



AHR[®] EXPO

Chicago
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The event
for HVACR



AHR

AHR Expo Announces 2024 Innovation Awards Winners

See winning products and technology in action on the show floor in Chicago

WESTPORT, Conn., Oct. 12, 2023 – The AHR Expo (International Air-Conditioning, Heating, Refrigerating Exposition) today announced the winners of the 2024 AHR Expo Innovation Awards. Winners are chosen annually in ten industry categories, representing the most innovative products and technologies in the market..

“There’s no shortage of innovation in HVACR right now,” said Show Manager, Mark Stevens. “To be recognized as an award winner is a true honor and an indication that we as an industry are responding to real problems with creative solutions. The Innovation Awards aim to highlight this innovation trajectory and celebrate those that are pushing the bar.”

The Innovation Awards draw hundreds of manufacturers to enter breakthrough designs for new and never before seen solutions or improvements upon existing products and technologies. All entries are reviewed and selected by a panel of third-party judges made up of distinguished ASHRAE members. Evaluations are 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.

“It’s encouraging to see so many entries and the growth the awards program brings year to year,” continued Stevens. “Manufacturers across the industry are responding with solutions for cost savings, energy savings, production efficiency and are filling performance gaps in product and technology. Congratulations to our 2024 winners, we look forward to supporting your journey of innovation in Chicago and beyond!”

In addition to celebrating innovation in HVACR, the Innovation Awards provide a means to strengthen the industry by allowing for the AHR Expo Workforce Development program, which aims to grow the industry through programming geared to inspire future members of the HVACR community. Funds collected from the entry fees are donated to programming at the student level, including show field trips, curated introductions to professionals and manufacturers, laboratory equipment and monetary donation to student programs in the hosting city. Learn more about workforce development on ahrexpo.com.

Winners for the 2024 AHR Expo Innovations Awards include:

BUILDING AUTOMATION

Winner: 75F

Innovation: 75F HyperStat Split

AHR Booth: #S6374; S6277

The 75F HyperStat Split enables contractors to upgrade RTUs with advanced rooftop control with unprecedented ease. Using only two existing wires from the RTU to the thermostat, HyperStat Split provides dual enthalpy economizer, demand-control ventilation, and VFD control. What's more, an onboard PIR occupancy sensor enhances energy savings with auto away. Devices like the HyperStat Split encourage the building controls industry to make two design considerations the norm. First, HyperStat Split's ability to work with the existing two wires provided for a standard temperature sensor while still delivering advanced control sequences demonstrates that hardware can work with existing infrastructure without excessive complexity. Second, the device's eight onboard sensors and native cloud connectivity for real-time analytics prove that rising demand for excellent indoor air quality management can be met in a straightforward, modern, and user-centric manner.

Finalists: Carrier, i-Vu Express Connected Building Automation Appliance (Booth #S7510); Copeland, Copeland CC200 case controller (Booth #S7110)

COOLING

Winner: Danfoss

Innovation: DSG Compressor

AHR Booth: Booth #N2510

The DSG compressor has been specifically designed for low pressure refrigerants such as R1234ze with low global warming potential. Applications include chiller systems, with a wide range of compressor capacities available to support unit design requirements. The DSG has been specifically designed for low pressure low global warming potential refrigerants such as R1234ze. These refrigerants would usually require a much larger compressor size to have the same capacity as high pressure (R410A, etc.) refrigerants. As chiller manufacturers will need to transition to lower global warming potential refrigerants <700 GWP they will need to move to medium and low-density refrigerants. The DSG with its same size will enable a smooth transition without a significant increase in physical compressor size. It is qualified for R1234ze which is an excellent replacement for the market that has been dominated by R134a for many years, but will be phased down due to its impact on the environment.

The DSG can also be used with other refrigerants with similar properties, so it offers a great deal of flexibility for manufacturers to choose without requiring a new compressor design. This will also support future refrigerant changes and regulations without requiring significant modifications.

