

Innovation Award Winners to be Honored in February at 2020 AHR Expo

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tion Award Winners and finalists selected within the categories of building automation, cooling, green building, heating, indoor air quality, plumbing, refrigeration, software, tools and instruments, and ventilation are:

Building Automation

Winner: Delta Controls Inc. (Booth 1161) - O3 Sensor Hub 2.0
Innovation: The O3 Sensor Hub 2.0 combines seven different sensors to provide the most accurate view of an interior space available on the market. IoT-enabled to function

as a standalone room controller, the O3 Sensor Hub 2.0 combines temperature sensing, occupancy detection, humidity, and wireless integration into one. This innovation uses Sensor Fusion to enhance the occupant experience with heightened room control and to reduce false occupancy detections. The O3 is ceiling-mounted to maximize functionality from the best vantage point of the room, enabling it to accurately detect occupancy with simple reads from body heat, keyboard noise, or other motion. It also quickly detects when occupants leave the room, resulting in cost savings valuable

to facilities management. With the O3 Sensor Hub 2.0, Delta Controls Inc. aims to change how the controls industry looks at occupant satisfaction.

"I am incredibly proud of the Delta Controls team and of the product they developed," said Shane Murphy, marketing manager at Delta Controls. "The O3 Sensor Hub allows users to experience the best room control on the market, and we are grateful to be recognized by AHR Expo and the ASHRAE committee for this product. At the 2020 Show, we are excited for the opportunity to show off the O3, and how Delta Controls is re-envisioning occupant experience."

Finalists in this category include: 75F (Booth 268) - 75F Building Intelligence System; BELIMO Americas (Booth 767) - Ultrasonic Flow Sensor; and Danfoss (Booth 1501) - Danfoss VLT® condition-based monitoring.

Cooling

Winner: Danfoss (Booth 1501) - Danfoss Interlaced Micro Channel Heat Exchanger (iMCHE)

Innovation: The Danfoss Interlaced Micro Channel Heat Exchanger (iMCHE) integrates multiple circuits into a single coil. It works using a shared air heat transfer area and controlling each one independently by a multi-circuits system. The iMCHE uses a whole air side heat transfer when operating under partial load conditions to maximize efficiency. Based on the results of a recent case study, the IEER increased 18 percent when using the iMCHE solution. The iMCHE provides a compact and cost-effective solution for dual-circuit rooftop units. While public concern for climate change continues to increase and higher energy standards are predicted, the iMCHE allows equipment to easily meet new standards with low cost impact.

"Our iMCHE Interlaced Microchannel Heat Exchanger is the newest addition in the already expansive Danfoss MCHE portfolio and supports our efforts to provide quality MCHE for condenser, evaporator, heat pump, radiator and reheat applications," said Jeff Tucker, Business Development at Danfoss. "The iMCHE was developed specifically for two-circuit refrigerant systems and targets the global Roof Top product as well as an array of two-circuit designs. Using iMCHE affords system developers the opportunity to improve overall system efficiency by more than 20 percent. This is significant as new efficiency standards

requiring approximately 15 percent efficiency increases will take effect starting in 2023."

Finalists in this category include: Baltimore Aircoil Company (Booth 2321) - Nexus™ Modular Hybrid Cooler; Smardt Chiller Group Inc. (Booth 6643) - Smardt G-class 515B Low GWP Chiller; and Vertiv (Booth 2411) - Liebert® VRC Rack Cooling System.

Green Building

Winner: Danfoss (Booth 1501) - Danfoss Turbocor® TG490 Compressor

Innovation: The Danfoss Turbocor® TG490 Compressor is designed for air- or water-cooled chiller applications. The oil-free, variable-speed, magnetic bearing centrifugal compressor is optimized for use with HFO-1234ze, which has a GWP of less than 1, and can also be used with low-GWP refrigerant R-515B. The Danfoss Turbocor® TG490 is the first of its kind oil-free, magnetic bearing centrifugal compressor that offers industry-leading efficiency, reduced maintenance requirements, and simplified design through the elimination of a traditional oil management system. It is also the industry's first oil-free compressor technology with the flexibility to be used with low-GWP R-515B — which has a rating as low as 299 as well as A1 safety classification.

