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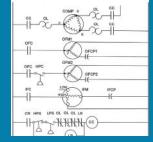
THE WEST'S LEADING MONTHLY NEWSMAGAZINE FOR THE AIR CONDITIONING, HEATING, REFRIGERATION, SHEET METAL AND VENTILATING INDUSTRIES



Editorial Focus

What's new? What's improved? Find out about the latest offerings in IAQ, Zoning & Air Distribution Products.

Page 16



Troubleshooting

In this month's troubleshooting situation, the customer's complaint is that their office air conditioner is "not cooling

Page 20



Indoor People

ICN takes a look at all the movers and shakers in the HVAC/R/SM industries.

Page 30

COVID-19 Update

Survey Reveals Healthier Buildings Top List of Back-to-Work Priorities

Three in four U.S. facility managers say COVID-19 has caused them to permanently rethink how their facility operates.

ccording to a report released Aby Honeywell, 75% of surveyed U.S. facility managers say COVID-19 has caused them to permanently rethink how their facility operates. Nearly six in 10 respondents are more likely to invest in indoor air quality optimization and other healthy building solutions, while seven in 10 are now more willing to invest in smart building solutions that help drive efficiency and support sustainability efforts.

This report, "Rethinking Buildings Post-COVID-19," the first in Honeywell's 2021 Building Trends series, introduces the challenges, priorities, and assessments of surveyed facility managers in the United States, Germany, China, and Saudi Arabia across the education, healthcare, data center, and commercial real estate industries. It focuses on COVID-19's impact

on building trends and facility managers' priorities - now and in the future.

"A notable transformation driven by the COVID-19 pandemic is prompting U.S. facility leaders to reconsider their operational strategies and invest in smarter, healthier technologies," said Vimal Kapur, president and chief executive officer, Honeywell Building Technologies. "As occupants become more aware of how the buildings they use for work, school, and care can affect their well-being, we expect them to push building owners and operators to implement new procedures with efficient, sustainable solutions that better support occupants' safety, comfort, and enhance their experiences, not only for the immediate return to office but for the long term as well."

The survey results from facility managers in the U.S. underscore five key themes:

Continued on Page 14

New Technologies

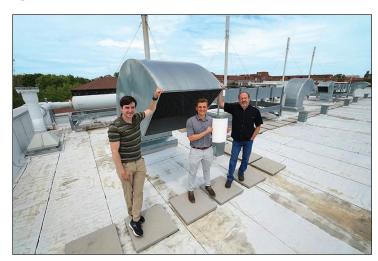
Bringing the Outdoors Inside

Engineers at Purdue University develop energyefficient method for using 100% outdoor air in buildings.

By now, it's well-known that circulating outdoor air in buildings is safer than recirculating indoor air. That point was driven home by the pandemic. Problem is, it's just not costeffective.

That may soon change. Purdue University engineers have proposed a system that combines new membrane technology with the latest HVAC systems to make 100% outdoor air systems more energy-efficient and economically feasible – especially in warm, humid climates. They say their system could save up to 66% in energy costs for large buildings that choose to use the safer outdoor air.

Previous research at Purdue has shown that HVAC systems (heating, ventilating, and air conditioning) are a key factor in spreading airborne diseases like



PURDUE UNIVERSITY ENGINEERS (L - R) DAVID WARSINGER, ANDREW FIX, AND JAMES BRAUN ARE WORKING ON AN ENERGY-EFFICIENT SYSTEM THAT USES MEMBRANES TO DEHUMIDIFY OUTDOOR AIR BEFORE IT ENTERS THE HVAC SYSTEM. (PURDUE UNIVERSITY PHOTO/ JARED PIKE)

COVID in indoor environments like office buildings, restaurants and airplanes.

"Most people don't realize the complexity of a modern HVAC system," said James E. Braun, the Herrick Professor of Engineering and director of the Center for High Performance Buildings at Purdue. "There's a specific sweet

spot for humidity in an indoor environment – between 40% and 60%. Any drier than that, and people aren't comfortable; any more humid, and you're at risk for mold and other problems.'

So, simply opening windows

Continued on Page 14

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Classifieds 31



SAVE THE DATE! TUESDAY, **NOVEMBER 16, 2021**

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Pasadena Convention Center Pasadena, CA More info, visit www.IHACI.org



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Industry News





CALIFORNIA



EGIA Foundation **Announces HVAC Scholarship Winners**

Sacramento, Calif. - The EGIA Foundation announced its fourth annual class of HVAC scholarship recipients. Fifteen scholarships of \$2,500 apiece are being awarded to students who are studying HVAC-related careers at trade schools, community colleges, and other accredited institutions during the 2021-22 academic year. A judging panel of industry professionals selected the final recipients based on financial need, academic merit, and career aspirations of the applicants.

The EGIA Foundation began the scholarship program in order to attract more talented, hardworking young adults into the

HVAC industry's workforce – a means of helping to reverse the ongoing workforce shortage. To date, the Foundation has awarded \$180,000 to help educate the HVAC industry's future workforce, including this year's distribution of \$37,500. The EGIA Foundation is proud to continue removing financial barriers to ensure talented, future industry workers can pursue HVAC career paths regardless of economic background.

"We are thrilled to award this year's scholarships to 15 dedicated students, all of whom possess the integrity and excitement to impact the industry for decades to come," said Bruce Matulich, chairman and CEO of the EGIA Foundation. "The past year and a half have further emphasized the ongoing need for healthy, comfortable homes, as well as the professionals who can help maintain them. This class of qualified, enthusiastic students will continue to build the workforce that benefits every single person across the country."

Despite the difficulties that schools and students experienced over the last academic year, the 2021-22 scholarship cycle continued to reach people across the nation, generating interest and hundreds of applications among those pursuing career paths throughout the HVAC industry. As of this year's program, the EGIA Foundation has awarded scholarships to 72 students, helping to pay tuition as they completed their education. In turn, well-prepared and enthusiastic groups of students will enter into the workforce each year in greater and greater numbers.

Beginning in the fall of 2021, the EGIA Foundation Scholarship Program will begin accepting applications for the 2022-23 academic year, where it will distribute up to 20 awards of \$2,500 apiece.

• • • • • • • •

Housecall Pro **Launches Trade** Academy

San Diego, Calif. - Housecall Pro launched Trade Academy to help secure the future of the next generation of tradespeople. The site is a free resource that hosts industry-specific job boards where home service businesses can create an employer profile, post open job listings, and search resumes of qualified candidates in their area.

When we talk to our customers, we consistently hear that hiring skilled tradespeople is their biggest

pain point," said Ian Heidt, president and co-founder of Housecall Pro. "We are committed to helping those looking for employment get training and find sustainable, high-paying careers. For many young people, the trades are a lucrative alternative to the traditional college path, and not enough people know that."

"At WD-40 Company, we're about solving problems, and we're committed to giving trade professionals the tools and training they need to get the job done right," said Garry Ridge, chairman and CEO of WD-40 Company. "We're pleased to partner with Trade Academy and support its mission to bridge the gap between home service business owners and qualified employees by creating a dedicated space for people looking to hire and get hired in the skilled trades.'

Along with a job board that is highly specialized to each trade, the site releases weekly blog posts and resources to support job seekers and employers alike. Topics range from interview questions, to trade school costs, to job description templates, and more.

We got a qualified candidate who applied, interviewed, and was hired within days of posting our job technician opening on the job board," said Chris Barker, owner of Elevation Mechanical. "It was the easiest time we've ever had hiring a new tech."

In addition to the job board and hiring resources, Trade Academy is launching a trade school scholarship fund totaling \$25,000 for the 2021-2022 school year. Initially open to candidates in the HVACR industry, students planning to enter HVACR trade school are eligible to win one of ten \$2,500 scholarships to use towards their education.

"There simply aren't enough young people entering the trades these days, which is contributing to the labor shortage," said Brian Ciciora, CEO of TrueWerk. "I see business as a platform for advancing humanity, not just profiting from it, and we are proud to offer our support to Trade Academy. TrueWerk will be decking out all scholarship recipients with brand new work wear as they start their technician careers."

Visit www.tradeacademy.com to set up an employer profile, job seeker profile, or apply for the scholarship today.

Continued on Page 6









TR ERV SERIES **Energy Recovery** Ventilators



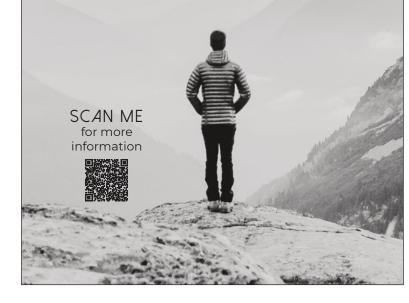
MDX-FS24V Motorized Damper Kits



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ServiceTitan Plans to Acquire Aspire

Los Angeles, Calif. - ServiceTitan has entered into a definitive agreement to acquire Aspire Software. ServiceTitan also announced that it has closed \$200 million in Series G financing, led by new investor Thoma Bravo, which values the company at \$9.5 billion.

"Both Aspire and ServiceTitan were born out of a desire to improve the lives of contractors who work tirelessly to serve their communities, but who have historically been underserved by technology," said Ara Mahdessian, CEO and co-founder of ServiceTitan. "Mark and his team at Aspire have more than 500 years of combined experience in the commercial landscaping industry. Just like we built ServiceTitan to solve the problems our fathers faced, it's that first-hand industry knowledge that has enabled Aspire to build the most powerful software in the industry with the highest customer satisfaction."

"As the fastest-growing software solution for the trades with an unrelenting focus on customer success, ServiceTitan is poised to extend its leadership and capture increased market share as the industry exceeds \$1 trillion globally," said Robert (Tre) Sayle, a partner at Thoma Bravo.





Registration Now Open for 13th WaterSmart Expo

Las Vegas, Nev. - Marking a return to a live, in-person event, the WaterSmart Innovations (WSI) Conference and Exposition has opened full-conference registra-

Registrants can access information at www.WaterSmartInnovations.com. The full-conference registration fee is \$395. WSI is scheduled for Oct. 6-7 at the South Point Hotel and Conference Center in Las Vegas.

The 2021 edition of WSI -

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The JP Series is a 115 volt low-cost/high SEER heat pump that's perfect for a wide variety of applications from a small home office to a tiny home

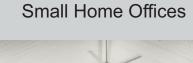
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Industry News

Continued from Page 4

the world's premier urban water-efficiency conference and expo – signals a safe return to an in-person, face-to-face event. "We're excited to welcome back professionals from across the country and around the globe to the world's premier urban water-efficiency conference," said WSI Program Chairman Doug Bennett

Each full conference registration includes admission to the Water-Sense Partner of the Year Awards luncheon Oct. 6, hosted by the Alliance for Water Efficiency and the U.S. Environmental Protection Agency's WaterSense Program.

WSI will again feature a full slate of comprehensive professional sessions in a variety of tracks and an Expo Hall showcasing water-efficient products and services. Several pre-show workshops, available for a separate fee, are scheduled for Oct. 5.

Visit WaterSmartInnovations. com to register today and for more information and to sign-up for conference updates.



Interplay Learning Recognized for Training Excellence

Austin, Texas – Interplay Learning announced it has received IACET (The International Accreditors for Continuing Education and Training) accreditation.

"We are extremely proud to have earned IACET accreditation," said Doug Donovan, founder and CEO

of Interplay Learning. "Interplay joins the exclusive ranks of elite continuing education providers, while further highlighting our commitment to providing world-class Comersive Learning solutions for the essential skilled trades. Our mission is to deliver training that enables users in the HVAC, plumbing, electrical, solar, multi-family maintenance, and facilities maintenance workforces to have better careers and better lives. IACET reinforces our vision, while providing new and exciting benefits for our customers world-

For Interplay's customers, IACET accreditation means that the training they do on the SkillMill platform will qualify for annual continuing education requirements by state licensures or various credentialing bodies.

For more information about the company, visit www.interplaylearning.com.

NATIONAL



ARS Acquires Total Comfort LLC

Memphis, Tenn. – American Residential Services (ARS/Rescue Rooter) announced that on July 1, 2021, it acquired Total Comfort LLC.

"Being a part of the ARS/ Rescue Rooter company will provide us with the opportunity to continue to strengthen and expand our brand presence within and around the Virginia market," said Mike Beachy, general manager, Total Comfort. "We are proud to have Total Comfort join the ARS/Rescue Rooter family."

"Total Comfort is a natural fit for us to acquire and expand our presence in Northern Virginia," said Scott Boose, CEO, ARS/ Rescue Rooter. "With their experience in both residential and commercial HVAC and plumbing, as well as their dedication to customers, I am pleased to have the Total Comfort team join our network of outstanding businesses."

