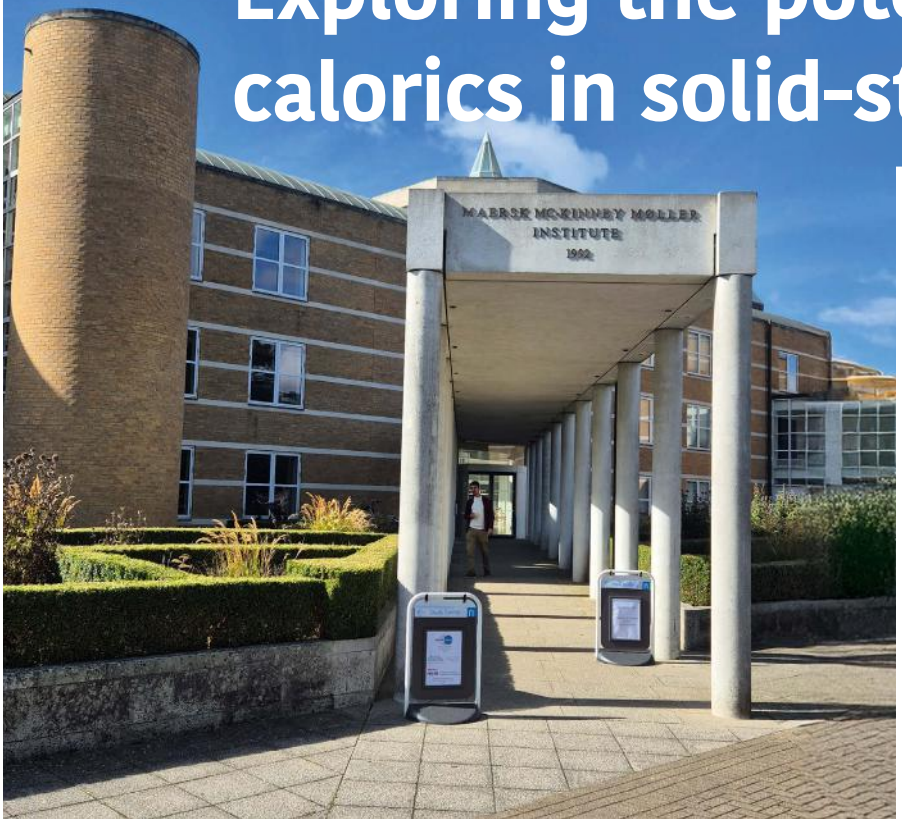
Exploring the potential of calorics in solid-state cooling



Academics from around the world gathered for the Calorics 2024 conference at the Møller Institute, University of Cambridge, to discuss the latest advancements in solid-state technology for developing energy-efficient and eco-friendly heat transfer systems. ACR Journal editor **Andy Slater** discovered how different energy transfer methods might offer alternative cooling and heating products to those operating on vapour compression cycles.

Working within the refrigeration and air conditioning industry, we are sometimes blinded by the vapour compression cycle and obsessed with improving on topics like GWP and system efficiency. The United Nations' Sustainable Development Goals recognise that decarbonising the heating and cooling sectors is paramount to tackling climate change. Governments and philanthropists, such as Bill Gates, founder of Breakthrough Energy, have offered support to discover new methods of providing cooling away from vapour compression, as global cooling demand is expected to triple in the next 30 years[1] and energy generation is presenting its challenge as we try to move away from fossil fuel sources to renewable means. Caloric materials are solid-state materials that undergo thermal changes when subjected to electrical or magnetic influences or stress changes. We unwittingly learn the foundations of electrocaloric, magnetocaloric, and electrocaloric processes while discovering physics and chemistry as children. Still, research by Hicham Johra of Aalborg University shows that scientific papers referencing caloric effects and systems have risen dramatically from the year 2000 after sporadic appearances in the late 1940s to mid-1950s, demonstrating that solid-state refrigerants are gaining considerable attention[2].

Elastocaloric effect

Materials subject to mechanical stresses such as uniaxial expansion or contraction can transfer energy to their surroundings to generate a cooling or heating effect. This thermodynamic change results from the realignment of the material's crystalline structure and changes in entropy. If the material is compressed, it rejects heat, and when it is stretched, it absorbs heat.

Shape memory alloys (SMA) are typically used as elastocaloric materials, such as copper-zinc-aluminium alloys, but rubber can also be used. The amount of temperature change depends on several material characteristics, such as its microstructure and composition, in addition to the mechanical force exerted on it. Its ability to resist retardation from repeated application of force is critical, and a lot of alloy-based materials require a sleeve to surround the material to maintain form.

Electrocaloric effect

A dielectric material where the electric current doesn't flow freely (electrical insulator) can exhibit temperature changes when an electric field is passed through it. The dipoles, molecules with positive and negative poles, align and release heat due to decreased entropy as the electrical field is applied. When the electrical field is removed, the dipoles revert to a disordered state and absorb energy from their surroundings, providing a cooling effect.

Magnetocaloric effect

When a magnetocaloric material is subjected to a magnetic force, its magnetic domains (a microscopic region within the material atoms affected by a magnetic field) align, reducing entropy and resulting in heat loss from the material itself if the heat is radiated away. When the magnetic field is removed, if the material cannot absorb energy from its surroundings, its magnetic domains absorb thermal energy from the material itself, and the magnetocaloric material cools to below its original temperature.

Energy recovery

Most effective cooling and heating processes are energy intensive and typically consume electricity, whether to drive mechanical components such as a compressor, generate mechanical action to stretch material, provide electrical current, or generate a magnetic field. Energy recovery is essential to maximising the efficiency of all processes, even solid-state cooling.

Considering that every action in solid-state processes has an opposite reaction, it is sensible to take advantage of each process's cooling and heating effects to increase system efficiency and improve viability. This typically involves cooling and heating two different water circuits from one mechanical process.

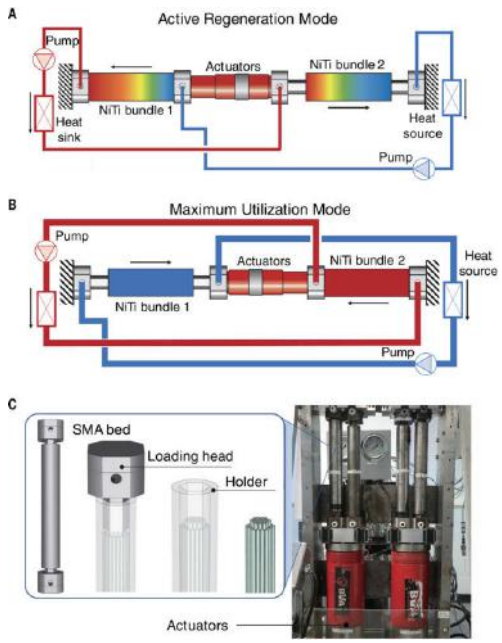


Figure 1: System design schematics and operatingprinciples of the multimode elastocaloric cooling system. https://www.science.org/doi/10.1126/science.adg7043

Figure 1 is an extract from an article placed in Science.org. It shows the system design and operating principles of a multimode electrocaloric cooling system, which provided 260 watts of cooling power and a maximum temperature span of 22.5 kelvin. It is an example of how solid-state technology can be scaled, with this example adopting a physical size of 1300 x 800mm. It uses fatigue-resistant elastocaloric nitinol (NiTi) tubes configured in a multimode configuration, meaning heating and cooling can occur simultaneously with mechanical forces when compressing and unloading, complementing each other to increase system efficiency.

