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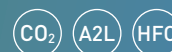
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Welcome to the August/September edition of ACR Journal.

The team have some great news to share about the National ACR & Heat Pump Trainee of the Year Awards (TOTY). This not-for-profit event, recognises those who should be celebrated for everything they've achieved throughout their training. This year's headline sponsor is RACES - Refrigeration & Air Conditioning Engineers Society.

Created for installers, service engineers, design and sales engineers, educators and students, RACES says that its main driving role will be to support small businesses in their refresher and up-skilling training courses.

No matter where you are on your training journey, this is your opportunity to showcase your passion and be recognised among the industry's rising stars.

If you're in training, you're ready to enter - www.acrjournal.uk/acr-trainee-of-the-year

Finally, many thanks to David Crowson for his support in bringing this issue together.

Juliet

Juliet Loisel FInstR, Editor/Publisher



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Heatwaves spark online ac selling alarm

Record high temperatures have prompted a spike in online searches for cooling products and, despite specialised cooling equipment being subject to sales restrictions, BESA members are reporting installation enquiries from members of the public who have already bought units from online retailers.

Some online marketplaces were reporting that requests for air conditioning installations rose by more than 300% at the start of July and with the UK now in the grip of repeated hot spells, the industry is braced for another bounce in demand.

BESA, which runs REFCOM, the UK's leading F-Gas certification body responsible for maintaining professional standards in the sector, said products containing refrigerant gases, including some that require specialist handling and may present a flammability risk if improperly installed or used, continue to be purchased by DIY users and unqualified installers. This is despite repeated warnings and the potential safety risks to people and property.

The Environment Agency (EA) is responsible for enforcing the F-Gas regime which includes measures to protect the public by requiring retailers to only sell equipment charged with refrigerant gas to properly qualified engineers. It has successfully prosecuted online sellers in the past for failing to establish the credentials of the buyer, but the practice has continued and accelerated again recently, according to BESA.

Responsible

"Most professional merchants and wholesalers are well aware of their obligations and take a responsible approach, but online sales remain something of an Achilles heel," said the Association's Technical Director **Kevin Morrissey**.

"Anyone selling specialised air conditioning and heat pump equipment must be able to prove they received confirmation from the buyer that the equipment would be installed by someone holding a valid F-Gas handling certificate or by an F-Gas registered contractor," said Morrissey.

He added that there was "genuine frustration" among certified companies who invest in training to make sure their technical skills are up to date, when they witness less responsible individuals carrying out uncertified installations and undercutting the market.

REFCOM members also complain about the lack of an adequate deterrent with only limited enforcement of the law by the EA. "They are seriously worried that the safety situation could deteriorate as our climate gets progressively warmer prompting more domestic consumers to look for low-cost solutions online," said Morrissey.

"The safety issue will only become more serious as the industry transitions to the use of equipment charged with flammable refrigerants including R290 (propane)."

BESA said it was also aware of reports that some buyers had attempted to misuse details of certified businesses when purchasing equipment online. However, the REFCOM register does not publish the information required for sales compliance verification of a company's F-Gas certification and said it had no evidence that information held within its systems had been accessed improperly.

REFCOM added that it processes personal data "in accordance with applicable UK data protection legislation".

<https://www.thebesa.com/>



A-Gas and Climate Centre re-sign long standing supply agreement

A-Gas and Climate Centre, a Wolseley business, have announced the signing of a new long-standing supply agreement, reaffirming a strategic partnership that has supported customers across the UK for many years.

The renewed agreement underscores both companies' shared commitment to delivering high quality refrigerants and lifecycle refrigerant management solutions, exceptional customer service, and industry leading environmental stewardship.

Through this continued collaboration, A-Gas has further solidified its role as a key supplier to Climate Centre, ensuring reliable product availability and technical expertise to meet evolving regulatory and market demands.

Over the course of their relationship, they have worked closely to support the heating, ventilation, air conditioning and refrigeration (HVAC&R) industry with refrigeration solutions, ranging from high GWP products, reclaimed refrigerants, lower



GWP alternatives and recovery services.

To read the story in full visit:

www.acrjournal.uk/news/a-gas-and-climate-centre-re-sign-long-standing-supply-agreement/

Training and skills – a core reason why RACES exists



Graeme Fox is Technical Director for RACES and Schemes Director at The F-Gas Register

As the Summer heatwave has driven a boom in domestic AC installations and a swarm of plumbers taking f-gas qualifications to do the installs, it's been a hot topic on social media platforms that "f-gas doesn't make you an engineer".

But what does make you "an engineer"?

The Cambridge dictionary defines an engineer as "a professional who applies scientific and mathematical principles to design, develop, build, and maintain machines, structures, systems, and processes. They transform theoretical concepts into practical, real-world solutions that meet societal and industrial needs."

For me an engineer has the ability to fault find, to diagnose why something isn't working, and find a solution to the issue to get it working. That's what differentiates a fitter from an engineer really.

Collaboration

RACES is teaming up with TF Solutions and J&E Hall to develop and deliver training

Graeme Fox CEng, Technical Director at Refrigeration and Air Conditioning Engineers Society (RACES) and Schemes Director at The F-Gas Register, discusses, how RACES is helping develop the next generation of engineers through training, technical support, and its commitment to recognising industry talent through the Trainee of the Year (TOTY) Awards.

courses to be launched soon which will actively help our members to develop their skills and knowledge to become better engineers. The next RACES event will be in Northampton – we are just finalising what day in September we'll be holding it – but this new training will be a key part of what's on the agenda that day.

There has never been a greater need for upskilling and access to technical guidance and RACES has an abundance of materials in its technical library now – all accessible freely to our members. As so many new entrants to the sector no longer have a broad team of time served and experienced guys to learn from due to the generally smaller nature of the businesses working in the sector, this access to technical support is a crucial key to helping them be better at what they do.

Support for training and trainees is a key part of why RACES was created and we are very proud that this year RACES has gone into partnership with the ACR Journal as the headline sponsors of this year's Trainee of the Year (TOTY) Awards. Since our launch in October 2025 we've welcomed hundreds of members and taken



on significant sponsorship from across the sector – demonstrating wide support for what we are doing.

This next step as the headline sponsors for TOTY cements our position as the leading organisation for supporting the grass roots of the industry. We are looking forward to seeing this year's candidates for TOTY across the sector and to helping them become the very best that they can be.

For more information about RACES and our events and training opportunities visit: www.races.org.uk. If you are interested in learning more about corporate sponsorship packages visit: <https://www.races.org.uk/sponsors/>

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¹ Uptime Intelligence Update 499 (June 2026), conventional ice-based TES; no endorsement implied.

² EnergiVault commanded export. *Configuration and duty dependent; site modelling required. Developed by Organic Heat Exchangers Ltd.



New generation ThermoCooler HP debuts in Sweden

ACR Journal and Heat Pumps Today visited IV Produkt Headquarters based in Växjö Sweden last month for the official UK launch of next-generation ThermoCooler HP with R290 and R454C refrigerant choice.

The next generation of ThermoCooler HP, is an integrated reversible heat pump module to support lower-GWP HVAC specification as part of its Envistar Flex air handling unit (AHU) range.

The Multiref concept

While maintaining operational reliability, energy performance and the installation benefits of an integrated solution, the new generation has been developed around IV Produkt's Multiref concept, allowing the DX cycle to be compatible with both R290 and R454C.

This gives designers and building owners a choice of refrigerant strategy, including R290, a natural A3 refrigerant with a GWP of 0.02, and R454C, an A2L refrigerant with a GWP of 146. Importantly, this means the entire range is compliant with scheduled EU regulation changes, covering units under 50kW in 2027 and over 50kW in 2030.

IV Produkt is the first manufacturer to use R290 in an integrated reversible solution, marking a significant step towards natural and lower-GWP refrigerant applications in integrated commercial HVAC systems.

Features

ThermoCooler HP uses a heat pump within the AHU to either heat or cool the supply air as required, reducing the need for separate external chillers, boilers or heat pump installations in many applications. This can reduce investment and operational costs, reduce total plant space requirements, simplify installation and support single-supplier responsibility for complete system performance certification.

A central feature of ThermoCooler HP is its defrosting-free, heating-priority design. Unlike many traditional integrated systems, which are often based on cooling-led layouts, it has been developed around the heating demands of northern European climates, while retaining the ability to provide comfort cooling when required.

The DX system and heat exchangers are positioned on the warm side of the thermal wheel. This means the heat pump >



is not exposed to cold air entering the AHU, or the associated problems with frost accumulation on the heat exchangers that can affect traditional reversible systems during winter operation. This allows the system to deliver continuous heating without defrost cycles, helping to avoid capacity reduction, downtime and supply air temperature fluctuations.

The design also allows the AHU to prioritise the thermal wheel as the first stage of energy recovery and maintain temperature exchange efficiency. The control algorithm prioritises the thermal wheel and only calls on the heat pump when additional heating is required. In cooling mode, free cooling and night-time cooling can be prioritised before the DX cooling cycle is activated.

The launch comes as refrigerant selection becomes an increasingly important design consideration across commercial HVAC. As F-Gas requirements tighten, consultants, contractors and property owners are having

to consider energy performance, long-term compliance, refrigerant availability, safety standards and embodied carbon as part of the wider specification process.

The new range has been tested for more than 45,000 hours, with DX circuit components developed with, and supplied by, world-leading companies. Both versions include calibration-free leak detectors, while the R290 version is also equipped with IV Produkt's patent-pending Evacuation Dilution Function, designed to dilute and evacuate refrigerant in the event of a leak.

The products are designed, factory tested and CE marked with the application of relevant IEC 60335-2-40 and EN 378 requirements.

Investment

The product launch is supported by significant investment at IV Produkt's headquarters in Växjö, Sweden. Over the past three years, the company has invested

more than €14 million in research and development, product development, risk assessments, CE marking and manufacturing facilities for its new generation of integrated cooling units and heat pumps.

This includes a new 5,000m² production facility dedicated to the next generation of F-Gas-compliant cooling units and heat pumps integrated into AHUs. The investment forms part of IV Produkt's long-term growth strategy and reflects the increasing role of integrated HVAC solutions in commercial and public-sector buildings.

Refurbishment and replacement

ThermoCooler HP also supports refurbishment and replacement projects. Their Easy Access concept allows larger AHUs to be delivered in modules that can pass through standard doors before being reassembled, helping to reduce logistical complexity on sites with restricted plant room access.



ThermoCooler HP
Energy efficiency in focus

Office building saves 108,000 kWh/year

R454B
78% lower GWP

The property owner at Nepia House, a three-story office building at Newcastle Quayside, wanted to make energy savings and decarbonisation measures. The building previously had a 20-year-old air handling unit that lacked integrated cooling, had belt-driven fans and reheating coils. Thanks to a new ThermoCooler HP from IV Produkt, the property owner will save 108,000 kWh per year and recoup the investment in just over 3 years.

Great energy savings and short payback time
Peter Wilson, sales representative at IV Produkt, made an investment calculation that showed that a ThermoCooler HP unit would provide an energy saving of 108,000 kWh per year and the money would be recouped within 3.3 years.

A frequent challenge of refurbishment work can be to motivate a client to buy into the design proposal due to the upfront capital costs. It can sometimes be difficult to convince a client of the importance and benefits of upgrading to more energy-efficient systems, when the existing services appear to be working fine. However, our investment calculation presented the upgrade project in a language that all parties speak, with the financial, technical and environmental benefits clearly visible, and that's how this project materialised, says Peter.

ThermoCooler HP – integrated reversible heat pump and controls
The choice fell on the defrost-free reversible heat pump ThermoCooler HP R454B in size 480 with integrated controls and an IV Produkt Cloud connection. Wilson continues:
"The building was previously serviced by a larger, traditional air handling unit with frost coil, plate heat exchanger and reheat coil. Upon the initial site survey it was apparent that space would be at a premium. With multiple ventilation systems distributing through the plant room, a robust AHU replacement strategy was required to minimise unnecessary works. Due to the compact footprint and flexibility offered by IV Produkt's ThermoCooler HP, the new unit could easily be installed and integrated with the existing duct systems. We opted for a tailored solution from IV Produkt using Envistar Flex, to ensure that minimal modifications were required to existing services when installing and fabricating ductwork connections", continues Wilson.

