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OCTOBER 2020

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NEWS

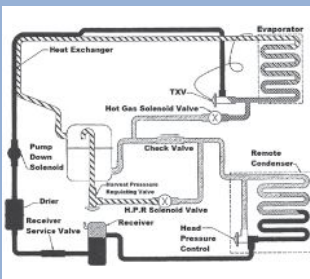
THE WEST'S LEADING MONTHLY NEWSMAGAZINE FOR THE AIR CONDITIONING, HEATING, REFRIGERATION, SHEET METAL AND VENTILATING INDUSTRIES



Editorial Focus

What's new? What's improved? Find out here as ICN takes a look at the latest offerings in Heating and Ductless Products.

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Troubleshooting

This month's Troubleshooting problem focuses on a high-volume ice machine that's not keeping up with demand.

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Indoor People

ICN puts the spotlight on the movers and shakers in the heating and air conditioning industry.

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Industry News

CARB Provides Updated Draft Refrigerant Regulations to Reduce GWP Levels

By Ted Rieger, Northern California Correspondent

The California Air Resources Board (CARB) recently held a public webinar to discuss updated draft regulations, definitions, and a new rulemaking timeline for its proposal to limit global warming potential (GWP) levels for refrigerants used in new stationary air-conditioning (AC) equipment, and in new stationary refrigeration equipment used for commercial and industrial process refrigeration and cold storage systems in California. The new timeline and the proposed draft language were revised since CARB's previous workshop held January 30 and reported in the March 2020 issue of ICN.

CARB now plans to issue the proposed regulations by October 23, 2020 to begin the 45-Day Notice for the rulemaking proceeding. The full CARB Board could then

consider the regulations for adoption at a meeting on December 10 or 11, 2020. Industry stakeholders can still provide comments on the proposed regulations during the formal rulemaking and comment period. Information, draft regulatory language, presentations and the video from the July 22 webinar is available through the link below.

<https://ww2.arb.ca.gov/our-work/programs/hfc-reduction-measures/meetings-workshops>

In general, basic prohibitions on high GWP refrigerants in new equipment and effective dates are the same as previously proposed. Effective January 1, 2023, new stationary AC systems must use a refrigerant with a GWP value less

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Inside

Project Spotlight

California School District Reopens with Help of Carrier IAQ Units

OptiClean to purify air for nearly 20,000 students, teachers, and staff amid COVID-19 pandemic.

Carrier recently announced that California's Alvord Unified School District will install 1,500 Carrier OptiClean™ 1,500 cfm Dual-Mode Air Scrubber & Negative Air Machines to purify the air in classrooms across its 23 schools.

To help ensure the health and safety of students, teachers and staff as they return to campuses in Riverside County, California, the school district worked with Climatec, LLC, a building solutions consultant, to select OptiClean as the preferred solution to enhance indoor air quality (IAQ) and help ensure a healthy indoor environment for its nearly 20,000 students and staff. Carrier is a part of



Carrier Global Corporation (NYSE: CARR), a leading global provider of innovative heating, ventilating and air-conditioning (HVAC), refrigeration, fire, security and building automation technologies.

"Many schools and school districts are facing uncertainty with how to welcome back students,

teachers and staff safely," said Justin Keppy, President, NA Residential & Light Commercial, Carrier. "We're pleased to work with the Alvord Unified School District and provide a piece of the puzzle to enhance indoor air quality and help slow the spread of COVID-19. Our OptiClean units can help reduce contaminants like the novel coronavirus from classroom air, and, when coupled with mitigation best practices such as frequent hand washing, social distancing, use of face coverings and more, reduce risks to students, teachers and school staff."

The Carrier OptiClean units, which are available in 500 and 1500 cfm models, plug into a standard wall outlet and use a 99.97% efficient, long-life HEPA filter to remove contaminants as small as 0.3 microns

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Industry News



CALIFORNIA



Brownson Named School of Excellence

Anaheim, Calif. – Brownson Technical School has been chosen as one of 13 Schools of Excel-

lence out of around 800 schools accredited by ACCSC (Accrediting Commission of Career Schools and Colleges), a national institutional accreditation organization. Brownson was previously selected as a School of Excellence by ACCSC in 2015.

ACCSC is the largest accrediting body for schools in the United States. For more information, visit <http://www.accsc.org/Events/Professional-Development-Conference/Award-Winners/Schools-of-Excellence.aspx>.

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EGIA Foundation 2020 Scholarship Winners Announced

Sacramento, Calif. – The EGIA Foundation announced its third annual class of HVAC scholarship recipients. Taking into consideration financial need, academic merit, and career aspirations, nineteen scholarships of \$2,500 apiece are being awarded to students pursuing HVAC-related educations at trade schools, universities, community colleges, and other accredited institutions.

Now in its third year, the EGIA Foundation Scholarship Program has funded \$132,500 in scholarships in total, after disbursing

\$47,500 to this latest class. The scholarship program was created to reverse the ongoing workforce shortage in the home services industry, while laying the foundation for an ongoing influx of talented, passionate young graduates into the HVAC workforce since 2017. It has further helped remove financial barriers that have previously prevented some dedicated young people from pursuing industry career paths.

“We couldn’t be more pleased with this year’s class of bright, driven scholarship recipients who are excited to make a positive impact in our industry,” said Bruce Matulich, EGIA foundation chairman and CEO. “This group continues to build on the pipe-

line of valuable young people entering the HVAC workforce that the EGIA Foundation has established over the last three years. They will be a tremendous boon for the industry wherever their journeys take them, and the EGIA Foundation looks forward to continuing to uplift the HVAC industry through this 2020 scholarship class as well as the countless high school students, recent graduates, and others that we reach through our communications and educational campaigns every day.”

This year’s scholarship program continues the growth seen over the past three cycles, having now reached students in all 50 states and generated thousands of applications among people pursuing all types of career paths throughout the HVAC industry, predominantly as technicians. To date, EGIA Foundation Scholarships have helped 53 students fund and complete their educations, promising that a better-prepared crop of individuals is graduating into the workforce each year. In the future, the program will expand to include a wider variety of career verticals, including solar, plumbing, geothermal, and others.

Starting this month, the EGIA Foundation Scholarship Program will begin accepting applications for the 2021-22 academic cycle, during which it will again distribute up to twenty awards of \$2,500 apiece. To apply, learn more about the EGIA Foundation Scholarship Program, and to see this year’s complete list of winners, visit AlwaysInDemand.com/Scholarship.

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Number of HERS-Rated Homes Grows in ‘20

Oceanside, Calif. – Despite the disruptions caused by the COVID-19 pandemic and a faltering economy, the demand for HERS (Home Energy Rating System) grew steadily in the first half of 2020.

In the first six months of the year, there were 146,345 homes rated and entered into the RESNET registry. This compares with the 116,663 homes that were rated during the same period in 2019. In the first half of the year, there were 29,682 more

Continued on Page 6



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Not all brands available at all locations

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homes rated than in the same period in 2019. 2019 broke the record for the number of homes that were HERS rated in the U.S.

The Home Energy Rating System (HERS) Index is a nationally recognized system for inspecting and calculating a home's energy performance.

ARIZONA



Wrench Group Buys All About Water

Phoenix, Ariz. – Wrench Group LLC announced the acquisition

of All About Water. This is the firm's fifth acquisition in 2020. The acquisition of All About Water expands the Wrench Group footprint in Phoenix.

"We are excited about our partnership with All About Water," said Ken Haines, Wrench Group CEO. "All About Water has an exceptional reputation in the Phoenix market because of their decades-long commitment to superior service and customer satisfaction."

