



Information Sheet

Air Conditioning and Refrigeration 20223

Event:	International Air-Conditioning and Refrigeration Exhibition
Dates:	14 - 17 November 2023
Edition:	20
Location:	Pabellon 5 (Heating-ACS and plumbing); 7 (Refrigeration), and 9, (Air conditioning, heat pumps and ventilation) IFEMA MADRID
Schedule:	14/11 to 16/11: from 10 am to 7.30 pm 17/11: from 10 am to 3 pm
Area of Exhibition Space:	24,582 m2
Audience:	Professional
Number of direct exhibitors	389 from 21 countries
Participating countries:	Germany, Saudi Arabia, Armenia, Bulgaria, China, Croatia, Denmark, France, India, Italy, Japan, Netherlands, Poland, Portugal, Romania, Serbia, Saudi Arabia, Sweden, Turkey, United Kingdom and Uzbekistan.
Sectors:	Air Conditioning - Insulation - Heating and Domestic Hot Water - Components - Pumping Equipment - Industrial and Commercial Refrigeration - Regulation, Control and Centralised Technical Management - Piping and Valves - Tools, Tools and Applications for Installations - Ventilation

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Parallel Activities:	<ul style="list-style-type: none"> • C&R Forum • Innovation gallery • TAC Workshop Applied Techniques Workshop • Refrigeration Workshop • Friday for Young People
Visitor profile	Architects and Quantity Surveyors - Interior Architects - Trade & Distribution - Builders - Engineers and Consultants - Installers - Technicians - Wholesalers - Developers - Manufacturers
Organised by:	IFEMA MADRID
Promotion:	AFEC, Asociación de Fabricantes de Equipos de Climatización
Partners:	<p>ACI - Associació de Consultors d'Instal·lacions</p> <p>ACTECIR - Asociación Catalana de Técnicos en Energía, Climatización y Refrigeración</p> <p>AEDICI - Asociación Española de Ingenierías e Ingenieros Consultores de Instalaciones</p> <p>AMASCAL - Asociación de Mayoristas de Saneamiento, Calefacción, Fontanería, Gas, Aire Acondicionado y Afines</p> <p>AEFYT - Asociación de Empresas de Frío y sus Tecnologías</p> <p>AFAR - Asociación de Fabricantes Andaluces de Refrigeración</p> <p>APIRAC - Associação Portuguesa Empresas Sectores Térmico, Energético, e do Ambiente</p> <p>ASIMCCAF - Asociación Nacional de Empresarios, Instaladores y Mantenedores de la Comunidad de Madrid</p> <p>ASHRAE - Spain Chapter</p> <p>ATEAN - Asociación de Técnicos en Energía de Andalucía</p> <p>ATECYR - Asociación Técnica Española de Climatización y Refrigeration</p> <p>CNI - Confederación Nacional de Instaladores y Mantenedores</p> <p>CONAIF - Confederación Nacional de Asociaciones de Empresas de Fontanería, Gas, Calefacción, Climatización, Protección contra Incendios, Electricidad y Afines</p> <p>FEGECA - Fabricantes de Generadores y Emisores de Calor por Agua Caliente</p> <p>Grupo Sectorial AseTUB (ANAIP)</p>

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Press release

C&R 2023 celebrates a key edition for efficiency and sustainability

A strategic platform that highlights the impetus of the thermal installations sector, bringing together a business representation that contributes to the creation of a fair that surpasses its pre-pandemic edition and stands at almost double its 2021 edition

A total of 398 direct exhibitors from 21 countries will take part in this edition organised by IFEMA MADRID, which will be held at the exhibition centre from 14th-17th November.