Easy Access facilitated the on-site transportation
The air handling unit was also in a CE-marked Easy Access configuration, which means that the unit is adapted to be transported through a standard door opening of 90 centimetres.

"The installation was a smooth process. The Envistar Flex with ThermoCooler HP replaced what was previously a much larger unit, benefiting the plant room by improving access and maintenance clearances throughout", Wilson concludes.

Great energy savings and better indoor climate
Once commissioned, the Envistar Flex with ThermoCooler HP will give significant energy savings and improve the indoor climate. And thanks to the cloud service IV Produkt Cloud, the air handling unit can easily be monitored remotely. The R454B lower GWP refrigerant also qualify for more BREEAM credits.

The property and the energy efficiency improvement project

- Ventilated office area: 2,200 m²
- Operating time, ventilation: 3,600 h/year
- Energy use, old air handling unit*: 164,000 kWh/year
- Energy use, new air handling unit*: 56,000 kWh/year
- Total energy savings: 108,000 kWh/year
- Energy savings/m²: 49 kWh/m²/year
- Time required to replace the unit: One day
- Payback: 3.3 years
- R454B low GWP refrigerant

* The air handling unit's energy use for electricity and heating.
Energy price for electricity: 0.34 GBP/kWh.
Energy price for heat: 0.14 GBP/kWh.

Peter Wilson, sales representative at IV Produkt.



The original ThermoCooler HP was launched in 2017 and has since become an important part of IV Produkt's integrated heating and cooling offer. The R454B version won Commercial HVAC Product of the Year – Ventilation at the H&V News Awards 2025, recognising the product's defrosting-free operation, heating-priority design and suitability for commercial, public, school and office buildings.

The new Multiref platform is also available for EcoCooler, IV Produkt's AHU-integrated cooling-only solution. This gives projects with cooling-only requirements access to the same lower-GWP refrigerant choice, including R290 and R454C, within an integrated AHU design.



IV Produkt has specialised in air handling units since 1969. The privately owned Swedish manufacturer is based in Våxjö, in the county of Småland, and has grown from its roots in industrial ventilation to become a leading European AHU manufacturer, with expanding operations in the UK and across Europe.

The company has delivered more than 160,000 air handling units and continues to focus on energy efficiency, lifecycle cost and indoor climate. Its mission remains focused on creating a good indoor climate while saving energy, supported by long-term investment in product development, manufacturing capability and customer support.

<https://www.ivprodukt.com/>

Manuel Swärd, Export Director West Europe at IV Produkt



Manuel Swärd, Export Director West Europe at IV Produkt, said: "These new units are a game changer for our industry. They address the new F-Gas regulation and solve several challenges for property owners, while also improving energy efficiency and reducing installation costs compared with traditional systems.

"With ThermoCooler HP, we are combining lower-GWP refrigerant choice with an integrated reversible heat pump design that can reduce plant space, simplify installation and lower the environmental footprint of the overall system. It is a win-win-win for consultants, contractors and building owners."

Mattias Sjöberg, CEO and owner of IV Produkt



Mattias Sjöberg, CEO and owner of IV Produkt, said: "We have invested in facilities, competence and product development to bring a strong and sustainable product range to the market. This launch reflects our long-term commitment to energy-efficient air handling solutions that create a good indoor climate while saving energy.

"With our new generation of AHU-integrated cooling units and reversible heat pumps, I believe we have never been better equipped for success and growth." 📈

Large scale A2L refrigerant recovery in an automotive facility

A-Gas, a global leader in Lifecycle Refrigerant Management (LRM), has successfully delivered one of the first projects using a dedicated Rapid Recovery A2L solution at a major automotive manufacturing site in the UK. A total of 3,400kg of R1234yf was safely recovered from a storage tank.



Lifecycle Refrigerant Management (LRM) requires specialist expertise and tailored equipment, depending on the type of refrigerant involved. As part of its Rapid Recovery service, A-Gas has developed a new solution specifically designed for the safe and efficient recovery of A2L refrigerants, demonstrating its effectiveness in this large-scale operation.

Founded in Bristol in 1993 and now operating across 15 countries, A-Gas continues to expand its capabilities in developing innovative recovery solutions, and is among the first to offer a dedicated A2L recovery service at industrial scale.

Context: Decommissioning of a storage tank

A2L refrigerants are a new generation of gases characterised by low toxicity (A) and mild flammability (2L), offering a lower Global Warming Potential (GWP) compared to traditional HFCs.

Among these, R1234yf is widely used in the automotive sector as a lower-GWP alternative. The refrigerant was the focus of the project, carried out on behalf of a major car manufacturer, which selected A-Gas based on an established working relationship with the contractor. The project involved the decommissioning of a storage tank used for vehicle air conditioning systems, containing over 3,000kg of R1234yf.

Challenge: Atex safety requirements and technical restraints

Due to the nature of R1234yf, strict safety protocols were required, as the area surrounding the storage tank was classified as an ATEX zone.

An ISO tanker was positioned alongside the tank, and the area was fully barriered off, with the Rapid Recovery vehicle and associated equipment located outside the hazardous zone.

A further technical challenge arose during the initial phase of the project.

The tank's dip tube was orientated upwards, a design feature intended to prevent full liquid discharge in the event of a leak.

This configuration made the push-pull recovery method unviable, requiring a change in approach.

Solution: Direct recovery using the A2L system

In response, the A-Gas engineers adapted the recovery strategy, switching from push-pull to direct recovery. Two specialist engineers carried out the operation using A-Gas' dedicated A2L recovery unit.

The initial setup took approximately one hour, due to some complex connection points. The system was configured using a smaller valve and a 50-metre hose run, allowing all equipment to remain safely outside the ATEX zone while maintaining operational efficiency.

Despite these constraints, the A2L system operated exactly as intended,

delivering a controlled and safe recovery process throughout,

Results: 3,400kg recovered in two days

The project was completed over two working days, with a total of 3,400kg of high-quality R1234yf successfully recovered. The refrigerant was handled in line with A-Gas procedures, ensuring full safety and traceability.

The customer was highly satisfied with the speed, safety and overall execution of the project. Using conventional methods, the same operation would have taken several weeks. A-Gas has since been confirmed as the preferred supplier for similar recovery projects across additional sites.

Rapid Recovery A2L: A unique capability in the market.

This project highlights the capability of A-Gas' Rapid Recovery A2L solution, representing a key step forward in the recovery of mildly flammable refrigerants at scale.

Rapid Recovery enables fast, safe, and compliant refrigerant recovery, even in complex environments with significant technical and logistical constraints. In addition, A-Gas provides added value through the responsible management and handling of recovered refrigerants.

Through its specialist expertise and innovative technologies, A-Gas continues to support customers in managing the transition towards lower-GWP refrigerants and more sustainable options.

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Panasonic accelerates its data centre cooling strategy for the AI era

As global demand for digital infrastructure continues to surge in 2026, Panasonic is reinforcing its position in the data centre cooling sector. Rapid growth in artificial intelligence (AI), high-performance computing (HPC), and cloud-based services is driving unprecedented thermal challenges, forcing operators to rethink how data centres are designed, cooled, and powered.

At the centre of this expansion is Panasonic's evolving strategy: combining advanced air-cooling technologies with next-generation liquid cooling systems, strengthened by recent acquisitions and new product innovation.

A key pillar of Panasonic's data centre growth strategy is the integration of Systemair and Tecnaïr, two acquisitions that have significantly expanded its technical capabilities. Systemair contributes deep expertise in chiller technology, while Tecnaïr strengthens Panasonic's portfolio with precision close control cooling and advanced thermal management solutions.

In 2026, these integrations are no longer transitional; they are fully embedded within Panasonic's operations. This enables the company to offer a genuinely end-to-end cooling ecosystem, from central plant to rack-level solutions.

"The demand we're seeing is enormous," explains **Andrew Elliott**, Head of Cooling Sales, pointing to the accelerating growth of AI workloads and cloud platforms. "What's changed is not just scale, it's density. The thermal loads we're designing for today are far beyond what traditional systems were built for."

To address this, Panasonic has invested heavily in flexible manufacturing capabilities. Production lines can now be adapted for highly customised builds, allowing systems to be configured for specific site requirements. Factory witness testing ensures each installation is validated before deployment, improving reliability and reducing commissioning risk.

Liquid cooling moves from emerging technology to essential infrastructure

One of the most significant developments shaping the sector is the industry-wide shift toward liquid cooling. Traditional air-cooling systems, while still essential, are increasingly being supplemented – or in some cases replaced – by liquid-based approaches to handle higher rack densities.

The rapid adoption of AI infrastructure is driving this shift. Modern GPU-based systems generate far more heat than conventional servers, with rack densities now exceeding 50 kW and often approaching 100 kW in high-performance environments.

Panasonic has responded decisively with the launch of a dedicated liquid cooling systems business in Europe, alongside a new generation of cooling technologies designed specifically for AI-driven data centres.

At the forefront of this strategy is Tecnaïr's newly launched range of Coolant Distribution Units (CDUs), a major milestone for Panasonic's liquid cooling roadmap.

Introduced at Data Centre World London 2026, the new Tecnaïr CDU range is engineered to tackle the extreme thermal demands of AI and HPC environments.

These systems are designed to deliver liquid cooling directly to high-heat components, such as CPUs and GPUs, enabling far greater thermal efficiency than air-based systems.

Key capabilities of the CDU range include high cooling capacity, with units available in 400 kW and

800 kW models and larger-scale systems already in development; exceptional efficiency, achieving partial PUE levels as low as 1.02 to significantly reduce energy consumption; and support for advanced cooling architectures, including compatibility with direct-to-chip and immersion cooling systems. The systems are also designed for full redundancy, incorporating backup pumps, sensors, and power supplies to ensure continuous 24/7 operation, while integrated controls provide real-time monitoring of temperature, pressure, and flow.

Andrew Elliott, Head of Cooling Sales at Panasonic





In addition, their modular design allows for seamless scalability, enabling deployment across environments ranging from edge facilities to hyperscale data centres.

For Elliott, the importance of this launch is clear: “Liquid cooling is no longer a future concept—it’s becoming a practical requirement for high-density environments. The CDU allows us to integrate liquid cooling seamlessly with our wider system design.”

The CDU also integrates closely with Panasonic’s ECOi-W free-cooling chillers, creating a hybrid cooling architecture that balances performance and energy efficiency.

A hybrid approach for a changing data centre landscape

Despite the momentum behind liquid cooling, Panasonic sees the future as hybrid rather than binary. Air cooling continues to play a critical role, particularly in lower-density environments or facilities not yet designed for liquid infrastructure.

“Not every workload requires liquid cooling, and not every site is ready for it,” Elliott notes. “Our approach is about flexibility, giving operators the right mix of technologies for their specific requirements.”

This hybrid strategy enables Panasonic to support a wide range of deployments, from enterprise server rooms to hyperscale facilities. It also allows operators to transition gradually toward liquid cooling without major infrastructure disruption.

Modular data centres drive demand for scalable cooling

Another major trend reshaping the market is the rapid growth of modular data centres. Once primarily associated with edge computing and temporary deployments, modular facilities are now being adopted across a much broader spectrum of applications, from compact enterprise environments to some of the largest AI and cloud infrastructure projects in the world.

The appeal lies in their speed of deployment, scalability, and ability to support capacity growth in a phased approach. Organisations can add computing power as demand increases, reducing upfront investment while accelerating time to market. As a result, modular designs are becoming increasingly popular among cloud providers, colocation operators, and enterprises seeking greater flexibility.

What makes this trend particularly significant for cooling providers is the wide range of thermal loads involved. At one end of the spectrum, modular data centres may support edge deployments of just a few hundred kilowatts. At the other, multiple prefabricated modules can be combined to create hyperscale campuses supporting tens or even hundreds of megawatts of IT load.

