

INDOOR COMFORT NEWS

OCTOBER 2023

THE VOICE OF THE INDUSTRY

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NEWS

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PASADENA CONVENTION CENTER
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- PACIFIC RIM MECHANICAL
- PACIFIC SYSTEMS GROUP
- PANASONIC ECO SYSTEMS
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- PHCC LOS ANGELES
- PHOENIX MANUFACTURING, INC.
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- VITAL UTILITY, LLC
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See PAGE 23 for Exhibitor Descriptions

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NFC TECHNOLOGY: MAKING YOUR LIFE EASIER

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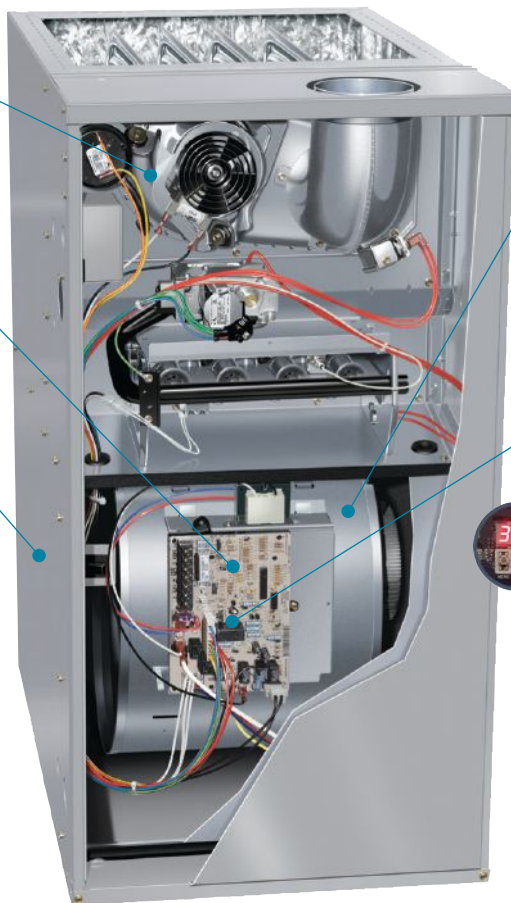
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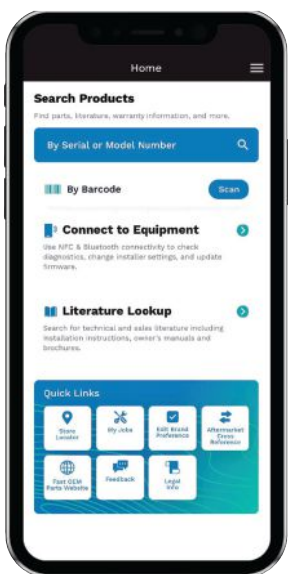


ECM fan motors provide exceptional efficiency – New 18-speed motor

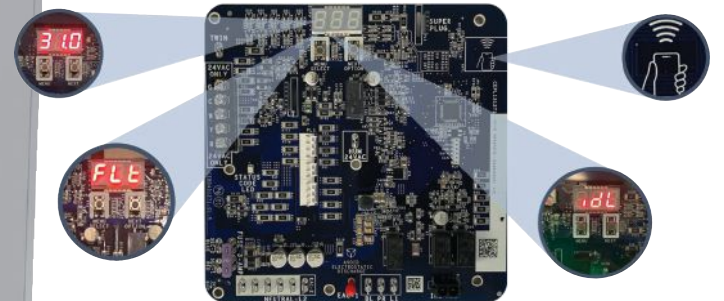
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1.5 – 5.0 Tons

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ARIZONA



A.O. Smith Buys Water Tec

Tucson, Ariz. – Water heater and boiler manufacturer A. O. Smith Corp. has acquired Water Tec of Tucson, an Arizona-based water treatment company, in an all-cash transaction. Terms of the transaction were not disclosed.

Water Tec joins other recent A. O. Smith acquisitions – Atlantic Filter (2022), Master Water Corporation (2021), Water-Right Group (2019), Hague Quality Water (2017), and Aquasana (2016) – in the company’s growing water-treatment business in North America, a press release from the company said.

“The acquisition of Water Tec further expands our West Coast presence and supports our growth strategy,” said Kevin J. Wheeler, A.O. Smith president and CEO. “A. O. Smith delivers innovative, differentiated solutions that heat and treat water, and Water Tec aligns perfectly with our values and

commitment to quality.”

The second-generation, family-owned Water Tec was founded in 1967 and is based in Tucson, with an assembly location in Las Vegas. Water Tec is a manufacturer and dealer of water-treatment equipment for residential, commercial, institutional, and industrial use. Water Tec’s products are sold through its retail dealership, located in Tucson.

“I am very pleased the business founded by my parents, along with our family legacy, will continue to thrive as a result of this acquisition,” said Leigh DeGrave, owner and president of Water Tec. “As a global water solutions company, A. O. Smith brings great expertise and resources to our organization, allowing for growth in markets we would not have otherwise been able to penetrate.”

Jennifer and Leigh DeGrave, along with their son Hunter, will stay with Water Tec. They will continue operating it of their Tucson and Las Vegas locations.

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Phoenix to Host Service World Expo

Phoenix, Ariz. – Service World Expo, a conference, trade show, educational, and networking event for people in the plumbing, HVAC, electrical, and remodeling trades, is scheduled for October

3-6 at the Phoenix Convention Center.

With a lineup of keynote speakers, breakout sessions, and business training sessions, the 2023 Service World Expo will offer attendees fresh business insights, event organizer Service Nation said in a press release. Hundreds of exhibitors will be on hand, showcasing innovations and services.

“This event is highly focused on training, education, and networking, with fun sprinkled in as well,” said Tom Peregrino, president of Service Nation. “Our training and education are designed by revenue level, so no matter what size a company is, they’ll receive valuable information for where they are on their journey. We’ve also made it even easier than ever to network with other successful contractors. I’m excited that The New Flat Rate has combined their conference with ours to further increase the value.”

Taking center stage during the four-day event will be a number of presenters. Kicking the festivities off will be a conversation with actor and author Richard Karn.

Attendees will have opportunities to also hear from many others, including former Philadelphia Eagle and magician Jon Dorenbos and entrepreneur Tommy Mello, whose presentation is titled “Elevate: How to Build a Business Where Everybody Wins.”

A special Women of Service World breakfast and panel dis-

cussion is scheduled for 7 a.m.

Thursday, October 5. Bringing together five leading female industry voices, the panel will be moderated by Service Nation’s director of association management, Carol Longacre, who will lead a conversation about the evolution of trade industries and the growing prominence of women in those industries.

The expo will offer a mix of educational seminars. Topics will include financials and best operating practices; the full schedule of seminars can be found at www.serviceworldexpo.com/schedule/.

A partnership with The New Flat Rate, which offers price-generating software for home service contractors, will bring the popular Business Uncensored Conference to Service World Expo.

The Business Uncensored Conference is designed to provide the owners of home services businesses with strategies that help them improve overall profitability while maximizing growth potential.

“By partnering with The New Flat Rate, we are now able to offer an unprecedented amount of resources and knowledge to those attending Service World Expo,” said Sarah Blackhall, vice president of creative at Service Nation.

Registration for the 2023 Service World Expo is open and tickets can be purchased at www.serviceworldexpo.com.

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TEXAS



JB Warranties Named to Inc. 5K

Argyle, Texas – JB Warranties, which provides warranties in the HVAC and plumbing industries, has been named to the 2023 Inc. 5000, a list of the fastest-growing private companies in America.

The ranking provides a data-driven look at the most successful companies among the economy’s independent, entrepreneurial businesses. Facebook, Chobani, Under Armour, Microsoft, Patagonia, and many other household-name brands first gained national exposure through the Inc. 5000 list.

“To be among so many respected companies is truly an honor. Our team at JB Warranties is committed to providing top-notch plumbing and HVAC extended warranty solutions and exceptional service to our customers,” Jeff Bohannon, president and CEO of JB Warranties, said in a press release. “I am proud of the dedication and hard work our team puts in every day.”

The honor marks the fourth time the company has been named to the Inc. 5000. JB Warranties reported three-year revenue growth of 75%.

The Inc. 5000 class of 2023 represents companies that have achieved rapid revenue growth while navigating inflationary pressure, the rising costs of capital, and hiring challenges. In all, this year’s Inc. 5000 companies have added an estimated 1,187,266 jobs to the economy over the past three years.

For complete results of the Inc. 5000, including company profiles and an interactive database that can be sorted by industry, location, and other criteria, go to www.inc.com/inc5000.

“Running a business has only gotten harder since the end of the pandemic,” said Inc. editor-in-chief Scott Omelianuk. “To make the Inc. 5000 – with the fast growth that requires – is truly an accomplishment. Inc. is thrilled to honor the companies that are building our future.”

Find the GOLD KEY and UNLOCK a PRIZE

Somewhere hidden inside the pages of Indoor Comfort News lies a golden key ! If you’ve discovered it, please email us the page number and location (e.g., page 4, inside USACD advertisement). The first correct email will receive a prize, courtesy of Indoor Comfort News!

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



Reece-Hopper to Rep REHAU Products in Texas

Houston, Texas – Polymer manufacturer REHAU and Reece-Hopper Sales LLC are partnering to support the mechanical and plumbing markets in Texas.

Reece-Hopper will expand its product line by representing, in Texas, REHAU's polymer-based products for mechanical and plumbing systems. The partnership between REHAU and Reece-Hopper integrates decades of industry expertise, strengthening each company's services to benefit contractors, engineers and wholesalers, according to a press release from REHAU.

Reece-Hopper is a plumbing, HVAC, and hardware sales agency that was founded in 2018 with the strategic merger of Ron Henson Co. and RRR Industrial Sales.

REHAU will contribute to Reece-Hopper's product line with polymer components built for long-term performance in mechanical and plumbing systems. The backbone of REHAU systems is RAUPEX cross-linked polyethylene (PEXa) pipe, first produced in 1968 and now used in heating, plumbing, and geothermal systems.

In 2017, REHAU further pioneered the REHAU EVER-LOC+ compression-sleeve fitting system, providing plumbing contractors and installers with quick yet secure connections, REHAU said. Offering a range of products to meet the needs of contractors and installers, the REHAU F1960 cold-expansion fitting system is an additional option that supports safety, reliability, and cost savings, REHAU said.

Regardless of the REHAU fitting system chosen, RAUPEX pipe has a 25-year limited warranty.

"REHAU is thrilled to partner with Reece-Hopper to fortify our relationships with customers in Texas," said Mark Hudoba, vice president of REHAU building solutions for the Americas region. "We look forward to growing the reach of our reliable products with the help of Reece-Hopper's reputable industry knowledge and experience."

"Reece-Hopper Sales is very excited to begin our relationship with REHAU," said Jarrett

Hopper, vice president of Reece-Hopper. "We're also extremely optimistic about what we can accomplish in the Texas market together."

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StrataTech Opens Welding School

Irving, Texas – StrataTech Education Group (StrataTech) announced the opening of the newest Tulsa Welding School (TWS) campus in Irving, Texas. Dallas Metro is the fourth Tulsa Welding School campus and the fifth trade school for StrataTech (which also includes The Refrigeration School, Inc. in Phoenix). The Dallas Metro campus will launch their Professional Welder and Refrigeration Technol-

ogies programs beginning in August in addition to an all-new Electrical Lineworker program.

Tulsa Welding School is a leader in skilled trades education and has provided students with hands-on, instructor-guided training for more than 70 years. This is the second TWS location in Texas, joining Tulsa Welding School & Technology Center in Houston. Together, the two schools will work with students, workforce and employers across the state of Texas to address a national skilled labor shortage and help meet the growing demand in the state.

"We are thrilled to expand Tulsa Welding School into the Dallas Metro area," said Mary Kelly, President, and CEO of StrataTech. "Texas is ripe with opportunity for skilled tradespeople, and we are looking forward to providing greater

access to education and resources needed to train to become skilled trade professionals. We are focused on empowering our students to change their lives and make an impact in the communities they serve."

The Professional Welder program at TWS Dallas Metro will train students in the skills needed for entry-level employment in the welding industry. Students will receive hands-on training in structural welding, flux core welding and pipe welding from instructors who have years of professional experience in the industry. The Refrigeration Technologies program trains students in the fundamentals of heating, ventilation, air conditioning and refrigeration technologies (HVAC/R). This hands-on training program prepares HVAC/R stu-

dents for opportunities as entry-level positions in refrigeration service and maintenance. Both the Professional Welder and Refrigeration Technologies programs can be completed in as few as seven months.

TWS Dallas Metro is the first TWS campus to include StrataTech's new 15-week Electrical Lineworker program. The Electrical Lineworker program will train students for entry level employment in the field of utility power distribution construction, maintenance, troubleshooting and repair. In addition to pole construction and climbing courses, students can receive optional certifications in bucket rescue, pole-top rescue and first aid, and earn their OSHA 10

Continued on Page 6

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Continued from Page 5

card.

This new campus will not only help address the ongoing demand for skilled tradespeople in the state, but also provides local employers the opportunity to reskill and upskill their workforce through StrataTech's StrataSkills program. StrataTech launched StrataSkills in 2022 to serve as a nationwide workforce development and retention solution for companies that employ electricians, welders, and HVAC/R technicians.

Enrollment for TWS Dallas Metro's initial programs is now open. The first Professional Welder and Electrical Lineworker programs began Aug. 14, with Refrigeration Technologies starting on Aug. 21. The school hosted

open house events on July 26 and 29 for prospective students. For more information about programs and enrollment, visit www.tws.edu/dallas.

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Carrier Listed Among Best HVAC Companies by Forbes HOME

Indianapolis, Ind. – Carrier has been named one of the Forbes HOME Best HVAC Companies of 2023 and Best Air Conditioning Brands of 2023. Carrier's Bryant brand also appeared on the best HVAC Companies of 2023 list. Both are part of Carrier Global Corporation (NYSE: CARR),

global leader in intelligent climate and energy solutions.

Reviewers at Forbes HOME found Carrier to have high reliability and customer satisfaction ratings, readily available replacement and repair parts, and high-efficiency models available in all sizes to meet customer needs. Additionally, Carrier's commitment to energy efficiency and high SEER ratings consistently matches or surpasses the competition. The reviewers also noted Carrier's status as a founding member of Green Building Councils in Argentina, China, India, France, Kuwait, and Singapore, further underlining its commitment to solutions that matter for people and our planet for generations to come.

"We're very proud to be recognized for delivering HVAC systems

that are more efficient, reliable and available than others reviewed," said Justin Keppy, President, NA Residential & Light Commercial HVAC, Carrier.

Carrier manufactures and installs a full range of products to address homeowners' comfort, health and budgets. This includes air conditioners, furnaces, heat pumps, ductless and variable refrigerant flow (VRF) systems, and air purification units.

Forbes HOME evaluated 18 HVAC companies based on 53 different attributes such as customer happiness ratings, efficiency scores, durability and maintenance, pricing and costs, national coverage, range of systems and warranty options. The team of reviewers is comprised of the editorial team and fact-checked by an advisory board

of licensed professionals who looked for content accuracy and relevancy.

For more information, visit <https://www.carrier.com/residential/en/us/>.

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DOE Plans \$46M in Energy-Saving Building Projects

Washington, D.C. – The U.S. Department of Energy (DOE) has earmarked \$46 million to develop advanced building technologies and retrofit practices that enable healthier households and communities and reduce energy waste. Twenty-nine projects across 15 states have been selected for award negotiations.

The move is in keeping with President Joe Biden's Investing in America agenda, the DOE said in a press release.

The Buildings Energy Efficiency Frontiers and Innovation Technologies (BENEFIT) funding will help advance cost-effective solutions for electrifying buildings across the nation while also improving their energy efficiency and demand flexibility. These projects support decarbonization strategies that, when deployed widely and properly, significantly reduce the building sector's greenhouse gas emissions, eliminate unnecessary and wasteful energy consumption, and reduce strain on the nation's electric grid.