"We are thrilled to have been recognized once again by ASHRAE and the 2020 AHR Expo for our commitment to develop new technologies to help slow and ultimately reverse the process of global warming," said Jose Alvares, vice president, Sales and Marketing, Danfoss Turbocor Compressors. "With the new Danfoss Turbocor® TG490 compressor, the world's first oil-free, magnetic bearing centrifugal compressor that can be used with R-515B, customers can now be compliant with applicable refrigerant regulations and safety codes due to its low GWP rating of 299 and ASHRAE A1 safety classification."

Finalists in this category include: Aeroseal LLC (Booth 3390) - AeroBarrier: air sealing technology; Arctic Chiller Group (Booth 5153) - EcoTherm modular simultaneous heating and cooling Heat Pump; and Baltimore Aircoil Company (Booth 2321) - HXV Hybrid Cooler.

Heating

Winner: York® For Your Home (Booth 3801) - YORK® LX Series TL9E Ultra-Low NOx Gas Furnace

Innovation: The York® LX Series TL9E Ultra-Low NOx Gas Furnace is an environmentally responsible gas furnace that meets even the most stringent standards for air quality while reducing greenhouse and smog-producing gasses by up to 65 percent compared to standard low-NOx furnaces. The furnace is ENERGY STAR® rated and reduces fuel costs by as much as 20 percent when connected to select YORK® home comfort systems.

"We are honored to receive this award, which recognizes our commitment to taking residential comfort beyond temperature control to meet the most stringent standards for efficiency and air quality," said Justin Patrick, vice president and general manager, Residential Products, Ducted Systems, Johnson Controls. "The YORK® Ultra-Low NOx furnace delivers exceptional reliability and durability to meet the needs of today's homeowners."

Finalists in this category include: AERCO, a Watts brand (Booth 1301) - AERCO Benchmark Platinum Boiler with Edge Controller; Emerson (Booth 2100) - Universal Single Stage Furnace Control for ECMx Blower Motors (Model 50X57-843); and Rheem Manufacturing Company (Booth 2743) - Rheem® Ultra Low NOx Gas Furnace.

Indoor Air Quality

Winner: Fresh-Aire UV (Booth 5853) - Purity Low Profile LED 1" Polarized Filter / LED Disinfection System

Innovation: The Purity Low Profile LED 1" Polarized Filter/LED Disinfection System (PLP-LED) by Fresh-Aire UV is the first 3-stage 1-inch polarized HVAC filtration system to incorporate Mini-LED technology. The PLP-LED offers high-efficiency filtration that captures 97 percent of particles down to 0.3 microns in size. The system also uses antimicrobial UV reactive media with an advanced photocatalytic coating for odor and VOC reduction. Fresh-Aire UV's filter mitigates many IAQ issues as well as many other challenges faced by occupants and contractors through delivery of a cleaner, safer filter to handle and service.

"We couldn't be more proud and more excited to be recognized with the 2020 AHR Innovation Award for IAQ," said Aaron Engel, vice president, Business Development at Fresh-Aire UV. "The award represents the HVACR industry's most innovative products, systems, and technologies and we believe this perfectly represents the PLP-LED. Available in the most common fil-

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ter sizes, the 3-stage 1" polarized HVAC filtration system delivers the effectiveness of an ultra-high-efficiency filter in a low-static pressure 1" design. With advanced antimicrobial UV reactive media and disinfecting LED array the PLP-LED represents the very best in filtration providing maximum particulate removal and surface disinfection while reducing airborne odors & VOCs."

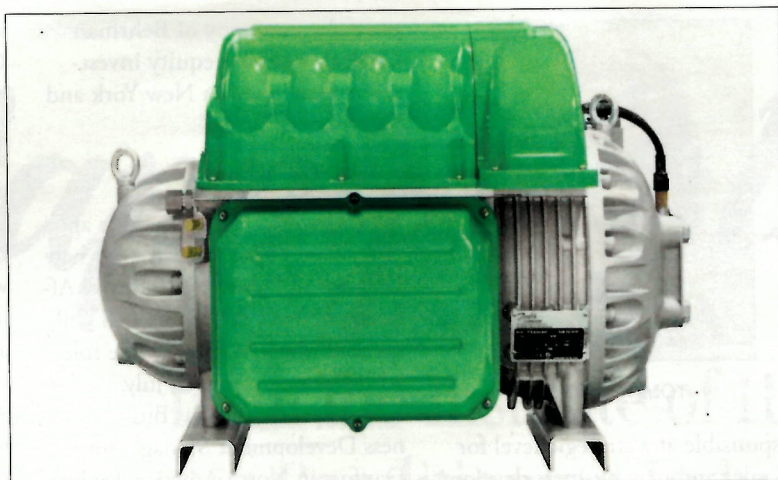
Finalists in this category include: AtmosAir Solutions (Booth 4207) - AtmosAir Denali 600™ with AtmosSmart™, IoT Enabled Active Air Monitoring and Air Purification System; RGF Environmental Group Inc. (Booth 4151) - HALO-LED™ Whole Home Indoor Air Purification System; and Sensirion, Inc. (Booth 1473) - SCD40 CO2 and RH/T Sensor Component.

