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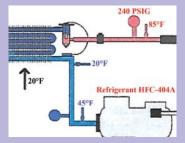
THE WEST'S LEADING MONTHLY NEWSMAGAZINE FOR THE AIR CONDITIONING, HEATING, REFRIGERATION, SHEET METAL AND VENTILATING INDUSTRIES



Editorial Focus

What's new? Find out here as ICN takes a look at the latest offerings in Indoor Air Quality, Zoning and Air Distribution Products.

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Troubleshooting

This month's problem involves a walk-in freezer that's not keeping food frozen.

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Indoor People

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

Page 22

Daikin Announces Name Change, Major Organizational Realignment

Daikin unifies Daikin, Goodman and Amana HVAC brands under a new corporate name and creates a stronger focus on environmental advancement. The Daikin unitary, ductless and light commercial (including VRV) products organization in North America, part of the world's largest heating, ventilation, and air conditioning (HVAC) company— is unifying its core Daikin,

Goodman and Amana HVAC brands under a new top level corporate name and structure. This name change and new structure aligns brand sales efforts with the mission to enhance customer experiences and become North

America's #1 indoor comfort solutions provider. The name change and new organization structure became effective April 1, 2022.

"We are uniting under a single name – Daikin Comfort Technologies – capturing a culture and identity that reflects one vision that will create an even stronger and more unified Daikin," explains Satoru Akama, Chief Executive Officer for Daikin. "By

Continued on Page 18

TECH Clean California Quick Start Grants Recipients Named

VEIC and Energy Solutions recently announced the recipients of the TECH Clean California Quick Start Grants funding proposal.

The Quick Start Grants (QSG) program was created as a part of the initiative to fund local, vanguard approaches to accelerate deployment of heat pump space and water heating technologies. The goal of the QSG program is to test market transformation strategies and approaches, support technology development, and leverage high-impact opportunities to quickly increase the installed base of heat pump technologies.

Awards were granted in the amount of \$100,000-\$250,000 to

DEPARTMENTS

projects that would be completed within 16 months, result in rapid heat pump installations, and show a clear pathway to scaling heat pump adoption. Over 70 percent of the overall grant budget was allocated to projects that benefit low-income households, disadvantaged communities, or other hard-to-reach customers. Successful strategies and lessons learned from the projects will be incorporated into the broader TECH Clean California program in future years.

"We're thrilled to be supporting these innovative projects and help-

Continued on Page 22

Editorial Focus

Texas School District Improves IAQ with Trane, Synexis

Improvements seen in five campuses across the San Felipe Del Rio Consolidated Independent School District.

Students and staff in the San Felipe Del Rio Consolidated Independent School District (SFDRCISD) are breathing easier with new district-wide indoor air quality enhancements. The school district teamed up with Trane, by Trane Technologies, and Synexis to improve the quality of indoor environment across the district's five campuses in Texas.



INSIDE THE CLASSROOM OF ONE OF THE SAN FELIPE DEL RIO CONSOLIDATED INDEPENDENT SCHOOL DISTRICT SCHOOLS.

The district installed portable Synexis BioDefense Systems in every classroom in the district – part of SFDRCISD's Safety Mitigation Plan to help reduce the presence of SARS-CoV-2 (the virus that

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Technical Training 18

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3.5	\$3,229	3.5	\$3,751
4.0	\$3,300	4.0	\$3,822
5.0	\$3,572	5.0	\$4,147





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Industry News





Wrench Group Expands to Tucson

Tucson, Ariz. - Wrench Group recently expanded into Tucson, Ariz. in a continuation of its "greenfield" growth strategy.

The company added this new market as Parker & Sons, a home services provider since 1974 and a Wrench Group company, announcing it opened its first location in Tucson earlier this month.

With the expansion, the company now has a presence in 19 markets across the country, spanning from California to Maryland. The company has increased the number of markets served by its partners by more than 50% in just the past ten months. While Wrench also grows via mergers and acquisitions, the Tucson expansion is part of Wrench's "greenfield" growth plans to add approximately 20 built-from-theground-up locations over the next several years in key markets across the country, investing heavily to open new facilities, hire staff, and provide marketing, advertising, technology, and operations support.

"We've always believed that there are multiple avenues to growth, particularly given the strong track record of the home service industry in recent years," said Ken Haines, CEO of Wrench Group. "Tucson is a market we've long felt is a great place to build a business, and bringing a trusted Arizona brand like Parker & Sons to town is the perfect opportunity to do so.

Adding greenfield locations of wellrespected regional companies is a natural complement to our extensive strategic M&A efforts."

This is the third market where Wrench has employed a "greenfield" strategy. The company opened greenfield locations in Austin, Texas and Orlando, Fla. last March and April, respectively.

Located at 3801 N. Hwy. Dr., Tucson, the new Parker & Sons location expects to employ 50 people by the end of its first year. The company currently employs over 700 team members in Arizona and serves more than 100,000 customers annually.



RectorSeal Buys Shoemaker Manufacturing

Houston, Texas - RectorSeal LLC, a manufacturer of HVACR and plumbing tools and accessories, and a wholly owned subsidiary of CSW Industrials, Inc., has acquired Shoemaker Manufacturing, a manufacturer of grilles, registers, and diffusers (GRD).

Shoemaker Manufacturing, based in Cle Elum, Washington, and established in 1947, manufactures GRD serving residential and commercial applications. With 180,000 square feet of domestic manufacturing space, the Shoemaker acquisition provides RectorSeal with additional capacity to manage its global supply base.

"Shoemaker's strong reputation is built upon the quality of its manufactured products, innovation in applying technology to production selection and quotation, and a relentless focus on customer service," said Jeff Underwood, senior vice president of sales and marketing at RectorSeal. "This combination complements our TRUaire GRD product line and expands our product offerings in this growing category."

The existing leadership team at Shoemaker has remained in place through the ownership transition. John Hein, president at Shoemaker, adds, "The acquisition enhances our ability to deliver a more robust product line along with many additional benefits to current and future customers. Now, both companies will be able to provide products and services to customers that we could not have delivered as separate companies."

Shoemaker will continue to operate and serve customers independently in the short term. As the businesses are integrated and benefits for RectorSeal and Shoemaker customers are realized, details will be shared with distributors.





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Industry News

Lennox Industries Launches "Warranty Your Way" Program

Richardson, Texas – Lennox Industries is launching a limited warranty offering with customizable and complete system coverage for parts and labor, providing peace of mind to homeowners. Through Warranty Your Way, homeowners have the opportunity to obtain labor coverage on eligible heating and cooling

products, as well as more limited warranty and coverage options at no additional cost.

Lennox Industries features the option to obtain three-year labor coverage at no additional cost. Traditionally in the heating and cooling industry, labor has not been covered as part of the standard manufacturer's limited warranty, a misunderstanding that can be a challenging experience for the homeowner.

"With the launch of Warranty Your Way, we are setting the new

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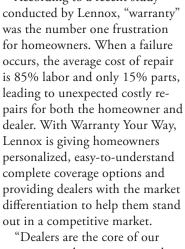
standard for HVAC manufacturer limited warranties and continuing Lennox' legacy of innovation in all aspects of the industry," said Quan Nguyen, VP and general manager at Lennox Industries. "We're giving homeowners the transparency and peace of mind to feel confident about their warranty parts and labor coverage and keep their home comfort system performing optimally. Through our new industry-leading warranty offering, we're proving that perfect air isn't just something Lennox talks about – it's something

we stand behind."

According to a recent study conducted by Lennox, "warranty" was the number one frustration for homeowners. When a failure occurs, the average cost of repair is 85% labor and only 15% parts, leading to unexpected costly redealer. With Warranty Your Way, Lennox is giving homeowners personalized, easy-to-understand complete coverage options and providing dealers with the market out in a competitive market.

company, and we are constantly seeking ways to improve their business as well as enhance the homeowner experience," said Kim McGill, VP of marketing at Lennox Industries. "The Warranty Your Way limited warranty coverage options provide customizable labor coverage packages that best fit our dealers' business models and the homeowner's needs, leading to stronger customer relationships and upward business growth for our network of exceptional deal-

Additional labor coverage can be purchased through the Comfort Shield program, which is provided by Service Net Warranty, LLC, part of AIG, and is transferable.