“Modularity is changing how data centres are built,” says Elliott. “We’re seeing customers looking for solutions that can scale from relatively small deployments right through to hyperscale facilities, often using the same design principles. That places a huge emphasis on cooling systems that are flexible,

efficient, and capable of growing alongside the infrastructure.”

For Panasonic, this evolution reinforces the importance of a scalable cooling ecosystem. From precision air-conditioning systems and free-cooling chillers to advanced liquid cooling technologies such as Tecnaïr’s CDU range, the company’s portfolio is designed to support modular deployments at every stage of growth, whether serving a regional edge facility or a large-scale AI-driven hyperscale data centre.

Supporting projects from edge facilities to hyperscale campuses

Panasonic’s growing portfolio reflects this flexibility. In the UK, the company continues to deliver small- and mid-scale installations, often data rooms within corporate headquarters, as well as large infrastructure projects worth tens of millions of pounds.

“We’ve worked on everything from compact data environments to major builds exceeding £10 million,” Elliott says. “The breadth of projects highlights how diverse this market has become.”

The scale of individual installations has also increased dramatically over the past decade.

“Ten years ago, moving a 1.2-megawatt chiller into position felt enormous. Today, we’re delivering projects with dozens of units at that scale—it’s a completely different level of demand.”

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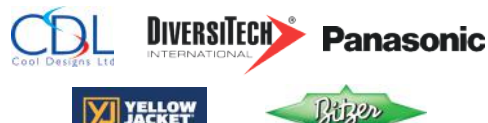


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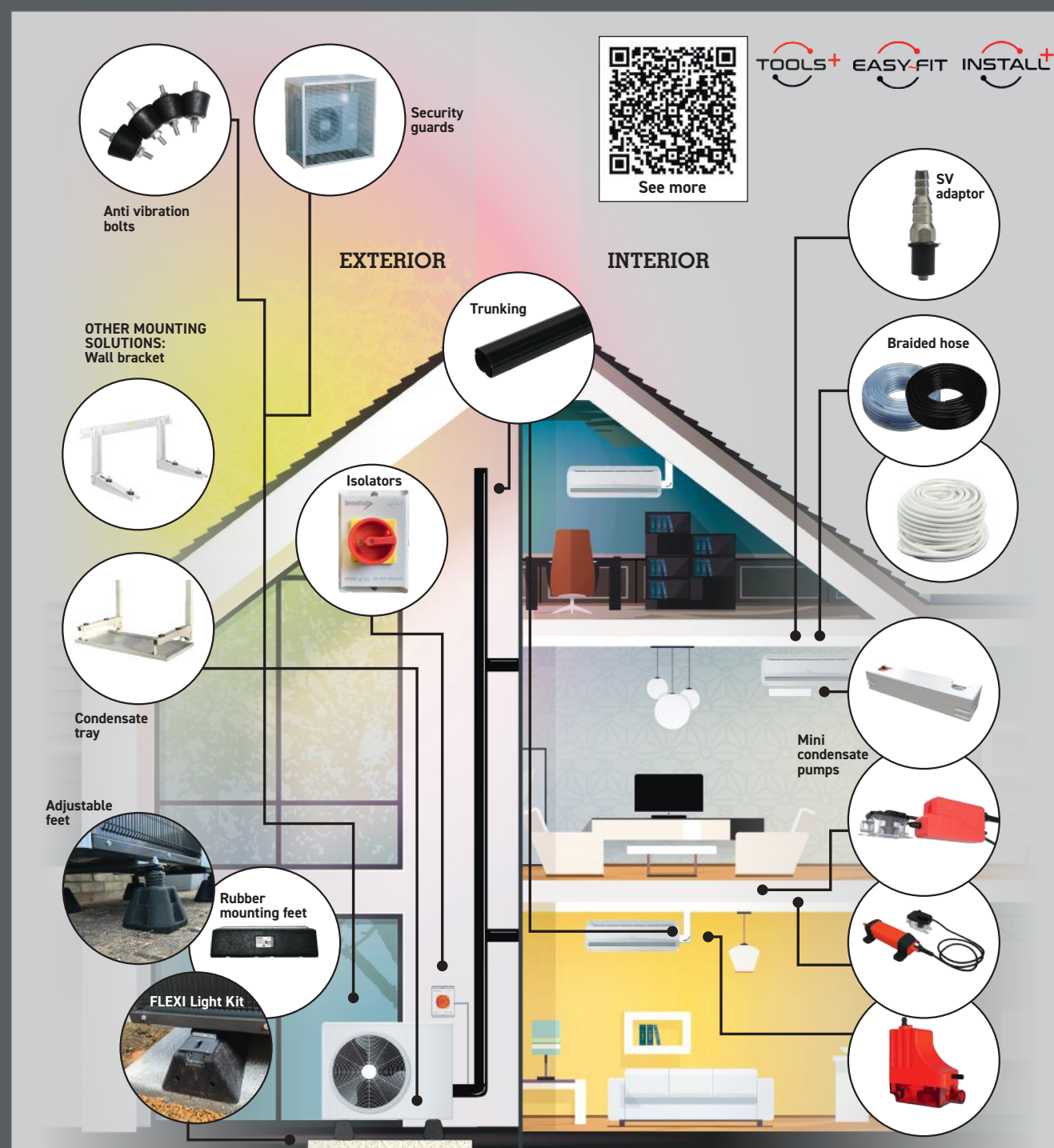
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An amazing night was had at the National ACR & Heat Pump Awards

Hundreds of the best and brightest of the HVACR industry met at the Midland Hotel, Manchester on the 11th of June 2026 to celebrate excellence within the industry. Congratulations to all the winners and highly commended.

To read more about the National ACR & Heat Pump Awards 2026 - winners and highly



RACHP Woman of the Year

WINNER: Carrie Young

HIGHLY COMMENDED: Astrid Prado



Training Provider (Corporate)

WINNER: BAXI

HIGHLY COMMENDED: Daikin UK



Training Provider (College or Academy)

WINNER: Practical Refrigeration Training Centre Ltd

HIGHLY COMMENDED: Chillair (UK) Training Academy



Wholesaler/Distributor

WINNER: Kooltech

HIGHLY COMMENDED: Midsummer Wholesale



RACHP Contractor

WINNER: Sure Solutions

HIGHLY COMMENDED: Industrial Cooling Equipment Ltd



Refrigeration Project

WINNER: Sure Solutions - Engineering Efficiency Under Pressure: A High-Performance CO₂ Refrigeration & Heat Recovery System

HIGHLY COMMENDED: Industrial Cooling Equipment Ltd - Warehouse Coldroom Upgrade: Protecting £40m of Pharmaceutical Stock with A2L Refrigerants



Ground Source Project

WINNER: NIBE Energy Systems Ltd - NIBE and Lea Hall

HIGHLY COMMENDED: Evans Energy Heating Solutions with Viessmann Climate Solutions UK - Domestic GSHP breaks new ground in Warwickshire



Air Conditioning Project

WINNER: Carrier - Gatwick Airport HVAC Partnership

HIGHLY COMMENDED: Weatherite Air Conditioning LTD - Pilgrim Quarter HMRC Newcastle



Domestic Air to Water Pump Project

WINNER: IMS Heat Pumps & Adia - Domestic Heat Pump Retrofit Delivering Comfort, Low Disruption and Near Cost-Neutral Running Costs

HIGHLY COMMENDED: Home Energy Innovation with Viessmann Climate Solutions UK - Berden

NATIONAL AWARDS WINNERS FOCUS

17

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Commercial Air to Water Heat Pump Project

WINNER: RA Brown Heating Services
- Aurora Eccles School, Norfolk

HIGHLY COMMENDED: Quantum UK
- The Roundway, Tottenham



Refrigeration Product

WINNER: Beijer Ref UK & IRE
- Quickridge

HIGHLY COMMENDED: Multiboxx & Hubbard Products Limited
- The Single Phase Mini Reefer



Commercial Air to Water Product

WINNER: Beijer Ref UK & IRE
- Q-ton ATW heat pump

HIGHLY COMMENDED: Adveco Ltd. - Adveco PPR008 with ADVS-W ASHP (Packaged Offsite Constructed Low Carbon Hot Water System)



Domestic Air to Water Product

WINNER: Stiebel Eltron
- LWZ 07.1 Premium HKL 230 Central

HIGHLY COMMENDED: Hisense - Hi-Therma II



Air Conditioning Product

WINNER: Diversitech International
- REDBOX-TRUNK

HIGHLY COMMENDED: Tetso - Testo 558s Digital Manifold



Ancillary Product of the Year

WINNER: Homely
- The Smart Controller Built For Heat Pumps

HIGHLY COMMENDED: Kamco Ltd - Clearflow CF20 Handheld Powerflushing Machine



Sustainability Project of the Year

WINNER: Daikin UK & GMCA Partnership - A Blueprint for Carbon Reduction

HIGHLY COMMENDED: Hubbard & Daikin - CO₂ CVP Net Zero refrigeration, heating and cooling strategy



Innovation of the Year

WINNER: daa (Dublin Airport) - Dublin Airport Geothermal Feasibility & Infrastructure Strategy

HIGHLY COMMENDED: Sea Warm



Lifetime Achievement Award

WINNER: John Emm

DiversiTech: Innovation, growth and award-winning success

DiversiTech International, winner of the Air Conditioning Product of the Year award at the National ACR & Heat Pump Awards for its REDBOX TRUNK condensate pump, tells us about the company and shares its thoughts on receiving this prestigious industry recognition.



New UK distribution centre

DiversiTech International, the home of the Pump House brand, is a globally recognised manufacturer and supplier of ancillary products serving the HVAC, refrigeration, and air source heat pump (ASHP) markets. With a comprehensive portfolio exceeding 10,000 products, DiversiTech continues to strengthen its position through an expanding network of distributorships and strategic partnerships, ensuring broad market reach and continued growth.

As part of the wider DiversiTech Group, the organisation benefits from a truly global presence spanning five continents. Within Europe alone, the group operates six manufacturing facilities, reinforcing its commitment to regional production capabilities and supply chain efficiency. In line with its continued investment in infrastructure, DiversiTech is preparing to open a new UK distribution hub in Nottingham in the near future. This state-



REDBOX MINI range of pumps

of-the-art facility will act as a centralised logistics hub, significantly enhancing operational efficiency and enabling faster, more reliable nationwide delivery to customers.

The full range of products is readily accessible through a wide network of major national wholesalers, independent distributors, and merchants operating across key market sectors. This extensive availability ensures that customers can easily source high-quality products supported by dependable service.

Core areas of expertise encompass refrigeration, air conditioning, air source heat pumps, boiler and heating systems, FLEXI support systems, fixings, oils and lubricants, and specialist tools. This broad and diverse offering positions the company as a comprehensive solutions provider within the HVAC/R industry.

A key driver of DiversiTech's success is its dedicated product development function, which consistently focuses on identifying emerging market needs

and delivering innovative solutions. This commitment to innovation is exemplified by the introduction of the REDBOX Mini range. The REDBOX family incorporates five newly developed mini pump models – TRUNK, UNIVERSAL, COMPACT, TUBE, and SLIM – each designed to meet varying installation requirements and performance demands. These are complemented by two established tank pump models, available in 1-litre and 2-litre capacities, providing a complete and versatile product suite.

Reflecting on the recent National ACR & Heat Pump Awards event, **Jon Boycott**, Area Sales Manager and DiversiTech representative, noted the strong attendance and high level of engagement. The event attracted a diverse audience, including hosts, customers, wholesalers, and contractors, creating a valuable opportunity for networking and collaboration. The evening was marked by an excellent dining experience, a vibrant atmosphere, and high-quality entertainment from **Ben Hanlin**, which was very well received by attendees.

Jon commented on the exceptionally high calibre of finalists in the Air Conditioning Product of the Year category, acknowledging the strength of competition and expressing that he had not anticipated DiversiTech being named as the winner. Consequently,

the announcement of as the award recipient came as both a surprise and a significant source of pride for the team.

