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MARCH 2024

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NEWS

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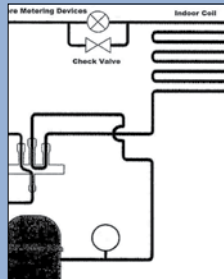
THE WEST'S LEADING MONTHLY NEWSMAGAZINE FOR THE AIR CONDITIONING, HEATING, REFRIGERATION, SHEET METAL AND VENTILATING INDUSTRIES



Editorial Focus

What's new? What's improved? Find out here as ICN takes a look at the latest offerings in Tools and Test Instruments.

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Troubleshooting

Your role in this month's troubleshooting situation is providing a second opinion on a failed compressor diagnosis.

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Case Studies

Green initiative gains momentum among hotel franchises.

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State Confirms New Energy Commissioner

Noemí Otilia Osuna Gallardo becomes first Latina appointed as CEC head.



The California State Senate has voted to confirm Commissioner Noemí Otilia Osuna Gallardo's appointment to the California Energy Commission (CEC) by Governor Gavin Newsom. Gallardo is the first Latina appointed as a CEC commissioner.

The Governor appoints, with Senate confirmation, five commissioners to staggered five-year terms. The commissioners must come from and represent specific areas of expertise: law, environment, economics, science and engineering, and the public at large.

The Senate voted to confirm Gallardo's first term as the CEC member with legal expertise. Gallardo serves as the lead commissioner for the siting of power plants through environmental certification processes and clean energy projects through the new opt-in certification process. She is also the lead commissioner for equity and environmental justice, advancing these principles through

programs like the Disadvantaged Communities Advisory Group and the Justice, Access, Equity, Diversity, and Inclusion Initiative.

"As a California native, I am honored to serve my state in this role to contribute to helping ensure Californians can live with dignity, have improved health outcomes, and have opportunities to prosper," she said. "I am also thrilled to partner with my fellow commissioners, staff, peer agency colleagues, and especially tribes

Continued on Page 12

California News

CEC Approves \$9 Million for Partnership to Provide Assistance on Heat Pump Installation

By Ted Rieger
Northern Calif.
Correspondent

To assist with achieving California's goal of installing six million heat pumps in California by 2030, the California Energy Commission (CEC) approved a \$9 million contract to the Building Decarbonization Coalition to manage a public-private partnership to provide consumer technical assistance, education and outreach to assist Californians in leveraging federal Inflation Reduction Act (IRA) incentives and tax credits to decarbonize homes and install heat pumps.

The contract funding was authorized by state legislation, AB 102, passed as part of the Budget Act of 2023. The CEC is managing the state contract, approved at a CEC Business Meeting January 24, 2024. During a presentation to CEC



California's greenhouse gas reduction strategy includes the installation of six million heat pumps by the year 2030.

commissioners at the meeting, CEC staff member Bryan Early provided background. "As part of California's greenhouse gas reduction strategy, in July 2022, Governor Newsom established a goal that called for installation of six million heat pumps in California buildings by 2030 and called for a minimum of 50 percent of associated incentives to be provided in

low-income and disadvantaged communities," Early said. He explained, "This \$9 million contract would establish a heat pump (HP) public-private partnership, the purpose of which is to accelerate the equitable adoption of building decarbonization technologies in Califor-

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for more information.



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CALIFORNIA



Fieldpiece Partners with SkillsUSA for Scholarships

Orange, Calif. – Fieldpiece Instruments, a leader providing cutting-edge HVACR tools and test instruments for over three decades, announced the launch of its third annual #MasteroftheTrade Scholarship. Fieldpiece will distribute \$25,000 in scholarship funds in 2024, with the support of SkillsUSA, which will collaborate on the program's administration. The initiative underscores Fieldpiece's continued commitment to uplifting the HVACR industry community it proudly serves.

The #MasteroftheTrade Scholarship will support 12 individual recipients with funds earmarked for their education in a college or postsecondary HVACR technology program. Among the winners, six \$2,500 criteria-based postsecondary education scholarships will

go to SkillsUSA HVAC students and a total of \$10,000 in scholarships will go to the six gold, silver and bronze medal-winning high school and college/postsecondary students who top the leaderboards of the National Leadership & Skills Conference (NLSC) in June.

"As a dedicated champion of the HVACR community, Fieldpiece is committed to fostering the growth of both arising and seasoned professionals in the industry," said Tony Gonzalez, technical training manager at Fieldpiece. "Fieldpiece empowers tradespeople with innovative test tools, unique programs and free online resources like Fieldpiece University. Its commitment extends to providing scholarship opportunities, along with the creation of a growing body of educational and informative content designed to equip HVACR professionals with the skills, knowledge and opportunities needed to excel in their field."

According to the U.S. Bureau of Labor Statistics, the HVACR industry is growing faster than average with more than 300,000 job openings expected by 2032 thanks in large part to a retiring labor force. Fieldpiece aspires to play a role in closing this gap with scholarships that give back to the

Johnson Controls Considers Selling HVAC Business for \$5B

Milwaukee, Wisc. – Johnson Controls is considering selling some of its HVAC assets, which are valued at as much as \$5 billion, according to a recent report from Bloomberg News. A sale could include most of the company's York International operations, according to the report, which said the information came from people with knowledge of the matter. Johnson Controls acquired York in 2005. The company is also considering a possible sale of the majority of its Air Distribution Technologies business, which it bought for \$1.6 billion in 2014, the Bloomberg report said. George Oliver, the Johnson Controls chairman and CEO, alluded to the possibilities in a Jan. 30 statement about the company's earnings in the last quarter of 2023, which was the first quarter of the company's 2024 fiscal year. Johnson Controls reported quarterly sales of \$6.1 billion, saying sales were flat compared to the prior year on an as-reported basis and saw an organic decline of 1%.

industry it proudly serves.

"SkillsUSA is thrilled to partner with Fieldpiece Instruments to help roll out its generous scholarships," said Chelle Travis, executive director at SkillsUSA. "Empowering the next generation of HVACR professionals is vital for the ongoing prosperity of the industry and Fieldpiece's scholarships play a significant role in shaping the workforce of tomorrow."

To apply for the #MasteroftheTrade Scholarships, applicants must be SkillsUSA members enrolled in its HVACR or general construction programs who plan to study HVACR at the college or postsecondary level in the class of 2024-25 (high school seniors) or 2025-26 school year (high school

juniors). The scholarship application must include a resume and either an essay (300 words or fewer) or a video (1-3 minutes) answering the question: "Why have you chosen a career in HVACR?" The scholarship opened on Jan. 1 and applications must be submitted by April 15, 2024. Scholarship recipients will be announced on May 16, 2024 and will be awarded based on the merit of the application including the essay or video and the proficiency of the SkillsUSA Framework skills demonstrated in the application materials. To receive the funds, scholarship recipients must provide an acceptance letter from their postsecondary education program or their first semester tuition invoice. The funds will be

distributed directly to the school. The SkillsUSA Championships are the nation's largest workforce development event for middle-school, high-school and college/postsecondary students enrolled in public career and technical education programs. The contests are designed to test the skills needed for successful entry-level performance in given occupational fields. SkillsUSA represents 130 different occupational areas and adds contests to the SkillsUSA Championships each year to meet the demands of new or expanding careers. In 2024, the SkillsUSA Championships will feature more than 6,000 competitors in 115 hands-on skill and leadership contests. Each contestant is a state gold medalist.

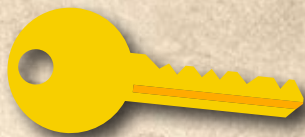


Belimo Now a CNGA Preferred Vendor Partner

Brea, Calif. – Belimo is now a preferred vendor partner within Controls Group North America (CGNA), a network of independent distributors in HVAC, refrigeration, building automation, gas, combustion/burner boiler, equipment, and industrial industries across North America.

Belimo manufactures products for HVAC systems, including actuators, control valves, sensors, dampers, and air-quality devices. "We've cultivated longstanding relationships with numerous CGNA distributors, and we're eager to deepen our collaboration even further," said Gary Weber, distribution sales and business development manager in the U.S. for Belimo, in a press release. "This partnership has been years in the making, and joining this incredible group fills us with immense excitement. We're looking forward to exploring additional avenues to work

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Note: Winners cannot win more than once in 12 months.



Industry News

together, leveraging our strong ties with CGNA distributors to propel our mutual growth and success.”

The partnership with Belimo is a significant achievement for CGNA in its mission to represent the best of the industry, the group said in the release. The CGNA network is expected to bring wider accessibility to Belimo’s solutions.

“We are thrilled to announce that we have expanded our network to welcome Belimo as our newest preferred vendor. This partnership is a significant milestone in our pursuit of excellence and reinforces our commitment to providing our CGNA members with top-tier offerings,” said Sarah Monteleone, the CGNA president. “Belimo’s exceptional products and strong emphasis on fostering relationships with their distributor partners align seamlessly with our company’s values. We are excited to bring access to superior solutions to our distributor members and their customers through this collaboration.”

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Danfoss, Google Form Partnership

Sunnyvale, Calif. – Danfoss and Google announced a strategic partnership to make use of the latest advances in artificial intelligence (AI) and promote energy efficient solutions in data centers.

Under the partnership, Danfoss, the Danish multinational engineering group, will use Google Cloud’s generative AI capabilities to optimize the customer experience, streamline internal work processes and improve productivity across the organization. This can be done, for example, by using gen AI to collect and surface information, automate knowledge, generate product descriptions, and create solutions with chatbots in e-commerce.

As a global leader in energy-efficient solutions, Danfoss is working with Google to implement sustainable cooling systems for data centers and to design systems that reuse the excess heat produced by data centers. Danfoss Turbocor® compressors provide highly reliable, highly efficient solutions when expertly applied by OEM partners and are being installed by Google to improve the energy efficiency and decarbonize heating and cooling systems in

data centers.

Meanwhile, Danfoss’ heat reuse modules will make it possible for Google to capture and reuse heat produced by data centers, providing a renewable energy source to supply heating on site and to neighboring commercial and residential buildings, communities, and industries that need heat for their processes. Going forward, Danfoss’ expertise in decarbonization solutions will be used to an even greater extent to advance data center sustainability in Europe, North America and beyond.

The new agreement, announced during the AHR Expo in Chicago, USA, builds on an existing collaboration between the two companies, which were among the founders of the Net Zero Innova-

tion Hub in Fredericia, Denmark, announced in September, 2023, where a number of major players joined forces to accelerate the green transformation of data centers. Danfoss and Google are now taking a step further by entering into a broader partnership.

Jürgen Fischer, President, Danfoss Climate Solutions, said: “At Danfoss, we want to revolutionize how we build and decarbonize data centers together with our customers. When we partner up across industries, like we have done with Google, we accelerate this development towards building better and more sustainable data centers - using technologies available today.”

Google Vice President of Data Center Innovation, J.P. Clausen, is excited about the collaboration.

“This is a great example of a partnership utilizing each other’s strengths and using technology to optimize the

customer experience, increase productivity and reach sustainability goals. Danfoss is a leader in energy efficiency, and these solutions help support Google’s 2030 goal of running our data centers on carbon-free energy 24/7. We’re happy to deliver AI innovation through Google Cloud, enabling businesses like Danfoss to operate in new and smarter ways,” says J.P. Clausen.

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Socal Contractor Wins Noritz Sweepstakes

Fountain Valley, Calif. – Tyler K. Pugh of All Coast Plumbing & Rooter (Tujunga, Calif.) is the winner of the \$10,000 grand prize in Noritz America’s

recently concluded Retrofit Rewards sweepstakes promotion for plumbing and HVAC contractors in the United States and Canada. Pugh received the winning Scratch & Win Card after purchasing a Noritz NRCR Residential Condensing Tankless Water from wholesaler-distributor Hirsch Pipe & Supply at its branch operation in Santa Clarita, Calif.







Tyler Pugh owns All Coast Plumbing, a Southern California company that does residential and commercial work. Coming from a long line of plumbers, Tyler decided to obtain his license in 2017 before opening his company in the same year. His company principally serves the San Fernando Valley and its surrounding areas.

Continued on Page 6

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	Zero and Ultra Low Water Urinal	\$500	39,982	\$641
	Turf Replacement (pre-approval required)	\$5/sq. ft.	44 gallons/sq. ft.	\$705/1,000 sq. ft. change
	Rotating Sprinkler Nozzle (minimum 30)	Up to \$6 per nozzle	1,434	\$23
	Showerheads	FREE	5,370	\$86
	Faucet Aerators	FREE	1,560	\$24

*Approximate values. Actual savings may vary.



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Tyler Pugh (far right) of All Coast Plumbing & Rooter accepts \$10,000 grand prize in Noritz's Retrofit Rewards promotion from Noritz SoCal Territory manager Dylan Stieler (far left), as sales specialists Robert Espadas (center, left) and Adolfo Sandoval of Hirsch Pipe & Supply look on. (Photo courtesy Noritz America)

Continued from Page 5

Prior to becoming a licensed plumber, Tyler had over 20 years of experience working as a tankless water heating installer. While he recommends many Noritz products to his clients, his favorite model is the NRCR111, which coincidentally was the winning product. "The NRCR is a favorite because of the size," he explains. "I do a lot of remodeling and addition work. If I'm working on a project where the homeowner wants to add a bathroom, I know the Noritz models can handle the additional volume well," Tyler says.

The promotion, which began on June 1, 2023, included select models in the Noritz EZ and NRCR tankless series available at supply houses across the United States. Professional plumbing and HVAC contractors were rewarded with a free Scratch & Win Card, providing them with two opportunities to win exciting prizes.

The first opportunity guaranteed a prize of Noritz branded merchandise or a discount code offering up to 25% off purchases from Noritz's online support and parts store. In addition, contractors had the chance to win substantial cash prizes. Over 90 EZ and NRCR units carried a total of \$72,500 in prize money. Among them, 50 models offered a \$150 cash prize, 20 offered \$500, another 20 offered \$1,000, and five units offered \$5,000. The highlight of the sweepstakes was the grand prize of \$10,000, which was won by Tyler Pugh.

Noritz America Corporation, a subsidiary of Noritz Japan, has corporate offices in Fountain Valley, Calif., and Atlanta, offering a full line of tankless water heaters and high-efficiency combination boilers to meet the hot water

demands of residential and commercial applications. Noritz supports its products with a national network of skilled representatives and employees committed to providing the finest products and services to our communities by helping consumers live a more comfortable, efficient, and healthy lifestyle. For more information on Noritz America and the entire line of Noritz's ENERGY STAR® tankless water heaters, please call (877) 986-6748 or visit our website at www.noritz.com.

ARIZONA



Technical Training Associates Release New Training Package

Green Valley, Ariz. – Technical professionals, in the course of handling the day-to-day technical and hands-on tasks of their jobs, are also expected to provide front-line customer service. To help home service contractors navigate the aspects of communication and sales skills for technicians, a complete training package, "Peak Performance for the Technical Professional" is now available.

With the goal of aiding development of a technical professional's ability to offer outstanding service to all customers, this training package features a participant text, along with a complete step-by-step, 9-session Facilitator Guide, PowerPoint presentation, and brief video segments. The concepts within the program address the

processes of personal and professional development, how to recognize a customer's needs, and how to develop the skills necessary to find and communicate solutions to the customer's needs.

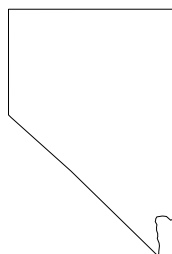
In the text, with information told through real life stories and experiences as well as applied and proven strategies, technicians are challenged and encouraged to actively think about the ideas and topics presented, and what they mean personally, as well as professionally, and identify how the information can be utilized within their career.

The additional information and resources in the Facilitator Guide serve to enhance the technician's understanding of the text's tell-it-like-it-is approach that pulls no punches as it covers the subjects of what it really means to be a professional, along with communication skills, sales skills, and other topics that are just as vital as the technical side of the job.

The Peak Performance for the Technical Professional training package is published by the ESCO Institute and can be purchased online at www.escogroup.org or by calling 800-726-9696.



NEVADA



D. Brian Baker Scholarship Winners Announced

Las Vegas, Nev. – HVACR instructors William Evans and Jon Scott are this year's recipients of the D. Brian Baker Memorial Scholarships, which will help them attend the National HVACR Education Conference.

Evans teaches at East Brunswick Magnet School in East Brunswick, New Jersey, and Scott teaches at the Barren County Area Technology Center in Glasgow, Kentucky.