User Friendly

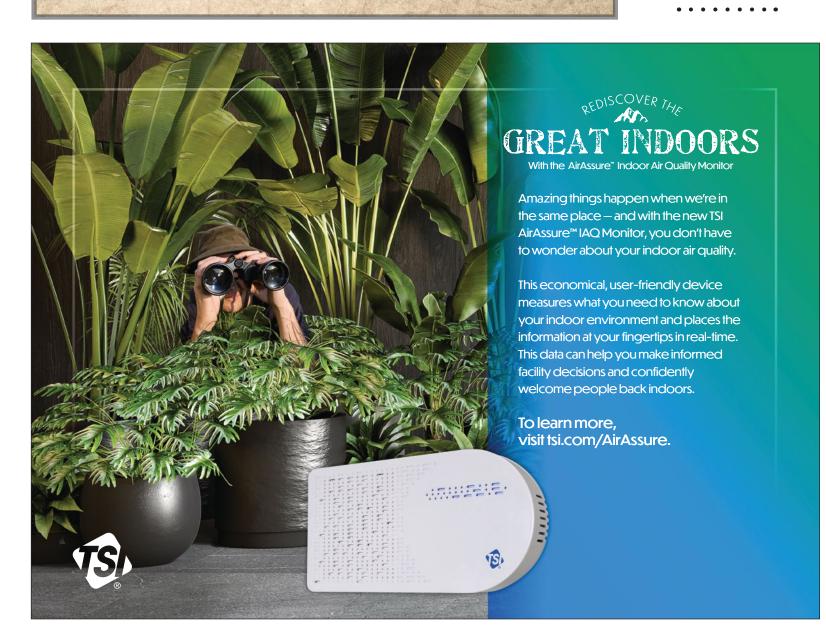
Legacy Heating & Air Conditioning, LLC in Louisville, Ky.

"Matt and his team at Legacy Heating & Air have done an amazing job building the Legacy brand over the years. I can't wait to get to work and see how we can expand on the great work they have already done," said Bruce Howard, CEO of User Friendly Home Services.

Established in 2001, Legacy Heating & Air Conditioning, LLC has over 20 years of experience in the Louisville HVAC industry. Serving residential and commercial customers, Legacy has expert technicians in all aspects of HVAC systems from installations to repairs and everything in between.

"This partnership with User Friendly Home Services is a true win-win. We are all very excited to see what the future holds for Legacy and User Friendly Home Services," commented Matt Alvey, owner and CEO of Legacy Heating & Air Conditioning.

With this acquisition, the User Friendly Home Services national network of HVAC and home service companies grows to seven, with an eye on continued growth throughout 2022. Legacy Heating & Air Conditioning joins a group consisting of: Isabel Heating & Cooling, Tom Hundley Heating & Cooling, All Seasons Air Conditioning, Plumbing & Heating, Inc, Mike Clark Heating, Cooling & Refrigeration, Milburn Heating and Air Conditioning, and Murry's Heating & Air Conditioning - all under the User Friendly Home Services umbrella.



Building Controls & Solutions Earns **Honeywell Award**

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Dallas, Texas – Building Controls & Solutions, a Dallasbased commercial building automation and HVAC distributor, has been recognized as the 2021 Honeywell Building Management Systems Distributor of the Year. The annual award recognizes the top-per-

Continued on Page 8



Offer customers generous rebates on high efficiency equipment and installations.

Rebates include:

- Up to \$4500 rebate on ENERGY STAR® certified solar thermal water heater with gas back-up.
- Up to \$1000 rebate on ENERGY STAR® certified natural gas furnaces.
- Up to \$1000 on qualifying ENERGY STAR® certified natural gas tankless water heaters.
- Up to \$115 rebate on ENERGY STAR® certified natural gas storage water heaters.



This program is funded by California utility customers and administered by Southern California Gas Company under the auspices of the California Public Utilities Commission. Program funds, including any funds utilized for rebates or incentives, will be allocated on a first-come, first-served basis until December 31, 2022 or until such funds are no longer available. This program may be modified or terminated without prior notice. The selection, purchase, and ownership of goods are the sole responsibility of customer. SoCalGas makes no warranty, whether express or implied, including the warranty of merchantability or fitness for a particular purpose, of goods selected by customer. Customers who choose to participate in this program not obligated to purchase any additional goods offered by manufacturer, vendor, service provider, or any other third party. Eligibility requirements apply; see the program conditions for details.





Industry News

Continued from Page 6

forming company in Honeywell's Authorized System Distributor (ASD) Program.

Distributors who participate in the Honeywell ASD program are evaluated annually across several key metrics. To qualify as a Honeywell Diamond Distributor, companies must achieve a minimum sales volume during the prior measurement period, provide superior value-added customer services, and earn a top-10 score on the Diamond scorecard, which measures both business results and product training and engagement. The top scored company is awarded the Distributor of the Year distinction.

"We are proud to be named the 2021 Honeywell Distributor of the Year," said Eric Chernik, CEO of Building Controls & Solutions. "We value our partnership with Honeywell and look forward to continuing to work together to provide value-added services, training, and products to our customers across the country. We are humbled to win this award, as it is truly a team effort between Honeywell and BC&S on behalf of our customers."

With a relationship spanning more than 10 years, together Building Controls & Solutions and Honeywell have helped provide many customers with building management solutions.

"Honeywell values our distributors, and importantly, long-standing relationships like the one we share with Building Controls & Solutions," said Mike Garceau, GM of distribution for Honeywell Building Management Systems. "BC&S set a high standard for ASD performance in 2021, growing their territory with aggressive

business development efforts and strong customer support. We are happy to award them this honor and look forward to our continued partnership."



Bradford White, PHCC Extend Partnership for '22

Ambler, Penn. – Bradford White Corporation, a manufacturer of water heaters, boilers, and storage tanks, and the Plumbing-Heating-Cooling Contractors – National Association (PHCC) announce the renewal of their exclusive strategic partnership agreement and confirm their joint commitment to promoting and strengthening the plumbing and HVACR industries.

The continuing partnership reflects their shared mission to support professional contractors and their teams through investments in training, education, recruiting, and advocacy resources.

"Our exclusive strategic partnership is based on the foundational values that drive Bradford White and PHCC," said Joel Long, president of PHCC. "Bradford White's deep, demonstrated commitment to the priorities of contractors aligns with PHCC's dynamic initiatives for advancing the industry, and together we can enhance the positive effect we have on the lives of professionals on the ground who are providing essential plumbing, heating, and cooling services now and in the future."

Through its strategic partnership agreement with PHCC, Bradford White supports a range of scholarships, programs, and initiatives dedicated to the advancement of contractor education and excellence, contractor business development, and promoting the value of the trades, including:

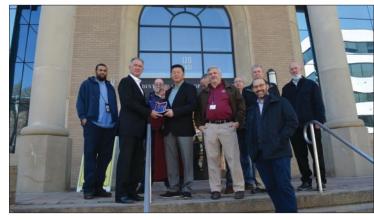
- The PHCC Educational Foundation, which provides innovative educational programming to enhance the growth and success of the plumbing and HVACR industry workforce.
- The SkillsUSA Plumbing Championship, a national competition for high school and postsecondary students featuring more than 16,000 competitors, instructors, industry representatives, and volunteers.
- The Invest in Your Future Campaign, a fundraising effort supporting future workforce development.
- PHCC Education Partner, in support of PHCC education and training that provides PHC business owners and their employees with easy access to high-quality education and training opportunities.

"Bradford White's unique relationship with PHCC through the years has given us an opportunity to elevate and amplify our investment in the plumbing, heating, and cooling industry," said Carl Pinto, Jr., senior director of marketing communications for Bradford White. "Supporting the hard-working professionals in our industry and developing future generations of PHC experts not only enhances the current state of our profession, it's critical to ensure safe, reliable delivery of essential services for years to come."