With the Installer Show 2026 high on everyone's agenda in June, the ACR Journal and Heat Pump Today team popped by the DiversiTech stand to do a quick interview with Jon about his experiences at the Award event. Still buzzing from accepting the win, Jon went on to reconfirm with the ACR team how delighted and surprised we were at the recognition the REDBOX TRUNK received from the industry.

DiversiTech firmly believes that the REDBOX range represents a step-change in condensate pump technology, driven by innovative engineering, alternative approaches, and creative design. To have this innovation recognised and endorsed by the wider industry is a notable achievement and a testament to the company's commitment to excellence. Celebrations continued into the evening, with industry peers, partners, and colleagues offering their congratulations and sharing in the success.

The company also extends its congratulations to the other organisations shortlisted in the category, including Johnson Controls, Hitachi, Testo, Sensata Technologies, Carrier, and Carrier Solutions. Furthermore, DiversiTech recognises and

applauds all winners, highly commended entries, and finalists across the full range of award categories.

In addition, DiversiTech would like to congratulate IMS Heat Pumps and Adia Thermal on their success in winning the Domestic Air to Water Heat Pump Project of the Year award, a category proudly sponsored by DiversiTech. 🏆

www.diversitech.com



Award-winning REDBOX TRUNK



Jon Boycott, Area Sales Manager receiving the Award from Miriam Rodway, CEO at Institute of Refrigeration

Decarbonising education estates.

A whole-system heat pump approach

Educational buildings require HVAC systems that balance performance, efficiency, space constraints, and cost. Through a whole-system approach, early collaboration, and tailored heat pump solutions, Kooltech is helping schools and campuses deliver reliable, low-carbon heating in both new-build and refurbishment projects.

Educational buildings present some of the most complex HVAC design challenges, from red-brick heritage refurbishments to large-scale Passivhaus campuses in Scotland. Systems must operate quietly, fit within constrained plant space, meet tight budgets, and deliver compliant, low-carbon performance, all while remaining simple to operate.

Across both new-build and refurbishment applications, successful outcomes increasingly depend on a whole-system approach, as recognised in industry guidance such as CIBSE, which emphasises the importance of integrating system design, controls, and operational performance. This means considering hydraulics, controls, acoustics, and plant layout alongside equipment selection.

Recent projects demonstrate how a whole-system approach can resolve complex application challenges and avoid unnecessary costs or delays. This is supported by in-house bespoke manufacturing, R&D, and applied engineering expertise, with early collaboration alongside mechanical engineers.

Designing for constraints in education

Every education project presents unique constraints. In refurbishment schemes, spatial limitations and planning restrictions often dictate equipment layout both externally and internally. A recent example of this is the refurbishment of a Grade II-listed Victorian Gothic Revival school in London. Working alongside HOB Mechanical Services, Kooltech supported the redesign of a pre-specified Mitsubishi Electric heat pump system.



The CAHV Heat Pump 40kW Unit

The project faced two primary challenges: limited plant room space and strict acoustic requirements due to its residential setting. These constraints required a system-led redesign rather than a like-for-like replacement.

To address the space limitation, a bespoke stainless-steel-clad thermal storage vessel could be positioned externally, freeing up much-needed internal plant room space to house the domestic hot water cylinders connected to Mitsubishi Electric QAHV heat pump units.

The Mitsubishi Electric CAHV unit, a 40 kW heat pump supplying space heating to the building, is equipped with a built-in noise-reduction system. To further reduce sound levels by 8 dBA, top and side acoustic enclosures were fitted to the unit. These increase the outdoor unit's overall size, so considerations for positioning the unit are easier if addressed early on, as the original location may not have been suitable.

This project illustrates that a successful heat pump installation depends on how the system is designed, configured and

integrated, not just on the equipment itself. Early involvement in projects can help avoid unnecessary costs that would otherwise require changes later on.

Scaling up for Passivhaus performance

A large-scale example is the Dunfermline Learning Campus project in Scotland. This new-build development, covering over 26,000 m², is designed to Passivhaus standards, making it one of the largest educational buildings of its kind.

Passivhaus and the Scottish Net Zero Public Sector Buildings Standard place strong emphasis on measured performance, low energy demand, and system efficiency. For the HVAC design, flow temperatures, hydraulic separation, and system responsiveness needed to be considered early on.

Kooltech supported the project with design input and equipment selection, specifying separate systems for low-temperature hot water (LTHW) and domestic hot water (DHW).



A K-con stainless steel vessel

The scheme incorporated 20 Mitsubishi Electric CAHV-P500YA-HPB units for space heating and 8 QAHV-N560YA-HPB units for DHW.

This separation allowed each system to operate under optimal conditions, avoiding the inefficiencies associated with combined loads. The QAHV units operate on R744 (CO₂) refrigerant, which has a global warming potential (GWP) of 1, and deliver hot water up to 90°C, making them particularly suited to educational environments where high-temperature DHW is essential.

This approach improved system resilience and simplified maintenance access, while supporting the low-energy targets required under Passivhaus certification.

The role of controls

Control strategy plays an important role in educational buildings. However, because they vary widely, a small, refurbished nursery or primary school has very different control needs from a new-build university campus. The additional expense of a full Building Management System (BMS), along with the heat pump system, can make the project unaffordable before it even begins. For systems primarily serving space heating and domestic hot water, the full functionality of a BMS is often underutilised. What is needed instead is a targeted control solution that delivers essential system intelligence without the associated cost and complexity.

This extra expense can create a barrier to decarbonisation for smaller buildings and tighter budgets. However, as the UK moves towards net-zero targets and proposed updates to the UK non-domestic Minimum Energy Efficiency Standards (MEES), which are expected to require EPC ratings of C by 2027 and B by 2030, many educational buildings must transition to heat pump technology.

K-con controls

For smaller or budget-constrained projects, simplified control strategies can remove a key barrier to adoption. Pre-configured control panels, such as the K-BR41N, have been designed for this purpose when a full BMS is not justified, reducing installation time, simplifying commissioning, and lowering overall project costs without ongoing software licensing fees, a key consideration for education sector budgets.

A whole-system approach

Across both case studies, a consistent theme emerged: Successful heat pump applications in education rely on a whole-system approach.

“Successful heat pump deployment isn’t just about selecting the unit – it’s about making the whole system work properly. What sets Kooltech apart is our ability to get involved early, understand the project, and support the design with the right products, schematics, selections, controls and technical advice.

That means we can help align the system with the building, the budget and the programme, avoiding unnecessary delays and making sure the project gets what it actually needs, when it needs it,” said, **Scott Mason**, Head of Business Development, Kooltech.

Early collaboration among the contractor, consultant, and supplier is central to achieving this. Kooltech’s involvement across these projects extended beyond product supply to include design support, bespoke manufacturing, acoustic solutions, and control integration.

Supporting the transition to low-carbon education

As the education sector continues its transition towards net zero, heat pumps are already a proven technology for delivering efficient, compliant, flexible, and cost-effective HVAC solutions. For large campuses, this means optimised system design and modular plant strategies. For smaller schools and retrofit projects, it could mean removing barriers and finding alternative ways around system complexity or controls, as demonstrated in these project examples.

As these projects demonstrate, decarbonising education estates is not simply about selecting heat pump technology but about how systems are designed, integrated, and controlled. Early collaboration and a whole-system approach remain critical to delivering reliable, compliant, and cost-effective solutions.

www.kooltech.co.uk



Kooltech representatives receiving their award

Distributor of the Year Winner

Kooltech won the Distributor of the Year at the National ACR & Heat Pump Awards. When we entered these awards, our goal was to showcase the high calibre of work our team delivers day in and day out and to demonstrate to the industry exactly what Kooltech is capable of. We will continue to deliver excellence behind the scenes and raise the bar for our customers, partners and suppliers, ensuring our service remains second to none. 🏆

Airport decarbonisation: How Dublin Airport is exploring the potential of geothermal energy

daa take a look at its award winning geothermal heating and cooling project, supporting Dublin Airport's journey to net zero.

When people think about the future of sustainable aviation, they often focus on aircraft technology, sustainable aviation fuels (SAF) or operational efficiencies. But one of the greatest challenges facing airports today lies much closer to home: how to heat and cool the vast array of buildings and facilities that keep an airport operating around the clock.

At Dublin Airport, Ireland's national airport, that challenge prompted an ambitious question: could geothermal energy play a significant role in powering a more sustainable future for the airport campus?

That question became the foundation of the Dublin Airport Geothermal Feasibility and Infrastructure Strategy, an innovative project that has now been recognised with the Innovation of the Year award at the National ACR and Heat Pump Awards.

The feasibility study assessed the potential for a district-scale geothermal heat pump network of up to 10MW thermal capacity across the Dublin Airport campus. Rather than serving a single building, the concept explored how geothermal energy could provide heating and cooling for multiple airport facilities through a shared energy network.

The challenge

Airports are major energy consumers. At Dublin Airport, the two terminals, office buildings, maintenance facilities, airside operations and associated infrastructure require significant heating and cooling throughout the year.

As part of its commitment to achieving net zero carbon emissions by 2050, daa, the operator of Dublin Airport, has been examining a range of measures to reduce emissions, improve energy efficiency and strengthen long-term energy resilience.

While many organisations have focused on solar, wind and electrification technologies, the Dublin Airport team wanted to understand whether a less visible renewable energy source could also offer significant benefits and energy security, in addition to its investment in solar farms which already supply up to 13% of the airport's annual electricity needs, while plans for further solar expansion, wind energy feasibility studies and major electrification projects across airport operations are firmly in the investment pipeline.

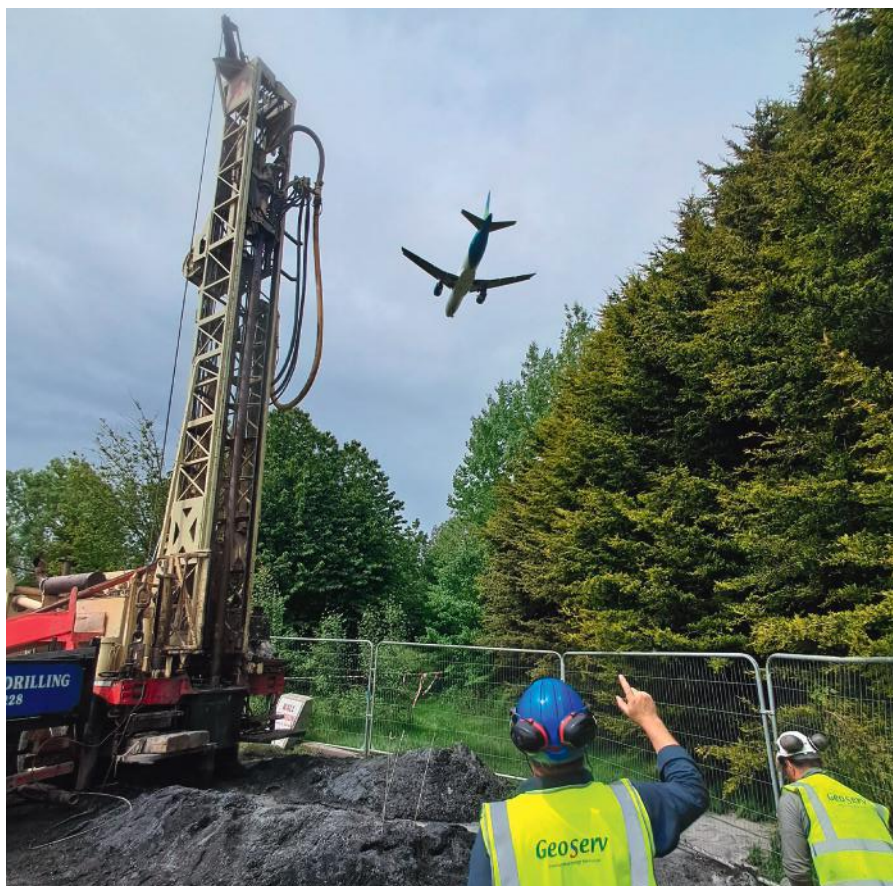
Beneath the ground lies the potential for an untapped resource: the natural heat stored within the ground.