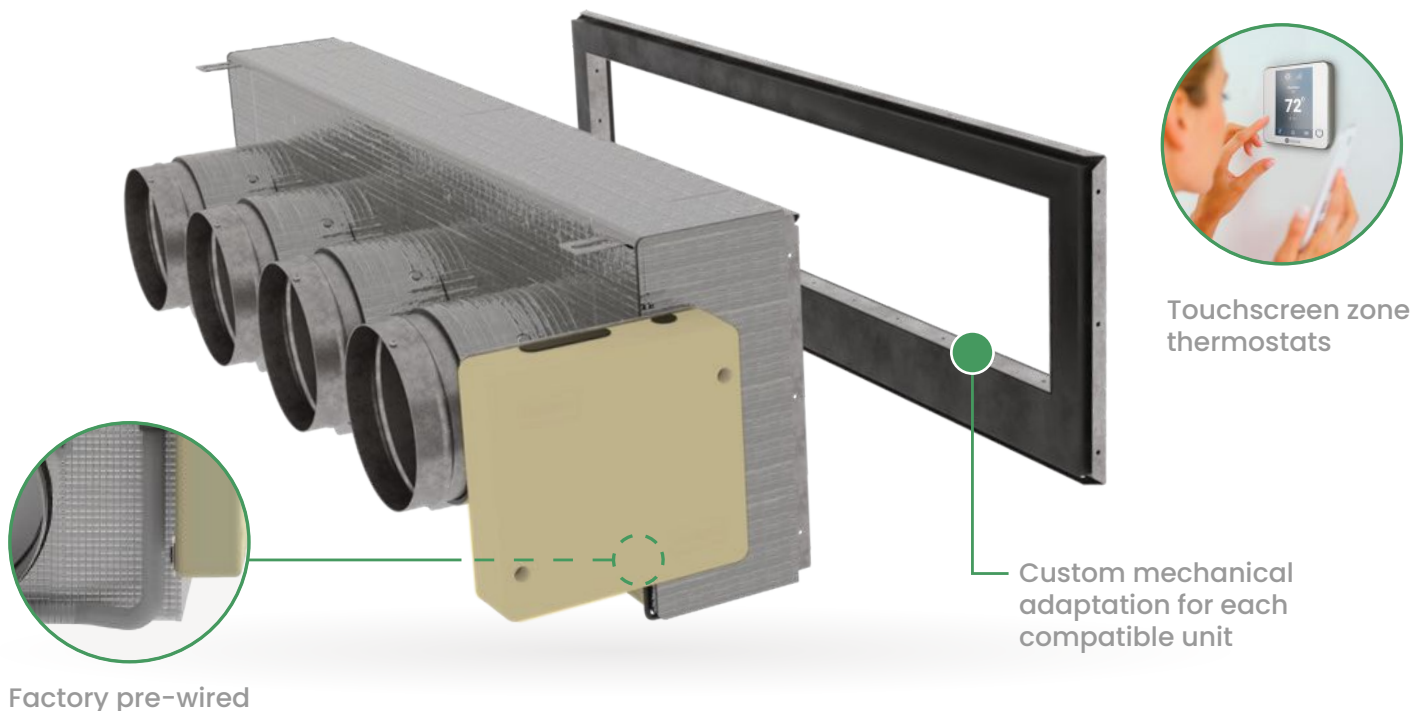
Accelerating breakthroughs in innovative technologies that increase building resiliency while mitigating local pollution is essential to delivering on Biden's plan to combat the climate crisis and build a clean-energy future, the DOE said.

"Exploring new ways to build and operate America's buildings is key to cutting harmful emissions and combatting the climate crisis," said Secretary of Energy Jennifer M. Granholm. "With this funding, the department is providing critical new resources to teams from across the nation to transform game-changing ideas into innovative solutions, creating safer and healthier homes and buildings while cutting energy costs."

Residential and commercial buildings are the largest energy-consuming sector of the U.S. economy, responsible for approximately 40% of the nation's energy consumption, 74% of

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The plug&play system for cost-effective mini-split and VRF zoning.



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Continued on Page 8



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Continued from Page 6

its electricity use, and 35% of its carbon emissions. Estimates indicate roughly one-third, or more, of the energy used by buildings is wasted, at a cost of \$150 billion annually, the DOE said.

DOE works to reduce the energy intensity and related carbon emissions of homes and commercial buildings by supporting cost-effective technologies and practices, and these projects will drive innovations that help drive breakthroughs and continued progress, the DOE said. More than half of the 29 projects selected for award negotiations are focused on improving energy efficiency in space conditioning or water heating, which account for just over half of all energy use in American homes.

For more information and a list

of projects selected for award negotiations, visit www.energy.gov.

Selection for award negotiations is not a commitment by DOE to issue an award or provide funding. Before funding is issued, DOE and the applicants will undergo a negotiation process, and DOE may cancel negotiations and rescind an award for any reason during that time.

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R.E. Michel Leads TRC's Banish Mercury Contest

New York, N.Y. – R.E. Michel leads Thermostat Recycling Corp.'s (TRC) Banish Mercury Off the Planet (BMOP) contest after almost three months of the competition. In second place is Johnstone

Supply, followed by Refrigeration Sales Corp.

"We have seen a slight decrease in contest results compared with last year at this time," said Danielle Myers, Executive Director, TRC. "However, it is clear that our wholesale partners continue to recover and safely recycle mercury-containing thermostats. Their collective effort demonstrates the will and a continued effort to remove these older units wherever they remain."

TRC reports that 96.2 pounds of mercury, including 8,954 mercury-containing thermostats, have been recycled from 44 wholesalers and over 150 branches through July in the BMOP contest, which began May 1 and ends Oct. 31.

The contest recognizes members of Heating Air-Conditioning Refrigeration Distributors International (HARDI) that collect the most

mercury-containing thermostats. During HARDI's annual conference, TRC publicly acknowledges the top three recyclers in various categories. The conference is in Phoenix this year, from Dec. 2 to 5.

HARDI is the largest and most successful trade association representing HVACR distributors in the United States.

"We are pleased to see the continued participation of so many wholesalers during this initial part of the contest," Myers said. "Still, we shouldn't forget that the competition is ongoing until Oct. 31. I hope this notice spurs the competitive instincts of our partners to enter or add to their results before the contest deadline. The motivation of a safe environment for all should be an earnest motivator for all."

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ZONEFIRST Buys ZONEX Systems

Randolph, N.J. – Trolex Corporation announced its acquisition of California Economizer and its ZONEX Systems. Trolex and ZONEFIRST's President Dick Foster stated, "The acquisition of California Economizer and its ZONEX Systems brings together the two oldest manufacturers of zoning dampers and zone control systems.

The company's parallel paths of how they began being on opposite coasts, one being more residentially focused, the other being commercial, both being started by our fathers, and the complimentary product offerings make this a very synergistic acquisition. Both companies combine with over 100 years of zoning expertise that no other zoning company can match."

California Economizer and ZONEX President Jeff Os-heroff stated, "After so many years working with my Dad and seeing the great potential zoning continues to offer in the HVAC Industry, I'm exceedingly happy to partner with an industry veteran, Dick, Trolex and ZONEFIRST to provide the industry's most comprehensive mix of zoning and control solutions for the residential and commercial controls markets."

Both companies together will continue to operate independently as plans progress for integration.

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JP Lamborn Makes Best Place to Work List

Polk County, Fla. – Career Source has named JP Lamborn Co (JPL) one of the three winners of Polk County's Best Places to Work for the Small Business category during a sports-themed breakfast ceremony attended by numerous companies. The Best Place to Work award recognizes four categories: Small Business, Medium Business, Large Business, and Employers of Distinction.

"A ton of hard work went into creating an environment we are proud of. Now, we are not the only ones who know!" says Jason Lamborn, President at JP Lamborn Co. (JPL). Seth Gilland, Operations Manager at JP Lamborn Co. (JPL) com-

Continued on Page 10



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See how VRF systems helped these residential and hotel spaces provide modern comfort for today's needs.



Hotel Saint Louis, Saint Louis, Missouri

Challenge: This historical landmark building wanted to modernize its space without losing the history of the original design.

Solution: By using a design that featured Samsung's DVM S Heat Recovery system and its zoning capabilities, the design team was able to free up new space to be used for a rooftop restaurant, bar and swimming pool.



The Divine Lorraine Apartments, Philadelphia, Pennsylvania

Challenge: When this historical building was restored, the design team wanted to retain its original beauty and charm, but with limited space to locate and conceal indoor and outdoor equipment, modern HVAC equipment didn't fit into the building's footprint or original design.

Solution: By utilizing the zoning capabilities of Samsung's DVM S system, residents are now able to adjust individual climate settings, while the system's smaller footprint and extended piping length provided the installation flexibility needed to accommodate the building's unique design requirements.



The Kapiolani Residence, Honolulu, Hawaii

Challenge: The owner of this new residential building set out to provide housing to lower income residents with affordable utility costs, while keeping independent zone control for other units and common areas.

Solution: Using Samsung's DVM S system, the design team was able to provide independent zone control to the building's common areas, while single and multi-zone systems were installed in apartments to allow residents to control individual rooms/zones without turning the system on and off, adding efficiency and cost savings.

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Continued from Page 8

mented, "It was a proud moment when they called our names to come up and get the award!"

The award presentation was held at the RP Funding Event Center located in Lakeland, Florida. Many exceptional community members were in attendance, along with, Bill Mutz, Mayor of Lakeland, Florida.

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METUS Partners with Maker of Smart Electrical Panels

Suwanee, Ga. – Mitsubishi Electric Trane HVAC US LLC (METUS) will introduce a new system integration for its all-climate heat pumps with SPAN.IO, INC. (SPAN), a maker of smart electrical

panels.

The METUS-SPAN product integration, once available, is intended to help homeowners eliminate dependence on fossil-fuel-reliant heating and cooling systems and conventional electrical panels, according to a press release from METUS.

In a METUS-conducted survey in 2023 of approximately 1,000 U.S. homeowners, almost 83% of respondents stated that they were either "somewhat concerned," "very concerned," or "extremely concerned" about the impact of energy bills on their household budgets. Mitsubishi Electric's all-electric heating and cooling systems are designed to reduce energy use compared to conventional HVAC systems.

According to a 2021 analysis by Pecan Street, a research and product-testing company, approximately 48 million single-family homes

may need an electrical service panel upgrade before they can be fully electrified. Smart electrical panels offer an immediate solution to scale the electrical grid by optimizing existing infrastructure, supporting electrification, and contributing to greater sustainability.

"Installation of energy-efficient, all-climate heat pumps is accelerating the path to broader decarbonization," said METUS CEO Mark Kuntz. "Converting from fossil fuels to heat pumps requires more electrical capacity than many older homes' existing circuit breaker panels and electric service are capable of. We believe the SPAN Panel provides a way for homeowners across America to add our all-climate heat pumps using their existing electrical service."

The METUS-SPAN integration, activated through the kumo cloud app, is designed to help HVAC contractors reduce installation time

by reducing the need for additional coordination with utilities to replace the electrical service to a home. By using the SPAN panel, homeowners may avoid the cost and inconvenience of an electrical service upgrade. SPAN Panels are designed to allow a homeowner to make upgrades while using the home's existing electrical service.

The SPAN Panel is designed to intelligently distribute power across the circuits where it is needed most. Because a Mitsubishi Electric heat pump operates at partial load, using inverter-compressor technology, the SPAN Panel will be able to send a command to it through the kumo cloud app to reduce the capacity to divert the power load to other appliances. Advanced variable-energy orchestration between the SPAN Panel and the Mitsubishi Electric heat pump will provide homeowners with greater overall flexibility of their home's energy use, METUS said.

"This collaboration with METUS is exciting for us because we believe this integration will unlock a better option for the over 40 million U.S. homeowners who may face unexpected obstacles and hassle when they choose to upgrade their heating and cooling," said Arch Rao, founder and CEO of SPAN.

METUS and SPAN products are eligible for a variety of local, state, and federal tax incentives and rebates for U.S. homeowners purchasing and installing those products in their homes. The Inflation Reduction Act (IRA) makes heat pumps and panels more affordable for many households by providing tax credits up to \$2,000 for heat pumps and up to \$600 for qualifying panel purchases. As part of an upcoming IRA rebate program, low- and middle-income households may be eligible for rebates of qualifying products up to \$8,000 for heat pump HVAC, \$4,000 for panels, and \$2,500 for wiring for electrification upgrades.

METUS and SPAN anticipate launching the integration via an over-the-air software update in late 2023.

.....

Nominate HVACR Industry's Most Influential Trainer

Mt. Prospect, Ill. – HVAC Excellence is thrilled to announce an exciting opportunity for you to recognize and nominate the HVACR industry's most influential educator or trainer.

In partnership with our sponsor, TruTech Tools, we invite you

to shine a spotlight on those extraordinary individuals who have left an indelible mark on the HVACR industry. These remarkable educators and trainers have played a pivotal role in shaping the future of our industry through their exceptional teaching and guidance.

Whether this exceptional individual is a classroom instructor, a trainer at your local wholesaler, a manufacturer's educator, or a social media/YouTube sensation, we urge you to join us in honoring these dedicated professionals. Their boundless passion and expertise have ignited countless minds within the HVACR field.

The top 25 nominees will receive well-deserved recognition by having their names prominently featured on the back of a commemorative t-shirt, which will be distributed to all attendees at the 2024 National HVACR Education Conference. Join us for this exciting event, taking place from March 25-27, 2024, in the vibrant city of Las Vegas, Nevada.

Your nomination is pivotal in acknowledging those individuals who are truly shaping the future of HVACR education. Don't miss the opportunity to have your voice heard. Nominations must be submitted by October 31, 2023.

To submit your nomination, please visit escogroup.org.

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Trane Outfits College's New BAS Lab

Tanner, Ala. – Calhoun Community College, the largest two-year institution in Alabama's community college system, and Trane Technologies have opened Calhoun's new building automation system laboratory. The lab is designed to give students hands-on experience that will help them bridge the gap between classroom instruction and the needs of employers.

The immersive learning environment was designed to support the building automation system curriculum provided through the National Coalition of Certification Centers (NC3). Students will use the latest Trane controls and equipment to understand how a sophisticated building automation system works and gain practical experience using data-driven

Continued on Page 20



CHP-5

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Technicians can now earn their NATE Certification with the Certified HVAC Professional (CHP-5).

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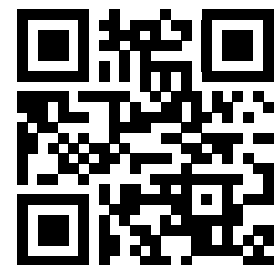
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2025 Energy Code Proposals: Residential HVAC Performance, Heat Pump Baselines

By Ted Rieger,
Northern Calif. Correspondent

The California Energy Commission (CEC) continued with a series of pre-rulemaking public workshops from June-August 2023 to present proposals and take comments for the 2025 Title 24 Energy Code update (California Building Energy Efficiency Standards). The CEC plans to publish the 2025 Energy Code Draft Update (Draft Express Terms) in October 2023. The formal rulemaking is scheduled for January 2024 to June 2024, with adoption of the new Energy Code expected at a CEC Business Meeting in June 2024. The 2025 Energy Code will become effective January 1, 2026.

At recent pre-rulemaking workshops, 2025 Energy Code Project Manager Javier Perez of the CEC Building Standards Branch, provided an overview of the Energy Code's general goals to increase building energy efficiency cost-effectiveness, and contribute to the state's greenhouse gas (GHG) reduction goals. He listed several overall strategies and topic areas to be addressed in the 2025 Code: Expand heat pump (HP) prescriptive baselines for more applications and climate zones; Promote demand flexibility, includ-

ing enhanced solar PV generation and energy storage; Equity and affordable new housing program integration; Focus on additions, alterations, and smaller homes, including Accessory Dwelling Units (ADUs); Electric Vehicle (EV) readiness support; and Interagency coordination with regulations and programs of other state agencies including the California Air Resources Board, Building Standards Commission, and the Department of Housing and Community Development.

Specific measures for the 2025 Energy Code are the result of analyses and proposals by the California Statewide Utility Codes and Standards Enhancement (CASE) Team, that meets and prepares reports as part of the pre-rulemaking process for each code cycle update every three years. At pre-rulemaking workshops in July and August, CEC staff presented new proposals for Residential HVAC System Performance, and for Heat Pump Baselines for residential and non-residential buildings.

Residential HVAC Performance Proposals

The CEC is proposing six areas of new Energy Code requirements

or revisions for residential HVAC performance, based on recommendations from the CASE team. They generally apply to both single-family and multi-family buildings, new construction, as well as additions and alterations. Measures reflect an increased emphasis on the design process, that is important with the increased interest in installing heat pumps. CEC Senior Mechanical Engineer Bach Tsan presented the following proposed changes to apply to residential HVAC systems at a workshop August 23rd.