Application

Discovering suitable caloric materials is just the beginning of the development of solid-state cooling technologies. The next challenge is developing scalable processes to transfer the technology into suitable applications. Caloric heat pump systems already exist; and have done since the 1980s[4]. They are an immature technology with a lot of potential, barriers such as cheaper magnetocaloric material and component optimisation are currently preventing a competitive market to traditional vapour compression systems.

Baracol, a solid-state technology research and developer, demonstrated its prototype bottle cooler after the conference. The cooler, which results from over 15 years of research at the University of Cambridge, is a quiet, zero-global warming potential cooling system that provides chilled refreshments with efficiencies reportedly two to three times higher than conventional methods.

Sources:
1. **IEA: The future of cooling 2018)**
2. **Performance overview of caloric heat pumps: magnetocaloric, elastocaloric, electrocaloric and barocaloric systems: Update 2024**
3. **https://www.science.org/doi/10.1126/science.adg7043**
4. **https://www.rehva.eu/rehva-journal/chapter/magnetocaloric-heat-pumps-innovative-heating-and-cooling-systems-1**

Further Reading:
https://barocal.com/technology
https://www.breakthroughenergy.org/

Bowie the star man at IOR Scotland dinner

Drew Bowie received the coveted Kooltech Award as more than 540 guests gathered for the 44th IOR Scotland Annual Dinner at the Double Tree Hilton in Glasgow.

Recipient of the Kooltech Ltd Award, Drew Bowie of TRS presented by Kevin McMahon of Kooltech Ltd.

Apprentice of the Year winner Ryan Smith of AE Refrigeration & Air Conditioning Ltd, presented by Mick Taylor of Absolutely Chilled

The presentation recognised an outstanding career in refrigeration which began more than 57 years ago at James Kilpatrick (later Balfour Kilpatrick) and included a 37-year stint with Turners (later Hussmann), followed by spells at Project First and Technical Retail Services, from where he recently retired.

IOR Chair Danny Watson revealed that Bowie's dedication to the industry saw him mentor many young apprentices along the way. It also earned him the nickname 'Prince of Darkness' because he would often appear in the middle of the night to assist a struggling engineer!

Ryan Smith, of AE Refrigeration & Air Conditioning, was named Apprentice of the Year (sponsored by Absolute Chilled), with Blaine Feeney of KB Refrigeration runner-up (sponsored by Yellow Jacket). IOR Scotland Vice Chair Jason Fraser thanked Aspen Pumps Group for again donating a range of equipment to be used by young engineers studying at Glasgow Kelvin College. There was also a special mention for a large donation several years ago by Refrigeration Aberdeen Ltd, which has allowed considerable funding towards training in Scotland.

Fraser also paid an emotional tribute to one of the original founders of IOR Scotland, Dr Stephen Forbes Pearson, who died earlier this year. He said: "In 1975, the Scottish Institute of Refrigeration was born and led by Dr Pearson, one of the reasons we are gathered here tonight. Can we all take a moment for a round of applause, appreciating Forbes' contributions and to share our condolences to his family."

It was announced that IOR Scotland has raised more than £60,000 for its chosen charities over the years, with money raised in 2024 benefitting Scottish Families Affected by Alcohol & Drugs, which worked with more than 3,000 families across Scotland last year alone.

They evening also saw Danny Watson thank "three remarkable individuals" for their contributions to IOR Scotland. Former Chairs Julie Murray and Norrie Fraser, along with long-serving former Treasurer Alistair Fowler, will all step down from the IOR Scotland Committee at the end of the year. Watson added: "Collectively they have made an immeasurable difference to the IOR in Scotland and without them all of this would not be possible.

Apprentice of the Year runner-up Blaine Feeney of KB Refrigeration Ltd presented by Neil Stewart of Ritchie Engineering Co., Inc.

The 2024 IOR Scotland committee

ACR Journal and Heat Pumps Today leads the way at Elland Road

Elland Road, home of Leeds United Football Club, hosted the ACR Journal and Heat Pumps Today Regional Exhibition on 26 September 2024.

Thirty exhibitors, including manufacturers, distributors, and industry associations, welcomed over 200 visitors to the tabletop event.

Seminars were provided by Neil Roberts of Climalife and President of the British Refrigeration Association, as well as Daikin's Stuart Turner, who discussed the application of domestic heat pumps in the UK.

Hayley Comey, Events Manager at ACR Journal and Heat Pumps Today, commented: "We would like to thank everyone who took the time to attend, exhibit, and of course, the event's sponsors. The exhibition was a great success, and we have already nearly sold out exhibition spaces for next year's event in Leeds, with many exhibitors rebooking."

If you would like to know more about future exhibitions, please visit:
https://www.acrjournal.uk/regional-exhibitions

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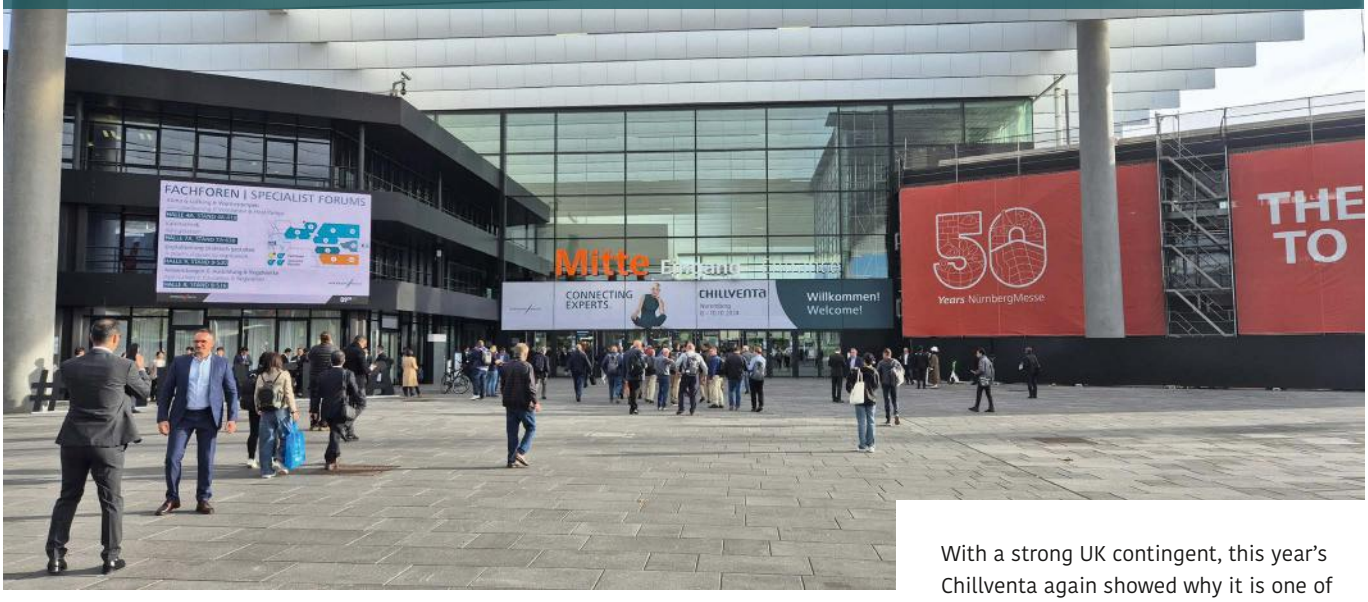
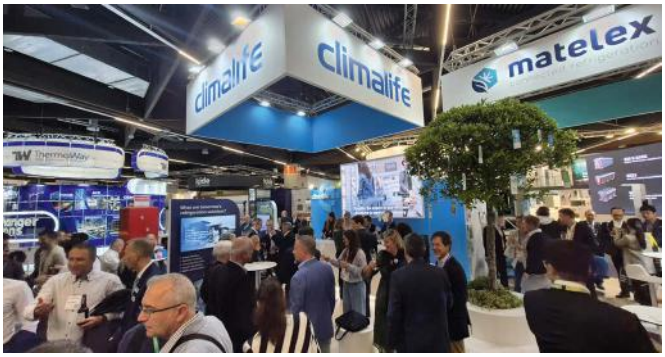
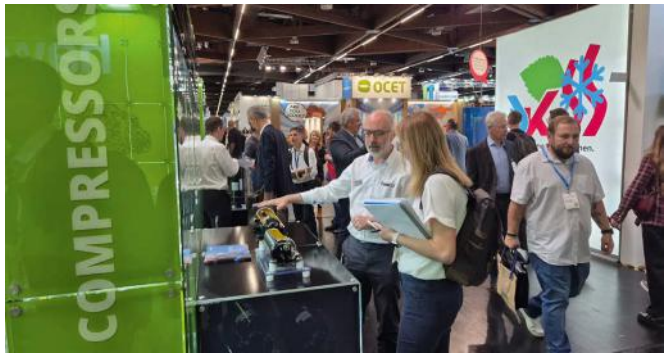
Records broken at Chillventa 2024

