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CEC Update

Energy Commission Holds Workshops on 2022 Energy **Efficiency Standards**

By Ted Rieger, Northern California Correspondent

he California Energy Commission (CEC) held a series of 12 pre-rulemaking online public workshops in September and October 2020 to present proposals and solicit comments for the 2022 Building Energy Efficiency Standards - Title 24, scheduled to become effective January 1, 2023.

The CEC expects to begin the formal rulemaking process in February 2021 with the release of 45-day language for public comment. CEC Building Standards project manager Payam Bozorgchami (P.E.) expects the CEC to hold at least three public hearings for presentations and comments on the 45-day draft regulation language.

The CEC would then release 15day language for public comment in June 2021, and adoption of the 2022 Standards by the full Energy Commission is expected in July

2021. The Standards, also known as the California Energy Code, are updated and adopted every three years. The Energy Code must also be adopted within the overall California Building Code triennial update by the California Building Standards Commission (CBSC), expected in December 2021.

An emphasis of proposed changes for this cycle of the Standards update is building decarbonization and electrification. Codes and Standards Enhancement (CASE) initiatives prepared in advance of pre-rulemaking workshops have provided data and analyses of potential Standards changes that CEC staff are using to develop an all-electric baseline for modeling building design and construction

Continued on Page 13

Industry Education

CAL SMACNA Launches Choose Bigger California

Statewide program to target apprentices, college grads.

o help generate awareness of and interest in a career in the skilled trades, the California chapter of the Sheet Metal and Air Conditioning Contractors' National Association (CAL SMACNA) has launched Choose Bigger California, a recruitment program for industry professionals both in the field and in the office.

"Maintaining a legacy of skilled talent in the construction industry is essential to economic growth, as well as public health and safety," said Chris Walker, CAL SMACNA executive vice president. "We're excited to launch this new initiative to continue the excellence and quality of workmanship our state and country is accustomed to. Our association represents the interests of more than 600 union sheet metal and air conditioning contrac-



tors throughout California, and we're committed to investing in the resources that will provide rewarding opportunities to bright young men and women to keep the pride of our industry moving forward into the 21st century."

Choose Bigger California was designed with two distinct audiences in mind: apprenticeship candidates and students who are working toward or have obtained a college degree.

Potential applicants to the apprenticeship program can browse

an overview of a career in California's sheet metal industry, including average wages, career benefits, and requirements of a successful candidate. After five years of paid hands-on training in a state-of-the-art training center, apprentices earn journeyperson status.

We have a great pension, we have a great salary as journeymen, we're in a membership that's 6,100 members strong,"

Continued on Page 13

DEPARTMENTS

Industry News 4

Technical Training 14

Editorial Focus 16

Classifieds 22



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4.0	4TWR4048G1000A
5.0	4TWR4060G1000A



XR15

TONS	SKU #
1.5	4TWR5018G1000A
2.0	4TWR5024G1000A
2.5	4TWR5030G1000A
3.0	4TWR5036G1000A
3.5	4TWR5042G1000A
4.0	4TWR5048G1000A
5.0	4TWR5060G1000A
4.0	4TWR5048G1000A



XR16

TONS	SKU #
1.5	4TWR6018H1000A
2.0	4TWR6024H1000A
2.5	4TWR6030H1000A
3.0	4TWR6036H1000A
3.5	4TWR6042H1000A
4.0	4TWR6048H1000A
5.0	4TWR6060H1000A



XR17

TONS	SKU #
2.0	4TWR7024A1000D
3.0	4TWR7036B1000D
4.0	4TWR7048A1000D
5.0	4TWR7060A1000D



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2.0	4TWL6024A1000A
2.5	4TWL6030A1000A
3.0	4TWL6036A1000A

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CALIFORNIA



EGIA Foundation Funding \$50,000 for **HVAC Education**

Sacramento, Calif. - The EGIA Foundation announced it is now accepting applications for its fourth annual EGIA Foundation Scholarship Program.

Twenty scholarships of \$2,500 apiece are available to current or soon-to-be students pursuing a technical HVAC course of study at an approved academic institution. Since the inaugural class in 2018, the EGIA Foundation Scholarship Program has contributed more than \$130,000 to 53 students' educations in the trades. As with its predecessors, the 2021 class will be selected based on financial need, career aspirations, and academic merit, continuing to ensure financial hurdles are not a barrier to entry to more and more dedicated young people.

"For many students seeking a rewarding career path out of high school, HVAC and other home services could be just what they're looking for — the perfect mix of technology, excellent compensation, short path to business-ownership, and high job satisfaction - but a simple lack of awareness

prevents them from discovering our industry," said Bruce Matulich, EGIA Foundation chairman and CEO. "With the EGIA Foundation Scholarship Program, we're contributing to the greater solution of that problem, and hoping it promises that fewer passionate students are kept out of HVAC careers due to financial constraints."

Current HVAC students, and those planning to enroll for the 2021-22 academic year, can visit AlwaysInDemand.com/Apply to view the full list of eligibility requirements and submit their applications. The final day for submissions is February 1, 2021, with winners notified that April and awards disbursed in July.

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Fresh-Aire UV **Passes Lab Tests** for Equipment

Costa Mesa, Calif. - Fresh-Aire UV, a leading global manufacturer of HVAC ultraviolet (UV) disinfection systems, announced that thirdparty lab tests successfully proved its residential and commercial UVC disinfection equipment for HVAC systems are >99.99-percent effective in inactivating SARS CoV-2, the virus which causes COVID-19

The "SARS CoV-2 Neutralization by Germicidal UVC Light Systems" study conducted by independent laboratory Innovative Bioanalysis, Costa Mesa, Calif., validated a 4-log, >99.99-percent coronavirus inactivation in less than two seconds of exposure to Fresh-Aire UV's germicidal UVC 254-nanometer light systems. The exposure time is comparable to a moving airstream model within a facility's HVAC or ventilation system. The lab used Fresh-Aire UV's ADS airstream and BlueTube XL™ coil and airstream disinfection systems designed for healthcare, education, office and other commercial facility applications. The residential and commercial APCO- $X^{\scriptscriptstyle\mathsf{TM}}$ coil and air disinfection system also exhibited the same positive results.

The study is one of the first successful SARS CoV-2 inactivation tests in the HVAC industry and is available at www.freshaireuv.com.

"Consulting engineers, contractors and facility managers can now confidently specify, install and use our UV equipment, knowing they are being proactive in improving the building's indoor air quality," said Aaron Engel, Vice-President-Business Development, Fresh-Aire UV. "Dosage is critical for effectiveness; however, our Blue-Calc™, a UVC light design and analysis using state-of-the-art sizing software, can accurately help facility directors, engineers and contractors specify UV equipment for any disinfection application," said Engel.

Since the early 2020 onset of the COVID-19 pandemic, Fresh-Aire UV has helped provide recommendations for both residential and commercial UV systems. In the FDA-sponsored test published in the American Journal of Infection Control, Fresh-Aire UV systems were used to show the efficacy of UVC light in disinfecting and extending the life of N95 respirators.

Now with a proven study validating Fresh-Aire UV's equipment

Fresh-Aire UV's equipment is tested at a lab in Costa Mesa, Calif.

effectiveness against SARS-CoV-2, Innovative Bioanalysis, a CAP, CLIA and AABB-certified laboratory, is now executing the next phase of Fresh-Aire UV testing. We are excited to continue our testing to gauge effectiveness against different HVAC, airstream and surface applications," said Engel.

For more information, please visit www.freshaireuv.com, call 1-(800) 741-1195 or email: sales@freshaireuv.com.

Grundfos Supports California Wildfire Relief Efforts

.

Fresno, Calif. - Grundfos, a global leader in water technology, and its primary owner the Grundfos Foundation announced a \$65,000 USD donation to the American Red Cross of Central California - Central Valley Chapter in response to the wildfires

that have had a devastating impact on communities in Central California.

"Our thoughts are with everyone impacted by these wildfires, some of whom must now start over," said Antonio Rodrigues, Grundfos plant director. "This hits close to home, because it is our home. We want to help the community - our neighbors, friends and partners - who are affected by this disaster."

Grundfos employs more than 290 employees at its manufacturing plant in Fresno, Calif. At the facility, the company manufactures pumps that serve customers in groundwater and irrigation, domestic heating and hot water recirculation, commercial buildings HVAC and plumbing, and industrial applications. To support production, the Fresno office houses engineering, supply chain, finance, service and IT.

The company was introduced to the American market in 1973 after its founder Poul Due Jensen had discovered a growing market for pumps in California, especially where they are essential for farms and vineyards.

On October 19, the Board of Directors of the Grundfos Foundation awarded 315,775 DKK (\$50,000 USD) to the American Red Cross of Central California -Central Valley Chapter. Grundfos Americas has also awarded a \$15,000 USD donation to the chapter.

"Our thoughts and prayers go proud to support the Red Cross,"

out to the many victims of the wildfires. It is however heartwarming to see our colleagues in the U.S. exercising this level of compassion towards their fellow citizens. That is why we are also said Kim Nøhr Skibsted, executive director of the Grundfos Foundation.

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Continued from Page 4

As part of the local rebuilding efforts, Grundfos is creating a program that will provide a significant discount for a selection of its pump products to those that have lost water service due to the wildfires.

"Grundfos is committed to supporting the relief efforts for those who are being displaced or have lost homes, as well as those who are trying to save people, homes and property," said Dieter Sauer, Grundfos Americas regional managing director.

ServiceTitan Buys Servant Systems

Los Angeles, Calif. - Service Titan has announced the acquisition of Servant Systems.

ServiceTitan and Servant Systems will now pool resources to serve Servant Systems customers, including Neighborly, who began running its Mr. Handyman, AirServ, Mr. Rooter, and Mr. Electric service brands on ServiceTitan in 2012.