The scholarships, which are for

new instructors, are sponsored by the Council of Refrigeration Educators (CARE), the ESCO Institute, and HVAC Excellence to honor the memory of D. Brian Baker, an advocate for continued learning and professional development.

The 2024 National HVACR Education Conference, scheduled for March 24-27 in Las Vegas, will offer attendees the opportunity to select from over 80 in-person training sessions while meeting with representatives from industry-leading organizations.

The goal of the event is to help HVACR personnel, regardless of their role or what stage they are at in their career, be more effective. Scholarship recipients will have the opportunity to learn about new technologies, codes, and content-delivery techniques as well as interact with those who are changing the face of the industry.

TEXAS



RectorSeal Buys IAQ Manufacturer Dust Free

Houston, Texas – RectorSeal, a manufacturer of HVACR and plumbing products, has acquired Dust Free to complement and expand its line of IAQ products.

Dust Free manufactures innovative solutions in purification and filtration, the primary ways to improve IAQ. Dust Free products are free of ozone and deactivate indoor air pollutants, as verified by independent testing, a press release from RectorSeal said.

"I am pleased to welcome Dust Free to the RectorSeal organization," said Jeff Underwood, senior vice president of sales and marketing at RectorSeal. "We are committed to continuing and accelerating Dust Free's mission of helping improve the indoor air quality of homes and businesses. The addition of Dust Free underscores our commitment to being a leading provider of HVACR products."

"We recognize RectorSeal as the leading supplier to the HVACR marketplace with an excellent distribution footprint," said Gregg Burnett, CEO of Dust Free. "They share our passion for helping residential and commercial property owners improve the quality of the

air they breathe. As part of the RectorSeal team, our customers can look forward to exciting new product announcements as we continue to develop innovative IAQ products."

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Interplay Launches Trades Certificate Program

Austin, Texas – Interplay Learning, the leading provider of immersive skilled trades training, has announced Interplay Academy, an out-of-the-box, easy to implement trades certificate program that provides education and workforce development organizations the tools to take learners from zero trades skills to job-ready.

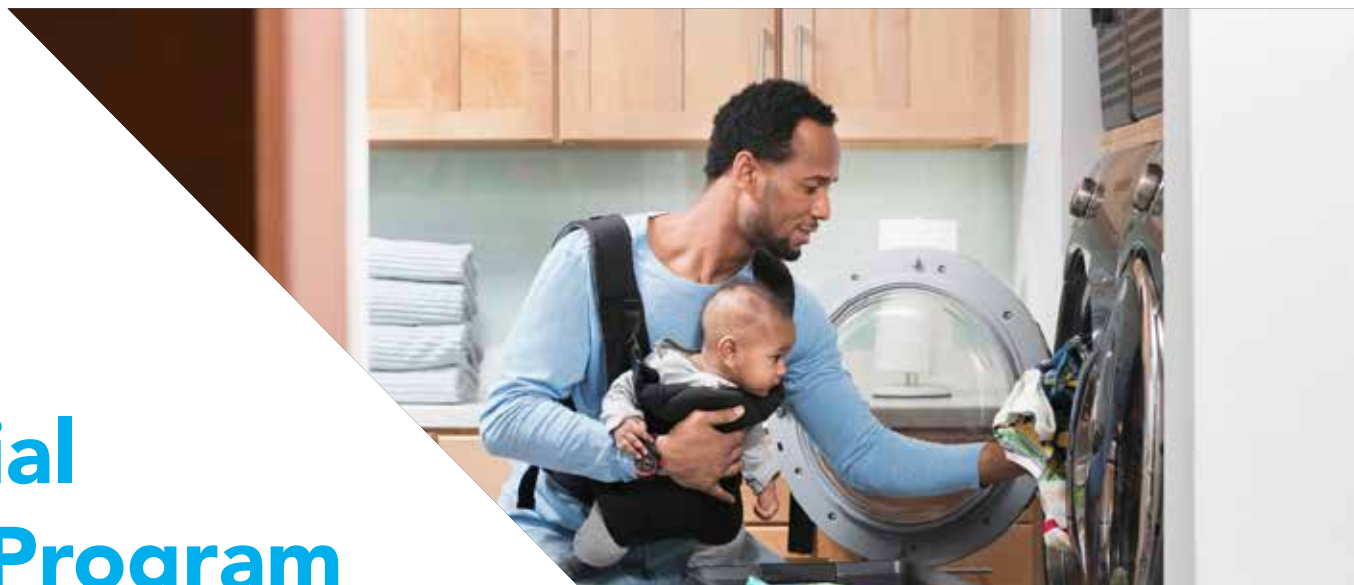
With Interplay Academy, novice learners can now get accessible, high-quality online trades education with a clear pathway to gain skills in their chosen field, earn industry certifications, and connect with employers to confidently take on in-demand entry-level roles.

"Interplay Academy's Job-Ready Certificate Programs represent a significant leap forward in skilled trades education where there is a shortage of qualified skilled labor," said Doug Donovan, CEO and founder, Interplay Learning. "Our holistic approach provides a direct pathway to job-readiness, empowering educators and workforce development program administrators with the tools needed to pave the way to future careers for learners. We believe these programs will play a pivotal role in developing a pipeline of talent for the skilled trades workforce of the future."

Interplay Academy's Job-Ready Certificate Programs in HVAC, Electrical, Plumbing, Residential Construction, Multi-Family Maintenance, Building Maintenance, and Appliance Repair feature a flexible, expert-led curriculum, recognized by the Department of Labor, to effectively prepare today's digital-first learners to enter the workforce. Leveraging Interplay's award-winning immersive 3D simulations, video content and industry certifications, these programs ensure a diverse range of learners can build and reinforce foundational skills through self-paced, unlimited hands-on practice in a safe, virtual environment.

Each certificate program includes a simple, out-of-the-box implementation that provides the tools and support for educators and administrators to launch and track a scalable program with ease. Expert guidance built into the

Continued on Page 8



Residential Rebates Program

SoCalGas offers customers rebates on the installation of qualifying high efficiency appliances.

Rebates include:

- Up to **\$4,500** rebate on ENERGY STAR® certified solar thermal water heater with natural gas back-up.
- Up to **\$1,200** rebate on qualifying ENERGY STAR certified natural gas tankless water heaters.
- Up to **\$1,000** rebate on ENERGY STAR certified natural gas furnaces.
- Up to **\$75** rebate on high-efficiency natural gas storage water heaters.

For additional product information and to learn more about available rebates **visit socalgas.com/Rebates**

This Home Energy Efficiency Rebate Program is funded by California utility customers and administered by Southern California Gas Company (SoCalGas) under the auspices of the California Public Utilities Commission. Program funds, including any funds utilized for rebates or incentives, will be allocated on a first-come, first-served basis until December 31, 2024 or until such funds are no longer available. This program may be modified or terminated without prior notice. The selection, purchase, and ownership of goods are the sole responsibility of customer. SoCalGas makes no warranty, whether express or implied, including the warranty of merchantability or fitness for a particular purpose, of goods selected by customer. Customers who choose to participate in this program are not obligated to purchase any additional goods offered by manufacturer, vendor, service provider, or any other third party. Eligibility requirements apply; see the program conditions for details.

Continued from Page 6

learning content and live engagement managers successfully prepare learners for future careers without the need to hire on-staff industry experts or build expensive infrastructure.

In addition to earning an Interplay Learning Job-Ready Certificate, learners enrolled in Interplay Academy's programs can earn industry-recognized certifications, including NATE Ready-to-Work certification, OSHA 10 or 30 certifications, and EPA 608 certification, enhancing a graduate's employability. Learners, who may need additional assistance choosing a career path, can take advantage of the programs' career exploration tool to align their chosen path to their interests and career aspirations. When a learner completes the program, they can connect with employers through Interplay Learning's partnership with BlueRecruit, a leading job platform for skilled trades professionals.

For more information about Interplay Academy's Job-Ready Certificate Programs, please visit <https://www.interplaylearning.com/training-academy/>.

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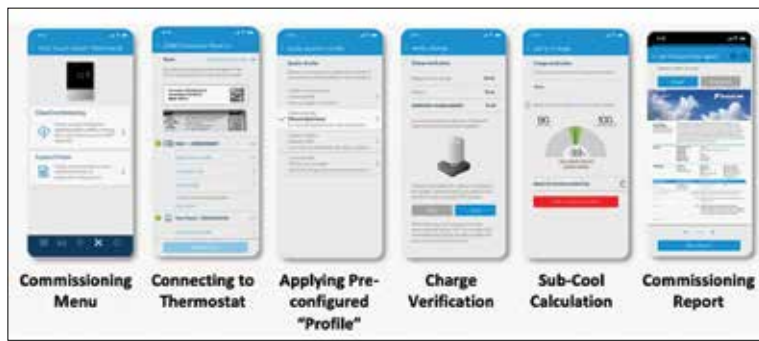
Daikin Launches New System Commissioning Tech

Waller, Texas – Daikin Comfort Technologies North America Inc. has launched Quality Install, which the company describes as a powerful new way to commission indoor comfort systems using cloud-connected equipment.

Quality Install simplifies configuration and commissioning in new ways, and can provide both HVAC contractors and homeowners assurance that an indoor comfort system is set up and performing as the manufacturer intended, a press release from Daikin said. Quality Install is currently only compatible with certain Daikin, Goodman, and Amana systems.

"It is the new standard for all installed systems," said Jim Cahill, Internet of Things (IoT) solutions business leader at Daikin. "When it comes to installed HVAC systems, the efficiency delivered at a home can be heavily impacted by how it's installed. Our new Quality Install process is like a virtual assistant guiding the HVAC installation team on site. Then it reviews the work performed and verifies key aspects of the installation to help ensure homeowners get a great installation."

Quality Install configures system settings for optimal



Daikin's new Quality Install provide both HVAC contractors and homeowners assurance that an indoor comfort system is set up and performing as the manufacturer intended.

performance, calculates proper refrigerant trim charge, verifies the charge, runs a system test, and generates separate commissioning reports – one specifically for contractors, another for homeowners – that capture settings and performance, Daikin said. With Quality Install, contractors can simplify the commissioning process while providing transparency for homeowners, the company said.

"This really is incredibly exciting for both HVAC contractors and their customers," said Cahill. "With Quality Install, a contractor has verification of their installation from the cloud which validates system configuration and performance. When paired with our cloud-services solution, Quality Install can provide homeowners peace of mind that the verification of system performance can potentially extend from the day of installation until the end of that system's life."

Quality Install further streamlines commissioning by introducing system profiles. Contractors can review and apply thermostat settings and system configurations such as airflow, balance point, defrost interval, and more, with a mobile app, Daikin said.

Profiles are visible in the Amana Brand Cloud Services, Daikin ONE Cloud Services, and Goodman Installer apps. Current system settings can be viewed and edited quickly. A future Quality Install update will add the ability to save changes and create contractor-specific custom profiles, according to Cahill.

Preconfigured climate-optimized profiles are available for several climate zones, simplifying installation further. Where available, the profiles provide thermostat settings tailored for a zone's weather conditions, optimizing system performance, the company said.

Quality Install is currently compatible with the new Daikin FIT, Amana brand S-series, and Goodman SD compact, side-discharge, inverter split-system air conditioners and heat pumps.

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SitePro Rentals Opens Branch in North Texas

Dallas, Texas – SitePro Rentals announced the opening of a new branch in Haltom City, Texas. The 12,500 square-foot facility on three acres will service customers in the greater Fort Worth area. The new location will be managed by Grady White.

"This branch will help us connect our branch network in North Texas and even further establish our presence in the Dallas/Fort Worth metroplex, allowing us to share fleet more efficiently and better serve contractors and construction professionals in DFW," said John Hiatt, Chief Operating Officer of SitePro.

Located at 5701 Denton Highway in Haltom City (76148), this site will be the 16th location opened by SitePro since its founding in 2021. Further growth is on the horizon notes Tim Rule, SitePro President, "We're committed to being the friendly, local rental pros of choice for DFW area customers. With Haltom City, and an additional rental branch location in Aubrey, Texas opening in just a matter of weeks, SitePro is demonstrating our commitment to customers in this fast-growing market."

NATIONAL



Nine States Agree on Fast Adoption of Heat Pumps

Boston, Mass. – Environmental officials from nine states have signed an agreement to accelerate the transition to pollution-free residential buildings by expanding heat pump sales to meet home

heating, cooling, and water-heating needs.

The memorandum of understanding (MOU), led by the Northeast States for Coordinated Air Use Management (NESCAUM), was signed by the directors of environmental agencies from California, Colorado, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, and Rhode Island.

Under the MOU, those states have set a shared goal to have heat pumps make up at least 65% of the shipments of residential heating, air-conditioning, and water-heating products by 2030, and 90% by 2040. The states will also collaborate to collect market data, track progress, and develop an action plan within a year to support the widespread electrification of residential buildings.

The MOU builds on a September 2023 commitment from the U.S. Climate Alliance's member states and territories to quadruple heat pump installations by 2030.

"Heat pumps and building electrification are the future for healthier homes and a thriving green economy," said Serena McIlwain, secretary of the Maryland Department of the Environment, in a press release from NESCAUM. "This multi-state partnership will help Maryland meet its ambitious climate goals and strengthen a coalition of states for cleaner air and better health outcomes."

"Buildings are the top contributor to greenhouse gas emissions in New York state, and actions are well under way to significantly reduce the amount and impact of these emissions on the state level," said Basil Seggos, the New York State Department of Environmental Conservation commissioner.

"This new multi-state agreement and the strengthened partnership with participating states will bolster New York state's ongoing efforts to replace fossil fuel infrastructure and install heat pumps in more homes for the benefit of public health and the environment, while setting an example for other states to follow."

Buildings are a source of air pollution that comes from the combustion of fossil fuels in furnaces, boilers, and water heaters. According to NESCAUM, fossil-fueled heating equipment across the participating states emits annually over 138,000 tons of smog-forming nitrogen oxides (NOx) and 6,000 tons of fine particulate matter, causing increased risks of heart attack, asthma events, premature death, and other adverse health outcomes. Buildings also annually emit 173 million metric tons of CO2 across the participat-

ing states, NESCAUM said.

Building electrification can deliver widespread health benefits, particularly in densely populated communities with high levels of air pollution, NESCAUM said.

To pave the way for widespread adoption of heat pumps, the agreement emphasizes collaboration with stakeholders, including manufacturers and HVAC installers.

"To achieve our shared decarbonization goals, we need to send an unmistakable signal to the marketplace that zero-emission homes are the future. This agreement does that," said Matt Rusteika, director of market transformation at the Building Decarbonization Coalition. "We applaud NESCAUM and state leaders for a commitment that is ambitious, flexible, and pragmatic. We're looking forward to the exciting work ahead."

A recent letter from business-focused Ceres, a nonprofit that aims to build a more sustainable economy, united 24 businesses, investors, and building owners and operators in supporting the acceleration of heat pump adoption. Last year, 10 of the nation's largest manufacturers committed to help California achieve its target of having 6 million heat pumps installed by 2030.

"State policy is critical to accelerating the adoption of building technologies that are good for the climate and good for business. Initiatives that encourage collaboration across state lines to develop best practices are essential to accelerating this transition," said Alli Gold Roberts, senior director of state policy at Ceres. "Ceres and the companies we work with applaud today's memorandum of understanding for its detailed, collaborative, and ambitious approach to cut pollution from the building sector."

States signing the MOU committed to promoting the installation of zero-emissions, grid-interactive technologies in existing state buildings. The states also seek to direct at least 40% of efficiency and electrification investments to benefit low-income households facing high energy burdens, and to communities historically burdened with elevated air pollution levels.

"States taking action on this hidden source of pollution are not only delivering healthier air to breathe and a livable climate for their citizens, but also working to ensure that those most burdened by high energy costs and polluted air are the first to benefit," said Emily Levin, senior policy advisor at NESCAUM.