Danfoss Names EnVisioneer of the Year Award

Baltimore, Md. - Danfoss has named Jae Chon, Director of Strategic Markets at Chesapeake Systems, a Maryland-based HVAC consultant and equipment distributor, as its 12th EnVisioneer of the Year for their work on retrofitting the Towson Courthouse in Towson, Md. Chesapeake Systems was the project manager responsible for upgrading the courthouse's HVAC system with a synchronized hydronic loop, utilizing Danfoss high efficiency scroll compressors, pressure-independent control valves of various sizes, HVAC variable frequency drives and WaterFurnace's 80-ton modular heat recovery chillers, resulting in big energy savings.

Launched in 2010, the annual



JAE CHON (CENTER) WITH THE DANFOSS ENVISIONEER OF THE YEAR AWARD, ALONG WITH REPRESENTATIVES FROM THE COURTHOUSE, DGS AND CHESAPEAKE SYSTEMS.

EnVisioneer of the Year award competition recognizes North American original equipment manufacturers, building owners, municipalities, contractors and end users that have introduced a new product, opened a new facility or invested in a building or system upgrade in the past 18 months using Danfoss products or solutions to realize significant energy and environmental savings.

In 2020, after unsuccessful attempts to repair the Towson Courthouse's existing HVAC system, the Maryland Department of General Services (DGS) made the decision to replace the entire system at the recommendation of Chon. With aging air handling units and other components, the system could no longer maintain temperatures at comfortable levels; employees consistently complained about pockets of hot and cold air as well as humidity and dampness throughout the building.

At the time, Danfoss and its partners were developing a synchronized hydronic loop, an HVAC system where all components work together in synergy to enhance the efficiency of the entire loop. Often, a hydronic HVAC system can lose efficiency if the components don't work in conjunction with each other. In a synchronized system, pressure independent control valves (PICVs) installed at the air handling units tightly control the water temperature entering and exiting the unit's coils, allowing the chiller's variable speed compressors to work as efficiently as possible. Variable frequency drives (VFDs) on the pumps supply only as much water as is demanded to take advantage of part-load conditions to save energy. The system was a perfect match for the challenges at the Courthouse.

The system selected included the following pieces of equipment:

- 3 WaterFurnace 80-ton modular chillers, each with two Danfoss high-efficiency scroll compressors.
- 52 Danfoss pressure-independent control valves of various sizes.
 - 4 Danfoss HVAC variable

frequency drives installed on fan motors.

• 6 Armstrong Design Envelope Pumps with factorymounted Danfoss VFDs.

The variable speed technology on the chillers, pumps and fan motors act in concert. automatically speeding up or slowing down to adapt to the comfort needs of the building while optimizing overall system performance and efficiency. The WaterFurnace modular chillers' heat recovery capabilities allow for simultaneous heating and cooling by recovering heat off the compressors, producing hot water with up to a combined efficiency of 8 COP. Chiller modules that are not simultaneously producing chilled and hot water operate at lower condensing temperatures to increase cooling efficiencies even further. Not only does this increase occupant comfort, but also reduces natural gas consumption and carbon emissions by only running boilers during the peak heating months.

In October and November of 2021, the building used 59% less natural gas than it did during the same months in 2019. While monthly average energy use over the new system's first six months decreased by 23% versus 2019, total energy use was reduced by a staggering 55% in November 2021, the first month with significant heating needs. That energy reduction equates to more than \$2,000 in monthly utility bill savings.

"The Integration of energy-efficient technologies by looking at the building holistically is a shining example of EnVisioneering. Retrofits are always a challenge and the innovation shown by Jae Chon in creating a high performing system that will adapt and endure is exactly what we strive

Continued on Page 10



The York HMH7 Horizontal Discharge Heat Pump:

2-5 Ton • Standard 24 Volt Controls • Works With **Conventional Air Handling Units and Evaporator Coils**

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direct to contractor rebate from California utilities using the California TECH **Clean Program!**



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- Includes a standard 10-year Compressor Limited Warranty and 10-year Parts Limited Warranty; extended warranties available for a full system replacement (product registration required)

The YORK® HMH7 Heat Pump is designed to provide all the comfort and technology of a high efficiency unit at the cost of a base-tier vertical unit for residential customers. It's an ideal solution for homes that require a compact design and comes in several models and tonnages with flexible installation options and innovative features.



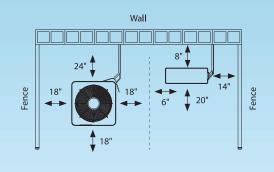
Model	Tons	SEER	HSPF	Height (Inches)	Width (Inches)	Depth (Inches)	Operating Weight (Lbs)	Sound Range (dBA) Low–High*
HMH72B241S	2	17.5	9.0	26 3/8	33 7/8	12 1/4	112	54–65
HMH72B361S	3	18.0	10.5	33	37 3/8	13 3/8	155	56–68
HMH72B481S	4	18.0	9.5	54 5/8	37 3/8	13 3/8	227	62–69
HMH72B601S	5	17.0	10.0	54 5/8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

*High sound rated in accordance with AHRI Standard 270.

40% smaller footprint compared to traditional vertical discharge units



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Industry News

Continued from Page 8

to recognize. We are proud to present Jae with this award," said John Galyen, president of Danfoss North America.

Malco Products Opens Nominations for 2022 HVAC Trade Pro of the Year

Annandale, Minn. - Malco Products, SBC, a manufacturer of American-made tools for the HVAC trade, is now accepting nominations for its annual HVAC Trade-Pro of the Year Award program. This is the sixth year of the national contest.

The HVAC Trade-Pro of the

Year Award recognizes and celebrates outstanding, experienced HVAC technicians who are dedicated to the industry and on-thejob safety, as well as giving back to their communities. Winners will be selected based on professional achievement, safety excellence, and community contribution.

The five winners will receive \$1,000 worth of Malco tools of their choosing and all qualifying trade professionals who are nominated will receive a Malco cap and pair of gloves.

'Skilled technicians who are building successful and smart careers by serving their customers and communities are making a difference across the country," said Malco president and CEO Rich Benninghoff. "We are pleased to once again recognize these hardworking HVAC professionals with this year's HVAC Trade-Pro of the Year award."

Nominate yourself, or another technician who has made a difference in your community, for the award online. Entries will be accepted until June 30, 2022, and winners will be announced in September 2022.

As a strong supporter and advocate of careers in the trades, Malco donates significant quantities of products and apparel annually to a variety of skilled trade education programs, competitions, and events across the country, including high school, post-secondary technical and apprenticeship programs, regional apprenticeship contests, and SkillsUSA state and national conferences. Malco also coordinates the "Head of the

Class" Student Recognition Program that partners with education programs across the country to recognize highachieving students and entire graduating classes in the HVAC/sheet metal, building construction, and autobody repair fields.

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HVAC Excellence, **CARE Announce** Scholarship Winners

Mt. Prospect, Ill. - The Council of Refrigeration Educators (CARE) and HVAC Excellence are pleased to announce the winners of the D. Brian Baker Memorial Scholarship. Congratulations to Derek Leake of Greene County Technical Education Center in Stanardsville, Va. and Brittany Wagoner of UEI College in Ontario, Calif.

ENERGYGUIDE

19.0

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D. Brian Baker was a dedicated HVACR professional and educator who was passionate about the industry. He was a true advocate for continual professional development. Baker attended every conference and training session that he could, knowing that working and teaching in the trade wasn't just a job, but a passion he shared with all that he met.

To honor his memory, the D. Brian Baker Memorial Scholarship was established to aid new instructors in professional development. Leake and Wagoner, recipients of the scholarship, will be attending the 2022 National HVACR Educators and Trainers Conference - registration, airfare, hotel included.

The 2022 National HVACR Education Conference will offer them the opportunity to attend over 70 in-person training sessions, while meeting face-to-face with industry leading organizations. In addition, they will continue their training once they return home with sessions through the summer on the HVACR Learning Network.

The goal of the event is to help instructors regardless of where they are at in their career to be more effective in their roles. Both Leake and Wagoner will now have the opportunity to learn first-hand from manufacturers and associations about the new equipment refrigerants, and controls that just became available. With over 100 sessions in-person and online, they will have an opportunity to learn a great deal over the next few months, including teaching strategies to help them become more effective in their new roles.