The C&R Forum Conferences programme, the Applied Techniques Workshop (TAC) and the Refrigeration Workshop, the Innovation Gallery and, for the first time, the launch of Youth Friday to attract and create a talent pool, top off the content planned for this edition

From 14th-17th November, the International Air Conditioning and Refrigeration Exhibition, **C&R 2023**, will once again make its name as the international benchmark for thermal installations, boasting the involvement of some of the leading companies and brands in the Air Conditioning, Climate Control, Ventilation, Industrial and Commercial Refrigeration, Heating and Plumbing sectors, offering a full showcase of innovations, trends and lines of progress in this industry.

Organised by **IFEMA MADRID**, **C&R 23** celebrates a strategic and highly anticipated event in this sector, bringing together a business representation that gives rise to a fair that surpasses its pre-pandemic edition and stands at almost double its 2021 edition. In figures, the fair showcases the latest from its 398 direct exhibitors, representing an increase of 98.5%. The international presence has also seen exponential growth, with 177 companies from 21 countries taking part this year - Germany, Saudi Arabia, Armenia, Bulgaria, China, Croatia, Denmark, France, India, Italy, Japan, the Netherlands, Poland, Portugal, United Kingdom, Romania, Serbia, Sweden, Turkey, and Uzbekistan.

Similarly, the extension of the exhibition area has increased by almost 60%, with hall 5 hosting the Heating-ACS and Plumbing sector; hall 7 featuring Refrigeration, and hall 9 exhibiting the latest in the air conditioning, heat pumping and ventilation sector.

Thus, coinciding with the 20th Anniversary of the fair and the impetus the sector is currently experiencing, C&R 2023 provides an opportunity to learn the keys to the evolution of the sector and to discover the solutions and trends that will mark the development of the industry. This year, the platform will have a particular focus on sustainability and all the equipment innovations that are becoming increasingly more efficient in terms of

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performance, energy saving, improvements in consumption levels and more respectful of the environment. The C&R offer will also include changes related to the European regulatory framework, decarbonisation, the implications of the adoption of new refrigerants, zero emissions buildings, intelligent climate control, energy rehabilitation and a complete range of solutions aimed at improving indoor air quality and environmental health, among others.

YOUTH FRIDAY, new for C&R 23

This edition of the fair launches the *Youth Friday* initiative, consisting of a day dedicated to students taking specialised training and engineering courses, with the aim of attracting and creating a pool of young talent in response to the current demand for professionals and the generational change the HVAC sector is experiencing. It proposes several segmented itineraries, which will bridge the gap between the training and professional worlds, with the participation of companies, associations and institutions with a message focused on demonstrating the activity and potential of the sector, including sharing areas in the C&R Forum space, as well as within the contents of the workshop programme (Applied Techniques Workshop (TAC) and Refrigeration Workshop)

Additionally, the **C&R Live Connect** platform has designed an “employment exchange,” where students will have their own register and group, where they can upload their CV or cover letter to their profile. This transforms this space into a first point of contact with the exhibiting companies prior to the start of the fair.

C&R FORUM

The **C&R FORUM** conference programme, prepared in collaboration with the Sectorial and Professional Associations that make up the Technical Committee as part of the fair's Organising Committee, will analyse the main challenges faced by the sector, as well as providing a forum for discussion and debate. Among other highly topical issues, the programme will address the IDAE guide and energy rehabilitation with heat pumps and the challenges this poses; disruptive solutions in industrial refrigeration; the technical implications of F-GAS in thermal and air conditioning installations; architecture in the energy rehabilitation of buildings; challenges faced in the design, construction and delivery of the new 12 de Octubre Hospital in Madrid; zero emissions buildings; challenges and solutions for food distribution and the first experiences with ESCs (Energy Saving Certification system).

INNOVATION GALLERY 2023

The C&R 2023 Innovation Gallery highlights the latest developments in air conditioning and refrigeration, as well as some of the trends towards which the industry is starting to gravitate in order to meet the requirements of the Technical Regulations and European Directives, such as energy efficiency, environmental protection, use of energy from renewable sources, contribution to the decarbonisation of installations and sustainability, by way of the use of materials with a low carbon footprint. The aim of the

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Gallery is to encourage innovation as a practical application of knowledge and technologies in industrial development, as well as giving broad visibility to the new developments taking place in the sector.

