



AHR Expo Announces 2023 Innovation Awards Winners

Attend in person to see winning products and technology on the show floor in Atlanta

WESTPORT, Conn., Oct. 20, 2022 – The AHR Expo (International Air-Conditioning, Heating, Refrigerating Exposition) today announced the winners of the 2023 AHR Expo Innovation Awards. Each year, winners are chosen in ten industry categories to represent the most innovative products and technologies set to hit the market in the year ahead.

“The awards program experiences growth year on year,” said Show Manager, Mark Stevens. “This is a direct correlation to just how fast our industry is growing through innovation. The awards are a key indicator of how HVACR is being called upon to solve worldwide issues at a rapid pace. We aim to highlight this innovation trajectory and honor those that are pushing the bar to create real solutions to difficult problems.”

The Innovation Awards draw hundreds of manufacturers who are designing new and never before seen solutions or improvements upon existing products and technologies launching into the marketplace in the coming year. They encourage exhibitors to submit new products and technologies for recognition via review and selection by a panel of third-party judges comprised of distinguished ASHRAE members. Entrants are evaluated based on overall innovative design, creativity of the product or service offered, product or technology real-world application, as well as overall potential market impact.

“We are thrilled to celebrate this year’s winners as well as to continue to champion innovation among our industry professionals,” continued Stevens. “In the last few years, HVACR has taken on a wider audience outside of our direct industry stakeholders. It is refreshing to welcome an understanding of the value HVACR brings to the world in essentially every factor of daily life. Manufacturers on the AHR Expo show floor are challenged to continuously innovate and adapt as the built environment around us changes, and you’ll see them meeting this charge head-on in Atlanta.”

The Innovation Awards program serves as an annual metric for year-to-year industry development and growth, as well as a forecast of the marketplace in the upcoming year. While the Awards officially recognize only a select few, the show floor is a robust example of how manufacturers are growing the industry in exciting ways.

“AHR Expo would like to formally congratulate each of our 2023 AHR Expo Innovation Award winners, as well as our finalists and all our entrants, for their continued leadership and contribution to HVACR,” said Stevens. “We look forward to seeing each of you on the show floor in Atlanta, as well as where you’ll lead us in the future!”

The 2023 AHR Expo Innovation Award Winners and finalists were selected in ten industry categories, including building automation, cooling, heating, indoor air quality, plumbing, refrigeration, software, sustainable solutions, tools and instruments, and ventilation.

BUILDING AUTOMATION

Winner: Cielo WiGle Inc., Booth #C6700

Innovation: Cielo Breez Max

Cielo Breez Max (Max) is the industry's first true smart thermostat for mini-split, window and portable air conditioners. It is loaded with an AI-based engine to auto-detect AC type and model number. Backed with AWS cloud, Max is universally compatible with any brand or type of ductless air conditioner. It works with a 5V adapter or can be hard-wired through 12/18/24 volts AC. It can also be powered with 12/18/24 Volt DC. All Cielo Breez Max are secured with TLS1.2 to authenticate and encrypt data securely when transferred over a network. Max is compatible with Amazon Alexa, Google Home, SmartThings, IFFTT and Siri shortcuts. Learn more [here](#).

Finalists in this category include Falkonair Inc., Booth #B132 and Automated Logic Corporation, Booth #B1519

COOLING

Winner: Chemours, Booth #C6425

Innovation: Opteon™ XL41 Refrigerant

Opteon™ XL41 is a non-ozone depleting, low global warming potential refrigerant replacement for R-410A in residential and light commercial air conditioning, and scroll chiller applications. This innovative product maximizes the benefits of the transition to HFO refrigerants while minimizing the impact of the transition. Opteon™ XL41 provides a 78% reduction in GWP from R-410A, while remaining compatible with all R-410A residential and commercial applications and lubricants. This greatly reduces the re-design effort for OEMs, and reduces the learning curve for the technicians in the field. Learn more [here](#).

Finalists in this category include Copeland Compressors and Condensing Units/Emerson, Booth #B1839, #B1849 and Fujitsu General American, Inc., Booth #B1455

HEATING

Winner: Copeland Compressors and Condensing Units / Emerson, Booth #B1839, B1849

Innovation: Copeland™ ZPSK7 scroll compressor

Built on the award-winning ZPSK6 platform, Emerson's ZPSK7 scroll compressor is the most efficient two-stage compressor developed in the 100-year history of the Copeland™ brand. The Copeland scroll two-stage compressor provides affordable comfort and energy efficiency in residential and light commercial applications. With 2023 Department of Energy efficiency regulations, Emerson enhanced its Copeland two-stage compressor for heat pump and air conditioning applications for the HSPF2 and SEER2 standards. The Copeland ZPSK7 product lineup consists of 1.5 – 5 Ton two-stage compressors. The new ZPSK7 two-stage compressor offers enhanced performance with up to 7.4% efficiency improvement at the SEER2 B rating point condition, up to 6% efficiency improvement at key HSPF2 full load operating conditions, and up to a 4% efficiency benefit at the SEER2 a rating point condition over the previous generation of ZPSK6. These efficiency improvements are enabled by industry-leading motor, bearing, and manufacturing processes to deliver these substantial gains. Typically heating applications require more capacity at low ambient temperatures. The ZPSK7's two stages of operation allow the compressor to shift easily between ~65% capacity and 100% capacity to satisfy any differing heating demand. Learn more [here](#).