ACCA Seeks

of the Year

Nominations for

Service Manager

Alexandria, **Va.** – The Air

Conditioning Contractors of

America (ACCA) is seeking

nominations for the Service

Manager of the Year award. Each

year, ACCA presents the Service

one individual. This year, ACCA

will present the award at ACCA's

Service Managers who work

for an ACCA member company

and must be nominated by their

in good standing are eligible

company's owner, president,

or general manager. The ideal

candidate promotes teamwork amongst all departments,

emphasizes the importance

of continuous training and

learning, develops programs to

motivate employees, and focuses

on providing superior customer

Manager of the Year award to

November 2-3, 2021, in New

Service Managers Forum,

Orleans, Louisiana.

Bryant Announces Dealer of the Year

"ACCA is proud to recognize

the important role that service

businesses," said Barton James,

ACCA president and CEO. "We

look forward to receiving many

outstanding nominations from

across the country."

September 24, 2021.

ACCA's top contracting businesses

To nominate a service manager,

contractors must submit the online

form at acca.org/members/awards/

smotyaward. Nominations are due

.

managers play in contracting

Indianapolis, Ind. – Peterman Brothers of Greenwood, Indiana has been named the 2021 Bryant Dealer of the Year, the highest honor a Bryant dealer can receive. Each year, this award recognizes the company whose hard work, expertise and business acumen have helped them to stand out as a leader in the industry. Bryant, a leading supplier of heating, ventilating, and air conditioning (HVAC) equipment, is a part of Carrier Global Corporation (NYSE: CARR), the leading global provider of healthy, safe and sustainable building and cold chain solutions.

"Being named as the 2021 Bryant Dealer of the Year means that we are doing things the right way," said Chad Peterman, Owner and President, Peterman Brothers. "It is not what we do, but how we do it. We are committed to providing our people and customers with the best customer experience possible."

Peterman Brothers has been solving plumbing, heating, and cooling issues of the central Indiana community since 1986 when Pete Peterman started the company in his garage. Since its humble beginnings, the company has grown to employ over 300 people today. Two of those employees include Pete's sons, Chad and Tyler. Both grew up around the business and have taken on numerous responsibilities. Chad is the oldest and in his role as Owner and President, he is responsible for creating and executing the company's vision and long-term strategy. Chad's younger brother, Tyler, oversees all install operations. Peterman is now a complete family affair with all the Petermans involved in the day-today operations of the company. In addition, Peterman Brothers is a two-time Bryant Medal of Excellence winner.

"Bryant dealers continue to raise the bar in our industry and are among the best in the business,"

Continued on Page 8

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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, 2021 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

said Justin Keppy, President, NA Residential & Light Commercial, Carrier. "Our 2021 Dealer of the Year, Peterman Brothers, exemplifies the values and commitment that the Bryant brand has come to represent in its more than 115-year history. Its entire team embodies all that is necessary to run a successful business, and the company serves as an example to the industry for how an organization should treat its customers and the community in which it operates."

Bryant selected its 2021 Dealer of the Year from 22 Medal of Excellence winners, comprised of Bryant Factory Authorized Dealers throughout North America. The candidates were judged on overall sales growth, high-efficiency and

indoor air quality equipment sales, customer satisfaction and participation in dealer programs and promotions.

The 2021 Medal of Excellence Winners are:

- Advanced Comfort Control, Standish, California
- Affordable Heating & Air, Sylacauga, Alabama
- AGS HVAC Services, Westport, Massachusetts
- Air Tech Heating, Inc., Fond du Lac, Wisconsin
- Allen Service, Fort Collins, Colorado
- Comfortemp, Lemont, Illinois
- D. McKeon Heating & Air Conditioning, Kennesaw, Georgia
- Elite Mechanical Systems, Windom, Minnesota
- Estes Heating and Air Conditioning, Theodore, Alabama

- First Call Heating & Cooling, Inc., Racine, Wisconsin
- GAC Services, Gaithersburg, Maryland
- IERNA'S Heating & Cooling, Inc., Lutz, Florida
- Mert's Heating & Air Conditioning Co., Steger, Illinois
- One Hour Heating and Air Conditioning, Wilmington, Delaware
- Peterman Brothers, Greenwood, Indiana
- Pronto Heating & A/C, Inc., Edina, Minnesota
- Robin Aire Service Company, Wixom, Michigan
- Rock Plumbing, Heating & Air, Englewood, Colorado
- Rose Heating & Air Conditioning, Urbana, Illinois
- Sanders & Johnson, Inc., Denver, Colorado

- Scott's Heating & Air Conditioning, Longwood, Florida
- Welsch Heating & Cooling, Saint Louis, Missouri

For more information about Bryant and to find a dealer near you, visit www.bryant.com.

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American Welding Society Announces FABTECH 2021

Miami, Fla. – After almost two years of missed connections and collaborations, FABTECH 2021 convenes in Chicago, Ill., on September 13-16, 2021. And the American Welding Society is pleased to announce its plans for the fourday event.

"We are excited to have an opti-

mistic outlook for an in-person event for FABTECH 2021," said Gary W. Konarska II, Executive Director & CEO.

Attendees looking to maintain their certification or earn PDHs towards their professional license can plan to attend the AWS Welding Track program. Led by industry experts, it focuses on best practices and new developments in the welding and manufacturing industry.

"We're offering our worldclass educational programming for you to learn from Subject Matter Experts on a variety of welding-related topics," added Gary W. Konarska II. "AWS will also be showcasing its full suite of products and services to help the welding community, and I encourage you to stop by our booth to learn more about how AWS can support your personal and professional growth."

Located at B25008, attendees can visit the AWS booth to learn about who we are, how we can help welders and welding professionals advance their careers through education and certification, how they can save on AWS products and services by becoming a member, and much more.

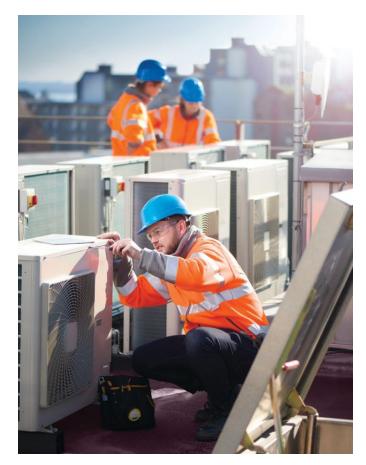
FABTECH attendees can also take advantage of big savings to stay updated with the latest publications by visiting the AWS Bookstore. Located at B27008, AWS is offering 40% off all AWS publications and toolkits, excluding replicas or third-party publications. Stop by early as supplies are limited.

While walking the show floor, we invite attendees to stop by the AWS Foundation's Careers in Welding Mobile Exhibit located at the center of the Welding Pavilion and try their hand at virtual welding. Sponsored by Lincoln Electric, the 53-foot trailer will provide information about career opportunities in the welding field, as well as a chance to win a \$1,000 scholarship. The trailer is also debuting "Metal Maiden," a metal-art sculpture in the likeness of the Statue of Liberty, created by Stephanie Hoffman and Barbie the Welder as part of the AWS Arc 2 Art project.

In addition to the special events hosted by FABTECH, AWS is offering an after-hours networking event for young and seasoned professionals, panel discussions with expert panelists, and more. AWS also encourages attendees to watch as Jason Becker, host of the Arc Junkies podcast, broadcasts live from

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Reserve your seat today or check out other classes at **seminars.sdge.com**.

Some programs are funded by California utility customers and administered by San Diego Gas & Electric® under the auspices of the California Public Utilities Commission.

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Product Registration Required

DVM S Eco

Available for download on the Google™ Play store and App Store®. A network connection is required. Samsung application account is necessary. *The WindFree™ unit delivers an air current that is under 0.15 m/s while in WindFree™ mode. Air velocity that is below 0.15 m/s is considered "still air" as defined by ASHRAE 55-2013 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers). © 2021 Samsung HVAC

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r 800/333-8436

Industry News

Continued from Page 8

the AWS booth every morning throughout the show.

To learn more about AWS events taking place at FABTECH, visit aws.org/fabtech2021.

Aprilaire Doubles in Size During the Pandemic

Madison, Wisc. – Aprilaire accelerated expansion plans to serve the increased demand for healthy IAQ during the pandemic, essentially doubling its total number of employees to about 700 and adding two physical structures: a 110,000-square-foot distribution and shipping center and a 60,000-square-foot manufacturing facility

Both new facilities are located in Poynette, Wisconsin, a suburb just north of Aprilaire's Madison head-quarters. The increased number of employees are at both new Poynette facilities and in the Madison headquarters and represent all skill levels from entry to senior level engineers, product specialists, sales, and operations. Aprilaire plans to add another 100 positions before the end of 2021.

"Much of our growth started



CONSTRUCTION OF ONE OF APRILAIRE'S NEW FACILITIES IN WISCONSIN.

prior to 2020 but COVID-19 accelerated it," said Dale Philippi, president and CEO of Research Products Corporation, Aprilaire's parent company. "We have built an unparalleled reputation as the brand of choice among tens of thousands of professional contractors who know our singular focus on improving residential indoor air quality means we offer the most complete whole home air quality product portfolio available to homeowners to solve a host of IAQ problems and enhance health."

"Our people first culture was the most difficult to maintain during the pandemic because of the obvious health and safety protocols we were following to keep the virus from spreading," Philippi said. "However, we were deemed an

essential business. We have always placed high priority on employee connection and communication, so we developed a system of weekly trainings, virtual 'Good Neighbor' events, thank you incentives, holiday bonuses, and quarterly updates. This purposeful outreach not only kept our employees safe, but healthy, engaged, and doing the IAQ work to which we are all committed."

The new 110,000 square foot distribution and shipping center opened in January 2021 and is now open at 90% functionality as it comes online, and employees are added. Similarly, the 60,000 square foot manufacturing facility which was completed in May 2021 is close behind but still needs additional workers to staff the ongoing increased demand for Aprilaire products.

Honeywell, Trane Continue Work on Next-Generation Refrigerant

Morris Plains, N.J. – Honeywell announced it will partner with Trane Technologies to accelerate the transition to a next-generation, environmentally preferable refrigerant by field testing Honeywell's Solstice N41 (R-466A), a nonflammable alternative to R-410A.

Trane will deploy and test Solstice N41 at three customer locations in different parts of the United States as part of a one-year field trial. Trane is currently testing Solstice N41 at the Western Cooling Efficiency Center (WCEC) at the University of California, Davis, to evaluate its performance with a Trane rooftop HVAC unit used in light commercial applications. The trials will test compatibility with new equipment installations and retrofit conversions. Trane will closely monitor power and energy consumption and analyze the refrigerant characteristics to further assess Solstice N41 as a replacement for R-410A.

"As a global climate innovator who is leading the industry transition to next-generation refrigerants, we have invested more than \$500 million to identify safe, sustainable options," said Randy Newton, vice president of engineering at Trane Technologies. "Our continuous testing, research, and development supports new technologies that improve the carbon footprint in support of our customers' needs and contribute to our Gigaton Challenge. As we evaluate refrigerants to replace R-410A, we seek to balance environmental impact, safety, efficiency, and affordability. We look forward to working with Honeywell to assess the feasibility of Solstice N41 as a safe option for the industry that could enable ease of transition to meet regulatory deadlines and help our customers meet their overall sustainability goals."

"Honeywell scientists devoted years of research and development to develop a nonflammable product that can replace R-410A in homes and small business as a near drop-in replacement within existing infrastructures, while providing reduced global warming potential coupled with similar

energy efficiency," said Ken West, vice president and general manager, Honeywell Fluorine Products. "Solstice N41 is a great option for both commercial and residential end users. This next step with Trane solidifies our confidence in moving toward industry adoption of R-466A."

"Our work is increasingly focused on recognizing the far-reaching implications of greenhouse gas emissions on our environment and changing climate," said Curtis Harrington, senior engineer at U.C. Davis WCEC. "Our research with Trane allows us to provide an objective technology evaluation of Honeywell's Solstice N41 field performance and provide valuable input on the development of next-generation refrigerants."

Regal Launches New Browning Contractor Program

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Beloit, Wisc. – Regal Beloit Corporation announced it has launched the Browning Authorized Contractor Program.

Regal's Browning Authorized Contractor Program bridges the gaps among customers, contractors, and wholesalers by giving customers and wholesalers access to contractors who are highly trained on Browning belts and systems. Contractors work with Browning wholesalers to connect to new customers, expand business with current customers through new revenue opportunities, and help customers to save money and energy by retrofitting existing systems.