Continued on Page 10

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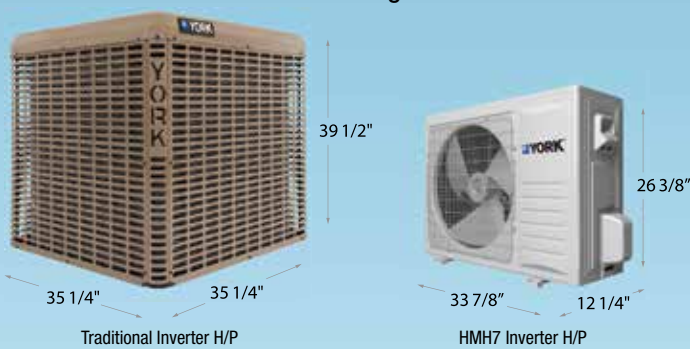
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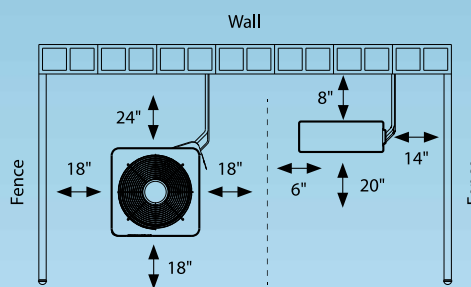
Model	Tons	SEER	HSPF	Height (Inches)	Width (Inches)	Depth (Inches)	Operating Weight (Lbs)	Sound Range (dBA) Low-High*
HMH72B241S	2	17.5	9.0	26 3/8	33 7/8	12 1/4	112	54-65
HMH72B361S	3	18.0	10.5	33	37 3/8	13 3/8	155	56-68
HMH72B481S	4	18.0	9.5	54 5/8	37 3/8	13 3/8	227	62-69
HMH72B601S	5	17.0	10.0	54 5/8	37 3/8	13 3/8	251	62-73

*High sound rated in accordance with AHRI Standard 270.

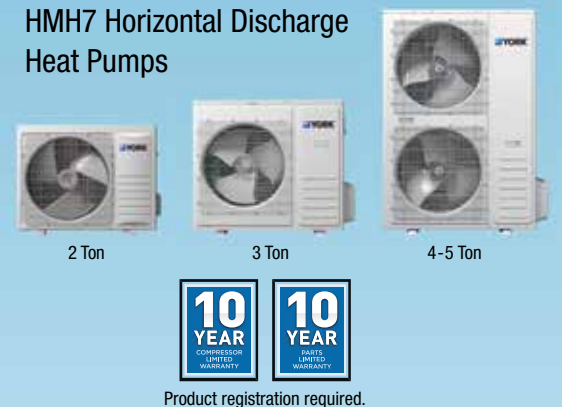
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Continued from Page 8

Crete Mechanical Rebrands as Crete United

Tampa, Fla. – Crete Mechanical Group is now Crete United.

Across a growing national network of local service professionals, the company provides HVAC, electrical, plumbing, building automation, Internet of Things (IoT) controls, and other energy solutions to a wide variety of commercial clients. Crete United has more than 4,000 employees that together serve all 50 states.

The new brand represents Crete United's approach to driving energy efficiency through a suite of services that help customers modernize mechanical systems, save resources, make better decisions about their energy management programs, and improve the built environment, Crete United said in a press release.

"Our new brand affirms our commitment to providing a comprehensive portfolio of energy-efficient services and solutions, delivered by trusted, local mechanical, electrical, and plumbing providers across the country," said CEO Mike Cox. "With 40% of greenhouse gases currently coming from buildings, we see a tremendous opportunity to make the places we live, work and play healthier, which will be a primary goal as we continue our upward trajectory."

Crete generated approximately 40% revenue growth in 2023, and has a near-term revenue target of \$1 billion, the press release said. Ridgmont Equity Partners provided growth capital to the company in 2022, alongside the founders and management, and continues to support Crete United's acquisition program and integration process, the press release said.

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Klein Tools, Lowe's Partner to Aid Skilled Trades Students

Palm Beach, Fla. – Klein Tools Inc. has partnered with Lowe's, the chain of home improvement stores, to donate nearly \$30,000 worth of HVAC and electrical tools and equipment to three community and technical colleges that also received Lowe's Foundation Gable Grants.

Betsy Conway, director of the Lowe's Foundation, said that partners like Klein Tools are critical when it comes to reducing the



Andrea O'Connell, an electrical apprentice and TikTok influencer, speaks at Palm Beach State College recently with tools donated to the school's trades program by Klein Tools Inc.

shortage of workers in the trades. "The Lowe's Foundation is proud to be supported by like-minded vendors who are focused on bridging the skilled-trades gap," Conway said in a Lowe's press release.

The Lowe's Foundation donated \$1.8 million in Gable Grants between Miami Dade College in Miami, Florida, Palm Beach State College in Lake Worth, Florida, and Southside Virginia Community College in Alberta, Va., and Klein Tools donated more than 450 products, such as insulated hand tools, meters, benders, hacksaws, personal protection equipment, and more.

In light of Klein's donations, Alex Yorlana, a student in the electrical program at Palm Beach State College, spoke of the importance of having the right tools at hand.

"I can't always have access to everything I want right when I like it, so the school being able to provide it and having the proper tools in my hand really allows me to have a good education," Yorlana said.

Daniel Neff, an electrical instructor at Palm Beach, spoke about the shortage of workers in the skilled trades.

"The skilled workers of today are retiring, and then there's no new blood because they've been told, 'You've got to go to college or you're not going to amount to anything, and you're not going to be a success,'" Neff said. "Success covers a lot of things; you don't need a college degree to be a success. Success is something you schedule for yourself. You're in your trade; you do your trade well. You try to be the best you can be and do the best work you can do. You'll be a success."

Additionally, the Lowe's Foundation and Klein Tools representatives and two skilled-trades content creators visited each campus to present the grants and tools, and tour each school's train-

ing facilities alongside students and instructors.

Andrea O'Connell, an electrical apprentice and TikTok influencer, said it's imperative to get as much practical training as possible.

"Hands-on learning is essential for the construction trade curriculum and for building the next generation of skilled-trades professionals," O'Connell said. "Donations like this from Lowe's and Klein Tools can transform a program for students. Knowing they've had their hands on those tools and materials in class provides a much-needed boost of motivation and confidence."

The Lowe's Foundation Gable Grants program is a \$50 million commitment over five years to recruit and train 50,000 new, job-ready trades workers to help fill the skilled-trades gap.

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Oatey Women's Network House Girl Scouts Event

Cleveland, Ohio – Oatey Co., a leading manufacturer in the plumbing industry since 1916, is pleased to announce that its Women's Resource Network recently hosted a special event for two Cleveland area Girl Scout troops at the company's training center, Oatey University. The event aimed to help the Girl Scouts complete a The House That She Built Girl Scouts patch, encouraging their interest in construction and raising awareness of opportunities in the trades.

The House That She Built Girl Scouts Event occurred on January 22 from 2:30 p.m. to 4:30 p.m. at Oatey University, located at 4675 West 160th Street, Cleveland, OH. The event provided a hands-on experience for the Girl Scouts, allowing them to explore the world of construction and build scale models of homes or commu-

nity structures. Oatey's Women's Resource Network, an associate resource group dedicated to women's professional, personal, and leadership development, guided the Girl Scouts throughout the event.

Sarah Kirwen, Co-Chair of Oatey's Women's Resource Network and Senior Manager of Channel Marketing, Wholesale E-Commerce, expressed her enthusiasm for the event, saying, "We are thrilled to partner with the Girl Scouts and The House That She Built to inspire young girls to explore careers in the trades. This event was a wonderful opportunity for them to learn about the construction industry, foster creativity, and develop new skills. We hope that through this program, they will feel empowered to pursue their unique interests and contribute to the world of building and maintaining our communities."

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Malco Opens Nominations for HVAC Trade-Pro of the Year

Annandale, Minn. – Malco Tools, one of the nation's leading solution developers and manufacturers of a variety of high-quality tools for the HVAC trade, has opened nominations for its national HVAC Trade-Pro of the Year Award program.

Now in its 8th year, the HVAC Trade-Pro of the Year Award recognizes and celebrates exceptional HVAC technicians who are committed to doing great work, focused on on-the-job safety, and give back to their communities.

The top five winners from throughout the U.S. will receive \$1,000 worth of Malco tools of their choosing, and all qualifying trade professionals who are nominated will receive a Malco cap and pair of gloves. Trade pros are encouraged to self-nominate, or nominate a fellow pro, for the honor.

"We are always immensely proud to recognize the great work HVAC pros do on the job and in their community," said Rebecca Talbot, vice president of marketing at Malco. "In the same way Malco develops Damn Good Tools, the HVAC Trade-Pros of the Year are doing damn good work around the country that deserves celebration. We're excited to shine a light on some outstanding individuals in the HVAC industry."

To nominate yourself, or another technician who has made a difference in your community, visit: [www.malcoproducts.com/2024-hvac-trade-pro-of-the-](http://www.malcoproducts.com/2024-hvac-trade-pro-of-the-year)

year. Entries will be accepted until June 28, 2024, and winners will be announced in September 2024.

As a strong supporter and advocate of careers in the trades, Malco donates significant quantities of in-kind products and apparel annually to a variety of skilled trade education programs, competitions and events across the country, including high school, post-secondary technical and apprenticeship programs, regional apprenticeship contests and SkillsUSA state and national conferences. Malco also coordinates the "Head of the Class" Student Recognition Program that partners with education programs across the country to recognize high-achieving students and entire graduating classes in the HVAC/sheet metal and building construction fields.

For more information about Malco Tools, visit www.malco-products.com.

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Rheem Wins IoT Breakthrough, Good Design Awards

Atlanta, Ga. – Rheem, a leading global manufacturer of water heating and HVACR products, today announced several award wins, IoT Breakthrough Awards and Good Design, recognizing products within its Air Conditioning Division to kickoff 2024. Rheem's Contractor App was selected as the winner of the "Connected Home Innovation of the Year" award in the 8th annual IoT Breakthrough Awards. Both the Rheem Resolute 30 ton G/E and A/C and the Rheem Endeavor Line Prestige Series RP18AZ Heat Pump earned recognition in Good Design's Building Materials 2023 category which was announced at the end of December.

"Rheem is energized and excited to begin 2024 with three award wins for its Air Conditioning Division," said Randy Roberts, vice president of residential business development, Rheem AC Division. "Innovation is paramount at Rheem, and our Air engineers strive to create a tailored approach with our products to directly address the unique needs of our users."

IoT Breakthrough Awards program recognizes the top companies, technologies and products in the global Internet-of-Things (IoT) market. The Rheem Contractor App is a comprehensive, game-changing solution designed specifically for Rheem contractors and plumbers. Utilizing Bluetooth® and a suite of specialized features,

Industry News

it enables contractor professionals to gain access to resources that simplify their work, including product information and learning resources to help them make informed decisions regarding equipment replacement and repair. By integrating Bluetooth technology into Rheem's equipment setup and troubleshooting process, ultimate convenience for contractors is ensured.

The Good Design Awards were created more than 75 years ago to generate awareness about contemporary design and honor the most cutting-edge products in design and manufacturing around the world. Each winning entry has set new direction for innovation and pushed the envelope for competitive products in the world marketplace.

Designed for today's demanding commercial applications and the ever-changing preferences of diverse customers, the Rheem Resolute 30 ton G/E and A/C are the industry's first 30 ton packaged systems with standard field-convertible airflow and single-zone and multi-zone Variable Air Volume (VAV), and the smallest and lightest 30 ton packaged units available in the industry. Built on nearly a century of engineering HVAC innovation, Resolute 30 ton units offer numerous benefits for commercial and industrial cooling applications, higher efficiencies, thoughtful serviceability features that result in material advantages for contractors and building owners, and better occupant comfort through zoning capabilities.

"We pride ourselves in delivering practical, innovative products that improve the lives of our customers every day," said Farooq Mohammad, vice president of commercial business, Rheem. "Rheem Resolute 30 ton is the result of our design process that focuses on product excellence, ease-of-use, and sustainability and we are honored to be recognized again with this Good Design award."

Backed by patented industry-first features and a 360+1 design, Rheem Endeavor Line Prestige Series iM Heat Pump (RP18AZ) makes for a versatile solution for every home. Offering precise temperature control to meet ever-changing heating and cooling needs, and boasting high efficiency, RP18AZ was designed by Rheem engineers and designers in response to updated Department of Energy efficiency regulations that took

effect in 2023. Furthermore, this unit is ENERGY STAR® certified (up to 20 SEER2 / 12.5 EER2 / 8.5 HSPF2).

Plumblin Expands in Colorado

Fort Collins, Colo. – Plumblin Services, a provider of residential HVAC, plumbing, and electrical service in the Denver, Colorado, area, has expanded into northern Colorado with the addition of a location in Fort Collins.

The expansion reflects Plumblin's commitment to providing quality, value, and exceptional customer service, guided by its core values of faith, ethics, character, excellence, leadership, and stewardship, the company said in a

press release.

The expansion means Plumblin, a member of The Wrench Group, now has a team of technicians and licensed professionals who are ready to tackle any plumbing, heating, cooling, or electrical emergency in the Fort Collins area 24 hours a day. Plumblin also offers comprehensive HVAC, plumbing, and electrical services, from routine maintenance to major repairs and installations, at competitive prices and with transparent estimates.

Meriton to Acquire Air Equipment Co.

Louisville, Ky. – Meriton, a commercial HVAC manufacturers representative company, has reached an agreement to acquire Air Equip-

ment Co. (AEC), based in Louisville, Kentucky.

Air Equipment has been serving the Kentucky and Southern Indiana markets for equipment, parts, and service for more than 75 years, with a focus on engineering innovative and healthy critical environments, a press release from Meriton said.

Meriton is focused on expanding its capabilities and talent across commercial HVAC equipment sales, parts, service, and hydronics, and adding AEC to its network brings additional systems design and application expertise to the organization, Meriton said. With the addition of AEC, the Meriton network of HVAC representatives will include nine companies across 13 states.

Kentucky's economic outlook is the brightest it has been in a generation, Meriton said. The project pipeline for both private and insti-

tutional construction continues to grow even after record investment and job growth. The region is experiencing a construction boom, with expansion happening across core industries, including advanced manufacturing, health care, electric vehicle (EV) battery manufacturing, and the expansion of colleges and universities.

Southern Buys Florida Home Services Firm

Orlando, Fla. – Southern Home Services, which operates home services companies across the U.S., has acquired ACE Solves It All, an HVAC, plumbing, and electrical

Continued on Page 12

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CEC Approves \$9 Million for Partnership to Provide Assistance on Heat Pumps

Continued from Page 1

nia.” The contract will be in effect from February 1, 2024 through January 31, 2027. Early listed the following anticipated benefits to Californians from implementation of the contract:

- Provide technical assistance to California’s diverse community of homeowners and renters to help them access incentives to decarbonize their homes.
- Increase the general knowledge base amongst California homeowners, renters and contractors on the benefits and the proper installation and operation of HPs.
- Work with manufacturers and suppliers to ensure that adequate numbers of HPs are on the market to meet California’s current and

future demands, especially in emergency change-out scenarios.

- The partnership will work to train California’s highly skilled clean energy workforce.

The national Building Decarbonization Coalition (<https://buildingdecarb.org>) includes HP equipment manufacturers and suppliers that include: AO Smith Corporation, Daikin, Ferguson, Johnson Controls, LG Electronics, Rheem Manufacturing, and Trane Technologies. Other coalition members include state agencies: CEC, California Air Resources Board; utilities: Los Angeles Department of Water and Power, Pacific Gas & Electric Co., Sacramento Municipal Utility District (SMUD), Southern California Edison; the Plumbing, Heating

and Cooling Contractors (PHCC); and labor unions and environmental organizations.

This public-private partnership builds upon an agreement signed, during a CEC and Electric Power Research Institute (EPRI) Summit in October 2023, by manufacturers, distributors and suppliers of heating and cooling equipment to commit to actions to achieve California’s goal of installing 6 million HPs by 2030 (see article in December 2023 *Indoor Comfort News*, page 1). That agreement, in addition to the above listed HVAC manufacturers, included Carrier, Fujitsu, Lennox International, and Mitsubishi Electric.

CEC Commissioner Andrew McAllister referred to the summit during comments at the January

24 CEC meeting, saying, “That event demonstrated that we needed a true, broad-based market transformation effort centered around HPs.” Emphasizing the importance and size of the effort, he further stated, “We’re going to be pushing close to three-quarters of a billion dollars into low-income communities across the state from federal IRA monies and with various programs from the State Equitable Building Decarbonization Program.” (<https://www.energy.ca.gov/programs-and-topics/programs/equitable-building-decarbonization-program>)

Federal IRA Rebate Program Update

In a news release issued in January 2024, the U.S. Department

of Energy (DOE) announced that the first four states – California, Hawaii, New Mexico and New York – have submitted funding applications to the US DOE for the Home Energy Rebates program that has \$8.8 billion allocated for American families for energy efficiency and electrification improvements, including HPs. This funding was part of the federal Inflation Reduction Act signed by President Joe Biden in August 2022. Funds are expected to be available through September 30, 2031.