"In working with the team at Servant Systems, we found that we share the same goal: to make service professionals as successful as possible," said ServiceTitan president and co-founder Vahe Kuzoyan. "We believe this acquisition will help us to do just that, by broadening our platform's capabilities and harnessing the power of both ServiceTitan and Servant Systems as we deepen our relationship with Neighborly. In particular, we're looking forward to the opportunity to serve the Glass Doctor, Mr. Appliance, and Molly Maid franchisees. We also welcome the opportunity to serve

premier franchises like Jan-Pro Systems International, a leader in the commercial cleaning and disinfecting industry, and DreamMaker Bath & Kitchen, who provides a unique offering in the remodeling industry."

The top two executives at Servant Systems will transition to new positions at ServiceTitan. CEO Don DeSmith, who joined Servant Systems in 1994, will be Service-Titan's new director of franchise strategy. Servant Systems CTO Bruce Franson, who has worked at the company since 1996, has been named director of engineering at ServiceTitan. Together, they bring more than 50 years of experience in franchise technology to the organization.

"ServiceTitan has been an innovative player in home services for years now," said DeSmith. "So it's

really inspiring to be a part of that and navigate the brand deeper into the franchise space."



Veteran Wins AC Giveaway for U.S. **Military Heroes**

Phoenix, Ariz. - Forrest Anderson Plumbing and Air Conditioning (Forrest Anderson), a family-owned business in the Phoenix area since 1961, is pleased to announce the



Annie Patterson with sons John Ryan (L) and William (R) celebrate winning Forrest Anderson's 2020 Military Hero AC Giveaway.

winner of the 5th Annual Military Hero A/C Giveaway. Ahwatukee homeowner Annie Patterson, a veteran of the U.S. Army and National Guard, secured the most public votes to win a free air conditioning unit in this local event that honors the sacrifices of Veterans, active duty service members, and their families.

"I am blessed and grateful to be the recipient of 2020's Forrest Anderson's Military Hero Giveaway because it eases the financial burden of replacing my 20-year old air conditioner," said Patterson. "More importantly, this contest gave me my tribe back! As a combat Veteran who struggles with mental health challenges and self-isolation tendencies, I was able to reconnect with many wonderful, supportive, and loving people whom I lost touch with over the years. For fellow Veterans struggling with mental health, Remember Your Tribe! They want to support you as much as you need their support, which is something I learned from being a finalist in this contest.'

"The Forrest Anderson team is proud to honor Annie and all our Veterans for the sacrifices they and their families made to serve our country," said Audrey Monell, President of Forrest Anderson. "We share their stories every year because we want to start conversations about the importance of supporting military members, many who return home with conditions that impact their physical and mental health."

Patterson served 15-years in the military working as a combat medic, orthopedic specialist, and hospital administrator. She served in Wiesbaden, Germany, and Saudi Arabia as part of Operation Desert

Continued on Page 8



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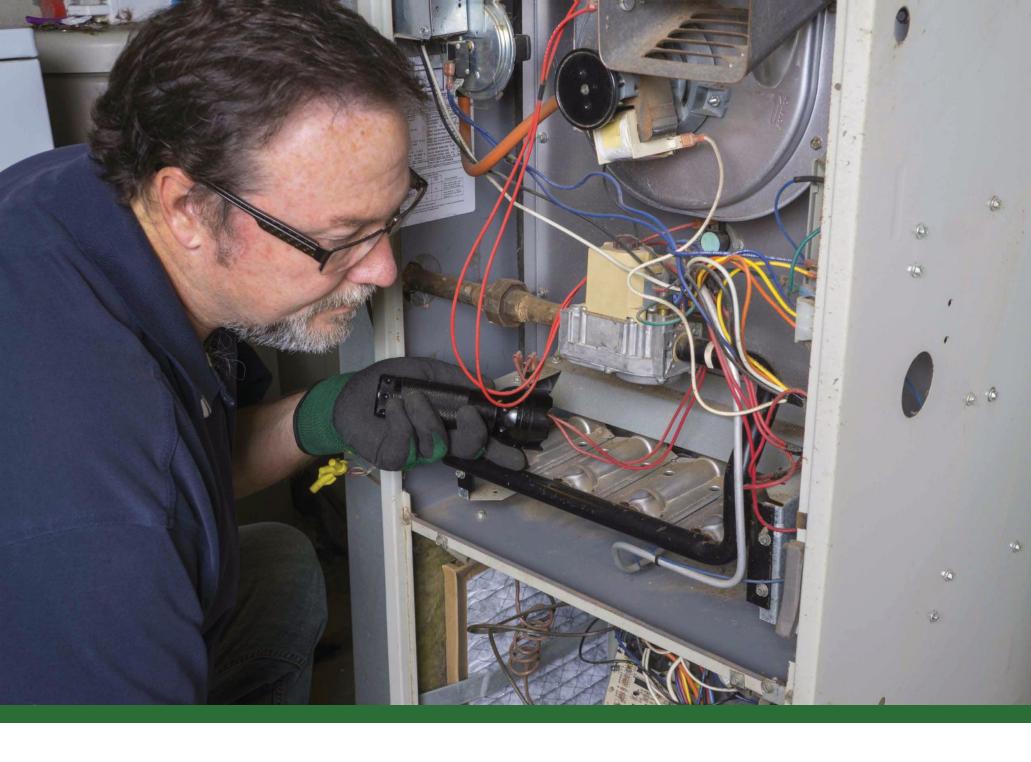
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CLEAResult is a SoCalGas authorized contractor responsible for administering the Residential HVAC Program through December 31, 2020.

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Continued from Page 6

Storm. She also served as a medic in the Washington Army National Guard where she provided forest fire medical support, she served in the Florida Army National Guard where she assisted during hurricane relief, and she served in the Arizona Army National Guard providing training and operations as a hospital administrator. Today, Patterson is raising two teenage boys and mentors Veterans with PTSD to help them heal.

A friend nominated Patterson and Forrest Anderson selected her to be one of five finalists in this year's Military Hero A/C Giveaway. The company shared stories about every finalist on its website and social media channels and gave the public two weeks to vote for their favorite.

The runners-up include Ron Breland, a U.S. Army Veteran from Glendale; Michael Butcher, a U.S. Army Veteran from Tolleson; Jed Davis, a U.S. Marine Veteran from Phoenix; and Lucy Wong, a U.S. Navy Veteran from Gilbert. They will each will receive a free A/C Tune Up for one unit valued at \$84.95.

Monell also recognized industry partners, MORSCO HVAC/Bush Supply and Smiley Crane Service, whose generous contributions again this year made it possible to run the contest. Since 2016,

Forrest Anderson has worked with local partners to sponsor the Military Hero A/C Giveaway every year around Veterans Day.



Air Serv Honors Top Franchisers in First Virtual Reunion

Waco, Texas – Aire Serv announced its franchise network's top performers of 2019 during Neighborly United, which occurred earlier this month as the organization's first-ever virtual reunion.

"Neighborly's annual reunion may have looked a bit different this year, but the pride we all have to be a part of the world's largest family of home service brands shone as bright as ever," said Steve Truett, president of Aire Serv. "Despite the challenges 2020 presented to our Aire Serv network, our franchise owners have risen to the occasion to help make this a year of success and growth for our united team. While we may not have been able to celebrate these outstanding individuals in person, it was an honor to shine a spotlight on the Aire Serv owners who represented the very best of what our franchise network had to offer this year."

Top award winners included:

- Franchisee of the Year: Scott and Denise Taylor, owners of Aire Serv of Huntsville, Alabama: This award is the highest honor that can be bestowed upon a franchise owner, presented by Aire Serv to the owner who has consistently grown through proper training and management of their organization with a consistently high level of sales through quality, professional service.
- President's Award: Al and Beth Hallstrom, owners of Aire Serv of Sioux Empire, South Dakota: The President's Award is presented to a franchise owner who is hand-picked by Aire Serv brand president Steve Truett to reward them for an outstanding performance on all levels throughout the previous year. This franchise owner has set a prime example for the brand and excels on all levels of operations.
- Woman of the Year: Sarah Boyce, Vice President of Aire Serv of Elkton, Maryland: This award is presented to the woman who has made the greatest contribution to the success of their franchise. This award is to recognize the con-

tinuing efforts that strengthen and support the success of the franchise.

• Excellence in Leadership: Rick D'Ambrosia, owner of Aire Serv of Brockport, New York: This award is presented to the franchise owner who consistently sets an example for others within the system by conveying vision, participation and positive contribution to the network.

In addition to celebrating the noteworthy success of these franchise owners, Aire Serv also has much to celebrate in terms of development and growth as it heads into the final quarter of this year. As of the close of September 2020, Aire Serv's record-setting year so far includes 19 new agreements signed just since January, all amidst an ongoing pandemic.

NATIONAL



ACCA Seeks Nominations for Contractor of Year

Arlington, Va. – The Air Conditioning Contractors of America (ACCA) is seeking nominations for the 2021 Residential and Commercial Contractors of the Year awards programs. ACCA's Contractors of the Year will be recognized at the ACCA Conference and Expo in New Orleans, February 21-24, 2021.

"ACCA is proud to honor two outstanding contractors who uphold the highest standards for proper HVAC system design, installation, and maintenance procedures," said Barton James, ACCA president and CEO. "Applicants should focus on the great things they have done this year to improve their business and support the industry, as this is a highly competitive nomination process."

Contractors must submit the online nomination form at acca. org/members/awards, no later than October 31, 2020. Once the nomination deadline passes, all Contractors of the Year nominees will be evaluated, and six finalists will be selected – three residential and three commercial. ACCA staff will work with each finalist to put together a judging packet. The official judging packets must include six write-ups, photos, fact sheets, questionnaires, and videos, and will be judged by a

panel of ACCA past chairmen. The winners – one residential, one commercial – will be recognized at the ACCA 2021 ACCA Conference and Expo.