Plumbing

Winner: LG Electronics USA, Inc. (Booth 6343) - LG Hydro Kit

Innovation: LG Electronics USA, Inc. has developed the LG Hydro Kit, an indoor heat exchanger for LG Variable Refrigerant Flow (VRF) systems capable of transferring heat or cooling energy expelled from the air conditioning process to water, offering further efficiency of LG heat recovery and heat pump systems. Available in 42,000 and 96,000 Btu/h capacity, the LG Hydro Kits utilize waste energy generated during the conditioning process and enhance the energy efficiencies of LG VRF systems. This allows the hot or chilled water generated to then be distributed out to a number of different applications with integrated controls that set the temperature of the leaving water, hot water tank temperature, or the temperature of the conditioned space.

"LG has exhibited at the AHR Expo for more than 15 years, and we always enjoy getting to connect with our key partners and customers, as well as having the chance to build new relationships at our booth during the show and at our events throughout the week," said Lorie Quillin-Bell, director of marketing for LG Air Conditioning Technologies. "LG continues to challenge the industry to deliver exceptional innovation and value to our customers, so it's a tremendous honor to receive an AHR Expo 2020 Innovation Award in the Plumbing Category for the LG



Danfoss Turbocor® TG490 Compressor, winner in the green building category.

Hydro Kit. This is a testament to the many benefits of our award-winning residential and commercial product offerings, and another example of LG's commitment to providing innovative technologies that bring smarter, sustainable solutions to market."

Finalists in this category include: Caleffi Hydronic Solutions (Booth 6581) - LEGIOMIX® 6000 series Highest Flow Electronic Mixing Valve; NIBCO INC. (Booth 3121) - 585HP Full Port Bronze Ball Valve; and Viega LLC (Booth 1943) - Viega MegaPressG.

Refrigeration

Winner: Danfoss (Booth 1501) - Danfoss CO2 Adaptive Liquid Management Solution

Innovation: The Danfoss CO2 Adaptive Liquid Management (CALM) solution combines Danfoss' liquid ejector and adaptive liquid control case controller algorithm to fully utilize the evaporator surface in display cases and cold rooms. This technology provides, without equipment change, up to 10 percent greater energy efficiency in addition to the energy-saving inherent of CO2 refrigeration. The CALM solution works by pulling liquid refrigerant from the suction side and injects it into the evaporator of display cases and cold rooms. Danfoss' CALM solution aims to assist customers in making the transition to climate-friendly refrigerants while saving energy, maintaining system reliability and ensuring food safety.

"CO2 Adaptive Liquid Management is the next generation in energy saving technology that provides up to a 10 percent energy savings, in any climate, and all year round," said James K. Knudsen, North America Food Retail Segment Leader at Danfoss.

"Danfoss is committed to bringing innovation and next generation solutions to the market to help our customers and industry improve energy efficiency, reduce emissions and meet climate regulations," said John Galyen, president, Danfoss

North America. "Winning three awards this year is a testament to our investments and we look forward to working with our industry partners to deploy these solutions in the HVACR market."

Finalists in this category include: Emerson (Booth 2101) - Copeland™ End-to-End Solution for Micro-Distributed Architectures; Fresh-Aire UV (Booth 5853) - Ice UV-LED Disinfection System for Ice-Machines; and Sporlan Division - Parker Hannifan (Booth 2525) - SCS-PB Superheat Control System for Pulse Width Valve with Bluetooth feature.