This year's Innovation Gallery is comprised of a total of 20 products: The **PBM4-i** aerothermal heat pumps from **Baxi Climatización**; the **Small Full Inverter EWYT-CZ R-32** heat pumps and the **VRV-5 Heat Pump system with R32**, both from **Daikin Spain**; the **Heat on Demand R290** range of equipment for simultaneous heat and cold production, by **Intarcon**; **Sophia**, the device for boiler rooms located in buildings with centralised heating Systems, from **Ista Metering Services España**; the **Ziran Pro** range of high-efficiency air-to-water heat pumps from **Keyter Intarcon Operations**; the **Therma V R290 Monobloc and ESS Home** complete energy systems from **LG**; the **Mediterráneo** portable monobloc heat pump from **Masam**; the **ECOi-W AQUA-G Blue** reversible air-to-water heat pump and the **Aquarea High Performance Generation L** multi-tasking heat pump residential air conditioning system, both from **Panasonic España**; the **Energy Recovery PX G1300** pressure exchanger device from **Refricomp Ingeniería**; the new **Samsung WindFree™ Elite** range of wall units from **Samsung Electronics Iberia**; the **SEC HD** electric expansion valve controller from **Sanhua International Europe**; the **SC|ECOINNOVA** sustainable insulation air conditioner from **Servicio de Climatización (Servoclima)**; the **Compacto6** all-in-one unit and the **TD EVO PF Ecowa** in-line centrifugal fans, both from **Soler & Palau**; **GOLD RX** ventilation units made of **Magnelis XCarb® RRP steel** from **Swegon Indoor Climate SAU**; **ZEAS CO2** condensing units for refrigeration from **Tewis Smart Systems**; the **Multi System Dual Flow** system using two closed circuits with microchannel technology from **Thermokey SPA**; and **Schoolair S-HV / Schoolair V-HV** decentralised ventilation units from **Trox España**.

APPLIED TECHNIQUES WORKSHOP (TAC) AND REFRIGERATION WORKSHOP

To top off the **C&R** activities, the **Applied Techniques Workshop (TAC)**, organised by **Agremia**, and the **Refrigeration Workshop**, organised by **AEFYT**, in collaboration with the **Refrigeration and Air Conditioning Technology Training Centre in Moratalaz**, will take place. Both workshops are aimed at installers to improve the training offered to these professionals and to promote good practices in installations. The Applied Techniques Workshop (TAC) is divided into five technical exhibitions on the concept of energy efficiency in thermal installations, under the following headings: **Integration of Thermal Installations in industrialised housing**; **Ventilation and Extraction with and without energy recovery**; **Hybrid aerothermal and geothermal heat pump systems with photovoltaic solar energy**; **Automation of Thermal Installations - Remote Management**, and **Treatment and working methods with non-fluorinated refrigerants**.

The **Refrigeration Workshop** will also offer six different practices that will address the **Assembly of a cold room**. **Handling of refrigerants**; a **Simulation of the Complete Control of an Electric Expansion Valve**; the **Indirect Refrigeration System with glycol**. **Welding of plastic pipes**; the **Propane refrigeration system with condensing waterloop**; the

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Electronic controllers and electrical control boxes for cold rooms, and the EN12830-approved temperature recorder.

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The C&R 2023 Innovation Gallery showcases the most recent advancements in air conditioning and refrigeration through the curation of 20 pioneering products.

The **AIR CONDITIONING AND REFRIGERATION Innovation Gallery, C&R 2023**, has chosen 20 equipment and solution proposals to feature in the upcoming exhibition. These cutting-edge pieces will be unveiled and displayed at the **IFEMA MADRID Recinto Ferial from 14 to 17 November 2023, organised by IFEMA MADRID**. The chosen products are a clear representation of the principal tendencies and evolution of the merchandise and systems created, produced and fitted in modern air conditioning and refrigeration installations.