1. Residential HVAC System Design – Includes sizing, equipment selection and ducts/diffusers. Proper system design results in energy savings, efficient operation and improved comfort. "System design is a scientific balancing act between over-sizing and under-sizing," Tsan said. Proposed system design requirements include: Require documentation of load calculations and system sizing; Provide details on duct/diffuser design; Require the use of average infiltration assumptions (or a blower door test); Allow for simplifying assumptions in some load calculations, minimum heating capacity (not including supplemental heat-

ing), and maximum equipment sizing limits (or ensure adequate airflow).

2. Supplemental Heating – For all climate zones (CZs) except CZ 15, the CEC proposes requirements to install and verify controls that lock out supplementary heating above a certain outdoor temperature. This would apply to both electric strip resistance heating, and to furnaces in dual fuel systems, with a lock-out at outdoor temperatures above 35 degrees F. The CEC also proposes imposing strip heating capacity limits. These controls would have to be HERS verified. ADUs would be exempt.

3. Defrost Controls – Currently there are no defrost control equipment requirements in the Energy Code. Defrost operation is designed to remove ice from outdoor coils. The CEC proposes, for defrost operations in a heat pump, to require the installer to set the defrost delay timer, if it exists, to a value of no less than 90 minutes. This would be required in all climate zones, except for new homes of less than 500 square feet it will be required only in CZs 1-4, 11-14, and 16. Would require manufacturers to provide simple instructions for how to configure the timer. Proper settings would be required to be HERS verified.

4. Crankcase Heating – This is a common operation in HPs and ACs.

There are currently no Energy Code requirements related to crankcase heating. The CEC proposes prescriptive measures that include two alternatives for HPs and ACs: 1. The crankcase heater is controlled by a compliant Occupant Controlled Smart Thermostat; or 2. Crankcase heating power is limited. The installer discloses there is no crankcase heater, or uses "Better Control" and states that the crankcase heater may not run continuously when the compressor is operating, and includes either thermostatic control or Positive Temperature Coefficient Control.

5. Refrigerant Charge Verification – The current Energy Code requires performance and prescriptive approaches in specific climate zones. The CEC proposes prescriptive measure requirements for refrigerant charge verification for HPs in more climate zones – CZs 1-5 and 8-16. This will not be required for ADUs. The proposal for verification method shifts the focus from charge testing to verified weigh-in and adds more rigor to the weigh-in method. The proposal provides an option to allow HERS raters to verify weigh-in remotely.

6. Variable Capacity Systems – Includes variable capacity HPs and ACs with two-speed and variable speed compressors. The CEC proposes changes to compliance software to account for reduced distribution efficiency while operating at lower speeds and airflows. Mandatory measures would include: modify the fan efficiency test procedure with airflow and efficiency testing done with only a single zone calling; the sum of airflows measured at all air handlers must be at least 350 CFM per ton of nominal compressor capacity; for non-zonally controlled Variable Capacity and Multi-Speed (VCMS) systems with attic ducts, performance (airflow, distribution efficiency, duct loss) would be calculated by compliance software as a function of instantaneous building load. These proposed variable speed measures would not apply to ductless systems.

Proposed Heat Pump Baselines

Under the current 2022 Energy Code for new construction single-family residential build-

Career Pathways to Advance the Trades in HVAC Services—Free Training Program

DOE and IHACI are currently recruiting participants in a pilot training program, with a goal to advance residential HVAC skills in San Bernardino and Riverside counties.



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- Two 4-hour hands-on technical trainings for up to ten members of your team
- Monthly support from program instructors

Tools you will receive:

- "Triage" tools for three technicians, including:
 - Charge and air kits including psychrometers, pressure probes, and pipe clamps
 - Manifold
 - Three meters
- Installer tools, including:
 - TrueFlow Grid
 - Manometer
 - Digital Micron Gauge
 - Scale
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Subject of Training:

- Session 1: How to take accurate measurements and use them in installing or adjusting HVAC systems.
- Session 2: How to use measurements to communicate to homeowners about their options.

Qualified Participants:

- Up to ten individuals can participate in training program:
 - Three service / maintenance technicians
 - One installer
 - Up to six others, including possibly owners, service managers, installation managers, or sales/comfort advisors

Commitment you will be asked to make:

- Identify at least six individuals who will participate in the training.
- Identify 3 technicians and one installer to receive the tool kits.
- Technicians and installers will be required to have an Android device with data plan.
- Participants commit to using the provided tools whenever possible.
- Participants will check in briefly once a month for up to six months to ask questions that arise as they make use of the information and tools provided.
- You will give the program permission to view the data collected by your tools for the first year, and HERS reports associated with projects where the tools were used.
- Participants will complete a brief survey as to their experience with the tools and the program.
- Two or three individuals from your company will participate in a mentoring program, in which each will be paired with an HVAC program student and meet with them at least four times over the course of a year.
- You will be asked to sign a participant agreement.

Act now...only 4 firms will be able to participate. If you think this might be right for you, contact Bob Wiseman at bwiseman@cphac.com, 818-251-9320

If you are selected, we will help you determine who to include in the program, schedule times for the trainings, and identify locations that are convenient to your team.

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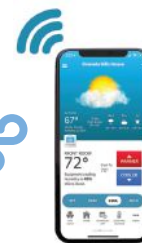
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Heating Products

Bosch Thermotechnology Tankless Water Heater



Bosch Thermotechnology, a leading global source of high-quality heating, cooling and hot water systems, introduced two new innovative members of its electric tankless water heater family: Tronic 4000 C for point-of-use, under-sink installations and the new Tronic 6100 C for whole-house applications. Both products deliver 100% electric, high-efficiency on-demand hot water with a compact design for significant energy and space savings.

The Tronic 4000 C is one of the smallest yet most energy-efficient electric tankless water heaters on the market today. At only 8.5" X 13" and only 4.4 lbs., it can be wall-mounted directly under the sink, and because it runs on electricity and doesn't hold water, there is no venting and virtually no maintenance required. The Tronic 4000 C comes in four model options: 3.5 kW, 6.5 kW, 8.5 kW and 10.5 kW, delivering up to 96 Uniform Energy Factor (UEF) ratings.

With significant energy and space savings, this tankless water heater delivers for point-of-use applications from residential to light commercial. Although tiny, its

powerful output makes the Tronic 4000 C ideal for use in homes, cabins, newly remodeled spaces and more as well as office buildings/break rooms, apartments, warehouses and even stadiums with sinks that are either not in use or in bursts of high demand, such as during an event.

The Tronic 6100 C provides on-demand hot water for the entire home. With the debut of the Tronic 6100 C, Bosch combines the energy savings and convenience of tankless water heaters with a beautifully streamlined, easy-to-install, compact and lightweight form factor. The stainless-steel canister inside the unit heats up the water but does not store water like a traditional tank water heater, which makes for a much more hygienic system. It also uses technology with modulating elements that ensure a constant output temperature. This means regardless of whether the water that comes into the house is near freezing in the winter or simply cool in the summer, the temperature that comes out will always be consistent with the homeowners' desires.

The Tronic 6100 C takes up very little space with measurements of 13 1/4" X 20 1/4" and comes with 3/4" NPT fittings for both cold and hot water connections, making it easy to install in place of outdated tank water heaters. It delivers an impressive 95% efficiency with no stand-by loss, so no water or electricity goes to waste.

More information: <https://www.bosch-thermotechnology.us/>.



Bryan Series BE Boilers



Bryan Series BE electric hot water or steam boilers are compact, completely packaged and wired units with automatic controls featuring long life Incoloy sheathed elements. Applications include hot water heating, steam heating, process heating, and supplemental heat for heat pumps.

BE boilers offer fully electric (non-fossil fuel) operation for low to medium range applications. The boilers are compact and completely packaged.

Input power requirement is 30-390 KW, 460 or 480 volt, 3 phase; 30-195 KW, 208 or 240 volt, 3 phase; or 15-120 KW, 240 volt, 1 phase. Output is 98,000 BTUH (at 30 KW input) to 1,280,000 BTUH (at 390 KW input).

The boilers are operated with Bryan's Concert™ Boiler Control with functions designed to save energy, optimize long-term efficiency, and integrate seamlessly with all Energy Management Systems (EMS). Concert Control also offer Advanced Input Determination for firing rate

and water temperature based algorithms for multiple boilers, a USB data-sharing port to streamline and simplify commissioning, assist with troubleshooting, and to enhance performance analysis.

All Bryan BE Series Boilers are built in accordance with the requirements of the ASME boiler and pressure vessel code and are UL listed. Water boilers are 150 psig MAWP; steam boilers either 15 psig or 150 psig. Higher pressures are available.

More information: www.bryanboilers.com.



Mitsubishi Electric Trane HVAC US LLC Intelli-HEAT

Mitsubishi Electric Trane HVAC US LLC (METUS), a leading supplier of Ductless and Ducted Mini-split and Variable Refrigerant Flow (VRF) heat-pump and air-conditioning systems, announces the introduction of the Intelli-HEAT™ Dual Fuel System. This new Mitsubishi Electric solution is compatible with any thermostatically controlled furnace and works with both single-zone and



multi-zone systems. Intelli-HEAT empowers homeowners who own gas furnaces to improve their homes' comfort and sustainability by using an energy-efficient, all-electric heat pump as their primary heating source. The furnace remains available to the homeowner as a heating source for extreme cold conditions.

Intelli-HEAT™ integrates a Mitsubishi Electric heat-pump system with an existing or new gas furnace to provide consistent, reliable heat in extremely cold temperatures. The need to use the existing gas furnace is dramatically reduced, diminishing a home's reliance on fossil fuels.

Intelli-HEAT offers homeowners the benefit of consistent year-round comfort thanks to its INVERTER-driven compressor technology. Homes with an existing furnace, with or without an existing air-conditioning system, can use the Intelli-HEAT system for cooling during warmer months. The all-electric heating is operational while outdoor temperatures are as low as -13° F using the system's Hyper-Heating INVERTER® (H2i®) technology.

During periods of extreme cold, Intelli-HEAT may switch to the gas furnace as needed based on capacity threshold and economic balance points. The intelligent switchover function built into the control box of the Intelli-HEAT system coordinates operation of the furnace and the Mitsubishi Electric heat pump. This smart heating management is designed to result in lower gas usage and reduced greenhouse gas emissions while providing homeowner comfort.

"Because an Intelli-HEAT system burns no gas, and generally requires less energy to heat a home than a typical gas furnace, homeowners using our new dual fuel system can reduce their greenhouse gas emissions, compared to using a gas furnace alone as the primary source of heating," says Chris North, senior specialist, product marketing, Mitsubishi Electric Trane HVAC US LLC. "Intelli-HEAT is a flexible solution suitable for homeowners replacing an aging air-conditioning system, adding to an existing furnace with no air conditioning, or for new

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Continued on Page 18

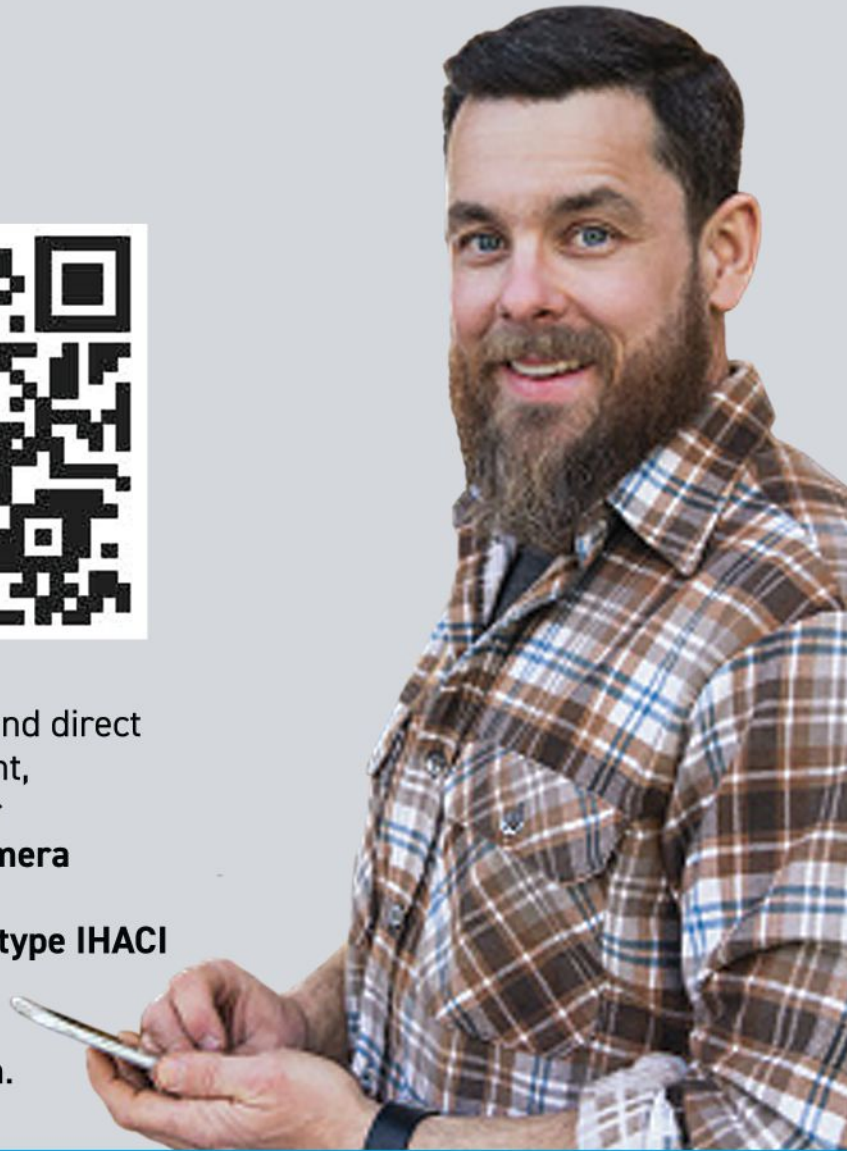


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Pacific Gas and Electric Company is pleased to offer the following HVAC/R training courses specifically designed to advance the skills of HVAC/R professionals.

OCT/NOV 2023

NATE CORE & Gas Heating (Four-Night Class)

Instructor: Mitch Bailey
Wed., Oct. 25 – Part 1
Thurs., Oct. 26 – Part 2
Wed., Nov. 8 – Part 3
Thurs., Nov. 9 – Part 4
In-Person/Onsite
Webinar Option Available

NOVEMBER 2023

System Performance Module

(Four-Night Class)
Instructor: Mitch Bailey
Mon., Nov. 20 – Part 1
Tues., Nov. 21 – Part 2
Wed., Nov. 29 – Part 3
Thurs., Nov. 30 – Part 4

NOV/DEC EXAM:
Saturday, Dec. 2 – 7:30 AM
In-Person/Onsite
Webinar Option Available



All classes are currently held 6:00 pm to 9:00 pm.
Webinars are FREE of charge and online registration is required.

You can register online by visiting: pge.com/hvactraining. Attendees must register for each night separately and registration is on a first-come, first-served basis.
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GS Series Premier Wall-Mounted Units

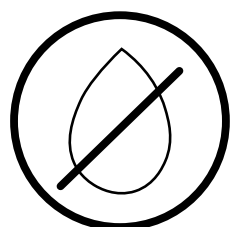
The MSY/Z-GS Wall-mounted Indoor Units provide a variety of application options as a single-zone heat pump, multi-zone heat pump, or H2i® Hyper-Heating INVERTER® heat pump. Its counterpart, the MSY-GS, is a single-zone air conditioner for climates where heating is unnecessary. Also, a newly designed text-based remote control is standard with the GS Series.

Contact your distributor sales representative or Mitsubishi Electric Area Sales Manager now for additional information and pricing.



DUAL BARRIER COATING

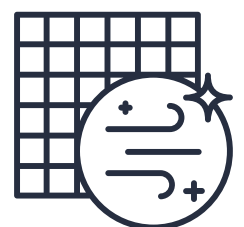
Our patented technology prevents build up of dust, fibers, oils and smoke on system components.