For additional information on ACCA's Contractors of the Year Award or any of ACCA's award programs, please contact Melissa Broadus, ACCA director of member communications at melissa. broadus@acca.org or 703-824-8842.

Bryant Announces Charles Bryant Award Winners

.

Indianapolis, Ind. – IERNA's Heating & Cooling, Inc. of Lutz, Florida and Trotter Air Services, LLC of Plano, Texas were named the 2020 Charles Bryant Award winners. The Charles Bryant Award, named for the company's founder, recognizes loyal Bryant Factory Authorized Dealers (FAD) that epitomize the characteristics of Charles Bryant, including professionalism, quality, reliability and community spirit. Bryant, a leading supplier of heating, ventilating, and air conditioning (HVAC) equipment, is a part of Carrier Global Corporation (NYSE: CARR), a leading global provider of healthy, safe and sustainable building and cold chain solutions.

'We're so proud to have been named a 2020 Charles Bryant Award winner," said Charlene Ierna, owner, IERNA's Heating & Cooling, Inc. "We pride ourselves on providing our customers with reliable, quality equipment that is installed and serviced by a team of skilled and courteous technicians. So, it's truly wonderful to be recognized for how we conduct business. Our relationship with Bryant has been fantastic since we first opened our doors in 2003 and we make sure we are doing 'Whatever it Takes' for our customers each and every day."

IERNA's Heating & Cooling, Inc. is a family owned and operated, full-service air conditioning, heating and plumbing contractor that services the greater Tampa Bay area, including Hillsborough, Pasco, Hernando, Polk and Pinellas counties. They strive for excellence and settle for nothing less, while striving to do it all at fair and reasonable prices. Notably, through IERNA's consistent commitment to excellence year after year, they were named the 2016 National Bryant "Dealer of the Year" and they are the first and only HVAC company in the state of Florida

Continued on Page 10

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Designer Series





Continued from Page 8

to earn the highly coveted Bryant Pinnacle Award.

"Winning this award is such a blessing and great honor to all of us here at Trotter Air Services," said Sean Trotter, owner of Trotter Air Services, LLC. "The fact that our company was recognized, in part, for volunteering and supporting our community is a big achievement for us as a business and a family. Bryant has been nothing short of spectacular to us, which is why we choose to represent what we believe to be nothing short of the best."

Trotter Air Services, LLC was founded in Plano, Texas in 1970. A family owned and operated business for over 50 years, they specialize in heating and air conditioning repair, service and replacement. After serving in the Army, Don Trotter started a business to

support his growing family. This eventually turned into a multigenerational company with the addition of Don's first son, Sean, followed some years later by Sean's son, Chris.

Throughout the last 50 years, over 10,000 Bryant home comfort systems have been installed into homes across North Texas by Trotter Air Services, LLC.

"We're pleased to present this year's Charles Bryant Awards to IERNA's Heating & Cooling, Inc. and Trotter Air Services, LLC," said Justin Keppy, President, NA Residential & Light Commercial, Carrier. "This award honors those Bryant FADs that embody all the qualities that have made our brand what it is today. These two businesses are model organizations that have truly made a positive impact in their communities and in the heating and cooling industry as a whole."

For more information about Bryant, visit www.bryant.com.

Daikin Acquires Stevens Equipment Supply in 12 States

New York, N.Y. – Daikin North America LLC "Daikin," a subsidiary of Daikin Industries, Ltd. "DIL," the world's largest manufacturer of heating, cooling, and refrigerant products, announced the purchase of Stevens Equipment Supply, LLC "Stevens."

Daikin has transformed the North American HVAC industry over the past several years making significant inroads into the market beginning with the purchase of Goodman Global Group, Inc., by DIL in 2012 for \$3.7 billion. In 2015, DIL began construction of Daikin Texas Technology Park "DTTP," a state-of-theart business campus near Houston, Texas that includes research and development, manufacturing, engineering, logistics, marketing, distribution, and sales operations all under one roof. DTTP was completed in 2017, costing over \$450 million, which is the largest, single investment in the 96-year history of DIL. DTTP sits on over 500 acres, employs over 7,000 people and at over 4 million square feet is one of the largest manufacturing facilities in the world – the size of 74 football fields. The purchase of Stevens is another in a series of investments to support Daikin's vision for growth in North America.

Daikin's acquisition will support the continued growth of Stevens, providing even more opportunities to expand and grow its business - growing its contractor customer base, hiring new talent, adding more business technology, expanding product lines, and opening several new growth and strategic opportunities. Stevens will continue to promote the full line of Daikin ductless, residential unitary and light commercial HVAC products, as well as controls, air quality, parts, and accessories throughout their distribution footprint. Stevens will also continue distribution and sales of other Daikin brands including Goodman, Amana®, and Quietflex brands, as well as Stevens' existing Commercial Food Service Equipment at select locations.

"Our vision for Daikin is to become North America's number one indoor comfort solutions provider," said Takayuki "Taka" Inoue, Executive Vice President and President, Daikin Business Unit. "We believe the purchase of Stevens is a significant milestone for Daikin in our continued effort to achieve our North American vision. At Daikin, we will continue to grow our North American business through organic growth and acquisitions that fit our strategic objectives."

Under the new ownership of Daikin, Stevens will operate as a wholly-owned business unit of Daikin, while maintaining their current name with established brand recognition in the marketplace. The successful leadership team at Stevens, led by Dave DeSutter, Senior Executive Advisor, will also be maintained. "Joining forces with Daikin, the largest HVAC manufacturer in the world, was clearly the best fit for the entire Stevens team, customers and vendors," said DeSutter.

The Stevens management team will continue to operate from their headquarter office in Eagan, Minnesota where they manage sales and distribution at 18 branch locations serving Minnesota, Wisconsin,

North Dakota, South Dakota, Montana, Iowa, Missouri, Nebraska, New Mexico, Colorado, Arizona, Utah and Nevada.

"The Stevens management team has built a high quality sales team that understands Daikin's sales hospitality approach," stated Doug Widenmann, Senior Vice President North America DBU Sales and Distribution at Daikin, "Stevens possesses exemplary business practices that promote high efficiency system sales that aligns with Daikin's markettransformation philosophy. It has state of the art training facilities to educate and foster superior contractors that align with our shared vision."

"Stevens has enjoyed a great, long-standing distribution relationship with Daikin with the intention of further expanding our distribution into additional states in the Southwestern U.S.," added Dan Beno, President at Stevens. "The Daikin ductless and light commercial rooftops along with Daikin, Goodman and Amana branded residential unitary product lines provided the differentiation we needed to successfully grow our business in these highly competitive regions."

"The Stevens leadership and Sales team have been outstanding promoters of the Daikin brand over the past several years and I could not be more thrilled to have them as part of the Daikin team. Since teaming with Stevens, they have propelled our sales volume by adding many new, highly-valued Daikin Comfort Pro dealers in existing and new regions," added Widenmann.

For additional information, visit www.northamerica-daikin.

Mitsubishi Electric Trane HVAC US Honors BellSimons

Suwanee, Ga. – Mitsubishi Electric Trane HVAC US (ME-TUS), the exclusive provider of Zoned Comfort Solutions® and a leading supplier of Variable Refrigerant Flow (VRF) heating and cooling systems, recently honored BellSimons Companies of Hartford, Connecticut (BellSimons) with the 2019 Diamond Service Group (DSG) Of The Year Award for the Northeast and the 2019

Continued on Page 12

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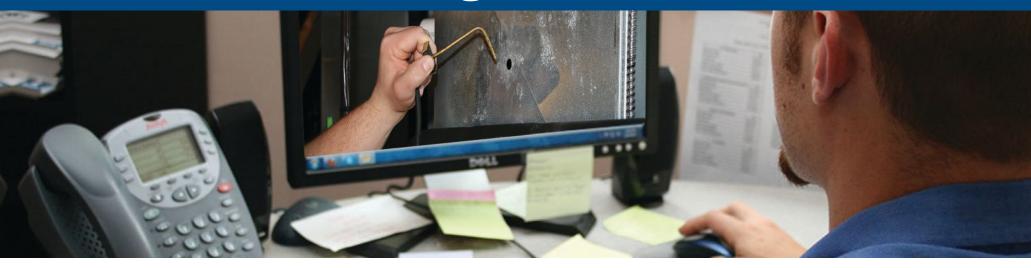
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10 ICN DECEMBER 2020 www.indoorcomfortnews.com

California Utility Hosted 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 hosting this training for HVAC professionals throughout California:



December California Training Calendar **EDISON**[®] ncilink.com/sce ncilink.com/sdge **Airflow Testing & Diagnostics Explore HVAC Field Performance** December 10: 8 AM-10 AM Pacific December 3-4 2-hour training program 1 PM -5 PM Pacific Regular Price: \$95 8-hour training program* Student fee: Just \$15 per student Regular Price: \$395 Student fee: Just \$50 per student December 21-22: 1 PM -5 PM Pacific **Airflow Testing & Diagnostics Duct System Optimization Certification Class**** 8-hour training program* December 8-9, 15-16 Regular Price: \$395 1 PM - 5 PM Pacific Student fee: Just \$50 per student 16-hour training program Regular Price: \$690 Pacific Gas and Student fee: Just \$100 per student Electric Company Residential System Performance Certification Class** ncilink.com/pge December 17-18, 21-22 8 AM - 12 PM Pacific **Duct System Optimization Certification Class**** 16-hour training program December 3-4, 8-9 Regular Price: \$690 8 AM - 12 PM Pacific Student fee: Just \$100 per student 16-hour training program Regular Price: \$690 Student fee: Just \$30 per student



^{*} Qualifies for 8 recertification hours

^{**} NCI Online Certification Exam included



The BellSimons DSG team with the Diamond Service Group award.