Looking below the surface

Geothermal energy has been successfully deployed in a number of commercial and public sector settings around the world.

Rather than focusing on a single building or isolated project, Dublin Airport's study set out to examine geothermal potential across the wider airport campus. The aim was to understand how geothermal systems might support multiple facilities and become part of a long-term energy strategy for a complex and growing international hub airport.

The project involved extensive technical investigations, analysis and collaboration between daa's Infrastructure and Sustainability teams and specialist external partners, including the Geological Survey of Ireland.



The geothermal investigation taking place at the Dublin Airport



The daa team proudly celebrating their National ACR and Heat Pump Awards Innovation of the Year win

As part of the study, four boreholes (three at 200 metres deep and one at 100 metres deep) were drilled at locations across the airport campus to assess ground conditions and geothermal potential. The work included detailed energy modelling, geological investigations and analysis of how renewable heating and cooling could integrate with existing airport infrastructure.

Ian Clarke, Head of Environment and Sustainable Infrastructure at daa, said: "We're delighted that the project has been recognised by the judges. This was a real team effort involving colleagues from across the business and our project partners. The award acknowledges the quality of the work completed and the ambition behind our efforts to explore new approaches to sustainability.

"The work examined the geological conditions beneath the airport, potential energy yields, infrastructure requirements, future development opportunities and how geothermal technologies could integrate with broader airport energy systems."

Thinking beyond individual projects

One of the distinguishing features of the strategy was its long-term perspective.

Many renewable energy projects are developed to meet the needs of a specific building or development phase. A key feature of the project was its focus on energy resilience. The study examined how geothermal energy could be developed as long-life infrastructure capable of supporting a critical national asset, helping to reduce exposure to fossil fuel markets while strengthening long-term energy security.

This strategic approach enabled the team to look beyond immediate opportunities and consider how underground energy resources could form part of future airport planning decisions.

The work also examined how geothermal infrastructure could contribute to enhanced energy security and resilience, increasingly important considerations for critical national infrastructure.

Collaboration across disciplines

Delivering a project of this scale required expertise from a wide range of disciplines. Engineers, sustainability specialists, planners and energy experts worked together to evaluate the opportunities and challenges associated with geothermal deployment in a busy operational airport environment.

This collaborative approach ensured technical feasibility was balanced with operational realities and future development requirements.

It also provided an opportunity to build knowledge and capability within the organisation regarding emerging renewable energy technologies.

Industry recognition

The quality and ambition of the project were recognised by judges at the National ACR and Heat Pump Awards, where daa, the operator of Dublin Airport received the Innovation of the Year award.

According to **Andrea Carroll**, Director of Sustainability at daa, "This award is a fantastic recognition of the innovative work being carried out across daa as we explore new ways to reduce our dependency on fossil fuels and strengthen our energy resilience. The project reflects our commitment to finding practical and sustainable solutions that will support our airports for decades to come.

"The recognition reflects not only the technical quality of the work undertaken but also the willingness to investigate innovative approaches that could help shape the future of sustainable airport infrastructure."

Sharing knowledge across the airport sector

One of the most encouraging outcomes of the project has been the level of interest it has generated within the aviation industry.

Airports including Copenhagen, Amsterdam Schiphol, Paris-Orly, Geneva, Beijing, and Louisville have already adopted geothermal technologies, demonstrating the growing role the technology can play in decarbonising major transport hubs. Dublin Airport's work aims to assess how similar approaches could be applied in an Irish context.

The Dublin Airport team is now engaging with airports and industry experts internationally to share lessons learned and contribute to wider discussions about sustainable energy solutions for major transport hubs.

As airports worldwide seek to reduce emissions and improve energy performance, understanding the potential role of geothermal energy may become increasingly important. Projects such as this help demonstrate how airports can explore innovative technologies while developing practical pathways towards decarbonisation.

Looking ahead

The feasibility study has also supported daa's exploration of future funding opportunities. daa has submitted an application to the EU Innovation Fund seeking support for a geothermal installation at Terminal 2 at Dublin Airport, a project which, if successful, could become one of the largest geothermal energy developments in Ireland.

The geothermal feasibility study does not represent an end point; rather, it provides a foundation for future decision-making.

The knowledge gained through the project has helped position Dublin Airport as a leader in exploring geothermal energy applications within the aviation sector and could support future opportunities elsewhere within daa's portfolio.

As the aviation industry continues its transition towards a lower-carbon future, airports will need to consider every available opportunity to reduce emissions while maintaining operational resilience.

For Dublin Airport, that journey has included looking beneath the surface to explore how geothermal energy could help power the next generation of sustainable airport infrastructure. 

www.daa.ie



Q-ton moves from specialist option to standard specification

Howard Noble, Innovation & Marketing Director at Beijer Ref UK & Ireland, explains why Mitsubishi Heavy Industries' Q-ton is becoming a standard consideration for high-temperature commercial hot water, with its role now extending into space heating.

Manufactured by Mitsubishi Heavy Industries (MHI), Q-ton is now being applied across hotels, student accommodation, public buildings and other sites with a substantial hot water demand.

Q-ton was named Commercial Air to Water Product of the Year at the National ACR & Heat Pump Awards which recognises the increasing number of installations of this future proof heating system.

Commenting on winning the prestigious award, Howard said: "Winning this category at the National ACR & Heat Pump Awards provides recognition of a product that is now a mainstream solution for future proof hot water systems.

"The product, and the team that supports it, deserve recognition and winning this award is a boost to all involved, and provides credibility for customers considering using this technology".

Q-ton sales are increasing year on year and, as the installed base grows, it is being specified as an established option rather than a specialist alternative.

High-temperature hot water is the starting point

Commercial hot water presents a different design problem from low-temperature space heating. Demand is often concentrated into short periods, the required water temperature is higher and the load continues throughout the year.

Hotels, student residences, care facilities and leisure buildings can experience sharp peaks in shower and washroom use. The heat source must therefore be assessed against delivery temperature, storage recovery, incoming mains temperature and winter performance.

Q-ton is a 30 kW air-to-water heat pump using CO₂ (R744), as its refrigerant. It can produce water between 60°C and 90°C, operates at outdoor temperatures down to -25°C and maintains full heating capacity down to -7°C.



That temperature range is central to its suitability for potable hot water. Producing water at 70°C sits within Q-ton's normal operating range rather than close to its maximum leaving-water temperature. Some alternative heat pumps can also reach 70°C, but may be operating near the top of their stated envelope, where efficiency or available capacity can fall. Q-ton has been developed specifically for heating water from cold water mains with a large temperature rise, making it well suited to potable water systems.

A refrigerant with a long-term role

CO₂ has a global warming potential of 1, as such it currently sits outside of the F-gas quota mechanism.

This distinction will become increasingly important as refrigerant quotas tighten. Higher-GWP refrigerants consume more quota for every kilogram placed on the market, which can restrict availability and increase exposure to price rises.

For building owners investing in long-life plant, CO₂ reduces uncertainty around future quota reductions, refrigerant availability and service costs.

Modular capacity and resilience

Each Q-ton unit provides 30 kW of heating capacity. Up to 16 units can be combined providing up to 480kW of heating to meet larger loads, allowing the system to be sized around the building's demand profile rather than around one large item of plant.

A modular arrangement can also provide resilience. Where several units are installed, the remaining modules can continue operating if one is isolated for service. This approach can simplify projects where access, structural loading or available plant space makes a large single unit difficult to install.

Storage remains part of the design

Q-ton does not remove the need to design the complete hot water system. The relationship between heat pump capacity and stored water volume remains critical.

The design team must establish daily consumption, peak draw-off, available recovery time, incoming mains temperature, storage losses and secondary circulation losses. Oversized storage adds cost and standing losses, while insufficient storage can leave the system unable to meet peak demand.

Performance after handover

Remote monitoring is becoming increasingly important as commercial heat pump systems are expected to deliver measurable energy and carbon savings over their full operating life, not simply meet a design calculation at the point of specification.

For hot water systems in particular, changes to setpoints, circulation periods, storage temperatures or operating schedules can have a significant effect on energy consumption. Access to performance data helps building operators and service teams identify drift from the original design, investigate abnormal operation and address maintenance requirements before they affect occupants.

Q-ton supports this approach through its Remote Monitoring System, which checks operation, compares energy use and efficiency with gas and direct-electric alternatives, and highlights potential operational or maintenance issues.

Experience reduces specification risk

As more Q-ton systems enter service, consultants, contractors and clients have a larger body of operational experience to draw on.

Stuart Head, Director of Atlas Renewable Heating Solutions, has installed Q-ton across several projects in Scotland. He said: "The system delivers consistent hot water even during colder weather, which was one of the main concerns before switching. The unit runs quietly and has been very reliable so far, which is exactly what you want from a commercial-grade heat pump."

Daniel Valente, project manager at Nationwide Air Conditioning, highlighted similar practical benefits following the Citadines installation: "As a modular system, Q-ton is simple to install and commission, with minimal wiring and straightforward controller set-up."

He added that the equipment was more than capable of producing water at 70°C, while the storage arrangement allowed the system to cope with peak hot water demand.

This experience reduces specification risk. Consultants have reference projects to support their designs, contractors become more familiar with installation and commissioning, and clients can review operating systems before committing to a project.

Extending into space heating

Potable hot water remains Q-ton's principal application, but the system can now also be applied to space heating.

The opportunity is likely to be strongest on projects requiring higher water temperatures, particularly refurbishments where existing heat emitters or distribution systems are not suited to very low flow temperatures. It may also support mixed applications where high-temperature hot water and space heating are both required.

The two loads still need to be assessed separately, but the addition of space-heating capability broadens Q-ton's application while retaining the characteristics that established it in commercial hot water: high

leaving-water temperatures, low-ambient performance, modular capacity and a natural refrigerant with a GWP of 1.

From alternative to standard consideration

A standard product is not one that is selected automatically. It is one that is considered early because its performance, application limits and installation requirements are understood.

Q-ton is reaching that position. Its high leaving-water temperature, low-ambient capability, modular capacity and R744 refrigerant address the main technical

and regulatory concerns surrounding the replacement of fossil-fuelled hot water plant.

Hotels are repeating installations across their estates. Contractors are applying the product on multiple projects, while consultants are specifying it for demanding load profiles and cold-weather conditions.

Q-ton is no longer being viewed only as an alternative technology. For high-temperature commercial hot water, it is becoming one of the products against which other solutions are measured.

www.beijerref.co.uk



Receiving the Commercial Air to Water Product of the Year Award at the National ACR & Heat Pump Awards

Case study: Citadines, Holborn

Citadines, Holborn in London required a high-temperature, low-carbon replacement for the gas-fired system serving its 192 apartments and communal breakfast area.

Three Q-ton units and six 1,000-litre storage vessels were installed at ground level while the existing hot water equipment remained operational. The final connection to the new system took only a few hours, limiting disruption to the live hotel.

Further Q-ton installations were planned for Citadines properties in Islington, Barbican, South Kensington and Trafalgar Square, demonstrating the potential for repeat specification across a wider estate.

Case study: Vita Student, Edinburgh

The Vita Student development in Edinburgh required a centralised system capable of responding to the concentrated morning and evening hot water demand associated with student accommodation.

The design combined Q-ton heat generation with calorifier storage, a hot water distribution network and secondary circulation. This allows energy to be generated over time and stored ahead of peak shower demand.

The project also required dependable operation during colder Scottish weather, when outdoor air and incoming mains water temperatures are lower.

Case study: Rowan House

At Rowan House, Colchester City Council's headquarters, Q-ton formed part of a wider refurbishment replacing existing gas-fired heating and hot water equipment.