In line with the established selection criteria, the panel evaluated the level of innovation, energy efficiency, environmental consciousness, quality, design, and utilisation of sustainable energy in the presented submissions. There will be a product selection from the following sectors present at the fair: industrial and commercial refrigeration; heating and domestic hot water; air conditioning and ventilation; regulation, control and centralised technical management.

The examination of the features of the products that have been awarded demonstrates certain tendencies that the industry is adopting to comply with Technical Regulations and European Directives. These include:

Energy efficiency is evident in the widespread implementation of inverter compressors, fans with variable speeds or electronic switching, and specialised control systems that optimise equipment operation.

Environmental protection is evident as many manufacturers are now using compressors that run on R 290 (propane) refrigerant with a Global Warming Potential of 3, the use of gas leak detection systems, etc.

The use of renewable energy sources, such as aerothermal energy, captures the thermal energy from the surrounding air, and results in the energy efficiency of equipment being greater.

The widespread implementation of heat pumps within compact units has significantly contributed to the decarbonisation of infrastructure through the production of cooling, heating, and domestic hot water. Additionally, these units have broadened their temperature range efficiency.

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Sustainability can be achieved by using materials with a low carbon footprint throughout their production and recycling process at the end of the product's life cycle.

The Gallery aims to promote innovation through the practical application of knowledge and technologies in industrial development while providing extensive visibility to new developments within the sector.

They are part of the C&R 2023 Innovation Gallery: **PBM4-i** aerothermal heat pumps from **Baxi Climatización**; the **Small Full Inverter EWYT-CZ R-32** and the **VRV-5 Heat Pumps with R32 system**, both from **Daikin Spain**; the **Heat on Demand R290** range of equipment for simultaneous production of heating and cooling, from **Intarcon**; the device for boiler rooms in buildings with centralised heating systems, **Sophia** from **Ista Metering Services España**; and the **Ziran Pro** range of high-efficiency air-to-water heat pumps from **Keyter Intarcon Operations**. The full energy solution includes the **Therma V R290 Monobloc** and **ESS Home** from **LG**; the portable **Mediterraneo** monobloc heat pump from **Masam**; the **ECOi-W AQUA-G Blue** reversible air-to-water heat pump and the **Aquarea High Performance Generation L** multitasking heat pump residential air conditioning system, both from **Panasonic España**; the **Energy Recovery PX G1300** pressure exchanger device from **Refricomp Ingeniería**; and the recently released **Samsung WindFree™ Elite** range of wall units from **Samsung Electronics Iberia**; the **SEC HD** electric expansion valve controller manufactured by **Sanhua International Europe**; the **SCIECOINNOVA** sustainable insulation air conditioning system developed by **Servicio de Climatización (Servoclima)**, as well as the **Compacto6** all-in-one unit and the **TD EVO PF Ecowa** in-line helicocentrifugal fans, both produced by **Soler & Palau**; **GOLD RX** ventilation units, manufactured by **Swegon Indoor Climate SAU**, are comprised of **Magnelis XCarb® RRP steel**. For refrigeration, **Tewis Smart Systems** offer **ZEAS CO2** condensing units; **Thermokey SPA** presents the **Multi System Dual Flow**, featuring microchannel technology within two closed circuits; **Trox España** provides **Schoolair S-HV / Schoolair V-HV** decentralised ventilation units for schools.

Product selection:

Company: Baxi Climatización, stand 9D06

Product: PBM4-i

This is a range of 20 to 30 kW monobloc aerothermal heat pumps for heating, cooling, and producing domestic hot water that can achieve production temperatures of up to 80°C. The equipment uses R290 and can adapt to the installation requirements consistently, with a modulation range of 13% to 100% of its power.