Improved dry mode logic to continuously remove moisture without over cooling the space



The first Premier wall-mounted Hyper-Heat M-Series with capacities including 9-24 kBTU/H



Optional PM2.5 filter brings better indoor air quality by removing particulate matter (PM) with a diameter of less than 2.5 micrometers

Quick Specs (Wall-Mount Units)

- Capacities: 6,000 to 36,000 BTU/H
- Sound: As low as 19 dB(A)
- SEER2: Up to 28.4
- HSPF2: Up to 10.9
- COP: Up to 4.44
- ENERGY STAR®: Most systems

Scan this QR code for additional technical data from LinkDrive on the GS Series



The GS Series have a wide variety of applications



Extensive Range Capacity

The MSY/Z-GS wall-mounted indoor units offer our highest design flexibility. Combinations include single-zone (cooling only or heat pump) and multi-zone (heat pump or hyper-heating heat pump) systems, a large selection of size ranges from 6,000 to 36,000 BTU/H.

Powerful Operation

Depending on the capacity, the unit will automatically adjust the fan speed and set temperature for 15 minutes. Rapid cooling and heating will make the room comfortable quickly.

GS24, GS30/36 Models Only

Heating Products

Continued from Page 14

construction.”

intelli-HEAT connects to a Mitsubishi Electric single- or multi-zone outdoor heat-pump unit and is available in 18, 24, 30, 36 and 42 KBTU/H capacities. Hyper-Heating INVERTER (H2i) systems are compatible and available for both single- and multi-zone applications. The H2i models provide full rated heating capacity even when the outdoor ambient temperature is as low as 5°F. Those models continue to provide reliable heat even with an outdoor ambient temperature of -13°F. Homeowners can manage intelli-HEAT systems with either third-party thermostats or Mitsubishi Electric’s versatile control options, including kumo cloud®, kumo touch™ and select wired controllers.

Homeowners installing intelli-HEAT™ may also qualify for utility rebates. Homeowners should contact their local utility provider to determine what rebates, if any, may be available to them.

More information:
www.MitsubishiComfort.com.



Mikrofill Systems Ltd. Pressurization Unit



Mikrofill Systems Ltd. recently brought its thoroughly time- and application-tested Mikrofill 3 hydronic system pressurization unit to the North American HVAC market.

As a result, U.S. and Canadian mechanical engineers and contractors are now able to experience first-hand what their U.K. counterparts have known for the past quarter-century: that the unique Mikrofill 3 is the most advanced, “direct-type” pressurization unit available for sealed, low-pressure hot-water (LPHW) and chilled-water (CHW) commercial and multifamily residential applications. Able to fill any heating or chilled water system from empty without the use of a pump, the product also delivers commercial backflow protection with no RPZ valves, while also providing comprehensive electronic pressure

management.

The Mikrofill 3 has been tested and approved in accordance with ASSE LEC 2009-2021.

Fills any heating/chilled water system: Unlike conventional pressurization installs, the Mikrofill 3 connects directly to a commercial building’s incoming water supply (main or boosted), leveraging that line pressure to fill any heating or chilled water system – again, completely dispensing with a conventional circulating pump. By eliminating the pump, the Mikrofill 3 not only helps building owner-managers avoid the expense and hassles of periodic maintenance, but it also saves them substantial energy costs.

The most energy-efficient unit of its kind, the Mikrofill 3 consumes only 30 watts per hour when filling a LPHW/CHW system and only 10 watts per hour when monitoring the system while on standby. That performance results in an energy savings more than 95 percent, compared with pump-type pressurization units.

Provides commercial backflow protection: The Mikrofill 3 integrates ASSE-approved (American Society of Sanitary Engineering), commercial backflow prevention, eliminating the need for RPZ (reduced pressure zone) valves to avoid contaminating a building’s potable water supply. Once the required system pressure is achieved, the internal solenoid valves default to the closed position. This automatic deactivation drains internal waterways, resulting in commercial backflow protection (Fluid Risk Category 4).

Delivers electronic pressure management: The Mikrofill 3 continuously monitors system inlet and operating pressures through a series of pre-commissioned sensors that automatically maintain system presets. By recognizing a change in cold-fill water pressure, these sensors open the Mikrofill 3 valves to top off the system, stopping the fill once the required pressure has been reached.

This comprehensive electronic pressure management protects the system and the building by alerting owner-management to potential issues and providing leak and flood protection:

- Small leaks will prompt continual topping off. Once a preset number of refills has been reached (say, 25 refills over a 24-hour period), the integral color-screen display on the top-front side of the Mikrofill 3 will indicate a problem.
- Larger leaks may prevent

proper replenishment. If the Mikrofill 3 does not detect the expected pressure increase over a preset period, the unit will shut down to prevent further water damage.

- In the case of catastrophic leaks, the Mikrofill 3 will quickly close off the main water supply to prevent further damage.

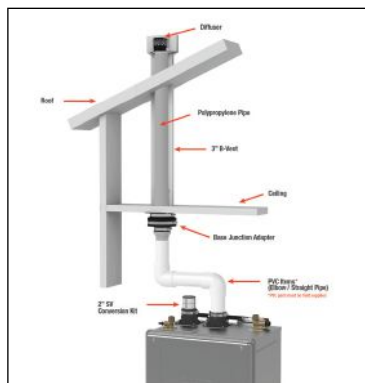
The fill rate for the Mikrofill 3 is 3.8 gallons per minute, based on an incoming pressure of 30 pounds per square inch (psi). The built-in fill volume indicator aids water-treatment calculation.

The base requirement is a water-supply pressure 4.5 psi greater than the cold-fill requirement. For example, a cold-fill requirement of 22 psi would need a main-supply pressure of 26.5 psi to completely fill or top off the system. Maximum inlet pressure is 100 psi, allowing a maximum cold-fill pressure of 95.5 psi.

More information:
www.mikrofill.us.



Noritz America No Roof Kit



Noritz America, a leading innovator in tankless water heaters, maximizes the ease of installation with its new No Roof Kit, an industry-first in the tankless arena. With this accessory, premix burner Noritz tankless water heaters can be installed without the installer setting foot on the roof, offering time-, labor-, and cost-savings in residential applications.

Not only does the No Roof Kit eliminate the contractor’s need to climb on the roof to install venting for the tankless water heater, but drilling holes in the wall for exhaust is also no longer needed. Best suited for single-story homes and attic installs, the No Roof Kit is sold separately from the Noritz model of choice and includes all the necessary components for installation.

Those components include three, 36-inch polypropylene (PP) pipes and a PP-PVC adaptor, a 2-inch single vent (SV) conversion

kit, and a diffuser kit. To use the kit, a pre-existing, 3- or 4-inch circular B-vent, no longer than 8.5 feet, with a straight vertical shot from the ceiling to the roof, is required.

Installation of the No Roof Kit involves the following:

- The installer connects the diffuser to the top of the first PP pipe, securing it with a ceiling clamp.
- A spacer is then added to ensure proper height between the pipe and the rain cap, allowing sufficient airflow for the exhaust of the water heater.
- The first pipe is then attached to a secondary PP pipe, using aluminum tape, and then pushed into the existing circular B-vent.
- The third pipe is secured, using aluminum tape, and a base junction adaptor is installed at the end of that pipe.
- The PP-PVC adaptor is then secured to the base junction adaptor.
- Finally, the tankless water heater unit is mounted, and the PP-PVC adaptor is attached using PVC elbows and straight pipe (PVC parts are field supplied)

The redesigned 2-inch SV conversion kit carries a sleeker look, allowing air to enter the unit to be used for combustion, while permitting the exhaust to move through the No Roof Kit, using the B-vent as a chase.

The No Roof Kit, at half the price of the current flex kit, can be used with the Noritz EZ98 and EZ111, as well as the Noritz NRCR Residential Condensing Tankless Water Heater Series.

More information:
www.noritz.com.



SunTouch ProMelt Smart Panel

SunTouch, a Watts Brand, has introduced the ProMelt® Smart Panel, a snowmelt controller designed to control any size snow melting system.

The panel is available in 100 AMP or 200 AMP capacity to operate 120, 208, 240, or 277 VAC snow melting systems. The panel is enabled with Wi-Fi to allow you to control your system from anywhere with the Watts Home app.

- Key Features:
- Compatible with ProMelt mats, cables, and sensors
 - Prewired with ProMelt Smart controller with Wi-Fi (excludes SubPanel)
 - All in one design makes for a



quicker easier install
More information:
www.suntouch.com/ProMelt.



Unico, Inc. Chiltrix

Unico, Inc., the market leader in small-duct central heating and air conditioning systems, announced they will distribute Chiltrix air-to-water heat pumps throughout North America. “This joint venture will bring our customers the very best in indoor comfort and energy efficiency,” said Unico brand marketing manager Ashton Gavelek.

Chiltrix produces the CX35 and CX50 series of smart heat pumps, providing optimized heating performance and capacities ranging from 2.0 – 3.5 tons cooling, and 3.4 – 4.8 tons heating, making them ideally sized for residential applications. While traditional condensing units measure efficiency in SEER, air-to-water heat pumps measure efficiency using IPLV (Integrated Part Load Value), measuring equipment operating efficiency at various capacities. The CX35 has an IPLV of 23.27, and the CX50 has an IPLV of 21.2, ranking these units as the most efficient hydronic units available today.

Pairing Unico’s unique small duct system with a Chiltrix air-to-water heat pump will provide an unparalleled indoor comfort system for homes, pushing the boundaries of HVAC technology, comfort and efficiency.

Unico provides design services to HVAC contractors, building professionals and homeowners, including plans and material lists for heating, air conditioning, ventilation, underfloor heating, domestic hot water, and radiant cooling.

More information:
www.unicosystem.com.



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M119046



M119015

For all the details go to www.wfc-fc.com/carmel

Growing Green Technicians Part 168: Heating Mode Refrigeration System Evaluation

By Jim Johnson
Contributing Editor

Experienced technicians are aware of the fundamental rules of superheat when evaluating cooling system performance:

That the suction-line superheat for a system employing a Thermostatic or Electronic expansion valve is typically between 8 and 12° F when measured at the evaporator, depending on the specific application of the equipment.

The superheat in TEV and EEV systems can range from 20 to 30° F when it's measured at a point 18 inches from the compressor.

That a system employing a fixed bore metering device can show superheat values of a wider range than that of a system employing a modulating metering device.

Adding refrigerant decreases superheat.

Removing refrigerant increases superheat.

And, while it can certainly be stated that understanding the fundamentals of refrigeration systems applies whether the equipment is operating in the cooling mode or heating mode, when considering the evaluation of a heat pump system operating in the heating mode, a simple process of temperature and pressure measurement can provide information regarding the operation of the refrigeration

system.

In this process, we're not considering superheat. Just the indoor air temperature, and outdoor ambient temperature, and using a chart such as the one shown in **Figure One**.

The process of evaluating performance begins with checking the discharge temperature, and in our example in which the refrigerant is R-410A, we have measured an outdoor temperature of 35° F. In checking the temperature of the indoor air entering the return air system at the indoor coil, we have measured 70° F, which means we are using the center dry-bulb curve of the chart.

Once we plot from the outdoor ambient temperature to the appropriate indoor air temperature curve line, then to the segment of the chart that shows discharge operating pressure, we arrive at a what the manufacturer's recommendation is for the proper operating pressure

Employing digital gauges in the process will provide an accurate pressure reading, which in this case, we will establish as 347 PSIG. The reason for establishing a specific pressure reading rather than an approximate one using analog gauges is that manufacturers commonly allow an acceptable range, typically ± 10 degrees. Which means that we can consider that

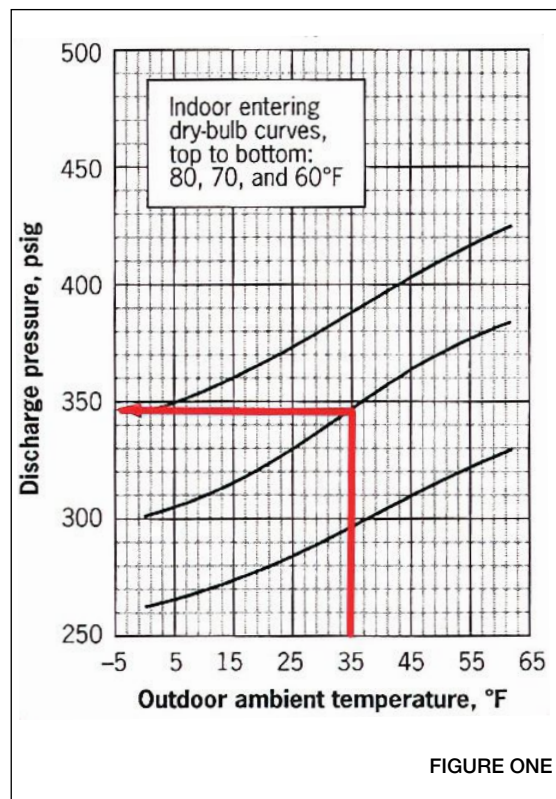


FIGURE ONE

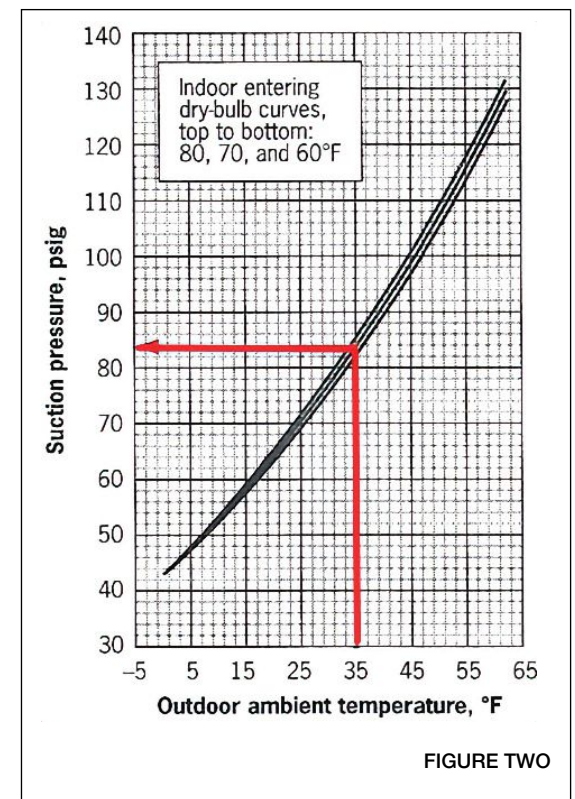


FIGURE TWO

the acceptable range in our example could be as low as 337 PSIG (347 - 10) or as high as 357 PSIG (347 + 10).

To complete our evaluation of the system, once we have established normal operation of the discharge operation, we can follow the same procedure in checking the suction pressure with the chart shown in **Figure Two**.

In the 35-degree ambient, 70-degree dry bulb entering air tempera-

ture, we would again plot to the center line on the chart, then read left to determine the suction pressure, which, in our example we'll establish as 84 PSIG for our R-410A system.

When considering the low-pressure side of refrigeration system operation, the commonly allowed acceptable range allowed by manufacturers is typically ± 3 degrees, which in our example would mean that

the system would be considered to be operating normally with the suction pressure from a low of 81 PSIG to a high of 87 PSIG.

In the event that we did not record discharge and suction pressures within the manufacturer's specifications using these charts, our next step would be to evaluate the air flow over both the indoor and outdoor coils to determine if there was a problem in that segment of the equipment operation.

CEC Update

Continued from Page 12

ings, heat pump (HP) baselines under prescriptive requirements for HVAC and domestic hot water (DHW) systems vary based on the

climate zone. CZs 3, 4, 13, and 14 require electric heat pump space heating (HPSH), while other climate zones allow for combinations of gas furnace and split AC systems.

For the 2025 Energy Code, for newly constructed single-family

residential buildings, the CEC proposes prescriptive requirements for HPSHs and for heat pump water heaters (HPWH) in all climate zones, except CZ 15. Requirements for CZ 15 are still being decided, as there are cost-effectiveness challenges to using HPSHs in this zone.