All About Water is headquartered in Chandler, and will remain focused on providing water and plumbing services in the Phoenix metropolitan area. This addition for Wrench Group expands its presence in Phoenix, where it operates in the HVAC, plumbing, and electrical space under the flagship name of Parker and Sons.

"All About Water is committed to providing quality products along with the highest level of customer service," said Ashley Greene, gen-

eral manager of All About Water. "Our partnership with Wrench allows us to continue our efforts as the water treatment specialist throughout Maricopa County, and gives us a competitive advantage as we grow."

TEXAS



Friedrich Donates HVAC to Roy Maas Youth Alternatives

San Antonio, Texas – Friedrich Air Conditioning Co. has donated a variety of A/C products to the Roy Maas Youth Alternatives (RMYA) Turning Point Transitional Living, a nonprofit program that helps local

at-risk young adults (age 18-24) learn how to live productive, independent lives.

RMYA Turning Point recently opened its sixth home in San Antonio, named the Annie Laurie House, designed to assist youth who need a safe place to live and have aged out of foster care or who are homeless. It is the only program of its kind in San Antonio, housing up to 32 youth at a time in this 18-month program.

Friedrich provided a multi-zone ductless mini-split system and four Friedrich Kühl window air conditioning units to help ensure the new 1,385 square foot home is a comfortable, welcoming place for its occupants, many of whom came from abusive and neglectful homes or who had no place to go after foster care. The Annie Laurie home will provide more at-risk young adults with a supervised, safe, and secure place to live while learning how to care for themselves so that they can become independent, productive, and empowered members of the community.

"Gaining the support of Friedrich Air Conditioning as a donor sponsor for the Annie Laurie Turning Point home was a godsend," said Gail Ribalta, chief development and administrative officer for RMYA. "They offered help just when we were in great need of HVAC equipment to finish this newly renovated house. We are greatly appreciative of their extremely generous help and expertise, and proud that they have become a community partner in making this house a refuge for so many deserving San Antonio youth."

"The RMYA Turning Point Transitional Living program provides such an important service for youth in this community who might otherwise fall through the cracks," said Lionel Lopez, director of engineering at Friedrich Air Conditioning. "Caring for our local community and knowing that our products are providing great relief for those in need are aligned with our corporate and employee values, and we are proud to support this essential cause."

"The time for action is now, and helping our hometown reopen in record timing with this proven science that kills COVID-19 is so important to me as we use Houston-based research to help lead us out of this crisis and get us back to business," said Monzer Hourani, inventor, and founder of IVP.

Integrated Viral Protection's S1 model is an affordable, mobile, plug-and-purify device proven to eliminate SARS-CoV-2 (99.9999%), anthrax spores (99.8%) and other airborne contaminants through a heated filter without impacting the temperature of the ambient air. A peer-reviewed study demonstrating how the heated air filtration system has been proven to destroy SARS-CoV-2 and other airborne pathogens on contact was published in Materials Physics Today.

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Shafer Services Creates Program to Help Non-Profit Organizations

San Antonio, Texas – SA Youth and a family from Boys & Girls Clubs of San Antonio are receiving critically needed HVAC systems as Shafer Services Plus launches Shafer Serves, a new philanthropic program founded to assist San Antonio non-profits by providing complimentary HVAC and plumbing products and services.

"Safe temperatures and reliable running water are critical for healthy environments – especially for children," said Chase Anderson, President and CEO of Shafer Services Plus. "By providing these services to local non-profits, Shafer Serves is honored to help our community by serving our San Antonio family."

Shafer Serves is being launched by Shafer Services Plus to thank San Antonio for supporting the plumbing and HVAC company for the past 136 years. Established in 1884, Shafer Services Plus has built much of San Antonio's commercial and residential infrastructure, even installing the nation's first commercial air conditioning system in a high-rise at San Antonio's own Milam Building.

At the SA Youth facility,

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CLEAResult is a SoCalGas authorized contractor responsible for administering the Residential HVAC Program through December 31, 2020.

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six out of 10 HVAC units were broken, leaving the team to work in temps climbing over 90 degrees. The Shafer Team repaired all malfunctioning units and replaced a broken unit, providing over \$15,000 in parts and services.

“By donating HVAC repairs and installation, Shafer Serves is helping SA Youth focus on providing much-needed supplies and educational opportunities to students who are a part of our program,” said Asia Ciaravino, President and CEO of SA Youth. “It’s been an impactful gift not only for our organization but for the youth of San Antonio.”

Boys and Girls Clubs of San Antonio has been working to ensure club members continue receiving support at home while clubs

operate at limited capacity due to Covid-19. Through partnership with Shafer Serves, they were able to provide Eastside Club member Yolanda Davis and her family with a new HVAC system for their home as she is currently without central AC.

“This HVAC donation from Shafer Serves has changed the quality of life for the Davis family and strengthens the bond that our clubs, members, and community partners share,” said Angie Mock, CEO of Boys and Girls Clubs of San Antonio. “It’s when we come together to care for one another that we experience what community can really mean.”

Shafer believes in building community and operates under five core values: treat people like family; do the right thing, even when no one is watching; be easy to do

business with; exceed expectations; and provide mutual respect for all.

“At Shafer, we’re here to take care of our San Antonio family for generations,” said Chase Anderson, President and CEO of Shafer Services Plus. “SA Youth and Boys and Girls Clubs of San Antonio are paving great futures for San Antonio’s children. Being able to provide them with HVAC services so they can continue providing meals and educational resources is a great honor for us.”

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Munters Exits U.S. Commercial Market

Selma, Texas – In an effort to strengthen its AirTech business and sharpen alignment with its strategic objectives, Munters, a global leader in energy efficient air

treatment and climate solutions, will exit the non-core part of the commercial desiccant dehumidification market. This decision primarily affects the U.S. market as it is the primary region where Munters’ commercial products are sold.

Commercial products have been manufactured in the company’s Selma, Texas plant. This facility will now manufacture desiccant dehumidification units for key account customers only. This will allow the facility to return to its legacy strength of delivering high-volume, pre-engineered solutions for this customer type. Additionally, the Texas plant will provide needed production capacity for the increased demand for Munters cooling solutions for the data center market.

The segments of healthcare, ice arenas, and laboratories and archival preservation associated with universi-

ties and colleges previously served through Munters’ commercial product offering will now be served through its industrial product offering. These systems are manufactured in the organization’s Amesbury, Mass., location.

“The decision to depart commercial markets is one that did not come quickly or easily. However, this will allow us to focus not only on key accounts, but also on markets such as food, pharmaceutical, lithium battery, evaporative cooling, and Munters Innovation and Service,” commented Andrew Cook, Vice President Sales & Services Americas Business Area AirTech.

Munters U.S. products are sold through third-party representatives, and those selling the commercial dehumidification product lines have been informed of the company’s pivot away from these products. All accepted commercial product orders as of today with shipment dates on or before December 31, 2020, will be honored, and Munters is committed to working closely with representatives during the transition period. The discontinued relationship with representatives will not impact any of Munters’ warranty obligations for previously sold products.

NATIONAL



Trane, American Standard Partner with Pickup

La Crosse, Wisc. – Trane and American Standard Heating and Air Conditioning have partnered with Pickup, an on-demand delivery service. Pickup is now available to all dealers of Trane and American Standard equipment when and where they need it.

“In combining our unmatched capability to deliver almost any system or part within Trane’s network, dealers can focus on what their customers care about most: fast, efficient, and reliable climate control services,” said Pickup chief revenue officer Darren Waxman. “We are extremely pleased

Continued on Page 10



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Continued from Page 8

to help Trane dealers deliver peak performance and profitability by leveraging their core competencies, secure in the knowledge that the supplies and systems their technicians need will arrive on time and in perfect condition – from the smallest component to the largest system.”