"When a customer needs a contractor for a project, frequently the contractors they are working with are overloaded with business and are strapped for time," said Melinda Doty, product manager, components at Regal. "We are trying to bridge the gap between the product and the need for service by providing a complete solution to the customer. It provides additional peace of mind for customers to view the contractor locator on Regal's website or via the Toolbox Technician app to find a contractor for their project - a contractor that has been vetted, interviewed, and trained on our products. This provides the complete package for the end user and offers additional earning opportunities for the contractors."

This program provides tools to support the contractor. Browningauthorized contractors will be pro-

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Continued on Page 12



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Nevada **Las Vegas** 702.798.1234





Industry News

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vided with items such as patches, window clings, and truck magnets to indicate that they're part of the program. Additionally, the Browning Toolbox Technician app delivers a toolset for all HVAC contractors and maintenance personnel. This includes calculation and conversion tools, a GPS-enabled distributor locator, plus informative reference, installation, and troubleshooting guides for everything from bearings to V-belts.

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Munch's Supply Acquires Marks Supply, Inc.

New Lenox, Ill. – Munch's Supply has acquired Marks Supply, including its Watermarks division, nine branches, three retail plumbing showrooms, and two distribution centers servicing the province of Ontario, Canada. This will expand Munch's geographic footprint to 51 locations serving 16 U.S. states and one Canadian province.

"For almost six decades, the Todd family and the Marks Supply team have proudly served the Ontario market as the leading provider of HVAC; plumbing; hydronics; and pipe, valves, fittings ("PVF") products," said Bob Munch, CEO of Munch's Supply. "We are excited to continue growing the business together and upholding the same level of commitment to employees, customers, and vendors."

"We have come a long way since my father started this business in 1962," said Marks Supply President Robin Todd. "We are proud of what we've built and look forward to further accelerating our tremendous growth in partnership with Munch's Supply. Curtis Shea will step into the role of president and lead the Canadian operations for the combined company and continue to expand the product offering and capabilities in our region."

Uponor Wins Top Workplace Award for 8th Time

Apple Valley, Minn. – The Star Tribune has named Uponor North America a Top Workplace, ranking 29th on the large-size company list. This is Uponor's eighth win as a Top Workplace, with previous recognitions from 2012 to 2018.

Companies in the Top Workplaces listing were ranked based on results from an employee survey conducted by Star Tribune's partner, Energage. The evaluation measured employee engagement, organizational health, and job satisfaction.

"We are honored to be recognized by the Star Tribune for this significant achievement, which is even more meaningful in these challenging times," said Bill Gray, president, Uponor North America. "We deeply value our employees, their engagement, and their commitment to make Uponor one of the best companies to work for in the Twin Cities."

"Being recognized as a Top Workplace for an eighth time is a great achievement for the entire Uponor North America team," said Jennifer Hauschildt, vice president, Human Resources, Uponor North America. "This highlights the strong employee connections and positive culture we have here at Uponor, which helps reinforce our standing as an employer of choice in the community and beyond."

Winsupply Acquires Simon's Supply Co.

Dayton, Ohio – Winsupply Inc. has completed the purchase of Simon's Supply Co. Inc. Terms of the purchase of substantially all the assets of the company were not disclosed. Simon's Supply serves customers from five locations in Fall River, New Bedford, Plymouth, and West Yarmouth, Massachusetts, and Pawtucket, Rhode Island.

"Simon's Supply gives Winsupply a strong market presence in Southeastern Massachusetts including the South Coast, Cape Cod, and Rhode Island," said Monte Salsman, president of Winsupply Acquisitions Group. "The previous co-owners, Lloyd and Fred Felder, leave behind a strong group of people committed to serving their customers and a legacy of expertise dating back to 1933."

The five locations will continue to do business as Simon's Supply, but will have the following legal names, respectively, as separate Winsupply local companies:

- Fall River Winsupply Co.
- Winsupply New Bedford MA,

Co .

- Winsupply Pawtucket RI, Co.
- Winsupply Plymouth MA, Co.
- Winsupply W. Yarmouth MA,

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EPA Names 2021 Top Cities for ENERGY STAR Certified Buildings

Washington, D.C. – The U.S. Environmental Protection Agency (EPA) is announcing its annual "Top Cities" list, spotlighting the cities with the largest number of ENERGY STAR certified commercial and multifamily buildings last year. Los Angeles leads the pack, with more than 580 ENERGY STAR certified buildings. Close behind is Washington, D.C., with nearly 550 buildings, followed by San Francisco in third place. Atlanta and New York round out the top five.

"Cities and communities play an essential role in reducing energy use in commercial and multifamily buildings," said EPA Administrator Michael S. Regan. "With help from ENERGY STAR, city leaders and building owners are working together to strengthen their economies and reduce the emissions that lead to climate change."

"Here in Los Angeles, sustain-

ability isn't just a buzzword we throw around lightly – it's a lens through which we see every policy decision," said Los Angeles Mayor Eric Garcetti. "Year in and year out, Los Angeles finds itself at the head of the pack when it comes to energy efficiency – showing the world that going green is good for your bottom line."

Commercial buildings are responsible for 18 percent of the nation's energy use and cost more than \$190 billion per year in energy bills. ENERGY STAR certified buildings use an average of 35 percent less energy and are responsible for 35 percent less carbon dioxide emissions than typical buildings.

First released in 2009, EPA's list of cities with the most ENERGY STAR certified buildings shows how buildings across America are embracing energy efficiency as a simple and effective way to save money and reduce greenhouse gas emissions. To create the annual list, EPA tallies the number of EN-ERGY STAR certified buildings within each metropolitan area, as defined by the U.S. Census. These areas include the city itself as well as surrounding suburbs. This year's Top Cities are:

- 1. Los Angeles
- 2. Washington, D.C.
- 3. San Francisco
- 4. Atlanta
- 5. New York
- 6. Chicago
- 7. Houston
- 8. Dallas
- 9. Boston
- 10. Denver
- 11. Seattle
- 12. San Diego
- 13. Riverside, Calif.
- 13. Tampa
- 15. Minneapolis
- 16. Phoenix
- 17. Austin
- 18. San Jose
- 19. Charlotte

20. Miami

Across the country, nearly 6,500 commercial buildings earned the ENERGY STAR last year.

As of the end of 2020, over the lifetime of the program more than 37,000 buildings across America had earned EPA's ENERGY STAR certification. Together, these buildings have saved more than \$5 billion on energy bills and prevented nearly 22 metric tons of greenhouse gas emissions – equal to the annual emissions of more than 2.6 million homes.

To earn EPA's ENERGY STAR, a commercial building

must earn an ENERGY STAR score of 75 or higher on EPA's 1 -100 scale, indicating that it is more energy efficient than 75 percent of similar buildings nationwide. When calculating a building's ENERGY STAR score, ENERGY STAR takes into account multiple factors, including hours of operation, energy use, and occupancy. This means that, despite buildings operating differently during the COVID pandemic, ENERGY STAR scores and certification still reflect actual, measured energy efficiency.

ENERGY STAR® is the government-backed symbol for energy efficiency, providing simple, credible, and unbiased information that consumers and businesses rely on to make well-informed decisions. Thousands of industrial, commercial, utility, state, and local organizations—including nearly 40 percent of Fortune 500°—rely on their partnership with EPA to deliver cost-saving energy efficiency solutions. Together, since 1992, ENERGY STAR and its partners have helped American families and businesses save 5 trillion kilowatthours of electricity, avoid more than \$450 billion in energy costs, and achieve 4 billion metric tons of greenhouse gas reductions, all through voluntary action. Learn more about ENERGY STAR at https://www.energystar.gov/about.

RIDGID Experience Returns Sept. 22-24

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Elyria, Ohio – RIDGID®, a part of Emerson's professional tools portfolio, is excited to announce the return of RIDGID Experience, Sept. 22-24, at RIDGID headquarters in Elyria, Ohio. Four grand prize winners, including apprentices and professionals, were selected the week of July 12 from last year's U.S. entrants after the 2020 trip was canceled due to the pandemic and from those who entered this year by July 2.

"We're excited to have RIDGID Experience make a comeback. For years, we've boosted our outreach programs to help attract the next generation of professionals to the skilled trades. This year's contest reflects our commitment to celebrating people in the industry at all stages of their career," said Becky Brotherton, senior marketing communications manager, RIDGID for Emerson. "The trip is always a highlight of the year for our team and a trip that past winners have called the trade trip of a lifetime.

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Honeywell Survey Reveals Healthier Buildings Top List of Back-to-Work Priorities

Continued from Page 1

The pandemic will likely have a lasting impact on facility management and operations. Three-quarters (75%) of surveyed U.S. facility managers indicate COVID-19 has prompted their facility to rethink its modes of operation. Many believe changes and upgrades made during the pandemic will be kept in place in some form, yet only 36% of those surveyed expect updates to the air quality system to remain permanent. COVID-19 is also driving facility managers to adjust

their priorities and investments. For example, 62% are more likely to invest in indoor air quality optimization and other healthy building solutions and 56% are more willing to invest in occupant experience solutions like contactless building access, smart parking, and personalized experiences.

COVID-19 remains a source of widespread unease. Among surveyed U.S. facility managers, nearly one in four (22%) mention pandemic-related issues as their top concern.

A healthy building is a top priority and will remain important. A majority (58%) of respondents

consider having a healthy building a top priority right now, and 62% say it will continue to be a top priority post-pandemic. Improving indoor air quality ranks as the most important aspect of a healthy building for those working in healthcare and educational facilities, while those working in data centers and commercial real estate buildings cite cleaning procedures as their top priority.

Digital transformation of facilities is accelerating. Since COVID-19, more than half (54%) of respondents have seen digital transformation accelerate in pace as the need for remote facility management became

more acute. More than nine in 10 facility managers (93%) said that remote facility management is important now and 67% of respondents indicated they are more willing to invest in smart building solutions that drive efficiency or sustainability, including data aggregation, machine learning, and artificial intelligence.

Respondents are interested in upgrades to improve the occupant experience, with a contactless building experience ranking high. According to surveyed U.S. facility managers,

there is strong interest in upgrades such as improving indoor air quality, energy efficiency, and sustainability efforts, and supporting an inviting and innovative building environment. Yet respondent input shows a gap in the technologies currently deployed in buildings. More than half of those surveyed say the buildings they manage do not have air quality solutions (57%), integrated lighting that improves occupant productivity (66%), contactless building entry (67%), or an app that provides real-time information on building health (73%).

Purdue Engineers Develop Energy-Efficient Method for Using 100% Outdoor Air in Buildings

Continued from Page 1

is not a solution.

"If you introduce outdoor air, the humidity levels of a building can fluctuate wildly. It's an incredible challenge to maintain the right balance between temperature, humidity, human comfort and overall cost."

In a typical HVAC system, Braun says, almost 40% of the energy is used to dehumidify the air. That makes the heating or cooling of outdoor air even more energyintensive and costly.

To solve this problem, Braun teamed up with David Warsinger, assistant professor of mechanical engineering, who specializes in using membranes for water filtration and desalination. They have proposed a system called the Active Membrane Energy Exchanger, which integrates specialized membranes into the HVAC system to reduce the energy required to dehumidify the outside air. Large buildings like hospitals could reduce their energy costs up to 66% with such a system, compared to current fully-outdoor air systems.

Their research has been published in *Applied Energy*.

"The membrane is the key," said Andrew Fix, a Purdue doctoral student in mechanical engineering and lead author of the paper. We use membranes that are vapor selective, meaning they only allow water vapor to pass through when a pressure difference is applied but block air. By passing the air over these membranes, we can pull water vapor out of the air, reducing the load on the motors and compressors that run the refrigeration cooling cycle."

To gauge the system's effectiveness,

the team used computer models created by Pacific Northwest National Laboratory of hospitals in different climate conditions. Hospitals are ideal test beds because they are large indoor environments, which often require a higher percentage outdoor air in their HVAC systems for safety purposes. The computer models showed an overall reduction in energy usage for all locations using the Active Membrane system. The more hot and humid locations - Tampa, Houston and New Orleans – showed the greatest energy savings.

"The more hot and humid it gets, the better our system works," Fix said. "This is a key finding, because as the climate continues to warm around the world, locations that want to use 100% outdoor air will now be able to economically afford it."

The researchers are working toward building a physical prototype to validate their computer models. But there's now more at stake than simply saving energy.

"I think COVID was a wake-up call for all of us," Fix said. "Heating and cooling our buildings is not just a matter of temperature and humidity, but it can actually be a matter of life and death. Hopefully, this work will help to make all of our indoor spaces safer."