For non-residential building space conditioning alterations and replacements for rooftop package units below 65,000 Btu/hr, the CEC proposes for 2025 to prescriptively require that gas-fired single-zone

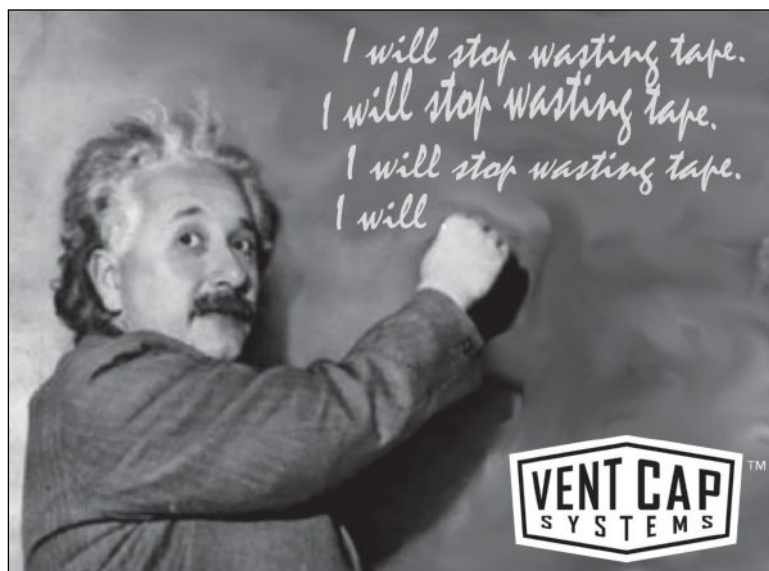
rooftop units (RTUs) be replaced with HP RTUs for small offices, small schools and small libraries in all climate zones except CZ 16, and for medium retail buildings in all climate zones except CZ 1 and 16. The CEC is not pursuing new requirements for non-residential larger systems with RTUs greater than 65,000 Btu/hr for the 2025 code cycle.

More information on the 2025 Energy Code Rulemaking

and proposed changes are available through the link below. The CEC Docket Log includes CASE Team reports with detailed explanations of proposed measures.

<https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2025-building-energy-efficiency>

In addition, links to recordings of CEC workshops are available at: <https://www.energy.ca.gov/events/past-events>.



FREE Vent Cap MiniPack

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www.VentCapSystems.com/news

Industry News

Continued from Page 10

technology to better control facility comfort and energy efficiency.

"The lab is just one way Calhoun Community College is fulfilling its commitment to provide students with a gateway to a better career, better pay, and a better life, said Dr. Jimmy Hodges, Calhoun's president. "Our new building automation system lab offers our students a unique opportunity to learn using the latest HVAC technology and ensure that

they are well-prepared to excel in the workforce."

The need for skilled labor remains high across the United States, and those with specialized skills, such as HVAC technicians, are experiencing exceptional demand. Filling the talent pipeline with highly skilled technicians who understand the latest systems and controls is critical to maintaining and optimizing HVAC systems, according to a press release from Trane. Students completing

the coursework will be eligible to test for five building automation system NC3 certifications.

"Trane is committed to uplifting and preparing people for in-demand careers in the HVAC industry – that includes working with leading organizations like Calhoun Community College and NC3 to create effective learning environments that prepare students for real-world applications," said Brian Thorstad, Alabama area general manager at Trane.

Troubleshooting

An Uncomfortably Cool House

By Jim Johnson
Contributing Editor

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

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

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

As your next step you replace the service panels and restore the power supply. You observe that the Draft Inducer Motor and Indoor Blower Motor starts, then, after an appropriate delay, the ignition system functions, and the burners ignite. Allowing the cycle to continue and monitoring the operation of the equipment, you note that after several minutes of run-time, the burners turn off and the fault code light again shows 3 flashes.

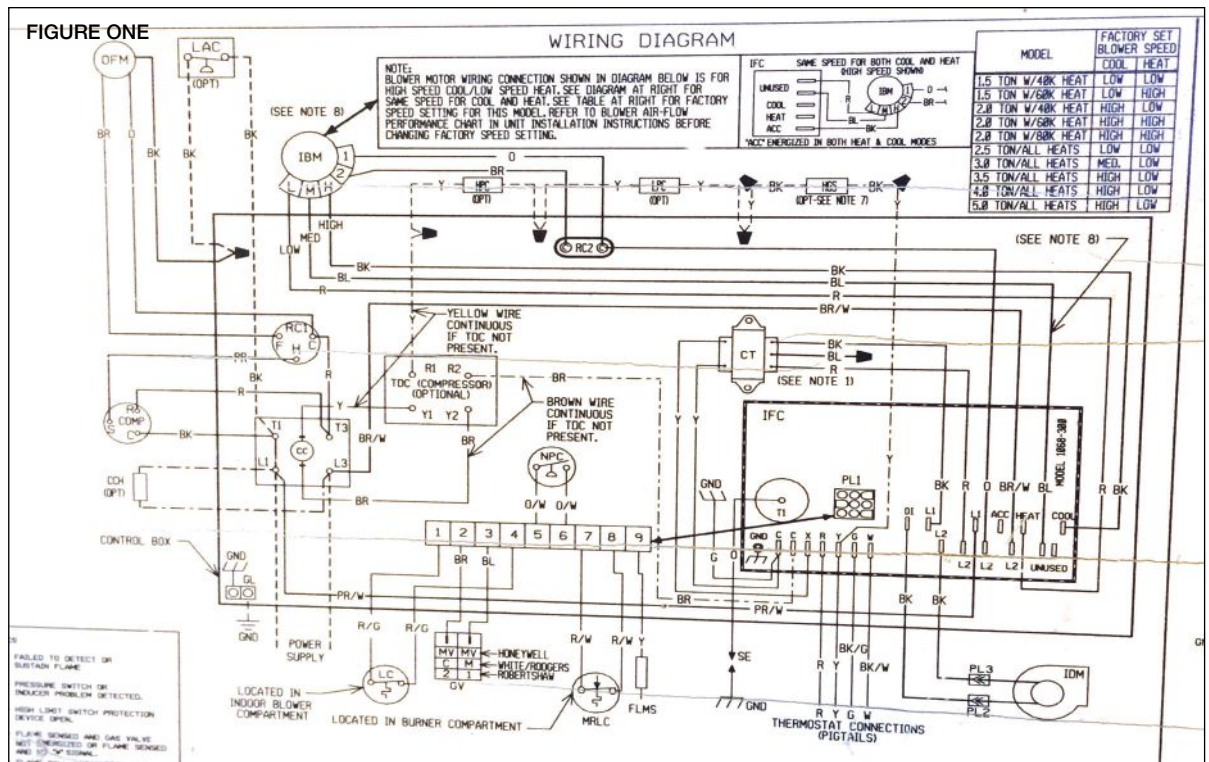
When you disconnect the power supply, remove the blower motor access panel, and check the LC, your meter shows OL. After disconnecting the power supply and waiting for 10 minutes, your follow-up check of the LC shows continuity.

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

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

If you believe you have the correct answer to one of Jim Johnson’s Troubleshooting Problems, please submit it by email to Jim Johnson at icntroubleshooting@techtrainassoc.com or by U.S. Mail to: Technical Training As-

Continued on Page 23



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A Contractor's Guide to Making it Through the Slow Season

By Lawrence Castillo
IHACI Board Member

Welcome to October, the month that so many residential HVAC contractors in California hate to see arrive. The momentum of summer has passed, and the difficult work of carrying the business through the off-season is now upon us. Regardless of how large or small your HVAC company is, the seasonality of our business is a reality, and every one of us struggles at times until April/May to keep our technicians and installers busy.

Realistically, the time to prepare for this time of year was months ago. Those of you who did will enjoy less uncertainty when it comes to creating work for your people. Those who didn't will face some stretches where you will have to make tough business decisions.

Let's take a look at what residential contractors should have been doing, and what they STILL CAN do to keep everyone in their business working consistently this off-season:

1. Analyze Your Marketing Sources and Allocate Your Winter Marketing Budget

For those businesses with a layered marketing approach, you

need to analyze the results of each marketing campaign you are running. Now we aren't talking about immeasurable brand-building campaigns like billboards, television, and radio where your objective is just to hammer the public with your name, logo, and jingle. We are talking about direct mail, outbound calling, Online/Digital Ads, newspaper ads, social media campaigns, email blasts, and leave-behind flyers, all of which should have call attribution to accurately measure your ROI.

Take a look back at your historical averages for the fall/winter on the number of calls you have been able to generate in the off-season to help establish your budget for this year.

Then, calculate where your marketing dollars have returned the greatest conversion during the past six months. Examine what worked and what didn't.

With historical averages from past years, and new ROI data on this calendar year, you are now armed with the knowledge to make some wise decisions on how to allocate your budget over the next six months.

2. Train Your Technicians to Find the Opportunities to Create

More Work

The number of service calls you generate in the fall/winter will very likely be less than the demand you face in the summer. It is critical that you spend some time before the arrival of the off-season training your techs on how to maximize call performance during the off-season.

Your service techs should be spending no less than 90 minutes on every service call they run. They create opportunity by taking their time, spending no less than 20 minutes in the attic inspecting ducts and duct connections, cleaning the condenser inside and out, testing the drainage all the way to the termination point, vacuuming the inside of the furnace, furnace closet, and up flow return cavity. Gas connections should be checked and tagged on the furnace and water heater. A complimentary water heater inspection should occur. Indoor air quality should be addressed with the client. Thermostats can be upgraded. Airflow assessments should occur, etc.

There are just so many ways for our technicians to create urgency on their service calls, most of which have nothing to do with the original reason we have been called

to the home. If your technicians are walking straight to the furnace and changing out an ignitor, collecting, and then going to our next call, you should expect to have a rough time making ends meet during the fall/winter seasons. If your technicians are spending time making their way through the entire building envelope, educating your clients, and showing a superior level of customer service by finding and creating urgency, then you will need to spend less marketing dollars to create work because your technicians are doing so for you.

The technician's job is to identify the needs of the home. In our fall/winter season, they should be talking to your clients about attic insulation, water heaters, air quality products, home security options, attic fans, duct cleaning, or any other number of add-on items that transcend the typical furnace/condenser that we typically clean and service. Sophisticated contractors have found ways to be less reliant upon flame sensors and ignitors, and to look for the other opportunities in our client's homes.

3. Presenting Options

This is the season to train your techs on how to present options. Unless you have a process for how to present options, the chances are your techs aren't doing it. There are so many schools on how to present, but the bottom line is that people go to the service department at the car dealership and get multiple options. They go to the dentist and get presented with options. They subscribe to a cable tv package and have multiple options to select from.

Our technicians should be spending 90+ minutes in the home, and should be sitting down at the kitchen table at the conclusion of a fact finding mission to present clear and concise options for our clients. If your techs are quoting the bare minimum, their lazy ways are costing you revenue on every call they run. Hold them

accountable. Develop a process. Require them to give your clients choices. Bare minimum.....Minimum plus an upgrade.....Middle range.....Middle range plus an upgrade.....Upper tier.....and the permanent solution.

If you need help with establishing an options presentation, my friend Joe Crisara and his company Service MVP has a process that many of the country's largest and most successful residential HVAC companies use to great success. If you would like an introduction, email me at my email address below.

IHACI Peer Groups:

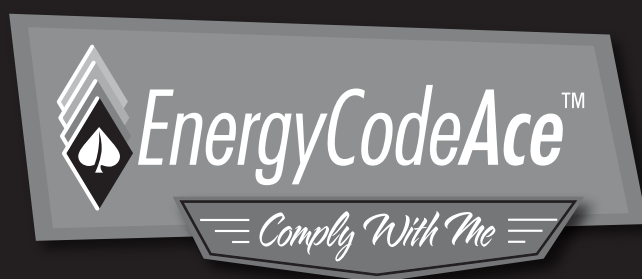
The IHACI Peer Groups are our newest benefit, allowing IHACI members to establish a close network with other contractors with whom you regularly meet via Zoom to share and discuss ideas. If you have ever belonged to Nexstar, Service Roundtable, the Success Group, or any other best-practices group, you already understand how beneficial the relationships that you establish can be some of your most important. At IHACI, our goal with Peer Groups is to give our members a way to connect so that they can leverage each other to help make their businesses more successful.

Please join us to see how IHACI Peer Groups can help you to establish relationships with other like-minded contractors who share some of the same struggles and issues that you face every day in your business. Please contact me at lawrence@brodypennell.com to ask questions about how to join.

Lawrence Castillo is the President/ Operating Partner of Brody Pennell Heating & Air Conditioning in Los Angeles and is a Board Member of IHACI. Castillo is nationally respected as one of the residential HVAC/plumbing industry's top operators and has generated record revenue growth for some of the West Coast's most respected and well-known companies over the past 20+ years. Lawrence can be reached at Lawrence@brodypennell.com

THE 2022 ENERGY CODE IS EFFECTIVE 1/1/23.

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- 🔥 On Mechanical Systems

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This program is funded by California utility customers and administered by Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E) and Southern California Edison Company (SCE) under the auspices of the California Public Utilities Commission.



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IHACI Trade Show Exhibitors

A-Gas

Booth(s) 304

A-Gas excels at providing complete lifecycle refrigerant management, including on-site recovery, reclamation, recertification, and destruction on a full range of refrigerants to build a more sustainable future. Be sure to stop and visit us at Booth 304 to learn more!

AC Pro

Booth(s) 617

AC Pro is a family-owned wholesale distributor that has been delivering outstanding customer service while supplying HVAC equipment, parts, and supplies to Southern California, Nevada, Arizona, and Utah for over 30 years. Our unwavering commitment to add value drives us to launch products, services, and locations to help your business grow. We provide the latest technologically advanced equipment and product, easy returns, instant warranty credits, after hours at no charge, custom sheet metal, and free trash drop off. At AC Pro, we are committed to integrity, quality craftsmanship, and long-term relationships with our customers. Visit acpro.com for more details!

Agentis Air

Booth(s) 111

Agentis Air closes the HVAC clean-air gap with our innovative Brio room air purifiers. Brio uses patented technology from the University of Washington for air cleaning with no CADR drop off, low maintenance and a low cost to own. See us at IHACI and learn about our HVAC Partners program.

Airex Manufacturing, Inc.

Booth(s) 417, 419, 518

Airex Manufacturing engineers and manufactures high-performance, energy efficient HVACR solutions. Products

like our Airex Pro System Kit vastly improve on traditional methods, through significant performance improvements, exceptional durability, and more comprehensive code compliance. Founded, headquartered, and exclusively manufactured in California, Airex Manufacturing was born out of our family's ethic of quality craftsmanship, exceptional service, and pride in one's work. Our belief in shared prosperity through the adoption of energy efficient solutions has led us to invest in education for the industry and to advocate for better regulations on state and federal levels, so together we can build a more efficient and sustainable world.

Airzone

Booth(s) 303

At IHACI, Airzone will feature Easyzone, an integrated zoning solution for ducted Inverter/VRF units, offering temperature and airflow regulation for up to six separate zones. Easyzone's patented airflow regulation system and exclusive control board eliminate the need for a bypass damper, resulting in energy consumption savings of up to 30%.

Appion

Booth(s) 402

Appion leads the industry with quality recovery and evacuation machines and service tools. Starting with the creation of the industry favorite G5Twin Recovery Machine, Appion has continuously engineered an expansive line of machines and AC service tools with the needs of an HVAC/R technician at the forefront of their inspiration.

AQC Industries

Booth(s) 305

AQC Industries has revolutionized underground air-duct systems for use in residential, commercial & industrial applications. The Blue Duct® pre-insulated & complete Duct System offers faster/easier installation, energy & labor savings, corrosion avoidance, and leak-testability prior to backfill. AQC consistently

provides high-quality products, CAD & quotation services, and direct contractor sales/training/webinars.

Baker Distributing Co.

Booth 510

Established in 1945, we bring over 75 years of business experience and knowledge of the HVAC and Commercial Refrigeration industries to our customers. Baker Distributing Company offers our customers a wide range of product lines, competitive pricing, superior service, and valuable timesaving services that position us as an industry leader. With over 200 sales centers in 24 states, we continue to grow and are positioned to serve the HVAC/R community.

Brownson Technical School

Booth(s) 410

Brownson Technical School has offered hands-on HVACR training for 38 years. HVAC/R training is 1040 hours and one of only four HVAC Excellence accredited schools in California and one of two schools offering training and

testing for Mechanical Acceptance Test Technicians which became mandatory 10-1-2021. (800) 799-9891 or visit: www.brownson.edu.