Continued from Page 10

Crowning Achievement Award. The Mitsubishi Electric DSG network comprises more than 300 technical service support professionals employed by distributors in North America, Latin America and the Caribbean. DSG members serve as the local customer contact for troubleshooting and offer support for METUS systems sold and installed through the distributor network.

"Every year, DSG members normally come together for the opportunity to network with peers and receive training and technical support for METUS commercial and residential systems," says Sean Dwyer, senior director, field technical service, Mitsubishi Electric Trane HVAC US. "Despite having to cancel this year's annual National Diamond Service Group Conference, we still wanted to recognize the BellSimons DSG team for their exceptional product and customer support for Mitsubishi Electric Mand P-Series product lines."

BellSimons also received the 2019 Crowning Achievement Award in recognition of outstanding growth year-over-year.

For more information about Mitsubishi Electric Trane HVAC US, visit www.metahvac.com.

NEMIC Announces Industry Awards

.

Fairfax, Va. – The National Energy Management Institute Committee (NEMIC) announced its annual Industry Awards, which recognize a local, training center, Sheet Metal and Air Conditioning Contractors' National Association chapter and other sheet metal organizations for leadership, commitment and innovation in the unionized sheet metal industry.

Southern California Sheet Metal JATC Local 105 near Los Angeles was recognized for its leadership in implementation and promotion of Mechanical Acceptance Test (MAT) certifications mandated under California Code of Regulations Title 24. Sheet Metal Workers Local 88 in Las Vegas is recognized for its commitment to the passage of statewide fire life safety legislation.

In California, training apprentices and journey people to certify in MAT allows members of the International Association of Sheet Metal Air, Rail and Transportation (SMART) Workers to grasp the work and hold onto it for now and into the future. To expand opportunities, the training center was opened to members from Local 206 in San Diego, which doesn't have the ability to conduct certifications, said Lance Clark, administrator for Local 105's training center.

Beginning this semester, apprentices are required to complete the training and certification for Mechanical Acceptance Test Technician (MATT) before they graduate. The largest hurdle is showing a sheet metal worker who isn't an air balancer they can do this, too, and keep work hours from going elsewhere.

"You don't have to be an air balancer," Clark said. "It's what we do every day. You're doing the work anyway. You may as well get credit for it. When you're teaching an apprentice sheet metal from the beginning, you may as well teach them this, too."

Training and certifying in MAT goes back to a mantra Clark shares with his apprentices: get as many certifications as you can, so you're never expendable. Well-rounded apprentices – and later, journey people – are an asset. When they are deciding who to lay off and who to keep, many times they choose to keep the workers with the most certifications, Clark said. "Contractors want workers with certification to allow them to bid that work," he added.

NEMIC and Sheet Metal Workers Local 88 leadership worked to pass legislation in Nevada to require fire and smoke damper mainte-

nance and testing of smoke and fire dampers and smoke control systems used for most commercial buildings. According to the bill, AB 297, the inspection, testing and maintenance of these fire life safety systems must be completed by a technician certified by the International Certification Board (ICB), through a program accredited by the American National Standards Institute (ANSI).

Nevada was the second state to pass statewide legislation. This spring, Washington followed suit as the third. Jeff Proffitt, business manager for Local 88, attributes the passage to presentations given by Scott Hammond, NEMIC director of research, and member Kennedy Sanders, a Local 88 instructor who works with fire life safety systems daily.

"Whenever you get something like this done it's a team effort, but it starts at campaign season, making sure all the candidates on both sides of the aisle know your causes," Proffitt said. "It can be done, and it's important to Republicans and Democrats. In the committees, it was a unanimous vote. Everyone was receptive to it."

Together, NEMIC and Local 88 worked together to educate building owners, who didn't understand the severity of leaving fire life safety systems unchecked. Implementation was set to begin in January of this year, but has been derailed due to the pandemic.

The National Energy Management Institute Committee (NEMIC) is a not-for-profit organization jointly funded by the Sheet Metal and Air Conditioning Contractors' National Association (SMACNA) and SMART, the International Association of Sheet Metal Air, Rail and Transportation

Workers (formerly the Sheet Metal Workers' International Association). NEMIC identifies opportunities, seeking to create or expand employment for SMART members and programs that assist SMACNA contractors.

For more information on emerging market opportunities in the sheet metal and air conditioning industry, contact the National Energy Management Institute Committee (NEMIC) at www.TABBCertified.org.

Carrier Redesigns Residential Site

.

Indianapolis, Ind. – Carrier has redesigned its residential website in order to enhance homeowner interaction points with the brand through new features that improve the online experience. The new website is an important step in Carrier's digital transformation as its residential business reinvents its holistic digital footprint. During this transformation, Carrier plans to make several upgrades and additions to its digital offerings including a complete revamp of consumer apps to offer a premium user experience to homeowners, as well as significant upgrades to channel technologies to help Carrier dealers and distributors more easily do business. Carrier is a part of Carrier Global Corporation (NYSE: CARR), a leading global provider of healthy, safe and sustainable building and cold chain solutions.

In addition to a complete redesign, Carrier has also added a number of features to the website that will allow users to interact with the brand in new ways including:

- 24/7 Chatbot customers can quickly get the information they're looking for with a chatbot that guides users to product information, Carrier experts for a quote, service or repair, technical support and warranty information.
- Online Product Personalization via a System Builder users can incorporate their specific heating and cooling needs in order to identify the product or system that's right for them.
- Prominently Displayed Ratings & Reviews – users can access real-world information from consumers on Carrier products and contractors.

To view the new site, please visit https://www.carrier.com/residential/en/us/.





12 ICN DECEMBER 2020 www.indoorcomfortnews.com

CEC Holds Pre-Rulemaking Workshops for 2022 Building Energy Efficiency Standards

Continued from Page 1

for residential and commercial buildings.

This switch to an all-electric baseline will increase demand for the installation of electric heat pumps (HP) for space heating HVAC systems, as well as electric HP water heating appliances and systems. CEC special advisor Bill Pennington, a long-time CEC staff member who has participated in many Standards updates, commented at an October 6 workshop that HP technology has the potential to significantly reduce carbon and greenhouse gas emissions for space heating and water heating in new buildings. However, he cautioned that HPs operate differently, "slow and steady," and not with instantaneous heat that many people are used to, and they need to run consistently over more hours to maintain the desired level of heating.

Pennington said, "We will need contractors and technicians who can do a good job installing these systems, and manufacturers and suppliers providing good products with an adequate supply for market

CAL SMACNA

Continued from Page 1

said Mike Debellis, a 2010

graduate of the Local 105

JATC. "We do a lot of differ-

ent projects, from high-profile

tenant improvement, remodels,

retrofit, new construction - the

programs are great for men and

women that are looking for op-

portunities to advance them-

that extends 30 years."

selves and pursue a career path

Those with a college degree

can discover how to use their

education in the trades. Once

list goes on. Apprenticeship

demand." He added, "We will also need more consumer instruction on the operation of these systems, and it will be important for market transition to get good buy-in from all parties.'

At the October 6 workshop the CEC provided analyses of proposed requirements for electric HP baselines for low-rise residential buildings and high-rise multifamily residential buildings. The HP baseline for low-rise residential buildings appears to be feasible and cost-effective with a significant effect on reducing carbon emissions.

The CEC also provided analyses at the workshop on the feasibility and cost-effectiveness of electric HP baseline options for several types of nonresidential buildings: small, medium and large office buildings; small, medium and large retail buildings; small restaurants; small schools; and warehouses. The switch of baseline modeling requirements from gas furnaces to electric HPs appears viable for some non-residential building types in some climate zones. It appears to be more viable for small

offices, small and medium retail buildings, small restaurants, and small schools. However, electric alternatives to gas boilers are more problematic for larger building

opportunities in the sheet metal in-

dustry by type of degree, interest or career options, like design engineer

on the site, students can filter

or financial controller.

The recruitment campaign also extends to the parents, school counselors, and other influencers in a student's life. Even if a student isn't actively looking for a career, it's possible someone they trust can guide them to choose a future for themselves among one of the industry's many diverse career specialties. In the coming months, each target audience will be exposed to Choose Bigger California messaging through various digital platforms.

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The CEC has received many written comments in support of all-electric building standards to address climate change and carbon emission reductions. However, the CEC docket log also has many written comments from gas suppliers, vendors of gas heating appliances, and from users of gas appliances in favor of continuing the use of gas products. Public comments have particularly supported the continued use of propane, which is a major source of heating in many rural areas and cooler mountain locations where electric grid service may be less available or less reliable.

Other areas of proposed changes being considered related to HVAC and refrigeration systems include:

• Nonresidential building air distribution proposals: high performance ducts, duct leakage and testing; fan power budgets and calculations; and a fan energy index to encourage building designers to select fans that operate at closer to peak efficiencies.

- Nonresidential building HVAC control proposals: definitions and requirements for multi-zone occupancy sensing zone controls for space conditioning systems, a new definition and new prescriptive requirements for dedicated outdoor air systems (DOAS), and revisions related to variable air volume (VAV) deadband airflow and exhaust air heat recovery.
- Warehouse and commercial refrigeration system proposals: design and control requirements for transcritical CO2 refrigeration systems, minimum air-cooled condenser sizing and specific efficiency for packaged refrigeration systems, evaporator specific efficiency, ac-

ceptance testing for commercial refrigeration systems, and automatic door closers.