Patent applications for this system have been filed via the Purdue Research Foundation Office of Technology Commercialization. This research is supported by the Center for High Performance Buildings at Purdue University (project number CHPB-50-2020).

About Purdue University

Purdue University is a top public research institution developing practical solutions to today's toughest challenges. Ranked the No. 5 Most Innovative University in the United States by U.S. News & World Report, Purdue delivers world-changing research and out-of-this-world discovery. Committed to hands-on and online, real-world learning, Purdue offers a transformative education to all. Committed to affordability and accessibility, Purdue has frozen tuition and most fees at 2012-13 levels, enabling more students than ever to graduate debt-free. See how Purdue never stops in the persistent pursuit of the next giant leap at https://purdue.edu/.



Industry News Continued from Page 12

It's become a truly career-defining experience for winners and we can't wait to host this year's group."

RIDGID Experience winners will receive:

- An all-expenses-paid trip to RIDGID world headquarters
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- A custom RIDGID pipe wrench

- Hero photoshoot, celebrating winners' dedication to the skilled trades
- Share insights and get oneon-one time with engineering, marketing, research and product development managers
- Suite seats to see the Cleveland Indians take on the Chicago White Sox
- Fishing excursion on Lake Erie Follow this year's winners RIDGID Experience by following RIDGID on Instagram: @ ridgidtools.

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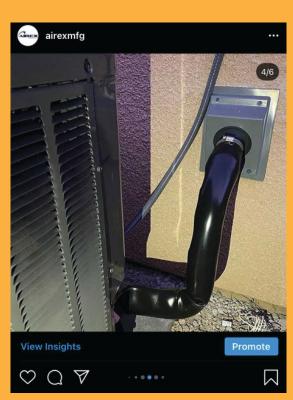
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and and and 1 Month Supply of Airex Pro-System Kits™ 1 Month Supply of Airex Pro-System Kits™

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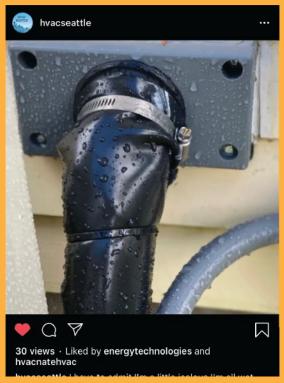
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- •The more installs you post the better your chances of winning!
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IAQ, Zoning & Air Distribution Products

Carrier Smart Air Purifier



Carrier has launched its new Wi-Fi-enabled smart air purifier, a simple, cost-effective way to improve the quality of indoor air in almost any room of a home or apartment — and the newest offering in Carrier's Healthy Homes Program. The Carrier smart air purifier continuously samples incoming air, measures levels of pollution and indicates air quality with an easy-to-read LED screen.

Additionally, the Carrier Home app allows homeowners to create a healthier home from anywhere.

The new smart air purifier combines three different filtration technologies to create healthier indoor air. First, a pre-filter removes large airborne particles like dust, dirt and pet dander. Then, an advanced high-efficiency HEPA filter captures 99.97% of particles size 0.3 microns, such as pollen, smoke and other allergens. Finally, an activated carbon filter removes odors in spaces up to 550 square feet (XL size).

On Smart Auto Mode, the smart air purifier automatically adjusts between 18 fan speeds based on the air quality level in the room – delivering cleaner air more efficiently. Ideal for bedrooms, family

rooms, playrooms, home offices or any other area of the home needing cleaner air, the smart air purifier has been independently tested and certified by the Association of Home Appliance Manufactures (AHAM) to have a high clean air delivery rate (CADR).

The Carrier Home app displays indoor concentration levels of particulate matter down to 2.5 micrometers, which are fine particles that are 30 times smaller than the human hair. In addition, consumers can also monitor their levels of Total Volatile Organic Compounds (TVOCs) and control the fan speed of their Carrier smart air purifier. The app also monitors filter life and can direct users to CarrierAtHome.com when it's time to purchase a replacement filter.

In addition, the Carrier smart air purifier is compatible with Amazon Alexa or Google Assistant-enabled devices for voice control.

We're pleased to announce the launch of our new smart room air purifier and we know it will offer consumers increased peace of mind by providing the ability to monitor their indoor air quality from anywhere," said Justin Keppy, President, NA Residential & Light Commercial, Carrier. "Indoor air quality has become a priority for many people, and we're excited to be able to offer this affordable, effective solution as part of our Healthy Homes portfolio. Innovation is in our DNA and we'll continue developing products that will meet the demand of our

customers."

The smart air purifier is just one of the products among a number of solutions offered through Carrier's Healthy Homes Program that can aid in addressing indoor air quality. Other offerings include HVAC system filters with high MERV ratings; UV lights installed inside HVAC equipment; as well as humidifiers and dehumidifiers to help control humidity levels in the home which can help increase comfort and potentially save on utilities.

More information: https://CarrierAtHome.com/.

Continental Fan TFD Flange Mount Blowers



Continental Fan's TFD Flange Mount Blowers are

compact air moving devices, ideally suited for OEM applications that require superior air performance, exceptional smoothness, and quiet operation.

TFD Blowers feature TEK backward curved airfoil impellers, the industry's quietest and most efficient OEM impellers. TEK impellers combine precision injection molding techniques with modern high strength plastics to produce a wheel that is stronger than steel, yet half its weight. They deliver fan performance approaching aerodynamic perfection

These centrifugal blowers are ideal for electronic cabinet cooling, clean room modules, military HRAC, semiconductor industry, and more.

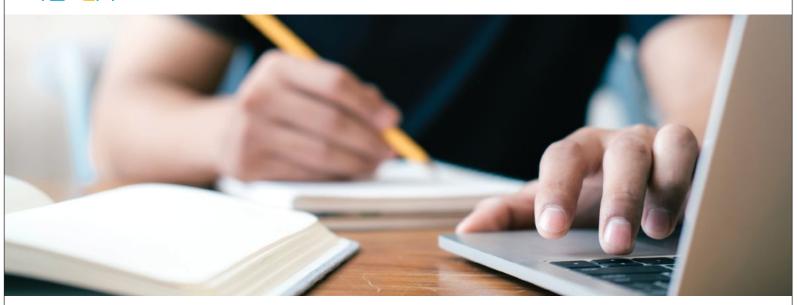
Features and Benefits:

- Direct drive, non-overloading 'TEK' impeller
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- Single or three phase TEFC motors
- CW rotation rotatable to any position
 - Compact design, rugged

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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.

SEPTEMBER



Webinar System Diagnostics Module

Instructors: Mitch Bailey / TBA Wed., Sept. 15 – Part 1 Thurs., Sept. 16 – Part 2 Wed., Sept. 22 – Part 3 Thurs., Sept. 23 – Part 4

OCTOBER



Webinar NATE Core & Gas Heating Training

Instructors: Mitch Bailey / TBA Wed., Oct. 20 – Part 1 Thurs., Oct. 21 – Part 2 Wed., Oct. 27 – Part 3 Thurs., Oct. 28 – Part 4

Webinars are FREE of charge and online registration is required.

You can register online by visiting: pge.com/hvactraining. Attendees must register for

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each night separately and registration is on a first-come, first-served basis.

NOVEMBER



Webinar NATE AC/HP Refrigeration Air Distribution Training

Instructors: Mitch Bailey / TBA Wed., Nov. 3 – Part 1 Thurs., Nov. 4 – Part 2 Wed., Nov. 10 – Part 3 Thurs., Nov. 11 – Part 4

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IAQ, Zoning & Air Distribution Products

Continued from Page 16

construction

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eControls, Inc. C365A

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The C365A touch thermostat with cooling, heating and airflow control by **eControls, Inc.** is an easy to install alternative to zoning that is about half the cost. The C365A improves comfort in two-story homes by automatically directing more airflow to the space

Fieldpiece



that needs it, eliminating the common homeowner complaint, "My upstairs is too hot!"

The C365A thermostat is installed downstairs and a wireless temperature sensor is installed in the upstairs sleeping space. The thermostat wirelessly controls two

plug&play, modulating dampers that control airflow to the upstairs and downstairs. Every two minutes during a heating or cooling call, the thermostat monitors the upstairs and downstairs temperatures and automatically makes a 2% adjustment in airflow distribution to direct more airflow to the space that needs it.

Besides the low-cost, the C365A offers contractors two big features - No bypass or discharge air temperature sensor to install and no new wiring in the home. Bypass and the sensor are eliminated because the modulating dampers never fully close and the airflow through the equipment remains unchanged. The thermostat uses the existing thermostat cable and the temperature sensor is wireless and battery powered, eliminating new wiring within the living space of the home. Dampers use only 2VA and operate using the equipment 24VAC, eliminating installing a separate 24VAC transformer. Plug&Play dampers eliminate wiring errors.

For homeowners, the C365A provides a comfortable home by automatically controlling airflow based on the temperatures in the upstairs and downstairs spaces. Or, the homeowner can manually direct more airflow to the space they desire. At night, the C365A saves about 30% in energy and improves comfort by automatically directing more airflow to the sleeping space and controlling the heating and cooling calls using the upstairs temperature sensor. The C365A thermostat is available in a WiFi or non-WiFi version

More information: www.eControlsUSA.com.

Fujitsu General America Air Handler

.



Fujitsu General America has introduced new multi-position air handler units that combine Fujitsu's inverter heat pump technology and revolutionary side discharge outdoor units with a modular design indoor unit. The result is high efficiency, space saving, and quiet single-zone systems without compromise.

Available in four sizes from 24,000 to 48,000 BTU/H, the new systems feature all-aluminum indoor unit coils, high static pressure capability, indoor sound levels as low as 24 dBA and adaptive fan motor control for

optimum comfort.

Minimal clearance is needed on three sides of the indoor unit, with only 21 inches clearance needed in the front for service. Down-flow and horizontal right kits come standard with each system. Field-installed electric heat kits up to 15.5kW are factory provided. External input/output interface for third-party systems is optional.

WiFi compatibility is also optional so that systems can be controlled remotely through Fujitsu's FGLair mobile app, and smart home services such as Amazon Echo or Google Home.

Optional accessories include wired remote controller, simple remote controller, wireless LAN interface, third-party thermostat converter, external input and output PCB, external connect kit, electric heater kit, combustible floor base, and an external filter box.

More information: www. FujitsuGeneral.com.

Greenheck HVLS Fan

Greenheck has doubled its line of DC-5 high volume low speed (HVLS) fans with the introduction of four new smaller sizes. The five-blade HVLS fan is now available in 4.3, 5, 6 and 7- foot diameter sizes, in addition to the line's 8 to 14-foot diameter sizes, for more design flexibility.

The new smaller sizes offer industry-leading performance with cooling effects up to 70F and up to 70% larger coverage areas than other products on the market. Featuring a sleek, lightweight design, the 4.3 to 7-foot DC-5 fans weigh less than 30 pounds, feature a plug-and-play wiring design for quick, easy installation, and can be mounted to a fan-rated junction box to accommodate a variety of ceiling structures. The unique direct drive EC motor allows the DC-5 to run up to 5 dBA quieter and 20% more efficiently than other HVLS fans. A 115V single phase power input allows for easy integration in commercial buildings. Full color customization and an array of accessories are available including automatic controls based on building temperature and humidity.

The 4.3 to 7-foot DC-5 fan sizes offer performance capacities from 6,401 to 15,108 cfm and are ENERGY STAR*



certified. DC-5 fans in the 8 to 14-foot sizes offer performance capacities from 29,000 to 55,800 cfm and are licensed to bear the AMCA Seal for Circulating Fan Performance. Greenheck DC-5 fans are ideal for destratification and comfort cooling in offices, schools, restaurants, fitness centers, retail stores, hotels, and multifamily housing.

Greenheck is the worldwide leader in manufacturing and distributing air movement, conditioning and control equipment.

More information: www.green-heck.com.

Panasonic WhisperFit DC



Panasonic, a leading provider of ventilation and healthy indoor living solutions to the building industry, announced the new WhisperFit DC ventilation fan. This highperformance ventilation fan's design allows fast, easy installation with a low profile housing design to ensure a proper fit in any ceiling with at least 5 5/8" depth. According to the EPA, on average, Americans spend approximately 90 percent of their time indoors, where the concentrations of some pollutants are often two to five times higher than typical outdoor concentrations. The ENERGY STAR® certified retrofit fan increases home health and comfort by helping remove indoor air pollutants and reducing humidity to achieve optimal indoor air quality.