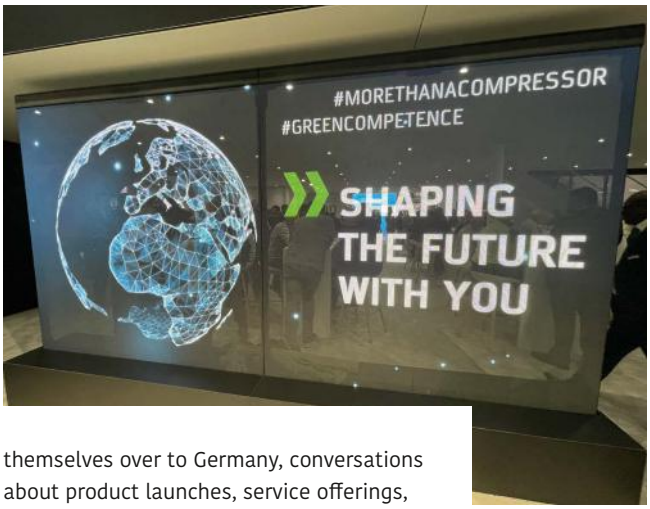
In October, Chillventa displayed the latest refrigeration, air conditioning, heat pump, and ventilation technology. Held every two years, Europe's largest refrigeration exhibition attracted over 33,000 visitors from 49 countries. The number of exhibitors and seminars was reportedly at an all-time high. ACR Journal sales manager **Victoria Brown** and editor **Andy Slater** attended the four-day event.



With a strong UK contingent, this year's Chillventa again showed why it is one of the must-attend events on the refrigeration calendar, providing a buzz around the exhibition halls and the whole of Nuremberg. If you have never experienced the show, put it on your to-do list; it's the only place you see everyone from the industry in one location, with most people on the plane leaving Stansted the day before! There is something to be said for seeing a familiar face when overseas. After regaling the difficulties that some faced getting equipment, material, or even







themselves over to Germany, conversations about product launches, service offerings, and industry changes quickly took over. It is, after all, why so many people attend.

It would be naive to think of just a room full of chillers and heat pumps making up the displays in the eight or so halls the exhibition is spread over. You can find anything from building mapping and load calculation software to cleaning and recycling services, dehumidification ventilation systems to exhaust air heat pumps and split air conditioning systems to industrial refrigeration. If it is linked to refrigeration, the cold chain or air conditioning, the chances are that it will be present at the show and possibly on stands that represent the size of a large house!

Support programme

This year, the support programme expanded to offer over 250 presentations at the Chillventa CONGRESS, a conference on the first day followed by four forums. The prominent topics were sustainability, FGAS, PFAS, the circular economy, and digitalisation, which focused on increasing efficiency, productivity, and revenue in skilled trade businesses.

One message stood out above all else. The drive towards natural refrigerants was apparent on nearly every stand where refrigeration or heat pump technology was present, whether a unit per se or components such as compressors and valves. R290 and CO_2 certainly had a presence. The EU has made its intentions clear with an aggressive phase-down of quota to reduce the impact we have as an industry. However, in the UK, we still find ourselves uncertain and with the consensus that, hopefully, our path won't be as aggressive.

THE NEXT CHILLVENTA EXHIBITION WILL TAKE PLACE ON 13 – 15 OCTOBER 2026

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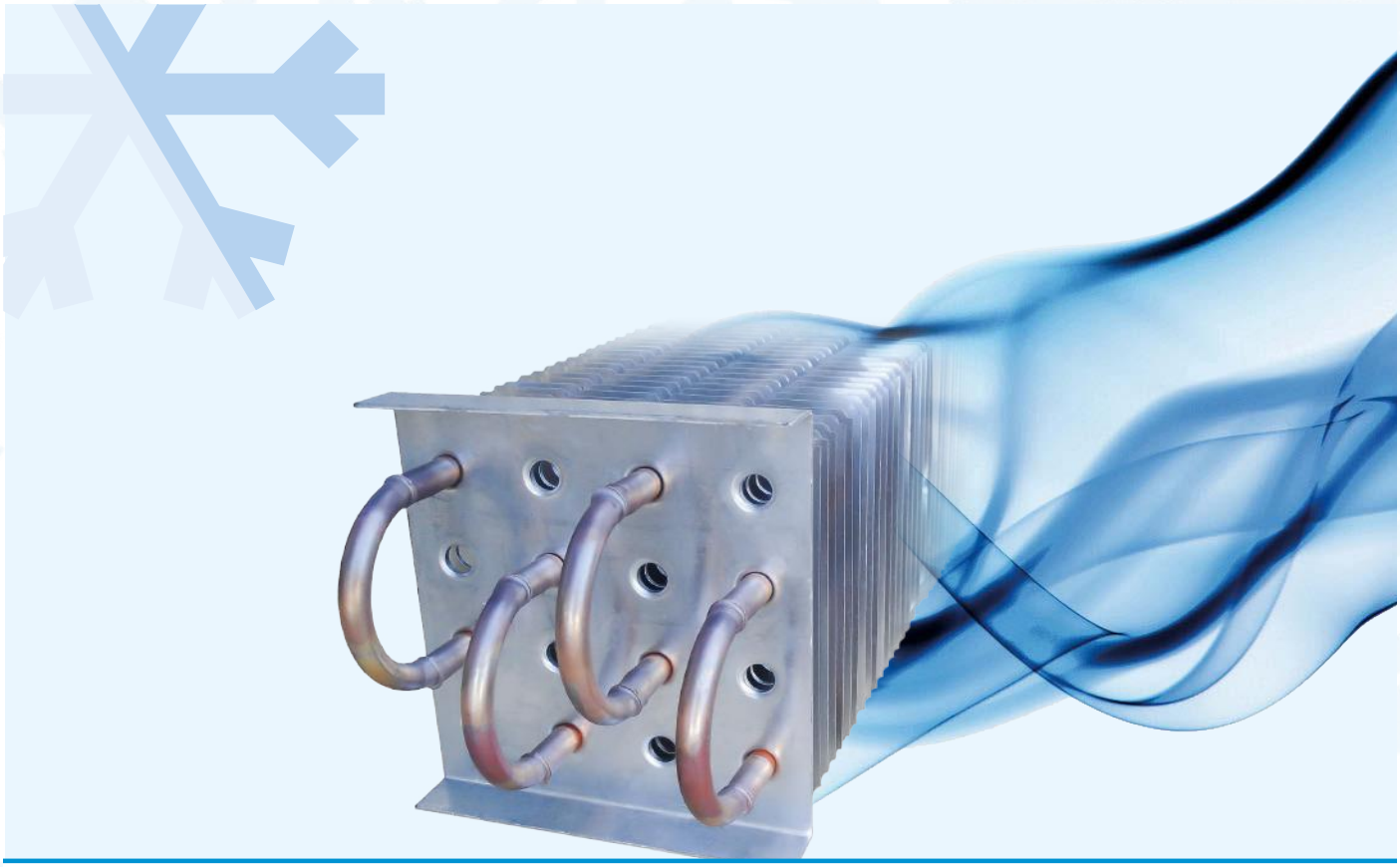