Finalists: Daikin Applied Americas Inc., WMT (Booth #S7549) ; Innovair, DuoTec (Booth #N3060)

HEATING

Winner: Ephoca

Innovation: Nextac - The next generation of PTAC

AHR Booth: #S9914

Nextac transforms the PTAC into a tour-de-force of total comfort control. R32, twin rotary inverter compressor, heat pump performance to -10°F, integrated ERV, MERV13, zero air leakage, self-cleaning coils, 27 dB(A) operations, STC of 40, sleek, all-metal, paintable cabinet. No drain is required for cooling or heating. For many years, PTACs have seen minimal advancement. Often considered a "cheap, low-end" product, installers have favored them for their affordability and ease of installation. However, those living with PTACs in their homes have endured poor performance with no better options to fit existing sleeves. Nextac aims to disrupt this status quo with this new high-efficiency and quality PTAC by compelling manufacturers to enhance their PTAC lineup, making them more efficient, aesthetically pleasing and adding more insulation for quieter operation and a better seal.

Finalists: Caleffi Hydronic Solutions, Caleffi XF (Booth #S7981); Intellihot Inc., Electron iE1 (Booth #S10323)

INDOOR AIR QUALITY

Winner: WellStat

Innovation: WellStat

AHR Booth: #N3417

WellStat® is an indoor Air Quality + Energy Management Software platform used by property and facility management teams to responsibly assure healthy air quality conditions, lower operating costs, and increase operating revenue. It is our goal to optimize an asset's performance while promoting a safer and healthier work environment. WellStat is FCC tested and UL listed. It provides data beneficial for achieving various sustainability certifications (LEED, WELL, RESET certified, US Energy Policy Acts).

WellStat is completely integrated, customizable and provides a single, unified enterprise hardware, software, and mobile platform experience. With WellStat, customers can optimize their asset's performance while promoting a safer and healthier work environment. Additionally, WellStat uses the highest caliber sensors available and maintains systemic accuracy through persistent, over-the-air calibration that never requires maintenance. Monitoring systems are tested, calibrated and always accurate, all the time including 14+ IAQ sensors monitoring: temperature, relative humidity, particulate matter, carbon dioxide, ozone, total volatile organic compounds, formaldehyde,

reset TVOC, dew point, wet bulb, light level, carbon monoxide, occupancy, pressure, sound DB, duct flow.

Finalists: ECM PCB Stator Technology, Ultra-light, Premium Efficiency 6hp PCB Stator Air Blower Motor (Booth #S10334); Sensirion, Inc., SEN6x (Booth #S6156)

PLUMBING

Winner: Rheem Water Heating

Innovation: Triton® Light Duty (50- and 75-gallon)

AHR Booth: #S7569

A smart, robust solution for small businesses, Triton Light Duty is the most intelligent high efficiency commercial gas water heater on the market. Boasting built-in smart monitoring and precise leak detection, the unit prevents downtime, manages water heater issues, and keeps businesses running smoothly. Perfect for retrofit or new construction. With changing regulations, Rheem designs with sustainability in mind. Triton Light Duty (LD) is designed to promote energy efficiency and environmental responsibility and holds the potential to drive transformative changes in the way water heaters are conceptualized and manufactured.

With a capacity ranging from 50 to 75 gallons, Triton Light Duty's patented combustion system and helical coil heat exchanger provide maximum thermal efficiency and durability. The latest Triton offers up to 97% thermal efficiency and eliminates downtime with the ability to detect and prevent water heater problems before they occur thanks to LeakGuard™ — an all-inclusive leak detection and prevention system capable of limiting water leakage outside the tank. The helical coil heat exchanger offers maximum thermal efficiency and energy savings. With porcelain/ glass-coated steel, corrosion is minimized, extending the life of the tank while the unique minimum weld joint construction increases durability. Most importantly, the unit features a built-in condensate neutralizer, which eliminates the need for a separate device to raise the pH of the condensate for safe draining.

Triton LD is part of a decarbonization portfolio to transition away from less efficient water heaters, thereby reducing carbon emissions and environmental impacts. This signals a strong direction for the future, where new product development is likely to be influenced by an increasing emphasis on sustainability. Energy efficiency will take center stage as manufacturers strive to align with evolving regulations and meet strict carbon emissions reduction targets set by state and local governments.