The WhisperFit DC ventilation fan enables fast, efficient professional installation, settings for maximum moisture control, and an adjustable LED light that can match existing room lighting. The fan offers additional advanced features that will allow homeowners to breathe easier, including:

• SmartFlow™ Technology enables the fan to sense static pressure, airflow resistance in the duct, and adjusts its speed automatically for optimal cubic feet per minute (CFM) output to meet code

Continued on Page 20



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The Fieldpiece VPX7, VP87 (DC motor) and VP67 (AC motor) models are lighter, more durable and faster than anything on the market — pumping 6-10 CFM and weighing between 24 to 29 lbs. The perfect fit for residential and commercial jobs, they are small, but mighty. Light, but durable. Easy to carry, but full-powered for your

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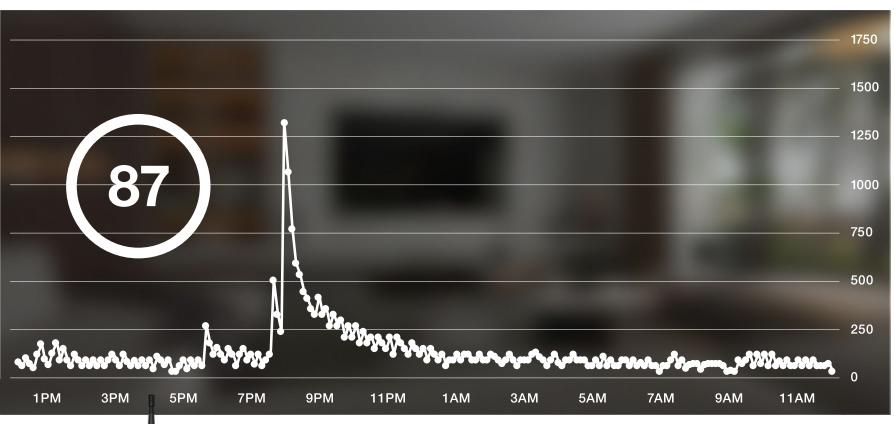




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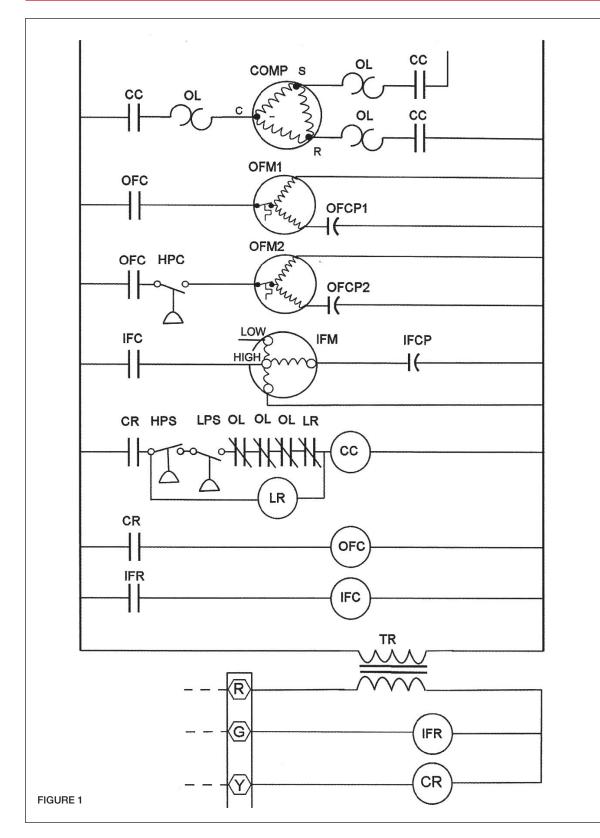
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Troubleshooting





Answer to Last Month's Troubleshooting Problem

The reversing valve needs to be replaced. The 10-degree temperature difference we measured at the point where the line from the indoor coil enters the valve assembly and the point where the line exits, shows that the valve is the source of the problem.

The winner of last month's Troubleshooting is: **Chad Everett**

Advertise in INDOOR COMFORT NEWS (818) 551-1555

A Light Commercial Air Conditioner That's Blowing Warm Air in Office

By Jim Johnson Contributing Editor

In this troubleshooting situation, the customer's complaint is that their office air conditioner is "not cooling at all." When you arrive, you confirm that the indoor air temperature is far above the standard comfort level, that the indoor fan motor is operating, and that the thermostat is properly set to call for cooling.

The first thing you note when checking this rooftop unit, is that the lockout relay system has done its job of shutting down the compressor operation (note the schematic in **Figure One** and legend in **Figure Two**), and you also note that neither outdoor fan motor is operating.

When you check the schematic, you also confirm that the lockout system is not designed to shut down the outdoor fan motors in the event of an overload situation, and when you disconnect the power supply to reset the lockout, then reconnect the power supply, you find that the compressor starts, but the outdoor fan motors do not operate.

As your next step, you turn the off the power supply, disconnect one wire from the 240-volt contactor coil, and turn the power supply back on. As your next step, you accomplish a voltage check at the OFC coil, and your reading 240-Volts. Next, you perform voltage checks at the outdoor fan contactor contacts wired in series

	LEGEND
CC	Contactor
COMP	Compressor
CR	Cooling Relay
HPC	High Pressure Control
IFC	Indoor Fan Contactor
IFCP	Indoor Fan Capacitor
IFM	Indoor Fan Motor
IFR	Indoor Fan Relay
LPS	Low Pressure Switch
LR	Lockout Relay
OFC	Outdoor Fan Contactor
OFCP	Outdoor Fan Capacitor 1
	2Outdoor Fan Capacitor 2
OFM1.	Outdoor Fan Motor 1
OFM2.	Outdoor Fan Motor 2
OL	Thermal Overload Relay
	Transformer
	FIGURE 2

with the outdoor fan motors and find that in each case, you read 240-Volts.

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

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

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

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

Editorial Focus Continued from Page 18

requirements.

- Pick-A-Flow[™] allows users to choose the airflow required for a specific project (example: 50-80-100 CFM) to meet home dwellers' needs.
- Hinged Flex-Z Fast™ bracket is easily positioned between joists through the ceiling opening, to allow flexible, efficient, room-side installation.
- Pre-installed alignment guides help guide adaptor assembly into place during installation for a tight precision fit.
- Temporary clips molded into the casing hold the fan in place while the installer fastens the fan
- Slide and snap-in junction box and duct collar for greater flexibility when wiring and attaching the venting duct.

This high-powered ventilation fan delivers a healthier home that

meets the latest codes and standards. The WhisperFit DC is tested at our True Flow rating of 0.375" static pressure to provide powerful air circulation to assure code-compliant homes.

"The demand for improved indoor air quality is rapidly rising as people spend more and more time at home. Our new WhisperFit DC vent fan not only offers high quality features and customizable controls, but key advancements that allow builders and contractors to quickly and efficiently install the units and move on to the next job," said Yarixa Sanchez, Product Manager Indoor Air for Panasonic Life Solutions Company of America, a division of Panasonic Corporation of North America. "Whether it's a remodeling project or new construction, the WhisperFit DC offers ventilation performance at a high standard to help create a healthier environment in your home."

More information: www.FitD-CFan.com.

Technical Training

Growing Green Technicians Part 142: Low-Pressure Controls and Efficient Refrigerant System Operation

By Jim Johnson Contributing Editor

In the last segment of this series our focus was on the aspect of balance in a DX refrigeration system. In this issue, we will discuss how a low-pressure switch is used to control box temperature. One example of this type of switch is shown in **Figure One**.

The fundamental concept behind the operation of this type of control, when it is not being used solely as a protection device that breaks a circuit in the event of a loss of refrigerant charge, but to ensure proper product storage, can be explained in two terms related to temperature/ pressure:

- 1. Cut-In
- 2. Cut-Out

The Cut-In is related to the pressure at which the switch contacts will close and allow the compressor to start after an off cycle, during which the evaporator coil has been completely defrosted. The Cut-Out is related to the pressure at which the contacts will open and turn the compressor off once the evaporator coil has reached a given temperature. In some cases, a switch may be designed with both a cut-in and cut-out scale that allows settings that will cycle the compressor on and off. However, it is more common to find a switch that shows the cut-in setting to start a cycle, along with a term that explains the operation of the control: Differential.

The differential setting on a low-pressure control is the difference between the cut-in and cutout, determining the compressor on time.... the amount of time it takes to bring the suction pressure of the refrigeration system down to selected cut-out setting on the control. The first step in taking a green approach to evaluating the performance of a refrigeration system is to know what the box temperature is supposed to be. The design temperature of a walk-in cooler in a florist shop is different than that that of a beer cooler in a convenience store, which is different than a meat storage box in

To understand the fundamental concept of cut-in and differential, consider the idea that it is common to find the temperature of an evaporator coil employed

in medium temperature refrigeration equipment to be about 20 to 25 degrees F, which, of course means that there will be a frost build-up during an on cycle of the compressor. As mentioned above, to keep an evaporator coil clear of frost, the cut-in setting on the control needs to be at a pressure (related to the temperature of the coil) that allows a complete defrosting of the coil between compressor run cycles. It's common to find situations in which the coil temperature rises to approximately 36 to 39 degrees F during an off cycle, which will accomplish two objectives: that of clearing the coil, while at the same time maintaining the desired temperature of the product in the box.

The next step in ensuring that a system is operating efficiently and according to its design, is to identify the refrigerant being used in each application and use a temperature/pressure chart that will show the proper cut-in setting of the control. Using a segment of a chart we are showing in **Figure Two**, consider that our refrigerant is R-134a, and our desired cut-in temperature is 38 degrees F.

Reading from the left at the 38F listing to the R-134a scale shows that our cut-in setting on the control will be 33.1 PSIG.

Now, with our cut-in pressure set, the next step would be to establish the differential setting on the control that employs that method of operation. The number we are looking for is the one that will allow the box to get to its lowest possible temperature before the compressor is cycled off. For the purpose of our example, we'll choose 35 degrees F as our lowest box temperature, and we'll also decide that the factor of TD (Temperature Difference) between our box temperature and coil temperature is 15 degrees.

Applying simple arithmetic (35-15=20) brings us to the conclusion that when we again consult the temperature/pressure chart (see **Figure Three**), we find that 20 degrees F regarding R-134a refrigerant leads us to a pressure of 18.4 PSIG on the chart.

Rounding off our pressure numbers from the chart (33 for cut-in and 18 for cut-out) we can again apply simple arithmetic (33-18=15) which means that we will set the differential on the

Tempe	erature		
°F	°C	R-22	R-134a
29	-1.7	53.7	25.3
30	-1.1	55.0	26.1
31	-0.6	56.2	26.9
32	0.0	57.5	27.8
33	0.6	58.8	28.6
34	1.1	60.2	29.5
35	1.7	61.5	30.4
36	2.2	62.9	31.3
37	2.8	64.3	32.2
38	3.3	65.7	33.1
39	3.9	67.1	34.1
40	4.4	68.6	35.0

control to 15 PSIG.

(Note: The numbers we have set here will apply if there is not a considerable distance between the compressor and the evaporator coil. If there was a distance to consider, we would have to allow for that drop in suction line pressure by applying a factor of 2 PSIG.)



°F	°C	R-22	R-134a
-40	-40.0	0.6	14.8
-38	-38.9	1.4	13.9
-36	-37.8	2.2	13.0
-34	-36.7	3.1	12.0
-32	-35.6	4.0	10.9
-30	-34.4	4.9	9.8
-28	-33.3	5.9	8.7
-26	-32.2	6.9	7.5
-24	-31.1	8.0	6.3
-22	-30.0	9.1	5.0
-20	-28.9	10.2	3.7
-18	-27.8	11.4	2.3
-16	-26.7	12.6	0.8
-14	-25.6	13.9	0.4
-12	-24.4	15.2	1.1
-10	-23.3	16.5	1.9
-8	-22.2	17.9	2.8
-6	-21.1	19.4	3.6
-4	-20.0	20.9	4.6
-2	-18.9	22.4	5.5
0	-17.8	24.0	6.5
1	-17.2	24.9	7.0
2	-16.7	25.7	7.5
3	-16.1	26.5	8.0
4	-15.6	27.4	8.5
5	-15.0	28.3	9.1
6 7 8 9	-14.4 -13.9 -13.3 -12.8 -12.2	29.2 30.1 31.0 31.9 32.8	9.6 10.2 10.8 11.3 11.9
11	-11.7	33.8	12.5
12	-11.1	34.8	13.1
13	-10.6	35.8	13.8
14	-10.0	36.8	14.4
15	-9.4	37.8	15.0
16	-8.9	38.8	15.7
17	-8.3	39.9	16.4
18	-7.8	40.9	17.0
19	-7.2	42.0	17.7
20	-6.7	43.1	18.4



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Industry Education



ESCO Institute Offers Training on Low-GWP Refrigerants

The ESCO Institute recently announced the release of its Low GWP Refrigerant Safety: Flammable and Mildly Flammable Refrigerants Training and Certification Program.