Samsung Joins Carrier Alliance Supplier Program

Palm Beach Gardens, Fla.

– Carrier Global Corporation announced that Samsung Electronics has joined the Carrier Alliance program and signed a long-term agreement with Carrier. Samsung will supply compressors and inverter technologies

for use across Carrier’s Residential HVAC portfolio. The agreement also specifies that Samsung will supply Carrier-branded replacement compressors.

“We are excited to expand our strategic relationship with Samsung and are pleased to welcome them as one of the newest Carrier Alliance suppliers,” said Ed Dunn, vice president, Supply Chain, Carrier. “Through the Alliance program, we are identifying the best of the best, a select group of suppliers that share our expansive geographic reach, breadth of offering, focus on quality and cost excellence, and commitment to diversity and sustainability.”

“Samsung is very excited to join the Carrier Alliance program and looks forward to expanding our technology across Carrier’s portfolio,” said Wansoo Kim, sr. vice president, Compressor & Motor, Samsung Electronics.

Milwaukee Tool to Open New Service Hub in Indiana

Milwaukee, Wisc. – Milwaukee

Tool will, once again, expand its footprint in the United States with the announcement of a new service hub in Greenwood, Ind. Anticipated to open in March 2021, this centralized repair facility will complement the company’s other service hub; both will act as the main axis points for the company’s service operations for users around the nation. It will employ more than 450 people and improve service response time for users.

“As we grow, we continue to invest in the right opportunities and talent that will allow us to deliver the very best solutions and overall experience for our users and distribution partners,” said Steve Richman, Milwaukee Tool Group



An artist rendering of Milwaukee Tool's new service hub in Indiana.

president. “We are committed to unprecedented speed, agility, innovation, and quality. This new service hub will play a critical role in our continuing to deliver on these commitments.”

Milwaukee will invest \$6.75 million to establish its new service hub to accommodate the rapid growth the company has experienced in the last several years. The 150,000-square-foot facility in Greenwood will house tool repair and warehousing space. It is expected to be operational by March 2021.

LG Launches HVAC Pro Dealer Program

Alpharetta, Ga. – LG Air Conditioning Technologies has launched the new LG Pro Dealer Program, providing residential and light commercial HVAC contractors with access to premier benefits, state-of-the-art training and comprehensive dealer support. Designed to assist dealers in selling, installing and servicing the company’s award-winning product portfolio, the LG Pro Dealer Program will provide even greater resources and incentives to help drive growth for HVAC contractors.

The program enhances the LG Excellence Contractor program, which had experienced an average annual growth rate of 50 percent since 2016. The newly minted LG Pro Dealer Program offers contractors greater product and technology education, along with recognition and incentives for providing competitive differentiation in their respective market areas upon completion of the program. Program benefits include technical, business, sales, and marketing support, as well as financial and partnership incentives. All current LG Excellence Contractors will be automatically transferred into the new program.

The LG Pro Dealer program

debuts with a new portal for one-stop access to all program tools and resources for seamless management, added consumer financing services and access to bolstered training programs focused on technical expertise and sales effectiveness. Under a new tiered achievement model, the LG Pro Dealer program offers increased loyalty and rewards points for certain tiers, as well as the opportunity for recognition at the LG Pro Dealer National Meeting.

“At LG, we understand that training and product expertise equate to contractor confidence, leading to overall growth and consumer trust,” said Sean Boyer, Senior Director of Operations, LG Air Conditioning Technologies USA. “That’s why we’re doubling down to arm our dealers with more tools and resources. By expanding their technical expertise and support, we will ultimately drive sales for their overall business success. Our partners are our biggest asset and this enhanced program ensures we are providing a higher level of value, including access to state-of-the-art training and premier benefits.”

To qualify as an LG Pro Dealer program participant, HVAC contractors must be nominated by an LG Distributor, participate in a local LG Contractor Opportunity meeting and complete a series of online training courses on LG’s products and applications.

Upon completion of program requirements, LG Pro Dealers will have access to the following benefits:

- New portal for one-stop access to all program tools and resources for seamless management
- Access to advanced training programs, including virtual options and hands-on opportunities with the technology at state-of-the-art LG Academies
- Priority listing on the LG Dealer locator and access to consumer sales leads

For more information on the LG Pro Dealer program and LG’s complete portfolio of HVAC offerings, visit www.lghvac.com.

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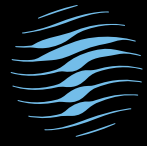
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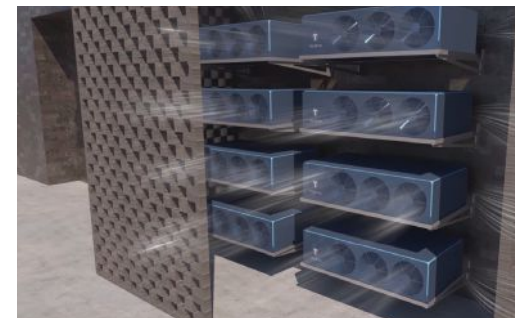
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CARB Provides Updated Draft Refrigerant Regulations to Reduce GWP Levels

Continued from Page 1

than 750. This would cover all types of residential and commercial/non-residential AC equipment manufactured after the effective date.

For stationary refrigeration equipment, new equipment containing more than 50 pounds of refrigerant, must use a refrigerant with a GWP less than 150 starting January 1, 2022. However, CARB proposes alternative compliance options for companies operating multiple retail food facilities/supermarkets in California to allow flexibility to plan GWP reductions on a company-wide basis over several years to achieve compliance.

The draft regulations include lists of prohibited refrigerants, and tables with effective dates of prohibitions based on equipment types and end-uses. CARB staff said the tables have been edited for clarity since the January workshop. Regulatory language applicable to the requirements in the tables reads:

“Prohibitions. No person shall sell, lease, rent, install, use or enter into commerce in the State of California, any end-use equipment or product manufactured after the effective date, that does not comply with Table 3 of Section 95374c of this subarticle.”

Background

The California Cooling Act (SB

1013), enacted in September 2018, (Lara, D-Bell Gardens), preserves phase-out targets for certain hydrofluorocarbon (HFC) refrigerants used in HVAC and refrigeration equipment, originally adopted by the U.S. Environmental Protection Agency (EPA), and provides for incentives to install equipment and systems that use alternative refrigerants that are non-ozone depleting substances (ODSs) and have low GWP. SB 1013 assists efforts to meet California’s target to reduce HFC emissions 40 percent by 2030, established by SB 1383 of 2016, and allows CARB to adopt regulations and have enforcement authority.

HFCs are potent greenhouse gas-

es (GHGs) with a GWP up to four times greater than carbon dioxide (CO₂) on a pound for pound basis. Just 1 pound of R-410A is equal to 2,088 pounds of CO₂. HFCs are one of the fastest growing categories of GHGs, and are expected to increase as they replace R-22 in newer AC systems.

New Stationary AC Equipment Proposal

Kathryn Kynett, with CARB’s GHG Reduction Strategy Section, presented proposed HFC regulations for stationary AC equipment and draft regulatory language. Systems affected are residential and commercial air conditioners and heat pumps (HPs) including: room

air conditioners – window, through-the-wall and portable; dehumidifiers; packaged terminal ACs and HPs; residential split and packaged AC and HP systems including ducted and ductless systems; and commercial/non-residential split and packaged AC and HP systems including ducted and ductless systems; and variable refrigerant flow/volume systems.