California Energy Commission (CEC)

Booth(s) 210

The California Energy Commission updates the Energy Code (Title 24, Part 6) every three years. The 2022 Energy Code encourages efficient electric heat pumps, strengthens ventilation standards, increases equipment efficiencies, adds requirements for electric-ready, DOAS, fans, indoor horticulture, and more. The 2022 Energy Code is in effect from January 1, 2023.

CARSES / RSES

Booth(s) 504

RSES is the world's leading education, training and certification association for heating, ventilation, air conditioning and refrigeration

professionals. RSES credentials include its Certificate Member and Certificate Member Specialist categories, as well as one of the largest EPA Section 608 certification programs in the industry. Local chapters meet monthly with free educational topics. Visit www.carses.com for details. For more information call 310-600-8800.

CDI Custom Curb

Booth(s) 522

CDI custom curb adapters: Five (5) plants strategically located in Charlotte, Minneapolis, Dallas, Seattle, and Phoenix. Standard manufacturing time is 5 days; quicker options are available. Many 1-day delivery points; with most of the remaining USA at 2- or 3-days transit time. It's FAST - EASY and FUN doing business with CDI!

Continued on Page 24

Troubleshooting

Continued from Page 21

sociates, PO Box 2259, Green Valley, AZ 85622-2259.

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

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

Answer to Last Month's Troubleshooting

What we need to do next is correct the reversed polarity power supply problem. Our electrical checks showed that the wiring to the equipment shows a 115 V reading from the neutral side of the wiring system to ground, and a 0 V reading from the hot side of the wiring system to ground.

The winner of last month's problem is:

Michael Swanson
Santa Rosa, Calif.

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IHACI Trade Show Exhibitors

Continued from Page 23

CHEERS

Booth(s) 411

CHEERS is a HERS Provider approved by the California Energy Commission to certify HERS raters and operate an online verification platform for energy code compliance. CHEERS also works with the EPA and DOE to implement incentive programs in California. Stop by CHEERS' booth to learn about free training opportunities!

CLEAResult Consulting, LLC

Booth(s) 110

Comfortably CA offers resources and incentives to distributors, manufacturers, and retailers for selling high efficiency HVAC equipment, and provides no-cost training to contractors and technicians. Together, we're helping California feel good, while participating businesses out comfort the competition.

Climatech / Sturtfoot

Booth(s) 619

Climatech (Clim) has been the largest European manufacturer of accessories and rooftop support systems for the HVAC and Insulation industries since 1985. Our products follow SMACNA standards, with UL/NFPA 701 certification. Large stock in the USA is available. Our featured product at the IHACI show will be the battery-operated F-100 Cordless Portable Stud Welder machine, an AHR Expo Awards finalist in the "Tool Category Innovation Awards".

Contact us at americas.sales@climatech.be or call our NY sales office at (516) 250-4100.

ComStar Refrigerants

Booth(s) 309

ComStar, a 53-year-old Refrigerant & Chemical company, manufactures 300+ chemical products for HVACR trade professionals. ComStar has the lowest GWP refrigerant replacements for in-place, existing R22, R410a, R134a, R32, R404a, & R507 mobile and stationary systems. Call us with your questions at (800) 328-0142.

Conduit Tech

Booth(s) 306

Stand out onsite and win more deals with Conduit Tech's software! Conduit leverages camera technology in tablets to build 2D floor plans, 3D models and load calculations integrated into custom sales materials for every home in 15 minutes. Elevate your sales, and learn more at www.getconduit.com.

Copeland | White Rodgers

Booth(s) 205

Copeland | White-Rodgers formally Emerson, would like to invite

you to come by our booth 205 to check our New Line of Connected Controls that are a must have for any Service Vehicle. We will also be featuring our New Sensi Touch II, Sensi Lite Wi-Fi Thermostats as well as our New 75 Series, and PTAC Non-connected Thermostats.

Danko Mechanical Sales Company

Booth(s) 521, 523, 525, 527

• Booth 521 - Ambro Controls is innovating how HVAC technicians braze, purge, charge, and seal HVAC systems. Our products focus on portability, ease of use, and superior performance. We're proud to offer a range of quality, technologically advanced, innovative gas-based tools.

• Booth 523 - RGF® was incorporated in 1985 for the purpose of designing, engineering & manufacturing total turnkey environmental systems to provide the world with the safest air, water, and food without the use of chemicals. We at RGF® strive to make the world a safer, cleaner, and better place to live for us, our children, and the next generation.

• Booth 525 - ICM Controls is a leader in Surge Protection and Line Voltage monitoring. Come by booth 525 to check out how best to protect your Variable Speed compressors and boards, against surge and voltage variations.

• Booth 527 - The Delta Breez FRS200 is a new fresh air ventilation system featuring an HVI airflow rating of 30-200 CFM with an ENERGY STAR-qualified ECM motor that runs continuously. Using only 33W at 200 CFM, homeowners can reduce their energy costs and carbon footprint.

Denco

Booth(s) 222, 223, 224, 225, 226, 227

Denco Manufacturing Representatives is Proud to Represent:

• Samsung HVAC – Superior Quality Mini Splits including Residential, Light Commercial & VRF. Come check out our working trailer.

• Yellow Jacket – Serving the industry for over 70 years with High Quality Service tools including hoses, gauges, manifolds, vacuum pumps, recovery units and so much more. Live demonstrations showing off the newest in wireless technology.

• Blue Diamond – Condensate removal pumps and accessories for use in air conditioning and refrigeration. We pride ourselves on being one of the quietest in the market.

• Lucas Milhaupt – Innovative Metal Joining Solutions to connect the world around us. Come see live brazing demonstrations by Bob the Brazer

• Phenomenal Air - Plasma generators, cold plasma genera-

tor technology which kills viruses, bacteria, mold spores, fungus spores, eliminates allergens, odors and more.

• PDM – High Quality Polyethylene Preinsulated Linesets made in the USA.

• Eco2 – Heat Pump Water Heaters

Energy Code Ace Booth(s) 409

EnergyCodeAce.com is a "one-stop shop" offering no-cost tools, training, and resources to help decode the requirements of California's Title 24, Part 6 building energy code and Title 20 appliance standards. It's funded by utility customers under the auspices of the CPUC and implemented by PG&E, SDG&E and SCE.

ESCO Institute / HVAC Excellence

Booth(s) 807

Learn While You Earn! Join us to learn about a new way to improve your knowledge of HVACR technologies and innovations while you are working. Visit our booth to discover how we can assist you in elevating your skills to new heights.

EWC Controls, Inc.

Booth(s) 421

EWC Controls, Inc. manufactures industry-leading residential and light commercial forced air zone control products, proudly in the USA. Our top quality, innovative products have won the Prestigious Dealer Design Awards eight times. Find out more at booth #421.

Zach Ponnequin, Regional Manager CA & NV; (916)220-1878 cell, (800)446-3110 Factory; zponnequin@ewccontrols.com

Ferguson HVAC®

Booth(s) 201

Ferguson® proudly supports the Annual IHACI Tradeshow and Indoor Comfort News Magazine for 27 years. As a renowned industry leader and national distributor of residential and commercial heating and cooling equipment, we provide top-tier HVAC solutions, parts, and supplies featuring premium brands like Day & Night®, Trane®, RUUD®, Mitsubishi Electric Ductless®, and VRF systems. We help HVAC Contractors gain access to 2023 and 2024 trade resources, event schedules, cutting-edge HVAC market insights, AQMD and Utility trends, IAQ and Connected advancements, and our growth journey via QR Codes. Explore more on the Ferguson.com App at <https://www.ferguson.com>. Your HVAC expertise, empowered.

Ferguson HVAC®

Booth(s) 301

Ferguson® proudly supports the

Annual IHACI Tradeshow and Indoor Comfort News Magazine for 27 years. As a renowned industry leader and national distributor of residential and commercial heating and cooling equipment, we provide top-tier HVAC solutions, parts, and supplies featuring premium brands like Day & Night®, Trane®, RUUD®, Mitsubishi Electric Ductless®, and VRF systems. We help HVAC Contractors gain access to 2023 and 2024 trade resources, event schedules, cutting-edge HVAC market insights, AQMD and Utility trends, IAQ and Connected advancements, and our growth journey via QR Codes. Explore more on the Ferguson.com App at <https://www.ferguson.com>. Your HVAC expertise, empowered.

Fieldboss

Booth(s) 108

FIELDBOSS is an innovative, flexible, and scalable business management software built specifically for HVAC contracting companies to gain complete visibility into every aspect of their business. Built within the Microsoft cloud platform, FIELDBOSS consolidates financial, operational, and field service management into a single, all-in-one system, minimizing technical overhead, increasing efficiencies, and never needs replacing.

Fieldpiece Instruments

Booth(s) 317

For over 30 years, Fieldpiece Instruments has partnered with HVACR pros to deliver high quality tool and test equipment to make your jobs easier, faster, and better. With our A2L compatible lineup and all-new hoses and fittings, Fieldpiece has you covered.

Flaretite

Booth(s) 117

Clip the Drip!
Celebrating 20 years of Proven Performance in the World's Toughest Environments.

Flaretite Seals Provide the Ultimate Solution for Eliminating Leaks!
-Copper Stamping w/ Loctite Coating

-Fits all 45° SAE fittings

-Great for installing ductless systems

SLASH the cost of Servicing & Downtime!
MADE IN THE USA

Geary Pacific Supply

Booth(s) 109

Serving the West since 1961, we are a 3rd generation, family-owned, customer service company that just happens to be in the HVAC distribution business.

We've built our reputation as a Solution-Driven Partner through our team's commitment to continu-

ously ask "How Can We Help You?"

This friendly, honest approach is powered by our core principles and a passion to provide the best HVAC products, parts, controls, and supplies in the industry.

Our goal is to grow success through relationships that make life easier for our customers, team, vendors, and community at ALL 31 branch locations!

To learn more about Geary Pacific Supply, click here: <https://www.gearypacific.com/About-Us>

Global/HVAC Master

Distributor

Booth(s) 302

Global is a leading master distributor of HVAC/R components to wholesalers throughout the United States, offering superior products and outstanding service. Our line offering continues to broaden, featuring an array of products including our exclusive line of USA Made Capacitors and Turbo200 products, relays, transformers, contactors, disconnects, whips, and more. Phone: 800.531.5967; Email: info@globalthesource.com.

GoGreen Financing

Booth(s) 517

Administered by the State of California with support from utilities, GoGreenFinancing.com is where California contractors go to find attractive financing options for their energy upgrade customers. GoGreen Home and GoGreen Business help contractors increase sales through quick approvals and flexible project scopes while customers enjoy exceptional rates and terms. Visit GoGreenFinancing.com for details.

Google Nest Pro

Booth(s) 529

Join Google Nest Pro to explore our products and learn more about how you can grow your business by becoming a Nest Pro. Earn amazing rewards and get access to exclusive products, warranties, and stay connected to your customers all year with HVAC monitoring. Sign up now at g.co/nestpro.

Howard Industries

Booth(s) 418, 420, 422, 424, 426

Howard Industries, founded in 1960, is a family owned and operated independent wholesale distributor of air conditioning, heating, and refrigeration equipment, parts, and supplies. Our goal is to provide our customers with the highest quality products, unrivaled support, and the most expansive inventory selection in Southern California.

The relationships we build with our customers of all sizes go beyond business partnerships. We consider our customers an extension of our family. We are committed to provid-

IHACI Trade Show Exhibitors

ing our customers the product information, technical support, program offerings, and sales training that will help our customers grow and develop their companies.

As your dedicated HVAC supplier, just remember that the cornerstone of our business model will always be commitment to our customers' success.

Hudson Technologies Booth(s) 403

Hudson Technologies is committed to providing products and services that reduce greenhouse gas emissions, increase energy efficiency, and promote sustainability to ensure future generations inherit a healthy planet. We accomplish this through reclaiming, recertifying, and reusing refrigerants. This process helps create maximum economic value for used refrigerants.

HVAKR Booth(s) 813

HVAKR is the fastest and easiest HVAC design program on the market. Develop your basis of design, perform load calculation, and design HVAC systems all in HVAKR's intuitive web-based platform. Learn more at hvakr.com or by emailing davis@hvakr.com.

Inaba Denko America Booth(s) 513

Inaba Denko America supplies HVAC accessories engineered by Inaba Denko of Japan and provides support for distributors and contractors throughout North America. For over 45 years we've been manufacturing and providing the best quality products worldwide. Our products consist of insulated linesets, commercial and residential lineset covers, drain hoses and more.

Slimduct SD Lineset Cover is the ideal solution to conceal, protect, and beautify exposed linesets. Easy to install Slimduct SD is available in four colors and three sizes. Stop by booth #513 for a chance to win a Slimduct SD Black residential lineset cover kit!

Institute of Heating & Air Conditioning Industries, Inc. / Indoor Comfort News Booth(s) 625

The Institute of Heating and Air Conditioning Industries, Inc. (IHACI) is a nonprofit trade organization dedicated to the advancement of heating and air conditioning professionals throughout California. Membership benefits and services include free education and training opportunities, legislative advocacy, and business/professional referrals, just to name a few. IHACI produces the West's leading trade show of the HVAC/R/SM Performance Contracting industries, now in its 43rd year of production.

IHACI also owns and publishes Indoor Comfort News, the West's leading news magazine of the HVAC/R/SM Performance Contracting Industries. Incorporated in 1948, IHACI/ICN remains progressive in representing the needs of the heating and air conditioning industry. For information, contact IHACI/ICN at (818) 551-1555 or visit www.ihaci.org.

iPermit Booth(s) 704

We are a one-stop-shop for permit expediting, final inspections, and HERS testing. Our paperless system gives you "real time" status updates with easy access to all your documentation 24/7 from any device. Learn more about how we can save you time, hassle, and money, by visiting www.iPermitUSA.com

JP Lamborn Booth(s) 505

JP Lamborn knows the value of a good reputation and excels at providing service and quality at the highest level. When you select JPL flexible ductwork, you can always trust your choice. Stop by Booth 505 to learn more about JPL, our quality products, and creative ways to enhance your business.

Kwik Model 3D Booth(s) 802

Kwik Model with Energy Gauge Loads is an award-winning new 3D residential HVAC design software. It combines our innovative 3D user interface, Kwik Model, with Florida Solar Energy Center's (FSEC) ACCA approved EnergyGauge Loads. Fast, simple, and intuitive. Free training available. Visit Booth #802 for a live demo.

LG Air Conditioning Technologies Booth(s) 501

As a leading player in HVAC, LG offers a range of innovative products that deliver whole-home comfort, efficiency, and control. With ducted and duct-free options available in single and multi-zone configurations, LG's HVAC works to customize and maintain a temperature that's most comfortable for the occupant, no matter the room.

L.H. Dottie Company Booth(s) 503

Since 1965 L.H. Dottie's mission has been to provide HVAC installation solutions. Our growth over the decades has not come at the expense of our commitment to provide indus-

try leading products and exceptional customer support. Our products continue to be used on the largest construction projects in the country.

MA-LINE Booth(s) 710

The MA-LINE is a provider of a broad spectrum of specialty products for the HVAC/R industry. For many years, the MA-LINE has offered wholesalers thousands of quality products including instruments, tools, and supplies at competitive prices from a single source.

MarketAir, Inc. Booth(s) 218

Marketair specializes in innovative installation accessories for both ducted and ductless AC systems, also offering a range of highly specialized products for the VRF/VRV sector.

Included are: RoughinBox™ to protect linesets in minisplit roughins, Easybend lineset benders, RD and PD

SERIES commercial lineset enclosures, TK Series support clamps for vertical VRF/VRV linesets, Easy-collar cassette collars, Easyplenum prefabricated plenums for ducted airhandlers, minisplit drain adaptors and many other unique & hard to find products.

Mobile Air & Power Rentals Booth(s) 307

Mobile Air & Power Rentals provides temporary portable systems that solve a variety of HVAC problems.

Our inventory is designed to be used during system maintenance, emergencies, and as supplemental cooling. From 1-ton spot coolers to 1000-ton chillers we have the inventory and expertise to handle your rental cooling needs.

Motor City Buick GMC Booth(s) 329 Motor City Buick GMC

shines as the #1 GMC dealer on the West Coast. Crowned Business Elite Dealer of the Year and nationally ranked at #4, we offer a spectrum of trucks tailored to all needs – from resilient workhorses to dependable companions. Your journey finds a perfect road with Motor City Buick GMC.