Company: Daikin Spain, stand 9C01

Product: Heat Pumps Small Full Inverter EWYT-CZ R-32

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This range of R-32 heat pumps can produce hot water up to 60°C. With the latest accessories that expand the heat functionality of this series, it is now possible to combine it with Altherma units to achieve temperatures of up to 70°C. The accessory can operate in hybrid mode with one or more boilers, using the existing system and providing versatility in installation. The units can generate hot water up to 60°C and cold water with low temperatures down to -15°C without the need for extras.

Company: Daikin Spain, stand 9C01
Product: VRV-5 Heat Pump with R32

Daikin has upgraded its VRV-4 system series to the VRV-5, which includes the main new feature of using R-32 refrigerant. This results in a Global Warming Potential (GWP) of only 675. In 2022, the VRV-5 range with Heat Recovery was launched, and in C&R 2023 the high-power VRV-5 Heat Pump model was presented for the first time. This model completes the VRV range with R-32 refrigerant. Furthermore, the equipment features a sophisticated leak detection system that has been fully integrated at the production stage.

Company: Intarcon, stand 7D02
Product: Heat on Demand R290

It comprises a collection of machinery able to cool and heat simultaneously. The equipment uses semi-hermetic R290 compressors and welded plate heat exchangers, equipped with frequency converters to reduce refrigerant charge. Its intended market comprises of agri-food applications that require simultaneous fulfilment of both heating and cooling systems. Its intended market comprises of agri-food applications that require simultaneous fulfilment of both heating and cooling systems. The objective is to reduce the consumption of natural gas and other fossil fuels that feed hot water boilers.

Company: Ista Metering Services España, stand 5D03
Product: Sophia: new intelligence in central heating

This device is installed in the boiler rooms of buildings with centralised heating systems. It is equipped with a software application that enables efficient and automatic management of the thermal installation. The device provides necessary smart thinking to ensure optimal performance. It always connected to the AEMET weather forecast and can be operated remotely by a group of energy management systems. The software can be integrated into various programmable controllers without relying on servers from the manufacturers or licensed software requiring periodic updates.

Company: Keyter Intarcon Operations, stand 7D02, 7E04.
Product: Ziran Pro

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This range features highly efficient air-to-water heat pumps, boasting quiet operation and a compact design purpose-built for commercial and industrial use. The device provides extraordinary adaptability across a variety of settings thanks to its broad operational scope and is entirely optimised for use with R290 natural refrigerant: propane.

Company: LG, stand 9C08

Product: Therma V R290 Monobloc and ESS Home

This combination offers a comprehensive energy solution for a more sustainable home. It provides efficient heating, cooling, and hot water usage, along with simple energy management, from storage to use and conservation. The heat pump operates by drawing 80% of its energy from the surrounding air. Additionally, it uses R290 refrigerant gas.

Company: Masam, stand 9A05

Product: Heat Pump Mediterráneo

Mediterráneo is a portable, self-contained heat pump that can air condition any space without requiring installation. It is suitable for enclosed terraces, hospital and other government service tents, marquees, temporary shelters, trade fairs and exhibitions, and other mobile, temporary or nonaccessible premises where fixed installation work is not possible. The prototype is designed for three refrigerants: R410A (2088 GWP), R454B (466 GWP), and R290 (3 GWP).

Company: Panasonic España, stand 9C02

Product: Aquarea High Performance multitasking heat pump generation L

The residential air conditioning system uses the natural refrigerant R290 to provide cooling, heating and domestic hot water. It is an air-water-water system that features a 100% hydronic hydraulic module and includes a 185-litre hot water tank. It is the inaugural all-in-one hot water tank with an impressed current cathodic anticorrosion system.

Company: Panasonic España, stand 9C02

Product: ECOi-W AQUA-G Blue

ECOi-W AQUA-G Blue is a sustainable, highly efficient, and reversible air-to-water heat pump, perfect for large commercial, industrial, or residential uses. It can produce both cold and hot water for air conditioning and domestic use. In addition to its low power consumption, this unit uses R290 as the refrigerant fluid.