A 30 kW Q-ton unit and 1,000-litre storage cylinder were installed alongside an MHI VRF heat recovery system. Q-ton provides high-temperature potable hot water, while the VRF installation serves the building's heating and cooling requirements.

The installation also uses the Q-ton Remote Monitoring System to provide performance reports and identify potential operational or maintenance requirements. 

Future-proof refrigeration: How a food manufacturer embraced low-GWP solutions

With tightening F-Gas regulations and businesses seeking to further reduce their environmental footprint whilst improving their site facilities, a Lincolnshire-based food manufacturer sought a refrigeration upgrade that would support long-term performance and sustainability.



Delivering efficiency, compliance, and sustainability with R-454A enhanced controls and intelligent leak detection.

Coretemp Refrigeration Ltd (Coretemp) was selected to provide a solution that met both current requirements and future regulatory demands when seeking to upgrade its cold store systems. The food manufacturer worked collaboratively with the Coretemp team who in turn, worked closely with Climalife to find solutions that combined compliance, efficiency and long-term reliability. R-454A and advanced safety technology was thus chosen, offering efficiency, compliance and resilience for years to come.

Refrigerant decisions for the long term

The existing system at the food manufacturing site operates R-449A (GWP 1397) condensing units across 10-15 temperature-controlled rooms,

each requiring different temperatures depending on the application. The food manufacturer approached Coretemp when exploring solutions to future-proof their refrigeration facilities.

Coretemp, consulted with the Climalife team who reiterated the ongoing changes to F-Gas legislation, including the quota reduction system and its potential impact on refrigerant supply. This backed up the need to select a compliant and long-term refrigerant solution.

After discussions and a joint visit, a number of refrigerant options were considered with some being deemed as unsuitable or cost prohibitive for the application. The agreed approach was to replace an existing cold store system with a low-GWP refrigerant offering both performance and longevity.

R-454A was selected for its low GWP (239) and best fit for the application. Being an A2L refrigerant, compliance with EN378 and DSEAR regulations was carefully checked to ensure safety and adherence to UK standards.

Engineering for performance and peace of mind

The new installation features Bitzer Ecolite condensing units paired with Güntner evaporators and RDM controls. As part of the design support, Climalife provided detailed advice on pipe sizing.

Enhanced system control with Carel technology

Climalife's Head of UK Sales, **Dave Richards** assisted by carrying out valve selections and providing full specifications on the electronic expansion valve system. Each system uses:

- Carel E2V electronic expansion valves
- Carel EVD evolution valve drivers
- Carel UltraCap backup modules

The UltraCaps play a crucial role in system safety, in the event of a power failure, they hold an electrical charge long enough to allow the valves to wind fully shut, reducing the risk of refrigerant migration or leakage. This added layer of protection supports both system integrity and environmental safety.

Advanced leak detection with Bacharach

Although the refrigerant charge was within the limits defined in EN378, the food manufacturer and Coretemp opted to install leak detection as an added safety

measure, reflecting the site's strong safety culture. The project included Bacharach MGS-450 fixed gas detectors installed in key areas.

Smooth delivery through collaboration

The installation process was smooth and efficient, thanks to the strong collaboration between Coretemp and Climalife. The on-site engineering team placed strong trust in Coretemp's expertise and decision-making, ensuring confident decision making at every stage. Compliance checks were carried out meticulously ensuring that the system was both safe and fully aligned with UK standards and regulations.

Future ready solutions

The system has only been operational for a short period, but early feedback has been very positive. The cost impact was minimal versus running the R-449A system, with the only notable addition being the leak detection system. Improvements in energy

efficiency are anticipated as the new equipment settles into operation.

This project demonstrates how collaboration and forward-thinking choices can deliver sustainable, efficient refrigeration solutions. Combining the use of R-454A with technologies such as Carel EVD controls and Bacharach leak detection confidently supports today's environmental and legislative challenges. The selection of R-454A and the integration of advanced safety and control technologies ensure the client is well-positioned to meet future regulatory requirements and achieve long-term operational success.

"Having worked with Dave Richards for a number of years, Coretemp engaged Dave and the team at Climalife to support our project from the outset. Their early



Climalife R-454A

involvement and clear guidance on current and future F-Gas regulations helped deliver a successful phasedown and selection of a future-proof refrigerant solution. Climalife also supplied the refrigerant, control components, and leak detection system, backing this up with practical, knowledgeable support throughout. Their approachable team added real value at every stage of the project, and we would be very happy to recommend their services", said

Mark Bushell, Senior Engineer at Coretemp.

By combining technical expertise, regulatory foresight, and innovative safety measures, this project sets a benchmark for sustainable and efficient refrigeration solutions in the food manufacturing industry. 🌱

A collaboration to accelerate the lifecycle management of refrigerants

Climalife and Solstice Advanced Materials Inc. (Nasdaq: SOLS), have formalised an agreement to build on their long-standing working relationship and advance circular economy solutions for refrigerants across Europe.

Under the agreement, Solstice will support the development of new reclamation capacity at the Climalife production site in France. Climalife's next-generation distillation unit technology is designed to process and purify increasingly complex refrigerant blends.

This collaboration combines Climalife's leadership in circular economy solutions with Solstice's expertise in advanced, low global warming potential (GWP) refrigerant technologies, enabling a more integrated and scalable approach to the performance and lifecycle management of next-generation refrigerants across the European market.

The increasing complexity of next-generation refrigerants — including hydrocarbons, CO₂ and HFO blends — along with considerations such as flammability and high pressure, is reshaping the needs of the Refrigeration, Air Conditioning and Heat Pump (RACHP) sector. Addressing these challenges requires both continuous innovation in fluid technologies and advanced infrastructure to enable efficient recovery, purification and reuse.

The Climalife production site, located at the Osiris industrial park in the Auvergne-Rhône-Alpes region of France, is continuing its industrial transformation and is set to become a hub of excellence for the circular economy in Europe. Work is currently underway for the installation of a new distillation unit comprising three columns. This unit will enable the treatment and purification of complex

refrigerant blends, maximising recovery efficiency and supporting circular use.

Since the implementation of recovery systems in Europe by Climalife, more than 48 million tonnes of CO₂ equivalent have been avoided, and 75% of fluorinated greenhouse gas waste has been recovered and reused. With this new technological step and the combined expertise of both partners, the carbon emission reduction potential is estimated at more than 15 million tonnes of CO₂ equivalent by 2030.

The collaboration also builds on extensive research conducted with European research centers, which has led to the development of patented technologies by Climalife that support innovative solutions for fluorinated gas reclamation. 🌱

<https://www.climalife.co.uk/>
<https://www.solstice.com/>

How temporary cold store solutions protect high-value product

Pharmaceutical operations rely on precise temperature control. **Dave Palmer**, District Leader UK and Ireland, ICS Cool Energy, discusses why temporary cold stores protect temperature-sensitive products during maintenance, testing, and emergencies, helping prevent temperature excursions and product loss through reliable monitoring and controlled conditions.



Cold store super freezer - 20ft configuration pharma

Few industries demand precision like pharmaceuticals. From process cooling and cleanroom support to finished-product storage, temperature control infrastructure must perform reliably under changing conditions while supporting product quality, regulatory compliance, and operational continuity. Process chillers form a critical part of that infrastructure. Optimised for demanding use, they provide a reliable solution that not only supports continuity of process but adapts rapidly in response to fluctuations in system demand, helping maintain stable, precise temperature control at all times and under varying operating conditions.

Against this backdrop, temporary cold stores are rarely used as simple overflow space. More often, they are deployed to solve a specific operational challenge: protecting temperature-sensitive product during planned maintenance, supporting refurbishment of existing cold rooms, creating temporary additional capacity, or providing separate storage conditions for testing and stability work. In deep-frozen and ultra-low-temperature applications in particular, a temporary cold store can be

more practical than attempting to replicate permanent infrastructure with a temporary chiller-based arrangement on site.

The objective is always clear – to preserve product integrity, maintain controlled conditions, and reduce the risk of excursion, deviation, and batch loss when permanent infrastructure is unavailable or under pressure.

Why use temporary cold stores

Permanent cold rooms remain central to pharmaceutical operations, but they do not solve every short-term challenge on site. Temporary cold stores and freezer containers are used across a broad range of pharmaceutical cold chain applications, including vaccine storage and distribution, biologics and biosimilars, temperature-sensitive enzymes, clinical trial materials, blood plasma, biological samples, and temporary manufacturing backup during shutdowns, refurbishment, maintenance, or peak production periods.

They are also relevant across multiple storage regimes, from controlled-temperature applications in the +2°C to +8°C range through frozen and deep-frozen storage to ultra-low-temperature applications such as -70°C, depending on the product profile, process requirement, and risk level of the material being stored.

In pharmaceutical manufacturing and life sciences operations, cold stores are typically used in a set of well-defined operational scenarios. These include:

- planned maintenance, refurbishment or replacement of refrigeration infrastructure, when product must be protected while permanent cooling systems or cold rooms are taken offline
- temporary expansion, where additional controlled-temperature capacity is required during peak production, site reconfiguration, or shifts in inventory profile.
- testing and stability work, where operators need a separate temperature-controlled environment without disrupting validated permanent storage.

They also fulfil an important business continuity role, either as live backup or as contingency capacity in the event of permanent equipment failure or power disruption.

This is especially relevant where the stored materials include high-value finished products, intermediates, biologics, plasma, enzymes, investigational materials, or deep-frozen inputs for later manufacture. In such cases, the temporary cold store is not simply a space solution; it is controlled, documented, and dependable part of the site's wider risk-control and continuity strategy.

Redundancy is the critical differentiator

From a pharmaceutical perspective, the principal differentiator between a standard refrigerated container and a pharma-specified temporary cold store is redundancy. In pharma, compared to other industrial or commercial applications, the operating question is not only whether the unit can achieve setpoint, but how the product remains protected if a refrigeration

circuit fails, if power is interrupted, or if a service intervention is required.

That is why higher-specification pharmaceutical cold stores may incorporate two complete and independent refrigeration systems. Each system operates with its own control logic, allowing one system to assume duty if the other develops a fault. In more advanced configurations, automatic alarm generation and automatic changeover to the backup system are integral to the design.

Power resilience is equally important. Depending on the criticality of the application, temporary cold store solutions may also be supported by built-in generator sets, stand-alone gensets, or battery power solutions to maintain operation during site power loss or wider electrical disruption.

Taken together, dual refrigeration and backup power options reduce dependence not only on a single refrigeration train, but also on a single power source. For high-value products, this is not a convenience feature; it is a resilience measure designed to reduce the probability of product loss from equipment failure, utility interruption, or other single-point events. In that context, the additional protection is often far more important than the marginal cost difference between standard and higher-specification temporary storage solutions.

Quantifiable temperature control and continuous monitoring are essential

For highly regulated pharmaceutical storage, temperature control performance must be defined in engineering terms, within tight tolerances, rather than described generically.

Cold stores featuring proven and dependable refrigeration technologies like Thermo King and Klinge can maintain tolerances of at least $\pm 0.25^{\circ}\text{C}$ in chill mode, and $\pm 1.0^{\circ}\text{C}$ in frozen mode. These tolerances matter because pharmaceutical users are not simply evaluating whether a unit cools adequately; they are assessing whether it can maintain a stable control band appropriate for sensitive materials and closely monitored storage condition.

This is particularly important where the stored product is susceptible to degradation, where temperature records may be reviewed retrospectively, or where temporary storage is being used in support of a quality-critical activity. In such settings, stability, repeatability, and predictable control response are more important than nominal setpoint alone.

However, in pharmaceutical storage, control without visibility is insufficient.

Continuous monitoring capability should provide real-time visibility of internal temperature performance, deviation alarms, power loss notifications, alarm history, and access to historical temperature data for review. A robust temporary cold store solution may use 4G telematics as the primary communications layer, with Wi-Fi modem options available where mobile coverage is poor or unreliable.

This is operationally important because many pharmaceutical campuses, yard locations, and remote industrial sites do not offer consistent cellular performance. Under such conditions, communications resilience becomes part of storage resilience. If the unit cannot reliably report alarm states, power events, or temperature trends, the site's response capability is weakened even if refrigeration performance remains nominal.