Kynett said one significant change in the proposed regulatory text, based on stakeholder comments, is a revision to the definition of new AC equipment and systems: “New Air-conditioning Equipment means any air-conditioning equipment or system that is first installed using new or used components, or a combination of new or used components, or a new exterior condenser, condensing unit or remote condensing unit in an existing system.” Kynett explained this was to clarify situations with split systems where the outdoor condenser, or outdoor condenser unit, is replaced with a new unit and would be considered a new system subject to the effective date and refrigerant prohibitions.

The draft regulations include requirements for manufacturers for recordkeeping and equipment labeling in order to support enforcement. CARB will also issue a required economic analysis as part of the 45-Day Notice package.

Although CARB is not making recommendations regarding alternative refrigerants for equipment manufacturers and installers to use, the presentation listed the following as available AC refrigerant alternatives with less than 750 GWP: R-32, R-452B, R-454A, R-454B, R-454C, R-457A, and R-466A.

Some types of alternative refrigerants such as A2Ls are classified as “slightly flammable” and include R-32, R-452B, R-454B, and others. Based on market reports from ASHRAE, from 25 to 90 percent of markets in Australia, Europe and Japan have already transitioned to lower GWP refrigerants, commonly with R-32 (GWP=675).

However, industry stakeholders continued to express concerns about needing California approvals for specific refrigerant uses from codes and standards

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Continued on Page 18

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Daikin MXS



The MXS Series pairs Daikin's latest in condensing technology with quiet, easy to install, wall mounted indoor units. The outdoor condenser is engineered to provide efficient heating and cooling for your home while guaranteeing long, reliable, service life. Inside your home,

Daikin's wall mounted units offer a simple design meant to blend into any setting.

Combined with their standard quiet operation, these units are designed to keep your home comfortable without drawing attention. Advanced filtration technology cleans your home's air at the same time it is conditioned, allowing you and your family to breathe easy without fear of lingering pollutants.

The inverter technology works together with the expansion valve to adjust coolant flow and compressor speed to match indoor conditions. This results in less dramatic temperature swings and a more comfortable home.

MXS condensers will continue to operate optimally even in colder

climates. With an operational cooling range down to 14°F, and a heating range down to 5°F, the MXS can provide heating or cooling in any environment.

Daikin ductless units are engineered from the ground up for impressively quiet operation. The solidness of the unit's construction works together with quiet motor operation to make the units as unobtrusive as possible to its surrounding environment.

Daikin mini splits do more than control its temperature. An advanced microbial filtration system is installed in the indoor unit, allowing the mini split to purify your home's air as well as heating or cooling it.

More information: www.daikin-comfort.com.

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Greenheck Model RV/RVE



An air-source heat pump option is now available on **Greenheck** model RV and RVE dedicated outdoor air systems. Air-source heat pumps are refrigeration systems that provide both cooling and heating; a reversing valve changes the direction of the refrigerant flow, switching the system

from cooling mode to heating mode. This heating and cooling option, available on select RV and RVE models offering 5 to 30 tons of cooling, provides high efficiency in combination with inverter compressors and modulating head pressure with a lead EC motor, both standard features.

Especially suited to climates with mild winter temperatures, the air-source heat pump has an average Integrated Energy Efficiency Ratio (IEER) of 14.8 and a coefficient of performance (COP) ranging from 3 to 4. Colder climates require a secondary heat source (indirect gas, hot water or electric) to satisfy the indoor temperature set point. The air-source heat pump can operate down to a 10 degrees F outdoor air temperature and includes a defrost sequence that will lock out the heat pump if the defrost feature engages.

More information: www.greenheck.com.

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Marley Engineered Products Duct Heaters



Marley Engineered Products, a leader in high-performance, reliable heating and ventilation equipment, has added a new line of open coil electric Duct Heaters to its portfolio of unit heaters. To simplify the selection and quoting process for its large portfolio of duct heaters, Marley also has unveiled a new Duct Heat Program specification tool for engineers.

The new line of Marley Duct Heaters are available in slip-in or flanged configurations with heavy gauge galvanized steel frame and terminal box construction and are ETL and UL certified. All of the unit heaters include primary and secondary thermal protection.

"Our Duct Heaters are designed for vertical or horizontal air flow in either direction and ideal for optimizing heating comfort in office buildings, retail stores, warehouses, schools, hotels and hospitals," said Kyle Jason, Product Manager with

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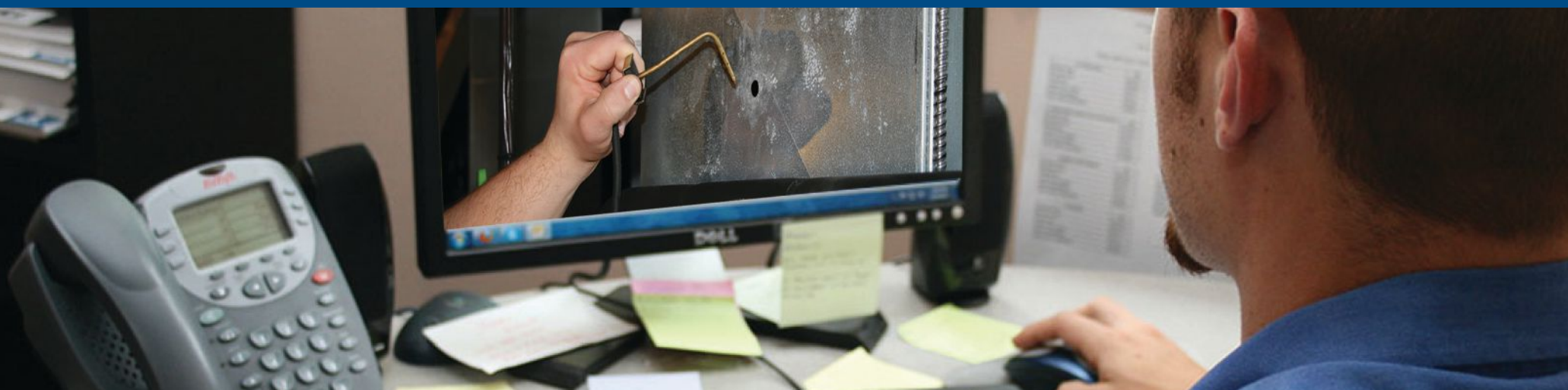
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Continued on Page 16

California Utility CO-Sponsored Online Live Training for HVAC Professionals



NCI High-Performance HVAC training is now available to HVAC professionals throughout California. Southern California Edison, San Diego Gas & Electric, and Pacific Gas and Electric have partnered with NCI to provide advanced training and certification through its online, live classes. These NCI classes also qualify for NATE (North American Technician Excellence), and BPI (Building Performance Institute) Continuing Education Credits.

Here's how the training works:

Certification classes: These online, live classes are provided in 4-hour blocks. For example our Residential Duct System Optimization and Commercial System Performance classes each consist of four, 4-hour segments of training over a two week period. Students who participate in these classes will also qualify for online-proctored NCI certification exams after the training.

Recertification classes: NCI-certified professionals can recertify for two years by participating in these online classes taking place over two consecutive half-days. We currently offer recertification training towards NCI residential and commercial certifications.

In addition NCI is offering several technical and sales non-certification classes.