Company: Refricomp Ingeniería, stand 7D05

Product: Energy Recovery PX G1300

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It is an innovative pressure exchanger gadget created to elevate the performance of CO₂-based commercial and industrial refrigeration systems to new heights. Specifically, it can boost the energy efficiency of CO₂-based commercial refrigeration systems by over 25% within the temperature range of 35-40°C and by more than 30% above 40°C.

Company: Samsung Electronics Iberia, stand 9C07

Product: Samsung WindFree™ Elite (Model: ARCXCAAWKNEU).**

The newest member of Samsung's WindFree™ collection comprises the WindFree™ Elite wall units, intended for both 1x1 and multi-split residential installations. These units implement cutting-edge technologies to offer maximal levels of both comfort and efficiency to their users. WindFree™ units distribute air evenly and gently through thousands of microorifices in the blade, generating a "still air" state and preventing any cold draughts through the area.

Company: Sanhua International Europe, stand 7E22

Product: SEC HD

The SEC HD - Heavy duty series electric expansion valve controller allows for cooling at 30% faster speed and boasts 15% energy savings. The high-water resistance, low temperature resistance, and precise overheating control of the new product renders it an ideal solution for boosting efficiency and system control within the refrigeration industry.

Company: Servicio de Climatización (Servoclima), stand 9F08

Product: SC|ECOINNOVA

It is an environmentally friendly air conditioning unit, designed to ensure high energy efficiency and reduce its impact on the environment. The product's production process uses a significant number of recycled materials, reaching up to 80%. This not only aids in the preservation of natural resources but also limits waste during its end-of-life phase. The CDTI-E.P.E. has provided funding for the development of this line of air conditioning units. The CDTI-E.P.E. is a public business entity under the Spanish Ministry of Science and Innovation. During product development, the Universitat Politècnica de Catalunya conducted thermal tests in their laboratories.

Company: Soler & Palau, stand 9C04

Product: Compactos

It is a compact, all-in-one unit for low-energy buildings, which also includes ventilation. The product offers air sanitisation with highly efficient filtration against fine dust and a significant decrease in the bacterial load. CMV, with thermodynamic heat recovery and high-efficiency air filtration. Heating and cooling through an air-to-water heat pump equipped with adaptive control, tailored to meet the needs of low-energy buildings.

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Humidity control, with room humidity level management. Domestic hot water is efficiently produced using a heat pump.

Company: Soler & Palau, stand 9C04

Product: TD EVO PF Ecowa

Low-profile helicocentrifugal fans designed for circular ducting and made from 85% recycled plastics. The propeller and silent block are encased in pure, reinforced plastic to ensure optimal performance. The fan motor body can be easily removed without having to adjust the ducts.

Company: Swegon Indoor Climate SAU, stand 9D14.

Product: GOLD RX made of Magnelis XCarb® RRP steel (recycled and renewably produced)

These units are specifically designed for convenient air circulation and offer exceptional energy efficiency. Swegon is introducing gradually Magnelis XCarb® RRP, which is made from recycled and renewably produced materials, into their production of GOLD Air Handling Units. XCarb® RRP is primarily manufactured from recycled steel and uses 100% renewable energy during the production process.

Company: Tewis Smart Systems, stand 7D01

Product: ZEAS C02

These refrigeration condensing units are a suitable solution for all refrigeration and freezing appliances with variable load conditions and high energy efficiency requirements. It uses the BLDC Inverter swing compressor with 2-stage technology and intercooler; and generates less CO₂ emissions thanks to the natural refrigerant (CO₂) and low energy consumption. As a result, it has a high energy saving potential.

Company: Thermokey SPA, stand 7E09.

Product: Multi System Dual Flow

The MSDF system uses two closed circuits with microchannel technology. A secondary refrigerant is introduced in some tube circuits, thanks to the material's high level of conductivity. It improves the performance of the heat exchangers and, concurrently, makes available a warm source of thermal energy useful for defrosting, heating and hot water.