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Learning to embrace heat pumps

As a trainer of heating, ventilation and air conditioning or HVAC as it is known, I've noticed how interest in heat pumps is rapidly accelerating and this translates into us getting more and more engineers registering for both our online courses and the face-to-face ones.

The engineers applying are from the traditional plumbing and heating sector as well as the air conditioning side as well.

When I stop and think about it though, it never ceases to amaze me that it's actually taken this long for people to realise the fantastic opportunity that renewable heating offers all round.

Both commercial and residential heating systems that are converted from gas to renewables are helping the nation get closer to our ambitious net zero targets, building by building.

These engineers realise that by expanding into the renewable sector, there is a world of opportunity to grow their business.

Yet some still seem to think of installing heat pumps as a dark art! For me though, it's ultimately little different to installing a gas boiler.

A heat pump, whether commercial or residential, needs proper design, installation and commissioning, with the correct power, clean pipework and the correct water flow.

Get the design right, get the flow rate right, get the power right and it just works.

There are around 27 million homes in the UK and approximately 2 million commercial buildings and with our varied climate, all of them need heating and hot water.

Whilst there is lots of talk about making new buildings 'fit for the future', we will still be using about 80% of existing buildings by 2050, so that means there is an opportunity retrofitting renewables to the millions of existing homes and commercial buildings.

Decarbonising public buildings

Salix Funding, or the Public Sector Decarbonisation Scheme as it is officially known, is really making a difference in the commercial sector.

Now entering its fourth phase, the scheme offers funding to public buildings that replace antiquated fossil fuel heating with renewable systems, such as heat pumps.

According to the gov.uk website the last phase of £230 million in October 2023 will not only help to decarbonise the public sector with low carbon heating and energy efficiency measures, it is also expected to save the public sector an estimated £650 million per year on average to 2037.

Each year of the scheme sees more council offices, sports centres, schools, libraries and other public spaces benefit from renewable systems that replace their aging, carbon-heavy gas and oil heating.

And each year proves beyond doubt that heat pumps really are a viable alternative to gas, which for me also demonstrates that heat pumps are here to stay.

In the private sector commercial building owners are also realising that they are in danger of being left behind if they do not focus on decarbonisation and renewable heating.

Global brands are looking at a growing body of legislation all focused on reducing energy consumption and decarbonising heat production and this is adding pressure to building owners to make sure they can demonstrate how renewable and low carbon their buildings are.

Owners of older buildings now face significant costs associated with meeting higher standards for Energy Performance Certificates (EPCs) and are trying to avoid any disruption from swopping out gas for heat pump.

So, whichever way you look, there is a real opportunity for any commercial or residential heating engineer ready and able to help customers in both the commercial and public sector.

Find out more by visiting our training page to book a course:
https://les.mitsubishielectric.co.uk/installers/installer-training

Ben Bartle-Ross is a technical trainer at Mitsubishi Electric

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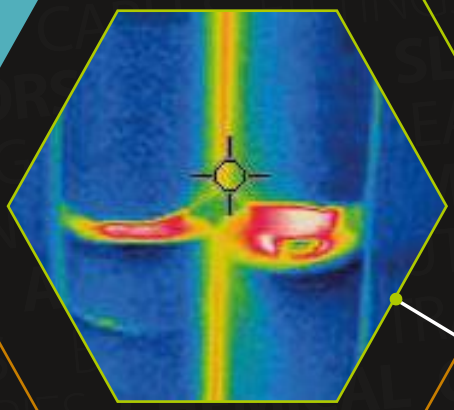

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Innovation and collaboration for a sustainable future

As data centres continue to expand to meet the demands of a digital-first world, **Brad Stone**, Data Centre Market Manager UK & Ireland, Carrier Commercial HVAC, explores the benefits of a 'conception to completion' approach.

Data centres are a cornerstone of the modern digital economy, underpinning activities like online banking, social media, e-commerce, and the rise of remote work. As new technologies like artificial intelligence (AI) and the Internet of Things (IoT) drive even more data generation, the demand for data storage continues to surge. In 2023, data centres consumed 7.4 gigawatts of power[1], a 55% increase from the previous year, and are responsible for approximately 4% of global energy consumption.

Further research suggests[2] that Europe's data centre power consumption will surge from 62 terawatt-hours (TWh) to over 150 TWh by 2030, driven by AI advancements and digitisation.

The sheer scale of energy required to keep these vast data repositories functional presents a challenge. Not only must servers and networking equipment be powered 24/7, but they must also be cooled continuously to prevent overheating, which may otherwise result in system failures and data loss.

The role of HVAC systems in data centres

HVAC systems play a pivotal role in ensuring data centres operate smoothly. To avoid potential failures, data centre cooling systems are said to consume as much as 50% of any data centre's power[3].

With up to half of the power being used by HVAC equipment, these systems must do more than just maintain consistent indoor temperature. They have a significant role to play and must be highly efficient, adaptable to the unique needs of each facility, and capable of supporting both the hardware and the overall building design.

Brad Stone, Data Centre Market Manager UK & Ireland

Adopting a 'conception to completion' model so HVAC manufacturers and data centre facilities can work collaboratively across the project lifecycle can lead to optimal outcomes.

From the initial design phase to installation and long-term maintenance, Carrier engages with stakeholders to ensure that HVAC systems are designed not only for current needs but also with future scalability in mind. The multidisciplinary approach of its data centre team ensures that all aspects of the cooling system are aligned with operational goals, cost efficiency, and environmental considerations. Specification engineers work closely with project designers to propose energy-efficient solutions, while account managers and project managers maintain a balance between capital expenditure and operational costs.

Innovations in data centre cooling technology

Our commitment to innovation is reflected in ongoing investment in research and development. At centres of excellence in Montluel and Culoz, we design, manufacture and extensively test our solutions. This focus on R&D has resulted in innovative cooling technologies that meet the increasing demands of data centres while minimising energy consumption. Specifically designed for data centres, systems integrate energy management, system optimisation, active harmonic filtration, and efficient free cooling and energy recovery.

Products such as computer room air handling units, with capacities ranging from 50kW to 400kW are designed to handle the specific needs of data centres, this system offers flexibility and scalability, ensuring that facilities can meet evolving demands.