National Comfort Institute thanks the following Investor-Owned Utilities for sponsoring this training for HVAC professionals throughout California:



October/November California Training Calendar		
Southern California Edison ncilink.com/sce	San Diego Gas & Electric ncilink.com/sdge	Pacific Gas & Electric ncilink.com/pge
<p>October 14-15: 8 AM -12 PM Pacific Carbon Monoxide CO & Combustion Recertification* 8-hour training program Regular Price: \$395 Sponsored fee: Just \$50 per student</p> <p>October 20-21, 27-28: 8 AM - 12 PM Pacific Duct System Optimization Certification Class** 16-hour training program Regular Price: \$690 Sponsored fee: Just \$100 per student</p> <p>October 27-28, Nov 3-4: 8 AM -12 PM Pacific Performance-Based Selling 16-hour training program Regular Price: \$795 Sponsored fee: Just \$100 per student</p> <p>October 30: 11 AM - 1 PM Pacific Explore HVAC Performance 2-hour training program Regular Price: \$95 Sponsored fee: Just \$50 per student</p> <p>November 12-13, 19-20: 1-5 PM Pacific Commercial System Performance Certification Class** 16-hour training program Regular Price: \$690 Sponsored fee: Just \$100 per student</p>	<p>October 14-15, 22-23: 1-5 PM Pacific Commercial System Performance Certification Class** 16-hour training program Regular Price: \$690 Sponsored fee: Just \$95 Certification fee per student</p> <p>October 26: 8-10 AM Pacific Explore HVAC Performance 2-hour training program Regular Price: \$95 Sponsored fee: Just \$15 per student</p> <p>November 5-6: 8 AM -12 PM Pacific Air Testing & Diagnostics 8-hour training program* Regular Price: \$395 Sponsored fee: Just \$50 per student</p> <p>November 19-20: 8 AM -12 PM Pacific Residential Airside Recertification 8-hour training program* Regular Price: \$395 Sponsored fee: Just \$50 per student</p>	<p>October 9: 8-10 AM Pacific Explore HVAC Performance 2-hour training program Regular Price: \$95 Sponsored fee: Just \$15 per student</p> <p>October 12-13: 8-12 AM Pacific Air Testing & Diagnostics 8-hour training program* Regular Price: \$395 Sponsored fee: Just \$30 per student</p> <p>October 22-23, 29-30: 8 AM -12 PM Pacific Performance-Based Selling 16-hour training program Regular Price: \$795 Sponsored fee: Just \$30 per student</p> <p>November 3-4, 10-11: 8 AM -12 PM Pacific Commercial System Performance Certification Class** 16-hour training program Regular Price: \$690 Sponsored fee: Just \$30 per student</p> <p>December 3-4, 8-9: 8 AM - 12 PM Pacific Duct System Optimization Certification Class** 16-hour training program Regular Price: \$690 Sponsored fee: Just \$30 per student</p>

* Qualifies for 8 recertification hours

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Heating & Ductless Products

Continued from Page 14

Marley Engineered Products. “The units come in a variety of construction styles, features and control options and can be custom designed to an exact size, wattage, voltage, phase and number of steps.”

Unlike other heaters for duct applications, Marley’s new Duct Heater also features a flip-able design, allowing contractors to install the heater in four different orientations to ensure a smooth fit.

The new line of Duct Heaters is available in a variety of voltages, power output and control options that are designed to lessen the load on a building’s main heating systems. To simplify selection, engineers can utilize a new Duct Heat Program designed to make the specification process quicker and easier.

More information: <https://www.marleymep.com/contact-us>.

Mitsubishi Electric Trane HVAC P-Series

Part of the P-Series product line by **Mitsubishi Electric Trane HVAC** which includes indoor and outdoor units as well as controls for residential and light commercial applications, this product can be paired with a range of existing indoor units of varying sizes and designs.

The options include the PLA ceiling-recessed ductless units in 12-42 KBTU/H; the PKA wall-mounted ductless units in 12-36 KBTU/H; the PCA ceiling-suspended units in 24-42 KBTU/H; the PVA multi-position air handler in 24-42 KBTU/H; and the PEAD horizontal-ducted units in 12-42



KBTU/H. In addition to expanding system options, the product is rated for 100 percent heating capacity at 5° F and guaranteed heating capacity down to minus 13° F. Efficiency ratings for the unit include up to 21.5 SEER, 12 HSPF, and 14 EER.

More information: www.metahvac.com.

Space-Ray Wind Blocker



Space-Ray is introducing its latest new product, The Wind Blocker, a wind and rain resistant patio heater developed to warm a variety of hard to heat areas and extend the use of outside areas. The Wind Blocker is ideal for restaurant patios, outdoor entertainment and dining areas as well as residential patios and porches.

The new product offers two heat settings. This new heater can operate on a powerful 34,000 Btu/Hr. on colder days or a softer 24,000 Btu/Hr. on milder days.

One of The Wind Blocker’s features is a tinted high-tempera-

ture glass which provides protection on windy days and enhances the heater’s aesthetic appeal. The heater is constructed with weather resistant, zinc plated materials with enhanced black hi-temperature silicone powder coated paint. It’s specifically designed with internal reflectors to enhance the radiant output which is completely hidden behind the tinted ceramic glass.

The Wind Blocker delivers a radiant warmth directly to people at floor level first and then in the surrounding air. Unlike typical infrared patio heaters which are affected by windy weather conditions that cause reduced heat output, The Wind Blocker maintains consistent efficiency year around. The system has been tested and operates in winds up to 40 miles per hour.

The clearance to combustible materials above the infrared patio heater can be as low as 10 inches with an optional heat shield when installed outdoors. The heater can be suspended from the ceiling or angle mounted from column or sidewall with mounting brackets typically covering a 12’ x 12’ area. Mounting angles range from 0 degrees (horizontal) to 60 degrees to add to the unit’s installation flexibility.

More information: www.spaceray.com.

Weil-McLain ECO

The future of residential comfort heating has arrived with the introduction of the ECO® Tech high-efficiency boiler from **Weil-McLain**, North America’s leading boiler manufacturer. The new ECO Tec is a high-quality boiler that meets nearly all residential application needs



including multi-zone and combi applications. It features a long-lasting fire tube heat exchanger and is available in combi versions with response time and domestic hot water (DHW) output designed to meet the demanding needs of residential replacement applications. ECO Tec is easy to install, use and service, operates whisper quiet, and is among the most energy efficient residential boilers available today.

ECO Tec is available in four heat only sizes ranging from 80 to 199 MBH. The combi versions are available in three sizes – 110, 150 and 199 MBH – with hot water output up to 5.4 gallons per minute (GPM) and features Weil-McLain’s advanced ECO BOOST technology to provide rapid DHW response. ECO Tec also includes built-in zone control, connects up to four thermostat inputs and features an easy-to-use setup wizard and heating system presets.

Featuring a 95% AFUE rating, ECO Tec is among the highest energy efficient residential boilers in the industry. ECO Tec achieved the “Most Efficient” rating level from Energy Star® in 2020 and is rated to deliver maximum operational cost savings to homeowners and provide qualification for local utility rebates, if available.

The unit’s durable stainless steel fire tube heat exchanger features a vertical orientation for “self-

rinsing” during operation, and a polypropylene condensate-collector base that provides better corrosion resistance than traditional stainless steel, helping to ensure a long service life.

More information: www.weil-mclain.com/en/weil-mclain/about-us/locations/.

YORK Residential Package Equipment



The **YORK** brand of Johnson Controls, the global leader for smart and sustainable buildings, is launching an efficient, reliable and competitive package unit designed to lower smog-producing gases while delivering high performance and reliable comfort. The YORK Ultra-low NOx Residential Package Equipment offers a compact, robust, all-in-one HVAC system that provides reliability and quick installation for space-challenged homes.

“The YORK Ultra-low NOx Residential Package Equipment provides a unique combination of installation flexibility, simplified maintenance and reliable performance while reducing greenhouse gases,” said Regan Axtell, residential product manager, Johnson Controls. “This equipment provides contractors with a high performance, all-in-one solution for space-challenged applications where internal installation of conventional split systems is not an option or when homeowners want to minimize in-house servicing or construction.”