As the HVACR industry continues to move forward and innovate, the refrigerants that were once so commonplace are now being phased down. Replacing them are more energy efficient and environmentally friendlier refrigerants, known as low GWP refrigerants. Many of these new refrigerants are classified by ASHRAE as A2L, or slightly flammable.

With numerous changes to building codes and industry standards

to accommodate the safe use of low GWP refrigerants, those working in the HVACR industry need a reliable source of information and training to keep pace with innovation. ESCO's Low GWP Refrigerant Safety Program fills that need.

The Low GWP Refrigerant Program manual, which is available in both printed and digital format, covers:

- Refrigerant safety;
- Introduction to low GWP refrigerants;
- Refrigerant properties and characteristics;
 - The refrigeration cycle;
- Working with refrigerant blends:
- Proper installation and service guidelines;
- Flammable refrigerant considerations; and
- Explanation of the associated codes and standards for A2L refrigerants.

The instructor resource materials include a 204-slide PowerPoint presentation that correlates directly with the manual. Each slide contains speaker notes to aid the instructor through the presentation and provide additional talking points.

A certification exam is available to validate that a person has retained the information presented in the program. The closed-book certification exam for this program is 50 questions, covering the following competencies:

- General flammable refrigerant safety knowledge;
 - Core ACR knowledge
- Flammable system service safety
- Flammable system installation safety; and
- Flammable refrigerant transportation and handling safety.

This program can be incorporated into any HVACR program that teaches the safe use of refrigerants or can be used as a stand-alone course. Wholesalers, manufacturers, and continuing education providers can use this program to reinforce these all-important concepts in a training program that can be presented in as little as 8 to 10 hours.

This modular training package is available as a complete training solution (training

Continued on Page 23

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Green Technologies

Honeywell Solstice Awards Program Honors Adopters of Lower-GWP Refrigerants

Honeywell recently announced its inaugural Solstice Awards program, designed to honor companies around the world that are visibly demonstrating their commitment to sustainable air conditioning and refrigeration by adopting refrigerants based on their Solstice technology.

"With World Refrigeration Day and the summer solstice occurring in the same week, it seemed fitting to honor the recipients of our first Solstice Awards," said Ken West, vice president and general manager at Honeywell Fluorine Products. "We are proud to play an integral role in helping so many companies around the world achieve their sustainability goals."

Recipients of the Inaugural Solstice Award include:

Albertsons/Safeway: This supermarket chain adopted Solstice N40 (R-448A) lower-GWP refrigerant in more than 640 stores in the U.S. "At Albertsons/Safeway, we are committed to responsible refrigeration practices that lead to a healthier planet," said Wade Krieger, refrigeration and HVAC manager at Albertsons/ Safeway. "The lower GWP of Solstice N40 supports our environmental commitments while also improving overall energy performance and meeting our budget requirements."

Danfoss: Danfoss adopted Solstice N15 (R-515B), or Solstice®, in its new Turbocor® TGS Series of centrifugal compressors, which have the flexibility to be used in air, water, or evaporative-cooled chillers operating in wide range of applications such as comfort cooling, low-temperature process, ice storage, and heat

ESCO Institute

Continued from Page 22

manual, instructor PowerPoint presentation, and certification), or instructors can purchase items separately. For complete details, including the soon-to-be released interactive e-learning version of the program, visit escogroup.org.

Registered test administrators can login to view a copy of the training manual in the proctor resource center.

For additional information, contact ESCO Institute at 800-726-9696.

recovery. Thanks to this flexibility, more than 70,000 Turbocor compressors are installed in jobsites around the world.

"At Danfoss, we play an active role in sustainable global development, where social responsibility, environmental, and climate considerations go together with sound business development, " said Drew Turner, global marketing manager at Danfoss. "Honeywell's Solstice refrigerants allow us to offer our customers compressors that not only meet our sustainability requirements, but theirs as well."

Whole Foods: This natural and organic food retailer adopted Solstice N40 in more than 100 of its U.S. stores as it seeks to reduce refrigerant emissions under the U.S.

Environmental Protection Agency's GreenChill program.

"In the past decade, we've implemented several innovative measures to reduce our CO2 emissions, and the use of Honeywell's refrigerant to retrofit our stores will contribute significantly to this goal," said Mike Ellinger, principal program manager of engineering, compliance, and sustainability at Whole Foods Market. "After reviewing all of our available retrofit options for our refrigerated cases, Solstice N40 was the clear winner, based on its performance, energy efficiency, reduced GWP, and ease of conversion."

Honeywell continues to see growing interest from customers around the world in the industrial and commercial A/C and refrigeration industries,

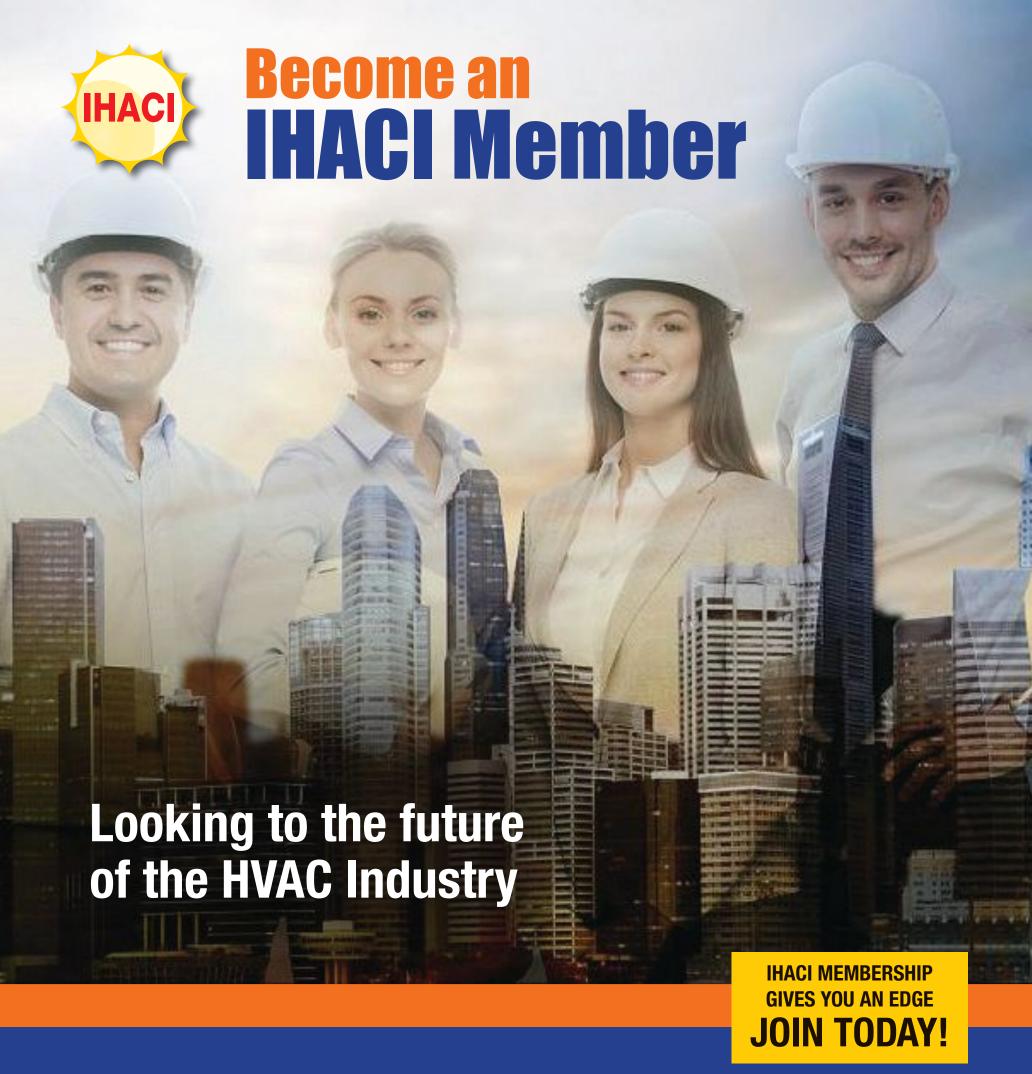


WHOLE FOODS MARKET WAS ONE OF THE WINNERS OF THE HONEYWELL SOLSTICE AWARDS PROGRAM.

including equipment manufacturers and end users like supermarkets and convenience stores. Worldwide adoption of Solstice products has resulted in the reduction of more than 210 million metric tons of CO2 to date, equal to eliminating the emissions from more than 44 million cars from the road for a year.



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Nortek Air Solutions' Partnership with Charity Grows into Jobs Program for Disabled

Center of Family Love's Vocational Program now facilitates disabled adults for HVAC air handler assembly at plant.

Nortek Air Solutions (NAS) recently took its partnership with Center of Family Love (CFL) a step further and began hiring the charity's intellectually and physically disabled adults to work at its Okarche, Okla., commercial HVAC air handler manufacturing plant.

The initial group of four CFL residents was trained onsite at NAS for one month last April to learn light fixture and wiring installation for 4 x 4-inch-square electrical boxes. The assemblies are eventually incorporated into the Temtrol® branded air handlers the facility manufacturers. The group arrives at NAS accompanied by a CFL job coach for two 8-hour shifts weekly. They're already completing an impressive 150 light fixture/box assemblies per week. The work has been invaluable for enabling NAS electricians to concentrate on other air handler tasks. "This program has far exceeded our expectations," said Paul Bohnenkamp, NAS' manufacturing/operations director, who is already planning other assembly work for the group to tackle.

"These are meaningful tasks resulting in an end product that is not only useful for the employer, but also something the resident is proud to show," said Marsha Smith, vice president—programs, CFL, who matched the residents' skills to the NAS' job description. "Meaningful work is therapeutic development that improves motor function, cognitive functions and social skills."

The CFL workers, who range in age from 38 to 51-years-old, were chosen for their exemplary work records at Filters for Life (FFL), Kingfisher, Okla., which is a job opportunity the 40-yearold CFL owns and manages for its 55-participant Vocational Program. The 20,000-squarefoot FFL facility employs 35 CFL residents that manufacture more than 150,000 HVAC filters annually for Oklahoma state building air handlers and is funded partially by donor partners such as NAS.

Bohnenkamp conceived of the recent employment opportunity during one of NAS' periodic CFL community service days created under its "Nortek Gives" program where employees dedicate assistance ranging from fellowship to technical and maintenance assistance at a CFL facility. The CFL Vocational Program, which places qualified residents in local employment positions, quickly accepted Bohnenkamp's invitation.

NAS provides a paycheck to CFL's residents, which gives them opportunities for financial independence. Statistics show that despite their willingness and ability to be a part of the nation's workforce, people with intellectual or physical disabilities are either under employed or unemployed, according to Smith.

"I'm so proud of our NAS Okarche Team and the CFL; our partnership has created bonds that will not be broken," said Buddy Doll, president, NAS. "As manufacturers in Okarche, we must give back to the communities where we live and work. This is a beautiful relationship."

Nortek Air Solutions and its affiliated brands have over 300 years of combined experience in the HVAC industry. The company is an industry leader and trusted provider of custom air handling solutions and HVAC equipment for a wide range of applications – from education and office buildings, to healthcare facilities and operating rooms to data center and cleanrooms, to manufacturing facilities. Nortek Air Solutions builds and sells custom commercial solutions under the Governair®, Huntair®, Mammoth®, Temtrol®, Venmar™ and Ventrol® brands.



CENTER OF FAMILY LOVE JOB COACH MUFFY (STANDING) OVERSEES AIR HANDLER LIGHT FIXTURE ASSEMBLY WORK AT NORTEK AIR SOLUTIONS BY CFL RESIDENTS (L-R) STANLEY, JEREMY, DOROTHY AND MARIA.



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New Products

Emerson ASCO Series



Emerson introduces the ASCO™ Series 158 Gas Valve and Series 159 Motorized Actuator. Designed specifically for burner-boiler applications, the new products give OEMs, distributors, contractors and end-users a new combustion safety shutoff valve option that increases safety and reliability and enhances both flow and control.