Sustainability and the circular economy in data centres

As the global push for sustainability intensifies, data centres are under increasing pressure to reduce their environmental footprint.

Under Article 12 of the recast Energy Efficiency Directive[4], data centres are required to publish information on their energy performance and sustainability. The scheme created by the European Commission is intended to increase transparency and promote new designs, and to prompt developments in energy and water consumption reduction, and to promote renewable energy usage.

One of the most promising innovations is the reuse of waste heat generated by data centres. This waste heat, often viewed as a byproduct, can be harnessed and redirected for use in district heating systems, providing a sustainable energy source for nearby residential and commercial buildings.

An example of how waste heat recovery can be successfully implemented comes from a project in Sweden. A utility company uses our high temperature 61XWH-ZE heat pump, capable of delivering water temperatures up to 85°C, as part of a wider design scheme which provides reliability for the data centre and district heating provider. That system delivers more than 12MW of reused, waste heat from the data centre to over 40,000 homes in the surrounding area.

Such initiatives not only reduce the environmental impact of data centres but also provide a tangible benefit to local communities. This concept of "smart cities," where data centres are integrated into urban energy networks, is gaining traction and is part of a blueprint for the future sustainable data centre infrastructure in the UK and Ireland.

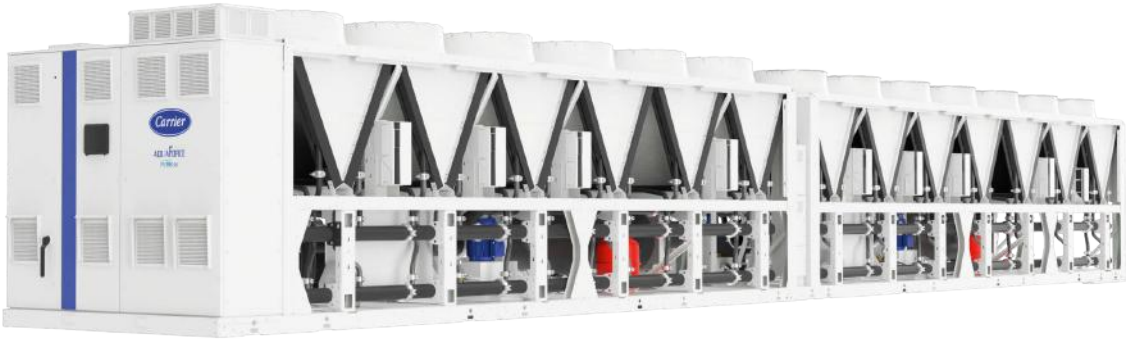
Collaboration and investment in people

While technological advancements are critical, the human element should not be overlooked. Successful data centre projects require collaboration across a range of disciplines, from engineers and project managers to sustainability experts and community planners. It is important to work closely with clients and stakeholders at every stage of the project to develop products that ensures all parties are aligned in their goals and that projects are delivered on time, within budget, and with long-term sustainability in mind.

Balancing growth with sustainability

As we continue to use digital services in our daily lives, the data centre industry will continue to grow. As the industry expands, so too will the demand for efficient, sustainable HVAC solutions. Carrier is well-positioned to lead the charge in this area, with its focus on innovation, collaboration, and sustainability.

The challenge for data centre operators will be to balance the need for expansion with the increasing pressure to reduce energy consumption and carbon emissions. By investing in innovative HVAC technologies and working collaboratively with partners and stakeholders, data centres can not only meet these demands but also contribute positively to their surrounding communities through initiatives like waste heat recovery.



Carrier's AquaForce 30XF designed for the data centre

1 https://www.datacenterknowledge.com/energy-power-supply/data-center-power-fueling-the-digital-revolution
2 https://datacentremagazine.com/data-centres/global-ai-boom-to-triple-eu-data-centre-energy-use-by-2030
3 https://www.datacenterknowledge.com/energy-power-supply/data-center-power-fueling-the-digital-revolution
4 https://energy.ec.europa.eu/news/commission-adopts-eu-wide-scheme-rating-sustainability-data-centres-2024-03-15_en

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A-Gas successfully recovers nearly 20 tons of refrigerant gas

Recently, the A-Gas Rapid Recovery team, successfully recovered nearly 20 tons of refrigerant gasses from a car manufacturer that shut down one of its production lines.

Rapid Recovery is the A-Gas service for the on-site recovery of refrigerant gases for a wide range of sectors, including heating, ventilation, air conditioning, refrigeration, maritime services, demolition and many others. The service helps companies to reduce costs and save time, while fully complying with regulatory requirements.

The effectiveness of Rapid Recovery was recently demonstrated with the recovery of refrigerants R134a and R1234YF from a car manufacturing production line, which were contained in two separate static tanks that were in turn to be preserved for potential later use.

The operation, that took place in the province of Limburg, (Netherlands), was carefully planned in collaboration with Equans Refrigeration & Heating Solutions, a multi-technical service company belonging to the Bouygues group. The first step was to modify the pipework in the tank refilling system in order to be able to connect the special machines used to pump the refrigerants. With a view to speeding up the process and getting results more quickly, the decision was taken to use the A2L compressor, which offers better performance than the smaller E-Machines.

The result was the successful recovery of 9,500 kg of R134a refrigerant gas and 10,000 kg of R1234YF, for a total of 19,500 kg. The entire operation time required to effectively pump out the gases, which was deliberately overestimated for safety reasons, was 1.5 days per tank. Once the refrigerants were recovered, the tanks were put into a vacuum, allowing them to be pressurised with nitrogen and thus prepared for possible future re-use.

A rapid, economical and safe service

"For more than 30 years, we have been supporting our customers and partners in their environmental journey, providing low global warming gas and actively increasing the circularity of industries", says Lucy Andreas, Head of Rapid Recovery Benelux.

"In this specific intervention we have, as always, worked quickly, economically and, above all, safely.

The advantages of Rapid Recovery

A-Gas Rapid Recovery has a network of vehicles and engineers in place to give refrigeration contractors national coverage, and availability to go on site at short notice to handle jobs of all sizes.

The equipment can recover refrigerants up to ten times faster than the conventional recovery methods and the team take responsibility for all aspects of the recovery work – from start to finish.

Once recovered, refrigerant is returned to A-Gas for reprocessing through mechanisms such as filtering, drying and non-condensable gas removal to return it to the same quality as virgin refrigerant, in line with AHRI 700 specification.

The importance of conserving every kilogram of refrigerant should not be underestimated. As an industry we need to do all we can to ensure no kilogram of refrigerant, once produced, is released into the atmosphere.

What we do at A-Gas contributes significantly to building a more sustainable future.

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The importance of preventative maintenance for commercial systems

As we enter winter, Ultra Refrigeration's **Steve Shipp** emphasises the importance of regular, planned, preventative maintenance and looks at the benefits it brings.

For operators of commercial refrigeration systems, the benefits of regular, planned, preventative maintenance may seem obvious, but are certainly worth reiterating.

- Increased efficiency, leading to lower running costs.
- Energy savings, contributing to environmental sustainability.
- Quieter operation.
- Prolonged lifespan, lowering the lifetime costs of a system.
- Fewer breakdowns, particularly during critical periods.
- Increased profit by minimising downtime and keeping food in optimum condition
- Peace of mind

Best practice and tips for ongoing maintenance

A condenser which is just 50% blocked will typically use 43% more energy

A condenser which is just 50% blocked will typically use 43% more energy

For food retail and food chain businesses, we would expect operators to take the best possible care of their refrigeration equipment on a daily and weekly basis, between scheduled maintenance visits. This would mean routine visual checks of system components, keeping condensers clean, regular product temperature measurements and any other available diagnostic monitoring. In fact, anything that could give an early warning of any potential problems or changes in the way the system is operating.