More information and updates on this funding program can be found at: <https://www.energy.gov/scep/home-energy-rebates-programs>.

State Confirms New Energy Commissioner, First Latina to Serve as Head of CEC

Continued from Page 1

and communities to advance the CEC’s mission to achieve a 100 percent clean energy future for all.”

Gallardo joined the CEC as its public advisor in 2019, later becoming the chief of staff for CEC Chair David Hochschild before being appointed to her current position last year.

Gallardo brings a unique personal experience, having lived in a mixed-immigration status household and having grown up in a low-income family. As the proud daughter of Mexican immigrants, she was an English language learner and a first-generation college graduate. All have shaped her pragmatic outlook. Her focus will

be on how CEC programs and policies can continue to be improved to benefit all Californians, especially those who have been most affected by climate challenges.

“I will seek the voice and expertise of tribes and communities when I address the work, and will continuously identify ways to engage early, often, and meaningfully with the public,” Gallardo said.

A major policy priority for her will be overseeing the development and implementation of the Lithium Valley Vision, which is an opportunity to create a sustainable lithium economy that improves outcomes for residents of the Salton Sea region. Another priority is helping to implement the CEC’s new opt-in certification process to hasten the

reliability of the grid with 100 percent clean energy resources, while expanding benefits to local communities.

Before joining the CEC, Gallardo was the senior manager of public policy at Sunrun. She has prior legal and policy experience as a consultant at Gallardo Law and Policy Consulting and as a principal investigator at the Public Law Research Institute at the University of California College of the Law, San Francisco (UC Law SF, formerly known as UC Hastings). Gallardo was also a program fellow at the Evelyn and Walter Haas Jr. Fund and an energy and telecommunications legal fellow at the Greenlining Institute.

In addition to her legal and policy experience, Gallardo is a state-certified Spanish language interpreter. She established and ran a translation and interpretation services business in her native Ventura County.

She holds a Juris Doctor degree from UC Law SF, a Master of Public Policy degree from the University of Southern Califor-



The California State Senate votes to confirm Commissioner Noemí Otilia Osuna Gallardo’s appointment to the California Energy Commission (CEC).

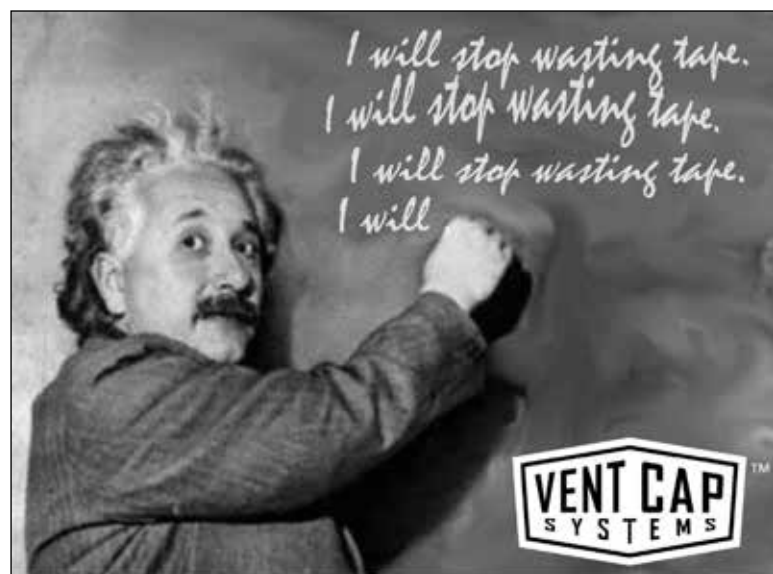
nia, and a Bachelor of Arts degree from Pepperdine University.

“I am a mother of two who seeks to be a good role model for my children, young women and youth of color, showing them the importance of leadership, service and taking care of our natural resources,” Gallardo said. “I am committed to improving our environment to ensure they, and the generations after them, can thrive.”

Her Jan. 10 confirmation hearing with the California Senate Rules Committee can be found

on the California State Senate web page at <https://www.senate.ca.gov/media-archive>.

The California Energy Commission is leading the state to a 100 percent clean energy future. It has seven core responsibilities: developing renewable energy, transforming transportation, increasing energy efficiency, investing in energy innovation, advancing state energy policy, certifying thermal power plants, and preparing for energy emergencies.



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Industry News

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services company in the Orlando residential market.

“We are thrilled to welcome ACE Solves It All into the Southern Home Services family,” said Bryan Benak, CEO of Southern Home Services, in a press release. “Throughout their 30 years of service to the Orlando and Kissimmee communities, they

have consistently demonstrated their commitment to unparalleled customer service and professionalism.”

The acquisition of ACE aligns with the Southern Home Services mission to provide superior customer service and its goal of becoming the go-to provider of comfort, safety, and energy solutions for homeowners and small businesses, the company said in the release.

“Being local to Orlando, we have long admired ACE’s reputation for excellence and are happy to have their team join Southern,” said Jarrod Brinker, Southern’s chief strategy officer. “Our home office support staff will assist the company in achieving their growth objectives while preserving their local identity. We plan on enhancing the operation of the business while maintaining unparalleled customer support.”

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Tools & Test Instruments

Brass Knuckle SmartCut



Application specific cut standards remain the only way to specify cut-resistant protective gloves. However, A4 cut resistance has quickly become the de facto minimum standard for work gloves used in many applications. Foremen and plant managers alike trust its performance and feel confident putting their people in it when setting out for another hard day at work. **Brass Knuckle SmartCut** (BKCR4420) offers this highly desirable A4 cut resistance, plus a whole lot more, making it a value-added glove with plenty of upside.

SmartCut starts with a high-density polyethylene (HDPE) knit shell to provide ANSI cut level A4 protection without bulk, with a strength-to-weight ratio 8 to 15 times higher than steel. But then SmartCut adds superior grip, moisture protection, and a high degree of dexterity.

To achieve this winning combination, SmartCut has a water-based polyurethane (WBPU) coating as a palm and finger base coat. This helps reduce penetration of liquids, including light oil. Then it secures grip with a foam nitrile top coat, perfect for working with oils, petrochemicals, fuels, and most acids. Then, a sandy grip finish further enhances abrasion resistance and cut protection.

It's why SmartCut is the choice of so many industries, from metal work and stamping to automotive, oil and gas – and any application that needs a sturdy, hardy safety glove. It provides excellent medium-to-high cut resistance with layered protection that is the most breathable and flexible in its class.

More information: www.brassknuckleprotection.com/.



Fieldpiece Instruments Valve Core Remove Tools

Fieldpiece Instruments, a leading manufacturer of tool and test instruments that enhance the work of HVACR professionals, introduces three valve core removal tools (VCRTs) designed to improve system charging, recovery and evacuation tasks. VCRTs remove the valve core from service valves in air conditioning, heat pump, and refrigeration systems to replace defective cores and provide an unobstructed flow of refrigerant for faster servicing. The Fieldpiece VCRTs represent a significant leap forward in valve core removal technology, overcoming the limitations of existing tools.

One of the game-changing features within the Fieldpiece VCRT lineup includes an integrated sight glass that allows technicians to verify at a glance that the valve core is captured prior to removing it and confirm when refrigerant is flowing. Fieldpiece eliminated the frustration that techs face when it takes multiple tries, and lost

refrigerant, before the valve core is captured with current competitive products. The Fieldpiece VCRT capture tip also includes an interior gasket that the valve core pin presses into to secure it for removal. No more fishing around for lost valve cores – a solid grip guarantees that the job is done right the first time, every time.

Another Fieldpiece exclusive feature is a comfort spinner, a free-spinning, rubberized cap that makes removing and inserting the valve core, while under pressure, easier and more comfortable. Like the sight glass, this comfort spinner is available on the VC1G and VC2G models. All three VCRT models, including the ultra-compact VC1, include a magnet in the cap to keep the removed valve core on hand during service.

All VCRT models are equipped with a 1/4" service port fitting that can be swapped in the field with an optional 5/16" service port fitting for mini-split systems, conveniently reducing the number of tools to carry. Replacement capture rod assemblies also streamline the maintenance process. Techs can say goodbye to deep-buried O-rings, as these simple replacement kits reduce downtime and expedite the repair process.

The premium VC2G tool features a dual ball valve design that protects attached vacuum gauges and pressure probes and adds versatility for connecting hose lines and isolating system service ports.

More information: www.fieldpiece.com/valve-core-removal-tools.



Malco Tools C-RHEX

Malco Tools, one of the nation's leading solution developers and manufacturers of a variety of high-quality tools for the HVAC and building construction trades, announced additions to its popular C-RHEX® line including C-RHEX drivers and C-RHEX SAWTOOTH in 3/8-inch and 7/16-inch hex sizes. The new models offer trade professionals more options to quickly and easily install



and remove fasteners commonly used on commercial sites.

With the addition of 3/8" and 7/16" hex sizes to Malco's C-RHEX lines, trade professionals now have access to more driver options that feature a heavy-duty, deep-set magnet that does not contact the screw, so the fasteners spin true, and the magnet retains its strength for years to come.

Built with S2 hardened steel for long life and superior durability, the removable and reversible hex driver allows users to easily clean the socket and magnet. Trade pros can get back to work quickly by removing the driver from the impact to push the drive side of the shaft through the socket to quickly clear sealant buildup.

With the new SAWTOOTH 3/8" and 7/16" hex drivers, pros can rapidly remove sealant and adhesive-coated fasteners when doing retrofits or removals of existing HVAC equipment and ducting with the sawtooth action.

The C-RHEX drivers portfolio allows trade professionals to quickly change between popular hex sizes and eliminate troublesome buildup of sheet metal shavings with the swipe of a glove or towel. C-RHEX drivers are quick to set up and change between sizes while the driver shank remains installed in the drill chuck. The new hex reversible sockets in the 3/8" and 7/16" sizes ensure trade pros have the right size without the need for additional tools.

The new models join Malco's existing C-RHEX portfolio, which includes 6 mm & 8 mm; 7 mm & 8 mm; 8 mm & 10 mm; 5/16" & 3/8"; 1/4" and 5/16"; and award-winning C-RHEX SAWTOOTH drivers in 1/4" and 5/16".

More information: www.malcotools.com.



NAVAC NR7 Recovery Unit

NAVAC, the world's largest supplier of HVAC vacuum pumps in addition to a wide array of tools, gauges, charging machines, recovery units and industry-specific items, introduces its lightest-weight recovery unit to date: the NR7 Recovery Unit, which despite

weighing just 20.3 pounds offers fast operation and a robust 0.54 lbs/min R-410A vapor recovery rate.

Compatible with all common refrigerants – including newer A2L products – NAVAC's NR7 Recovery Unit features a brushless DC motor, which helps provide substantial power in a compact, easy-to-store size. The unit's twin-cylinder, oil-free compressor, right-sized condenser and wider airflow path yield fast recovery. Its purge function prevents mixing of various refrigerants.

Exemplifying NAVAC's overall mission of making technicians' jobs simpler and more efficient, the new NR7 Recovery Unit's ergonomic features include one-key operation and a premium oil-filled gauge for exacting precision. Its simple one knob operation and a modern, sleek appearance combine with its compact stature to instill confidence and assuredness in users.

More information: www.navacglobal.com.



Hercules pH Test Meter

The **Hercules** pH Test Meter is designed for hydronic heating and cooling closed-loop systems, most solar heating systems, snow melts, radiant heat, and general plumbing systems.

The test meter is ideal for checking the acidity or alkalinity of heating or potable water systems and is designed to float if accidentally dropped into a tank.

The Hercules® pH Test Meter has a pH range from -2.0 to 16.0 pH. With automatic temperature compensation, the test meter can display the temperature in °C or °F along with a pH reading.

More information: www.Oatey.com.



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Tools & Test Instruments

The Power Tool Institute Online Safety Video



The Power Tool Institute (PTI), the leading organization for power tool safety resources, information, and education, is pleased to announce the launch of its new online safety video designed to help users better understand the safe way to use miter saws.

The video, another in PTI's series of safety videos, contains information on:

- Safe workspaces
- Planning work
- The components of a miter saw
- Different types of miter saws
- Safe miter saw operation
- How to safely make cuts

All PTI safety videos can be found under the Safety Education tab of the PTI website (<http://powertoolinstitute.com/pti-pages/ed-safety-videos.asp>), and on PTI's YouTube channel (<https://www.youtube.com/user/PowerToolInstitute>). PTI provides safety videos and information on different power tools, including table saws, angle grinders, circular saws, and general power tool safety.

It is important for users to always read the instruction manual before using any power tool. PTI also recommends users familiarize themselves with battery safety for any battery-powered tool.

More information: www.takechargeofyourbattery.com.



Resideo Technologies First Alert L2 Sensor

Resideo Technologies, a leading global provider of solutions for home comfort, energy management, and security, unveils the First Alert L2 WiFi Water Sensor and Switch. The First Alert L2 sensor is the latest addition to Resideo's award-winning First Alert L Series, a line of connected water-leak detection and shutoff products to help protect homes from costly water damage.

The First Alert L2 sensor can automatically shut off or turn

on HVAC equipment – including, air conditioners, heat pumps, dehumidifiers, and pumps, among others – if condensation or moisture is sensed where it doesn't belong. It's the only sensor on the market that features: WiFi connectivity, a sensing cable for added coverage, and monitors temperature and humidity trends.

“By expanding our water leak detection and protection solutions to HVAC applications, Resideo can now offer our HVAC partners and their homeowners even more ways to help safeguard properties against water damage, which is one of the most common and costly home insurance claims,” said Pat Tessier, Senior Director of Product Marketing at Resideo. “The First Alert L2 sensor delivers on our mission to help protect what matters most by eliminating the guesswork of locat-



ing excess condensation or moisture and stopping water damage at the source.”

Features include:

- Easy installation. The L2 sensor is hardwired to HVAC equipment and doesn't require a battery. Ideal for hard-to-reach installation locations, it features a reusable, five-foot cable sensor.
- Intelligent sensing. The L2 sensor monitors water, humidity and temperature and can be re-set after a leak occurs.
- Smart leak alerts. Homeowners are informed if condensation or

overflow from HVAC equipment has occurred via the Resideo app. The device also features LED lights that flash and a 100 dBA alarm when a leak is sensed.

• Expanded coverage. The L2 sensor is the next solution in company's L Series line, which includes the First Alert L5 WiFi Water Leak Shutoff Valve and the First Alert L1 WiFi Water Leak and Freeze Detector.

More information: www.resideo.com/pro/water.



RIDGID RP 241 Compact Press Tool

RIDGID, part of Emerson's professional tools portfolio, expands the capabilities of its RP 241 Compact Press Tool with the addition of RLS® Press Jaws for HVACR

applications. Designed to press ¼-inch to 1 3/8-inch copper, the Jaws when paired with the RP 241 improve productivity by cutting installation time up to 60 percent compared to traditional connection methods.

The Jaws, designed for use with RLS fittings, were developed in partnership with RLS creators of the first press-to-connect fitting systems for high pressure HVACR projects. Their fittings are fully registered and listed to UL207 for pressures up to 700psi.

“At RIDGID we're continuously looking for new ways to make our tools more useful on the jobsite. These new Jaws not only enhance efficiency, but also provide an opportunity for contractors to expand their press services,” said

Continued on Page 18

• IN STOCK •

MULTI PRO

The **GREE MultiPRO** is ideal for handling today's challenging spaces. Connect to a conventional-style multi-position air handler, high wall, or any of the other 7 ducted and ductless indoor unit options.

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- Up to 984 ft. piping distance
- Ideal for residential and commercial spaces

Stop by your local Baker or visit Bakerdist.com/gree-multipro today!

Introducing the New EZ FIT® 6K BTU Ceiling Cassette

The smaller MLZ-KY EZ FIT® One-way Ceiling Cassette recesses between I-joists, providing a clean flush-mount appearance. The slim body design fits into shallow ceiling cavities making the EZ FIT a perfect selection for new construction projects, hotels, office spaces or any room upgrade. Compatible with multi-zone heat pumps and featuring high/low ceiling airflow settings, automatic vane control and is easily serviceable from below. The new smaller EZ FIT is specifically designed to provide personalized room comfort for multiple applications.



MLZ-KY06NA Dimensions
W: 33-3/16 x D: 11-7/8 x H: 7-11/16

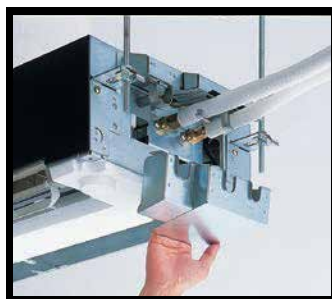
Compact Design

With its slim and compact design, new MLZ-KY model can be installed between a conventional joist and I-Joist.