Kevin Couch of CARE said, "We are proud to partner with HVAC Excellence to make this scholarship happen. We were amazed with the number of applications we received this year. We would like to acknowledge and thank the Baker family for allowing us to offer this scholarship in D. Brian Baker's honor."

The Council of Air Conditioning and Refrigeration Educators (CARE) is a non-profit membership-based organization dedicated to supporting HVACR educators through networking and educational opportunities. CARE's membership includes HVACR instructors, administrators and other HVACR industry personnel across North America. For more information on CARE visit escogroup.org/Care.



is ready for the NEW 2023 Efficiency Standards... are YOU?

Every six years the Department of Energy (DOE) reanalyzes the effects of energy usage, sets minimum efficiency requirements and manages the testing standards by which those efficiencies are measured. For 2023, the DOE is increasing the minimum efficiencies for central air conditioners and heat pumps.

A New Normal is Coming for 2023 -SEER2, EER2 and HSPF2

In 2023, there will be new metrics and nomenclature -SEER2, EER2, and HSPF2. For now, we will continue to use the current terminology - SEER, EER and HSPF - to make ratings comparisons more apparent.

2023 (effective January 2023) re-2023 Test Procedure

Air Conditioner Ratings

Air conditioner minimum efficiencies will increase by 1.0 SEER in the North and South Regions with the new test procedure

Split System Air Conditioners – 2023 Regional Standards						
Sustan Tuna	North Region		Southeast Region		Southwest Region	
System Type	New SEER	New SEER2	New SEER	New SEER2	New SEER	New SEER2
Split System ACs (AC < 45K Btu/h)	14.0 SEER	13.4 SEER2	15.0 SEER	14.3 SEER2	15.0 SEER and 12.2 EER*	14.3 SEER2 and 11.7 EER2**
Split System ACs (AC ≥ 45K Btu/h)	14.0 SEER	13.4 SEER2	14.5 SEER	13.8 SEER2	14.5 SEER and 11.7 EER*	13.8 SEER2 and 11.2 EER2**

or the North Region, any 13.0 SEER AC built before January 1, 2023, *can still be installed* on or after Regions, any AC that does not meet

the above requirements cannot be

Heat Pump Ratings

Heat pump minimum efficiencies will increase by 1.0 SEER and will require an 8.8 HSPF with the new test procedure.

Split System Heat Pump – 2023 National Standards					
System Type	National Efficiency Standard				
System Type	New SEER and HSPF	New SEER2 and HSPF2			
Split System HPs	15.0 SEER and 8.8 HSPF	14.3 SEER2 and 7.5 HSPF2			
		•			

Any 14.0 SEER heat pump built before January 1, 2023, can still be installed on or after

†SEER, EER, and HSPF values shown are based on the current test procedure and are for reference only. Beginning January 2023, products must comply with the SEER2, EER2 and HSPF2 values developed using the 2023 test procedure.

Small Packaged Product Ratings

Small Packaged Products will not increase in minimum efficiency from 14.0 SEER and 8.0 HSPF, but will be required to comply with the new test procedure

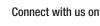
New SEER2 and HSPF2 New SEER and HSPF Packaged ACs, Heat Pumps, 14.0 SEER and 8.0 HSPF 13.4 SEER2 and 6.7 HSPI



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TECH is designed specifically to help contractors keep up with the market and policy shift towards new technologies. With over \$120 million in funding, TECH Clean California can:

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- Attend a TECH provided training + install 5 HP HVAC systems
- Install 15 HP HVAC systems

Technician Bonus Incentive

- Earn a \$100 gift card/day of TECH provided training attended



Single Family HVAC Incentives

Baseline Heat Pump HVAC Incentives

Equipment Type	Minimum Efficiency Requirements	Incentive / Unit
Package, split, mini/multi-split	Title 24 code minimum	\$3,000

Enhanced Heat Pump HVAC Incentives — Efficiency

Equipment Type	Size Category	Tier	Seasonal/Part-Load Cooling Efficiency	HSPF	Incentive / Unit
Package, split, mini/multi-split	< 5.4 tons	Title 24 code minimum			\$3,000
		1	16.0 SEER	9.0	\$3,900
		2	18.0 SEER	9.7	\$4,800

Enhanced Heat Pump HVAC Incentives — Quality Installation

Quality Installation Measure	Qualifier	Incentive
Manual J Completed	Provide calculations	\$600
Duct sealing/replacement and testing	5% total leakage or less	\$600
Field Measured Performance (based on ASHRAE 221-2020)	Heating System Performance Ratio (HSPr) and Cooling System Performance Ratio (CSPr) = 80% or better	\$600

Incentives for Heat Pump HVAC Systems Serving Individual Apartments

Business Occasional Commen	System	Туре	No. of the Associated Section 1991
Previous Space Heat Source	Description	AHRI Test Standard	Incentive / Equipment
Non-heat pump systems	Split or rooftop heat pump (ducted or ductless)	210/240	\$2,000
All except PTHPs	PTHP, SPVHP, or unitary through the wall/ceiling heat pump	310/380, 390	\$500 (single or two-stage compressor) \$1,000 (variable capacity/inverter-driven)

Incentives for Heat Pump HVAC Systems Serving Multiple Apartments

Previous Space Heat Source	System Type	Incentive / Apartment Served
Non-heat pump systems	HP HVAC equipment serving multiple apartments	\$1,000



*Learn about available incentives and sign up at: https://energy-solution.com/tech-incentives

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 - 120V operation
- May be mounted on the exterior of a building
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- Permanently lubricated ball bearing motor for maintenancefree operation
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More information: www.continentalfan.com.

Danfoss EC+ Concept

Ventilation system designers are now able to combine a VLT® HVAC Drive with the most efficient fan and permanent magnet motor, using **Danfoss** Drives' EC+concept. The combination of components allows users to achieve the full potential of a highly efficient



To achieve the highest performance and system efficiency when building an HVAC system, the individual components – drive, motor, and fan – need to be flexible and broadly compatible with each other. For instance, if a high-efficiency motor that is only compatible with lower efficiency fans is selected, the overall system efficiency would suffer and would not reflect the highest performance – and investment – in the individual components. The EC+

concept allows the ventilation system designers to combine a VLT° HVAC Drive with the most efficient fan and highefficiency permanent magnet or synchronous reluctance motor for best energy efficiency.

The key to the EC+ is intelligent interaction of the system components. Only the optimal interaction of the system components – fan, motor, electronics, diffuser – makes the full potential of a highly efficient fan realizable.

Advantages of the EC+ concept:

- Free choice of motor technology: PM, asynchronous or synchronous reluctance with the same AC drive
- Device installation and operation remain unchanged
- Manufacturer independence in the choice of all components
- Superior system efficiency thanks to a combination of individual components with optimum efficiency
- Retrofitting of existing systems is possible
- Wide range of rated powers for standard, PM and synchronous reluctance motors

More information: www. danfoss.com.

Fresh-Aire UV APCO-X MAG

.



Fresh-Aire UV°, Jupiter, Fla., a leading manufacturer of indoor air quality (IAQ) products, has added the APCO-X MAG, a new generation in the APCO product line of combination ultraviolet (UV) technology and activated EverCarbon™ media catalyst air treatment for HVAC systems.

The newly-designed APCO-X MAG magnetic mounting bracket's compact footprint is newly-designed for installation flexibility near the evaporator coil, plenum or duct. It's the perfect alternative when the HVAC system's confines are too tight for the original APCO-X's all-in-one carbon matrix, UVC lamp and power supply

The unit's powerful magnet mount attaches to metal cabi-

Continued on Page 16



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APRIL 2022

IHACI Webinar
Electrical Module
Instructors: Mitch Bailey / Jeff Painter
Wed., April 6 - Part 1
Thurs., April 7 - Part 2
Wed., April 13 - Part 3
Thurs., April 14 - Part 4

MAY 2022

IHACI Webinar
AC/HP Refrigeration Module
(Four-Night Class)
Instructors: Mitch Bailey / Jeff Painter
Wed., May 25 - Part 1
Thurs., May 26 - Part 2

JUNE 2022

IHACI Webinar
AC/HP Refrigeration Module
(Four-Night Class, continued from May)
Instructors: Mitch Bailey / Jeff Painter
Wed., June 1 – Part 3
Thurs., June 2 – Part 4

JUNE 2022 (cont.)