Finalists: Bonomi North America, Inc., LOCPOWER Energy Harvesting Control Valves (Booth #N2560); ECM PCB Stator Technology, Ultra-light, Premium Efficiency 3HP PCB Stator Pump Solutions (Booth #S10334)

REFRIGERATION

Winner: AirGreen

Innovation: AirGreen-BMIL Brine-based DX Cold Room Heat Pump

AHR Booth: #S9377

The innovative AirGreen-BMIL brine-based DX refrigerant system essentially creates a low dewpoint “heat pump” for cold room applications – providing <26F dewpoint supply air in a single process step. Because of its simplicity and efficiency, this packaged unit design provides up to 50% energy savings while also significantly reducing capital costs. Solid desiccant products can only achieve supply air at 55F with a 40-45F dew point, and to lower the dry bulb temperature to as low as 33F it requires three or more pieces of equipment at considerable capital and energy penalty. The unique low temperature brine solution achieves this performance because it simultaneously cools and dehumidifies. For customers, it also eliminates the downtime related to multiple defrost cycles, or worse, downtime for cleaning if condensation forms. Further, the AirGreen product only needs low regeneration temperatures (~110F), compared to solid desiccants requiring 180F or more. This low temperature hybrid brine system is uniquely suited for cold storage applications and addresses a \$5.1B market.

Customers will benefit both from precise supply air temperatures and the demonstrated energy savings of this design approach.

Finalists: Honeywell, Honeywell Solstice N71 (R-471A) (Booth #N2137); Mitsubishi Electric Trane HVAC US, Mitsubishi Electric Variable-Speed Scroll Compressors (Booth #S7177)

SOFTWARE

Winner: Interplay Learning

Innovation: SAM (Skill Advisor and Mentor)

AHR Booth: #S10537

SAM (Skill Advisor and Mentor) is the first AI-powered advisor for the skilled trades. SAM gives teams instant and personalized guidance so they can gain skills faster and more efficiently. Technicians can ask SAM questions and get immediate assistance while they’re learning, helping enhance comprehension and sharpen critical thinking. SAM is the first of its kind. Interplay’s unique approach to on-demand mentorship and training provides considerable value, such as:

- **Fast Tracks Learning:** SAM meets technicians where they are, providing assistance to suit their specific needs. It’s like an approachable study buddy who understands them perfectly and helps them learn faster.
- **Sharpens Critical Thinking:** SAM doesn’t shortchange learning with easy answers. It guides them towards “aha” moments and helps develop problem-solving skills.
- **Saves Time and Boosts Productivity:** When newer techs ask SAM for help first, it can free senior techs and managers from answering basic questions and give them more time to grow the business.

- **Taps Into Expert Knowledge:** SAM uses data from SkillMill, which has been carefully crafted by seasoned subject matter experts, to ensure techs learn skills right the first time.

Finalists: Conduit Tech, Conduit Tech Software (Booth #S10064); IES Ltd., IESVE Software (Booth #N3452)

SUSTAINABLE SOLUTIONS

Winner: Midea Residential Air Conditioning

Innovation: Midea PWHP

AHR Booth: #S10371

Midea's Packaged Window Heat Pump is a window-mounted cold climate air source heat pump, designed for DIY installation and high-performing, energy-efficient heating and cooling. Developed to support multi-family buildings' transition towards electrification, the Midea PWHP provides a cost-effective solution for buildings looking to quickly meet future sustainability requirements. Midea's PWHP stands out in innovation and uniqueness as a window-mounted unit. Unit performance is 9,000 BTU/hr heating and cooling, with the category's highest CEER of 16.0, as of the application date, a 2.35 COP @ 17F, up to SEER2 21.8 and HSPF2 11.6. This is done without the use of auxiliary heat.