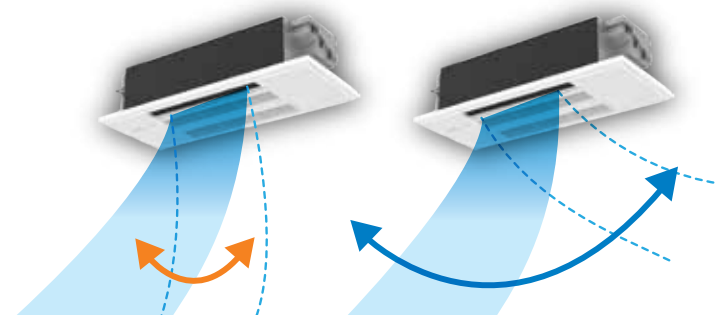
Serviceable from the Bottom

You have total access to the inside of the unit without requiring a service access panel.



Auto Vane Controller

Outlet vanes can be moved left and right, as well as up and down using the remote controller, improving airflow control.

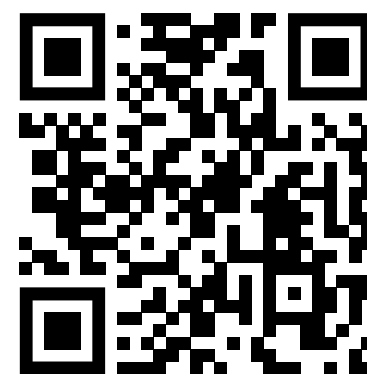




Key Features of the MLZ-KY06NA

- Designed to fit between I-joist spacing
- Stylish, square design panel
- Built-in condensate lift mechanism (19.6")
- Serviceable from the bottom (electrical and flare connections)
- Adjustable fan speeds and vane directions
- Washable antibacterial and deodorizing filter
- Multiple control options available:
 - Hand-held Remote Controller (provided with unit)
 - kumo cloud® smart device app for remote access
 - Third-party interface options
 - Wired or wireless controllers
 - Pocket inside the access panel for kumo cloud® Wireless Interface

Scan this QR code to watch a short video on the MLZ series products



Tools & Test Instruments

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Joe Devries, product manager, RIDGID for Emerson. “We’re excited to partner with RLS to bring the RP 241 Compact Press Tool, Jaws and Fitting innovation our brands are known for to the HVACR industry.”

The latest tool in the RIDGID Compact Press Tool family, the RP 241 has a low-profile design that is lightweight and balanced. It also features an ergonomic design to help users easily work in tight spaces. Bluetooth® connectivity connects the tool to the RIDGID Link® app, which allows users to track number of cycles, battery information, and much more.

Along with RLS Jaws, the RP 241 is compatible with all RIDGID Compact Series jaws, rings, and actuators and can press up to 1 ¼-inch (32 mm) on copper and stainless steel; up to 1 ½-inch (40 mm) on PEX tubing; and up to 1-inch (25 mm) carbon steel.

All RIDGID press tools come with the RIDGID Full Limited Lifetime Warranty and RLS fittings are backed by a 15-year limited warranty.

More information: www.RIDGID.com.

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Ruskin TDFi-FA



Ruskin introduces the TDFi-FA thermal dispersion fan inlet system for fan array applications within commercial HVAC systems. Using highly-accurate thermal dispersion sensing technology, the TDFi-FA measures both airflow rate and temperature and communicates system data to the building automation system (BAS) through analog outputs or communication protocols. This optimizes system performance for greater efficiency while maintaining fresh air ventilation for healthy environments.

“Ensuring healthy indoor ventilation rates while promoting optimum energy efficiency are

top priorities,” said John Haukap, product manager, Ruskin. “You need to monitor airflow to properly manage it. The TDFi-FA provides systems engineers the assurance that proper airflow is being delivered throughout occupied spaces.”

The compact design of the cantilevered sensor mounts at the fan inlet and serves as a single interface for up to 32 sensors across 16 fans of the same diameter.

TDFi-FA features include:

- Standard cabling and tool-free, one-touch setup that simplifies installation

- Built-in 1-, 2- or 3-point field calibration using actual airflows

- BACnet MS/TP, Modbus RTU and analog outputs are standard

- BACnet International (BTL listed), CE, UL-60730 listed, UL-60335-2-40 compliant, FCC Part 15 compliant

- Sensor Housing Assembly certified to IP-54 rating criteria per IEC 60529, Ed. 2.2 08/29/2013

The Ruskin TDFi-FA can help satisfy requirements for minimum outside air as required by LEED (USGBC), ASHRAE 62.1, ASHRAE 90.1, ASHRAE 189.1, California Title 24, International Mechanical Code (IMC) and International Energy Conservation Code (IECC).

More information: www.ruskin.com/model/tdfi-fa.

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SAMON GLACIÄR MICRO

GLACIÄR MICRO by **SAMON** is a small-format refrigerant leak detector specifically designed for integration into OEM equipment.

Typical applications include installation in heat pumps and refrigerated display cases to provide evaporator-level detection. As the global refrigerant market goes through phase-down of higher-GWP (global warming potential) refrigerants, the use of A2L refrigerants and natural refrigerants in refrigerated appliances and heat pumps is growing ever more important.

GLACIÄR MICRO is available in a version to detect A2L refrigerants including R454A, R454C, and R32, and a version specifically designed for R290 / propane detection.

GLACIÄR MICRO is equipped with infrared sensor technology and does not require maintenance and is equipped with auto-calibration of the zero point, protecting the measurement against offsets from baseline drift over time. With



a small footprint and low profile, measuring only 56x128x27mm and weighing just 75g, GLACIÄR MICRO is designed for easy integration into equipment where space is limited.

More information: <https://samon.se/>

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YELLOW JACKET P/N 69310



Ritchie Engineering Company, Inc., a leader in service tools for HVAC/R professionals and manufacturer of **YELLOW JACKET** products, is proud to introduce the Combustible Gas Leak Detector.

The **YELLOW JACKET** Combustible Gas Leak Detector P/N 69310 is the newest addition to our line of heating season test instruments. Combustible hydrocarbon gas (e.g. natural gases, LPG) measurements are digitally displayed in PPM, % Vol. and % LEL. With a rapid response time, the 69310 provides the ultimate detail for combustible gas leak detection. The user selected measurement is also displayed in a bar graph ranging from 0 to 100% of full scale.

Includes a convenient auto-zero drift adjustment and audible and visual indication in case of alarm. The flexible 11” wand (for hard-to-reach leaks) has the gas sensor mounted at the end for detection of low concentrations of hydrocarbons in gas appliances and pipes.

An essential tool, this Combustible Gas Leak Detector ensures the safety, efficiency, and proper operation of residential and light commercial heating appliances.

More information: www.yellowjacket.com/product/combustible-gas-leak-detector/.

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Spectronics Corporation SPE-SDSK-CS

The **Spectronics Corporation** GLO Seal Single-Use Syringe Injector & Dual Adapter kit, SPE-SDSK-CS, contains a 0.3 oz (10 ml) syringe prefilled with GLO Seal, and one dual adapter for injecting into the system.

GLO Seal is an OEM-Grade fluorescent UV dye combined with a powerful non-polymer sealant that can treat up to 2.5 tons (8,79kW) of cooling in this delivery method. The single-use disposable syringe injector offers a way to inject into the system with no additional tools needed.

The pivoting dual adapter was designed to treat systems with ease as a versatile 2-in-1 tool that easily switches from ¼” and 5/16th flare fittings. The kit provides a way to find and fix AC leaks and is a key component to have on hand to extend equipment lifespan, eliminate call-backs and prevent costly breakdowns through its 24/7 continuous leak detection and ongoing sealing.

More information: www.spectroline.com.



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DEWALT 20V MAX XR

The new **DEWALT** 20V MAX XR Brushless Cordless 3/16 in. (DCF403) and 1/4 in. (DCF414) Rivet Tools for fastening aluminum, steel, and stainless-steel blind rivets are designed to maximize productivity. The Cordless Rivet Tools are light weight yet powerful and feature tool-free nose piece changes for ease of use in prefabrication, assembly, HVAC, roofing, and automotive applications.

The new 20V MAX XR Brushless Cordless 3/16 in. Rivet Tool’s (DCF403) brushless motor delivers up to 2,100 pound force (lbf) of pulling force with a 0.98 in. stroke length and can tackle up to 800 3/16 in. stainless steel rivets per charge for efficiency on the jobsite.

The 20V MAX XR Brushless Cordless 1/4-in Rivet Tool (DCF414) boasts up to 4,500 lbf of pulling force with a 1.18-in. stroke length and fastens up to 300 1/4 in. stainless steel rivets



per charge. The Rivet Tools are designed with on-board nose piece storage and a mandrel collector to catch rivets after each shot.

Each tool is compatible with multiple size rivets including 3/32 inch, 1/8 inch, 5/32 inch, and 3/16 inch rivets; the DCF414 is also compatible with 1/4 inch rivets. Additionally, an LED light helps to illuminate work areas for precision fastening.

More information: www.dewalt.com.

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Sauermann Americas Gas Analyzers



The Si-CA 030 and Si-CA 130 combustion gas analyzers from **Sauermann Americas** have been integrated into the measureQuick platform. measureQuick is an HVACR wireless tool application that can connect tools, stream data, run diagnostics, and grade the equipment.

The new Si-CA range of robust, compact, lightweight, and intuitive devices takes combustion gas analysis to the next level, with digital technology delivering the speed and reliability that HVAC technicians need.

The analyzers are designed, manufactured, and serviced at Sauermann’s production line and metrology laboratories located in France and the USA.

More information: www.sauermanngroup.com.

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Platinum Tools PTS

The new PTS (Pass Through Standard) Pro Crimp Tool from **Platinum Tools** utilizes a sliding plate to change between the different types of connectors and a captive thumb screw to make swapping between connector styles seamless. The tool features a connector locking mechanism so

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Industry Education

Is a Heat Pump Really More Efficient than a 93% AFUE Gas Furnace?

By Mitchell Bailey
Bailey's Heating & Air, Inc.

Which is more efficient, a 95% AFUE natural gas furnace, or a heat pump with a HSPF of 9.0? A better question to ask, is which will cost less to run over a typical heating season? The answer will depend on what rates the customer is paying for energy. You cannot directly compare gas that is purchased by the therm to electricity that is purchased by the kilowatt. However, there is a simple solution, determine what the cost for each form of energy would be to produce a million BTU's/H.

With furnaces it is an easy calculation. A therm is a 100,000 BTU's therefore it takes 10-therms to make a million BTU's. However, we have to consider the efficiency of the furnace because not all the heat actually gets into the home. Depending on the efficiency, a percentage of the heat is exhausted with the flue gasses. There is a direct relationship between the AFUE and percentage of efficiency of a furnace. A furnace with an 80 AFUE rating is 80% efficient, while a furnace with an AFUE of 95 is 95% efficient. The next step is to then take the cost per therm and multiply by 10 and then multiply that by the reciprocal of the efficiency of

the furnace ($0.93 \div 1 = 1.075$). Example I have a 93% AFUE furnace, and natural gas at \$2.53 per therm. Thus: \$2.53 (therm) X 10 X 1.075 = \$27.20 to make a million BTU's. If the furnace was 80% then it would be \$2.53 (therm) X 10 X 1.25 = \$31.63 to make a million BTU's.

For heat pumps we do not use HSPF we use COP to calculate the cost to produce a million BTU's. COP or Coefficient of Performance is the amount of BTU's produced by a heat pump divided by the watts required to produce those BTU's multiplied by BTU's that a watt of electricity can make (3.412 BTU's per watt). The trick is knowing what COP to use.

OD MODEL 4TWR6036N1	ID MODEL TAMXB0C48V41	NOM CFM 1200	ARI REF # 210700291		
Published Date: 01/22/2024					
HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE					
ARI RATING FOR HEATING					
CFM	CAPACITY 4"	COP 4"	CAPACITY 17"	COP 17"	HSPF
1200	1800	1.8	2400	2.60	1.80
A.R.I. Standard Capacity Rating Conditions					
<small>A.B.I. STANDARD RATING CONDITIONS— (A) Cooling 81°F DB, 67°F WB air entering outdoor coil; 57°F DB air entering outdoor coil; (B) High Temperature Heating 47°F DB, 47°F WB air entering outdoor coil; 57°F DB air entering indoor coil; (C) Low Temperature Heating 17°F DB, 17°F WB air entering outdoor coil; 57°F DB air entering indoor coil; (D) Rated indoor airflow for heating is for use as the cooling.</small>					

Figure One

Fortunately, many manufacturers have published data on their heat pumps based upon certain ARI standard capacity rating conditions with one standard rating of COP at 47° DB outdoor and another at 17° DB outdoor.

For example, the combination of this 3-ton Trane 4TWR6036N1 heat pump with a Trane TAMXB-0C48V41 Air Handler (AHRI #210700291) can be looked up through Trane's website and would

show this 3-ton Trane system has a COP 47 of 3.90 and COP 17 at 2.60 (see **Figure One**).

The big variable is the amount of BTU's the unit will produce at these temperatures, at 47° it will produce 30,800 but only use 2.31 kilowatts, while at 17° it will produce 21,400 BTU's. The calculation for COP is the BTU's ÷ (3.412 (BTU's in a watt) X the COP), thus $30,800 \div (3.412 \times 3.90) = 2314$ watts or 2.31 kilowatts. So, by knowing the COP

we can divide a million BTU's to get the total watts needed to make that million BTU's and then multiply that by the kilowatt rate. For this particular unit it would look like this. $1,000,000 \text{ BTU's} \div (3.412 \times 3.90) = 75,150$ watts ÷ 1,000 (convert to kilowatts) = 75.15 kilowatts.

We then can take the average cost per kilowatt for the utility

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Editorial Focus

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connectors "click" into the tool for termination.

This tool also includes the cutting and stripping blades for Cat5e and 6 built directly into the handle. It also includes crimps standard pass-through and standard RJ45 connectors, a wiring guide printed directly on the tool for easy connector wiring, ergonomic grip for comfort during extended use, replaceable blades, and single cycle operation.

More information:
www.platinumtools.com.

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Troubleshooting

A Follow-Up on a Failed Compressor Diagnosis

By Jim Johnson
Contributing Editor

Your role in this month's troubleshooting situation is providing a second opinion on a failed compressor diagnosis. The customer's complaint is that the unit isn't keeping the building comfortable, and the equipment is a heat pump package unit that is just past the warranty period for the compressor. The technician who is asking you for a follow-up has limited experience with heat pump systems.

The technician's diagnosis that the compressor is inefficient is based on the pressure readings (a higher-than-normal suction pressure and lower-than-normal head pressure) found upon accessing the high and low sides of the system at the points shown in **Figure One**.

When you arrive, you confirm that this unit employs a fixed bore metering device for both the indoor and outdoor coils along with a check valve system (See Figure One) which leads you to the decision to take three steps:

1. Leave the unit shut down and return the next day in the afternoon to check the standing refrigerant pressure and compare it with a TP chart. The result of your test shows a temperature/pressure match.

2. Access the manufacturer's charging charts, operate the equipment, and conduct a superheat evaluation. Your finding is that the superheat is significantly lower than it should be.