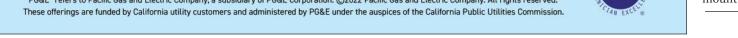
IHACI Webinar
Air Distribution Module
(Four-Night Class)
Instructors: Mitch Bailey / Jeff Painter
Wed., June 22 - Part 1
Thurs., June 23 - Part 2
Wed., June 29 - Part 3
Thurs., June 30 - Part 4



All classes are currently scheduled as Webinars held 6:00 pm to 8:00 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. "PG&E" refers to Pacific Gas and Electric Company, a subsidiary of PG&E Corporation. ©2022 Pacific Gas and Electric Company. All rights reserved.

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Continued from Page 14

nets and its anti-vibration coating prevents wandering out of position. A redesigned a 90-degree electrical connector offers inches of more clearance versus straight plugs. The compact power supply, which carries Fresh-Aire UV's renowned lifetime warranty, also accommodates limited spaces when located remotely from the lamp assembly via a power cable.

The APCO-X MAG also features an industry-leading three-year UVC (254-nm) quartz lamp and UL-2998 validation as free of potentially harmful ozone. The lamps are available in sizes:

• A standard 15-inch-long

(381-mm) that's ideal for internal mounting in furnaces, air handlers, package units and other equipment with limited duct access and sizes ranging from 3 to 5-tons. The 15-inch model enables the option of a second (dual) remote three-year lamp for coil disinfection when the APCO-X MAG is located elsewhere in the system.

• An 11-inch-long (279-mm) model is designed for more limited space applications.

APCO-X MAG also features the APCO-X's V-Twin Cell Matrix incorporating lifetime ceramic cells infused with Fresh-Aire UV's Ever-Carbon media for enhanced IAQ performance and a 65-percent increase in volatile organic com-

pound (VOC) adsorption surface area compared to the original APCO system. The substrate's catalyst agent treatment is antimicrobial-coated to prevent potential biological growth.

Other APCO-X MAG features include:

- Newly designed ballast and UVC lamp configuration for tight spaces;
- Lifetime warranty power supply and 3-year advanced UVC lamp life;
- Voltage options include 24 to 32V low voltage or 110 to 277V line voltage with automatic voltage selection:
- Consumer oriented packaging helps contractors educate consumers about the benefits of UV disinfection and VOC elimination.

APCO-X and APCO-X MAG

expand the technological achievements of the original APCO, which won the AHR Innovation Award's IAQ category in 2011.

More information: www.freshaireuv.com.

RGF Environmental Group REME-HALO

.

RGF Environmental Group,

Inc. is a leader in environmental design and manufacturing committed to improving air quality in every home and building around the world. The California Air Resources Board (CARB) has certified REME-HALO® by RGF® meets the State of California's stringent electrical safety and health-based ozone emissions

requirements for in-duct air cleaning devices.

In anticipation of the State of California's new "in-duct" air treatment device testing requirements, scheduled to go into effect later this year, RGF's industry leading REME-HALO® (model REME-H) has now been tested and found to be in full compliance with the new California in-duct specific testing standard, and is now officially listed with CARB as an approved in-duct air cleaning device.

To be CARB certified, all air cleaners must be tested for electrical safety. Electronic air cleaners must also be tested for ozone emissions and meet an ozone emission maximum concentration limit of 0.050 parts per million (50 ppb). The California Air Resources Board (CARB) specifies a test method to evaluate device ozone emissions that specifically accommodates variably sized in-duct air purifiers.

Using this test method, RGF's REME-HALO® complied with all aspects of CARB's certification program and is now available for sale in all 50 U.S. states and Puerto Rico.

More information: www.RGF.



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Codes & Standards - 2019 Title 24
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energycodeace.com/





Technical Training

Growing Green Technicians 150: TESP, TEL and Supply Duct Systems

By Jim Johnson Contributing Editor

In the last segment in this series, we introduced the concept of static pressure, the idea that since ductwork is not flexible like a balloon, there will be some resistance to the flow of air through a supply duct because of the volume and velocity of air required to achieve comfort in the conditioned space. Simply put, this pressure can be considered as a potential energy that is pushing outward against the inner wall of the duct assembly. And, if the supply duct system is properly designed and installed, this energy is correctly managed, and the equipment can operate efficiently, providing, of course, that the return segment of the duct system is also properly sized and installed.

As far as numbers related to static pressure, the scale of measurement is water column inches, a fine measurement of pressure, which we refine even further into fractions to accurately measure the positive pressure in a supply duct system and the negative pressure in the return system. For example, if a digital manometer was used and measured a supply pressure of

+0.25 WC" (also expressed as 0.25" w.g.), and a return pressure of -0.25 WC", then the total static pressure (TESP) in the system would be .50 WC" since the procedure is to ignore the positive and negative identifiers to accomplish the calculation by simply adding the two numbers together.

When a TESP of .50 in an air handling system is achieved, it allows the blower to deliver the rated air flow for a system. However, the reality of the situation is that many systems, when checked with an accurate device, often show that the TESP is beyond that norm, often around .80, which means that the system is wasting energy and essentially rendering the equipment incapable of delivering the intended level of comfort to the building occupants because the total resistance in the duct system is higher than it should be.

Which brings us to TEL, Total Effective Length in a supply duct system, illustrated in **Figure One**.

When servicing HVACR equipment, understanding the concept of TEL gives the technician some insight into the design of air handling systems and how to recognize problems that could be the source

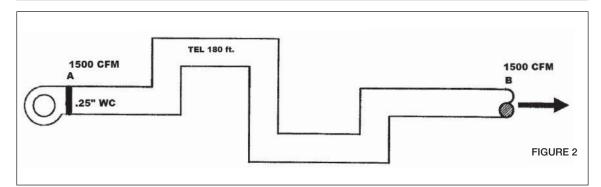
1500 CFM
A

.25" WC

TEL 100 ft.

1500 CFM
B

FIGURE 1



of customer complaints about the performance of the system. In our example, the TEL of this duct assembly, without any branches or fittings that would affect the flow of air, is 100 ft.

Our illustration also shows a match between the duct system regarding sizing, and the capacity of the blower assembly. The volume of air delivered from the blower at point A is 1500 CFM at a static pressure of 0.25 WC". If we considered this duct as properly sized

to the equipment, 1500 CFM is being delivered to the conditioned space at point B.

Now, taking the concept of TEL a step further, note the TEL of the duct system shown in **Figure Two**.

Even though this example of a duct assembly occupies the same physical distance as the previous system shown in Figure One, the TEL of the system in Figure Two is 180 ft. due to the addition of fittings. And we're still delivering the 1,500 CFM provided by the blower at point A to the end at

point B because the system is properly designed. Even though fittings were necessary to facilitate turns in the duct system, proper design characteristics were employed to ensure that the proper volume of air flow through the air handling system was accomplished.

This process involves understanding friction and pressure losses that occur in a duct system, a concept we'll discuss in our next segment.

Daikin Changes Continued from Page 1

fusing Daikin's strengths, core technologies and environmental solutions with Goodman's robust, extensive sales and distribution network we will enrich our customer experience, improve organizational efficiency and transform the North American HVAC market by promoting environmental solutions that impact people where they live, work, and play," follows Takayuki "Taka" Inoue, Chief Sales and Marketing Officer for Daikin.

"Daikin, Goodman, Amana and Quietflex" will remain and play an important role in our brands for products in the future," Inoue says. "Aligning our structure into a single business unit allows for collaboration, innovation, and agility inter-

nally, and very importantly, meets the needs of our customers."

Doubling Down on Daikin's Environmental Commitment

Within Daikin Comfort
Technologies there is a newly
formed group, the Environmental
Promotion Office, led by Nathan
Walker, SVP, reporting to CEO
Satoru Akama. The team will
intensify Daikin's focus on becoming the industry leader as an
advanced environmental company. "It's both an ambitious and
attainable objective," Akama says.