These simple checks, carried out in-house by operators with no formal refrigeration knowledge, can be a signal that it's time to call in the experts.

If the business has access to a maintenance package with a trusted partner, then a call to the 24-hour help desk might be all that's required to sort a problem. If not, an engineer could be requested to visit, or review diagnostic data remotely.

Many maintenance packages allow for preferential service rates, unlimited call-outs and on-site labour included in the fixed monthly charge, which can provide for peace of mind.

Also included in any package should be two routine maintenance visits per year by a fully-qualified refrigeration engineer. If there are no other callouts or problems, this is when the system receives a full maintenance check-up to identify any operational problems which can be put right during the visit or a subsequent service call.

This would include a look at any diagnostic data that is available, which can be the key to identifying inefficiencies or the early signs of problems developing.

Diagnostics tools can be an important maintenance indicator

More than a maintenance partner

Here at Ultra we try to be more than just expert, 'hands-on', fixers of commercial refrigeration systems. Not all of our clients are refrigeration experts; after all, they have a business to run so can't be expected to keep up with all the latest technical and legislative changes affecting their fridge system.

Steve Shipp, MD of Ultra Refrigeration

A more informal part of a 'maintenance service' is to advise clients on these matters. This informal advice can take many forms. We aim to keep our clients ahead of their legal obligations in terms of F-Gas leak checks and perhaps any issues of food safety and hygiene in relation to their fridge system. Where appropriate, we'll have conversations about operational aspects of good cold-store management such as: keeping doors closed; minimising personnel movements; general housekeeping; defrost regimes; cleanliness etc.. In the background, as part of our own records (but frequently useful for clients as well!), we keep a detailed asset register of clients' equipment and F-Gas records.

We can help clients talk through these issues, and start to plan for any refrigerant and equipment changes. As a trusted maintenance partner, we aim to offer peace of mind for the whole business, not just the refrigeration system.

https://ultra-refrigeration.com/

CLIVE DEARLOVE, NATHAN ORMSON, COLIN REEVES, COOL DESIGNS LTD


Clive Dearlove


Nathan Ormson


Colin Reeves

Air conditioning and heat pump distributor Cool Designs Ltd (CDL) is expanding its technical and customer support team in response to continuing growth across the UK.

Clive Dearlove joins as Contracts Manager, with a particular focus on applied projects involving chillers and air source heat pumps. He will manage contracts from the point of order through to delivery, and provide after-sales technical support.

Nathan Ormson is appointed Technical Support Engineer and will act as a central hub for CDL's technical team. He draws on his experience across DX air conditioning technologies and heads up CDL's technical support line.

Colin Reeves joins as Technical Pre-Sales Engineer to assist customers and CDL colleagues in the selection and application of Toshiba and Fujitsu VRF systems and applied equipment.

Darrel Birkett, CDL Managing Director, said: "The latest additions to the team further strengthen our ability to support customers in the design and delivery of outstanding projects.

https://www.cdlweb.info/

JOHN KELLETT, COUNTRY MANAGER, PANASONIC

John Kellett and Jose Alves of Panasonic

Panasonic has appointed ***John Kellett*** as its new UK and Ireland Country Manager for the heating and cooling division.

Having worked in the industry since 1988, Kellett started out as an apprentice engineer and has spent much of his career with Mitsubishi Electric Living Environmental Systems. He played a key role in setting up the company's heating division and was most recently General Manager.

Kellett said: "I am pleased to be joining the Panasonic UK and Ireland teams. The strength of the Panasonic distributor network, combined with the innovative renewable technologies being launched by Panasonic, positions the company well for growth. The business has plenty to offer the market and I look forward to working with the team towards a bright future together."

Jose Alves, Regional Director for the UK, Ireland and Netherlands, is moving to a new European role within Panasonic in Germany. He commented: "I have enjoyed my time working with the UK and Irish teams over the past four years and helping to develop the team and business with the UK and Ireland. I wish John and the team well for what is looking like a positive future for Panasonic in the UK and Ireland."

https://www.aircon.panasonic.eu/GB_en/

KYLE McARTHUR, REGIONAL TECHNICAL SALES MANAGER, CONEX BÄNNINGER

Fittings, valves and accessories manufacturer Conex Bänninger has appointed ***Kyle McArthur*** as Regional Technical Sales Manager for Scotland and Northern Ireland. He joins from Emtec Group, where he was the Contracts Supervisor responsible for project execution and delivery.


Kyle McArthur

He said: I am looking forward to meeting existing customers and reaching out to many new ones. Over the coming months, I will be introducing myself to installers, contractors, specifiers and merchants, as I widen my network of contacts.

"It is great to have joined a global brand with a track record of innovation, and an impressive range of high-quality products, backed-up by a first-class technical support team."

McArthur believes that the industry is witnessing an ongoing revolution, as installers move away from brazing to press-fit – a change he expects to gather pace over the next 5 to 10 years.

He added: "Press-fit is definitely the future. Therefore, educating apprentices, trainees and installers that may not have switched yet about the benefits of press is a good pathway to introducing them to Conex Bänninger's high quality range of press-fit products."

https://conexbanninger.com/

PAOLO FARALDI, GROUP CHIEF TECHNOLOGY OFFICER, CAREL

Paolo Faraldi has joined controls manufacturer CAREL as Group Chief Technology Officer.

CAREL says the strategic appointment reflects the group's commitment to strengthening the scope and development of its technical areas, with the aim of increasing the integration and coordination of its technological processes.


Paolo Faraldi

Faraldi brings more than 20 years' experience acquired at leading international companies, such as Fiat, Indesit, Philips and Electrolux, both in Italy and abroad. In this new role, he will be responsible for overseeing and coordinating CAREL's technical and digital projects.

Giandomenico Lombello, CAREL Group Managing Director, said: "We are thrilled to welcome Paolo Faraldi. His experience and vision will be fundamental in guiding CAREL in facing new technological challenges and maintaining our leadership on the market."

https://www.carel.com/

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WOMEN IN THE ACR INDUSTRY

Jenny Dean is Business Director – Air Conditioning, Beijer Ref UK & Ireland.

What was your first job?

I started young! Whilst at school I had various jobs including a paper round, starting a local car washing business, working in a children's soft play centre and cafe and providing tutoring support to other students at school whose families were non-native English speakers. My first full-time job after leaving education was as a patient services co-ordinator for a home health care company.

What does your current role involve?

I'm all about setting clear sales targets and KPIs that align with our company goals and the demands of the market. This means analysing industry trends and listening to what our customers need so we can continue to grow.

Leading a team of talented and hardworking salespeople is a highlight for me. I focus on coaching, training, and setting them up for success with ongoing development, and clear, actionable goals. I allocate and oversee different regions and sectors, making sure everyone has their targets and knows what they're working towards.

Building and nurturing relationships is key; I keep close to our customer base to ensure they remain satisfied with our product and service and to understand what they value most, so they keep coming back! I also work closely with our marketing and product teams to create engaging content and advertising that is relevant and to introduce new products to the market.

Jenny Dean

Jenny and her daughter Summer

I am always tracking our sales performance, encouraging feedback, celebrating wins, and finding ways to grow even stronger together, which I love.