3. Check the current draw of the compressor. Your finding is that it is normal.

Your troubleshooting question: *Have you confirmed your colleague's diagnosis, or have you determined that there is a different component that could be responsible for the poor performance of this system?*

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"

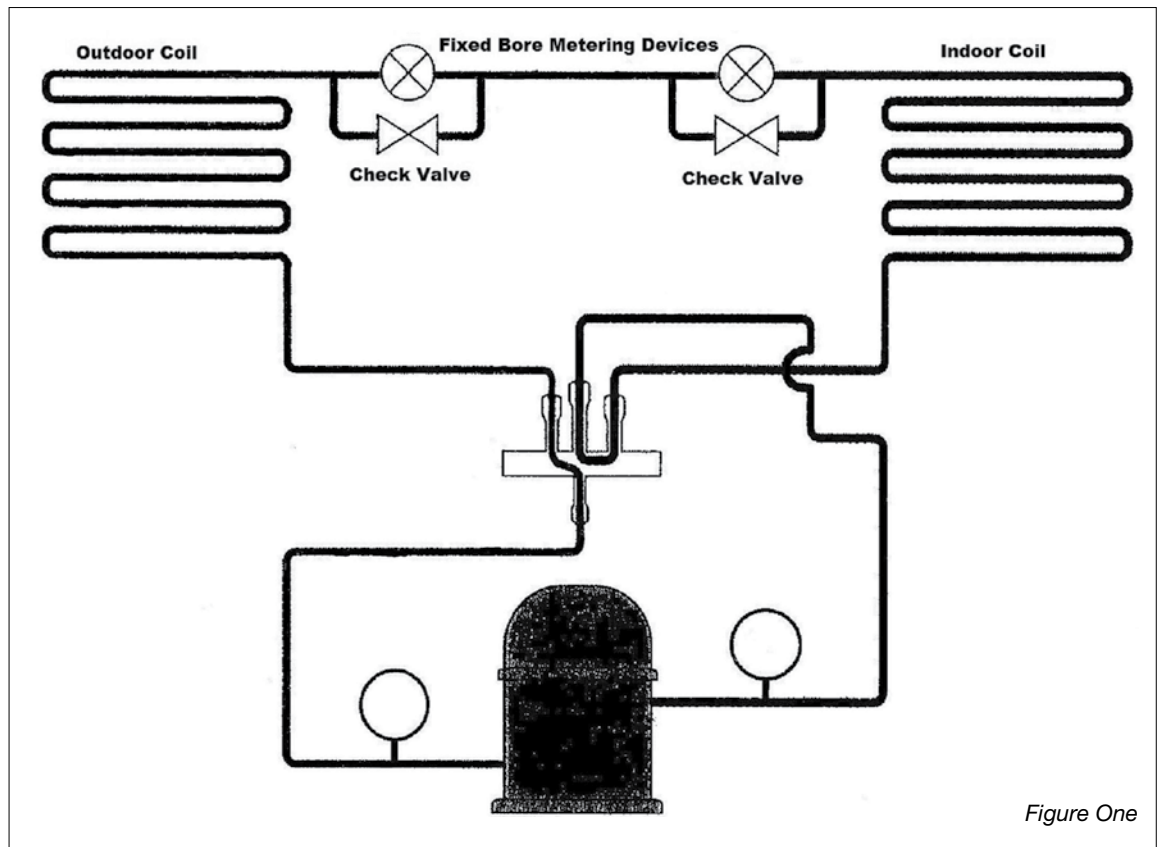


Figure One

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 Troubleshooting

The mistake that was made during the original repair was the reversing valve was not properly protected from heat when it was installed, resulting in damage to its seals. We proved this when our temperature test showed a higher-than-normal temperature differential.

The winner of last month's problem is:

Christopher Caceres

Technical Training

Growing Green Technicians Part 173: Blower Performance Data, ESP, Efficient Operation

By Jim Johnson
Contributing Editor

One of the fundamental aspects of being a green technician relates to proper air flow in an HVACR system in regard to ESP (External Static Pressure) and how manufacturer's information can be interpreted to understand the required CFM in a given system. When it comes to a comfort cooling system, one factor that is often mentioned in regard to proper heat exchange (and so, an effective comfort level) being accomplished is the general rule of 400 CFM per ton of refrigeration capacity. Of course, this doesn't always apply to every system that can operate at maximum efficiency in every situation.

Equipment installed in New Orleans, Louisiana, for example, where the humidity level can be in the neighborhood of 75 or even 85 percent in June and July, will perform at its best when the air flow is lower than the 400 CFM average we mentioned. On the other hand, a system that is keeping people

comfortable in Beatty, Nevada at the same time of the year will achieve optimum performance when the volume of air moving through the air handler is higher than the average since the humidity there can be as low as 10 percent through early and mid-summer.

In short, we may find a system in The Big Easy working well with an air flow of 375 CFM, while equipment in Death Valley will be operating effectively with an air flow of 425 CFM.

Setting climate differences aside for the moment, the specific equipment we'll be considering is a 2 1/2 ton system that employs a standard PSC blower motor, and we'll stay with the 400 CFM per ton standard. This means we will be listing the air flow at 1,000 CFM and relate it to the blower performance chart shown in **Figure One**.

Reviewing the information on our chart, you'll note that the air flow in CFM is shown on the left, and, across the top, you'll see that this chart can be used to show the ESP in water column inches

(in. w.g.) with either a vertical or horizontal unit. Other factors that are taken into consideration when evaluating the air flow in a system and comparing it with the manufacturer's data are the speed of the motor and the operating voltage.

For our example, we'll consider a high-speed operation and an operating voltage of 230 V, and a vertical system. It's also important to note that this chart shows that in both the vertical and horizontal listings, notes shown at the bottom may apply.

To begin, we'll consider the factors we'll plug in for our particular equipment.....2 1/2 ton vertical system, 1,000 CFM, high speed, 230 V....and the first step is to locate the CFM in the left column. Reading to the right in the HI column, we find that the ESP would be 0.33. Using the chart with the information plugged in tells us that this is the manufacturer's requirements and recommendations for this particular system.

Now, with that information at hand, we'll consider that we

Air flow, cfm	External static pressure (in. w.g.)											
	Vertical*						Horizontal**					
	230 V			208 V			230 V			208 V		
	HI	MED	LO	HI	MED	LO	HI	MED	LO	HI	MED	LO
500						0.55						
550						0.51						0.60
600					0.67	0.41						0.58
650			0.54		0.60	0.23			0.60			0.51
700			0.53		0.52	0.00			0.57		0.51	0.47
750		0.48	0.44	0.65	0.41			0.54	0.53		0.48	0.35
800	0.52	0.47	0.27	0.59	0.30		0.60	0.52	0.46	0.59	0.41	0.05
850	0.50	0.41	0.00	0.52	0.10		0.57	0.47	0.32	0.55	0.32	
900	0.47	0.30		0.42	0.01		0.54	0.40	0.03	0.52	0.21	
950	0.41	0.15		0.29			0.49	0.31		0.45	0.02	
1000	0.33	0.00		0.14			0.41	0.19		0.33		
1050	0.22			0.00			0.32	0.04		0.19		
1100	0.10						0.23			0.00		
1150	0.00						0.12					
1200							0.02					

* Vertical installation: With filter, no horizontal drip tray. Small apex baffles. Subtract 0.06 in. w.g. for downflow.
** Horizontal installation: As shipped, but without filter. Subtract 0.05 in. w.g. for horizontal left.

Figure One

completed a test of the system for its ESP and found that it was 0.52. in. w.g. With the test accomplished, we'll go back to the chart, and this time beginning with the 230 V HI column, and then reading left from the 0.52 reading, we find the listing in the CFM column to be 800, which would work out to 320 CFM per ton.

What we've proven here is that the air flow in this system is 80 CFM per ton off the mark according to the manufacturer's performance data, and an evaluation of the system needs to be accomplished, so that the problem (or problems) can be corrected in order to ensure efficient operation of the equipment.



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The Quality Residential HVAC Services Program is funded by California utility customers under the auspices of the California Public Utilities Commission and implemented by Frontier Energy under a contract awarded by San Diego Gas & Electric Company (SDG&E®). Customers who choose to participate in this program are not obligated to purchase any additional services offered by the Implementer. The trademarks used herein are the property of their respective owners.

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- **Get support** with the first few projects and access to specialized resources.
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Quality Maintenance	\$350	\$700
Quality Maintenance Call	\$150	\$300

New Products

RectorSeal LLC Fortress



RectorSeal LLC., a leading manufacturer of quality HVAC/R and plumbing products, is expanding its line of adjustable fittings for its Fortress cover products. Fortress products are well known for protecting ductless HVAC line-sets, wiring, and condensate drain hoses, ensuring code compliance, and providing a differentiated aesthetic look to an install.

RectorSeal announced the addition of four new fittings to its extensive line of Fortress products. Available in four satin-finish colors (white, ivory, brown, and gray) to complement installation exteriors, the new fittings are UV and weather-resistant and offer a snap-together design to connect with other Fortress brand covers. Fortress products a fully paintable for additional customization.

The new adjustable fittings provide increased flexibility to an HVAC technician and can reduce the number of fittings stocked in inventory or on a service truck. The new Fortress brand fittings are available in flat and vertical configurations. The adjustable flat fittings allow an installer to change directions on a wall surface. The vertical fittings should be used to change direction over an edge or around a corner. Both types of fittings allow the installer to create a 45-degree to 90-degree angle using only one of the new adjustable fittings. The fittings are available in 3.5-inch and 4.5-inch sizes.

More information:
www.rectorseal.com.

Greenheck XG-AFL Diffuser

Greenheck's XG-AFL Series of architectural high-capacity linear slot diffusers are designed for ceiling and sidewall installation in variable volume or constant volume air distribution systems.

Available in single-section lengths up to 96 inches with one or two slots, versatile XG-AFL Series diffusers can be specified in various frame types and eight border configurations to complement any interior.

Combination frames are also available for applications that require two different frame types on a single linear. XG-AFL Series diffusers can be curved to produce a flat, concave, or convex face ceiling unit. Straight or combination pattern controllers are easily adjustable, allowing airflow to be directed horizontally or vertically. A universal plenum designed to work with any of the AFL frames makes duct connection easy allowing for quick installation.

More information:
www.greenheck.com.



Uponor AquaPEX Blue Pipe

Designed to address skilled-labor challenges with a solution that offers full-color differentiation for cold-water plumbing lines, Uponor AquaPEX® Blue pipe is now available for residential and commercial domestic-water applications.

The high-quality PEX-a pipe is available in 1/2", 3/4", and 1" coils



and straight lengths to meet any project need, and it features a six-month UV resistance along with the highest chlorine resistance rating of '5' for the greatest durability and performance.

"Reintroducing Uponor AquaPEX Blue pipe provides professionals with a trusted, reliable solution they can depend on that won't pit, scale, or corrode like metal piping systems can and won't microcrack when expanding like PEX-b piping systems can," says Daniel Worm, manager, North America Portfolio Application. "Additionally, the blue pipe – like all other Uponor PEX-a piping products – can expand up to three times the outside diameter to be extremely resilient in freezing conditions."

Uponor AquaPEX Blue pipe is manufactured in the U.S. for fast distribution and is confidently backed by an industry-leading 25-year transferable limited warranty when used with Uponor ProPEX® rings and fittings as a complete system.

More information:
www.uponor.com.

Aspen Manufacturing CP/DP Plenum Coil

Aspen Manufacturing, LLC (Aspen), one of the largest independent manufacturers of evaporator coils and air handlers for the residential and commercial heating, ventilation, and air conditioning (HVAC) marketplace in the United States and Canada, announces the introduction of

the dedicated horizontal CP/DP plenum coils loaded with features to enhance installation, operation, and performance.

The CP coil is a rifled copper tube with an improved aluminum fin design, whereas the DP is an all-aluminum evaporator coil. Both models feature smaller cabinet dimensions than other models but offer a larger heat exchanger surface for improved efficiency and increased AHRI matches. The reduced cabinet size allows for an easy one-person installation thanks to an innovative furnace support bracket. In addition, the units include a transition plate that supports the installation of multiple furnace sizes. The CP and DP units are backed by Aspen's 10-year limited warranty with registration.

Standard features on the CP and DP coils include:

- Patent Pending 3-panel access door design for easy installation, service, and maintenance
- Immersion tested at 500 psi, then nitrogen-pressurized and sealed (CP)
- Two-stage pressure decay with a mass spectrometer, then nitrogen-pressurized and sealed (DP)
- Knockout on top of units for easy installation of a UV coil light
- Refrigerant lines exit from the top of the coil with Schrader valve for hiss-testing
- Fully insulated cabinet with plenum sides and back constructed of foil-backed, faced one-inch-thick fiberglass duct board
- Large plenum for connecting multiple duct collars up to 14-inches
- Heavy-duty plastic primary drain pan with condensate drains on two cabinet sides

More information:
www.aspenmfg.com.



Gripple UniGrip

Gripple, one of the leading manufacturers of wire joining and tensioning solutions for MEP applications, has expanded its innovative UniGrip wire suspension system to now support heavy duty duct and multi-tier piping runs. Joining Gripple's UniGrip 2, 3, and 4 Cable Hanger family is the



UniGrip 6 – the only single-channel cable fastener on the market capable of accommodating 6mm (1/4") cable and boasting a SWL (Safe Working Load) of 800 lbs.

The UniGrip 6 fastener features a 3/4" male thread for attaching to back-to-back strut or brackets, with both Center Exit and Side Exit versions available for the cable exit. The UG6 Cable Hanger Kit now opens up the door for the trapezing of large heavy-duty ductwork and multi-tier piping runs – all with cable hangers instead of threaded rod. UniGrip 6 offers huge contractor benefits on projects such as hospitals, data centers and other large industrial and commercial builds, by allowing contractors to replace threaded rod and the associated handling challenges.

The UniGrip 6 has been independently tested and approved to support safe working loads of 800 lbs and is ICC and UL 2239 approved for the support of conduit.

In 2017, when Gripple first introduced its UniGrip single-channel fasteners to the construction market, the subsequent UniGrip 2, 3, and 4 Cable Hanger range held the highest safe working loads of any comparable Gripple Cable Hangers to date – 120 lbs., 240 lbs., and 550 lbs., respectively. Now with the introduction of the UniGrip 6, Gripple is proud to have the only single-channel cable fastener on the market capable of accommodating 6mm (1/4") cable, and boasting a hefty 800 lb safe working load per hanger. Gripple's UniGrip range has already been utilized on major projects across the world and is renowned for being up to six times faster to install than traditional suspension systems. The new UniGrip 6 can be pre-installed on back-to-back strut for off-site pre-fab, and to reduce time spent working at heights.

With its compact design, you can fit ten 10ft drops into one small box, significantly improving handling and eliminating cutting with hot works. The high strength steel cable helps lower the buildings embodied CO2, as part of enhancing sustainability. UniGrip 6 has the highest load rating capability of any wire suspension system of its type.

More information: <https://www.gripple.com/building-services/hvac/>.

New Products

FrogTape Rookie Painter's Handbook



Known for its industry-leading painter's tapes, **FrogTape** brand introduces the Rookie Painter's Handbook, a free, downloadable training tool geared for new painters.

The Rookie Painter's Handbook is a valuable supplement to on-the-job skills training that can save painting companies time by providing new hires with information and background to jumpstart their entry into the industry. Covering everything from basic techniques and common trade tools to communication skills and leadership tips, the handbook offers novice painting pros a leg up by helping them become better craftsmen, teammates and employees, as well as developing their customer relationship skills.

Experienced painting contractors, supervisors and managers are encouraged to share the Rookie Painter's Handbook as a standard training aid for onboarding new team members. As veteran painters know, true industry success comes from a combination of strong work ethic, a willingness to learn, and constant attention to honing your craft, which was the genesis for the handbook.

The content of the handbook covers best practices in prepping, painting and on-the-job safety; how to choose paints, brushes, sprayers and tapes for various applications; and navigating the professional landscape of coworkers and customers.

More information:

www.frogtape.com/rookie-handbook.

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Watts ArmorTek

Watts introduces the **ArmorTek™** advanced coating system for ACVs. With an 8-year Microbiologically Induced Corrosion (MIC) warranty, this advanced patent pending technology is now available on Watts Classic and Mustang valves, providing three layers

of protection to create an effective barrier, dramatically increasing resistance to corrosion.

Watts ArmorTek includes:

- An Anti-corrosion primer containing an electrochemical corrosion inhibitor that significantly slows the spread of corrosion should the metal substrate become exposed from wear or impact.
- A Microbial inhibitor which curbs the growth of bacteria that causes microbial-induced corrosion or MIC. This further slows the spread of corrosion and limits the growth of tubercles that can clog or foul downstream equipment.
- A Robust topcoat specially designed to bond to the primer below, providing a high-strength barrier between the iron substrate and water.



More information:

www.Watts.com/ArmorTek.

• • • • •

Modine Coatings

EVAPCO's new PHW induced-draft parallel hybrid fluid cooler is designed to maximize heat rejection, allowing reduction of connected horsepower.

The CTI-certified PHW is designed as a compliment to EVAPCO's ESW4, the company's largest and most energy-efficient single cell

evaporative cooler.

The PHW offers high-tonnage capacity and layout flexibility for industrial plants, data centers and large HVAC applications, especially where requirements call for fewest units, connections and fans. Two box sizes are offered: 12 ft. x 24 ft. and 14 ft. x 26 ft. Fan motor sizes are 30 HP to 100 HP, with two 7.5 HP pump motors per cell.

Hot process fluid enters the coil through lower coil connections. Cooled water from the basin unit is pumped through distribution nozzles to be sprayed over the coils. Ambient air is drawn into the unit from above in parallel flow with water over the coil.