"We are leveraging Daikin's leadership in environmentally friendly indoor comfort technologies, such as our inverter and heat pump solutions," says Akama. Daikin has already introduced low global warming potential (GWP) R-32 products ahead of competitors and taken a leadership role in environmental stewardship. This new unit will facilitate wider usage of inverter, heat pump and R-32 products throughout North America.

Organizational Realignment

"Our operation in North America has more than doubled in revenue since the acquisition of Goodman and is now the largest of any Daikin entity in the world, making North America one of Daikin's top priorities to invest in and grow," explains Inoue. "It also comes with a tremendous sense of responsibility to execute as one company and one culture."

A more unified sales strategy can ensure that Daikin, Amana, or Goodman brand equipment can each be a compelling offering for major contractors to serve both premium and value customers.

The Daikin realignment also seeks to create an even stronger customer experience across its business, including transformation through digital solutions and tools, differentiating logistics and inventory deployment capabilities, and more advanced service and support.

Current Daikin and Goodman sales and marketing functions will be consolidated into a single business unit, led by Chief Sales and Marketing Officer (CSMO) Taka Inoue.

Senior Vice President Ardee Toppe will manage all company sales of all brands. Toppe will report to CSMO Inoue and lead four U.S. sales divisions in the U.S. and one in Canada. Ardee will also be responsible for company owned distribution now called Daikin Comfort Technologies Distribution, Inc., formerly known as Goodman Distribution, Inc.

Senior Vice President Doug Widenmann will lead all areas of market-

ing, including channel strategy and development; traditional and digital marketing; product marketing; data and analytics; and warranty and pricing. Doug will also report to CSMO Inoue.

"By drawing upon the strength and skills of our incredible people, we can become 'One Daikin' under a single, focused vision featuring a core of powerful brands," says Inoue.

Daikin Industries, Ltd. (DIL) is a Fortune 1,000 company with more than 84,870 employees worldwide and is the world's #1 indoor comfort solutions provider company. Daikin Comfort Technologies North America (DNA), Inc is a subsidiary of DIL, providing Daikin, Goodman, Amana® and Quietflex brands products. DNA and its affiliates manufacture heating and cooling systems for residential, commercial and industrial use and are sold via independent HVAC contractors. DNA engineering and manufacturing is located at Daikin Texas Technology Park near Houston, TX.

For additional information, visit www.northamerica-daikin. com.



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Troubleshooting

A Walk-In Freezer That's **Not Keeping Food Frozen**

By Jim Johnson Contributing Editor

Our troubleshooting problem this month involves a walk-in freezer that is controlled by a temperature controller and a pump down solenoid. The metering device is a thermostatic expansion valve. The customer's description of the problem is that "food isn't frozen hard", and when you arrive, you confirm that the box temperature is 25F.

You also determine that the evaporator and condenser fan motors are operating normally, and that all coils are clean with no obstruction to air flow. You also determine the following:

- 1. The compressor current draw is 9.3 amps.
- 2. Operating voltage measured at the compressor terminals is 217 VAC.
- 3. The liquid line sight glass is clear.

When you accomplish temper-

ature and pressure checks, you get the results shown in Figure

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

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

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

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

240 PSIG 240 PSIG 20°F Refrigerant HFC-404A FIGURE 1

The failed component is the PTC (Positive Temperature Coefficient) "soft start device". The procedure we need to follow is to allow the compressor to cool down and confirm that the internal overload will re-set, replace the Start Thermistor, and confirm that the equipment will operate properly without any additional start assist devices.

> The winner of last month's problem is: John Meursinge Sierra Madre, CA

Answer to Last Month's Troubleshooting Problem

Trane IAQ Project Continued from Page 1

causes COVID-19). Purchased with Elementary and Secondary School Emergency Relief (ESS-ER) Funds, the Synexis units will provide ongoing pathogen reduction to support cleaner indoor air and surfaces.

Superintendent of Schools, Dr. Carlos Rios, said he hopes the installation of the Synexis units will help people feel more confident in their indoor environmental quality. "We want to let our families know that their students are in a cleaner environment. Same for our staff and for any visitors that come by our campuses."

The free-standing Synexis Sphere units installed continuously address certain harmful pathogens in air and on surfaces. Synexis uses a process by which naturally occurring oxygen and humidity in the air is converted to Dry Hydrogen Peroxide (H2O2) or DHP. DHP molecules travel throughout an enclosed space to actively reduce levels of certain viruses, bacteria, mold, odors, and many insects.

In the first eight weeks of the school year, prior to the Synexis installation, the district logged nearly 300 confirmed COV-ID-19 cases, averaging 7.2 cases per school day. After the installation of the Synexis Spheres, the district reported that the number of cases decreased to less than one case on average per school day through the remainder of 2021. School district case rates, which previously accounted for more than 14% of total county COVID cases, were down significantly below community case rates and accounted for less than 7% of county COVID cases. prior to the December break.

'We are hopeful that the

Continued on Page 23



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APRIL

System Diagnostics Module

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

Mon., April 4 - Part 3

Mon., April 11 - Part 4

MAY

System Performance Module

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

Mon., May 2 – Part 1

Tues., May 3 - Part 2

Mon., May 9 - Part 3

Tues., May 10 - Part 4

<u>June</u>

Air Distribution Module

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

Mon., June 6 - Part 1

Tues., June 7 - Part 2

Mon., June 13 – Part 3

Tues., June 14 - Part 4

JULY

Chiller Module

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

Tues., July 5 - Part 1

Tues., July 12 – Part 2

AUGUST

Commercial Cooling Tower Module

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

Tues., Aug. 2 – Part 1

Tues., Aug. 9 – Part 2

SEPTEMBER

NATE CORE & Gas Heating Training

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

Wed., Sept. 7 – Part 1

Thurs., Sept. 8 – Part 2

Wed., Sept. 14 – Part 3

Thurs., Sept. 15 – Part 4

OCTOBER

NATE AC/HP Refrigeration & Air Distribution Training

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

Wed., Oct. 5 – Part 1

Thurs., Oct. 6 – Part 2

Wed., Oct. 12 - Part 3

Thurs., Oct. 13 – Part 4

SOUTHERN CALIFORNIA EDISON, IRWINDALE

APRIL

NATE AC/HP Refrigeration & Air Distribution Training

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

Wed., April 6 – Part 1

Thurs., April 7 – Part 2

Wed., April 13 – Part 3

Thurs., April 14 – Part 4

MAY

Chiller Module

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

Wed., May 4 - Part 1

Thurs., May 5 – Part 2

Commercial Cooling Tower Module

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

Wed., May 11 - Part 1

Thurs., May 12 - Part 2

JUNI

System Performance Module

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

Wed., June 1 – Part

Thurs., June 2 – Part 2

Wed., June 8 – Part 3

Thurs., June 9 – Part 4

SEPTEMBER

Air Distribution Module

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

Wed., Sept. 21 – Part 1

Thurs., Sept. 22 – Part 2

Wed., Sept. 28 – Part 3

Thurs., Sept. 29 - Part 4

OCTOBER

AC/HP Refrigeration Module

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

Wed., Oct. 19 – Part 1

Thurs., Oct. 20 – Part 2

Wed., Oct. 26 – Part 3

Thurs., Oct. 27 – Part 4

NOVEMBER

System Diagnostics Module

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

Wed., Nov. 9 – Part 1

Thurs., Nov. 10 – Part 2

Tues., Nov. 15 - Part 3

Thurs., Nov. 17 – Part 4

SOUTHERN CALIFORNIA EDISON, TULARE

APRIL

Air Distribution Module

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

Wed., April 20 – Part 1

Thurs., April 21 – Part 2

Wed., April 27 – Part 3

Thurs., April 28 – Part 4

MAY

System Diagnostics Module

(Four-Night Class) Instructors: Mitch Bailey / TBA

Wed., May 11 - Part 1

Thurs., May 12 – Part 2

Wed., May 18 - Part 3

Thurs., May 19 – Part 4

JUNE

Electrical Module

(Four-Night Class) Instructors: Mitch Bailey / TBA

Tues., June 7 - Part 1

Wed., June 8 – Part 2

Tues., June 14 - Part 3

Wed., June 15 - Part 4

SEPTEMBER

System Performance Module

(Four-Night Class) Instructors: Mitch Bailey / TBA

Tues., Sept. 13 – Part 1

Wed., Sept. 14 – Part 2

Tues., Sept. 20 – Part 3

Wed., Sept. 21 – Part 4

OCTOBER

NATE CORE & Gas Heating Training

(Two-Night Class) Instructors: Mitch Bailey / TBA

Wed., Oct. 12 – Part 1

Thurs., Oct. 13 – Part 2

Wed., Oct. 19 - Part 3

Thurs., Oct. 20 – Part 4

November

NATE AC/HP Refrigeration & Air Distribution Training

(Two-Night Class) Instructors: Mitch Bailey / TBA

Wed., Nov. 2 – Part 1

Thurs., Nov. 3 – Part 2

Wed., Nov. 9 – Part 3

Thurs., Nov. 10 - Part 4

Sat., Nov. 12 - NATE Exam, 7:30 a.m.