The new valve offers a higher close-off pressure of 75 psi (5.2 Bar) ensures a safe shutoff in the event of a fuel train system failure and eliminates the need for additional safety components. The valve offers a flow rate which is twice that of other combustion valves on the market. As a result, it offers the highest BTU rating in the industry as well as the ability to deal with varying gas inlet pressures – without a reduction in burner performance and operation. Installation is also made easier with end connectors that eliminate the need for piping unions and a ventless compatible monoblock design that not only does away with the need for additional vent piping, but also limits greenhouse gas and vent emissions.

"We're offering our customers a highly adaptable safety shutoff valve that offers the same high levels of safety and reliability they have come to associate with the ASCO combustion valve products," said Erik VanLaningham, vice president of marketing for industrial automation at Emerson. "We're dedicated to providing easy-to-use, globally applicable combustion control solutions with the flexibility to address a full range of commercial and industrial applications. Because we know our customers are often working with tight deadlines, we've made sure these products are available on short lead times."

The ASCO Series 158 is a gas valve range available in sizes from ¾" NPT to 3" NPT (DN 10 to DN 80) in both single and monoblock constructions. The ASCO Series 159 Motorized Actuator has a rugged construction, can mount in any position and offers a visual indication of opening. This new safety shutoff valve is rated for an ambient temperature range of

-40°F to 150°F (-40°C to 66°C) and is offered with an optional watertight National Electrical Manufacturers Association (NEMA)-approved Type 4 enclosure.

The Series 158 and Series 159 meet up-to-date National Fire Protection Association (NFPA), UL, Canadian Standards Association (CSA) and FM Global standards and have earned Restriction of Hazardous Substances (RoHs) and European Standards (EN) approvals.

More information: https:// www.emerson.com/en-us/news/ automation/2002-asco-shutoffvalve.

EnOcean TR9299-EO



The TR9299-EO from **En-Ocean** is a wall-mounted, wireless communicating, Temperature, RH and CO2 transmitter that derives its power from harvesting ambient indoor light. The CO2 measurement is also automatically altitude corrected using a on-board pressure sensor.

The device can also be populated with a button battery (included), to provide backup power for up to 5 years of operating time.

The product is designed to operate with 3rd party receivers, controllers and gateways designed for EnOcean compatible wireless networks. LEDs located to the left of the light harvesting panel indicate current CO2 levels. CO2 DCV (demand controlled ventilation) is a proven method of reducing heating and cooling costs by 15% to 60%.

More information: www.airtest.

HVAC Excellence Program Accreditation Standards Manual

HVAC Excellence announced the release of its 2021 HVACR programmatic accreditation standards manual. This document has been prepared and approved by members of HVAC Excellence's accreditation review board, in conjunction with a panel of industry stakeholders.

The accreditation review board, comprised of subject matter experts, experienced HVACR

instructors, and school administrators, meets annually to evaluate the alignment of existing standards to changes and trends in education, legislation, and industry requirements. The 2021 version of the accreditation standards manual reflects the proposed and agreed upon changes that were brought up during the review board's fall 2020 meeting. As part of the review process, the board also worked to improve the readability and ensure the spirit of the standards are clearly defined.

More information: www.escogroup.org/hvac/.



NIBCO INC. PressACR

NIBCO INC. launches

PressACR™ fittings, a joining
method designed for use in copper tube systems for air conditioning and refrigeration applications.

PressACR is approved for use
with a wide range of refrigerants
and lubricants and creates a safer
installation as there is no flame or
fire hazard with press technology.

NIBCO PressACR fittings are UL recognized to 700 PSI and feature a gray HNBR (Hydrogenated Nitrile Butadiene Rubber) seal to help differentiate them from other NIBCO press products. Straight and reducing couplings, 45 and 90 degree elbows, caps, Y-joints, and tees are available in sizes 3/8", 5/16", 5/8", 7/8", and 1-1/8".

Made in Stuarts Draft, Va., with the highest quality of globally sourced pure copper, PressACR fittings feature our patent pending groove design and are specifically engineered to install with the NIBCO PressACR 19kn tool which creates a round crimp pattern that supports the higher pressure requirements of HVACR systems.

NIBCO PressACR meet stringent certification and compliance standards including: ISO 5149-2, ISO 14903 helium leak test, ISO 14903 thermal cycle test, ISO



14903 fatigue test, ISO 14903 freeze test, ISO 14903 vacuum test, ASME B31.5, ASHRAE 15, ASTM G85 salt spray, and UL 109 vibration.

More information: www.nibco. com/pressacr.

Nu-Calgon Ice Guard Plus

Nu-Calgon has launched a new "drop-in" device that dramatically reduces ice machine maintenance and cleaning. Called Ice Guard Plus, the treatment enhances the quality of ice and lasts up to three months.

Ice Guard Plus' technology uses the known properties of silver and copper incorporated into a "drop-in" device. All ingredients meet FDA guidelines. The device is placed directly into the recirculating water sump, providing treatment of the ice machine in one easy step.

Ice Guard Plus significantly reduces the down time and high costs associated with servicing and cleaning ice machines.

More information: www.nucalgon.com.



Zip-A-Duct Fabric Duct

Zip-A-Duct is designed for smaller to medium-sized, nonplan/spec ventilation projects. Applications include retail, restaurants, athletic training facilities, offices, industry, warehouses, temporary structures, grow ops, and any other commercial/industrial/institutional open-architecture ceiling applications requiring exposed HVAC ductwork. Zip-A-Duct is constructed of polyesterwoven fabric available in 8-inch to 36-inch diameter components that are quickly installed with zippered connections aesthetically concealed under flaps for a smooth, streamlined appearance. Components include custom elbows, custom lengths, T-fittings, inlets, endcaps, and eccentric reducers. Colors include white, grey, black, and blue. Air volume ranges from 385 to 9,200 cfm, depending on duct diameter. Air is distributed



along the length through linear vents consisting of laser-cut orifices ranging from 1/8-inch to 1-inch diameter. Zip-A-Duct is suspended from aircraft cable supported along the length with vertical cables and quick-adjust connectors. Once the cable is stretched and supported from the structure, the fabric sections and fittings simply clip onto the cable along the length and then zip together. Optional, internal 360-degree shape-retaining hoops are included to maintain a 100% inflated appearance, even during idle supply air handler periods. The hoops consist of flexible fiberglass rods connected with preattached stainless steel couplings. Each rod is concealed inside its own interior fabric holding sleeve that's undetectable from the duct's streamlined exterior and minimizes friction losses inside the duct.

More information: www.zipa-duct.com.

Johnson Controls YORK MCH CRAH

.

Johnson Controls announces the YORK Mission Critical Horizontal Computer Room Air Handler (YORK MCH CRAH) designed to meet the unique cooling requirements of the world's most demanding data centers.

Offered in three standard capacities (105 kW, 210 kW and 315 kW rated at a 22F delta air temperature) with higher capacities available through customization, the YORK MCH CRAH is engineered with high-performance in mind and can be configured to meet the specific needs of each application.

With data hall space at a premium, Johnson Controls designed the YORK MCH CRAH for minimal footprint. The horizontal airflow unit features a compact (54"/1372 mm) length to save on equipment gallery floor space thus returning useable space to the IT data hall. Units feature left or right hand connections to minimize



26 ICN AUGUST 2021 www.indoorcomfortnews.com

New Products

field piping, configurable chilled water coils and can be installed side-by-side with no gaps for optimal security, energy efficiency and space utilization for non-raised floor environments and facilities with heat containment strategies.

The YORK MCH unit incorporates a Johnson Controls flagship controller platform ensuring seamless integration to Johnson Controls Metasys or a 3rd party controls solution with support for all standard industry protocols.

The MCH is designed for ease of use and with serviceability in mind. It has full-service access to fans, filters, electrical, coil and piping compartments on the gallery side minimizing the need for service technicians to access the secure data hall. Multiple finish options are available for the supply air outlet ensuring the aesthetics of the data hall.

"We developed the YORK MCH CRAH by collaborating with and listening to the current challenges of our customers and their design partners. We then harnessed the product teams at the York Airside Center of Excellence (ACE) and Johnson Controls Advanced Development Engineering Center (JADEC) to deliver a scalable solution that is perfectly suited for the most dynamic data centers." said Brian Hatmaker, global director, Data Centers, Johnson Controls.

More information: www.york. com/Commercial-Equipment/Air-Systems/Air-Handling-Units.

NAVAC Mini-Split

.



NAVAC, the world's largest supplier of HVAC vacuum pumps and a wide array of industry-specific tools, gauges, charging machines and recovery units, has introduced an advanced ninepiece tool kit for mini-split system installations. Designed to simplify installation, the company's NKS1 Mini-Split Tool Kit features a trove of tools designed to make technicians' jobs more efficient without sacrificing precision.

Among the kit's highlights is the industry's most advanced battery-driven flaring tool. Weighing less than three pounds, the NEF6LM Power Flaring Tool produces

precise, automatic flares in a fraction of the time compared to traditional flaring methods. Offering easy flare connectivity, it can create flares in five sizes, ranging from ¼" to ¾". The NEF6LM can complete a flare in just 15 seconds and can make over 100 flares per charge.

The kit comes with NAVAC's NTW1 Digital Torque Wrench. Accurate within 2%, it allows dual direction operation (CW & CCW) and selectable measuring units (ft-lb, in-lb, N-m, kg-cm) to fit all types of working conditions. The smart device memorizes torque settings and peak hold, and real-time lights and beeping sounds indicate how close it is to target torque parameters.

Also included is NAVAC's NRM1D Manifold Gauge with digital display. Offering Class 0.4 accuracy, twice as accurate as the industry's analog gauge standard, its aluminum body and ball valve handle provide reliability, efficiency and durability. The unit's easy-to-read digital display, auto power-off and transport-friendly hidden hook design make it ergonomic as well as exacting.

Other items in NAVAC's NKS1 Mini-Split Tool Kit include:

- NHK1 30-piece Hex Wrench Set, size of 7/250"-3/8", or 0.7-10 mm
- NTC6 Tube Cutter, for tube diameters from 1/8" to 34"
- NTC12 Tube Cutter, for tube diameters from 1/8" to 11/4"
- NTR14 Internal/Eternal Reamer, for tube diameters from 1/8" to 1½"
 - NTD28 Tube Deburrer
- NFG1 Flare Gauge, with six tube diameters from 1/4" through 3/4"

More information: www. navacglobal.com.

Regal Beloit Corporation Modsort Trident

.

Regal Beloit Corpora-

tion, a leading manufacturer of electric motors, electrical motion controls, power generation and power transmission components, today announced the introduction of its Modsort® Trident three-way sortation system.

Part of the Modsort suite of products, the Modsort Trident has a four-zone infeed that gaps a product, reads the package, and sends it down a belt, where it then diverts left, right or straight on a 30-degree spurcurve to one of three sorting



locations.

The Modsort Trident is a Regal concept and a continuation of its Modsort technologies, which is known for its quiet operation. Modsort technologies include the Modsort Station (individual transfer), Modsort Derivatives (with expanded sort capacity) and Flat Sorter Systems (with a complete mobile and expandable solution). The Modsort Trident three-way sortation system includes additional mechanical variations to this turnkey solution.

"The Modsort Trident is ideal as a secondary sortation station in a

fulfillment center and works well with parcel post, e-commerce and warehouse distribution applications," said Jeremy Fryman, SystemPlast®product manager, Regal. "This sortation system can accommodate up to 50 cartons per minute on average, with a weight limit of 50 pounds. It utilizes a 34 inch wide (between frame) x 66 inch long triple-belt divert for polybags, boxes, flats and some types of totes. Modsort Trident technology uses 24-volt DC power and requires only a simple power drop and Ethernet connection to customer warehouse management solution. Designed to be mobile (the unit comes on heavy duty casters) and can be redeployed if needed to another location."

The Modsort Trident features:

• Frame mounted HMI operator control panel with pushbut-

tons for start/stop, reset, communications fault, and emergency stop

- Allen-Bradley-based PLC controller/power panel
- Compact Logix 5380 processor
- Allen-Bradley 24-volt DC power supplies
- Allen-Bradley Stratix network
 switch
- Optional NAT
- Digital/Analog input/output backplane array
- I/O sub panels for MDR motor controller cards

The Modsort Trident will be on display in Regal's virtual booth during PACK EXPO Connects, from Nov. 9 to 13. To watch the session, please go here and search "mobile three-way sortation" or "Regal Beloit" and signup.

More information: www.Regal-Beloit.com.