A portion of the recirculated water evaporates; this evaporation – with cooled water flowing over the tubes – removes heat from



the process fluid. Cooled process fluid leaves the coil through top coil connections, returning to the system. Includes EVAPCO's XPak™ bonded block fill, and high efficiency drift eliminators.

EVAPCO provides a full spectrum of global product solutions for the commercial HVAC, industrial refrigeration, power generation and industrial process markets.

More information:

www.evapco.com.

Fueling Sustainability Conference

» Conference Details

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8:00 a.m. - 3:00 p.m.



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Green Technologies

Leveraging the Versatility of Hydrogen to Decarbonize California's Commercial Facilities

Hydrogen is a powerful and flexible low-carbon molecule that can help global economies transition to cleaner energy systems. To increase the adoption of hydrogen-based fuels to meet the growing demand for decarbonization, however, requires innovation and collaboration to get these transitions right.

Last year, the California Energy Commission awarded GTI Energy and partners nearly \$1.8 million to commission a technical study that looks at the impact of use of hydrogen and hydrogen blends in existing appliances and equipment as a potential decarbonization strategy for the state's large commercial buildings and industrial sector. Through the collaborative study, GTI Energy and its partners are defining the upper practical limit of hydrogen use in large commercial and industrial facilities in the state, data which will support the developing Regional Clean Hydrogen Hubs and help transition California to a cleaner energy economy.

The project team, which consists of GTI Energy, Electric Power Research Institute, University of California, Irvine, and the Air-Conditioning, Heating, and Refrigeration Institute, aims to quantify the costs, safety implications, and emissions benefits of adopting hydrogen-based fuels in these sectors through a broad techno-economic assessment (TEA). The initial TEA, informed by laboratory testing, combustion simulation, air

quality modeling, and stakeholder feedback, outlines five hydrogen adoption scenarios, assesses equipment performance, and quantifies the ability of each scenario to reduce carbon emissions.

This project is supported by the California Energy Commission, Low-Carbon Resources Initiative, Southern California Gas, Pacific Gas & Electric, Southwest Gas, and Utilization Technology Development NFP.

By collaborating with government, industry, and academia stakeholders across the hydrogen value chain, the project team will help create the conditions necessary for low-emission hydrogen to lead in the transition to cleaner energy systems. The team expects to share results of the completed study in the next couple of years.

"This research will help inform the state and the private sector about the potential for hydrogen to help decarbonize commercial buildings and industrial processes," said Commissioner Patty Monahan, California Energy Commission. "Some processes and equipment can be difficult to electrify directly, so hydrogen and other innovative solutions will be needed to reach state goals for climate and clean air."

"GTI Energy is focused on providing options for commercial and Industrial customers to decarbonize their operations with hydrogen-based fuels, with an eye towards

safety, equity, and environmental impacts," said Paul Glanville, Sr. Research & Development Director, Hydrogen Technology Center, GTI Energy. "We are fortunate to lean on decades of collaboration experience to ensure that through this partnership and our technical team support, we can help decarbonize California's businesses and industry."

"Making net-zero ambitions a reality will depend on a comprehensive set of clean energy solutions, from power generation to end use," said Neva Espinoza, Vice President of Energy Supply and Low-Carbon Resources, Electric Power Research Institute. "This study aims to answer important questions and uncover new insights on the potential role of hydrogen in decarbonizing hard-to-abate sectors."

"UC Irvine looks forward to contributing to the knowledge of how hydrogen can effectively decarbonize commercial buildings and industrial processes, as hydrogen needs to play a role in our future decarbonization strategies for us to attain true carbon neutrality," said Vince McDonell, Associate Director and Combustion Laboratory and Adjunct Professor, University of California, Irvine.

"The team assembled is uniquely qualified to carry out the wide and ambitious scope of this effort. Numerous questions regarding end use impacts will be addressed including those regarding emissions, materials impact, durability, and efficiency."

"Hydrogen enrichment offers



The boiler array ILNG project, one of the many commissioned by GTI Energy.

great decarbonization opportunities for our industry and holds promise for accelerating its ongoing environmental stewardship efforts," said Xudong Wang, Vice President of Research, Air-Conditioning, Heating, and Refrigeration Institute (AHRI). "AHRI and its members are committed to greenhouse gas emission reductions, while promoting sustainable, reliable, and affordable access to the essential heating and cooling provided by the products they manufacture."

"Utilization Technology Development (UTD) NFP is pleased to financially partner

with the California Energy Commission and others to advance the role of hydrogen in fueling large commercial buildings and industrial processes," said Rich Kooy, Vice President of Operations for UTD at GTI Energy. "This coordinated research work can accelerate market transformation both within and far beyond the State of California, including through UTD's utility members located across North America."

For more information on this project, please visit our website: <https://www.gti.energy/versatility-of-hydrogen-to-decarbonize-californias-large-commercial-industrial-facilities/>.

GreenMatch UK Highlights Cost-Saving Benefits of Heat Recovery Systems During Winter

GreenMatch UK, a leading provider of sustainable energy solutions, is pleased to announce the cost-saving benefits of heat recovery systems, especially during the winter period when energy costs are high. GreenMatch UK aims to reduce energy consumption, lower carbon emissions, and offer substantial cost savings to individuals and businesses.

The winter season often brings soaring energy bills, and heat recovery systems offer an innovative solution. By capturing and reusing waste heat, these systems significantly reduce energy consumption and costs. With the ability to recover heat from various sources, such as industrial processes and HVAC systems, this technology helps businesses and households save money while reducing their carbon footprint.

Moreover, one of the main advantages of the Heat Recovery System is its potential for significant financial savings. Those who install this system on domestic property may save

25%-50% on energy bills due to the reduced heating demand. For commercial premises, the savings can be even more significant, with the potential to save around 38% from a company's or organisation's gas bill. The high efficiencies this system offers mean that you could expect a complete return on your investment after just two years.

In addition to the financial benefits, the Heat Recovery System contributes to a healthier living and working environment. It reduces pollutants and allergens, providing cleaner and better air. Moreover, it reduces humidity and condensation, which can cause health problems and affect walls and structures over time.

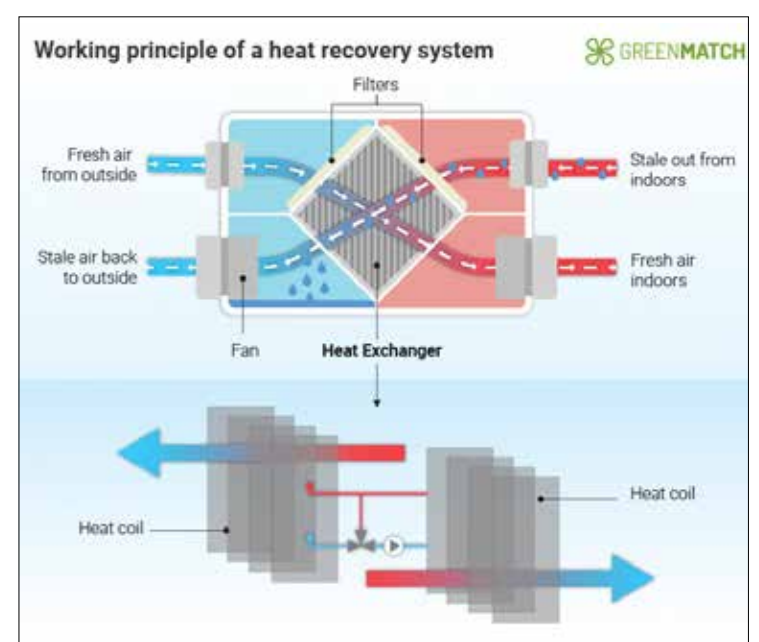
The Heat Recovery System is not only a solution for energy efficiency and cost reduction but also a step towards a sustainable future. It lowers the levels of carbon dioxide, contributing to the reduction of greenhouse gas emissions. This aligns with GreenMatch UK's com-

mitment to promoting a sustainable and green lifestyle.

"Our mission at GreenMatch UK is to make sustainable living a fundamental right for all," said Bart Van der Meer, Search Director at Leads, GreenMatch UK. "We believe that by advocating innovative solutions like heat recovery systems, we can empower individuals and businesses to embrace a greener lifestyle while also reaping the economic benefits of reduced energy costs."

As energy prices continue to rise, the savings potential of heat recovery systems becomes even more significant. Even in the colder months, when heating costs are typically higher, these systems can help maintain a comfortable indoor temperature without significantly increasing energy costs.

Adopting a heat recovery system is not just a smart financial decision; it's a step towards a more sustainable future. By reducing energy consumption and carbon emissions, we can



all contribute to the fight against climate change. GreenMatch UK is committed to promoting a green lifestyle. While we do not produce heat recovery systems, we strongly advocate for their adoption. Through informed

choices, we can collectively make a significant impact on our planet's health.

For more information about heat recovery systems and other sustainable living solutions, please visit www.greenmatch.co.uk.



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NOVEMBER 7, 2023, PASADENA, CA



Kevin Palmer of Panasonic Eco Systems.



Bach Tran (left) and Gagandeep Singh of the California Energy Commission.



Kyle Robertson of Amalina Technologies Chiller Services Refrigerants.



Gerry Spanger (left) and Jim DeSantis of MarketAir Inc.



Carlos Carrillo of A-Gas.



Brant DeBoer (left) and Caitlen Coats of My Metal Business Card.



Greg Bokan (right) of Trutech Tools, with trade show attendee Reyes Vazquez.



Jordan Chechitelli (left) and Max Lai of SMACNA.



Mike Perry of L.H. Dottie Company.



Emilyanne Nagy (left) and Andrew Smith of the National Comfort Institute (NCI).



The Inaba Denko America booth.



Elisa Campos of Royal Service Supplies.

SEE YOU NOVEMBER 13, 2024 FOR THE 44th ANNUAL TRADE SHOW

Case Studies

Choice Hotels Goes Green as Initiative Gains Momentum Among Franchises

Hospitality is a competitive business. By its nature, the hotel industry isn't conducive to maintaining a small carbon footprint. Linens are washed every night and guests have full control of the temperature in the room. More than a few hotel franchises, however, are making a serious effort to change that.

Choice Hotels is an international hospitality franchisor that recently acquired the Radison name, bringing its hotel portfolio to 10,000 properties. In a monthly newsletter distributed to all its franchisers, Choice highlights various news related to its Room to be Green initiative. Franchisees (hotel owners) may operate their properties as they please, but Choice Hotels corporate encourages energy efficiency and reducing dependence on fossil fuels.

"Choice is trying to make a difference, and so are a number of other hospitality brands," said Casey McCall, general manager and part owner the Quality Inn in Moriarty, N.M. His parents own the majority of the hotel, along with a nearby Comfort Inn. Five years ago, they invested \$400,000 dollars to install a large solar photovoltaic array on the roof of the hotel. It's the largest privately-owned solar grid east of Albuquerque to the Texas border.

"At 112 kW, the solar array provides 70 to 80 percent of our electricity need," explained McCall. "Since 2016, we've been assessing where we can make energy improvements at our properties. We want to be as green as possible. The next step for us was updating our heating and cooling systems. I grew up working here and at other hotels and have witnessed how critical heating and cooling equipment is to guest comfort. I know that it can be a giant headache, too."

Most hotels and motels rely on PTAC units (packaged terminal air conditioners) for climate control of individual rooms, despite its reputation for being loud, inefficient, and providing only moderate comfort. But the PTAC did have some competition in the budget-minded hospitality market at one point in time.

In the 1980s and 90s, it wasn't uncommon for hotels to install vertical self-contained air handlers. As the name implies, these units were of a vertical configuration, rather than the horizontal design of a PTAC. These air handlers also don't utilize a standard wall penetration for simple replacement. Depending on the installation,



(L-R) Casey McCall, Jeff Polk, Reese Polk, Ed Donahue and Raleigh Nelson gather outside the Quality Inn Moriarty.

vertical self-contained air handlers are also very difficult to service.

Seeking solutions

"These air handlers weight about 150 pounds, and they need to be completely un-installed and removed simply to clean them," explained McCall, who knows the systems well because there are 72 such units installed at the Quality Inn. "It's windy and dusty in New Mexico, and the coils get dirty fast. We burn up compressors quickly."

EcoAir Inc., in Albuquerque, N.M., has serviced the R-22, single-stage air handlers at the Quality Inn for years. The mechanical company specializes in residential and light commercial troubleshooting, repair, and high efficiency installations.

"The McCall family has been looking for a good solution for years," said Jeff Polk, owner of EcoAir. "But they wouldn't make a change until they found a solution that offered better occupant comfort and higher efficiency. Also, they insisted the solution be single zone, so that if a unit failed, only one guest room would be affected. We finally came up with something that exceeded everyone's expectations."

Doc Savage Supply's operations and HVAC manager Josh Mize attended Fujitsu General America's National Distributor Conference in 2021. There, he learned of a new heat pump product and spoke with Polk about the possibility of using it in hotel and motel applications.

"Josh Mize and Ed Donahue, owner of Doc Savage, showed me literature on the new 21-SEER STHP heat pump," said Polk. "It's essentially a 9,000 BTU/h mini-split designed as a direct replacement for PTACs. The condensing unit is installed within a wall sleeve that occupies a standard

PTAC penetration, and the air handler is identical to a mini-split wall-hung unit."

Offering all the benefits of a mini-split, the Fujitsu STHP (Split Terminal Heat Pump) looked like a great solution for Quality Inn Moriarty, except that the property's HVAC units were not PTACs. This added an element of uncertainty.

Trial run

The existing vertical air handlers at the hotel were installed in a framed-out corner of each guest room. A penetration through the building exterior provided exchange air, and a large supply grille provided conditioned air to the room. Because the wall penetration sleeve provided with the STHP couldn't be used, Polk was unsure if the existing mechanical space could be customized to accommodate the STHP.

Reps at Doc Savage had the same question, and organized a meeting between Polk and Fujitsu to determine if the application would work. Last year, Raleigh Nelson, Fujitsu Southwest regional manager and Karim Yasin, Fujitsu's Sr. director of product management, met Polk at the hotel.

"The inverter-driven Fujitsu STHP was designed as a simple drop-in replacement of a PTAC unit, which isn't what the Quality Inn Moriarty had," explained Nelson. "That said, there was ample space, and with a little customization, it looked like the STHP would work perfectly. We provided EcoAir with two test units to install."

Two EcoAir technicians removed the 25-year-old air handlers and installed the new STHP heat pump. They built a custom sheet metal diverter to separate the outdoor and indoor air streams. Installation went quickly because there was no demolition involved and the existing 220-volt service was re-used. Even the existing supply grille remained



The size and weight difference between the new and original units is significant.

in place for service access.

Linesets, which are covered with line concealment, run from the condensing unit across the interior wall to the indoor unit. To avoid lost or broken remote controls, a hard-wired thermostat was installed.

Mr. Anderson's room

"We have a lot of extended stay guests," said McCall. "Some work for the railroad and others are involved with a multi-billion-dollar wind farm installation nearby. In fact, it'll be the largest wind farm in North America when it's complete."

"One guest in particular, Mr. Anderson, stays with us about 250 days each year," continued McCall. "He stayed in one of the two retrofitted rooms during the test phase and now requests that room. The retrofitted rooms are much quieter and maintain temperature setpoint perfectly."

Hotel staff now refers to that room as "Mr. Anderson's room."

What the guests aren't aware of is the ease of service and much higher efficiency. This made the decision to retrofit the entire property simple.

After several months of testing the first two systems, the McCalls hired EcoAir to retrofit each guest room with the new heat pumps. All product has been purchased, but work progresses only when there's vacancy.

"We work in two-day blocks," said Polk. "Four technicians go to the hotel, stay overnight, and complete eight rooms. It's effective and meets the pace that we've been asked to keep. The goal is to have the entire second floor finished by early October, in time for the Albuquerque Hot Air Balloon Fiesta."