The CEC is also proposing new residential battery storage system requirements that would include electrical panels with compatible amperage levels to accommodate solar PV systems, electric vehicles and battery storage for backup

General information on the Title 24 Building Standards and links to information on current proceedings can be accessed at the following CEC webpage: http:// www.energy.ca.gov/title24/

All docketed filings on the 2022 Building Energy Efficiency Standards proposals, proceedings, and public comments are available at the following webpage: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-BSTD-03.



Technical Training

Growing Green Technicians Part 134: Elbows, Splitters, Turbulence

By Jim Johnson Contributing Editor

In severe summer conditions, technicians often find themselves dealing with complaints that a system is just not cooling enough to keep the building at a comfort level of near 75-degrees and 50% relative humidity while maintaining sufficient air flow throughout the building. And in severe winter conditions, customers often report that while some areas of the building are comfortable, other areas are too warm, or a particular room in a structure is always too cool.

There are several aspects for technicians to consider regarding these situations, such as balancing by adjusting supply registers, or testing for proper temperature rise in the heating mode.

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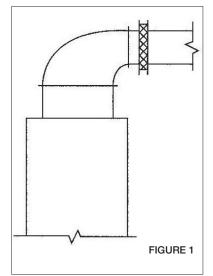
Residential & Commercial HERS Testing

Blower Door Testing & QII

Mechanical Acceptance Forms

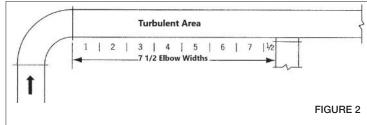
When looking deeper into the situation, though, technicians taking a green approach to evaluating system performance can also consider not just the operation and balance of the supply duct system itself, but whether the original design of the distribution system may have been affected by unexpected construction situation. **Figure One** shows a simple illustration of an air handler with what is known as a standard elbow.

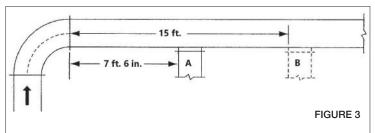
This is a good installation because of two factors that are considered regarding elbow design. These factors, known as CR (Curve Ratio) and RR (Radius Ratio), explain the rate of turn in an elbow, and from a numbers perspective it's generally accepted that an elbow with a curve ratio of 0.5 and a radius ratio of 1.5 will promote proper air flow



through the supply duct system....at least as proper as it can be.

The bottom line on any elbow is that even if it's as good as it can be, it doesn't perform perfectly when it comes to allowing air to change direction. As **Figure Two** shows, there will always be some turbulence created when air exits the discharge





side of an elbow.

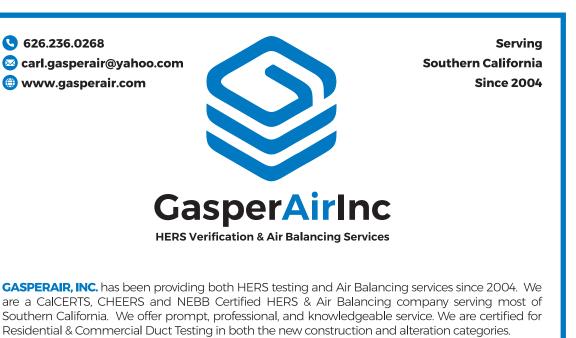
This illustration shows what happens in a segment of a straight duct run after the air is delivered from the elbow. The term that relates to this type of turbulence is AR (Aspect Ratio), which describes a given amount of friction loss in an elbow or a straight run of duct based on the width and depth of a fitting or section of ductwork.

It is generally accepted that a ratio in the range of 0.75 to 3.0 will not adversely affect the flow of air. However, what this illustration also shows is that even if this system is operating properly and according to design, a take-off has to be a minimum distance away from the elbow discharge in order to deliver air properly to a branch. In this case, shown as 7 ½ elbow widths, which in this example is 15 feet in length.

Getting back to the point: an

unexpected construction situation, if a take-off had to be installed closer to the elbow discharge, that branch duct would not deliver supply air properly, which leads us to the installation of a splitter in the elbow. As **Figure Three** shows, this modification to the fitting would allow us to position the take-off as required according to the construction restrictions, closer to the elbow, and taking this step would promote proper air flow through the branch

The end result of modifying the elbow with a splitter installation would be that a balance of air flow in both the cooling and heating modes could be achieved, ensuring that the equipment would operate efficiently and ensure the desired comfort level in the building.



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Project Spotlight

Owens Corning Air Distribution Group Completes HVAC Retrofit Pilot

Owens Corning Air Distribution Group is expanding its duct inspection and retrofit program following a pilot initiative in the South and Southwest. The "duct retrofit opportunity" pilot with HVAC contractors launched in Q1 2020 and engaged a cohort of contractors to evaluate a whole-home approach to HVAC sales. Based on response in test markets, Owens Corning is expanding its residential HVAC contractor cohort.

Inspired by data on energy efficiency and rising codes, the duct retrofit program was developed to help contractors capture untapped opportunities within their existing book of business. Cohort member Charlene Ierna, owner/president of IERNA's Heating & Cooling in the Tampa Bay area credits the program with adding



An Owens Corning duct retrofit installation in a residential space.

over \$100,000 in revenue based solely on the Owens Corning insulation upgrade service. "We're already in the customer's home; they've have called us because ultimately, they are not comfortable. Many times we are discovering that perhaps the insulation is not adequate, or they have a hole in their duct board, or both. As a result, it

Continued on Page 16

CERTIFICATIONS

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NEBB (#3465)

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Heating Products and Tools & Test Instruments

Bosch Tool Corp. GTC400C



This lightweight product from **Bosch Tool Corp.** is designed to give professionals the ability to easily and accurately measure, visualize, and analyze thermal variance across diverse jobsites.

The product includes a 3.5-inch, 19,200-pixel color display, giving professionals the ability to identify and locate issues while assessing workspaces quickly and accurately. The ergonomic controls are simple and intuitive, with a trigger to quickly snap workplace images and back buttons to provide one-touch operation. It is capable of capturing thermal images at 160x120 resolution. The device's thermal measurements are accurate to ±4°F, and the camera can cover a range from 14°F to 752°F.

An adjustable temperature scale also ensures meaningful visualization, regardless of environmental factors. Users can select from a red/blue or black/white color scheme to suit their needs. In addition to the thermal camera, the tool also features an integrated visual camera. It has built-in memory for 600 images and the MicroUSB port lets users upload images to their computer using Bosch's free GTC transfer software.

More information: www.boschtools.com.

Crescent APEX Vortex

.

While drills remain a tool bag standard, tradespeople are increasingly using impact drivers, and accessories designed for impact driver use are growing three times faster than those designed for nonimpact use. In response, **Crescent APEX** introduces Vortex Impact Power Bits and Accessories to help electricians, plumbers, HVAC techs, construction pros and MRO specialists better perform high-frequency, torque-demanding screw, nut and socket driving.

Impact drivers work best when used with accessories rated for impact use. Vortex Impact Power Bits, Impact Socket Adapters and Magnetic Nut Setters are 100% impact rated.

As with any high-frequency tool, durability and ease-of-use matter. Vortex Impact Power Bits and Accessories feature the Vortex Impact Torsion Zone, with unique steel formulation and heat treatment providing 50 times the life of standard bits. They feature optimized tip geometry for exact fastener fitment to eliminate cam-out and promote fastener retention, as well as laser markings for long-lasting, quick and easy size identification.

Crescent APEX also offers the virtually indestructible alphaCASE storage container to organize Vortex Impact Power Bits, Impact Socket Adapters and Magnetic Nut Setters.

More information: www.crescenttool.com.



Danfoss LX Kits

New **Danfoss** LX Kits for floor warming are designed to make it even easier to install electric heating in new or renovated flooring. The kits are a complete solution, including a Danfoss LX floor warming mat, LX205T Touch Thermostat,



and Little Buzzer continuity alarm.

Suitable for installation under tile, stone, and laminate floors in both residential and commercial applications, LX floor warming mats radiate heat from the floor for even, gentle room heating without the dust and debris of conventional heating systems. The mats are designed to be easy to install, with a pre-applied heating cable and dual-adhesive backing that requires no fastening, reducing installation time by up to 70 percent. LX mats are also backed by a genuine 20-year warranty

The LX205T Thermostat is a programmable controller with large, backlit, touch-screen display designed exclusively for control of Danfoss LX floor warming mats. The easy-to-program thermostat makes it simple for users to quickly set and control the heat radiated from their floors, while also monitoring energy consumption.

The Little Buzzer from Danfoss is a continuity alarm that further simplifies the installation process by monitoring the Danfoss heating mat and sounding an alarm if heating elements are cut or damaged. This allows for easy repair, if necessary, before the floor coverings are laid.

"The new LX Kits take the best of our already easy-to-install electric heating line, and combines them into a single kit," said Ian Levergood, sales manager, North America, for Danfoss Heating.
"LX Kits really take the guess work out of product selection – making them a quick, simple and affordable

solution for contractors wanting to increase property value through clean heat."

The LX Kits for floor warming are available with LX mats ranging in size from 10 to 145 square feet (coverage), and in both 120V and 240V formats.

More information: www.dan-

Fieldpiece Instruments TC48 & JL3LC



Fieldpiece Instruments,

HVACR tools and test instruments specialist, announces the launch of the largest jaw pipe clamps for the HVACR industry, the wired TC48 and the wireless system JL3LC. With an unprecedented 4 1/8" jaw opening the new pipe clamps are perfect for commercial and refrigeration field service professionals and also serve the residential market. The clamps, sporting a ³/₄" to 4 1/8" range, can be used on a wide variety of pipe sizes, especially in large commercial and refrigeration applications.