Software

Winner: Interplay Learning (Booth 8562) - SkillMill™ Skilled Trades Course Catalog

Innovation: The Interplay Learning SkillMill™ Skilled Trades Course Catalog is an online, on-demand training course catalog designed for HVAC professionals to gain worksite skills accessible via mobile phone, computer, tablet, or in virtual reality (VR). HVACR professionals can sign-on to view expert-led video courses designed to first drive understanding, then move on to the interactive, 3D-based HVAC troubleshooting simulations delivered via field-like training. The training platform aims to provide scalable training that is robust enough to keep up with the growing skills gap as well as prepare HVAC techs quickly for every situation or scenario they might encounter in the real world. The use of state-of-the-art 3D simulations creates a unique, immersive learning environment for users.

"We're incredibly honored and humbled to receive this Innovation Award. Our team is excited about AHR 2020 and being able to showcase our software, which is already making a huge impact in the HVAC community," said Doug Donovan, CEO of Interplay Learning. "Our software is the first-of-its-kind, an online training that technicians will actually use because the simula-



Delta Controls Inc. O3 Sensor Hub 2.0, winner in the building automation category

tions mimic on-the-job training. As a company, we've helped more than 75,000 people build key technical skills, so we're confident in our ability to change the way the HVAC industry trains its professionals."

Finalists in this category include: Armstrong Fluid Technology (Booth 4161) - Pump Manager; BCA Technologies, Inc. (Booth 8579) - eRep CPQ; and Distech Controls (Booth 881) xpressNetwork Utility.

Toolsm & Instruments

Winner: Matelex (Booth 2551) - DNI (détecteur de niveau intelligent/smart level detector)

Innovation: Matelex has developed a détecteur de niveau intelligent/smart level detector (DNI) system that measures pressure, temperature, and refrigerant levels every two to three seconds, as well as conducts a complete leak detection cycle every hour. The system is designed to trigger an alarm using algorithmic learning in the event of a detected leak. The smart refrigerant leak detection system is also coupled with a remote surveillance web interface (Sentinelle) to issue email alerts when a leak occurs. It is suitable for all refrigerants and tanks — vertical, horizontal, inclined horizontal — and connects to the IoT via WIFI, cable Ethernet, or 3G-4G modules. When tested in the food retail sector, the system has saved 79 percent of refrigerant compared to traditional methods due to real-time data alerts and increased responsiveness to system maintenance requirements.

"The Matelex team is delighted with this award and honored to have the opportunity to share its successes and future challenges with the stakeholders of the 2020 AHR Expo," said Luc Dehon, CEO of Matelex. "We believe in the power of data to improve the performance of refrigeration installations, but also to reduce their environmental impact and guarantee a better future for future generations. Internet Of Refrigeration is on!"

Finalists in this category include: Fluke Corporation (Booth 2151)

- Fluke PT1120 Pocket Thermal Camera; Milwaukee Tool (Booth 427) - M18 FUEL™ Pipe Threader w/ ONE-KEY™; and Topcon Positioning System, Inc. (Booth 325) Topcon GTL-1000.

Ventilation

Winner: Infinitum Electric (Booth 7485) - Infinitum Electric, A Breakthrough HVAC Motor

Innovation: The Infinitum Electric HVAC motor is significantly smaller, smarter, and quieter than traditional electric motors. These benefits equate to an ultra-high-efficiency motor that results in up to 25 percent lower costs for customers. The motor uses a circuit board stator resulting in up to 60 percent less weight, superior durability, improved performance, and enhanced IoT connectivity. Infinitum Electric aims to change the industry standard for motor size and weight.

"The fundamental design of the electric motor has evolved very little since it was developed over a century ago, and we're honored that AHR has recognized our breakthrough motor technology," said Ben Schuler, CEO, Infinitum Electric. "With our patented technology, we've been able to replace the iron laminated core and copper wire windings found in all motors with our patented Printed Circuit Board (PCB) stator. When applied to HVAC fans, compressors or pumps, this innovation results in lower costs, lighter weight and higher efficiency."

Finalists in this category include: American Aldes (Booth 6243) - IQ by ALDES (IQ-VFC) ERV/HRV-Integrated Vertical Fan Coil Units; Rosenberg USA, Inc. (Booth 2051) - Rosenberg "Generation 3" EC motors for plug fans and axial fans; and ZIEHL-ABEGG, Inc. (Booth 2361) - ZABluefin.

For more information regarding the AHR Expo Innovation Awards, visit the awards section on the AHR Expo website at www.ahrexpo.com.