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NATE Core & Gas Heating Training

(Four-Night Class)

Instructors: Mike Griffin / John Dalton

Tues., Sept. 7 - Part 1

Tues., Sept. 14 - Part 2

Tues., Sept. 21 - Part 3

Tues., Sept. 28 - Part 4

OCTOBER

NATE AC/HP Refrigeration

& Air Distribution Training

(Four-Night Class)

Instructors: Mike Griffin / John Dalton

Tues., Oct. 5 – Part 1

Tues., Oct. 12 - Part 2

Tues., Oct. 19 - Part 3

Tues., Oct. 26 – Part 4

IHAC

SEPTEMBER

AC & HP Refrigeration Module

(Four-Night Class)

Instructors: Mike Griffin / John Dalton

Wed., Sept. 15 - Part 1

Thurs., Sept. 16 - Part 2

Wed., Sept. 22 – Part 3

Thurs., Sept. 23 - Part 4

OCTOBER

Air Distribution Module

(Four-Night Class)

Instructors: Mike Griffin / John Dalton

Wed., Oct. 20 - Part 1

Thurs., Oct. 21 - Part 2

Wed., Oct. 27 – Part 3

Thurs., Oct. 28 – Part 4

NOVEMBER

Non-Res ATE Training

(Two-Night Class)

Instructors: Mike Griffin / John Dalton

Mon., Nov. 1 - Part 1

Thurs., Nov. 4 - Part 2

Non-Res MATT Training

(Two-Night Class)

Instructors: Mike Griffin / John Dalton

Mon., Nov. 15 - Part 1

Thurs., Nov. 18 – Part 2

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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 Off

Classes begin at 6:00 PM Pacific Time a Register at www.ihaci.



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<u>MBER</u>

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16 - Part 2

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23 - Part 4

OBER

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ch Bailey / TBA

21 - Part 2

20 - Part 1

27 - Part 3

28 - Part 4

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Refrigeration

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ch Bailey / TBA

. 4 - Part 2

10 - Part 3

11 - Part 4

SEPTEMBER

System Diagnostics Module

(Four-Night Class)

Instructors: Mitch Bailey / TBA

Wed., Sept 1 - Part 1

Thurs., Sept 2 – Part 2

Wed., Sept 8 – Part 3

Thurs., Sept 9 - Part 4

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(Four-Night Class)

Instructors: Mitch Bailey / TBA

Mon., Oct. 18 - Part 1

Tues., Oct. 19 - Part 2

Mon., Oct. 25 - Part 3

Tues., Oct. 26 - Part 4

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(Four-Night Class)

Instructors: Mitch Bailey / TBA

Mon., Nov. 1 - Part 1

Tues., Nov. 2 - Part 2

Mon., Nov. 8 - Part 3

Tues., Nov. 9 - Part 4

AUGUST

System Performance Module

(Four-Night Class)

Instructors: Mike Griffin / John Dalton

Wed., Aug. 4 - Part 1

Thurs., Aug. 5 - Part 2

Wed., Aug. 11 - Part 3

Thurs., Aug. 12 - Part 4

SEPTEMBER

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(Two-Night Class)

Instructors: Mike Griffin / John Dalton

Wed., Sept. 1 - Part 1

Thurs., Sept. 2 - Part 2

Commercial Cooling Tower Module

(Two-Night Class)

Instructors: Mike Griffin / John Dalton

Wed., Sept. 8 - Part 1

Thurs., Sept. 9 - Part 2

OCTOBER

Boiler Module

(Two-Night Class)

Instructors: Mike Griffin / John Dalton

Wed., Oct. 6 - Part 1

Thurs., Oct. 7 – Part 2

Commercial Refrigeration Module

(Two-Night Class)

Instructors: Mike Griffin / John Dalton

Wed., Oct. 13 - Part 1

Thurs., Oct. 14 - Part 2

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Indoor People



DUANE BUTLER

Tradewinds Climate Systems, the exclusive distributor of GREE branded mini-splits in the U.S., announced the addition of **Duane Butler** as National Sales Director of GREE VRF products. Butler will oversee sales and go-to-market strategies for the GREE mini-VRF and VRF business in the U.S. market.

"We are extremely excited to have Duane join our team," said Susanne Sanchez, VP of Sales & Marketing, Tradewinds Climate Systems. "His knowledge of the ductless and VRF business is extensive which brings tremendous value to us."

Butler held previous leadership positions at Carrier Corporation where he last served as the Business Development Leader-Central Region for ductless and VRF products. Prior to that, he worked as an Area Sales Manager for Daikin and earlier in his career, ran his own full-service mechanical contracting business.

"It's an honor to join such a dynamic organization," adds Butler.
"Tradewinds' strong commitment to growth through a customer-first philosophy aligns with my core values and is what most excites me about joining the GREE team. Great service along with great products are a true recipe for success."

Butler joins the Tradewinds Climate Systems' ever-expanding team of top notch talent to build the GREE brand across The United States. GREE continues to grow as the preferred brand for contractors and distributors due to the products' superb quality along with Tradewinds' excellent service and support.

More information at www. greecomfort.com.

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The *Orange County Business Journal* has recognized **Adam Coffey**, CEO of CoolSys, in its OC 50 Special Report for the second consecutive year. The special report features the most influential business leaders and individuals in Orange County, California, who are shaping the future of region and its economy.

"It's incredibly rewarding to be recognized by the *Orange County Business Journal* for the vision and hard work that has gone into growing CoolSys into a nationwide leader with its roots in Orange County," Coffey said. "The team of dedicated and talented employees at CoolSys has been behind me every step of the way. I'd like to take this opportunity to thank them for their continued contributions and commitment to the company and its mission."

Over the last two decades, Coffey has been president and CEO of three leading national service companies. Based on his experience and business acumen, he wrote and published "The Private Equity Playbook." Coffey is a former GE executive, a veteran of the U.S. Army, and is a graduate of the University of California, Los Angeles (UCLA) Executive Program in Management as well as GE's John F. Welch Leadership Academy.

CoolSys General Counsel and Executive Vice President Burton Hong was also recently recognized by the *Orange County Business Journal* for his accomplishments in the OC 500 Special Report published in May.



ADAM COFFEY

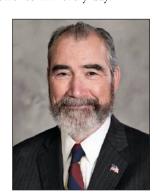
Kevin McNamara has joined The Climate Control Group (CCG) as the chief operating officer for all the businesses in Oklahoma City.

"The long-term intent of joining CCG is to unleash the power of these strong brands and technologies at this critical point in our industry," said McNamara. "While 2020 was a year of significant challenges for the HVAC industry, we plan to make major strides and fully participate in the changing landscape by differentiating ourselves everyday as best we can in every way."

McNamara has been in the industry since 1984, most recently with LG Electronics. Over the course of his career, he has worked with major American manufacturers in a variety of capacities focused on customer experience, product innovation, and people.

"The key to success is our chan-

nel partners and giving them confidence in our people and products," said McNamara. "We will work diligently to continue to earn their trust while helping them grow and win in the marketplace. As the industry continues to be squeezed with consolidation and instability, all the CCG companies must have great focused talent and the staying power to win every day."



KEVIN MCNAMARA

• • • • • • • •



JOAO PAOLO VIOLANTE

Armstrong Fluid Technology has announced that **Joao Paolo Violante** has been named sales director, Latin America.

In his new role, Violante assumes leadership of the Brazil and Latin America sales teams and will report to Mike Fischer, commercial director and U.S. country leader, USA and Latin America.

Violante joined Armstrong in 2020 after an extensive career managing sales and business development in Latin America. Dividing his time between Sao Paulo, Brazil, and Fort Lauderdale, Florida, he will continue building sales resources in Latin America with a view to reaching and serving customers throughout the region.

Motion Industries Inc. announced that **Jim May** was

nounced that **Jim May** was promoted to director of corporate development.

May joined Motion in August 2020 as director of strategic planning and development to advance the company's corporate strategic planning, provide economic, industry and competitor analyses, and support deal-side acquisition execution and integration processes. In his new role, he will continue his



JIM MAY

involvement in Motion's strategic planning but will take on direct responsibility for advancing the company's acquisition strategy and processes. May will continue to report directly to Greg Cook, Motion executive vice president and chief financial officer.

"Since joining Motion last August, Jim has quickly displayed his financial, strategic, acquisition, and relational acumen," said Cook. "In his new, expanded role, Jim will now have front-line responsibility for building relationships with potential acquisition targets, and will be the outward-facing point person for our acquisition pipeline. His wide-ranging strategy, corporate development, and financial experience within the industrial and manufacturing sectors, as well as his highly relational approach, uniquely position him to lead Motion's corporate development efforts and to help achieve our company vision."

Before joining Motion last year, May built 20 years of corporate development experience, including positions with Diebold Nixdorf and most recently Chart Industries, where he led global strategic planning and merger and acquisition (M&A) functions. He holds a Bachelor of Science degree in Finance from the University of Akron.

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The Air Conditioning Contractors of America (ACCA) announced **Ed Janowiak** as ACCA's manager of HVAC Design Education. Janowiak will be responsible for helping to create, update, and deliver ACCA's HVAC design content, standards, and guides.

Janowiak comes to ACCA with over thirty-five years of HVAC experience, and more than twenty years, delivering technical topics from his time as the technical director at Eastern Heating and Cooling Council based out of Mt. Laurel, New Jersey. Janowiak has over fifteen years of practical experience in the field as a service manager, technician, and installer - working at various companies, and as the owner and president of Bramante Energy Inc.

"Ed adds a new layer of strength

to our team," said Wes Davis, ACCA director of technical services. "His talent as a great communicator is well known and respected in the industry. His depth of knowledge will bring a whole new level of value to our member support, and his expertise at online and in-person training will boost our member-focused education."

Janowiak is a master HVACR licensed contractor in New Jersey, holds five NATE certifications, and serves on the NATE Technical Committee.



ED JANOWIAK • • • • • • • •

Neighborly has recently appointed **Roger Chacko** as its new chief strategy and marketing

Chacko brings over 25 years of global brand building, corporate strategy, and growth catalyst experiences. He has held various marketing, commercial, and strategy roles with global companies including Carlson Hotel Group, Bloomin' Brands, USAA, Kellogg's, and more. Immediately prior to joining Neighborly, Chacko served global fitness chain Planet Fitness as its chief commercial officer. Chacko earned his doctorate degree in management from Oklahoma State University and his master's degree in management from Massachusetts Institute of Technology.

Chacko will be responsible for all of the company's marketing and strategy divisions.

"Neighborly has the potential to become an iconic global brand that delivers exceptional home service experiences to communities around the world, and I am committed to making this vision a reality," Chacko said.



ROGER CHACKO

Help Wanted



Company Overview:

The R.E. Michel Company was founded in Baltimore, Maryland in 1935 as a supplier to the home heating oil burner industry. Still family owned and operated, we have grown to be one of our nation's leading wholesale distributors of HVACR equipment, parts and supplies and we have more than 250 locations nationwide.

For consideration, apply on our career page at REMICHEL.COM

Benefits include:

- Competitive pay
- Medical, Dental, Vision,

Disability, 401K, Life and MORE!

Help Wanted

Branch Manager Needed for Santa Maria, CA.

Responsible for effective and profitable management of personnel, inventory and customer service. Working with Regional Managers and sales representative to establish and meet sales goals, in addition to hiring, developing and training personnel.

Hiring: Outside Sales **Professionals**

Union City, CA, Fresno, CA and San Jose, CA Responsibilities include:

- Calling on accounts
- Developing and building strong customer relationships Minimum Qualifications:
- 3 years sales experience required
- Knowledge or experience in HVACR required
- Valid Driver's License and reliable vehicle is a must
- Excellent people, communication and computer skills

Help Wanted

Hiring: Counter Sales and Warehouse/

Drivers for Van Nuys, CA! Multiple openings avail-

- Understand of heating and cooling matrix
 - Basic math skills
- Knowledge of material handling equipment
- Valid driver's license, safe driving record

Help Wanted

CalCERTS -**Compliance Specialist**

CalCERTS is looking for high performing Compliance Specialists. Our team works collaboratively to assist our clients in navigating, troubleshooting and performing functions within the Cal-CERTS registry.

This position requires continuous learning and motivation to succeed. For more information go to www.calcerts.com/jobs_at_ calcerts.

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- Two Video Training Programs That Include A **Resource Disc Containing Quiz Questions & Resource Materials**
- Two HVACR Troubleshooting Fundamentals **PowerPoint Programs**
- Two Copies Each of Two Technician Textbooks
- Additional Free Bonus Video Program That Includes A Resource Material Disc



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^{*} The full text of Goodman limited warranty on this product may be viewed at www.goodmanmfg.com/products/ controls, or may be requested in paper by contacting us at 19001 Kermier Road, Waller, TX 77484.