Mr. Cool, LLC HVAC Booth(s) 209, 211

As homeowners think about the functionality of their HVAC system, MRCOOL® is ready to provide flexible comfort upgrade solutions like never before. The MRCOOL® Central Ducted Hyper Heat series offers something for everyone: an advanced yet affordable system; an easy-to-install system that can adapt to most installation conditions (upflow, downflow, vertical and horizontal); an energy-efficient

Continued on Page 28

GREAT NEWS! FOR ALL HVAC PROFESSIONALS

EWC Controls and Ultra-Zone have developed the DAPC

Accurately & Reliably eliminating the
need for a By-Pass Damper

DAPC

Distributed Air Pressure Controller



Compatible with all Zoning Systems.

Check out all the Perks,
It's Awesome!



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2023 IHACI SE

CALIFORNIA QUALITY INSTALLATION, QUALITY MAINTENANCE AND QUALITY S

WORKFORCE DEVELOPMENT & BUILDING A CAREER PATH TO HVAC/R/SM PERFORMANCE CONTRACTING

PANEL PRESENTATION: 11:30AM – 1:00PM
BALLROOM A



This seminar is targeted to students seeking a career in HVAC as well as existing employees seeking career direction and educational opportunities. Working professionals in the industry will discuss continuing education opportunities, wages, what they are looking for in future employees and different job opportunities available in the HVAC/R/SM Performance Contracting industries. The question-and-answer period will allow students to ask questions about their career opportunities, advancement, growth, development, and longevity in the HVAC field.

PRESENTED BY IHACI

PANEL DISCUSSION: Dean Gilford, *President, IHACI*, & *President, Kilowatt Heating, Air Conditioning & Electric*, Bob Wiseman, *Secretary/Treasurer, IHACI* & *President, MightyServ*, Steve Adams, *Vice President, IHACI*, & *Director of Sales, Ferguson HVAC*, Lawrence Castillo, *Board of Directors Member, IHACI* & *President, Brody Pennell*, Kristin Heinemeier, *Engineering Manager, Frontier Energy*.

PREPARING FOR REGULATIONS: NOT JUST TAKING AIM AT HFCS

1:30PM – 3:00PM
BALLROOM A



Regulations can be confusing and seemingly difficult to adhere to, especially for HVACR contractors. The AIM Act, which phases down the production and importation of HFCs, including another step down in 2024, is one of the most publicized regulations at the federal level. California is also implementing local regulations to further promote the use of reclaimed refrigerants. What do those regulations mean to you and your customers and how can you prepare for these regulatory changes?

In this session, you will get an overview of key pieces of legislation (the AIM Act, California's SB 1206), the intent behind the legislation, and how they will impact contractors.

PRESENTED BY A-GAS

SPEAKER: Michael Borchard, *supports the HVACR industry by partnering with contractors and other businesses to streamline their refrigerant recovery processes through A-Gas Rapid Recovery and Rapid Exchange and give them access to A-Gas' refrigerant buyback program.*

SYSTEM EFFICIENCY: A KEY IN DECARBONIZATION

3:30PM – 5:00PM
BALLROOM A

The session provides insight into the ASHRAE/ANSI 221-2020. ASHRAE 221 is a recognized field measurement system for determining heating and cooling system operational efficiencies. The protocol estimates installed system efficiency and takes into consideration measured airflow, duct tightness and delivered heating and cooling compared to electrical energy input.



This session provides an overview of the process preparing attendees for the primary on-line and in-person sessions. Included is a discussion covering Heat pump sizing as part of the necessary decarbonization and whole house electric transformation. As homes become all-electric it is important that high efficiency systems aren't just installed without verifying installed system efficiency. The material covers furnace, heat pump and air conditioner efficiency.

PRESENTED BY CLEARRESULT CONSULTING

SPEAKER: Gary Wollin, *CFO Wollin Group.*

MINAR SCHEDULE

SERVICE (CAQI/QM/QS) & NORTH AMERICAN TECHNICIAN EXCELLENCE (NATE)

A CLOSER LOOK AT A2L REFRIGERANTS

11:30AM - 1:00PM
BALLROOM B



In this breakout session you will learn why we're moving to lower Global Warming Potential (GWP) refrigerants, ASHRAE 34 flammability testing and best practices working with mildly flammable refrigerants. Also, what to expect with the new A2L refrigerant disposable tank design will be discussed. Please join the Chemours presenter, John A. Milkint, (West Coast Territory Manager) with over 30 years of HVAC industry experience for this presentation of information with Q/A.

PRESENTED BY CHEMOURS

SPEAKER: John A. Milkint, PE, LEED AP, Chemours - West Coast Territory Manager.

SELLING INDOOR AIR QUALITY SOLUTIONS

1:30PM - 3:00PM
BALLROOM B



Customers are increasingly aware that Indoor Air Quality (IAQ) may have a significant impact on their indoor comfort. For many homeowners, IAQ is not an accessory, but an essential need. HVAC dealers who are trained to identify, evaluate, and resolve IAQ issues are more likely to seize and close these value-added sales opportunities.

This session will cover Indoor Air Quality basics, with a brief overview of pollutants and source control. Discussion will also include solutions based on building science and mechanical approaches.

PRESENTED BY THE NEW FLAT RATE

SPEAKER: John Ellis, *Business Development Manager and Field Service Trainer for The New Flat Rate.*

CALIFORNIA RESIDENTIAL HVAC TECHNICIAN EDUCATION AND TRAINING PROGRAMS

3:30PM - 5:00PM
BALLROOM B



The need for trained residential HVAC technicians in California has never been greater. Innovative programs are emerging to meet the training needs for this skilled workforce, in order to supplement the existing Community College programs and utility training offerings.

This session will introduce three new programs that look at the preparation of the workforce in new ways. The US Department of Energy is funding a pilot program in the Inland Empire region to provide a "soup-to-nuts" approach to recruiting students, training them, introducing them to the workplace, and enhancing their skills once in the workforce. A third-party statewide utility program provides incentives to contractors whose workers provide higher quality bid, installation, and maintenance services—training is an integral part of this program. Finally, IHACI has developed smart phone/tablet apps that help the user understand how a system is performing, and train them, in the process.

PRESENTED BY FRONTIER ENERGY

MODERATED BY: Kristin Heinemeier, *Engineering Manager, Frontier Energy, Inc.*

IHACI Trade Show Exhibitors

Continued from Page 25

system that doesn't compromise on comfort. With a 10-year parts and labor warranty*, you can trust in this MRCOOL® Ducted Air Handler and Condenser to bring you the comfort you crave while saving you money. Visit www.mrcool.com for more information. MRCOOL Comfort Made Simple.

My Metal Business Card Booth(s) 308

We help you STAND OUT. Make an instant impression and gain lifelong clients with metal business cards that show you invest in quality. Our designers know how to make you look good. Get your own metal business cards so your clients remember to call you when they need HVAC services.

National Comfort Institute, Inc. (NCI) Booth(s) 511

The National Comfort Institute (NCI) and Southern California Edison are partnering to bring contractors cutting-edge training on how to perform higher quality installations and service on residential and commercial HVAC systems. Come visit NCI at Booth #511 to learn how to take advantage of this advanced training. 800-633-7058 / www.NationalComfortInstitute.com.

NEBB Booth(s) 520

Building owners are concerned about the cost-effective performance of the environmental systems within their buildings. This "green" goal can be best accomplished by having a building's environmental system properly tested, balanced and/or commissioned by a NEBB Certified Professional. Find out how we can help you at nebb.org.

North American Technician Excellence (NATE) Booth(s) 702

North American Technician Excellence (NATE) is the largest nonprofit certification organization for heating, cooling, ventilation, air-conditioning, and refrigeration (HVACR) technicians. NATE exams represent real-world working knowledge of HVACR systems and validate the competency of service and installation technicians. Leading contractors, manufacturers, distributors and educators partner with NATE to develop skilled, certified technicians.

Olimpia Splendid – USA Booth(s) 413

Olimpia Splendid, founded in 1956 in Italy, manufactures the ONLY Heat Pump with "NO Outdoor Unit", on display at

Olimpia Splendid's booth #413 at the 2023 IHACI Show. The Maestro Series is available in 9,000 BTU & 12,000 BTU sizes (115V & 230V) and with 2kW backup electric heat, for those colder markets, is ideal for modular/single & multi-family/hospitality dwellings. The Maestro has an inverter compressor, with ECM motor and is easy to install requiring minimal maintenance. Warranty: 7-year Compressor & 2-year Parts and a 1 year No Hassle Unit Replacement Guarantee.

More information: www.olimpiaspplendidusa.com or email sales@olimpiaspplendidusa.com

PI.PE. / Southern California Pipe Trades Booth(s) 313

Piping Industry Progress and Education Trust Fund (PI.PE.) is the Labor-Management cooperation committee and trust fund for the unionized plumbing, piping and HVACR industries in Southern California. We are the vehicle through which union contractors and union pipe trades workers advance the industry. Call (800) 457-7473 or go to www.pipe.org.

Pacific Rim Mechanical Booth(s) 708

Pacific Rim Mechanical is the premier mechanical contractor in Southern California. And we got there by strict adherence to one simple philosophy...ALWAYS DO THE RIGHT THING.

From Pre-Construction to retrofit and full service & maintenance, we place the highest priority on honesty, integrity and respect for our customers and employees.

Pacific Systems Group Booth(s) 703, 705

Pacific Systems Group is an adaptive partner that assists consulting engineers, distributors, mechanical contractors, and building owners in designing HVACR systems, providing efficient and cost effective indoor environmental solutions.

Manufacturers Represented: Carrier Ductless, Toshiba-Carrier VRF, Carrier VRF, Magic Aire, Aldes, Beckett Pumps, Hi-Velocity, Vents US and Vindus Fans. Contact: www.psghvac.com; (888) 909-HVAC; info@psghvac.com.

Panasonic Life Solutions Booth(s) 113

Panasonic Life Solutions is committed to providing high quality ventilation products to meet constant changing codes. Performance driven ventilation is a key path to a better living environment and a unique must-have value. By helping improve indoor air quality, let's address a major health issue facing our industry together.

Paradise Chevrolet Commercial Fleet

**Booth(s) 717, 719, 721, 723,
725, 727, 729, 818, 820, 822,
824, 826**

Paradise Chevrolet Commercial & Fleet Vehicles – "We Bring the Dealership to You!!!"

Paradise Chevrolet is a leading dealer of commercial and fleet vehicles in Temecula, CA. We have been in business for over 30 years and have a reputation for excellence. We are an 8X Business Elite Dealer of the Year award winner, consistently ranked in the top 10 Nationally out of all GM Dealerships. We specialize in helping Small Business Owners and Major Fleet Customers maintain their fleets for optimal performance and productivity while staying focused on the newest safety and technology available in the Chevrolet product line.

We offer the largest inventory of Chevrolet trucks and vans in the entire Western United States that will fit all your business needs. We have everything from small vans for light-duty work to large trucks for heavy-duty jobs. We partner with virtually every commercial vehicle upfitter and equipment manufacturer in the industry to customize the vehicles to work seamlessly in your business.

In addition to their wide selection of vehicles and customization options, Paradise Chevrolet also offers a variety of other services, including:

- Our Fleet management program can help you manage your fleet vehicles, from maintenance and repairs, vehicle tracking, fuel management, and custom factory ordering.
- Delivery: Paradise Business Elite can deliver your fleet vehicles to anywhere in the United States.
- All contracts and documents can be delivered to your home or office to make the purchasing process both easy and convenient.

Paradise Chevrolet is committed to providing excellent customer service. We have a team of experienced professionals who are dedicated to helping you find the right vehicle for your business and get the best possible deal and service that will win your loyalty time and time again for the future.

PHCC Los Angeles Booth(s) 507

Since 1968, the Plumbing Heating Cooling Contractors of the Greater Los Angeles Area has provided skilled personnel for the PHC industry. Call today for hands-on training in Plumbing, HVAC, and Backflow. We offer seminars throughout the year to meet the demands of today's job

market. PHCC Los Angeles Training Program is a NCCER and DOL accredited program. We are now a NATE training and testing facility. www.phccglaa.org 323-913-7335

Phoenix Manufacturing, Inc. Booth(s) 713

We design, manufacture, and distribute quality and highly efficient evaporative cooling products for residential and commercial applications since 1975. New products listed below.

AeroCool RF Series rigid fan downdraft models can reduce the motor horsepower energy consumption by half in some circumstances. 2HP in 1PH or 3PH and 3HP up to 10HP in 3PH available up to 50,000 CFM.

EcoKool AG42 sidedraft direct drive axial fan 3HP 3PH up to 21,000 CFM. RF and AG have VFD, single point connection and BACnet options available.

EcoKool variable speed is perfect for makeup air for kitchen hoods. See all our products www.phoenix-manufacturing.com.

R.E. Michel Company Booth(s) 601

The R.E. Michel Company was founded in Baltimore, Maryland in 1935. Over the past 87 years, we have grown to be one of the largest distributors of HVACR and propane equipment, parts, and supplies. With over 300 locations operating in 31 states, we are the largest privately held HVACR/Propane distributor in the nation. Our branches stretch from coast to coast and individually tailor their inventories for their local markets. Visit us today to experience our commitment to industry leading customer service, robust inventory, and cutting-edge technology!

Rapid Duct Testing Booth(s) 509

Need HERS testing or Air Balancing at an affordable rate? Rapid Duct Testing opened its doors 17 years ago and has grown simply by putting the customer needs first. No job is too small or too big. Greet us at our booth or call 818-552-2050 to discuss our services.

Robertshaw® Booth(s) 804

Robertshaw® offers the highest-quality residential and commercial HVACR controls through trusted brands including Robertshaw, Ranco®, Paragon®, Ranco® Rocket™, Robertshaw® IgnitorPro™ and partnership brands including Mersen, Skytech, Kidde, Tork, and Fenwal. Our portfolio includes new Pro-Series wall thermostats (industry-leading 6-year warranty) and Ranco Refrigeration System Solutions. Visit Robertshaw at booth #804.

Rotobrush International Booth(s) 207

Expand your opportunities with Air Duct Cleaning & Rotobrush. Stop by booth #207 to check out the new BrushBeast DR! The DR is the future of the air duct cleaning industry and features a direct drive system, more vacuum power, speed rotation settings, and more!

Rottiers Sales Associates Booth(s) 213

Ideal Tape offering a complete line of foil/insulation/cloth and UL181 HVAC tapes.

Modine is a manufacturer of Gas Fired/Electric/Steam/Hot Water Unit Heaters, Make-up Air units & Duct Furnaces.

PRO1 Thermostats Simple, Affordable and EXCLUSIVELY for the Professional Trade.

UEI Test Instruments offers a complete line of test instruments. Meters, Temperature, Combustion, Refrigeration & Accessories.

Smartlock is a manufacturer of cutting-edge metal to metal sealing technology. These fittings eliminate brazing and flaring without leaks and no special tools required.

Service Nation Booth(s) 502

Build your residential service business faster with Service Nation. A network of successful contractors, equipment and service providers help you tackle the everyday problems of owning a business. Plus, earn rebates and receive downloadable custom marketing material to make your phone ring! Join today at www.ServiceNation.com.

Sigler Wholesale Distributors Booth(s) 701

It's hard not to think of Carrier when we look at the past, present, and future of our industry. Where would we be without Willis Carrier? Since the first air conditioner in 1902, Carrier, and now Bryant as well, have continued to develop equipment to meet not only consumer needs, but also government guidelines. At Sigler, we are proud to partner with an industry leader and celebrate the past but continue to innovate for the future.

simPRO Software LTD Booth(s) 310

SimPRO is the total business management software for trade service businesses. From job quoting and scheduling to inventory tracking, invoicing, and everything in between, SimPRO's smart technology solutions and expert long-term support help businesses build, repair and power their future with complete control over operations.

Continued on Page 30

2023 TRAINING CLASS SCHEDULE

CALIFORNIA QUALITY INSTALLATION, QUALITY MAINTENANCE AND QUALITY SERVICE
(CAQI/QM/QS) & NORTH AMERICAN TECHNICIAN EXCELLENCE (NATE)

SOCALGAS, DOWNEY

OCTOBER

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

(Four-Night Class) Webinar

Wed., Oct. 4 – Part 1

Thurs., Oct. 5 – Part 2

Wed., Oct. 25 – Part 3

Thurs., Oct. 26 – Part 4

Sat., Oct. 28 - NATE Exam, 7:30 a.m.