The heart of the ultra-low NOx technology is a proven burner system for reducing greenhouse and smog-producing gases by up to 65 percent versus standard low-NOx models. In addition, it is available with 81 percent AFUE, providing greater comfort for less money. The units are available in 14 SEER, single-stage heating and cooling, a variety of tonnages, and single-and three-phase electrical configurations.

More information: www.york.com.

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Troubleshooting

An Ice Machine That's Not Keeping Up with Demand

By Jim Johnson
Contributing Editor

We're heading into fall, which means it's a good time to look ahead to cooler weather and consider a low ambient situation. In this troubleshooting problem, you're following up on a complaint from a restaurant manager that one of the ice machines in his high-volume establishment isn't producing enough ice. There are two identical machines in this installation. Both are remote condenser type and are of the same age, having been installed ten years ago in the same section of the kitchen. Preventive maintenance has been performed regularly, and the remote condensers are located on the same area of the roof.

The restaurant manager reports that from the middle of the day through the afternoon, the cubes from the problem ice machine, while they are nearly as plentiful as the identical unit that's operating properly, the cubes that are being produced seem incomplete.

In the evening hours, the situation gets worse. The suspect machine simply doesn't produce enough cubes. The manager is able to determine this capacity problem based on his experience with this particular machine and the ability to compare the operating efficiency of both units.

The history of both units is that periodic maintenance has been performed on a regular schedule since installation, and cleaning has been accomplished according to manufacturer's specifications

and recommendations. Neither unit has been checked at a time other than the periodic maintenance schedule.

Upon arrival, you find the following conditions and factors:

1. There is adequate water supply throughout the ice machine system.
2. Proper voltage, well within tolerance specifications, is being applied to both units.
3. Ambient temperature at the remote condenser location is 60-degrees.
4. The system head pressure is lower than normal, and the low side pressure is near normal.
5. The liquid line pressure between the head pressure control valve and the receiver (refer to **Figure One**) is cold to the touch.

Your troubleshooting question: *What component in the refrigeration system is at fault?*

If you believe you have the correct answer to one of Jim Johnson's Troubleshooting Problems, please submit it by email to Jim Johnson at icntroubleshooting@techtrainassoc.com or by U.S. Mail to: Technical Training Associates, PO Box 2259, Green Valley, AZ 85622-2259.

In your email subject line please include "Troubleshooting Answer" and indicate which month the question you are responding to was published.

Correct answers will be entered into a drawing and will be eligible to receive a copy of Jim Johnson's video "Evaluating Refrigeration Systems: Troubleshooting & Identifying Problems."

Carrier OptiClean

Continued from Page 1

and discharge cleaner air back into the room. Notably, OptiClean units exceed the minimum standard of two air changes per hour for portable electric HEPA machines recommended by ASHRAE® in school reopenings.

"The safety and welfare of our students and staff is our primary concern as we prepare our facilities for their return," said Kevin Emenaker, executive director, Administrative Services, Alford Unified School District. "We looked at a number of indoor air quality solutions and we felt that the OptiClean product was best-suited for our needs. Based on the features and benefits offered by the OptiClean unit, we feel that these

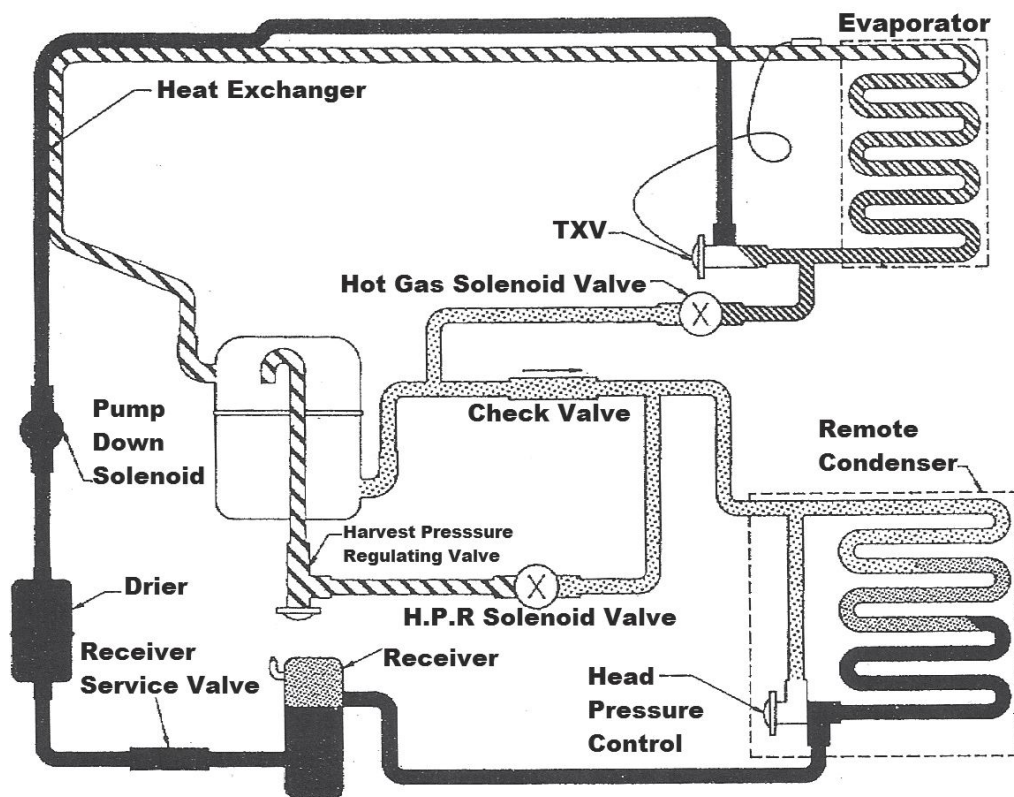
will be effective in providing peace of mind to our students, staff and their parents."

OptiClean units are portable, taking only about three-square feet of floor space when oriented vertically, and can also be operated horizontally, allowing for convenient, unobstructed placement in classrooms, cafeterias, libraries or gymnasiums. One 500-cfm unit can adequately clean the air in a typical classroom; the new 1500-cfm unit is designed for larger spaces. In both cases, multiple units can be used for more expansive spaces.

"OptiClean units are highly effective against contaminants," said Tyler Girtman, regional manager, Climatec, LLC. "Plus, the ease-of-use and portability allows them

Continued on Page 19

FIGURE 1



Rapid Duct Testing

**HERS Rating
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Coolsys Partners with ECMC Education to Launch Online HVACR Technician Training

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CoolSys has partnered with ECMC Education to launch a multi-faceted, online training program for its technicians.

Technicians can enroll and attend interactive online courses and complete evaluations with a CoolSys senior-level technical training coach to ensure learning targets are accomplished.

"CoolSys has always been dedicated to training and investing in employees, so we're excited to be taking our training initiatives to a new level through our partnership with ECMC Education," said Beth Goldstein, chief human resources officer at CoolSys. "In launching this new online program, we can now make high quality, advanced training accessible to our new and current team members located anywhere in the country."

As traditional classroom train-

ing has been impacted by limitations imposed by the COVID-19 pandemic, the new online training program will enable CoolSys to continue to expand its training initiatives and meet the diverse needs of trainees with remote instruction. Students will be able to access the online training at their own pace with each course lasting eight weeks with approximately five hours per week of coursework. In tandem with the online training, experienced CoolSys technicians will serve as technical training coaches to evaluate the progress of each trainee in a hands-on environment with the proper social distancing measures in place during the COVID-19 pandemic.

The CoolSys training program will be designed to deliver five levels of training based on the needs of each technician. Starting in September, the program

will launch training geared to servicing convenience stores, small-box retail, and supermarkets with single systems. By the end of the year, CoolSys will deploy three additional levels of advanced training to provide all necessary services for supermarkets. Another training module will launch in January 2021 to offer more foundational skills for technicians.