"A complete retrofit takes a little over four hours," continued Polk. "I'd imagine that if we were replacing PTACs and utilizing the wall sleeve provided with the

Continued on Page 30

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Mon., April 15 – Part 3

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MAY

Air Distribution Module

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., May 22 – Part 1

Thurs., May 23 – Part 2

Wed., May 29 – Part 3

Thurs., May 30 – Part 4

JUNE

System Diagnostics Module (Webinar)

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Mon., June 3 – Part 1

Tues., June 4 – Part 2

Mon., June 10 – Part 3

Tues., June 11 – Part 4

JULY / AUGUST

System Performance Module

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., July 10 – Part 1

Thurs., July 11 – Part 2

Wed., Aug. 7 – Part 3

Thurs., Aug. 8 – Part 4

SEPTEMBER

NATE CORE & Gas Heating Training (Webinar)

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Mon., Sept. 16 – Part 1

Tues., Sept. 17 – Part 2

Mon., Sept. 23 – Part 3

Tues., Sept. 24 – Part 4

OCTOBER

NATE AC/HP Refrigeration & Air Distribution Training (Webinar)

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Mon., Oct. 21 – Part 1

Tues., Oct. 22 – Part 2

Mon., Oct. 28 – Part 3

Tues., Oct. 29 – Part 4

Sat., Nov. 2 - NATE Exam, 7:30 a.m. In-Person/Onsite

SOUTHERN CALIFORNIA EDISON, IRWINDALE

MARCH

Air Distribution Module

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., March 13 – Part 1

Thurs., March 14 – Part 2

Wed., March 20 – Part 3

Thurs., March 21 – Part 4

APRIL

AC/HP Refrigeration Module

(Four-Night Class) Instructor: John Dalton

Wed., April 10 – Part 1

Thurs., April 11 – Part 2

Wed., April 17 – Part 3

Thurs., April 18 – Part 4

MAY

NATE CORE & Gas Heating Training

(Four-Night Class) Instructor: Mike Griffin

Wed., May 8 – Part 1

Thurs., May 9 – Part 2

Wed., May 15 – Part 3

Thurs., May 16 – Part 4

JUNE

NATE AC/HP Refrigeration & Air Distribution Training

(Four-Night Class) Instructor: Mike Griffin

Wed., June 5 – Part 1

Thurs., June 6 – Part 2

Wed., June 12 – Part 3

Thurs., June 13 – Part 4

Sat., June 15 - NATE Exam, 7:30 a.m.

SEPTEMBER

System Diagnostics Module

(Four-Night Class) Instructor: John Dalton

Wed., Sept. 11 – Part 1

Thurs., Sept. 12 – Part 2

Wed., Sept. 18 – Part 3

Thurs., Sept. 19 – Part 4

OCTOBER

Commercial Chillers Module

(Two-Night Class) Instructor: John Dalton

Wed., Oct. 2 – Part 1

Thurs., Oct. 3 – Part 2

Commercial Cooling Towers Module

(Two-Night Class) Instructor: John Dalton

Wed., Oct. 9 – Part 1

Thurs., Oct. 10 – Part 2

NOVEMBER

System Performance Module

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., Nov. 6 – Part 1

Thurs., Nov. 7 – Part 2

Tues., Nov. 12 – Part 3

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(Two-Night Class) Instructor: John Dalton

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Air Distribution Module

(Four-Night Class) Instructors: Mike Griffin/ Mitch Bailey

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Thurs., April 11 – Part 2

Wed., April 17 – Part 3

Thurs., April 18 – Part 4

MAY

System Performance Module

(Four-Night Class) Instructors: Mitch Bailey / Bob Gunn

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Thurs., May 9 – Part 2

Wed., May 15 – Part 3

Thurs., May 16 – Part 4

JUNE

AC/HP Refrigeration Module

(Four-Night Class) Instructor: Mitch Bailey

Tues., June 18 – Part 1

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Tues., June 25 – Part 3

Wed., June 26 – Part 4

SEPTEMBER

System Diagnostics Module

(Four-Night Class) Instructor: Mitch Bailey

Wed., Sept. 18 – Part 1

Thurs., Sept. 19 – Part 2

Wed., Sept. 25 – Part 3

Thurs., Sept. 26 – Part 4

OCTOBER

NATE CORE & Gas Heating Training

(Four-Night Class) Instructor: Mitch Bailey

Wed., Oct. 9 – Part 1

Thurs., Oct. 10 – Part 2

Wed., Oct. 16 – Part 3

Thurs., Oct. 17 – Part 4

OCTOBER / NOVEMBER

NATE AC/HP Refrigeration & Air Distribution Training

(Four-Night Class) Instructor: Mitch Bailey

Tues., Oct. 29 – Part 1

Wed., Oct. 30 – Part 2

Wed., Nov. 6 – Part 3

Thurs., Nov. 7 – Part 4

Sat., Nov. 9 - NATE Exam, 7:30 a.m.

PACIFIC GAS AND ELECTRIC COMPANY, STOCKTON

FEBRUARY / MARCH

NATE HVAC/R New Hire (Webinar)

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Wed., Feb. 28 – Part 1


Thurs., Feb. 29 – Part 2

Wed., Mar. 6 – Part 3

Thurs., Mar. 7 – Part 4

MARCH

NATE HVAC/R Support Training (Webinar)

 (Four-Night Class) Instructor: Mitch Bailey

Wed., Mar. 13 – Part 1

Thurs., Mar. 14 – Part 2

Wed., Mar. 20 – Part 3

Thurs., Mar. 21 – Part 4

MARCH / APRIL

Air Distribution Module (In-Person/Simulcast)

(Four-Night Class) Instructor: Mitch Bailey

Wed., Mar. 27 – Part 1

Thurs., Mar. 28 – Part 2

Wed., April 3 – Part 3

Thurs., April 4 – Part 4

APRIL / MAY

System Performance Module (In-Person/Simulcast)

(Four-Night Class) Instructor: Mitch Bailey

Wed., April 24 – Part 1

Thurs., April 25 – Part 2

Wed., May 1 – Part 3

Thurs., May 2 – Part 4

MAY

AC/HP Refrigeration Module (Webinar)

(Four-Night Class) Instructor: Mitch Bailey

Wed., May 22 – Part 1

Thurs., May 23 – Part 2

Wed., May 29 – Part 3

Thurs., May 30 – Part 4

SEPTEMBER

System Diagnostics Module (Webinar)

(Four-Night Class) Instructor: Mitch Bailey

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Wed., Sept. 11 – Part 3

Thurs., Sept. 12 – Part 4

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Indoor People



Victor Gomez

Samsung HVAC America is pleased to announce the appointment of **Victor Gomez** as the new Senior Vice President and Chief Operating Officer. Bringing extensive experience from senior executive roles responsible for sales, supply chain management and business strategy, Gomez contributes a wealth of expertise to strategically position Samsung for ongoing growth and success in the North American market.

Gomez comes to Samsung HVAC America after a long tenure with Fujitsu, where he spent 17 years rising to the position of Senior Vice President of Operations. With his background in electrical engineering technology and an MBA in Marketing, Gomez brings a unique blend of technical expertise and strategic acumen to his new role. His wealth of experience encompasses not only operational leadership but also a keen understanding of market dynamics and customer needs.

As a U.S. Army Airborne veteran, Gomez's proven track record and dedication to fostering success makes him a key player in driving the company's growth and maintaining its position as a leader in the market. Gomez joined Samsung ahead of the 2024 AHR Expo where the company showcased a diverse array of products and solutions under the theme "Innovation in Every Degree." This theme resonates with Gomez's arrival at Samsung and underscores his commitment to delivering innovation and excellence in the HVAC industry.



NAVAC, the world's largest supplier of vacuum pumps in addition to a wide array of tools, gauges, charging machines, recovery units and industry-specific items, has hired industry veteran **Mike DeLisi** as Director of Sales for its Industrial Vacuum Business unit. In this role, DeLisi will collaborate with Brian Cox, Director of the Industrial Business Unit; DeLisi will predominantly focus on sales channel development and marketing efforts, while Cox oversees overall business planning and execution.

DeLisi has over 15 years of sales experience in the industrial vacuum sector, and has established high-value relationships with a variety of companies in NAVAC's target sales set. He brings a proven growth-oriented track record, helping two other vacuum technology companies emerge from smaller entities into well-regarded industry mainstays.

Over its first five years operating in North America, NAVAC has quickly established itself as a major supplier to the HVAC/R sector. This is evidenced not only by upwardly-trending sales, but also a growing workforce and inroads into a variety of high-leverage markets. The addition of DeLisi exemplifies NAVAC's intentions to exponentially expand its industrial vacuum market share in North America over the near-term.

"Mike has a reputation of not only sales success and innovation, but also helping elevate companies to next-level market presence," said Brian Cox. "Mike's sector



Mike DeLisi

immersion and leadership will help us further grow our Industrial Vacuum Business as we build upon our existing portfolio with new and enhanced industrial solutions."

DeLisi, who has a B.S. in Mechanical Engineering, will be based in Fort Myers, Florida.



David Mangrum

Nidec Motor Corporation is proud to announce that **David Mangrum** has been named Salesperson of the Year for the company's HVACR Aftermarket Motors Group. Mangrum is the Sales & Business Development Manager for HVACR Aftermarket, covering North Texas, Oklahoma and Arkansas. He joined Nidec in 2016 and has worked in the electric motor industry for 36 years.

"David has not only achieved sales goals but just as importantly provided crucial support to new and existing customers during the supply chain challenges of the past few years. We commend David for this well-deserved recognition," said Brad Jacka, Director of Sales, Aftermarket.



Oatey Co., a leading manufacturer in the plumbing industry since 1916, announced that **Logan Weiland** has joined the organization as Senior Vice President, Chief Financial Officer.

Weiland comes to Oatey with more than a decade of experience in public accounting at Ernst & Young, where he most recently served as Assurance Senior Manager. As Chief Financial Officer at

Oatey, Weiland is responsible for all accounting and finance; FP&A; treasury; risk management; and mergers and acquisition activities.

"I am excited to join this growing organization, which has an excellent track record and reputation, both as a manufacturer and employer," said Weiland. "I look forward to contributing to Oatey's ongoing success as a market leader in the plumbing industry."

"Logan comes to Oatey with a broad range of experience gained from his work with a variety of global companies," said Neal Restivo, Oatey's Chief Executive Officer. "I am confident that his leadership and expertise will serve Oatey well as we continue to grow and enhance our business to support our customers."

Weiland is a resident of Copley, Ohio, and holds a Bachelor of Science in Accounting with a minor in Finance from Heidelberg University. He also holds a Master of Accountancy from Miami University. He is a board member and treasurer for Warehouse District Inc., as well as an associate board member for Greater Cleveland Sports Commission and an Engage! Cleveland Leadership Council member.



Logan Weiland



LG Air Conditioning Technologies recently named **Darren Gibula** Vice president of Operations.

Gibula joins LG from Owens & Minor, where he worked most recently as vice president of inventory, responsible for demand



Darren Gibula

planning, supply planning, and inventory and optimization for the products and health-care services division. But he is familiar with LG, the company said, having spent nearly six years with the company in the Air Conditioning Technologies division in operations and customer experience roles.

In his new job, Gibula has direct oversight of business systems, operations, training, aftermarket support, and the technical support call center.



Loran Liu is the new chairman of the Heating, Air-conditioning & Refrigeration Distributors International (HARDI) board of directors.

Liu, a member of the HARDI board since 2021, is COO at Standard Supply & Distributing Co., which is based in Dallas. At HARDI, he succeeds Rhonda Wight, the president of Refrigeration Sales Corp., who had led the board for two years.

Liu was formally selected as chairman at the recent 2023 HARDI conference in Phoenix, which drew more than 1,900 people.

In an interview, Liu had praise for his predecessor.

"Under the leadership of Ronda Wight, we've done a much better job of staying focused, maybe even recalibrating our focus, to make sure that we're serving our membership," he said.

Wight was the first HARDI board chair to serve a two-year term. Prior to her taking the role, the term for the board chair had

Case Studies

Continued from Page 27

STHP, we'd shave two hours off the installation time."

Almost Net-Zero

"Comfort, reliability and serviceability were our primary goals," said McCall. "Efficiency was certainly a big part of the picture, though. About one-third of the rooms have been retrofitted so far, but that's more than enough to show a drop in the power bill.

We expect a 40 percent reduction in electric use when the work is complete. I think the solar array will handle our entire load, but only time will tell."

The improvement has been so dramatic that McCall is drafting a letter to Choice Hotels for use in the corporate newsletter, suggesting this retrofit be considered at any property featuring PTACs or vertical air handlers.

"This is a solution that the hospitality industry has needed for a long time, and I'm excited

to be an early adopter," said Polk. "My family has been in the HVAC industry in since 1971, so we have a large network in New Mexico. I'd like to apply our experience from this job at other facilities, but what I'd most like is to begin consulting with hotel and motel franchises in the Southwest area. Considering how straightforward this technology is to retrofit in existing facilities, I think it'll have a big impact on the industry."

Next generation

"I've noticed something interesting while attending Choice Hotels conventions," said McCall. "Participants are either very old or very young, with very few people in between. As you might imagine, these two groups have very different perspectives on the energy issue. That's all you need to know about the direction the hospitality industry is headed. The future of hotels will be much greener."

McCall has further energy reduction plans for the property, too. Be-

fore long, new foam insulation and stucco will be added to the building exterior, bringing the envelope's R-Value up 10 points. Windows will also be upgraded. "If the hotel isn't Net-Zero after the STHP installation is complete, it certainly will be with the envelope upgrades," said McCall. "Guests want to stay in hotels that feel like home, which means quiet and comfortable. As time goes by, travelers are becoming more conscious of their carbon footprint. We want our hotels to check all those boxes."

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Loran Liu

some management consulting. "I think I bring a lot of functional expertise that a lot of people in the industry have maybe not been exposed to," he said. "What I mean by that is: How do you view technology enabling your business to become more efficient, more productive? How do you run an effective HR? ... Marketing? Accounting? Finance? Those are areas where I've had exposure, and those functions help our companies operate better in our industry."

At the Phoenix conference, it was also announced that Brian Blaushild, the vice president of business development at Famous Supply, finished his board term, along with Wight. Succeeding them are Todd Shadden, of Centu-

ry HVAC Distributing, and Layne Miller, of Geary Pacific Supply.

"We can't thank our outgoing board members enough, as they've been vital and welcome leaders in the community. The newest board members, Todd and Layne, will surely do the same, as they've already made valuable contributions in their short time on the board," said Talbot Gee, the HARDI CEO.

HARDI represents more than 400 wholesale companies, nearly 300 manufacturing associates and nearly 100 manufacturer representatives. It is estimated that HARDI members represent 70 percent of the dollar value of the HVACR products sold through distribu-

been one year.

By Liu's measure, he is relatively new to HVACR distribution; he's been with Standard Supply since June of 2017. He came to it from executive jobs in the high tech field, in which he worked for about 20 years, and he's also done

Industry Education

Continued from Page 19

where the system is installed times the total watts to calculate the cost to make a million BTU's. For example, the average kilowatt rate for Modesto Irrigation District is \$0.24, then it would cost \$18.04 to make a million BTU's at 3.90 COP. If you compare the cost from the furnace above, you can see it costs less to run a heat pump to make a million BTU's than for even a 93% efficient furnace which

equates to 57% less to for the heat pump to make a million BTU's. If you did the calculation at the low COP at COP 17 the cost would still be cheaper by 0.14 cents.

Another factor is the fact that the biggest variable for energy is prices for natural gas. Natural gas prices are constantly changing while electricity rates increase each year but stay relatively steady. Last January of 2023 natural gas hit \$3 per therm, while electric rates did not change. Many customers had bills that almost doubled due the cold weather and high cost

per therm for natural gas. This is another reason to switch to a heat pump and ditch the gas furnace, electric rates are more stable. What is the most expensive fuel to heat your home? Answer LPG. LPG is expensive compared to natural gas; it is a no brainer making the switch to a heat pump if your customer has LPG. A good average COP you can use is 3.35, your average heat pump will rarely be less than this for the COP 47.

As energy costs skyrocket and your customers' budgets become stretched, it benefits you and your customer if you know the real costs and savings. So, do a little research on the equipment you are setting, find the COP 47, find the average electric rate for your utility, find the current cost per therm, and show them the savings they can expect by switching to a heat pump. Don't do it to save the planet, do it to save them money! Saving the planet is just a consequence.

GOLD KEY Contest Winner

The winner of last month's ICN Gold Key contest is:



Michael Anderson
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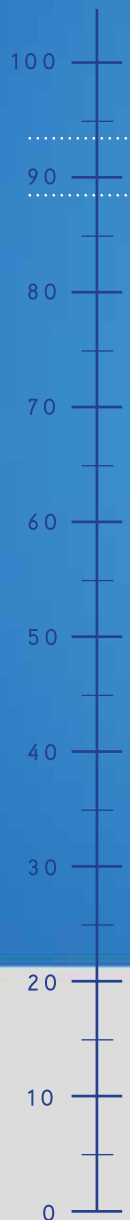
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