The new pipe clamps incorporate Fieldpiece-patented Rapid RailTM Sensor Technology making the response time to get an accurate temperature reading merely seconds, thereby enabling the HVACR pro to be more productive. With this proprietary technology, temperature readings are not affected by ambient air as the thermocouple is thermally isolated and the clamps will perform immediate reaction to changes in system adjustments as the technician is working. This can

greatly facilitate taking a superheat and/or subcooling measurement on most commercial refrigeration appliances or commercial/residential air conditioners.

"It may not seem like a big problem, but field service professionals have a tough time getting good readings on larger pipes. Fieldpiece offers these two new solutions to that problem with our large 4 1/8" jaw-opening clamps," said Tony Gonzalez, Fieldpiece Technical Training Manager. "Other pipe temperature tools on the market use straps or tape to hold the thermocouple on the pipe. Place our rugged pipe clamps and they will stay put making it easy to get instant, accurate readings."

The versatile clamps fit virtually anywhere they need to and offer a secure connection even on wet or damp pipes. They are compact, and have an easy-to-open design that allows for quick single-handed placement.

When used with the Fieldpiece Job Link mobile app, the JL3LC makes it easy to record and share data. Their compatibility with Job Link means that the data can be displayed in a professional report to be emailed to the customer or home office. In addition, the JL3LC leverages a strong wireless system. Measurements are sent up to 350' away directly to a mobile device with the Job Link App, and the JL3LC also works seamlessly with the Fieldpiece SMANs, models SM380V and SM480V. The wireless signal is able to penetrate even the thick walls of walk-in coolers and freezers.

Included with the TC48 Large Pipe Clamp Type K Thermocouple is a long 6' kink-free cable and an Emery Cloth for Cleaning Pipes. The Job Link® System Premium Large Pipe Clamp Probe includes the probe, batteries, and an Emery Cloth for Cleaning Pipes.

More information: www.field-piece.com.

Owens Corning Continued from Page 14

made a lot of sense to partner with Owens Corning since this is what they do," says Ierna.

The pilot introduced a 12-point attic inspection to evaluate ductwork, attic insulation levels and inform improvements that would support air quality, help improve energy efficiency, and enhance occupant comfort. Energy Star data reports an average home loses up to 30% of air that moves through

the duct system due to leaks, holes and poorly connected ducts. And in addition to wasted energy dollars, poorly sized or leaky ductwork also places additional stress on the HVAC equipment.

The program is attracting homeowner interest at a time when homeowners are increasingly interested in the quality of their indoor environment. Program manager Lauren Scott stated, "The response from HVAC contractors who piloted the program in test markets supports our hypothesis that homeowners are concerned about

the threat that dust and debris from unconditioned spaces – such as the attic - pose when contaminants infiltrate the conditioned space within a home."

From a contractor's perspective, the duct retrofit program provides HVAC contractors with an opportunity to increase off-season sales, add to the value of each job and differentiate their businesses offerings in the marketplace. It also helps to flatten the labor curve throughout the year. By discussing the advantages of the retrofit service to homeowners during peak

season, contractors can proactively schedule follow-up appointments when the busiest season subsides, keeping their techs busy during shoulder season."

The program is particularly well-suited to homes with duct-work in the attic space. This area is typically easy to access and does not require the homeowner to take additional efforts.

"Because ductwork is out of sight, it's easy to overlook the influence it has on comfort and efficiency. But when consumers realize the duct network in their home is responsible for driving air to each room, they realize the impact that ducts have not only on comfort but also on the performance of their investment in a high-efficiency HVAC system." Ierna says.

Following completion of the pilot, Owens Corning is investing in additional resources to support the initiative, including materials to help contractors market the service in their areas. To learn more, visit owenscorning.com/retrofit-contractor.

Heating Products and Tools & Test Instruments

Klein Tools Tradesman Pro Kneeling Pads



Klein Tools, for professionals since 1857, introduces the Tradesman Pro Kneeling Pads, offering two convenient sizes to help professionals stay comfortable even after long hours on tough jobsites. The standard model is 21 inches wide by 14 inches long while the large model is 28 inches wide by 16 inches long. Both models feature 1-inch thick NBR foam to provide knee protection designed to fight fatigue, augmenting Klein Tools' existing personal protection and safety product offering.

Features include:

- 1-inch thick closed-cell foam (NBR) provides ultimate knee protection
- Resilient kneeling pad bounces back to original form after use
- Built-in handle allows for convenient transporting or storing
- NBR is resistant to petroleum, silicone-free and waterrepellent
- Designed to prevent fatigue when kneeling or standing
- Indoor or outdoor use; hand washable
- Two sizes available: Standard (Cat. No. 60135)
- and Large (Cat. No. 60136)
- Chamfered safety edge with orange stripes provides visual and tactile awareness of edge (model 60136 only)

"Working long, demanding hours on the job can take a toll on a tradesperson's body," says Linda Rolfe, senior product manager at Klein Tools. "Klein Tools' new Tradesman Pro™ Kneeling Pads feature durable, resilient NBR foam to provide the knee protection and comfort needed to prevent fatigue. We offer two sizes to help professionals find the personal protection which best meets their jobsite needs."

More information: www. kleintools.com/new-products.

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Napoleon HOMESHIELD



The HOMESHIELD gas furnace line from **Napoleon** includes Phillips UV-C technology that eradicates viruses and other airborne pathogens. This is the same technology used in hospitals, and its germicidal UV-C light breaks down DNA, damaging and killing viruses and bacteria. It is easily installed

and filters the air inside the furnace cabinet. The furnace lamp is available in standard grade sterilization level.

This purification system is able to sterilize the air, stopping the spread and propagation of harmful viruses, molds, pet dander, bacteria, and allergens from passing through the HVAC system into a home. The light is installed directly into the cabinet of the furnace and runs silently 24/7.

More information: www.napoleon.com.

YELLOW JACKET YJACK

Ritchie Engineering Company, Inc., the leader in service tools for



HVAC/R professionals and manufacturer of **YELLOW JACKET** products, is proud to introduce the YJACK Series of Low Energy Bluetooth (BLE) sensors.

These sensors include a temperature clamp, temperature strap, psychrometer (YJACK DEW) and repeater/range extender (YJACK PATH). All YJACK products are the perfect complement to the

P51-870 TITAN series of digital manifolds, or they can operate independently. They can communicate directly with any P51-870 TITAN, a smart device or BOTH.

The user can measure system pressures and temperatures, while monitoring the temperature, relative humidity, wet bulb, and dew point at the supply and return registers.

The YJACK PATH allows for those measurements to be taken up to 2400 feet away from the P51-870 TITAN and Smart device. The YJACK sensors are sold separately or in two kits.

More information: www.yellowjacket.com.

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Plasma Air Ionization Proven to Reduce Coronavirus Surrogate by 99% in Independent Testing

Successful certified testing in a Spanish building facility proves virus-destroying

Testing carried out by Tayra and backed by the Spanish Ministry of Defense Biological Laboratory in Spain has proven the effectiveness of Plasma Air Ionization technology in the reduction of MS2 Bacteriophage, a surrogate for SARS-CoV-2 (COVID-19), in indoor environments.

There is mounting research to suggest that clean, disinfected air plays a vital role in preventing the spread of SARS-CoV-2, the virus causing COVID-19.

While respiratory droplets are considered the primary transmission route, aerosols are being considered by many health authorities as a possible mode of infection transmission along with surface contact. This suggests that viral particles can remain suspended in the air for long periods and can be inhaled.

The research tests were conducted in a Madrid hotel converted into a residence and confinement center for medical staff during the pandemic. The experiments took place in simulated ICU hospital rooms within the hotel. This environment was explicitly designed to test air ionization on small aerosolized viral particles. The laboratory analysis was carried out at a nearby operations center of the Spanish Ministry of Defense from May 4 to May 14.

The Plasma Air ionizer was chosen to suit the specific airflow and installed in the entrance to the fan coil unit of the supply Air Duct test space. The bacteriophage MS2 was then nebulized into the test space. During the two distinct phases of the test, the supply air entering the test room was ionized using Plasma Air's bipolar ionization system. In contrast, during the second phase, the supply air into the room was untreated. A reduction of approximately 2 log units of the Bacteriophage was obtained in the air that was ionized by the Plasma Air system. This corresponds to a 99% reduction after only 10 minutes of exposure to ionization.

The research project was guided and coordinated by Plasma Air's long-term business and technical partner in Spain, Tayra, a specialist

in air purification. In addition to the Spanish Government ministries, the experiments also involved academics in the fields of engineering, microbiology, and computational fluid dynamics, along with Spanish Government appointed testing labs.

The tests also included using manikins to simulate ICU patients. The manikins were equipped with specialized filters to measure the amount of Bacteriophage that was being breathed in with and without air ionization. The levels of MS2 Bacteriophage and associated particle counts were measured using Electrical Low-Pressure Impactors, and swabs were taken from walls and surfaces for analysis. The level of airborne MS2 Bacteriophage was measured using the Spanish authorities calibrated equipment for detecting biothreats. Results from this test showed a reduction in the order of 0.70-0.85 log pfu/cm2 corresponding to nearly 80% reduction in surface MS2 Bacteriophage after 10 minutes between the test with and without ionization.

"Coronavirus is a global crisis and nowhere more so than inside built environments such as transport hubs and work environments," explains

Chris Russell, Vice President of Plasma Air. "The effective elimination of airborne virus is a major breakthrough that can make workplaces, transport, entertainment and educational facilities safer for employees, commuters and students."

"We were very motivated to facilitate these critical tests at our laboratories here in Madrid, and we are extremely impressed by the results achieved," Lieutenant Coronal Juan Carlos Cabria, the Technical Director of the biosecurity laboratories of the Ministry of Defense, stated. "We are extremely grateful to the team of Scientists, Engineers, Microbiologists and Academics who have worked tirelessly here for the last three weeks voluntarily to achieve this incredible and important result in the battle against coronavirus."