Calibration, verification, and certification

From a quality perspective, calibration, verification, and certification are central to acceptance of temporary storage in pharmaceutical environments. Temperature mapping, and the documented proof of performance it provides, is often as important as the technical specification itself.

In practical terms, Good Distribution Practice (GDP) qualification and certification are often the clearest third-party proof point available to support customer confidence and should be a meaningful benchmark when assessing whether a temporary storage solution is suitable for controlled-temperature pharmaceutical use.

GDP-related qualification supports confidence in temperature stability, operational consistency, and performance under defined ambient conditions. It also aligns with the broader expectation in pharma that temperature-controlled equipment should be supported by objective evidence rather than vendor assertion alone.

Service response is a critical performance variable

A temporary cold store may be well specified, but in practice its real performance depends heavily on the provider's service model. In pharmaceutical use, the right solution provider is the one that can react quickly and effectively when something occurs, with service teams located nearby, technicians on standby, and the ability to intervene rapidly on both standard and specialist units.

This is not a secondary consideration. For high-value pharmaceutical cargo, the speed and competence of service response can materially affect the outcome of a fault event. The relevant question is not merely whether the provider can supply the unit, but whether they can sustain and support it under fault conditions with the urgency that pharmaceutical operations require.

The economic logic is about risk, not the cost of hire

Pharmaceutical operators do not typically evaluate temporary cold stores on rental price alone. The more meaningful calculation is the relationship between cost of hire and the potential cost of failure. A single temperature excursion may result in product loss, batch rejection, deviation investigation, delayed release, interrupted manufacturing, or supply disruption.

In that context, temporary cold stores are engineered resilience assets. They are deployed to maintain continuity during maintenance, support controlled testing, provide temporary additional capacity, and protect high-value product when permanent infrastructure is unavailable or at risk.

Where inventory value may run into millions, the additional investment in dual refrigeration, backup power, certification support, enhanced monitoring, and rapid service capability is often marginal compared with the financial and operational consequences of inadequate protection. 

www.icscoolenergy.com

Dave Palmer,
District Leader
UK and Ireland,
ICS Cool Energy



acrjournal.uk

WOMEN IN THE ACR INDUSTRY

Anna Ruddy, Managing Director at ACS Air Conditioning, shares her passion about low-carbon engineering, developing future talent and promoting greater diversity in the ACR industry.

As a teenager, I worked in a hotel, servicing Sunday roast dinners for guests. It was my first real taste of working life, and I remember being nervous on my first few shifts, but I settled in quickly and made some great friends. I really enjoyed meeting new people every week, chatting with regulars, and being part of a busy, fast paced team environment where everyone had to pull together to get the job done. Plus, as a 14 year old, it meant I could earn my own money to go shopping with my friends, which felt like a real taste of independence at the time. Looking back, I think that job taught me a lot about hard work, reliability, and dealing with people, lessons that have stayed with me ever since.

How did you get into the ACR industry?

I started giving my dad a hand back in 2008, after I was made redundant from my job as an estate agent. It wasn't something I'd planned or ever really considered before, but it turned out to be a real turning point in my career. I began as a general helper on site, carrying tools and materials, holding the hoover under the drill to catch dust and debris, and tidying up after the team once jobs were finished. It was hands on, practical work, and although it wasn't glamorous, it gave me a genuine appreciation for everything that goes into a job from start to finish. That grounding in the basics has proved invaluable, and I think it's part of why I understand and respect every role within the business today.



Anna Ruddy, Managing Director at ACS Air Conditioning

What does your current role involve?

I moved into the role of Managing Director two years ago, and I now run the day to day operations for ACS Air Conditioning. That covers a wide and varied range of responsibilities, including staff management, building and maintaining strong customer relationships, ensuring regulatory compliance across all our work, overseeing contract delivery from start to finish, coordinating our vehicle fleet, managing financial oversight, carrying out site surveys, and preparing quotations for new and existing clients. It's a genuinely

varied role, and no two days look the same. Some days I'm dealing with operational logistics, and others I'm focused on the bigger picture, like strategy and growth. I enjoy the challenge of juggling so many moving parts and making sure everything runs smoothly.

What excites/interests you about the industry?

I've just completed a degree in Low Carbon Engineering, and that really opened my eyes to a whole other side of the industry that I hadn't fully appreciated before. It made me realise just how important our role is when it comes to helping reduce global emissions and supporting the wider shift towards more sustainable energy use. Learning about the technical and environmental side of things gave me a fresh sense of purpose in my work. Knowing that the systems we install and maintain can genuinely contribute to a lower carbon future is something I find really motivating, and it's pushed me to think more about where the industry is heading and how we can be part of that change.

How would you like to see your career developing?

I'm a STEM ambassador, and I have a real passion for learning and sustainability. I'd like to dedicate more of my time to advocacy work within the industry around these areas, helping to raise awareness and inspire the next generation. We urgently need to encourage more new engineers into the sector, particularly as

demand grows around renewable and low carbon technologies. I believe the best way to do that is through strong support and proper training, so people feel confident, capable, and genuinely welcomed from day one. Ultimately, I'd love my career to develop in a direction where I'm not just running operations, but actively shaping the future of the industry through mentoring and outreach.

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

Never assume. Always ask questions. It sounds simple, but it's genuinely stuck with me throughout my entire career, both out on site and in the office.



Anna training on a Fumotic® system

Assumptions can lead to costly mistakes, miscommunication, or missed details, whereas asking questions, even ones that might feel obvious, almost always leads to better outcomes. It's advice I now pass on to others I work with too.

What do you see as the challenges facing the industry?

Training is the big one, and it's always been an ongoing issue for us. We find that training is readily available for some trades, but for others, particularly in newer or more specialised areas, it's much harder to come by. That's why we're really hopeful about a new renewables course being developed in our local college, which should provide valuable, accessible training opportunities in some of the industry's fastest growing sectors. Investing in training now feels essential if the industry is going to keep pace with demand and changing technology.

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

The industry is changing, and I've seen that change happen firsthand over the years I've been part of it. I find it's now a much more welcoming space for women than it perhaps once was, and it offers a genuine, rewarding alternative career path, particularly if you're interested in engineering or hands on technical work. It's a growth industry with real, tangible



Anna cooking chocolates from scratch

opportunities for progression, and I honestly think it could offer a fantastic, fulfilling career to anyone willing to give it a go, regardless of gender.

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

I love cooking, especially from scratch. It's a real passion of mine outside of work, and over the years I've cooked everything from an intimate meal for two people to a full celebration spread for sixty guests, complete with a homemade three tier cake. There's something really satisfying about building a dish from raw ingredients, not unlike building a system from the ground up, I suppose. 🍫

Why 2026 is the year businesses need to audit their cooling systems

Tom Houlker, Director of Houlkair, discusses how a cooling system audit helps businesses identify refrigerant risks, ageing equipment, and future failures before they become costly emergencies.

A commercial cooling system can continue operating long after it stops being efficient, reliable or easy to repair.

Rooms may still feel comfortable and refrigerated stock may remain cold, but compressors could be running for longer and older equipment might rely on a refrigerant that is difficult or legally impossible to replace.

This is why businesses should use 2026 to look beyond whether their equipment still produces cold air.

A commercial cooling system audit can reveal what refrigerants are being used, how well the equipment is performing and whether a leak or component failure could force an urgent replacement.

From an HVAC engineer's perspective, "still working" and "still supportable" are not the same thing.

Why 2026 matters

There is no single F-Gas deadline requiring every UK business to replace older cooling equipment during 2026. However, regulation and refrigerant supply continue to move towards lower-global-warming-potential alternatives.

Older refrigerants may become more expensive or harder to source, while ageing equipment can become increasingly difficult to repair.

Waiting for a system to fail removes many of the available options.

A planned replacement gives a business time to compare equipment, assess electrical requirements and schedule work around quieter periods. An emergency replacement may have to be chosen according to what is immediately available rather than what is best for the premises.

Using 2026 to audit equipment gives



businesses time to identify these risks before a breakdown forces the decision.

R22 systems remain an operational risk

Legacy R22 systems deserve particular attention.

R22 was widely used in older refrigeration and air-conditioning equipment. Virgin R22 could no longer be used for servicing from 2010, while the use of recycled and reclaimed R22 ended in 2015.

An R22 system is not necessarily illegal simply because it remains in operation. The problem arises when refrigerant is lost.

If an R22 system develops a leak, it cannot legally be topped up with R22. Depending on its age and condition, the remaining options may include converting the equipment to a suitable alternative or replacing it completely.

That makes R22 a live operational risk rather than just an old compliance issue.

A system may run without an obvious problem for years, but a leaking pipe, seal or coil can suddenly leave a business without cooling. This is particularly serious where equipment serves a cold room, server room, commercial kitchen or production process.

Businesses should identify R22 systems before a leak creates an emergency.

Find out what refrigerant is on site

One of the first things I would check on an older site is the refrigerant used by each system.

This information may appear on the equipment data plate, service label or maintenance records. Older systems may contain refrigerants such as R22, R404A, R507A or R410A.

Labels do not always tell the full story. Equipment may have been modified or converted, while maintenance records can become incomplete when contractors change.

A cooling system audit should establish:

- The refrigerant used by each system
- The amount it contains
- The age and condition of the equipment
- Previous leaks or refrigerant additions
- Whether compatible parts and refrigerant remain available
- What would happen if the system failed

Older high-GWP systems need attention

Not every older refrigerant is subject to the same rules as R22.

Some refrigeration systems use HFCs with a high global warming potential. Restrictions can depend on the refrigerant, type of equipment and size of the charge.

It would therefore be misleading to suggest that every high-GWP system is already banned from receiving refrigerant.

Even where servicing remains legally possible, it may not remain commercially sensible. Older refrigerants can become more expensive or harder to obtain, while repeated repairs may increase costs without resolving poor efficiency, leaks or declining reliability.

An audit should identify equipment where refrigerant availability could affect future servicing and replacement planning.

Cooling demand may have changed

Refrigerant risk is only one reason to review older equipment.

Commercial buildings often change significantly during the life of a

cooling system. More computers may have been installed, working hours extended or internal layouts altered. New lighting, machinery or catering equipment can also increase the amount of heat generated inside a building.

Even well-maintained equipment can become inefficient when it no longer matches the premises it serves.

The problem may not be a defective component. It may be the difference between the system originally designed for the building and how the space is used today.

An audit should compare current cooling demand with available capacity rather than assuming the original design remains suitable.

What should an audit examine?

A commercial cooling system audit is broader than routine servicing.

Servicing usually focuses on individual components and immediate faults. An audit considers how the complete system performs and where operational risk may be developing.

A useful assessment should examine:

- Compressors, condensers and evaporators
- Fans, filters and airflow routes
- Refrigerant type and leak records
- Cooling capacity compared with current demand
- Electricity consumption and operating hours
- Maintenance history and recurring faults
- Replacement options for critical equipment

The purpose is not simply to produce a list of defects. It is to identify where energy is being wasted, reliability is declining, or future repairs may become difficult.

Maintenance records can be particularly revealing. Repeated refrigerant additions, pressure faults or replacement of related parts may indicate a problem that has never been fully resolved.

A healthy sealed system should not routinely need refrigerant added. Frequent top-ups may point to a leak, even where the equipment continues to maintain the required temperature.

Compliance should form part of the review

Air-conditioning systems in England and Wales with a combined effective rated output above 12kW generally require inspection by an accredited assessor at least once every five years.

A wider cooling system audit does not replace this inspection. Likewise, an energy inspection does not replace planned maintenance, F-Gas leak checks or refrigerant record-keeping.

Businesses should confirm which requirements apply to each system rather than assuming one contractor visit covers everything.

Prioritise systems by operational risk

Not every cooling failure has the same consequences.

Failure of an office air-conditioning unit may cause discomfort. Failure of a cold room or process chiller could result in lost stock, interrupted production or temporary closure.