"In today's marketplace, it is more important than ever for industry and education to come together to efficiently and effectively meet the needs of the business while also setting employees on a track for career advancement and success," said Todd Steele, president, ECMC Education. "By aligning our areas of expertise, we are effectively addressing CoolSys' talent development needs, without the geographic or scheduling constraints associated with conventional training programs."



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CARB Workshop

Continued from Page 12

organizations, fire safety organizations and the California Energy Commission. Manufacturers need to know what refrigerants will be legal and available on the effective dates. Users need to know what refrigerants will continue to be available to service a new system over the course of its lifespan. Training for contractors and technicians on equipment with new refrigerants must also be provided in time to meet the effective dates.

Representatives of manufacturers raised concerns that the proposed timeline would result in prohibitions on California sales of variable refrigerant flow (VRF) systems and equipment, and on dehumidifiers. In contrast, many models of room air conditioners on the market today already meet the proposed refrigerant GWP requirements.

Helen Walter-Terrinoni, VP of regulatory affairs for the Air-Conditioning, Heating & Refrigeration Institute (AHRI) indicated that AHRI will request that CARB consider a later date – January 1, 2025 – for the proposed 750 GWP requirements to become effective for AC equipment in California.

New Stationary Refrigeration System Proposal

CARB staff member Richie Kaur of the GHG Reduction Strategy Section presented

proposed regulations for stationary refrigeration systems. In general, CARB proposes new limits of less than 150 GWP for refrigerants in new refrigeration equipment containing more than 50 pounds of refrigerant, effective January 1, 2022. This would apply to new retail food refrigeration; new industrial process refrigeration systems; and new systems in cold storage warehouses.

The numbers of low GWP systems in supermarkets and grocery stores are increasing annually in California and the U.S., and thousands of stores have these systems worldwide. Non-ODP and low-GWP refrigerants available include: CO₂ (GWP=1), ammonia (GWP=0), hydrocarbons such as propane and isobutane with GWPs less than 4, and HFO-based systems.

Kaur discussed updated proposed alternatives for retail food refrigeration systems for companies with 20 or more retail food facilities, or supermarkets, in California. This update represents a change in the baseline year from 2018 to 2019, and allows two compliance pathways: a weighted-average GWP reduction on a company-wide basis for equipment in multiple stores, or an overall greenhouse gas potential (GHGp) reduction. Kaur explained that these alternatives allow for achieving targets on a per company basis rather than on a per system, or a per store basis, to provide flexibility to plan for compliance over 8 to

Continued on Page 21

Technical Training

Growing Green Technicians Part 132: Inspecting and Evaluating a Supply Duct System

By Jim Johnson
Contributing Editor

In the last several segments in this series our focus has been on blower performance charts for both PSC and ECM blower assemblies, and how they are used by technicians to determine proper flow through the air handler system. An important factor to keep in mind about the use of manufacturer's charts is that they apply if the duct systems are properly designed and installed.

Considering the reality that an incorrect fitting could affect the overall performance, we will focus on one example of a fundamental issue that green technicians can consider when inspecting and evaluating a supply duct system.

Our example in this case is the design, build, and installation of a 90-degree ELL, such as those shown in **Figure One**.

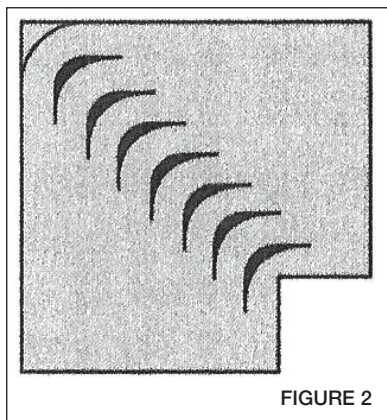
Whether a 90-degree ELL is a standard sharp angle like the illustration on the left, or if it has a rounded outer corner like that shown on the right, it's possible that in the event there is a problem with the initial design and installation of these fittings, it can be corrected. Consider the air turbulence shown at the turn in each of these examples.

A condition such as this is known as Eddy Currents, which is formally defined as an air flow current that is at variance with the main current in a stream of air flow. One important point

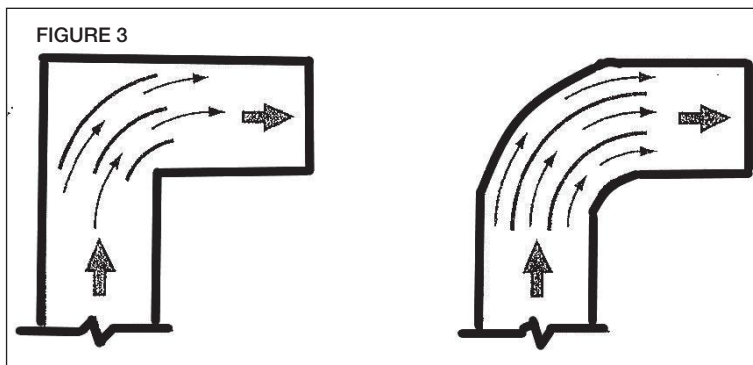
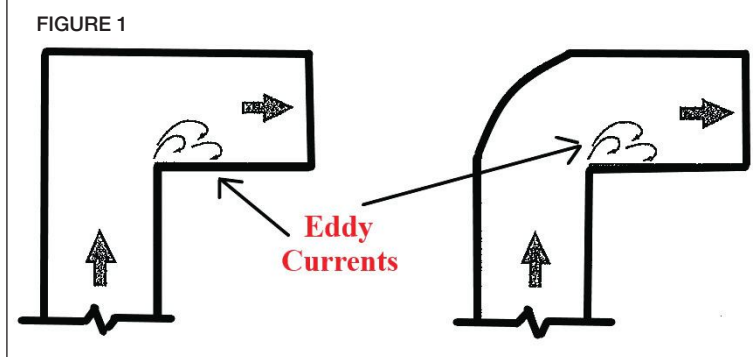
to consider relative to this potential problem is that when turning vanes (see **Figure Two**) are installed in a fitting of this design, it will allow for the slight re-direction of air flow, minimize resistance, and as a result, reduce Eddy Currents.

Taking this simple step will prevent the unnecessary tumbling of air that results from Eddy Currents and contribute to the reduction of the system TESP. **Figure Three** shows you what happens to the flow of air when turning vanes are added to this type of fitting.

The point to consider here is that Eddy Currents that can occur at an abrupt 90-degree angle in a fitting are effectively causing a restriction that is 'stealing air' from the duct

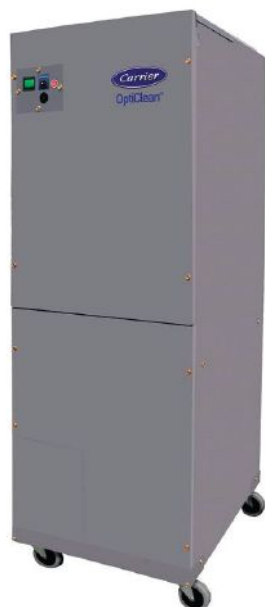


system, preventing it from accomplishing the proper volume and velocity of air flow that is required for optimum performance of the equipment.