Air ionization works through the reaction of negatively and positively charged ions. The ions attach to airborne pathogens, such as viruses causing a chemical reaction on the cell membrane's surface. This deactivates the viruses, rendering them harmless, so

they can no longer spread or cause infection.

Plasma Air's ionization system used during the Spanish trials are available commercially on a worldwide basis from a network of distributors and are used in offices, hotels, transport hubs, schools and hospitals, as well as in the Los Angeles Airport (LAX) and the new Doha and Riyadh metro systems.

Plasma Air is the leading innovator in indoor air quality by manufacturing HVAC and air purification products that result in healthier, more productive indoor environments in institutional, commercial, residential and industrial applications. The Plasma Air HVAC purification systems use highly efficient bipolar ionization technology to kill harmful airborne viruses and neutralize indoor air pollutants. Plasma Air systems have been proven in thousands of applications to provide the highest level of air quality improvement for airports, train systems, schools, hotels, casinos, arenas, offices and homes.

Visit www.plasma-air.com for more information.



Carrier Infinity Whole Home Air Purifier Helps Eliminate Coronavirus in Filtered Air

Testing by the University of Colorado Department of Civil, Environmental, and Architectural Engineering found that the Carrier Infinity air purifier with Captures & Kills technology inactivates 99% of coronavirus trapped on the filter. Other third-party testing has concluded that this technology also inactivates 99% of select viruses

Zonex Systems GEN V — A Revolutionary New Zoning System

and bacteria trapped on the filter, such as a common cold virus surrogate, Streptococcus pyogenes, and human influenza.

"As people continue to spend more time at home, it's important to have technology to help make indoor environments healthier and safer," said Justin Keppy, president, NA Residential & Light Commercial, Carrier. "By removing these pathogens, including coronavirus, from the air it filters, the Infinity air purifier gives families peace of mind that their loved ones have a cleaner and healthier home in which to live, learn, work, and play."

The University of Colorado's testing was conducted with a murine coronavirus that is closely related to

California & Hawaii

HVAC Manufacturers Rep:

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Joe Calabretta

Danny Paice

Janell DiResta

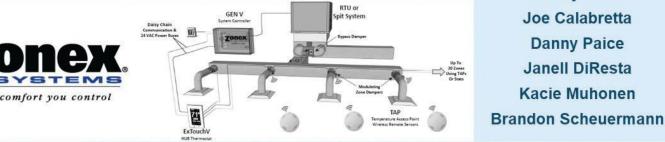
Kacie Muhonen

the human coronavirus SARS-CoV-2, which causes CO-VID-19. The murine pathogen surrogate allowed testing to be completed safely.

Carrier Global Corporation is an American corporation based in Palm Beach Gardens, Fla. Carrier was founded in 1915 as an independent company manufacturing and distributing heating, ventilating and air conditioning (HVAC) systems, and has since expanded to include manufacturing commercial refrigeration and foodservice equipment, and fire and security technologies.

As of 2020, it was an \$18.6 billion company with over 53,000 employees serving customers in 160 countries on six continents.

For more information, visit www.carrier.com.



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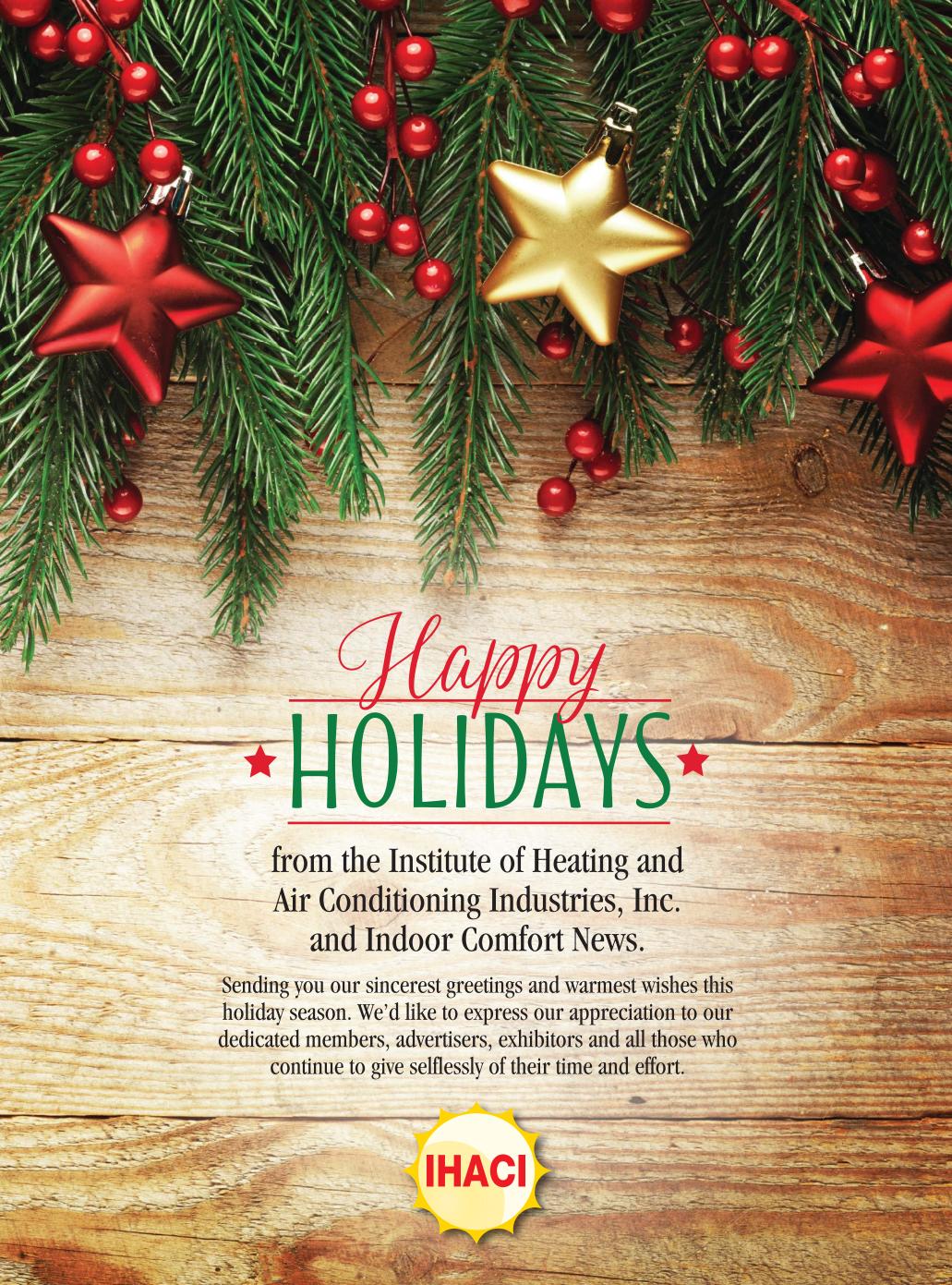
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Troubleshooting

A Chilly House

By Jim Johnson Contributing Editor

In this troubleshooting situation the equipment is a Rheem RRMA-A048JK10X gas pack, and the resident has called for service because the building "isn't warm at all". After confirming the conditions reported by the customer and checking to be sure that the filter is clean, you perform an initial check of this rooftop unit, and note that the fault code light on the printed circuit board shows a sequence of three flashes.

When you confirm the code as "High Limit Switch protection device open" you take the next step of checking the wiring diagram, a photo of which is shown in **Figure One**.

After disconnecting the power supply and confirming that the MRLC (Manual Reset Limit Control) located in the burner compartment is not tripped open, you take the next step and test the LC (Limit Control) located in the blower compartment. When you disconnect the wiring and check this control with an ohmmeter, it shows continuity.

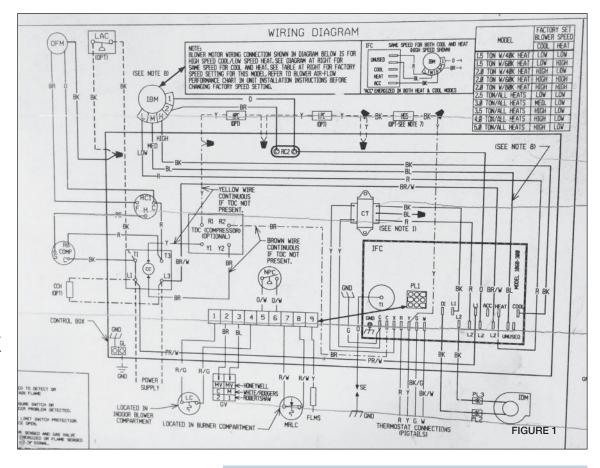
As your next step you replace the service panels and restore the power supply. You observe that the Draft Inducer Motor and Indoor Blower Motor starts. Then, after an appropriate delay, the ignition system functions, and the burners ignite. Allowing the cycle to continue and monitoring the operation of the equipment, you note that after several minutes of run time, the burners turn off and the fault code light again shows 3 flashes. When you disconnect the power supply, remove the blower motor access panel, and check the LC, your meter shows OL. After disconnecting the power supply and waiting for 10 minutes, your follow-up check of the LC shows continuity.

Based on the results of your testing, you use a dual port manometer to perform a static pressure test by checking directly at the return air inlet of the equipment and directly at the supply air outlet. Your manometer shows a TESP (Total External Static Pressure) of 1.2" w.c.

Your troubleshooting question: What is the next step you need to take in servicing this equipment?

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."

Answer to Last Month's Question

The fundamental answer to this problem is that there was no accumulator installed on the suction line of the system, resulting in flood-back to the compressor during the defrost mode. This caused the compressor to kick off on overload, and the delay in a re-start resulted in excessive temperature rise inside the box.