Company: Trox España, stand 9B03.

Product: Schoolair S-HV / Schoolair V-HV

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The decentralised SCHOOLAIR ventilation units guarantee optimal air flow without the need for major construction work for installation. It is as simple as putting the unit on the exterior of the building and making openings to the outside for taking in air and allowing it to flow out. Thanks to the integrated CO₂ probe, it allows on-demand ventilation control in classrooms, indoor spaces, conferences and meeting rooms.

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Press Release

C&R 23 to offer practical demonstrations and training as part Air Conditioning and Refrigeration Workshops

In collaboration with AGREMIA, the Applied Air Conditioning Techniques Workshop (TAC WORKSHOP) will promote best practices in installation processes, with special a special focus on energy efficiency in thermal installations. Such practices form an essential part of the energy transition and are the main driver of energy savings in buildings in Spain.

The Refrigeration Workshop, organised in collaboration with the Association of Refrigeration Companies and their Technologies (AEFYT), will offer six different practices every day, tackling a series of issues and techniques around the installation and assembly of refrigeration systems.

C&R 2023 will be held from 14 to 17 November at IFEMA MADRID

With the aim of promoting best practices in the field of installation, the training workshops **TAC WORKSHOP and COOLING WORKSHOP** will once again form a central part of the activities to be presented at the upcoming **International Air-Conditioning and Refrigeration Exhibition, C&R 2023**, from **14 to 17 November at IFEMA MADRID**.

The TAC Workshop, organised by the Association Installation and Energy Sector Companies (AGREMIA), will be based on the concept of energy efficiency in thermal installations, as an essential part of the energy transition and the main driver of energy savings in buildings in Spain.

This year, for the first time, will see the TAC Workshop space host a model industrialized home display, showing different construction systems and the integration of all types of home installations (wall heating and cooling systems, electricity, plumbing, sanitation, insulation, etc.). Visitors to the display can see all the features and countless advantages in terms of energy efficiency, time and effort in the construction and assembly phases of installations.

The TAC WORKSHOP will also host five 30-minute technical presentations on air conditioning and ventilation, heating and domestic hot water.

Under the heading **Integration of Thermal Installations in Industrialised Housing**, the first presentation will look at the unique features

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of installation and maintenance work for these new construction, how they differ from traditional construction and the working methods employed for seamless integration of installations while respecting the hermetic sealing of the constructions.

The second presentation will focus on **Ventilation and Extraction With and Without Energy Recovery**, explaining the compulsory regulation on these kinds of installations, the differences between those do and do not incorporate energy recovery and the need for all kinds of premises to ensure interior air quality without foregoing the energy efficiency of buildings.

The third session will look at **Hybrid Aerothermal and Geothermal Heat Pump Systems with Photovoltaic Solar Energy**, arguing, from a technical perspective, the advantages of these thermal systems including significant energy savings when combined with renewable energy sources.

The fourth presentation will be on the **Automation of Thermal Installations: Remote Control**, with an insight into the different remote control and automation systems for new thermal installations. Visitors will also have the chance to see a real time remote-control demonstration of a complex installation.

The final presentation will be on **Handling and Working Methods for Non-Fluorinated Refrigerants**. We'll look at the differences that all installers or maintenance workers must be familiar with when it comes to working with non-fluorinated refrigerants, which are fast replacing their fluorinated equivalents and promise to become the only in town going forward.