Finalists in this category include Dorin USA, Booth #B1546 and Mikrofill by Stuart Turner, Booth #B3881

INDOOR AIR QUALITY

Winner: BELIMO Americas, Booth #B315

Innovation: Room Sensor

Belimo room sensors accurately measure temperature, humidity, dew point, and CO2 with or without an ePaper touch display. Integrated Near Field Communication (NFC) provides easy field adjustability, commissioning, remote display capabilities, and troubleshooting even without power. These sensors are maintenance-free and provide long-term reliability for a comfortable room environment. Non-powered configuration allows customers to set these room sensors up before being installed in the field, eliminating technician frustration as the sensors can arrive on site fully configured and ready to communicate. Select models offer BACnet, Modbus, or MP-Bus, which enhances communication and reduces installation, cables, and terminal connections. Learn more [here](#).

Finalists in this category include AirGreen, Booth #C6102 and Particles Plus, Inc., Booth #BC1808

PLUMBING

Winner: Caleffi Hydronic Solutions, Booth #B3317

Innovation: Caleffi 536 Series PresCal HP Piston-type Pressure Reducing Valve

The only direct-acting pressure regulating valve in North America with true piston operation, the PresCal™HP family ensures stable, high-precision water pressure control while withstanding severe inlet pressure or punishing downstream water hammer. It's perfect for staged pressure control or demanding applications that are fraught with extreme pressure fluctuations. Being the bridge between a building's water main and its distribution piping, a PRV experiences pressure fluctuations on both downstream and upstream sides. These fluctuations can be of sufficient magnitude to cause premature fatiguing and failure of a rubber diaphragm design, the industry standard (including Caleffi). The higher the incoming pressure, the more severe the fluctuations and their effects frequently are. This is because higher-pressure applications often involve commercial buildings containing quick-acting devices. They are also interconnected with other similar buildings. Controlling pressure reliably in such applications requires either a robustly designed PRV, a two-stage PRV arrangement, or both. These are the demanding conditions the Caleffi PresCal HP family of PRVs is designed for. Instead of using a flexible, rubber diaphragm separating the high-pressure and low-pressure chambers inside the PRV, the PresCal HP uses a durable piston design. The high-range model serves as a first-stage PRV in a two-stage application. The low-range model serves as a second stage, or as a stand-alone PRV for punishing pressure spikes. Learn more [here](#).

Finalists in this category include EasyFit Isolator, Booth #B145 and Viega LLC, Booth #B4027

REFRIGERATION

Winner: Retail Solutions / Emerson, Booth #B1839, B1849

Innovation: Copeland™ ZFW variable speed scroll solution for low-temperature refrigeration applications

The Copeland™ ZFW variable speed scroll solution includes brushless permanent magnet (BPM) motor-based scrolls and variable frequency drives (VFDs) targeted for low-temperature, stationary refrigeration applications. The variable speed scroll provides better efficiency, precision, flexibility and reliability, while Copeland variable frequency drives, EVM/EVH Series complement Emerson compressors and controls. It has double the capacity of a fixed-speed compressor of the same size while providing a 20–30% efficiency improvement. With vapor injection technology and a speed range of 1,000–7,000 rpm, it offers unparalleled levels of control, while reducing cycling rates and greatly improving reliability. Optimized for use with new Copeland EVM variable frequency drives, the combination offers cutting-edge levels of performance. While intended for compression, EVM drives are also universally applicable for fans, pumps and other electric motors. With Bluetooth

capability, commissioning is more streamlined than ever. To optimize ease of use, the Copeland EVM has been preconfigured for Emerson controls (iPro, E2, E3, Site Supervisor) and can be integrated universally with any controller. Available today with A1 refrigerants and moving toward A2L approval by 2024, the platform offers a robust design option for complying with current and future commercial refrigeration regulations. Learn more [here](#).

Finalists in this category include Danfoss, Booth #B3231 and MATELEX, Booth #3561

SOFTWARE

Winner: cove.tool, Booth #B4561

Innovation: loadmodeling.tool

Built for mechanical engineers, the loadmodeling.tool quickly and automatically establishes peak cooling and heating loads to design and right-size the mechanical system using the EnergyPlus engine. This web-based tool supports cove.tool's goal of providing the solutions needed for the AEC industry to unlock productivity and solve the climate crisis. One of the most revolutionary aspects of the loadmodeling.tool is that it is web-based, which presents a new opportunity for mechanical engineers as the majority of their tools are only available via desktop platforms that haven't evolved much in the last few decades. As it is web-based, mechanical engineers can access the tool anywhere, including results, which means large files aren't having to be transferred or shared manually. Another important function of the tool is that multiple engineers can work simultaneously on the platform, which is a fundamentally new function that other tools don't and can't have. Multiple people can log into the project and work on various tasks at the same time, increasing team efficiency. Finally, this is the first tool that thinks about the engineer first – loadmodeling.tool fits current workflows and gives engineers the answers they need in the way they work. We're thinking about the tool from the user experience standpoint and giving them something innovative and beautiful to work with every day because they haven't had that before. Learn more [here](#).