While high-efficiency heat-pumps typically require professional installation including new electrical circuits, the Midea PWHP operates on a 120V/15A circuit mounting to hung-type windows, allowing for DIY installation. The innovative saddle design allows window view and functionality while simultaneously reducing indoor noise levels. A distinguishing feature of the Midea PWHP is a telescoping center section that adjusts to various wall depths and a hinged outdoor section allowing for rotation during installation. This along with ~50% footprint reduction from the industry first integrated inverter compressor offers the ability to quickly install into windows while maintaining optimal performance.

Finalists: Blue Frontier, Blue Frontier, Liquid Desiccant DOAS (Booth #N1440); Mitsubishi Electric Trane HVAC US, Mitsubishi Electric, Hybrid VRF® (Booth #S7177)

TOOLS & INSTRUMENTS

Winner: INFICON

Innovation: FLUE-Mate™ Combustion Analyzer

AHR Booth: #N2934

FLUE-Mate Combustion Analyzer is designed to improve combustion efficiency and safety. This tool is equipped with an integrated manometer, thermometer, CO test, cracked heat exchanger test and provides draft analysis. FLUE-Mate can even generate a QR code that can be scanned with your smart device for a quick analysis report. FLUE-Mate provides a host of useful features for user

convenience and safety, like the easily visible water trap and filter, easy operation, cracked heat exchanger test, automatic pump shut-off, and ambient CO monitoring. The free FLUE-Mate mobile app is a major advantage that allows the user to do even more with their combustion analyzer. FLUE-Mate generates a QR code that can be scanned using the app for a quick analysis report without the need for a Bluetooth® connection. All important readings and information are on your smart device with just a quick scan of the code. The app also allows the user to save and share reports.

Unlike many other combustion analyzers, FLUE-Mate displays efficiency, O₂, CO₂, CO and flue gas temperature readings all on one screen. This makes FLUE-Mate more user-friendly and helps techs get the job done quicker.

FLUE-Mate's water trap and filter assembly is designed to always be upright and easy to see, so you always know when to change the filter or empty the trap and keep your FLUE-Mate protected.

The automatic pump shut-off feature stops flow when a high level of CO is detected, saving the CO sensor from being poisoned and saving customers an expensive repair bill.

Finalists: MSA Safety, Legend Series HFC (Booth #S6536); Snap Drill AS, Snapdrill (N3165)

VENTILATION

Winner: HVAC Manufacturing and Technology Inc.

Innovation: SAV® - Smart Air Valve

AHR Booth: #S9220

The SAV-Smart Air Valve is an economical self-commissioning air control solution. Featuring a 100-1 turndown and precision airflow accuracy to within a few CFM operating as low .03"W.G. It matches the ventilation rate to the risk of hazard featuring advanced Demand Control Ventilation & low EUI with a single unit size. The SAV® adds value and mitigates risk by creating a new simplified and economical value chain leading to a paradigm shift by obsoleting fixed orifice plate technology. The Variable Orifice Plate Technology solves a complex fluid dynamic problem of measuring a fluid accurately over a wide dynamic range, obsoleting current fixed orifice single venae contracta fluid measurement/fluid control air terminals. Offers a variable dimensional aspect ratio footprint. It solves current issues for end users, Architects/engineers, contractors, and TAB entities. This innovation allows the controls companies/system integrators to supply and warranty the zone level devices as part of their scope of work, optimize their software/network architecture with self-balancing flexibility, Eliminate GIGO (garbage in garbage out) data and mitigate risk for the life cycle of the building. SAV-Smart Air Valve transforms an infrastructure into a user centric healthy flexible space without mechanical infrastructure upgrades.

Finalists: ECM PCB Stator Technology, High-Performance, Lightweight 12hp PCB Stator Blower Motor (Booth #S10334); LG Electronics U.S.A. Inc., LG Split Compact M3 DOAS with Multi V S® (Booth #S8345)

In addition to category winners, one overall Product of the Year winner will be announced and awarded in Chicago. This prestigious honor is awarded based on exceptional leadership in HVACR innovation.

FOR MORE INFORMATION

For more information about the 2024 AHR Expo or the Innovation Awards Competition, please visit 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 January 22-24, 2024, in Chicago.

For more information, visit ahrexpo.com and follow @ahrexpo on social media channels Twitter, Instagram, Facebook and LinkedIn.

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