Businesses should consider how long they could operate without each system, whether temporary cooling is possible and how quickly replacement equipment could be obtained.

This helps ensure replacement decisions are based on operational risk rather than equipment age alone.

Audit before peak demand

The best time to understand a cooling system is before it is pushed to its limit.

An audit completed ahead of sustained warm weather gives businesses time to repair leaks, source replacement parts and plan larger work around normal operations.

Waiting until temperatures rise removes many of those choices. Contractors become busier, equipment works under greater strain and manageable problems can become urgent failures.

A commercial cooling system audit can confirm which refrigerants are in use, expose unsupported equipment and identify where a breakdown could seriously affect the business.

Most importantly, it gives businesses time to make a planned decision before an ageing system becomes an operational emergency. 

www.houlkair.co.uk

Tom Houlker, Director of Houlkair



Safer solar starts with smarter DC isolation

As solar PV continues to play a growing role in the UK's energy mix, the focus on safe, reliable and installer-friendly system components has never been more important. For contractors working on domestic, commercial or industrial PV projects, DC isolation is a critical part of creating a safer installation from day one.

Unlike standard AC circuits, solar PV systems present a specific challenge: switching off the AC supply does not remove every electrical risk. While panels remain exposed to daylight, dangerous DC voltage can still be present within the system. This makes dependable DC isolation essential for installation, maintenance, fault-finding and future servicing.

A well-designed DC isolator gives installers a clear, secure point of isolation, helping to reduce risk and support safer working practices on site. It also contributes to a more professional, robust installation. One that is easier to access, easier to maintain and built with long-term performance in mind.

A DC isolator designed for solar PV

Gewiss has developed the 70 RT HP DC specifically for solar PV applications, combining dependable DC switching performance with practical features designed around the needs of installers. From faster wiring to secure lock-off, the range has been engineered to support safer, more efficient work on modern PV systems.

For contractors, this means a product that is simple to fit, reliable in use and suitable for the demanding environments often associated



with solar installations. Its robust IP-rated enclosure helps protect against outdoor conditions, while clear, accessible terminals support faster and more accurate wiring.

- DCPV2 compliant for dependable isolation in PV systems
- Robust IP-rated enclosure for demanding outdoor environments
- Clear, accessible terminals to support faster, more accurate wiring
- Triple padlock system for secure lock-off during maintenance or servicing

Supporting safer, more complete PV installations

For solar PV projects, using both the DC and emergency versions together can help create



a safer and more complete isolation solution. By combining reliable switching performance with visible ON/OFF indication and secure lock-off capability, installers can deliver systems that support both day-to-day safety and future maintenance requirements.

The 70 RT HP range has been designed with durability in mind, offering high IP protection, robust performance and practical features that reflect the realities of solar PV work. For installers, wholesalers and specifiers, it provides a dependable solution for projects where safety, compliance and ease of installation are essential.



Working on a solar project?

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Product Web page: www.gewiss.com/ww/en/series/serie.1000002.1000081.70-rt-hp-range-rotary-isolators

70 RT DC

DC Rotary Isolators Specifically Designed for Solar PV Installations

Safe DC isolation for solar installations

Designed specifically for solar PV and battery storage applications, the 70 RT DC range delivers reliable DC isolation in demanding outdoor environments.

Available from 16A to 32A it supports fast installation, safe maintenance and long-term performance for solar installations.



DC Plastic



(Plastic only)



(Plastic only)

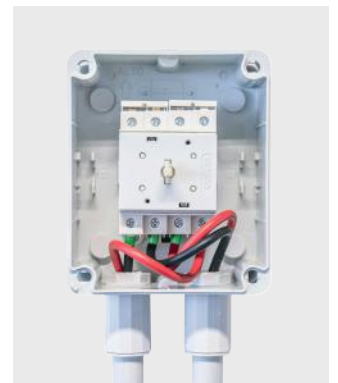


Features and benefits

- Purpose-built for renewables and designed **specifically for modern solar** and battery storage applications (16–32 A DC)
- Certified Safety & Compliance, EN 60947-1:2021 and EN 60947-3:2021 compliant, including **PV (DC-PV2) and battery storage (DC-21B)**
- Built to last, high durability with **IK08 impact resistance, IP66/IP67/IP69 protection and UV-resistant**
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EX-FUJITSU UK LEAD JOINS AIRZONE IN STRATEGIC HIRE FOR EUROPEAN GROWTH

Airzone, has appointed **Steven Milnes** as UK & Ireland Sales Manager to lead the expansion of its distribution network across the region.

Having spent more than two decades in the HVAC sector working with leading brands including Fujitsu General Air Conditioning, Haier and TF Solutions, Steven brings invaluable industry expertise and a deep understanding of the distribution landscape.

In his new role, Steven will work closely with distribution partners to increase market coverage, strengthen engagement with installers and provide greater accessibility of Airzone's solutions.

Steven's initial focus will be on building Airzone's distribution network and creating a route to market for installers, while ensuring all partners are fully equipped and trained on its proprietary account management tool. By building a robust and well-supported distributor base, Steven will help accelerate the adoption of Airzone's products and support the company's continued growth across the UK and Ireland.

Steven, said: "I was first introduced to Airzone at the Installer Show last year and was immediately impressed by the team, their expertise and the products. Attending the event again this year

in my new role as Sales Manager feels like a real full-circle moment.

"Having seen first-hand the opportunities in the market and Airzone's unrivalled offering, the UK & Ireland represents a hugely untapped and fruitful region for us. With innovative products, enthusiastic distribution partners and a fantastic support network, we will undoubtedly emulate the success of our Airzone colleagues in the likes of Spain, France, Italy and America."

Steven's appointment comes on the heels of another major hire for Airzone in the region. Earlier this year, the HVAC leader announced **Sophie Decorte** as its New Markets UK & EU Business Development Coordinator, a newly created role designed to support the company's continued growth and expansion across key European markets.

www.airzonecontrol.com/gb/en



Steven Milnes, UK & Ireland Sales Manager at Airzone

CARRIER ANNOUNCES LEADERSHIP TRANSITION FOR ITS CLIMATE SOLUTIONS EUROPE SEGMENT: THOMAS DONATO APPOINTED PRESIDENT

Carrier Global Corporation (NYSE: CARR), announced a leadership transition for its Climate Solutions Europe segment. **Thomas Donato** has been appointed President, Climate Solutions Europe, succeeding **Thomas Heim**, who is stepping down from the role. Heim and Donato will work closely together to ensure a seamless transition for the company's employees, customers, and partners.

Donato is a highly accomplished global business leader with extensive experience leading large industrial technology businesses, managing complex global P&Ls, driving transformation, delivering growth and building high-performing teams. Most recently, he served as CEO of Bosch Power Tools and previously held senior executive leadership positions at Bosch Rexroth, Rockwell Automation and ABB.

During his nine years with Carrier and Viessmann Climate Solutions, Heim played a pivotal role in leading the successful integration of Viessmann Climate Solutions with Carrier and bringing together the residential and commercial HVAC businesses in Europe. His leadership strengthened the company's operations, portfolio and market position, leaving Climate

Solutions Europe well positioned for its next phase of growth and value creation.

"We are grateful to Thomas Heim for his many contributions to Carrier and for the leadership he demonstrated throughout the successful integration of Viessmann Climate Solutions and the transformation of our European business," said **David Gitlin**, Chairman and CEO, Carrier.

"We are excited to welcome Thomas Donato to Carrier and confident that his extensive global leadership experience will help build on this strong foundation and lead Climate Solutions Europe through its next chapter of growth."

<https://www.carrier.uk>



Thomas Donato, President at Climate Solutions Europe

ALFA LAVAL TARGETS STRATEGIC GROWTH WITH APPOINTMENT OF NEW MANAGING DIRECTOR

Alfa Laval UK & Ireland has appointed **Alessandro Bracco** as its new Managing Director, as part of a targeted push for growth in a number of key strategic sectors, including HVAC.

With a 20-year career spanning B2B sales, marketing and commercial strategy – including five years at Alfa Laval – Alessandro is poised to usher a new era of success for the world-leader in heat transfer, separation and fluid handling. His previous experience includes roles in finance, renewable energy and building materials.

"There has never been a more exciting time to take the helm at Alfa Laval", he said. "While challenges persist in the market, there are also opportunities – particularly in the HVAC sector.

"Despite being a Scandinavian company, Alfa Laval UK has been established in the UK & Ireland for well over 100 years. I'd like to think this has shaped my style of leadership, which is the product of both British and Swedish approaches to business – empowerment and trust, but above all pragmatism and efficiency!"

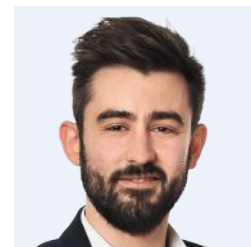
Alessandro has been in post from May, with the company's previous Managing Director, **Rachel Bridges**, transitioning to

portfolio unit president of growth and partnerships for the ocean division.

Alessandro concluded: "Alfa Laval UK has enjoyed a steady trajectory of growth for many years now. In my new role, I aim to build upon the strong foundations that Rachel and her predecessors have put in place – maintaining what's already being done well, while also targeting areas where we can make new strides.

"The UK's decarbonisation journey is one that presents both challenges and opportunities in every sector, with HVAC no exception, all while power demand continues to grow. At Alfa Laval, we believe that a kilowatt-hour saved is better than a kilowatt-hour created, and the concept of efficiency – in every sense of the word – will continue to be a driving force behind our business strategy."

<https://www.alfalaval.co.uk/>



Alessandro Bracco, new Managing Director at Alfa Laval UK & Ireland

Bookings now open for the 127th IOR Annual Dinner

The Institute of Refrigeration is delighted to announce that bookings are now open for the 127th IOR Annual Dinner, taking place on 25 February 2027 at the Hilton London Bankside, beside the iconic Tate Modern. Known as the Original Fridge Dinner, this flagship gathering offers an exceptional opportunity to broaden your network, reconnect with colleagues, and enjoy an evening of celebration.

The programme will shine a spotlight on outstanding personal and professional achievements across the RACHP sector, including:

- J&E Hall Gold Medal for innovation
- IOR RACHP EngTech Lifetime Achievement Award, rewarding service and maintenance engineers
- Terry Perry Award for Student Research
- The Lightfoot Award for the best IOR paper, as voted by IOR members
- Beyond Refrigeration Award recognising a RACHP project or innovation delivering meaningful emissions reductions

Guests will also hear from new IOR President **Steve Gill Finstr**, who will outline his, and the IOR Board's vision for the Institute's future direction.

Both tables and individual places are available, with guests welcome to sit with colleagues or take the opportunity to forge new industry connections. Tickets start at £247.80 per person, including:

- Welcome drinks reception – networking with peers
- Three course dinner with ½ bottle of wine and water
- Presidential Address

- After dinner speaker
- Industry achievement awards
- Fundraising activities supporting charity and the IOR Presidents' Fund
- Late bar

For tickets and further details, visit www.ior.org.uk/annualdinner.

To showcase your brand or explore new sponsorship opportunities for organisations of all sizes, contact **Lisa Waters** at lisa@ior.org.uk.



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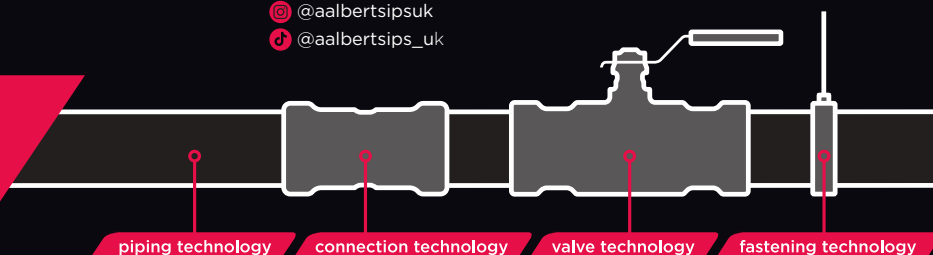
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