What attracted you to the industry?

I did not set out to enter the world of air conditioning! In my early 20s I moved to Welwyn Garden City and was looking for a new job locally. I took on a role as internal account manager at Mitsubishi Electric, later moving into management and corporate end user sales. My eyes were opened to the opportunity for growth and improved service within the industry and this is where I have stayed!

What excites/interests you about the industry?

As we know, HVAC has traditionally been male-dominated. I am excited by the growing push for diversity and inclusion within the industry. It is positive to see how the networks for women in engineering and HVAC are helping people to build careers in leadership and technical roles.

How would you like to see your career developing?

I have been fortunate enough to have various roles during my career and I still like to say 'every day is a school day'. I'd like to continue to develop myself and my knowledge when it comes to people management, product innovation and legislation and be the best I can be. I love developing others, too. Watching new, outside-of-industry colleagues join the business and flourish is something I want to continue to do.

What is the best piece of advice you were ever given?

Look after your people first and in turn they will look after your customers.

What do you see as the challenges facing the industry?

It is known there is a shortage of skilled HVAC engineers, with not enough young people entering the industry. Via our academy centres, Beijer Ref is plugging some of the skill set gaps. We also have a host of apprentices coming through the business but there is still plenty of work to be done to encourage more young people into the industry.

What would you say to other women who are considering coming into the ACR industry?

Do it! There is so much opportunity, the people are great and it's fun! New technologies are always on the horizon and there is value to add in all different roles within the HVAC Industry.

Is there a little-known fact about yourself that would surprise other people?

I am a huge Chas & Dave fan! Also, I once danced on the stage at the London Palladium!

I love to spend time near the sea with my 10-year-old daughter, Summer, either in the UK or abroad.

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Pixabay

The Innovation Zone

The guide to what's new for ACR Journal readers, offering vital industry news.

To advertise your product in 'The Innovation Zone' section please contact **victoria.brown@warnersgroup.co.uk**

DAIKIN APPLIED ADDS GLYCOL-FREE CHILLER OPTION

Daikin Applied UK has followed up last year's launch of its TZ D air cooled chillers with the addition of a glycol-free option.

Going glycol free can improve heat transfer efficiency and, therefore, performance while also reducing running costs. While glycol is useful in applications where freezing is a concern, it can be an environmental or health hazard due to its toxicity and can degrade over time which causes reliability problems. Choosing a glycol-free option can also be a regulatory requirement in some regions and for sensitive environments like food processing, pharmaceutical manufacturing or data centres.

Daikin Applied has developed a "closed loop" system that delivers an efficient solution for applications where avoiding the use of glycol is preferred. It is the latest addition to the company's TZ D air-cooled free cooling chiller range which employs the latest technology to deliver top performance across a wide range of capacities from 180-2150kW.

These free-cooling products are a popular solution for comfort, process and critical cooling applications where the outdoor ambient conditions are between –20°C up to +55°C and supply water temperature is –12°C up to +30°C.

The new EWFH/S/D-TZ D models are designed with a fully integrated free cooling system and the controls enable free cooling operation when the outdoor air temperature is low enough to cool the fluid returning from the system to the chiller.

The range is available with a choice of three refrigerants: R1234ze, R513A and R134a and in four efficiency levels based around its single screw compressor design.

The chiller also benefits from the use of one or two independent refrigerant circuits and each compressor is equipped with a variable frequency drive (VFD) which is said to offer greater reliability whatever the outside conditions and adjusts the operating patterns to closely match demand.

www.daikinapplied.uk

PANASONIC'S T-CAP AQUAREA M SERIES WITH R290 NOW AVAILABLE

Panasonic Heating & Cooling Solutions has launched the Aquarea M Series air-to-water heat pumps, setting new standards in efficiency and sustainability.

The M Series 9,12 AND 16kW Single or 3 phase has been designed with a modular concept that caters to diverse applications and property types. The M Series offers four configurations: Standalone Remote Controller, Control Module, Hydro Box, and All-in-One (AiO), providing tailored solutions for every user.

Utilising natural refrigerant R290, with a low Global Warming Potential (GWP) of 3, the system is a more environmentally friendly choice. The hydraulic connection between outdoor and indoor units (Hydro Box & All In One) simplifies installation, removing the need for F-gas certification.

https://www.aircon.panasonic.eu

OFFICE READY FOR THE FUTURE WITH KOOLTHERM PIPE INSULATION

Kingspan Kooltherm pipe insulation and insulated pipe support inserts have been installed as part of the refurbishment of professional services consultancy WSP's Chancery Lane office in London, moving the building to an all-electric heating system.

The refurbishment began in the summer of 2023 with all five floors of the Victorian building being extensively refitted. The M&E specification has been overseen by Essex Services Group and includes replacing the building's existing gas boilers with roof-based air source heat pumps.

Ace Thermal has overseen the installation of Kooltherm pipe insulation and insulated pipe support inserts on pipework across all levels of the building. Owner Scott Bunyard said: "With a major refurbishment project like this, inevitably there will be some installation in tight spaces. The use of Kingspan Kooltherm pipe insulation meant we could achieve compliance with the recommendations in BS5422:2023 with a thinner thickness of insulation. This made the installation more straightforward, particularly with the compatible Kooltherm pipe support inserts."

www.kingspantechnicalinsulation.co.uk

ENVIROVENT UNVEILS QURO DMEV UNIT

EnviroVent has launched a decentralised mechanical extract ventilation unit with fan technology able to achieve noise levels below 9 dB(A) at 3 metres.

QURO features constant volume technology, ensuring that the selected airflow rate can be achieved at a range of pressures without manual adjustments. It has low specific fan power (SFP) down to 0.08 W/l/s and is compliant with Building Regulations Approved Document F for Continuous Extract Ventilation within dwellings.

Designed for the specification and new-build markets, the unit has a compact low-profile design (175mmx175mm) and can be wall or ceiling mounted.

Ruth MacEachern, Product Manager at EnviroVent, said: "Housebuilders and specifiers are increasingly seeking ventilation solutions that are compliant with the Future Homes and Building Standard, as well as being compact in design and offering minimal noise disturbance. QURO is the perfect solution for a wide variety of new build applications."

https://www.envirovent.com/products/mechanical-extract-ventilation-mev/quro

DIFFUSION OFFERS NEW CIBSE-APPROVED CPD

Heating and cooling equipment specialist Diffusion is offering a CIBSE-approved CPD course designed to give attendees a better understanding of heating, ventilating and air conditioning systems.

Aimed at consultants, specifiers and installers, the free CPD, entitled 'Understanding Heating, Ventilating and Air Conditioning' explains the concept of air conditioning and explores fan coil units from selection to design and installation.

Within the CPD, delegates will also have the opportunity to find out more about the next generation of modular fan coil units, such as the company's new modular Highline 235 fan coil range which won the Product or Innovation of the Year – Thermal Comfort category of CIBSE Building Performance Awards 2024. The range has been developed to create the perfect indoor environment, offering modular design, compact dimensions and advanced components that deliver low sound levels, reduced energy consumption, optimal performance, and significant sustainability benefits.

Potential delegates can find out more at

https://www.diffusion-group.com/cpd/

or email

cooling@diffusion-group.com to register.

NEW 10-POINT GUIDE TO HUMIDITY CONTROL IN CLEANROOMS

Condair has released a new 10-Point Guide to Humidity Control in Cleanrooms. The document provides an easy-to-follow overview for managing humidity in closely controlled environments.