Refrigeration Workshop

The **Refrigeration Workshop**, aimed squarely at refrigeration technicians and organised by the **Association of Refrigeration Companies and their Technologies (AEFYT)** in collaboration with the **Cold and Air Conditioning Training Center of Moratalaz**, will take a daily look at a series of questions around the installation and assembly of cooling systems

Over the course of the series, with a strong instructional approach, the Refrigeration workshop will develop **six different practices**, namely, **assembly of a cold storage room; handling of refrigerants; a simulation of complete control of an electronic expansion valve; the glycol indirect refrigeration system; welding of plastic pipes; the propane refrigeration system with Waterloop; electronic controllers and electric control and manoeuvring boards for cold storage rooms and the EN12830 temperature sensor.**

The Refrigeration Workshop will be held in association with **PUREVER COLDKIT, KIDE, GAS SERVEI, KIMIKAL, PECOMARK, EXKAL, INFRICO, INTARCON, GEORG FISCHER, SANHUA, CLIMALIFE and ELIWELL.**

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Innovation and efficiency are the driving force behind the air conditioning and refrigeration market.

In 2022 high levels of activity characterised the market growth of the heating and domestic hot water industry, which rose to 1.036 billion euros, according to FEGECA

AEFYT signals that in 2022 the refrigeration sector began with significant growth and maintained the figures of 2021. Activity in the first half of 2023 was positive for all subsectors

The market for air conditioning and thermal installation solutions is expected to grow by more than 21% in 2022, according to the latest AFEC report

International Air-Conditioning and Refrigeration Exhibition, C&R 2023, organised by IFEMA MADRID, will be held from 14 to 17 November

Innovation and technological development continue to drive the air conditioning and refrigeration market in Spain, sectors which are facing significant challenges, largely related to energy efficiency and sustainability. The main associations of the sector will analyse the evolution of this market on the occasion of the International Air-Conditioning and Refrigeration Exhibition, **C&R 2023**, organised by **IFEMA MADRID**, which will be held from 14 to 17 November at the Recinto Ferial.

In 2022, high activity in the sector, clearly boosted by the renewal of installed systems and incentive programmes, characterised the growth of the heating and domestic hot water production industry market, which reached 1.036 billion euros, according to FEGECA (Manufacturers of Heat Generators and Emitters).

For its part, AEFYT (Association of Refrigeration Companies and their Technologies) notes that the refrigeration sector in 2022 will maintain the figures of 2021, despite starting with significant growth. They added that activity in the first half of 2023 was positive for all the subsectors that are part of the association.

The market for air conditioning and thermal installation solutions is expected to grow by more than 21% in 2022, according to the latest AFEC report. In terms of trends for 2023, the study highlights, among other things, areas such as the decarbonisation of the electricity sector, investments in productive infrastructure, the balance between digitalisation and the green transition, and the essential role of smart climate control.

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Press Release

About C&R

C&R 2023 will once again become the international point of reference for heating equipment, with the participation of the leading companies and brands in the Air Conditioning, Climate Control, Ventilation, Industrial and Commercial Refrigeration, Heating and Plumbing sectors, which will offer the most complete showcase of innovations, trends and lines of progress in this industry. This trade fair is a strategic edition with great expectations for the sector, bringing together the innovations of 398 direct exhibitors, representing a 98.5% growth. There is also an outstanding growth in international attendance, which this year amounts to 177 companies from 21 countries - Germany, Saudi Arabia, Armenia, Bulgaria, China, Croatia, Denmark, France, India, Italy, Japan, the Netherlands, Poland, Portugal, United Kingdom, Romania, Serbia, Sweden, Turkey and Uzbekistan.

Thus, coinciding with the moment of dynamism that the sector is experiencing, C&R 23 will be the opportunity to learn the key factors for the evolution of the sector. This year's platform will be particularly marked by sustainability and all those innovations in equipment that are increasingly more efficient in terms of performance, energy savings, improvements in consumption levels and greater respect for the environment. C&R's portfolio will also cover changes related to the European regulatory framework, decarbonisation, the implications of the adoption of new refrigerants, zero emission buildings, smart air conditioning, energy rehabilitation, and a whole range of solutions aimed at improving indoor air quality and environmental health, among others.

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Vicepresidents

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AFEC - Association of Air-Conditioning Equipment Manufacturers

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- ♦ Marta Hernández – Área de exposición Climatización y Calefacción / HVAC exhibition area

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