(In-Person/Onsite)

SOUTHERN CALIFORNIA EDISON, IRWINDALE

OCTOBER

Non-Res ATE Acceptance (Webinar)

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

Wed., Oct. 11 – Part 1

Thurs., Oct. 12 – Part 2

Non-Res ATT Acceptance (Webinar)

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

Wed., Oct. 18 – Part 1

Thurs., Oct. 19 – Part 2

NOVEMBER

System Performance Module

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

Wed., Nov. 1 – Part 1

Thurs., Nov. 2 – Part 2

Wed., Nov. 8 – Part 3

Thurs., Nov. 9 – Part 4

SOUTHERN CALIFORNIA EDISON, TULARE

OCTOBER

NATE CORE & Gas Heating Training

(Four-Night Class) Instructors: Mitch Bailey / John Dalton

Wed., Oct. 11 – Part 1

Thurs., Oct. 12 – Part 2

Wed., Oct. 18 – Part 3

Thurs., Oct. 19 – Part 4

NOVEMBER

NATE AC/HP Refrigeration & Air Distribution Training

(Four-Night Class) Instructors: Mitch Bailey / John Dalton

Wed., Nov. 1 – Part 1

Thurs., Nov. 2 – Part 2

Wed., Nov. 15 – Part 3

Thurs., Nov. 16 – Part 4

Sat., Nov. 18 - NATE Exam, 7:30 a.m.

PACIFIC GAS AND ELECTRIC COMPANY, STOCKTON

OCTOBER/Nov

NATE CORE & Gas Heating Training

(Four-Night Class) Instructors: Mitch Bailey

Wed., Oct. 25 – Part 1

Thurs., Oct. 26 – Part 2

Wed., Nov. 8 – Part 3

Thurs., Nov. 9 – Part 4

This class will be presented In-Person and webinar from the ETC.

NOVEMBER/DEC

NATE AC/HP Refrigeration & Air Distribution Training

(Four-Night Class) Instructors: Mitch Bailey

Mon., Nov. 20 – Part 1

Tues., Nov. 21 – Part 2

Wed., Nov. 29 – Part 3

Thurs., Nov. 30 – Part 4

Sat., Dec. 2 - NATE Exam, 7:30 a.m.

This class will be presented In-Person and webinar from the ETC.

SAN DIEGO GAS & ELECTRIC

OCTOBER

System Diagnostics Module (Webinar)

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

Mon., Oct. 16 – Part 1

Tues., Oct. 17 – Part 2

Wed., Oct. 23 – Part 3

Thurs., Oct. 24 – Part 4

NOVEMBER

NATE CORE & Gas Heating Training (Webinar)

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

Mon., Nov. 13 – Part 1

Tues., Nov. 14 – Part 2

Mon., Nov. 20 – Part 3

Tues., Nov. 21 – Part 4

DECEMBER

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

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

Mon., Dec. 4 – Part 1

Tues., Dec. 5 – Part 2

Mon., Dec. 11 – Part 3

Tues., Dec. 12 – Part 4

Sat., Dec. 16 - NATE Exam, 7:30 a.m.



All Classes are scheduled for In-Person EXCEPT Where Noted.

All In-Person classes subject to change based on IOUs/CA COVID requirements.

Classes begin at 6:00 PM Pacific Time and class format is subject to change

Register at www.ihaci.org (Training)

Note: When registering for a training class please make sure you honor that commitment and show up on time and prepared. If you cannot attend, please call (818) 551-1555 and cancel in ample time. Thank you.

COSPONSORED BY: Institute of Heating and Air Conditioning Industries, Inc., Southern California Gas Company, San Diego Gas & Electric, Southern California Edison and Pacific Gas and Electric Company



IHACI Trade Show Exhibitors

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Learn more at <https://www.sim-progroup.com>.

SoCal Sheet Metal Apprenticeship Booth(s) 508

The Southern California Sheet Metal JATC is an apprenticeship program training sheet metal workers.

We offer free training and job placement to persons meeting our qualification standards. We also provide manpower to today's HVAC contractor who is signatory to Local Union 105 and to non-signatory contractors on prevailing wage jobs helping them reach their 20% requirement.

Southern California Edison Booth(s) 405, 407

Your Energy Education Starts Here

Our Energy Education Centers in Irwindale and Tulare offer online, in-person, and on-demand classes to help you advance your career in clean energy and make better energy decisions for your home or business. Sign up for a free class at sce.com/classes.

Southern California Gas Company Booth(s) 803

With over 150 years of service, SoCalGas® proudly delivers affordable, reliable, clean, and increasingly renewable natural gas service to 21.8 million customers across 24,000 square miles of Central and Southern California.

We understand the importance of caring for the environment while looking out for our customers. That's why we're working hard to ensure California's clean energy future maintains a balanced strategy— one that achieves greenhouse gas reduc-

tions while keeping energy affordable for families and businesses. SoCalGas offers energy efficiency programs that provide customers with incentives for making significant upgrades to their homes as well as buying more efficient appliances. For more information visit socialgas.com/upgrade.

Style Crest, Inc. Booth(s) 203

Manufactured housing HVAC is a distinct animal all its own and is once again a rapidly growing market which shouldn't be ignored by an HVAC contractor. Untap these market opportunities to grow your business with Revolv HVAC products, uniquely designed for manufactured housing and exclusively available from Style Crest.

SUPCO (Sealed Unit Parts Co.) Booth(s) 112

Technician Focused Always. This has been SUPCO's mission since day one, and we're proud to showcase new products that continue to simplify technicians' jobs. Come explore our exclusive TradeFox product line that brings technicians' inventions to life, along with the Pipe Vise brand of premium pipe tools and Solderweld brazing and soldering products.

TECH Clean California Booth(s) 100

TECH Clean California - Coming to IHACI 2023 with Industry Experts & Live Program Support

TECH Clean California is a statewide initiative aimed at accelerating the adoption of clean space and water heating technology. The program provides market incentives with workforce

education and training opportunities to make it easier for distributors and contractors to stock, sell, and install low-emissions heat pumps that are better technology, have significantly higher energy efficiency, and produce lower carbon emissions.

In 2022, TECH Clean California funded over \$40 million in heat pump incentives, and in 2023, TECH released funds for another \$30 million in Single-family and Multifamily HVAC incentives. Coming later this Fall, over \$83 million in funding will become available through the TECH Clean California Statewide Heat Pump Water Heater (HPWH) initiative. Incentives start at \$3,100 for unitary heat pump water heaters, with additional opportunities for incentive kickers. There will also be incentives available for central HPWHs and HPWHs in commercial installations!

TECH Clean California will join this year's IHACI Trade Show in Pasadena. It will feature a demonstration stage where industry leaders and experts will share their knowledge on heat pump topics. Such heat pump-focused topics will include information on how to sell heat pump HVAC, perform heat pump HVAC load calculations and why they're essential, and optimize electric panels for heat pumps. Session hosts include the National Comfort Institute (NCI), Tom Kabat, Mitch Bailey, and Electrify My Home (EMH). We are bringing the experts to you and encourage you to take advantage of this opportunity to hear them speak on topics relevant to you and your business.

In addition to the demonstration stage, the booth will host the 'TECH Help Desk,' where attendees can get personalized support on all their program needs. Do you have a claim that keeps getting kicked back for corrections that you need help with? Are certain rules of the program or specific processes a bit confusing? Or do you need help navigating the numerous websites and resources of the program? If you've answered "Yes" to any of these questions, the TECH Help Desk is the perfect place to get real-time, in-person support on program questions. Whether or not you're an enrolled contractor, the team is there to support you! Your feedback and questions will also help inform future program design and support that we provide.

The TECH Clean California team is led by Energy Solutions and partners with Ardenna Energy, the Association of Energy Affordability, Building Decarbonization Coalition, Electrify My Home, Frontier Energy, National Comfort Institute, Energy Outlet, Recurve Analytics, The Ortiz Group, Tre' Laine Associates, and VEIC. Find out more at www.techcleanca.com. The TECH Clean

California initiative is funded by California ratepayers and taxpayers and administered by Southern California Edison Company under the auspices of the California Public Utilities Commission.

Teslong Technology Booth(s) 220

Teslong Technology was founded in 2009, as an innovative manufacturer of digital products to solve complex problems. Our products include inspection cameras, otoscopes, rifle borescopes, pipe cameras, and a line of thermal cameras—the perfect tools for tackling all kinds of HVAC, plumbing, electrical, or other industrial issues.

TruTech Tools Booth(s) 406

TruTech Tools is your online source for HVAC test and measurement tools. We carry everything from Fieldpiece Vacuum Pumps and Digital Manifolds to NAVAC Cordless Flaring and Tube Expanding Tools and more. Visit our booth at this year's trade show to see new tools from the top tool brands.

Uniweld Products, Inc. Booth(s) 613

Since 1949 Uniweld has employed over 300 workers who help design, manufacture, and distribute quality U.S. made products! Stop by the Uniweld booth to see their HVAC products: New MaxEvac Evacuation Kit, Electric/Manual Ratchet + Clutch Flaring Tool and Take the EZ-Turn Challenge! Sign up for a free hat.

US Air Conditioning Distributors (USACD) Booth(s) 401

US Air Conditioning Distributors is your One-Stop-Shop for equipment, compressors, supplies and parts for all brands of HVAC equipment. With 51 locations in California, Nevada, Utah, Idaho and Arizona, US Air Conditioning Distributors is one of the largest HVAC distributors in the country. At the show we will feature York, Luxaire, Guardian, Samsung, and Eubank equipment; Source 1 Parts, QuietCool fans, and supply lines such as Modular Metals, Diversitech, Nu-Calgon, Malco, Venstar and Hart & Cooley. Count on US Air to have what you need, when you need it, with free next-day delivery, crane service, incredible inventory selection and experienced, friendly personnel.

Visual Service by IHACI (VS) Booth(s) 621

Visual Service by IHACI (VS) is a contractor service platform that provides for live system documentation and live mentoring of entry level apprentices by senior technicians. VS guides technicians through different stages of HVAC troubleshooting from basic triage to pressure profiles of duct

systems and airflow calculations. Using Bluetooth tools and live video, VS provides a platform for proper supervision, commissioning, and certification of HVAC systems. Customer reporting provides a clear path to explaining and documenting the current status of an HVAC system. Come visit our booth to see the future of our industry!

Walter's Mercedes-Benz Sprinter of Riverside. Booth(s) 129

More Professionals choose Walter's Mercedes-Benz Sprinter of Riverside.

Walter's Mercedes-Benz Sprinter of Riverside is an authorized dealer of Sprinter Vans. We're dedicated to the needs of heating, ventilation, and air conditioning professionals. We are proud to display at this year's IHACI Trade Show. Visit us at Booth #129, or contact our Sales Manager, Isaid Barragan IBarragan@waltsmb.com. We are family-owned and operated, celebrating over 50 years of selling and servicing Mercedes-Benz vans. As a leading provider of the Sprinter brand, you can be sure to get the finest in customer service at Walter's Mercedes-Benz Sprinter of Riverside. www.WaltersMercedesBenzSprinter.com.

Williams Booth(s) 408

CARMEL™ AC2030TNA Top Vent Wall Heater

This 82% AFUE heater offers superior efficiency with ultra-low NOx emissions. It is engineered with dynamic response and a constant and comfortable temperature – just enough for your heating environment. No standing pilot eliminates seasonal relighting. It fits into the same opening and uses the same venting as the traditional Monterey wall furnace.

wfc-fc.com/carmel.

Wright Sales Company Booth(s) 526, 602, 603, 604, 605, 606, 607, 608, 610 & 611

Wright Sales Company is an industry leading manufacturer rep agency representing top manufacturers in the pacific western states of CA, AZ, NV, HI, N, CO, & ELP. Stop by our isle 602-611 for giveaways, raffles, and demonstrations!

• Aspen Coil is one of the largest independent evaporator coil and air handler manufacturers for the heating, ventilation, and air conditioning (HVAC) industry. Come learn about the company's product offering including a broad range of high-quality residential and light commercial evaporator coils, blowers, and air handling units for multi-family, single-family residential, and manufactured homes.

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Classifieds

Business for Sale

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HVAC Business for Sale
22 year old HVAC company for sale in Santa Barbara, CA. Factory dealer for York and Samsung. Aerobrush, Rotobrush and sheet metal shop. Owner needs to retire due to medical reasons. 1 million in sales per year. Great internet and customer reviews. Comes with all trucks, service van and install equipment. Call 805-705-0377 if interested.

NEW IHACI MEMBERS

- MA-Line Division of Monti & Associates, Inc. Arlington Heights, IL
- CDI Curbs La Mirada, CA
- Parker Miller Contractors Insurance Franklin, TN

Trade Show Exhibitors Continued from Page 30

- Owens Corning From Duct Liner and Wrap to Duct Board and more – Owens Corning has an extensive portfolio of solutions to meet all your air distribution needs. Put more money in your pocket with ProCat® Professional Loosefill Insulation System. It is designed for contractors for use in open attic and closed cavity applications – AOR or RNC.

- Navac is a manufacturer of HVAC/R tools committed to technical innovation and R&D to deliver solutions that have taken over HVAC/R social media platforms. So, swing by for hands-on tool demonstrations and training with us to see why NAVAC dares to be different.

- Purolator is a premier source for HVAC air filtration for home, commercial, industrial, and institutional applications. With MERV ratings from MERV 4 to HEPA, the Purolator comprehensive line offers products in every category from disposable panel filters and pleated filters to high efficiency extended surface filters, including a wide variety of specialized applications.

- Dust Free® is a family owned and operated business headquartered in Royse City, TX, east of downtown Dallas. Dust Free® was established in July of 1982 as a manufacturing

company specializing in air filtration equipment designed to benefit allergy patients who needed a clean indoor environment.

- RectorSeal is home to some of your favorite brands, Aspen Pumps, AC Leak Freeze, Slimduct, RSH Surge Protection, Safe-T-Switch, Novent Locking Caps, ProFit Quick Connect and more. Stop by the booth to spin the sample wheel and win while learning more about how to stock your trucks to make money.

- Shoemaker & TRUaire – manufactures the highest quality, most affordable residential and commercial grilles, registers, and diffusers. Stop by our booth to see the difference that our 100% Powdercoat coverage and Smooth glide technology make on your next job, backed by industry leading support and online tools.

- Gastite/Python is the leader in Corrugated Stainless-Steel Tubing (CSST) flexible gas pipe. Python is a new, innovative industry changing, flexible plastic line set (PERT). You want to be the first to check it out!

- Thermaflex is the global leader in the flexible duct product industry for both commercial and residential HVAC applications. Stop by and see our proprietary M-KE and Ever-Clean Technologies.

- Friedrich Air Conditioning is a leading US manufacturer of premium room A/C and other home environment products, designed for residential and commercial

applications. Constructed of the highest quality components, Friedrich products are built to exacting standards, and are among the most sophisticated, energy efficient and quietest available.

ZONEFIRST Booth(s) 609

ZONEFIRST has acquired ZONEX and will be displaying both companies' offerings of residential and commercial zoning systems. We are also introducing BLISS, our NEW wi-fi based zoning system that includes Invis-A-Stat, the first ever combination light switch and thermostat. With Invis-A-Stat, both lighting and temperature can be controlled via the touchscreen or the ZONEFIRST BLISS app on any smart device.

GOLD KEY Contest Winner

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



Daniel Haim
Total Comfort Systems

Haim is the winner of a \$50 Amazon gift card, courtesy of ICN. Congrats!

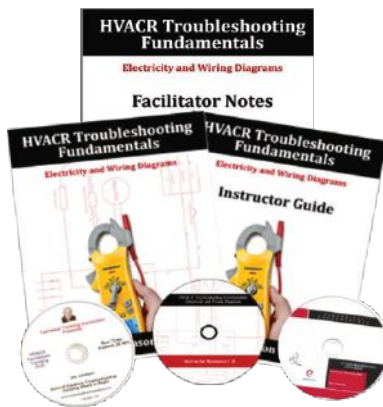
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- One (1) DVD/Video: *Proper Use of Test Instruments* (Run Time: 60 Minutes)
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