The winner of last month's Troubleshooting is: *John Meursinge, Sierra Madre, Calif.*

Indoor People



CHRIS SCHULKEN

CoolSys announced it has appointed **Chris Schulken** as chief operating officer (COO). As COO, Schulken oversees day-to-day administrative and operational functions at CoolSys and serves as a member of the executive management team.

"I'm thrilled to have Chris join the CoolSys team and we are fortunate to have someone of his caliber in the role of COO," said Adam Coffey, CEO at CoolSys. "Chris brings hands-on experience to his position. He has an engineering background and a great track record as a collaborative leader who aligns operational practices with company strategy to achieve great results."

Originally from the New York area, Schulken began his career working on ship HVAC systems as a cadet learning to be a third assistant engineer while attending Maritime College, State University of New York. After earning a B.E. in electrical engineering, he worked as an engineer at Techmatics Inc. in Washington, D.C. before joining Carrier Corporation, where he held several positions of increasing responsibility on the East Coast. Schulken returned to Washington D.C. during these years, where he earned his M.B.A. from George Washington University. He subsequently joined York International, where he oversaw multiple regions across the U.S. When York was acquired by Johnson Controls Inc. (JCI) and later when JCI merged with Tyco, he

played an instrumental role in these integrations. Once the Tyco merger was complete, he assumed responsibility for the Northeast Territory of JCI, which was a \$1.7 billion business at that time.

"I'm looking forward to working with the CoolSys team during this time of continued nationwide expansion," Schulken said. "As a servant leader, I'm focused on all of the voices on my team, particularly those in the field with our customers. Together, we'll work towards the operational and growth objectives of the company."

Daikin announced that **Taka-yuki "Taka" Inoue** will lead sales, marketing and distribution for the Daikin, Goodman, Amana and Quietflex brands in his newly created role as Executive Vice President and Chief Sales and Marketing Officer (CSMO) of Goodman/Daikin North America. Goodman Global

Group, Inc. and its subsidiaries are



TAKAYUKI INOUE

members of Daikin Group, the largest manufacturer of HVAC systems and refrigerants in the world.

"Taka's strong leadership and energy will accentuate ongoing digital sales enhancements and strong product offerings across our brands as we further build a world-class customer experience," CEO Satoru Akama said. "Taka has remarkable talent on his teams and outstanding support to deliver on the current and future needs of our

customers."

Inoue has served as Executive Vice President and President, Dai-kin Business Unit since 2016.

"Our customers are at the center of everything we do, and we want to deliver on their vision for a great customer experience," Inoue said. "To accomplish this, our people and our culture need to align as closely as possible to our customers, and we need to work every day to deliver on the promise of our brand portfolio. This means creating levels of value that are uniquely recognized in the marketplace, providing distinct products and services that have a lasting impact on all we serve, and bringing innovative capabilities to market that make doing business intuitive and profitable for our customers."

Akama made several announcements that coincide with Inoue's transition to his new role.

Senior Vice President North America Daikin Business Unit Sales & Distribution, Doug Wid-

20 ICN DECEMBER 2020

Indoor People

enmann has been named Senior Vice President and President, Daikin Business Unit and will report to Inque

"Doug has supported Taka for many years and will seamlessly continue to expand the Daikin brand in North America," Akama said.

Senior Vice President and President, Goodman Business Unit, Brad Snyder, will retire from his position but continue to serve as an advisor to the company. Ardee Toppe, who is currently Senior Vice President and President, Quietflex and PTAC Business Unit, has been named as the Senior Vice President and President, Goodman, Quietflex and PTAC Business Units and will report to Inoue.

"We wish Brad and his family well and thank him for his outstanding sales and executive leadership roles, and his significant contributions to the sustained growth of the Goodman Business Unit over the last 13 years," Akama said.

"We are excited and confident Ardee can carry forward the great momentum the Goodman Business Unit has built up under Brad's dedicated leadership," Akama said.

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STEVEN R. SCARBROUGH

HVAC industry veteran **Steven R. Scarbrough** has been named senior vice president and general manager of Air Conditioning Technologies for LG Electronics USA. Scarbrough, who brings nearly two decades of experience to his new role at LG, will be responsible for leading LG's commercial, residential, and applied air conditioning business in the United States.

Based at LG's U.S. air conditioning headquarters in Alpharetta, Ga., Scarbrough reports to Senior Vice President DJ Kang, who leads the LG Electronics Air Solutions division in the U.S. Scarbrough succeeds Kevin McNamara, who has retired from LG.

Scarbrough joins LG from Mitsubishi Electric Trane HVAC U.S., where he has held a variety of key roles over the past decade, most recently as vice president overseeing its U.S. residential business. Previously, he was President of HVAC distributor Climatic Comfort Products. He brings strong sales leadership capability, industry experience and expertise in wholesale distribution sales management to LG.

"Steve's broad experience in the residential and commercial air conditioning sector will take our vision to the next level," said Kang. "His market expertise and focus on the customer and strategic growth will help strengthen our position as an HVAC industry innovator."

Scarbrough added, "LG has made tremendous inroads over the past decade with an incredible leadership team and has a well-defined vision for bringing groundbreaking HVAC products and controls to market. My focus is to build on this momentum to help the business achieve its full potential while further increasing recognition of the powerful reputation the LG brand has created in the HVAC industry."

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Oatey Co. announced the promotion of **Dalithia Smith**, SPHR, CCP, SHRM-SCP, to vice president and chief human resources officer.

Smith joined Oatey just over two years ago as vice president, human resources. With more than 20 years of experience in human resources leadership, she has expertise in all areas of human capital management, talent acquisition, and overall HR strategy. Prior to joining Oatey, she spent 10 years at Lincoln Electric, most recently as vice president, human resources, Americas Welding.

As chief human resources officer, Smith will continue to lead all HR functions at Oatey and will also have responsibility for environmental, health, safety, and security, as well as diversity, equity, and inclusion. She continues to report to Neal Restivo, CEO.



DALITHIA SMITH



MARK HUDOBA

REHAU announced the appointment of **Mark Hudoba** to vice president of building solutions for the Americas region. Hudoba will lead the business division and drive growth of the company's plumbing and mechanical product lines including radiant heating/cooling, preinsulated piping, geoexchange, snow melting, plumbing and municipal water service.

Hudoba replaces Mike Dietrich, who will leave REHAU during January 2021. Based at the company's Americas headquarters in Leesburg, Virginia, Dietrich has capably served in various roles throughout his 20-year career with REHAU. Beginning as a marketing specialist, Dietrich rose to product manager of radiant heating/cooling for several years before being promoted to vice president in 2013, initially responsible for North America and then for the entire Americas region.

"On behalf of our building solutions team, I would like to recognize Mike's significant contributions to REHAU. His leadership and commitment to building long-term relationships with employees and customers has been vital to securing our strong reputation and position in this sector," said Thomas Troeger, chief sales and marketing officer of REHAU Americas. "We wish Mike well in his future professional endeavors."

Hudoba has worked in the building materials manufacturing industry for 25 years, with a proven track record in market-share growth and profitable sales for established and new product lines. Most recently, he was director of product management for building materials with the offsite construction start-up Katerra. Prior to his role at Katerra, Hudoba was director of product management and senior director of strategy and innovation at Uponor North America, where he led cross-functional teams through strategic business planning, product development and innovation.

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Comfort Supply announced that **Steve Foutch** has joined the company as executive vice president (EVP). Foutch has more than 29 years of experience in the HVAC industry, both residential and com-



STEVE FOUTCH

mercial.

As EVP, Foutch will oversee all seven Comfort Supply locations in Middle Tennessee as well as the company's commercial department within the corporate office. His other responsibilities include developing plans and strategies for business development, managing customer and vendor relationships, coordinating sales training programs, and overseeing branch managers.

Foutch previously worked at Lennox Industries. He joined Lennox in 2004 as a regional business manager and was promoted to district manager in 2006. He was named zone manager in 2009 and served in that position for 11 years, overseeing 12 of the company's distribution locations. During his time at Lennox, he received several awards, including Zone Manager of the Year in 2010 and 2019.



Help Wanted



Institute of Heating and Air Conditioning Industries, Inc. (IHACI) Commercial HVAC **Instructors Wanted**

IHACI is looking for qualified Commercial HVAC/R/SM instructors to join its education team. These are evening classes (typically 4 nights/4 hrs. per night.) Locations: Chatsworth, Downey, Irwindale, San Diego, Stockton, and Tulare, CA. We offer competitive hourly rates, mileage reimbursement, hotel/ meal accommodations when needed. Previous training experience very helpful.

HVAC/R/SM disciplines -Candidates should indicate all applicable areas of expertise.

- HVAC/R/SM Industry Certifications
- Commercial Components and Applications
- Boilers
- Chillers
- Water Towers
- Refrigeration Systems
- Water Source Heat Pumps
- Fan Coils & Air Handlers

Help Wanted

- 1. Instructors should have a minimum of twenty (20) years of actual field experience in the HVAC/R/SM industry.
- 2. Instructors should have recognized HVAC/R/SM industry certifications.
- 3. Instructors should have the ability to teach face-to-face, HVAC/R/SM material as determined by the IHACI Education Committee (typical 80 to 160 seminar attendees).
- 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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 - Expense reimbursement
- Medical, dental, disability, 401K, life, and more



Company Overview

The R.E. Michel Company was founded in Baltimore, Maryland in 1935 as a supplier

Help Wanted

to the home heating oil burner industry. Still family owned and operated, we have grown to be one of our nation's leading wholesale distributors of HVACR equipment, parts and

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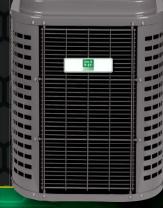
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