The guide has been produced by experts in the field with experience spanning thousands of cleanroom humidity projects across research, manufacturing and preservation sectors. Using this knowledge, Condair says it has compiled the 10 most pertinent topics that need to be considered by cleanroom designers, consultants, production and facility managers, when dealing with humidification or dehumidification.

Dave Marshall-George, UK & Ireland Sales Director at Condair, said: "Presented in an easy-to-understand Q&A format, this guide is a great resource for anyone working in or with a cleanroom facility. It walks the reader through the initial design stages, product selection and sizing, energy considerations and maintenance requirements, across both humidifiers and dehumidifiers. Detailed information is given on humidity's relationship with temperature and electrostatic, as well as how the very specific humidity levels cleanrooms so often need can be consistently achieved."

The guide is free to download here:

www.condair.co.uk/cleanroom

COMPATIBLE Y-JOINT FOR >B< MAXIPRO INSTALLATIONS

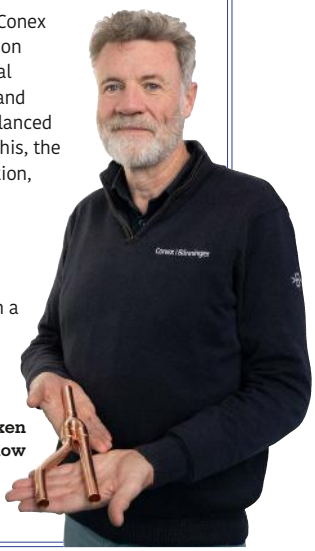
Conex Bänninger has introduced >B< Flow, a customised Y-Joint which is fully compatible with the manufacturer's >B< MaxiPro press fit solution for air conditioning and refrigeration.

The male ends of the >B< Flow have been designed to be fully congruent with >B< MaxiPro, meaning installers will no longer need to adapt 'Y' pieces by creating braze tails off-site.

Mike Lucken, Technical Sales Manager - ACR for Conex Bänninger, said: ">B< Flow is an important addition to our product portfolio, offering installers several key features and benefits. It has been designed and stringently tested to deliver an improved and balanced flow inside the >B< Flow joint and, in achieving this, the level of turbulence and noise is reduced. In addition, a guaranteed equal distribution of refrigerant is conveyed through both legs, thereby providing optimum performance.

"The >B< Flow, which comes with pre-moulded insulation, is an assured performer operating with a 3 times safety factor of 48 bar working pressure."

>B< MaxiPro is designed to be quick and easy to install, thereby significantly improving productivity through greatly reduced installation time.



Mike Lucken with >B< Flow

www.conexbanninger.com

'SLIMLINE' MVHR OFFERS LOW PROFILE AT HIGH AIRFLOW

Mitsubishi Electric has launched a new mechanical ventilation with heat recovery (MVHR) system with a low profile at high airflow, designed to help more businesses improve their indoor air quality.

The LGH-160/200/250RVXT3-E Lossnay MVHR, designed as a direct replacement for the LGH-RVXT, can recover up to 88% of heat energy from outgoing stale air to reduce the energy needed to bring incoming air up to room temperature, while refreshing the indoor air and removing pollutants, viruses and other irritants.

The new, upgraded 'T' range differs slightly from the flagship Lossnay line-up by being lower profile (500mm height) in the higher airflows units, which would traditionally be double stacked.

"The lower height allows the installation of the unit to take place where ceiling void height is limited and makes energy efficient fresh air ventilation achievable in even more situations," said Mitsubishi Electric ventilation specialist Hern Yau.

The RVXT3 works by recovering the heat and reducing carbon usage for both heating and cooling. It also features a new control mode which can be used with a pressure transducer to offer constant pressure control which can allow one unit to serve multiple rooms with varying fresh air requirements without over-ventilating.

https://les.mitsubishielectric.co.uk/products/ventilation/commercial-ventilation-units/commercial-lossnay-series/lgh-rvxt3-e

VERTIV GROWS LIEBERT CHILLER RANGE

Vertiv has announced the introduction of high-capacity models of its Liebert AFC inverter screw chiller range with low global warming potential (GWP) refrigerant R1234ze. Available in Europe, the Middle East and Africa (EMEA), the new models provide up to 2.2MW of cooling capacity in a single frame.

The new models are high-density, outdoor free cooling chillers that provide what is claimed to be the industry's highest capacity in a single frame.

"As the demand for AI and HPC deployments grows, customers are increasingly seeking solutions that provide higher cooling capacity within a compact footprint," said George Hannah, Senior Global Director for Chilled Water Systems at Vertiv. "Our latest Liebert AFC low-GWP chillers reach up to 2.2MW, in form factor that significantly reduces the time, cost, and complexity of deploying these systems. This solution supports our commitment to environmental responsibility and compliance with the latest regulatory standards and aligns with our objectives to continue our industry-leading expertise in air and liquid cooling applications."

Vertiv says Liebert AFC offers up to 20% lower annual energy consumption compared to fixed screw solutions. The inverter-driven compressor allows for the reduction of energy consumption and, in particular, the electrical power required during peaks, which in turn allows more power availability for the IT equipment.

Vertiv.com

PANASONIC EXTENDS MVHR LINE-UP

Panasonic Heating & Cooling Solutions has expanded its Mechanical Ventilation with Heat Recovery (MVHR) range with new units for its Z, H and V series, offering higher airflow options for different environments.

The Z range, known for its universal mounting horizontal or vertical compact units, now includes new 20 and 25 models, in addition to the existing 10 size. The two new models boast a compact design which allows them to provide air flow rates up to 320m³/h, matching previous larger model capabilities.

The H range, designed for horizontal mounting, and the V range, designed for vertical mounting, have both been extended to include a new 50 model, adding to the existing 40 size. The new 50 model increases both the H and V range's capabilities by reaching an air flow rate of up to 455 m³/h. These new additions are said to significantly increase the airflow capacity of the line up available.

Designed for single-family homes or apartments with low energy requirements, the MVHR units are designed to improve indoor air quality by providing controlled mechanical ventilation to ensure the supply of fresh air inside a building.

https://www.aircon.panasonic.eu

MITSUBISHI ELECTRIC ADDS CO_2 CONDENSING UNITS

Mitsubishi Electric has entered the UK refrigeration market with its ECOV R744 Series of condensing units, aimed at smaller shops, convenience stores and cold storage rooms in pubs and cafes.

The units are said to offer low noise levels, long pipe runs, a small footprint and a wide evaporating temperature range between -45°C and -5°C, meaning they can be used for chilling or freezing.

The ECOV refrigeration units utilise non-flammable CO_2 refrigerant (R744), with a low global warming potential (GWP) of only 1, meaning that a building's carbon emissions are reduced compared to systems using HFC refrigerants.

Two versions of the larger model are available (ECOV-X37VA and ECOV-X55VA) which offer duties ranging from1.98kW to 16.7kW at an ambient temperature of 35°C. A smaller unit (ECOV-X15VA) delivers duties from 0.65kW to 4.243kW at an ambient temperature of 35°C.

All ECOV units can be connected to multiple refrigerated display cabinets or cold rooms evaporators - making them suited to for smaller retail shops, convenience stores and cold storage rooms in pubs, cafes, and restaurants, along with cold chain distribution centres.

https://les.mitsubishielectric.co.uk/products/refrigeration

Visit www.installershow.com
for more information

Limited stand space remains for InstallerSHOW 2025!

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Limited space remains, request the latest floorplan here