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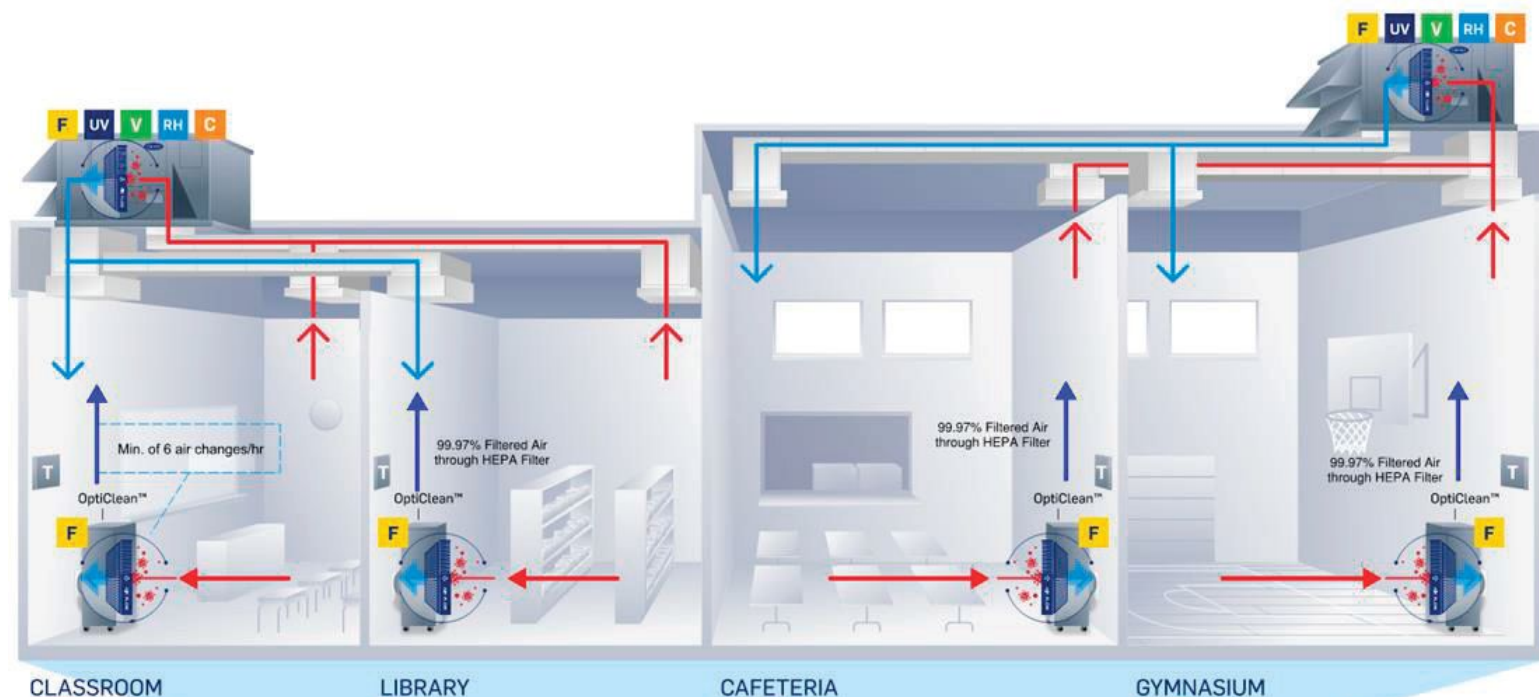
Carrier OptiClean

Continued from Page 17

to quickly and efficiently be deployed in a number of spatial configurations as the needs arise."

OptiClean is one of a number of solutions offered through Carrier's Healthy Buildings Program that can aid school districts in enhancing indoor air quality. Other product features and upgrades include filters with high MERV ratings; UV lights; Agion® anti-microbial coating, which can be applied to protect against bacterial growth; economizers; and a Humidi-MiZer® dehumidification system.

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(Four-Night webinar Class)

Instructors: John Dalton / Mike Griffin

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Wed., Nov. 18 – Part 3

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(Four-Night Webinar Class)

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Wed., Dec. 9 – Part 3

Thurs., Dec. 10 – Part 4

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Register at www.ihaci.org (Training)

Note: When registering for a training class please make sure you honor your commitment. If you have to cancel your reservation, please call 818-551-1555. Thank you.

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Class 6:00pm • 2020 Training Class Schedule (Subject to Change)

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Indoor People



VINCE RACALBUTO

Zonex Systems, an innovative and award-winning zone controls manufacturer has announced the appointment of **Vince Racalbuto** as Director of Sales and Marketing for North America. In this position Racalbuto will spearhead sales and marketing efforts and play an essential role in expanding the company's customer base as Zonex Systems continues to extend its North American market share and overall industry footprint.

"Great having Vince on board. His expertise and industry relationships will energize our growth initiatives and help scale Zonex and our operations

CARB Workshop

Continued from Page 18

10 years rather than retrofitting every system.

- For companies owning or operating 20 or more retail food facilities: Attain a company-wide weighted-average GWP of less than 2,500, or a 25 percent or greater reduction in GHGp below 2019 levels effective January 1, 2026. Or, attain a company-wide weighted-average GWP of less than 1,400, or a 55 percent or greater reduction in GHGp below 2019 levels effective January 1, 2030.

- For companies owning or operating fewer than 20 retail food facilities: Attain a company-wide weighted-average GWP of less than 1,400, or a 55 percent or greater reduction in GHGp below 2019 levels effective January 1, 2030.

Proposed Variance Provisions and Application Process

CARB also added new proposed variance provisions and application procedures to address very specific situations in which an applicant cannot comply with the regulations. Allowable variances would generally apply to individual niche end-users and would be evaluated and approved on a case by case basis.

to the next level," said Jeff Osheroff, President of Zonex Systems.

Racalbuto will be instrumental in setting and achieving sales plans and goals, elevating marketing and advertising strategy with an emphasis on social media, expansion of online training programs, overseeing the North American sales team and rep agencies, and furthering development of distributor and contractor partnerships.

Racalbuto brings more than 25 years of sales and general management experience with an extensive background in multiple HVAC business channels; manufacturing, manufacturers rep agency, wholesale distribution, and contracting. Prior to joining Zonex Systems he held sales and management roles with Honeywell International, Carrier, and WATSCO, and served on the

IHACI Board of Directors 2006-2007.

.....

The California Energy Alliance (CEA) announced the appointment of **Josh Dean** as executive director. Dean joins CEA in a period of sustained membership growth and expansion for the organization, a continuing focus on its core initiatives – Building Energy Efficiency Standards, Outcome-Based Code, Code Compliance Improvement, Cost Effectiveness Metrics, and Outreach and Education – and a new focus on emerging initiatives and fundamental research.

Dean was formerly the executive director for the San Diego Green Building Council, a CEA member organization, and brings over a decade of experience in the sustain-

ability, construction, and real estate industries with projects ranging from energy retrofits and LEED O+M Certification to supervising commercial new construction and residential development. He also has extensive experience working with multiple government agencies, businesses, and nonprofits to deliver projects and education around sustainability. He recently earned a Master of Science in Energy Policy and Climate from Johns Hopkins University where his thesis work was focused on Developing a Policy Framework for an Outcome-Based Energy Code in California.

"Josh brings a skillset to the Alliance that is particularly well suited to our current needs and our evolution as an organization: his experience managing a nonprofit NGO well aligned with CEA's mis-



JOSH DEAN

sion; a deep understanding of green building and energy efficiency; and a solid working knowledge of the needs and interrelationships of California municipalities, utilities, state government, the building industry, and energy policy and technology players," said Doug Avery, CEA co-chair.



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 4. Instructors should have minimum computer skill sets to present existing and future formatted IHACI curriculum.
 5. Instructors should be able to pass HVAC/R/SM work history and security background checks.
 6. Instructors should be able to travel as needed to the different training venues.
 7. Instructors must be able to attend required education and training meetings.
- Interested instructor candidates should submit their resumes to the IHACI office for review and evaluation by IHACI's Education Committee. Please send resumes to: s.evans@ihaci.org or fax to 818-551-1115.

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