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.

All Classes Are Being Offe

Classes begin at 6:00 PM Pacific Time and class Register at www.ihaci.or

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APRIL

Electrical Module

(Four-Night Class) Instructors: Mitch Bailey / TBA

Wed., April 6 - Part 1

Thurs., April 7 - Part 2

Wed., April 13 – Part 3

Thurs., April 14 – Part 4

AC/HP Refrigeration Module

(Four-Night Class) Instructors: Mitch Bailey / TBA

Wed., May 25 - Part 1

Thurs., May 26 – Part 2

JUNE

AC/HP Refrigeration Module

(Four-Night Class) Instructors: Mitch Bailey / TBA

Wed., June 1 - Part 3

Thurs., June 2 - Part 4

Air Distribution Module

(Four-Night Class) Instructors: Mitch Bailey / TBA

Wed., June 22 - Part 1

Thurs., June 23 - Part 2

Wed., June 29 – Part 3

Thurs., June 30 - Part 4

AUGUST

System Diagnostics Module

(Four-Night Class) Instructors: Mitch Bailey / TBA

Wed., Aug 31 – Part 1

SEPTEMBER

System Diagnostics Module

(Four-Night Class) Instructors: Mitch Bailey / TBA

Thurs., Sept. 1 - Part 2

Wed., Sept. 7 – Part 3

Thurs., Sept. 8 - Part 4

OCTOBER

NATE CORE & Gas Heating Training

(Four-Night Class) Instructors: Mitch Bailey / TBA

Mon., Oct. 10 - Part 1

Tues., Oct. 11 - Part 2

Mon., Oct. 17 – Part 3

Tues., Oct. 18 - Part 4

NOVEMBER

NATE AC/HP Refrigeration & **Air Distribution Training**

(Four-Night Class) Instructors: Mitch Bailey / TBA

Mon., Nov. 7 - Part 1

Tues., Nov. 8 - Part 2

Tues., Nov. 15 - Part 3

Wed., Nov. 16 - Part 4

Sat., Nov. 19 - NATE Exam, 7:30 a.m.

SAN DIEGO GAS & ELECTRIC

APRIL

Electrical Module

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

Tues., April 5 - Part 1

Tues.. April 12 - Part 2

Tues.. April 19 - Part 3

Tues., April 26 – Part 4

MAY

AC & HP Refrigeration Module

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

Wed., May 18 - Part 1

Thurs., May 19 - Part 2

Wed., May 25 - Part 3

Thurs., May 26 - Part 4

JUNE

Air Distribution Module

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

Thurs., June 16 - Part 2

Wed., June 22 - Part 3

Thurs., June 23 - Part 4

JULY

System Diagnostics Module

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

Wed., July 6 - Part 1

Thurs., July 7 - Part 2

Wed., July 13 - Part 3

Thurs., July 14 – Part 4

AUGUST

System Performance Module

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

Wed., Aug. 3 – Part 1

Thurs., Aug. 4 - Part 2

Wed., Aug. 10 - Part 3

Thurs., Aug. 11 - Part 4

SEPTEMBER

Chiller Module

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

Tues., Sept. 6 – Part 1

Tues., Sept. 13 - Part 2

Commercial Cooling Tower Module

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

Tues., Sept. 20 - Part 1

Tues., Sept. 27 – Part 2

OCTOBER

Boiler Module

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

Tues., Oct. 4 – Part 1

Tues., Oct. 11 – Part 2

Commercial Refrigeration Module

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

Tues., Oct. 18 - Part 1

Tues., Oct. 25 – Part 2

NOVEMBER

NATE CORE & Gas Heating Training

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

Mon., Nov. 21 - Part 1

Tues., Nov. 22 - Part 2

Mon., Nov. 28 - Part 3

Tues., Nov. 29 - Part 4

DECEMBER

NATE AC/HP Refrigeration & **Air Distribution Training**

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

Mon., Dec. 5 - Part 1

Tues., Dec. 6 - Part 2

Mon., Dec. 12 - Part 3 Tues., Dec. 13 - Part 4

Sat., Dec. 17 - NATE Exam, 7:30 a.m.



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This program is funded by California utility customers under the auspices of the California Public Utilities Commission.





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Indoor People



JASON ROSENTHAL

Mitsubishi Electric Trane HVAC US (METUS), a supplier of ductless and ducted mini-split and variable refrigerant flow (VRF) heat-pump and air-conditioning systems, welcomes Jason Rosenthal to the team as vice president of marketing.

In this newly created role, Rosenthal leads the company's marketing and controls product management departments for both residential and commercial sectors. He drives market research and analysis to identify and capitalize on new opportunities for METUS products and services. Rosenthal and his team are also responsible for METUS' digital strategy, creating experiences around products, apps, and web services that connect and provide value for contractors and

Before joining METUS, Rosenthal served in various marketing leadership roles where he strengthened market positions. Rosenthal was most recently vice president of marketing for Phyn, a division of Belkin International, where he led marketing and customer advocacy, developed go-to-market strategies,

and oversaw channel implementation across e-commerce and retail. He brings additional marketing leadership experience in SaaS, connected home, consumer goods, home services, and telecommuni-

We're pleased to welcome Jason Rosenthal as our new vice president of marketing," said Mark Kuntz, chief executive officer, Mitsubishi Electric Trane HVAC US. "Jason's extensive knowledge in the digital space and lifestyle marketing will be a tremendous asset to our team and will contribute to the continued growth and success of our company."

"I'm excited to join the Mitsubishi Electric Trane HVAC team," said Rosenthal. "Our innovative, all-electric heat pumps provide superior comfort and user experiences while helping our customers improve sustainability. With our diverse product portfolio and the growing trend toward electrification, our phenomenal growth over the last few years is only the beginning. I'm looking forward to the creative journey we have ahead."

• • • • • • • •

Rheem announced the retirement of John Fitzgerald from his role as executive vice president of operations. "Fitz" joined Rheem in 2016 and brought more than 30 years of diverse experience from several industries.

Fitz led many different teams and functions throughout his career at Rheem. His vision and leadership in brand strategy, enterprise marketing, and sports mar-



keting had a significant impact on Rheem's brand awareness. He also oversaw business-critical functions including IT, advanced technology integration, controls engineering, procurement and supply chain management, and corporate quality.

"Fitz's contributions to Rheem have been many, but he is perhaps most passionate about launching Rheem's 'A Greater Degree of Good' global sustainability initiative in 2019," said Chris Peel, president and CEO at Rheem. "The initiative became embedded into Rheem's culture worldwide and changed how our company develops, manufactures, sells and supports our products."

"A Greater Degree of Good" resulted in significant reduction of greenhouse gases and production waste and included training programs for Rheem's installation partners.

"I absolutely consider myself fortunate to have had the ability to work on Rheem's sustainability program," said Fitz. "My Native American heritage has helped form many of my viewpoints and priorities that influenced my efforts. My

tribe has always believed that all things in nature have their own 'essence' of life. This belief clearly was tied to my passion for our 'zero waste to landfill' and greenhouse gas reduction goals."