Finalists in this category include HVAC Solution, Inc., Booth #C5500 and Rep Order Management (AccuQuote), Booth #B4523

SUSTAINABLE SOLUTIONS

Winner: Taco Comfort Solutions, Booth #B1639

Innovation: System M

The ultra-efficient System M consists of a sleek, whisper-quiet, inverter-driven outdoor heat pump that can be up to 4 times more efficient than a gas furnace. The outdoor heat pump seamlessly integrates with Taco's exclusive indoor HydroBox to provide a complete system with just 6 pipe

connections needed. System M is a radically innovative air-to-water heat pump system that provides comfortable, efficient heating, cooling, and plenty of domestic hot water. A true plug-n-play appliance, its packaged design makes installation less intrusive; no refrigerant or gas lines are needed. System M seamlessly integrates with almost any high-efficiency heating and cooling system and is perfect for both new construction and existing HVAC systems. The installation time is half of a typical air-to-water heat pump by eliminating the work to design, procurement, and installation of all the required hydronic components. Just 6 connections needed; 2 connections to the heat pump, 2 connections to the domestic hot water tank (DHW) and 2 connections to the heat and cooling system. Learn more [here](#).

Finalists in this category include Mitsubishi Electric Trane HVAC US, Booth #C6805 and Trane, Booth #B3217

TOOLS & INSTRUMENTS

Winner: NAVAC Inc., Booth #C6364

Innovation: BREAKFREE® POWER FLARING TOOL

NAVAC NEF6LM BreakFree® Power Flaring Tool yields accurate, hassle-free tubing flares in a fraction of time compared to traditional flaring methods. Designed to perform reliably in harsh environments, NEF6LM also allows one-button, one-hand operation. The tool is equipped with a high-performance rechargeable battery that makes over 100 flares per charge. Manual flaring is rough and inconsistent, very much depending on the operator's experience level. As a result, distorted flares are made all the time, which causes leaks in connections. Refrigerant leak is a major service issue, especially for ductless VRF systems with many flared connections. NAVAC BreakFree® Power Flaring Tool NEF6LM delivers a fully automatic flaring operation and provides the ultimate quality of flares that an excellent experienced technician could achieve in years to be delivered simply by pressing a button. This greatly improves the efficiency and accuracy of tubing works and greatly reduces the refrigerant leaks in HVAC systems. Learn more [here](#).

Finalists in this category include Airthings, Booth #C5952 and Onset - HOBO Data Loggers, Booth #B1104

VENTILATION

Winner: SmartD Technologies, Booth #C5948

Innovation: SmartD Clean Power VFD

SmartD's Clean Power Variable Frequency Drive changes the motor control landscape. By delivering a clean, sinusoidal signal it reduces motor system losses by up to 40% and extends motor lifetime in a compact footprint that can be deployed without ancillary filters. The SmartD VFD

integrates wide-bandgap (WBG) semiconductors into its multi-level inverter architecture and combines them with patented modulation algorithms to produce a pure-sine wave electrical signal without the need for external filters. WBG semiconductors have intrinsic characteristics that make them more efficient: on-state losses are 10-80% lower and switching losses are 9 to 30 times lower than standard IGBTs. While the benefits of WBG are clear, they are but a piece of the SmartD innovation equation. By combining a single-carrier harmonics-canceling modulation, with a multi-level architecture and the high frequency switching of the WBG transistors, SmartD is able to integrate filters 400 (four hundred!) times smaller than auxiliary filters normally required to achieve a comparable signal quality. The integrated miniature-filters not only reduce the overall footprint and simplify wiring, they also reduce filter losses while improving motor efficiency, resulting in an overall system efficiency improvement and system-loss reduction of up to 40%. Learn more [here](#).

Finalists in this category include ECM PCB Stator Technology, Booth #B4108 and Lennox International, Inc., Booth #B1861

Funds raised from the entry fees of the Innovation Awards competition will be donated to the Atlanta College and Career Academy (ACCA), an Atlanta-based technical high school. More information to follow on AHR Expo's work with ACCA and our investment into the future workforce of HVACR.

Registration for the 2023 AHR Expo is free through February, 4, 2023 and can be completed on ahrexpo.com.

ABOUT THE AHR EXPO

The AHR Expo is the essential event for HVACR professionals, attracting the most comprehensive gathering of the industry from around the globe each year. The show provides a unique forum where manufacturers and suppliers of all sizes and specialties come together to share ideas and showcase the future of HVACR technology. Since 1930, the AHR Expo has remained the industry's best place for OEMs, engineers, contractors, facility operators, architects, educators and other industry professionals to experience everything new in HVACR and build relationships. The AHR Expo is co-sponsored by ASHRAE and AHRI and is held concurrently with ASHRAE's Winter Conference. The next show will take place February 6-8, 2023, in Atlanta. For more information, visit ahrexpo.com and follow @ahrexpo on Twitter and Instagram.

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