Fitz said that "circularity," a key Penobscot philosophy, has influenced his viewpoints.

"This circular tendency was pivotal to our sustainability program, as you think about recycling initiatives and lifecycle analysis programs," Fitz explained. "We are trying to understand the impact of activities and products from their raw materials through the disposition at the end of its life."

Rheem also announced the promotion of Chee Wee Gan to a new role as senior vice president, strategy and sustainability. Chee Wee joined Rheem in 2018 and will continue to drive global strategic planning for the organization while advancing global brand and sustainability initiatives. Additionally, he will continue spearheading Rheem's global licensing strategic initiatives in his expanded role.

Rheem's sustainability initiative is on pace to meet or exceed 2025 goals, designed to coincide with the company's 100th anniversary.

A. O. Smith Corporation

• • • • • • • •

announced the appointment of Stephen O'Brien as chief operating officer for Lochinvar. O'Brien will oversee engineer-



STEPHEN O'BRIEN

ing, manufacturing, quality, product services, marketing, and business development teams at Lochinvar, a division of A. O. Smith.

O'Brien comes to Lochinvar from Mitsubishi Electric Trane HVAC US (METUS) where, as senior vice president - sales, Marketing & Supply Chain, he impacted channel strategy and product mix resulting in revenue and net profit growth. He began his career as a small business owner and joined A. O. Smith Electrical Products Company in 1997 as a sales engineer, where he steadily progressed through sales and marketing roles until being named senior vice president & general manager - HVAC, Hermetic and Appliances in 2008. When the company was sold to Regal Beloit in 2011, O'Brien served as the acquisition integration leader and vice president for Regal Beloit until joining METUS in 2015.

"Steve's impressive manufacturing experience managing diverse teams while achieving financial and operational goals make him a perfect fit for Lochinvar as we

Quick Start Grants Continued from Page 1

ing break down barriers to getting heat pumps in homes," said Emily Lewis O'Brien. "We're looking forward to learning important lessons through these projects that will help advance the work of TECH Clean California and improve access to clean heating."

The following organizations were selected to receive Quick Start Grant funding for their proposed projects:

- AESC will install Heat Pump Water Heaters (HPWH) in 10 mobile or manufactured homes in high-poverty areas and study the impact on residents' air conditioning
- Barnett Plumbing will provide temporary gas water heaters to their customers in Alameda and Contra Costa counties who need short-term source of hot water while infrastructure for fuel switching to a HPWH
 - Bloc Power + City of San Luis

Obispo will collaborate to retrofit 10-12 affordable multi-family housing units in San Luis Obispo with HPWH and Air Source Heat Pumps (ASHP) and will establish a Community Advisory Board to engage community members and develop a communications plan.

- Franklin Energy will complete home repairs in the Northern Bay Area that have prevented electrification in an existing Marin Clean Energy (MCE) low-income retrofit program.
- Institute of Heating and Air Conditioning Industries (IHACI) will train 10 contractors in the use of their Visual Service software, which enables master installers to remotely supervise multiple field technicians through a video platform linked to wireless diagnostic
- New Buildings Institute will enroll 32 sites in a field test of emerging 120V HPWH technol-
- Redwood Coast Energy Authority will expand outreach and

electrification support to rural and Native American communities in Humboldt County that currently rely on unregulated fuels and now qualify for TECH incentives.

- Revalue.io will remediate home health hazards or code violations in low-income West Oakland households through electrification and will provide training to contractors and apprentices to improve the diversity of the local HVAC workforce.
- Small Planet Supply will install a packaged, natural refrigerant central heat pump boiler in a 40-unit lowincome farmworker community in Delano, CA to test the viability of this novel, easy-to-install solution for other similar buildings.
- The Energy Coalition will incorporate HPWHs into an EPIC grant-funded solar + storage pilot in a low- to middle-income advanced energy community in Bassett and Avocado Heights, CA, and study the impact of solar on post-electrification energy bills.
- USGBC-LA will install HPWHs and ASHPs in 10 naturally-occur-

ring affordable housing units in Eastern San Fernando Valley, CA and add heat pumps to an education and outreach program.

Background

The landmark Senate Bill 1477, passed in 2018, enables California to make significant strides in reducing greenhouse gas emissions from California homes which currently account for a quarter of the state's greenhouse gas emissions. The bill created two pilot programs to decarbonize residential buildings: Technology and Equipment for Clean Heating (TECH) and Building Initiative for Low Emissions Development (BUILD).

In December 2021, a team led by Energy Solutions, an Oakland-based clean technologies consulting and implementation company, launched the TECH Clean California initiative. Through a combination of market incentives, supply chain engagement, workforce development, consumer education, regional pilots, and a quick-start grant program, TECH Clean California will install low-emissions space and water heating technologies in California homes and will collect and publish energy and GHG impacts plus market data to inform California's long-term decarbonization plan. It will also include strategies to make low-emissions heating technologies accessible to more Californians, with a strong focus on low-income residents who pay more of their income on energy costs, and on disadvantaged communities disproportionately affected by air pollution.

Over four years, TECH Clean California aims to transform the space and water heating market by increasing the availability of low-emissions equipment, bringing down costs and reducing greenhouse gas emissions to help improve the health, safety, and well-being of all Californians and advance California's mission to achieve carbon neutrality by 2045.

Indoor People

continue to expand our energyefficient product offerings and services," said Eddie Goodwin, president and general manager of Lochinvar LLC.

O'Brien holds an MBA from the University of Dayton in Ohio and a bachelor's degree in mathematics from State University of New York at Potsdam, New York. He has held numerous leadership positions with a variety of industry associations including the Water Systems Council, Air Conditioning, Heating and Refrigeration Institute (AHRI) and Manufacturers Alliance for Productivity and Innovation (MAPI), and is a Lean Six Sigma Green Belt.



RENEE EDDY

Rinnai America Corporation announced **Renee Eddy** joined the organization as its vice president of innovation.

"My passion is transforming data and technologies into cool, new products, and that passion is sure to come through while at Rinnai," said Renee. "I look forward to driving development for innovative technology, leading the team towards new idea creation and outside-of-the-box thinking."

Renee's passion for creating new technologies began over 35 years ago. Most recently, she was director of innovation, methods, and operations at Eaton, leading up to 200 employees. During her time at Eaton, she created the Innovation, Methods, and Operations team from the ground up. Prior to her time at Eaton, Renee developed products across a number of industries for Fortune 100 companies and customers, including residential and commercial HVAC, transport refrigeration, telecommunications, and aerospace.

"Renee's diverse product knowledge in a variety of industries is invaluable for Rinnai," said Frank Windsor, president, Rinnai America Corporation. "Her vision and expertise will spearhead the development of technologies in new markets, aiding in Rinnai's growth strategy, as well as producing products that support our commitment to creating a healthier way of living."

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Trane IAQ Project

Continued from Page 19

installation of these systems will help reduce levels of certain viruses and allergens," said Dr. Rios.

The indoor air quality recommendations for Del Rio schools are part of Wellsphere, Trane's holistic approach to indoor environmental quality. Trane works with school administrators, facility managers, and district leaders to assess each schools' unique needs and develop data-based building

improvement solutions that create more comfortable and efficient learning environments.

"We commend the San Felipe Del Rio school district for going the extra mile to improve the quality of the environment, especially air and surfaces, in its schools in line with industry and Texas Education Agency guidelines," said Scott Huffmaster, healthy buildings leader for Trane Technologies. "Trane is proud to support the district's measures to mitigate indoor environmental quality concerns for an optimized in person learning

environment. Long-term investments in indoor environmental quality will benefit students, staff and building occupants for years to come."

The transmission of Covid-19 may occur in a variety of ways and circumstances, many of the aspects of which are currently not known. HVAC systems, products, services, and other offerings have not been tested for their effectiveness in reducing the spread of Covid-19, including through the air in closed environments.

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GOLD KEY Contest Winner The winner of last month's ICN Gold Key contest is: David Cantrell R.E. Michel Co. Cantrell is the winner of a \$50 Amazon gift card, courtesy of ICN. Congrats!

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- Pedro Paez, Castaic, CA
- Leonel Pena, Los Angeles, CA

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